

North Carolina (NOC) NERR Water Quality Metadata
January - December 2002
Last Update: July 1, 2021

I. Data Set & Research Descriptors

1) Principal Investigator(s) and Contacts:

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2) Entry Verification Process:

The data are uploaded using the computer program EcoWatch that accompanies the YSI 6000 series dataloggers. After the file is uploaded from the water quality instrument, EcoWatch is used to plot the data and perform basic statistical analysis (i.e., min., max., mean, std.dev.). This information is printed out and attached to the Field Log for the particular deployment. This printout is used during file review to detect any gross outliers such as data taken when the water quality instrument was removed from the water or those caused by instrument failure. The data are exported as a .csv file and then opened into a Microsoft Excel file that contains the current month's cumulative recordings. When a complete month of data has been recorded the file is then reviewed. The first step is to format the data so that the parameter columns are in the correct order and the data have the correct number

of decimal place holders. The CDMO 5.0 Excel macro is used to check for any dates and times that data were not recorded due to maintenance, battery failure, or other causes. Missing dates and times are inserted into the file and a period is inserted into the cells where data would normally be. An explanation for the missing data is recorded onto the Water Quality Editing Log. Next, the data are filtered using an Excel macro to find readings outside the instrument measurement range and the "normal" range for the site in question. Data outside the instrument range are removed from the file and a period is inserted into the cell(s). An explanation for the missing dates and times are recorded onto the Water Quality Editing Log. Data outside the "normal" range of water quality for a particular site were investigated for validity based on weather data, field observations, QC checks, PC6000 printouts, and instrument diagnostics. If the data are rejected from the file a period is inserted into the cell(s) and an explanation for the missing dates and times are recorded onto metadata form. The metadata form is then submitted with the data files to the CDMO. Paula May, Research Biologist, was responsible for data management during 2002.

3) Research Objectives:

Water quality instruments are deployed at the Masonboro Island and Zeke's Island components of North Carolina's National Estuarine Research Reserve and are anchored to the bottom of the selected sites. Measurements are taken at 30-minute intervals for approximately two-week periods. These sites are relatively unimpacted by manmade perturbations and are considered long term monitoring locations. The goal is to establish long-term water quality monitoring at relatively unimpacted sites by collecting data for each day of the year.

4) Research Methods:

The Estuarine Water Quality Monitoring Program began on 2 March 1992 at the Research Creek site of the Masonboro Island component. A second Masonboro Island site (Loosin Creek) was added on 26 February 2002. Data collection

started on 19 May 1994 at the Zeke's Island component (East Cribbings) and an additional site (Zeke's Basin) was added 1 March 2002. The procedures described below were instituted in June 1995 and thus do not cover data recorded previously. At this time we are only performing long term water quality monitoring and not a specific experiment.

Before each YSI 6600 is deployed, calibration and maintenance is performed following the manufacturer's instructions (YSI Manual addendum 7/94, sections 3,4, and 7). Calibration standards are only required for pH, turbidity and salinity; all other parameters are done as described in the manual. Buffer solutions for a two-point pH calibration (pH 7 and 10) are purchased pre-made from a scientific supply house. The conductivity standard is obtained from YSI. The dissolved oxygen membranes are replaced before deployment and are allowed to settle at least 24 hrs prior to deployment.

During deployment the weather conditions and tide stage are recorded in the field observation log. The water quality instrument is placed inside a locked steel cage, then anchored approximately 10cm off the bottom, and chained to a post at the monitoring site. Every 30 minutes during the sampling period measurements are taken for temperature, specific conductance, salinity, dissolved oxygen saturation, dissolved oxygen concentration, depth, pH, and turbidity, and occasionally chlorophyll.

At the end of the sample period the water quality instrument is brought back to the laboratory. The weather and water quality measurements are again noted in the field observation log. The calibration drift and the effect of biofouling on the water quality instrument are checked by comparing data readings in calibration standards. The water quality data are then uploaded, and the instrument is cleaned and calibrated as noted previously.

5) Site Location and Character:

The four components of North Carolina's National Estuarine Research Reserve (from north to south) are: Currituck Banks, Rachel Carson, Masonboro Island and

Zeke's Island. They are located along the southeastern coast of the United States in the Atlantic Ocean. Currently, only data from Masonboro Island and Zeke's Island components are transferred to the CDMO.

