

Jobos Bay (JOB) NERR Water Quality Metadata
January to December 2002
Latest Update: June 30, 2021

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 is 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 is initially reviewed using the Ecowatch graphing tool. Data for a month is 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 is 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 of this metadata.

Data that is found to be out of the instrument range or normal parameters for each sampling station is removed from the file and a period is inserted into the cell(s). Explanations for changes in data are also included in the metadata. Data that is outside the "normal" range of water quality for a particular site is 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 is stored in Zip and CD disks. The person responsible for the data QA/QC is Iris L. Tirado.

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 May 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 is being submitted to the CDMO. Eight sondes are permanently devoted to taking readings from these two 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			
8-Jan-02	9:30	10-Jan-02	8:30
10-Jan-02	9:00	28-Jan-02	10:00
28-Jan-02	10:30	30-Jan-02	8:00
30-Jan-02	8:30	19-Feb-02	09:00
19-Feb-02	10:00	11-Mar-02	8:30
11-Mar-02	10:00	1-Apr-02	9:30
1-Apr-02	10:00	22-Apr-02	10:30
22-Apr-02	11:00	13-May-02	10:30
13-May-02	11:00	3-Jun-02	10:00
3-Jun-02	10:30	3-Jul-02	8:00
3-Jul-02	9:30	18-Jul-02	8:30
18-Jul-02	9:00	2-Aug-02	10:30
2-Aug-02	11:00	26-Aug-02	8:30
26-Aug-02	9:30	16-Sep-02	10:00
16-Sep-02	10:30	7-Oct-02	8:30
7-Oct-02	9:00	28-Oct-02	9:30
28-Oct-02	10:00	18-Nov-02	8:30
18-Nov-02	9:00	2-Dec-02	8:30
2-Dec-02	9:00	18-Dec-02	9:30
18-Dec-02	10:00	8-Jan-03	9:30

Station 10			
01-Jan-02	0:00	08-Jan-02	9:30
10-Jan-02	9:30	28-Jan-02	10:30
30-Jan-02	10:00	21-Feb-02	9:00
21-Feb-02	9:30	13-Mar-02	8:30
13-Mar-02	9:00	3-Apr-02	9:00
3-Apr-02	9:30	24-Apr-02	8:30
24-Apr-02	10:00	13-May-02	10:30
13-May-02	11:00	3-Jun-02	10:30
3-Jun-02	11:00	24-Jun-02	11:00
26-Jun-02	8:00	11-Jul-02	10:00
11-Jul-02	10:30	2-Aug-02	10:00
2-Aug-02	10:30	26-Aug-02	9:00
26-Aug-02	9:30	16-Sep-02	9:30
16-Sep-02	11:00	7-Oct-02	8:30
7-Oct-02	9:30	28-Oct-02	9:30
28-Oct-02	10:00	18-Nov-02	8:30
18-Nov-02	9:00	2-Dec-02	9:00
2-Dec-02	9:30	18-Dec-02	10:00
12/18/2002	10:30	8-Jan-03	10:00

Station 19			
1-Apr-02	9:30	24-Apr-02	8:30
24-Apr-02	9:00	13-May-02	10:00
13-May-02	10:30	11-Jun-02	10:30
11-Jun-02	11:00	24-Jun-02	9:30
24-Jun-02	10:00	11-Jul-02	9:30
11-Jul-02	10:00	29-Jul-02	8:30
29-Jul-02	9:00	14-Aug-02	8:30

14-Aug-02	9:00	26-Aug-02	8:30
28-Aug-02	8:00	11-Sep-02	8:00
11-Sep-02	8:30	25-Sep-02	8:30
25-Sep-02	9:00	9-Oct-02	8:00
9-Oct-02	8:30	28-Oct-02	9:00
28-Oct-02	9:30	6-Nov-02	9:00
6-Nov-02	9:30	20-Nov-02	8:00
20-Nov-02	8:30	2-Dec-02	8:30
2-Dec-02	9:00	16-Dec-02	8:30
18-Dec-02	9:00	8-Jan-03	9:00

Station 20

13-May-02	9:00	11-Jun-02	9:30
11-Jun-02	10:00	24-Jun-02	9:00
24-Jun-02	9:30	11-Jul-02	8:30
11-Jul-02	10:00	29-Jul-02	8:30
29-Jul-02	8:30	14-Aug-02	8:00
14-Aug-02	9:00	28-Aug-02	8:00
28-Aug-02	8:30	11-Sep-02	8:00
11-Sep-02	8:30	25-Sep-02	9:30
25-Sep-02	10:00	9-Oct-02	8:30
9-Oct-02	9:00	28-Oct-02	8:30
28-Oct-02	9:00	6-Nov-02	8:00
6-Nov-02	8:30	20-Nov-02	10:30
20-Nov-02	11:00	2-Dec-02	9:30
2-Dec-02	10:00	18-Dec-02	9:00
18-Dec-02	9:30	8-Jan-03	9:00

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 is 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

enclose 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 July to December 2002. 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:

Site definitions: 09 = Station 9

Site definitions: 10 = Station 10

Site definitions: 19 = Station 19

Site definitions: 20 = Station 20

File definitions: site/file definition/month/year (ex: 10wq0801 = Station 10

water quality data from August of 2001).

11. Data anomalies:

January 2002

Station 09

Negative DO % and mg/l values. Delete negative values.

01/02/02 17:30:00

01/04/02 15:30:00

01/04/02 17:30:00

01/04/02 18:00:00

01/07/02 12:00:00

High turbidity values deleted

01/01/02 04:30:00
01/02/02 03:00:00
01/02/02 23:30:00
01/28/02 10:30:00 through 01/30/02 08:00:00

Station 10

Suspect DO (% and mg/L) data deleted:

01/01/02 00:00:00 through 01/08/02 09:30:00

No Ph data, sensor was broken.

01/01/02 00:00:00 throughout 01/08/02 09:30:00

Out of water for maintenance

01/08/02 10:00:00 through 01/10/02 09:00:00
01/28/02 11:00:00 through 01/30/02 09:30:00

Negative turbidity values deleted due to problems in calibration

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

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

01/25/02	03:00:00	through 01/25/02	03:30:00
01/25/02	04:30:00	through 01/25/02	13:30:00
01/25/02	14:30:00		
01/25/02	15:30:00		
01/25/02	16:30:00	through 01/25/02	17:00:00
01/25/02	18:00:00	through 01/25/02	18:30:00
01/25/02	20:00:00	through 01/25/02	20:30:00
01/25/02	21:30:00	through 01/25/02	22:30:00
01/25/02	23:30:00	through 01/26/02	00:00:00
01/26/02	01:00:00	through 01/26/02	04:00:00
01/26/02	05:00:00	through 01/26/02	06:30:00
01/26/02	07:30:00		
01/26/02	08:30:00	through 01/26/02	13:00:00
01/26/02	15:00:00		
01/26/02	20:00:00		
01/27/02	00:00:00	through 01/27/02	00:30:00
01/27/02	09:30:00		
01/27/02	12:00:00		
01/27/02	13:00:00		
01/27/02	14:30:00	through 01/27/02	15:00:00
01/28/02	03:30:00		
01/28/02	10:30:00		
01/30/02	10:30:00	through 01/30/02	11:30:00
01/30/02	15:00:00		
01/30/02	20:30:00		
01/30/02	21:00:00		
01/30/02	23:00:00		
01/31/02	00:30:00		
01/31/02	01:00:00		
01/31/02	05:30:00		
01/31/02	07:00:00	through 01/31/02	07:30:00
01/31/02	10:00:00		
01/31/02	20:30:00		