1. Research Creek, Masonboro Island

The first Masonboro Island site (formerly called Masonboro Island (MS)) is 0.72 km north east from the mouth of Whiskey Creek, and east of the Intracoastal Waterway (ICW), in a small navigable channel called Research Creek at 34° 09'21.7" latitude and 77° 50'59.9" longitude. The site has a salinity range from 18-35 ppt and a tidal range that averages 1.7 meters. The creek bottom is characterized by sand and detritus based sediment with areas of soft mud with a depth ranging from 0.34 to 2.45 m. The sole source of freshwater is rain. *Spartina* spp. marsh and dunes surround the site, which is relatively unimpacted by manmade perturbations and it is not accessible to road traffic. The site does experience minimal boat traffic.

2. Loosin Creek, Masonboro Island

The second Masonboro Island site (added in 2002) is 1.2 km east of the ICW, and 2.5 km south west of Masonboro Inlet, in a small navigable channel called Loosin Creek at 34° 10'20.0" latitude and 77° 49'58.1" longitude. The site has a salinity range from 18-35 ppt and a tidal range that averages 1.7 meters. The creek bottom is characterized by sand and detritus based sediment with areas of soft mud with a depth ranging from 0.1 to 2.5 m. The sole source of freshwater is rain. *Spartina* spp. marsh and dunes surround the site, which is relatively unimpacted by manmade perturbations and it is not accessible to road traffic. The site does experience minimal boat traffic.

3. East Cribbings, Zeke's Island

The first Zeke's Island site (formerly called Zeke's Island (ZI)) is located 1.8 km south of Federal Point boat launch in a tidal basin estuary at 33° 56'23.5" latitude and 77° 56'28.1" longitude. This site receives minimal freshwater input from leakage of the Cape Fear River through the 5.6 km rock jetty that separates

the two bodies of water. The site has a salinity range from 15-35 ppt and a tidal range that averages 2 meters. Depth varies, but typically it can be found to range from 0.11 to 2.30 meters. Bottom type substratum consists of large rocks (the cribbings) with sand and detritus based sediment. There are no pollutants from land. Marsh and dunes surround the site; not accessible to road traffic and minimal boat traffic.

4. Zeke's Basin, Zeke's Island

The second Zeke's Island site (added in 2002) is located 0.8 km south east of the Federal Point boat launch in a tidal basin estuary at 33° 57'17.0" latitude and 77° 56'6.0" longitude. This site receives minimal freshwater input from leakage of the Cape Fear River through the 5.6 km rock jetty that separates the two bodies of water. The site has a salinity range from 11-35 ppt and a tidal range that averages 2 meters. Depth varies, but typically it can be found to range from 0.1 to 2 meters. Bottom type substratum consists of sand and detritus based sediment with a layer of soft sulfuric mud. There are no pollutants from land. Marsh and dunes surround the site; not accessible to road traffic and minimal boat traffic.

6) Data Collection Period

Research Creek data collection began on 2 March 1992 while monitoring of Loosin Creek started on 26 February 2002. East Cribbing data collection commenced on 19 May 1994 and Zeke's Basin data collection began on 1 March 2002. All monitoring is considered long term.

An asterisk (*) at the end of a deployment period indicates that a YSI 6600 EDS sonde was used for that particular deployment. YSI 6600s were utilized for all other deployments. All sondes are equipped with non-vented depth sensor and identical probe models.

Deployment and Retrieval Dates for 2002

Began	Ended
Research Creek, Masonboro Island:	
12/12/01, 15:00	01/10/02, 14:30
01/10/02, 15:30	01/31/02, 10:30
01/31/02, 11:00	02/26/02, 11:00
02/26/02, 11:30	03/12/02, 10:30
03/12/02, 11:30	04/03/02, 13:00
04/03/02, 13:30	04/22/02, 08:30
04/22/02, 09:00	05/08/02, 09:30
05/08/02, 10:00	05/23/02, 10:30
05/23/02, 11:00	06/11/02, 10:30
06/11/02, 11:00	06/20/02, 14:30
06/20/02, 15:00	07/03/02, 12:00
07/03/02, 13:00	07/12/02, 08:30
07/12/02, 09:00	07/22/02, 09:00
07/22/02, 10:00	07/31/02, 10:00
07/31/02, 10:30	08/11/02, 11:30
08/11/02, 12:00	08/22/02, 15:30
08/22/02, 16:00	09/04/02, 08:30
09/04/02, 09:00	09/06/02, ??:??
09/10/02, 10:30	09/17/02, 14:30
09/17/02, 15:00	10/02/02, 08:30
10/02/02, 09:00	10/16/02, 08:00
10/16/02, 08:30	10/30/02, 13:00
10/30/02, 14:00	11/18/02, 11:00*
11/18/02, 11:30	12/17/02, 11:30
12/17/02, 12:00	01/14/03, 09:30