February 2002

Station 09

Negative turbidity values deleted

02/07/02	05:30:00		
02/07/02	08:00:00	through 02/07/02	08:30:00
02/08/02	08:00:00	through 02/08/02	08:30:00
02/09/02	09:00:00		
02/09/02	12:00:00		
02/12/02	10:30:00		
02/12/02	11:30:00		
02/12/02	12:30:00		
02/12/02	13:30:00		
02/14/02	15:30:00	through 02/14/02	16:00:00
02/15/02	16:30:00		

Out of water for maintenance

02/19/02	09:30:00
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Station 10

Negative depth values deleted

02/21/02 09:30:00

02/21/02 10:00:00

Negative turbidity values deleted, due to calibration problem

02/01/02 02:30:00

02/01/02 03:00:00

02/01/02 07:00:00

02/01/02 19:00:00

02/01/02 22:30:00 through 02/01/02 23:30:00

02/02/02 01:00:00

02/02/02 02:30:00 through 02/02/02 03:30:00

02/02/02 04:30:00

02/02/02 05:30:00

02/02/02 06:00:00

02/02/02 07:00:00

02/02/02 07:30:00

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

02/02/02 12:30:00

02/02/02 14:00:00

02/02/02 15:00:00

02/02/02 19:30:00

02/02/02 20:00:00

02/02/02 20:30:00

02/02/02 21:00:00

02/02/02 21:30:00

02/02/02 23:00:00

02/03/02 00:30:00

02/03/02 01:00:00

02/03/02 02:00:00 through 02/03/02 05:30:00

02/03/02 06:30:00 through 02/03/02 10:00:00

02/03/02 11:00:00 through 02/03/02 12:00:00

02/03/02 13:00:00

02/03/02 13:30:00

02/03/02 21:30:00 through 02/04/02 11:30:00

02/04/02 19:30:00

02/04/02 20:30:00 through 02/05/02 04:00:00

02/05/02 05:00:00 through 02/05/02 09:30:00

02/05/02 10:30:00 through 02/05/02 13:30:00

02/05/02 18:30:00 through 02/05/02 20:30:00

02/05/02 21:30:00 through 02/06/02 13:30:00

02/06/02 20:30:00 through 02/06/02 21:30:00

02/06/02 22:30:00

02/06/02 23:00:00

02/07/02 00:00:00 through 02/07/02 07:00:00

02/07/02 08:00:00

02/07/02 09:00:00 through 02/07/02 10:30:00

02/07/02 13:00:00

02/07/02 19:30:00

02/07/02 21:00:00

02/07/02 22:30:00

02/07/02 23:00:00

02/08/02 00:00:00

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

02/16/02	20:00:00		
02/16/02	20:30:00		
02/16/02	21:30:00	through 02/17/02	14:00:00
02/17/02	15:00:00		
02/17/02	16:00:00		
02/17/02	17:30:00	through 02/17/02	19:00:00
02/17/02	20:00:00		
02/17/02	21:30:00	through 02/18/02	00:00:00
02/18/02	01:30:00	through 02/18/02	02:30:00
02/18/02	03:30:00		
02/18/02	04:30:00	through 02/18/02	09:00:00
02/18/02	10:00:00	through 02/18/02	13:00:00
02/18/02	14:00:00	through 02/18/02	15:00:00
02/18/02	17:00:00	through 02/18/02	19:30:00
02/18/02	20:30:00	through 02/19/02	12:30:00
02/19/02	17:30:00	through 02/19/02	19:00:00
02/19/02	21:00:00		
02/19/02	22:00:00		
02/20/02	00:00:00	through 02/20/02	04:00:00
02/20/02	05:00:00	through 02/20/02	11:30:00
02/20/02	12:30:00		
02/20/02	13:30:00		
02/20/02	14:00:00		
02/20/02	15:30:00		
02/20/02	16:00:00		
02/20/02	19:30:00		
02/20/02	21:00:00	through 02/21/02	02:30:00
02/21/02	03:30:00	through 02/21/02	07:00:00
02/21/02	08:00:00	through 02/21/02	09:00:00
02/21/02	10:30:00	through 02/28/02	23:30:00

March 2002

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.

03/06/02	20:00:00	through 03/07/02	09:00:00
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Out of water for maintenance

03/11/02	9:00:00	to 9:30:00
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High turbidity values deleted

03/29/02	17:30:00
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03/29/02	18:00:00
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03/31/02	05:30:00
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Station 10

Negative turbidity values deleted, due to calibration problem

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

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

High turbidity values deleted

03/12/02 20:30:00

Delete turbidity data for problem with wiper.

03/13/02 09:00:00 through 03/31/02 23:30:00

April 2002

Station 09

Negative depth values deleted

04/01/02 08:00:00 through 04/01/02 09:30:00

Negative and anomalously high turbidity values deleted:

04/01/02 08:00:00 through 04/01/02 09:30:00

04/18/02 12:00:00

04/18/02 12:30:00

04/18/02 15:00:00

04/18/02 16:00:00

04/18/02 17:00:00

04/18/02 18:30:00

04/18/02 23:30:00

04/19/02 05:30:00

04/20/02 18:00:00

04/21/02 06:30:00

04/21/02 08:00:00

04/21/02 09:00:00

04/21/02 11:30:00

04/21/02 12:30:00

04/21/02 13:00:00

04/21/02 13:30:00

04/21/02 15:00:00

04/21/02 15:30:00

04/21/02 17:00:00

04/22/02 11:00:00 through 04/22/02 14:00:00

04/22/02 15:30:00

04/22/02 16:00:00

04/22/02 18:30:00 through 04/23/02 16:00:00

04/23/02	17:00:00		
04/23/02	17:30:00		
04/23/02	18:30:00	through 04/24/02	09:00:00
04/24/02	10:00:00	through 04/27/02	05:30:00
04/27/02	07:30:00	through 04/27/02	08:30:00
04/27/02	10:00:00		
04/27/02	11:00:00	through 04/28/02	06:00:00
04/28/02	08:00:00	through 04/28/02	10:00:00
04/28/02	11:30:00	through 04/28/02	12:30:00
04/28/02	14:00:00	through 04/28/02	19:30:00
04/28/02	20:30:00	through 04/28/02	23:00:00
04/29/02	00:00:00		
04/29/02	00:30:00		
04/29/02	01:30:00		
04/29/02	02:30:00		
04/29/02	10:00:00		
04/29/02	10:30:00		
04/29/02	12:30:00		
04/29/02	15:00:00	through 04/29/02	16:30:00
04/29/02	18:00:00		
04/29/02	19:30:00		
04/29/02	21:30:00		
04/29/02	23:30:00		
04/30/02	14:30:00		