Loosin Creek, Masonboro Island:	
02/26/02, 12:00	03/07/02, 14:30
03/12/02, 12:00	04/03/02, 12:00
04/03/02, 13:00	04/22/02, 09:30
04/22/02, 10:30	05/08/02, 10:00
05/08/02, 10:30	05/23/02, 10:00
05/23/02, 10:30	06/11/02, 11:00
06/11/02, 11:30	06/20/02, 14:00
06/20/02, 14:30	07/03/02, 13:30
07/03/02, 14:00	07/12/02, 09:00
07/12/02, 09:30	07/22/02, 10:00
07/22/02, 10:30	07/31/02, 09:30
07/31/02, 10:30	08/11/02, 11:00
08/11/02, 11:30	08/22/02, 15:00
08/22/02, 15:30	09/04/02, 09:00
09/04/02, 09:30	09/17/02, 14:30
09/17/02, 15:30	10/02/02, 08:30
10/02/02, 09:30	10/16/02, 08:30
10/16/02, 09:00	10/30/02, 13:00
10/30/02, 13:30	11/18/02, 10:30
11/18/02, 11:00	12/16/02, 09:30
12/16/02, 10:00	01/14/03, 10:30

East Cribbings, Zeke's Island:	
12/13/01, 11:30	01/09/02, 16:30
01/10/02, 11:30	02/01/02, 12:30

02/01/02, 13:00	03/01/02, 11:30
03/01/02, 12:30	03/14/02, 10:30
03/14/02, 11:00	04/12/02, 08:30
04/12/02, 09:30	04/23/02, 15:00
04/23/02, 15:30	05/10/02, 08:30
05/10/02, 09:00	05/24/02, 09:00
05/24/02, 09:30	06/13/02, 10:30
06/13/02, 11:00	06/18/02, 14:30
06/18/02, 15:00	06/24/02, 09:00
06/24/02, 10:00	07/09/02, 09:00
07/09/02, 09:30	07/17/02, 14:00
07/17/02, 15:00	07/24/02, 09:00
07/24/02, 09:30	08/02/02, 15:00
08/02/02, 15:30	08/14/02, 12:30
08/14/02, 13:00	08/26/02, 10:30
08/26/02, 11:30	09/09/02, 10:30
09/09/02, 11:00	09/24/02, 10:00
09/24/02, 10:30	10/08/02, 11:00
10/08/02, 11:30	10/23/02, 11:30
10/23/02, 12:00	11/05/02, 11:30
11/05/02, 12:00	11/21/02, 11:00
11/21/02, 11:30	12/17/02, 09:00*
12/18/02, 10:00	01/05/03, 10:00

Zeke's Basin, Zeke's Island:

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

7) Distribution

NOAA/ERD retains the right to analyze, synthesize and publish summaries of the NERRS System-wide Monitoring Program data. The PI retains the right to be

fully credited for having collected and processed the data. Following academic courtesy standards, the PI and NERR site where the data were collected will be contacted and fully acknowledged in any subsequent publications in which any part of the data are used. Manuscripts resulting from this NOAA/OCRM supported research that are produced for publication in open literature, including refereed scientific journals, will acknowledge that the research was conducted under an award from the Estuarine Reserves Division, Office of Ocean and Atmospheric Administration. The data set enclosed within this package/transmission is only as good as the quality assurance and quality control procedures outlined by the enclosed metadata reporting statement. The user bears all responsibility for its subsequent use/misuse in any further analyses or comparisons. The Federal government reimburses or indemnifies the Recipient for its liability due to any losses resulting in any way from the use of this data.

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

8) Associated Researchers and Projects

Projects are ongoing and continually changing. Check with the Research Coordinator or other contact person for an updated list of research.

Ross, S./NOC NERR

Grimshaw, P./NOC NERR

Effects of non-point source pollution on estuarine water quality

II. Physical Structure Descriptors

9) Variable Sequence, range of measurements, units, resolution, and accuracy:

YSI 6000/6600 datalogger

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

Data columns are separated by tabs. Each file contains a two line column header at the top of the page which identifies measurements and units for each column.

10) Coded variable indicator and variable code definitions:

Site definitions:

RC= South Research Creek, Masonboro Island

LC = Loosin Creek, Masonboro Island

EC = East Cribbings, Zeke's Island

ZB = Zeke's Basin, Zeke's Island

File definitions: site/type/month/year (ex. RCWQ0802 = Research Creek water quality data from August of 2002).

11) Data anomalies (suspect data):

This section lists and explains all anomalous (suspect) data that has either been deleted or still remains in the data set. The data are either extreme for the aquatic system being monitored or are outside the measurement range of the

instrument. The cause of such anomalies may be a bad calibration, boat traffic disturbances, malfunction of the instrument, or the measurements may be correct.

Research Creek, January

All parameters missing due to sonde exchange on the following date and time.

01/10/02 15:00:00

During the following dates the turbidity data were outside of the sensors range. The data were retained. The high value reflects the turbid conditions

that occur during heavy rainfall and high wind events, when the probe is covered by sediment, or if a fish or crab gets caught in the probe guard cup.

The small negative turbidity values could be a result of the probe's resolution

or contamination of the zero standard when the probe was calibrated.

01/01/02 14:30:001356

01/01/02 22:00:00-0001

01/23/02 02:00:001021

Research Creek, February

No missing or anomalous data to report.

Research Creek, March

During the following dates specific conductivity, DO, turbidity and pH all seem

to be responding to something, possibly caused by sulfuric sediment and fouling. When the sonde was retrieved, it was covered with sediment and algae, and smelled of sulfur. In the presence of sulfur, the DO probe will not

work properly. Sensors tested OK during post deployment calibration check.

Data were removed.

03/29/02 13:30:00 - 03/31/02 23:30:00

During the following dates the turbidity data were outside of the sensors range. The data were retained. The high value reflects the turbid conditions

that occur during heavy rainfall and high wind events, when the probe is covered by sediment, or if a fish or crab gets caught in the probe guard cup.

03/13/02	13:00:00	1254
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03/16/02	19:30:00	1280
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03/16/02	22:30:00	1551
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03/17/02	1:30:00	1559
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03/18/02	22:00:00	1539
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03/19/02	5:00:00	1145
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03/19/02	15:00:00	1042
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03/19/02	16:00:00	1072
03/19/02	16:30:00	1122
03/19/02	17:00:00	1028
03/29/02	1:00:00	1544
03/29/02	6:00:00	1099
03/29/02	13:00:00	1115

Research Creek, April

During the following dates specific conductivity, DO, turbidity and pH all seem to be responding to something, possibly caused by sulfuric sediment and fouling. When the sonde was retrieved, it was covered with sediment and algae, and smelled of sulfur. In the presence of sulfur, the DO probe will not work properly. Sensors tested OK during post deployment calibration check.

Data were removed.

04/01/02 0:00:00 - 04/03/02 13:00:00

During the following dates the turbidity data were outside of the sensors range. The data were retained. The high value reflects the turbid conditions

that occur during heavy rainfall and high wind events, when the probe is covered by sediment, or if a fish or crab gets caught in the probe guard cup.

04/06/02	14:00:00	1379
04/17/02	19:30:00	1426
04/26/02	16:30:00	1465

Research Creek, May

Conductivity and turbidity data erratic and low during the following dates, possibly the result of interference of the sonde by a citizen when the YSI

telemetry cable was severed at the end of May. The following data are considered suspect and were retained.

05/30/02 21:00:00 - 05/31/02 23:30:00

Sonde was pulled out of water and sabotaged by a citizen during the following

dates. All parameter data were deleted.

05/28/02	2:30:00 - 04:30:00
05/28/02	11:00:00 - 13:00:00

DO data were erratic during the following dates, most likely the result of

interference of the sonde by a citizen when the YSI telemetry cable was severed

at the end of May. The following data were deleted.

05/23/02 11:00:00 - 05/31/02 23:30:00

During the following dates the turbidity data were outside of the sensors range. The data were retained. The high value reflects the turbid conditions

that occur during heavy rainfall and high wind events, when the probe is covered by sediment, or if a fish or crab gets caught in the probe guard cup.

05/07/02	06:00:00	1469
05/07/02	13:00:00	1181
05/17/02	04:00:00	1358
05/19/02	09:00:00	1347
05/20/02	10:30:00	1345

DO data are suspect during the following dates, possibly due to fouling from

sulfuric sediment. Data were retained.

05/01/02 19:30 - 05/08/02 09:30:00

There is a drift in specific conductivity for the following dates due to an

unknown cause.

05/13/02 12:00 - 05/16/02 10:00

Research Creek, June

DO data were erratic during the following dates, most likely the result of

interference of the sonde by a citizen when the YSI telemetry cable was severed

at the end of May. The following data were deleted.

06/01/02 00:00:00 - 06/11/02 10:30:00

Conductivity and turbidity data erratic and low during the following dates,

possibly the result of interference of the sonde by a citizen when the YSI

telemetry cable was severed at the end of May. The following data are considered suspect and were retained.