Station 10

High turbidity values deleted

04/01/02	12:00:00		
04/01/02	16:00:00		
04/01/02	17:30:00	through 04/01/02	18:30:00
04/02/02	01:00:00		
04/02/02	04:00:00	through 04/02/02	05:00:00
04/02/02	11:30:00		
04/02/02	23:30:00		
04/03/02	01:00:00		

Negative turbidity values deleted due to calibration problems

04/03/02	09:30:00	through 04/08/02	03:30:00
04/08/02	04:30:00	through 04/14/02	16:00:00
04/14/02	17:00:00	through 04/19/02	19:00:00
04/19/02	20:00:00	through 04/20/02	15:30:00
04/20/02	16:30:00	through 04/21/02	21:30:00
04/21/02	22:30:00	through 04/23/02	01:30:00
04/23/02	02:30:00	through 04/23/02	23:30:00
04/24/02	00:30:00	through 04/26/02	00:00:00
04/26/02	01:00:00	through 04/30/02	22:30:00
04/30/02	23:30:00		

Station 19

No Data 04/01/02 00:00:00 through 04/01/02 09:00:00, deployment began on 04/01

0930 for this site.

Negative turbidity values deleted due to problems in calibration:

04/01/02	09:30:00	through 04/19/02	17:00:00
04/19/02	18:00:00	through 04/20/02	02:00:00

04/20/02	12:30:00		
04/21/02	00:00:00	through 04/21/02	01:00:00
04/21/02	02:30:00	through 04/21/02	04:30:00
04/21/02	05:30:00	through 04/21/02	09:00:00
04/21/02	10:30:00		
04/23/02	20:30:00		
04/24/02	09:00:00	through 04/28/02	11:00:00
04/28/02	13:00:00	through 04/28/02	14:00:00
04/28/02	15:00:00	through 04/28/02	16:00:00
04/28/02	17:00:00	through 04/30/02	23:30:00

May 2002

Station 09

Negative turbidity values deleted due to calibration problems

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

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

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

05/26/02	10:30:00		
05/26/02	11:00:00		
05/26/02	17:30:00	through 05/26/02	20:30:00
05/26/02	21:30:00	through 05/26/02	22:30:00
05/27/02	00:00:00	through 05/27/02	01:30:00
05/27/02	20:00:00		
05/27/02	21:00:00	through 05/27/02	23:30:00
05/28/02	22:00:00		
05/28/02	22:30:00		
05/28/02	23:30:00		
05/29/02	00:30:00		
05/29/02	02:00:00		
05/29/02	22:30:00	through 05/29/02	23:30:00
05/30/02	01:30:00		
05/30/02	03:30:00		
05/30/02	05:00:00		

Station 10

High turbidity values deleted

05/08/02 20:00:00

Negative turbidity values deleted due to calibration problem

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

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

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

DO (%) and DO (mg/l) data suspected wrong from 05/25/02 to 05/31/02. This station shows peaks of high oxygen values and periods of high oxygen consumption on several occasions caused by high algae concentrations and fouling of the sonde.

Station 19

Negative turbidity data deleted due to calibration problems:

05/01/02	00:00:00	through 05/02/02	13:30:00
05/02/02	15:00:00	through 05/03/02	13:30:00
05/03/02	16:30:00	through 05/04/02	11:00:00
05/04/02	18:00:00	through 05/04/02	19:30:00
05/04/02	20:30:00		
05/04/02	22:00:00		
05/04/02	23:30:00		

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

High turbidity values deleted due to algae growing close to the sensor

05/07/02	04:30:00	through	05/07/02	06:30:00
05/08/02	08:30:00	through	05/08/02	09:30:00
05/08/02	16:00:00			
05/09/02	07:30:00	through	05/09/02	08:30:00
05/09/02	21:30:00	through	05/09/02	22:00:00
05/10/02	10:30:00	through	05/10/02	11:00:00
05/11/02	05:00:00	through	05/11/02	05:30:00
05/11/02	14:30:00			
05/12/02	05:30:00			
05/12/02	06:30:00			

No data due to sonde malfunction

05/17/02	14:00:00			
05/17/02	15:30:00			
05/20/02	11:30:00			
05/20/02	13:30:00			
05/20/02	15:30:00	through	05/20/02	16:00:00
05/21/02	13:30:00	through	05/21/02	14:00:00
05/21/02	15:00:00			
05/21/02	17:30:00			
05/23/02	11:00:00			
05/26/02	18:00:00			
05/27/02	11:30:00			
05/27/02	18:30:00	through	05/27/02	19:00:00

Station 20

Negative turbidity values deleted due to problems in calibration

05/13/02	9:00:00	through	05/13/02	13:30:00
05/13/02	14:30:00	through	05/15/02	14:00:00
05/15/02	15:00:00	through	05/15/02	15:30:00
05/15/02	16:30:00	through	05/16/02	09:30:00
05/16/02	12:30:00	through	05/16/02	14:00:00
05/16/02	15:00:00	through	05/20/02	13:30:00
05/20/02	14:30:00	through	05/22/02	20:30:00
05/22/02	21:30:00	through	05/23/02	03:30:00
05/23/02	04:30:00	through	05/23/02	05:30:00
05/23/02	06:30:00	through	05/23/02	07:00:00
05/23/02	08:00:00	through	05/23/02	13:00:00
05/23/02	14:00:00	through	05/24/02	01:00:00
05/24/02	02:00:00			
05/24/02	04:00:00	through	05/24/02	04:30:00
05/24/02	05:30:00	through	05/24/02	16:00:00
05/24/02	17:00:00	through	05/24/02	17:30:00
05/24/02	18:30:00	through	05/24/02	20:00:00
05/24/02	22:30:00			
05/25/02	01:30:00			
05/25/02	04:30:00			
05/25/02	05:30:00	through	05/25/02	06:30:00
05/25/02	07:30:00			
05/25/02	08:30:00	through	05/29/02	11:30:00
05/29/02	12:30:00	through	05/30/02	12:30:00
05/30/02	13:30:00	through	05/31/02	01:00:00
05/31/02	02:30:00			
05/31/02	04:30:30			
05/31/02	06:00:00			
05/31/02	09:00:00			
05/31/02	10:30:00			
05/31/02	13:00:00			
05/31/02	17:00:00			
05/31/02	19:00:00	through	05/31/02	20:30:00

No data due to sonde malfunction

05/13/02	14:00:00			
05/15/02	14:30:00			
05/15/02	16:00:00			
05/16/02	10:00:00	through	05/16/02	12:00:00
05/16/02	14:30:00			
05/20/02	14:00:00			
05/23/02	04:00:00			

June 2002

Station 09

High anomalous and negative turbidity values deleted

06/03/02	10:30:00	through	06/03/02	11:30:00
06/03/02	13:00:00			
06/03/02	21:30:00	through	06/04/02	00:30:00
06/04/02	01:30:00	through	06/04/02	04:00:00
06/04/02	05:00:00	through	06/04/02	06:00:00

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

06/27/02 04:00:00

Station 10

Negative turbidity values deleted due to calibration problems

06/1/02	07:00:00		
06/03/02	11:00:00	through 06/18/02	19:00:00
06/18/02	20:00:00	through 06/18/02	20:30:00
06/18/02	22:00:00	through 06/19/02	01:30:00
06/16/02	02:30:00		
06/19/02	03:30:00	through 06/19/02	04:00:00
06/19/02	05:30:00		
06/19/02	06:30:00		
06/19/02	08:00:00	through 06/19/02	21:30:00
06/19/02	22:30:00	through 06/20/02	06:00:00
06/20/02	07:00:00	through 06/20/02	08:00:00
06/26/02	08:00:00	through 06/30/02	23:30:00

DO (%) and DO (mg/l) data suspected wrong from 06/01/02 to 06/06/02. This station shows peaks of high oxygen values and periods of high oxygen consumption

on several occasions caused by high algae concentrations and fouling of the sonde.