06/01/02 00:00:00 - 06/11/02 10:30:00

During the following date the turbidity data was outside of the sensors range.

The data was retained. The high value reflects the turbid conditions that

occur during heavy rainfall and high wind events, when the probe is covered by

sediment, or if a fish or crab gets caught in the probe guard cup.

06/22/02	15:00:00	1564
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Data from all the parameters were deleted due to sonde out of water during

deployment of the ISCO.

06/25/02 16:00:00

Research Creek, July

Data from all the parameters were not recorded due to sonde exchange.

07/03/02 12:30:00

07/22/02 09:30:00

During the following dates the turbidity data were outside of the sensors range. The data were retained. The high value reflects the turbid conditions

that occur during heavy rainfall and high wind events, when the probe is covered by sediment, or if an animal gets caught in the probe guard cup.

07/10/02 18:30:00 2521

07/10/02 19:00:00 1941

07/10/02 19:30:00 1631

07/10/02 20:00:00 1828

07/10/02 20:30:00 1743

07/11/02 19:00:00 1019

07/17/02 8:30:00 1525

Research Creek, August

During the following period the DO data were deleted due to compromised probe

membrane integrity.

08/22/02 9:30:00 - 15:30:00

Conductivity readings drifted downward and then jumped back up throughout the

month. The data were retained. Consider the data on the following dates suspect.

08/21/02 11:00:00 - 08/29/02 11:00:00

During the following dates the turbidity data were outside of the sensors range. The data were retained. The high value reflects the turbid conditions

that occur during heavy rainfall and high wind events, when the probe is covered by sediment, or if a fish or crab gets caught in the probe guard cup.

08/14/02 11:30:00 1916

08/18/02 23:30:00 1483

Research Creek, September

Data from all the parameters were not recorded due to battery failure in sonde.

09/02/02 20:30:00 - 09/04/02 08:30:00

09/04/02 09:30:00 - 09/10/02 10:00:00

09/29/02 15:00:00 - 09/30/02 23:30:00

Data from all the parameters were deleted due to sonde out of water for ISCO deployment.
09/24/02 08:30:00

Conductivity readings drifted downward and become noisy toward the end of the month. Temperature readings also became noisy toward the end of the month. Data were retained. Consider the data for both of these parameters suspect on the following dates.
09/17/02 15:00:00 - 09/29/02 14:30:00

Depth seems to be off for an unknown reason during the following dates and times. Data were retained but should be considered suspect.
09/25/02 10:30 - 09/27/02 08:00

Research Creek, October

Data from all the parameters were not recorded due to sonde battery failure.
10/01/02 0:00:00 - 10/02/02 08:30:00

All parameters are missing due to sonde exchange on the following date and time.
10/30/02 13:30:00

During the following dates the turbidity data were outside of the sensors range. The data were retained. The high value reflects the turbid conditions that occur during heavy rainfall and high wind events, when the probe is covered by sediment, or if a fish or crab gets caught in the probe guard cup.

10/05/02	22:00:00	1549
10/06/02	17:30:00	1546
10/07/02	14:30:00	1576
10/10/02	02:30:00	1511
10/10/02	04:30:00	1503
10/11/02	13:00:00	1526
10/11/02	15:00:00	1181
10/12/02	01:30:00	1505
10/12/02	15:30:00	1079
10/15/02	00:00:00	1492
10/16/02	00:00:00	1389
10/16/02	07:00:00	1474

Conductivity readings drifted downward and then jumped back up throughout the month, probably due to fouling or rain events. The data were retained.

Consider the data on the following dates suspect.

10/03/02 08:30 - 10/16/02 08:00

10/18/02 21:30 - 10/21/02 09:00

DO data for the following dates and times should be considered suspect due to a probable puncture in the membrane sometime during the end of the deployment.

Data were retained.

10/14/02 12:00 - 10/16/02 08:00

Research Creek, November

Sonde had been relocated during deployment (possibly by a citizen) causing a

shift in depth. Consider data for all parameters during the following dates and

times suspect.

11/24/02 15:30 - 11/29/02 20:30

Sonde was relocated (possibly by a citizen) and was out of water during the

following dates. All parameter data were deleted.

11/29/02 21:00 - 11/30/02 23:30

During the following dates the turbidity data were outside of the sensors range. The data were retained. The high value reflects the turbid conditions

that occur during heavy rainfall and high wind events, when the probe is covered by sediment, or if a fish gets caught in the probe guard cup.

11/14/02 16:00:00 1142

11/14/02 19:30:00 2126

Research Creek, December

Sonde was relocated further inland, possibly by a citizen during mid-deployment, and was exposed at low tides during the following dates. All parameter data were deleted.

12/1/02 0:00 - 12/17/02 11:30

Loosin Creek, February

Monitoring of Loosin Creek Basin began on 02/26/02 at 12:00:00.

On the following date the turbidity data was outside of the sensor's range.

The data point was retained. The high value reflects the turbid conditions

that occur during heavy rainfall and high wind events, when the probe is covered by sediment, or if a fish gets caught in the probe guard cup.

02/27/02 14:00:00 1440

Loosin Creek, March

DO data should be considered suspect from 03:00-14:30 on 7 March due to unusually low and high values possibly due to a compromised membrane towards the end of the deployment.

All parameters are missing data due to sonde maintenance.
03/07/02 15:00 - 03/12/02 11:30

During the following dates the turbidity data were outside of the sensor's range. The data were retained. The high value reflects the turbid conditions that occur during heavy rainfall and high wind events, when the probe is covered by sediment, or if a fish gets caught in the probe guard cup.

03/03/02	20:00:00	1449
03/04/02	02:00:00	1425
03/21/02	02:30:00	1337
03/21/02	06:30:00	1341
03/21/02	16:00:00	1333
03/23/02	06:00:00	1320
03/29/02	18:30:00	1087
03/30/02	05:30:00	1094

Loosin Creek, April

All parameters are missing data due to sonde exchange.
04/03/02 12:30
04/22/02 10:00

During the following dates the turbidity data were outside of the sensor's range. The data were retained. The high value reflects the turbid conditions that occur during heavy rainfall and high wind events, when the probe is covered by sediment, or if a fish gets caught in the probe guard cup.

The small negative turbidity values could be a result of the probe's resolution or contamination of the zero standard when the probe was calibrated.

04/12/2002	16:00:00	1112
04/15/2002	13:00:00	1456
04/16/2002	07:00:00	1134
04/16/2002	07:30:00	1387
04/16/2002	12:30:00	1456
04/18/2002	05:30:00	1449
04/18/2002	06:00:00	1449
04/18/2002	06:30:00	1387
04/18/2002	07:00:00	1409
04/18/2002	10:30:00	1439
04/18/2002	11:00:00	1438
04/18/2002	11:30:00	1169
04/18/2002	14:00:00	1415
04/18/2002	15:00:00	1467

04/18/2002	16:00:00	1438
04/18/2002	18:00:00	1090
04/18/2002	18:30:00	1283
04/18/2002	20:00:00	1092
04/18/2002	21:00:00	1446
04/18/2002	23:00:00	1001
04/19/2002	21:30:00	1234
04/20/2002	00:00:00	1314
04/20/2002	00:30:00	1288
04/20/2002	01:00:00	1015
04/20/2002	02:00:00	1433
04/21/2002	08:30:00	1454
04/21/2002	09:30:00	1455
04/21/2002	11:30:00	1452
04/21/2002	12:00:00	1451
04/21/2002	12:30:00	1391
04/21/2002	13:00:00	1446
04/21/2002	13:30:00	1433
04/21/2002	14:00:00	1199
04/21/2002	16:30:00	1457
04/21/2002	18:00:00	1042
04/21/2002	20:30:00	1103
04/21/2002	21:00:00	1463
04/21/2002	22:00:00	1452
04/21/2002	22:30:00	1450
04/21/2002	23:00:00	1461
04/21/2002	23:30:00	1459
04/22/2002	00:30:00	1448
04/22/2002	01:00:00	1445
04/22/2002	01:30:00	1442
04/22/2002	02:00:00	1441
04/22/2002	02:30:00	1441
04/22/2002	07:30:00	1452
04/22/2002	08:00:00	1453
04/22/2002	08:30:00	1454
04/22/2002	09:00:00	1455
04/22/2002	09:30:00	1457
04/23/2002	06:30:00	1592
04/23/2002	09:00:00	1545
04/23/2002	10:00:00	1634
04/23/2002	10:30:00	1933
04/23/2002	17:00:00	-0001
04/24/2002	08:00:00	1928
04/25/2002	17:00:00	1938
04/25/2002	17:30:00	1178

Loosin Creek, May

During the following dates the turbidity data were outside of the sensor's range. The data were retained. The high value reflects the turbid conditions that occur during heavy rainfall and high wind events, when the probe is covered

by sediment, or if a fish gets caught in the probe guard cup.