Station 19

Negative turbidity values deleted due to problems in calibration

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

06/30/02	11:30:00		
06/30/02	12:30:00		
06/30/02	13:30:00	through 06/30/02	15:00:00
06/30/02	16:00:00	through 06/30/02	23:30:00

No data due to sonde malfunction

06/05/02	16:00:00
06/05/02	20:00:00
06/05/02	23:00:00
06/06/02	02:00:00
06/08/02	13:30:00
06/10/02	06:00:00
06/25/02	13:00:00
06/26/02	11:00:00
06/26/02	15:30:00
06/26/02	16:30:00
06/26/02	17:00:00
06/27/02	16:00:00
06/28/02	16:00:00
06/30/02	09:00:00
06/30/02	10:30:00
06/30/02	12:00:00
06/30/02	13:00:00
06/30/02	15:30:00

Station 20

Negative turbidity values deleted due to problems in calibration

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

06/03/02	10:30:00		
06/03/02	14:30:00	through 06/03/02	15:00:00
06/03/02	17:30:00	through 06/03/02	19:30:00
06/03/02	20:30:00		
06/03/02	21:30:00		
06/03/02	22:30:00		
06/03/02	23:30:00	through 06/04/02	00:30:00
06/04/02	01:30:00	through 06/04/02	02:00:00
06/04/02	05:30:00		
06/04/02	07:30:00	through 06/04/02	08:30:00
06/04/02	09:30:00	through 06/04/02	13:00:00
06/04/02	14:00:00		
06/04/02	15:00:00	through 06/04/02	16:00:00
06/04/02	18:00:00	through 06/05/02	09:30:00
06/05/02	10:30:00	through 06/08/02	22:30:00
06/08/02	23:30:00		
06/09/02	00:00:00		
06/09/02	01:00:00	through 06/09/02	01:30:00
06/09/02	02:30:00		
06/09/02	03:30:00		
06/09/02	08:00:00		
06/09/02	10:30:00	through 06/09/02	13:30:00
06/09/02	15:30:00	through 06/09/02	16:00:00
06/09/02	18:30:00	through 06/09/02	19:30:0
06/09/02	20:30:00		
06/10/02	11:00:00		
06/10/02	12:30:00	through 06/10/02	13:30:00
06/10/02	14:30:00	through 06/10/02	15:30:00
06/10/02	16:30:00	through 06/10/02	17:00:00
06/10/02	18:00:00	through 06/10/02	21:30:00
06/10/02	22:30:00	through 06/10/02	23:30:00
06/11/02	00:30:00		
06/11/02	01:30:00	through 6/11/02	02:00:00
06/11/02	03:00:00	through 06/11/02	04:30:00
06/11/02	05:30:00		
06/11/02	06:30:00	through 06/11/02	07:00:00
06/11/02	08:00:00		
06/11/02	09:30:00	through 06/24/02	10:00:00
06/24/02	11:00:00	through 06/24/02	11:30:00
06/24/02	12:30:00	through 06/25/02	13:30:00
06/25/02	14:30:00	through 06/26/02	15:30:00
06/26/02	16:30:00	through 06/30/02	23:30:00

No data due to sonde malfunction

06/05/02	10:00:00
06/24/02	10:30:00
06/24/02	12:00:00
06/25/02	14:00:00
06/26/02	16:00:00

July 2002

Stations 09

Deleted pH values because of problem with the sensor.

07/09/02 11:00:00 through 07/18/02 08:30:00

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.

7/13/02 00:30:00

7/15/02 06:30:00 through 07/15/02 7:30:00

7/15/02 11:30:02 through 07/15/02 12:30:00

7/16/02 4:30:00

7/16/02 6:00:00

7/16/02 7:00:00 through 7/16/02 8:30:00

7/16/02 11:00:00

7/16/02 12:30:00

7/16/02 23:00:00

7/17/02 00:00:00

Negative turbidity values deleted

7/3/02 9:30:00 through 7/7/02 13:00:00

7/7/02 14:00:00 through 7/8/02 12:30:00

7/8/02 13:30:00 through 7/9/02 0:30:00

7/9/02 2:30:00 through 7/9/02 10:00:00

7/9/02 11:00:00 through 7/9/02 11:30:00

7/9/02 12:30:00

7/9/02 13:30:00 through 7/9/02 14:00:00

7/9/02 15:30:00

7/9/02 17:00:00 through 7/9/02 17:30:00

7/9/02 19:30:00

7/9/02 22:30:00

7/10/02 3:30:00 through 7/10/02 10:30:00

7/10/02 12:00:00 through 7/10/02 13:00:00

7/10/02 14:30:00 through 7/10/02 16:30:00

7/10/02 18:00:00

7/11/02 2:30:00

7/11/02 3:30:00 through 7/11/02 14:00:00

7/11/02 15:00:00 through 7/11/02 17:00:00

7/11/02 18:00:00 through 7/11/02 19:00:00

7/11/02 20:00:00

7/11/02 21:00:00 through 7/12/02 18:00:00

7/12/02 19:00:00 through 7/12/02 20:00:00

7/12/02 21:00:00 through 7/13/02 8:00:00

7/13/02 9:00:00 through 7/14/02 8:00:00

7/14/02 9:00:00

7/14/02 10:30:00 through 7/14/02 18:00:00

7/14/02 19:00:00

7/14/02 23:30:00

7/15/02 4:30:00 through 7/15/02 5:30:00

7/15/02 6:30:00

7/15/02 7:30:00

High turbidity values deleted

7/11/02 20:30:00

No data recorded during the following dates/times due to sonde malfunction:

7/18/02 9:00:00 through 7/31/02 23:30:00

Station 10

Negative turbidity values deleted

7/1/02	0:00:00	through	7/2/02	9:00:00
7/2/02	12:00:00			
7/2/02	13:00:00			
7/2/02	15:30:00			
7/3/02	5:30:00	through	7/3/02	6:00:00
7/3/02	7:00:00	through	7/3/02	7:30:00
7/3/02	11:30:00	through	7/3/02	13:30:00
7/3/02	22:00:00	through	7/4/02	12:30:00
7/4/02	16:00:00	through	7/4/02	17:00:00
7/4/02	18:30:00	through	7/4/02	19:00:00
7/4/02	20:00:00	through	7/5/02	19:00:00
7/5/02	20:00:00			
7/5/02	21:00:00	through	7/5/02	21:30:00
7/5/02	22:30:00	through	7/6/02	2:00:00
7/6/02	3:00:00			
7/6/02	4:00:00	through	7/6/02	9:00:00
7/6/02	10:30:00	through	7/6/02	13:30:00
7/6/02	14:30:00	through	7/7/02	7:00:00
7/7/02	8:00:00	through	7/7/02	15:00:00
7/7/02	16:00:00	through	7/7/02	16:30:00
7/7/02	17:30:00	through	7/9/02	21:00:00
7/9/02	22:00:00	through	7/11/02	10:00:00

No data recorded during the following dates/times due to sonde malfunction:

07/11/02 10:30:00 through 07/31/02 23:30:00

Station 19

Salinity and specific conductivity values was erased because the sensor is not working properly.