05/03/02	16:00:00	1968
05/04/02	19:00:00	1931
05/10/02	00:00:00	1497
05/11/02	15:30:00	1104
05/12/02	12:30:00	1353
05/13/02	01:30:00	1495
05/14/02	08:00:00	1204
05/17/02	13:30:00	1502
05/20/02	08:30:00	1466
05/21/02	16:30:00	1120
05/21/02	21:30:00	1479
05/21/02	22:00:00	1477
05/22/02	02:00:00	1481
05/22/02	16:30:00	1482
05/23/02	07:00:00	1469
05/23/02	08:00:00	1469
05/23/02	08:30:00	1469
05/23/02	09:00:00	1432
05/23/02	10:00:00	1473

Loosin Creek, June

During the following dates the turbidity data were outside of the sensor's range. The data were retained. The high value reflects the turbid conditions that occur during heavy rainfall and high wind events, when the probe is covered by sediment, or if a fish gets caught in the probe guard cup.

06/08/02	18:00:00	1136
06/09/02	08:00:00	1268
06/10/02	17:30:00	1297
06/18/02	10:30:00	1044
06/29/02	01:00:00	1638

DO probe did not pass the post deployment calibration check for the deployment dated 06/11/02 through 06/20/02. However, data were retained. Consider DO data for the following time period suspect due to possible membrane integrity problems.
06/17/02 13:30 - 06/20/02 14:00

Loosin Creek, July

All parameters are missing data due to sonde exchange.
07/31/02 10:00

During the following dates the turbidity data were outside of the sensor's range. The data were retained. The high value reflects the turbid conditions

that occur during heavy rainfall and high wind events, when the probe is covered by sediment, or if a fish gets caught in the probe guard cup.

07/04/2002	22:30:00	1259
07/16/2002	03:30:00	1973
07/29/2002	12:00:00	1896
07/29/2002	12:30:00	1901
07/29/2002	14:00:00	1934
07/30/2002	07:00:00	1890
07/30/2002	19:00:00	1151

There is a strange dip in values for pH on the following dates for unknown

reasons. Data were retained but should be considered suspect.

07/02/02 09:00 - 07/03/02 13:30

Loosin Creek, August

During the following dates the turbidity data were outside of the sensor's

range. The data were retained. The high value reflects the turbid conditions

that occur during heavy rainfall and high wind events, when the probe is covered by sediment, or if a fish gets caught in the probe guard cup.

08/27/2002	12:30:00	1873
08/30/2002	20:00:00	1063

Loosin Creek, September

All parameters are missing data due to sonde exchange.

09/17/02 15:00

During the following dates the turbidity data were outside of the sensor's

range. The data were retained. The high value reflects the turbid conditions

that occur during heavy rainfall and high wind events, when the probe is covered by sediment, or if a fish gets caught in the probe guard cup.

09/12/02	18:30:00	2315.1
09/12/02	19:00:00	2313.2
09/12/02	19:30:00	1977.2

DO data during the following dates should be considered suspect due to a possible membrane puncture during deployment. Data were retained.

09/25/02 15:00 - 09/30/02 23:30

Loosin Creek, October

All parameters are missing data due to sonde exchange.

10/02/02 09:00

During the following dates the turbidity data were outside of the sensor's

range. The data were retained. The high value reflects the turbid conditions

that occur during heavy rainfall and high wind events, when the probe is covered by sediment, or if a fish gets caught in the probe guard cup.

The

small negative turbidity values could be a result of the probe's resolution or

contamination of the zero standard when the probe was calibrated.

10/14/2002 02:00:00 -0001

10/14/2002 02:30:00 -0001

10/20/2002 20:30:00 2133

DO data during the following dates should be considered suspect due to a possible membrane puncture during deployment. Data were retained.

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

Loosin Creek, November

For the following dates and times depth readings were negative. However, based

on the other parameters measured, the sonde was not out of the water. All data

were retained.

11/06/2002 15:30:00 -0.01

11/30/2002 22:00:00 -0.02

11/30/2002 22:30:00 -0.09

11/30/2002 23:00:00 -0.08

DO data on the following date should be considered suspect due to a possible

membrane puncture during deployment. Data were retained.

11/18/02 10:00 - 10:30

Loosin Creek, December

During the following dates the turbidity data were outside of the sensor's

range. The data were retained. The high value reflects the turbid conditions

that occur during heavy rainfall and high wind events, when the probe is covered by sediment, or if a fish gets caught in the probe guard cup.