07/29/02 09:00:00 through 07/31/02 23:30:00

Negative turbidity values deleted

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

07/09/02	16:30:00		
07/09/02	17:00:00		
07/09/02	18:00:00	through 07/10/02	10:00:00
07/10/02	11:00:00		
07/10/02	11:30:00		
07/10/02	12:30:00		
07/10/02	13:00:00		
07/10/02	14:30:00		
07/10/02	16:00:00	through 07/31/02	23:30:00

No data due to sonde malfunction

07/01/02	16:00:00
07/02/02	11:00:00
07/03/02	12:00:00
07/03/02	15:30:00
07/04/02	12:30:00
07/04/02	17:00:00
07/05/02	09:00:00
07/05/02	09:30:00
07/05/02	11:00:00
07/05/02	11:30:00
07/07/02	13:30:00
07/08/02	14:00:00
07/08/02	15:00:00
07/08/02	17:30:00
07/08/02	18:30:00
07/09/02	12:30:00
07/09/02	13:00:00
07/09/02	16:00:00
07/09/02	17:30:00
07/10/02	10:30:00
07/10/02	12:00:00
07/10/02	13:30:00
07/10/02	14:00:00
07/10/02	15:00:00
07/10/02	15:30:00

High turbidity value deleted:

07/05/02	02:00:00
07/22/02	22:00:00

Station 20

Negative turbidity values deleted

07/01/02	00:00:00	through 07/03/02	02:30:00
07/03/02	03:30:00	through 07/03/02	05:00:00
07/03/02	06:00:00	through 07/03/02	08:00:00
07/03/02	09:00:00	through 07/05/02	17:30:00
07/05/02	18:30:00	through 07/05/02	22:00:00
07/05/02	23:00:00	through 07/06/02	02:00:00
07/06/02	03:00:00		
07/06/02	05:00:00	through 07/06/02	06:00:00
07/06/02	07:30:00		
07/06/02	08:00:00		

07/06/02	09:00:00	through 07/06/02	10:00:00
07/06/02	11:00:00		
07/06/02	12:30:00		
07/06/02	13:00:00		
07/06/02	14:30:00		
07/06/02	15:30:00		
07/06/02	16:00:00		
07/07/02	15:30:00		
07/08/02	01:00:00		
07/08/02	16:00:00		
07/08/02	17:30:00		
07/08/02	20:30:00		
07/08/02	22:00:00	through 07/08/02	23:30:00
07/09/02	00:30:00		
07/09/02	01:30:00	through 07/09/02	02:30:00
07/09/02	05:00:00		
07/09/02	07:30:00		
07/09/02	08:00:00		
07/09/02	09:30:00		
07/09/02	10:00:00		
07/09/02	11:00:00		
07/09/02	12:00:00	through 07/09/02	13:00:00
07/09/02	14:00:00		
07/09/02	17:00:00		
07/09/02	19:30:00		
07/09/02	20:30:00		
07/09/02	23:00:00		
07/10/02	10:30:00	through 07/10/02	12:00:00
07/10/02	14:00:00		
07/10/02	15:00:00		
07/10/02	15:30:00		
07/11/02	10:00:00	through 07/20/02	02:00:00
07/20/02	03:00:00	through 07/31/02	23:30:00
No data due to sonde malfunction			
07/06/02	08:30:00		
07/08/02	11:00:00		
07/09/02	13:30:00		
07/10/02	12:30:00		
07/10/02	13:30:00		

August 2002

Station 09

No data recorded for the following dates/times due to sonde malfunction:

08/01/02 00:00:00 through 08/02/02 10:30:00

Probably some organism on the sensor area affects the DO sensor erasing the DO%

and DO mg/L lectures.

08/31/02 14:30:00 through 08/31/02 23:30:00

Negative turbidity values deleted

08/02/02 11:00:00 through 08/08/02 02:00:00

08/08/02 03:00:00

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

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

08/31/02 12:00:00
08/31/02 14:30:00 through 08/31/02 18:00:00
08/31/02 20:00:00
08/31/02 21:00:00

Out for maintenance
08/26/02 09:00:00

Station 10

No data recorded for the following dates/times due to sonde malfunction:
08/01/02 00:00:00 through 08/02/02 10:00:00

Negative turbidity values deleted

08/02/02 10:30:00 through 08/14/02 08:30:00
08/14/02 09:30:00
08/14/02 10:00:00
08/14/02 11:00:00
08/14/02 11:30:00
08/14/02 16:30:00 through 08/14/02 17:30:00
08/14/02 21:30:00
08/14/02 22:00:00
08/14/02 23:00:00 through 08/15/02 00:30:00
08/15/02 01:30:00
08/15/02 02:00:00
08/15/02 03:30:00
08/15/02 04:00:00
08/15/02 05:00:00 through 08/15/02 06:00:00
08/15/02 09:00:00
08/15/02 10:30:00 through 08/20/02 22:00:00
08/21/02 02:30:00 through 08/21/02 21:00:00
08/21/02 22:30:00
08/21/02 23:00:00
08/22/02 00:00:00 through 08/23/02 00:00:00
08/23/02 01:00:00
08/26/02 09:30:00 through 08/31/02 23:30:00

High turbidity values deleted because of algal growth near the sensor
08/25/02 03:00:00 through 08/26/02 09:00:00

Station 19

Salinity and specific conductivity values was erased because the sensor is not working properly.

08/01/02 00:00:00 through 08/14/02 08:30:00
08/28/02 08:00:00 through 08/31/02 23:30:00

Negative turbidity values deleted

08/01/02 00:00:00 through 08/31/02 23:30:00

No data due to sonde malfunction

08/04/02 13:30:00
08/04/02 14:00:00
08/05/02 12:30:00
08/05/02 13:00:00

08/05/02 14:30:00
08/07/02 09:00:00
08/07/02 14:30:00
08/08/02 12:30:00
08/11/02 15:00:00
08/11/02 16:30:00
08/13/02 00:30:00
08/13/02 11:00:00
08/13/02 18:00:00
08/20/02 10:30:00
08/24/02 16:00:00

Out of water for maintenance
08/26/02 09:00:00 through 08/28/02 07:30:00

Station 20

Out of water for maintenance
08/14/02 08:30:00

Negative turbidity values deleted
08/01/02 00:00:00 through 08/09/02 20:30:00
08/09/02 21:30:00 through 08/10/02 05:00:00
08/10/02 06:30:00 through 08/14/02 08:00:00
08/14/02 09:00:00 through 08/18/02 07:30:00
08/18/02 08:30:00 through 08/31/02 23:30:00

No data due to sonde malfunction
08/18/02 08:00:00

September 2002

Station 09
DO % and mg/L deleted due to biofouling
09/01/02 00:00:00 through 09/12/02 04:30:00

Depth data deleted due to calibration error
09/16/02 10:30:00 through 09/30/02 23:30:00

Negative turbidity values deleted
09/01/02 14:30:00 through 09/01/02 15:30:00
09/01/02 17:30:00 through 09/01/02 19:00:00
09/01/02 20:30:00 through 09/01/02 21:00:00
09/01/02 22:00:00 through 09/01/02 23:00:00
09/02/02 00:00:00
09/02/02 14:30:00 through 09/02/02 18:00:00
09/02/02 19:00:00 through 09/02/02 19:30:00
09/02/02 21:30:00 through 09/03/02 01:00:00
09/03/02 15:30:00 through 09/04/02 01:30:00
09/04/02 15:30:00 through 09/04/02 18:30:00
09/04/02 20:00:00 through 09/04/02 20:30:00
09/04/02 21:30:00 through 09/04/02 22:00:00
09/04/02 23:00:00 through 09/05/02 01:00:00
09/05/02 14:30:00 through 09/05/02 15:00:00

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

High turbidity deleted
09/02/02 21:00:00

Station 10

Out of water for maintenance

09/16/02	10:00:00	through 09/16/02	10:30:00
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Depth data was not confident because of a possible calibration problem.
09/16/02 11:00:00 through 09/30/02 23:30:00

Negative turbidity values deleted

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

09/30/02	13:30:00 through 09/30/02	20:00:00
09/30/02	21:00:00 through 09/30/02	23:30:00

Station 19

Negative turbidity values deleted

09/01/02	00:00:00 through 09/30/02	23:30:00
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Salinity and specific conductivity values was deleted because the sensor was not working properly.

09/01/02	00:00:00 through 09/11/02	08:00:00
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Station 20

Negative turbidity values deleted

09/01/02	00:00:00 through 09/02/02	05:30:00
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09/02/02	07:00:00	
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09/02/02	07:30:00	
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09/02/02	08:30:00	
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09/02/02	10:30:00	
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09/02/02	12:30:00 through 09/08/02	16:30:00
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09/08/02	17:30:00 through 09/09/02	00:30:00
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09/09/02	01:30:00	
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09/09/02	02:30:00 through 09/09/02	07:30:00
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09/09/02	22:00:00	
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09/10/02	00:00:00	
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09/10/02	01:00:00	
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09/10/02	09:30:00	
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09/10/02	12:00:00	
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09/10/02	14:00:00	
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09/10/02	20:00:00	
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09/10/02	23:30:00 through 09/11/02	03:30:00
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09/11/02	06:00:00	
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09/11/02	07:00:00 through 09/24/02	12:30:00
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09/25/02	10:00:00 through 09/30/02	23:30:00
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October 2002

Station 09

Calibration problem with depth sensor, depth data deleted for the following

dates and times:

10/01/02	00:00:00 through 10/07/02	08:30:00
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Negative turbidity values deleted

10/01/02	00:00:00 through 10/06/02	04:30:00
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10/06/02	05:30:00 through 10/07/02	04:30:00
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10/07/02	05:30:00 through 10/13/02	03:30:00
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10/13/02	04:30:00 through 10/13/02	20:30:00
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10/13/02	21:30:00 through 10/13/02	23:30:00
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10/14/02	00:30:00	
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10/14/02	01:30:00 through 10/14/02	07:30:00
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10/14/02	08:30:00 through 10/14/02	23:00:00
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10/15/02	00:00:00 through 10/15/02	03:00:00
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10/15/02	04:00:00	
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10/15/02	04:30:00	
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10/15/02	05:30:00	through 10/15/02	06:30:00
10/15/02	08:00:00	through 10/15/02	23:00:00
10/16/02	00:00:00	through 10/16/02	10:00:00
10/16/02	11:00:00	through 10/31/02	23:30:00

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.

10/28/02	10:30:00	through 10/28/02	11:30:00
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Out of water for maintenance

10/07/02	09:00:00
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Depth data was not confident because of a possible calibration problem

10/01/02	00:00:00	through 10/07/02	08:30:00
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High turbidity values deleted because of algal growth near the sensor

10/24/02	00:30:00	through 10/28/03	09:30:00
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Negative turbidity values deleted

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

10/04/02	19:00:00		
10/04/02	21:00:00		
10/04/02	22:00:00		
10/05/02	00:30:00	through 10/05/02	02:00:00
10/05/02	04:00:00	through 10/05/02	07:00:00
10/05/02	08:00:00	through 10/05/02	09:00:00
10/05/02	10:00:00		
10/05/02	11:30:00	through 10/05/02	12:30:00
10/05/02	13:30:00		
10/05/02	14:30:00	through 10/05/02	15:30:00
10/05/02	16:30:00		
10/05/02	18:00:00	through 10/05/02	18:30:00
10/05/02	19:00:00	through 10/06/02	14:00:00
10/06/02	15:00:00	through 10/06/02	17:30:00
10/06/02	18:30:00	through 10/12/02	00:30:00
10/12/02	01:30:00	through 10/20/02	04:30:00
10/20/02	05:30:00		
10/20/02	06:30:00	through 10/20/02	18:00:00
10/20/02	19:30:00		
10/20/02	21:00:00		
10/21/02	01:30:00		
10/21/02	05:30:00	through 10/21/02	07:30:00
10/21/02	08:30:00	through 10/21/02	10:30:00
10/21/02	11:30:00	through 10/21/02	14:30:00
10/21/02	15:30:00		
10/21/02	17:00:00		
10/22/02	07:00:00	through 10/22/02	15:30:00
10/28/02	10:00:00	through 10/31/02	23:30:00

Station 19

Negative turbidity values deleted

10/01/02	00:00:00	through 10/02/02	14:00:00
10/02/02	15:00:00	through 10/31/02	23:30:00

No data due to sonde malfunction

10/05/02	15:00:00
10/06/02	15:30:00
10/06/02	17:00:00
10/08/02	01:30:00
10/09/02	08:30:00
10/29/02	17:00:00
10/29/02	17:30:00
10/29/02	18:30:00

High turbidity value deleted

10/02/02	14:30:00
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Station 20

Negative turbidity values deleted

10/01/02	00:00:00	through 10/22/02	08:30:00
10/22/02	09:30:00		
10/22/02	10:30:00	through 10/22/02	23:00:00
10/23/02	00:00:00		
10/23/02	01:00:00	through 10/23/02	02:00:00

10/23/02	04:30:00		
10/23/02	05:30:00		
10/23/02	06:30:00	through 10/23/02	09:30:00
10/23/02	10:30:00		
10/23/02	14:30:00		
10/23/02	17:30:00		
10/23/02	18:30:00		
10/23/02	19:00:00		
10/23/02	20:00:00	through 10/23/02	21:30:00
10/23/02	22:30:00	through 10/24/02	00:30:00
10/24/02	03:00:00	through 10/24/02	06:30:00
10/24/02	07:30:00		
10/24/02	09:00:00	through 10/24/02	19:30:00
10/24/02	22:30:00	through 10/25/02	02:00:00
10/25/02	04:00:00		
10/25/02	06:00:00		
10/25/02	07:00:00		
10/25/02	10:00:00		
10/25/02	11:00:00		
10/25/02	17:00:00	through 10/26/02	12:30:00
10/26/02	14:00:00		
10/26/02	14:30:00		
10/26/02	16:00:00		
10/26/02	17:30:00		
10/26/02	18:00:00		
10/26/02	20:30:00		
10/26/02	21:30:00		
10/26/02	23:00:00		
10/27/02	00:00:00		
10/27/02	01:30:00	through 10/31/02	23:30:00

November 2002

Station 09

Negative turbidity values deleted

11/01/02	00:00:00	through 11/08/02	22:30:00
11/08/02	23:30:00	through 11/10/02	22:30:00
11/10/02	23:30:00	through 11/13/02	02:30:00
11/13/02	03:30:00		
11/13/02	04:30:00	through 11/20/02	06:00:00
11/20/02	07:00:00	through 11/20/02	17:00:00
11/20/02	18:00:00	through 11/21/02	06:00:00
11/21/02	07:00:00	through 11/22/02	06:00:00
11/22/02	07:00:00	through 11/23/02	06:00:00
11/23/02	07:30:00	through 11/23/02	12:30:00
11/23/02	13:30:00	through 11/23/02	16:00:00
11/23/02	17:00:00	through 11/24/02	06:00:00
11/24/02	07:30:00	through 11/24/02	16:00:00
11/24/02	17:30:00	through 11/25/02	06:00:00
11/25/02	07:00:00	through 11/25/02	16:30:00
11/25/02	18:00:00	through 11/26/02	06:00:00
11/26/02	07:00:00	through 11/26/02	08:30:00
11/26/02	09:30:00	through 11/26/02	17:00:00
11/26/02	18:00:00	through 11/27/02	06:00:00
11/27/02	07:00:00	through 11/29/02	06:00:00

11/29/02	07:00:00	through	11/30/02	06:30:00
11/30/02	07:30:00	through	11/30/02	17:30:00
11/30/02	18:30:00	through	11/30/02	23:30:00

Station 10

Negative turbidity values deleted

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

Station 19

Negative turbidity values deleted

11/01/02	00:00:00	through 11/03/02	13:30:00
11/03/02	15:00:00	through 11/04/02	12:30:00
11/04/02	13:30:00		
11/04/02	15:00:00	through 11/04/02	22:00:00
11/04/02	23:00:00	through 11/05/02	00:00:00
11/05/02	01:30:00	through 11/05/02	12:00:00
11/05/02	13:00:00	through 11/05/02	14:30:00
11/05/02	16:00:00	through 11/22/02	00:00:00
11/22/02	01:00:00	through 11/23/02	09:30:00
11/23/02	10:30:00	through 11/24/02	04:30:00
11/24/02	05:30:00	through 11/24/02	12:30:00
11/24/02	13:30:00	through 11/24/02	19:00:00
11/24/02	20:00:00		
11/24/02	20:30:00		
11/24/02	21:30:00	through 11/25/02	10:30:00
11/25/02	11:30:00	through 11/25/02	14:00:00
11/25/02	15:00:00		
11/25/02	16:00:00	through 11/26/02	12:00:00
11/26/02	13:30:00		
11/26/02	14:30:00	through 11/27/02	02:30:00
11/27/02	04:30:00	through 11/27/02	09:00:00
11/27/02	10:00:00		
11/27/02	10:30:00		
11/27/02	11:30:00	through 11/27/02	17:00:00
11/27/02	18:00:00	through 11/30/02	23:30:00

No data due to sonde malfunction

11/03/02	14:00:00	through 11/03/02	14:30:00
11/04/02	13:00:00		
11/04/02	14:00:00	through 11/04/02	14:30:00
11/05/02	12:30:00		
11/05/02	15:00:00	through 11/05/02	15:30:00
11/22/02	00:30:00		
11/24/02	05:00:00		
11/24/02	13:00:00		
11/24/02	19:30:00		
11/24/02	21:00:00		
11/25/02	11:00:00		
11/25/02	14:30:00		
11/25/02	15:30:00		
11/26/02	12:30:00	through 11/26/02	13:00:00
11/26/02	14:00:00		
11/27/02	03:00:00	through 11/27/02	04:00:00
11/27/02	09:30:00		
11/27/02	11:00:00		
11/27/02	17:30:00		

Station 20

High turbidity deleted

11/02/02	06:00:00
11/03/02	06:00:00

Negative turbidity values deleted

11/01/02	00:00:00 through 11/15/02	22:00:00
11/15/02	23:00:00 through 11/19/02	06:00:00
11/19/02	07:00:00 through 11/27/02	21:00:00
11/27/02	22:00:00 through 11/28/02	16:00:00
11/28/02	17:30:00	
11/28/02	19:00:00 through 11/28/02	23:30:00
11/29/02	01:00:00	
11/29/02	01:30:00	
11/29/02	02:30:00 through 11/29/02	05:00:00
11/29/02	06:00:00	
11/29/02	07:30:00	
11/29/02	08:00:00	
11/29/02	09:00:00	
11/29/02	10:00:00	
11/29/02	11:30:00	
11/29/02	13:00:00	
11/29/02	14:00:00	
11/29/02	15:30:00 through 11/30/02	08:30:00
11/30/02	10:00:00 through 11/30/02	23:00:00

December 2002

Station 09

Negative turbidity values deleted

12/01/02	00:00:00 through 12/01/02	18:00:00
12/01/02	19:00:00 through 12/14/02	03:30:00
12/14/02	04:30:00 through 12/18/02	09:30:00

High turbidity deleted

12/01/02	18:30:00
12/14/02	04:00:00

Turbidity sensor on maintenance

12/18/02	10:00:00 through 12/31/02	23:30:00
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Station 10

Turbidity sensor on maintenance

12/2/02	09:30:00 through 12/31/02	23:30:00
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Station 19

Water entrance to the batteries compartment caused a voltage drop (7v a 5v)

causing the sonde to stop recording data from 12/16/02 6:30:

The data collected during the voltage drop was deleted 12/2/02 09:00:00 through 12/16/02 06:30:00.

The sonde stop taking data after water reach the batteries compartment:

12/16/02	07:00:00 through 12/18/02	08:30:00
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Negative turbidity values deleted

12/01/02	00:00:00 through 12/02/02	08:30:00
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Turbidity sensor on maintenance

12/18/02 09:00:00 through 12/31/02 23:30:00

No data due to sonde malfunction

12/01/02 10:00:00

Station 20

Negative turbidity values deleted

12/01/02 00:00:00 through 12/01/02 02:00:00

12/01/02 03:30:00

12/01/02 04:30:00

12/01/02 05:00:00

12/01/02 07:30:00

12/01/02 08:30:00

12/01/02 11:00:00 through 12/01/02 12:00:00

12/01/02 13:00:00 through 12/01/02 15:30:00

12/01/02 18:00:00 through 12/02/02 00:00:00

12/02/02 01:00:00 through 12/02/02 09:30:00

Turbidity sensor on maintenance

12/02/02 10:00:00 through 12/31/02 23:30:00

12. Missing data:

Missing data are denoted by any period in the data set. Data are missing due to

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

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: 100)
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09	1/8/02	87.5	6.98	103.3	101.2
	1/10/02	100.9	7.27	100.1	94.6
	1/28/02	86.5	6.95	100.8	103.0
	1/30/02	101.2	7.21	97.34	64.5
	2/19/02	91.2	6.89	102.3	83.8
	3/11/02	108.9	6.92	99.44	103.8
	4/1/02	72	6.76	95.59	100.7
	4/22/02	79.2	7.10	100.5	121
	5/13/02	83.3	6.94	94.48	183.2
	6/3/02	30.7	7.23	96.3	93.43
	7/3/02	76.1	6.00	103.2	89.5
	7/18/02	104	6.08	100.8	73.2

Site ID	Date mm/dd/yy	DO (Air Sat.) std: 100%	pH7 (std: 7.0)	Conductivity (mS/cm) (std: 100)	Turbidity (NTU) (std: 123)
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09	8/2/02	70.7	6.64	96.42	72.6
	8/26/02	93.2	7.10	88.91	132
	9/16/02	84.4	7.14	100.7	100.5
	10/7/02	48	7.12	105.1	118.8
	10/28/02	77	6.97	100.1	95.7
	11/18/02	83.3	6.83	102.7	110.1
	12/2/02	95.4	6.95	102	XXXXX
	12/18/02	99.5	7.11	104	126.5

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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10	1/8/02	50	XXX	98.89	101.6
	1/10/02	87.3	6.25	99.8	97.8
	1/28/02	71.5	7.15	95	104.6
	1/30/02	85.6	7.12	95.36	----
	2/21/02	97.7	7.04	69.37	102.2
	3/12/02	69.8	6.77	96.59	100.2
	4/3/02	88.5	7.07	96.96	105.9
	4/24/02	48.4	6.94	95.82	122.5
	5/13/02	89.6	6.81	94.32	119.1
	6/3/02	78.0	6.87	96.33	116.5
	6/24/02	14.3	6.93	101.9	315.6
	7/11/02	95	7.14	100.5	120.6

Site ID	Date mm/dd/yy	DO (Air Sat.) std: 100%	pH7 (std: 7.0)	Conductivity (mS/cm) (std: 100)	Turbidity (NTU) (std: 123)
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10	8/2/02	36.6	6.41	87.63	120.4
	8/26/02	69	7.27	90.85	183
	9/16/02	88.6	6.85	98.5	128.4
	10/6/02	80.9	7.12	98.74	111
	10/28/02	0.51	7.01	98.8	261.8
	11/18/02	98.7	7.06	100.1	742
	12/2/02	100.8	6.6	100.6	XXXXX
	12/18/02	117.1	7.13	104.5	XXXXX

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	4/24/02	105.7	7.12	95.46	90.2
	5/13/02	107.8	7.06	94.61	120.7
	6/11/02	94.8	7.12	104.1	98
	6/24/02	98.1	7.07	100.4	93.5
	7/11/02	98.5	7.06	98.92	-11.4
	7/29/02	110.6	6.97	100.6	116.1

Site ID	Date mm/dd/yy	DO (Air Sat.) std: 100%	pH7 (std: 7.0)	Conductivity (mS/cm) (std: 100)	Turbidity (NTU) (std: 123)
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19	8/14/02	95.2	7.42	87.46	15.6
	8/26/02	95.1	7.21	94.88	263.9
	9/11/02	92.0	7.11	107.0	114.0
	9/25/02	99.5	7.15	98.78	140.6
	10/9/02	63.0	7.12	97.75	120.1

	10/28/02	22.8	6.88	100.1	135.8
	11/6/02	102.2	6.74	87.89	110.7
	11/20/02	95.5	7.72	100.3	53
	12/2/02	98.6	7.12	103.8	XXXXX
	12/18/02	110.3	7.17	102.9	XXXXX
Site ID	Date mm/dd/yy	DO (Air Sat.) std: 100%	pH7 (std: 7.0)	Conductivity (mS/cm) (std: 100)	Turbidity (NTU) (std: 100)
20	6/11/02	87	6.93	99.97	85.3
	6/24/02	84.2	6.97	98.27	98
	7/11/02	86	6.65	100.3	138.6
	7/29/02	104.1	7.04	101.8	135.3
Site ID	Date mm/dd/yy	DO (Air Sat.) std: 100%	pH7 (std: 7.0)	Conductivity (mS/cm) (std: 100)	Turbidity (NTU) (std: 123)
20	8/14/02	99.9	6.88	93.25	23.2
	8/28/02	100.1	7.15	94.78	132.0
	9/11/02	95.1	6.61	94.48	97.1
	9/25/02	100.5	7.20	100.8	118.3
	10/9/02	91.3	6.93	99.01	124.0
	10/28/02	90.2	6.97	100.8	153.2
	11/6/02	103.7	6.64	99.93	218.3
	11/20/02	100.8	6.97	98.90	55.5
	12/2/02	101.2	6.95	101.7	XXXXX
	12/18/02	101.5	7.11	103.8	XXXXX

14. Other remarks:

On 06/30/2021 this dataset was updated to include embedded QAQC flags for anomalous/suspect data. System-wide monitoring data beginning in 2007 were processed to allow for QAQC flags and codes to be embedded in the data files rather than detailed in the metadata alone (as in the anomalous/suspect, deleted, and missing data sections above). Prior to 2006, rejected data were deleted from the dataset so they are unavailable to be used at all, but suspect data were only noted in the metadata document. Suspect data flags <1> were embedded retroactively in order to allow suspect data to be easily identified and filtered from the dataset if desired for analysis and reporting purposes. No other flags or codes were embedded in the dataset and users should still refer to the detailed explanations above for more information.

During this year, a great part of the data obtained by the turbidity sensor have negative values and were eliminated. This year 2002, we have changed the sensor model for turbidity near summer, this required to make adjustments to the

turbidity standard, which improved the turbidity data. Although, we continue obtaining negative values but more closer to zero.

Station 19: From 06/08/02 to 06/11/02. During this period salinity and specific conductivity decreased because of a raining event.

Station 19: From 07/29/02 to 08/14/02. During this period we found high DO (%) and DO (mg/l) values because of strong winds that hit the watershed on hurricane season.

Station 19: From 10/09/02 to 10/28/02. An oxygen decreased occurs, caused by biofouling on the sensors, the sonde stays on the water more than 15 days.