12/18/2002 21:00:00 1588

12/19/2002 03:30:00 1582

12/19/2002 06:30:00 1596

12/25/2002 09:30:00 1342

12/26/2002 08:30:00 1552

12/26/2002 09:30:00 1564

12/26/2002 10:30:00 1583

12/26/2002 11:00:00 1589

12/26/2002 13:00:00 1597

12/26/2002 20:30:00 1573

12/26/2002 21:00:00 1572

12/26/2002 21:30:00 1573

12/26/2002 23:00:00 1587

12/26/2002 23:30:00 1589

12/27/2002	00:30:00	1594
12/27/2002	01:00:00	1548
12/27/2002	01:30:00	1594
12/27/2002	02:00:00	1593
12/27/2002	02:30:00	1590
12/27/2002	03:00:00	1585
12/27/2002	03:30:00	1576
12/27/2002	04:00:00	1571
12/27/2002	04:30:00	1564
12/27/2002	05:00:00	1366
12/27/2002	06:00:00	1105
12/27/2002	06:30:00	1553
12/27/2002	07:00:00	1550
12/27/2002	07:30:00	1548
12/27/2002	08:00:00	1546
12/27/2002	08:30:00	1549
12/27/2002	09:00:00	1553
12/27/2002	09:30:00	1039
12/27/2002	14:30:00	1596
12/27/2002	15:00:00	1594
12/27/2002	15:30:00	1591
12/27/2002	23:00:00	1567

Low DO values on 12/20/02 from 20:30 through 21:00 were retained but may be suspect. A possible cause for these low DO values could be rain that occurred on that date.

East Cribbings, January

All parameters are missing data due to replacement of the deployment structure.
1/09/02 17:00 - 1/10/02 11:00

East Cribbings, February

The temperature probe failed while deployed during the following dates and times. Data for all parameters were deleted since the temperature data is used in every output of the sonde.
02/07/02 02:00 - 02/28/02 23:30

On the following date, the turbidity data was outside of the sensor's range. The data was retained. The high value reflects the turbid conditions that occur during heavy rainfall and high wind events, when the probe is covered by sediment, or if a fish gets caught in the probe guard cup.
02/07/02 14:00:00 1386

East Cribbings, March

The temperature probe failed while deployed during the following dates and times. All parameter data were deleted since the temperature data is used in every output of the sonde.
03/01/02 00:00 - 11:30

All parameters are missing data due to sonde exchange.
3/01/02 12:00

During the following dates the turbidity data were outside of the sensor's range. The data were retained. The high value reflects the turbid conditions that occur during heavy rainfall and high wind events, when the probe is covered by sediment, or if a fish gets caught in the probe guard cup.
03/14/02 11:00:00 1822
03/21/02 10:30:00 1616

East Cribbings, April

All parameters are missing data due to sonde exchange.
04/12/12 09:00

On the following date, the turbidity data was outside of the sensor's range. The data was retained. The high value reflects the turbid conditions that occur during heavy rainfall and high wind events, when the probe is covered by sediment, or if a fish gets caught in the probe guard cup.
04/08/02 10:00:00 1824

East Cribbings, May

During the following dates the turbidity data were outside of the sensor's range. The data were retained. The high value reflects the turbid conditions that occur during heavy rainfall and high wind events, when the probe is covered by sediment, or if a fish gets caught in the probe guard cup.
05/05/02 04:00:00 1017
05/28/02 17:00:00 1678

East Cribbings, June

All parameters are missing data due to sonde exchange.

06/24/02 09:30

On the following date, the turbidity data was outside of the sensor's range.

The data was retained. The high value reflects the turbid conditions that

occur during heavy rainfall and high wind events, when the probe is covered by

sediment, or if a fish gets caught in the probe guard cup.

06/10/02 6:00:00 1624

East Cribbings, July

During the following periods, the specific conductivity and salinity readings

may have drifted downward as a result of fouling. Data at end of deployment

considered suspect, including DO mg/l and depth data. Data were retained.

07/05/02 18:30 - 07/09/02 09:00

There is an unusual drop in the specific conductivity and salinity readings

during the following periods due to an unknown cause. Data were retained.

Consider data suspect, including DO mg/l and depth data.

07/01/02 08:00 - 07/02/02 19:00

All parameters are missing data due to sonde exchange.

7/17/02 14:30

Data for all parameters were deleted due to the sonde being exposed periodically at low tide.

07/17/02 19:30 - 07/31/02 23:30

During the following dates the turbidity data were outside of the sensor's

range. The data were retained. The high value reflects the turbid conditions

that occur during heavy rainfall and high wind events, when the probe is covered by sediment, or if a fish gets caught in the probe guard cup.

07/07/2002 07:30:00 1810

07/12/2002 12:30:00 1571

07/12/2002 15:00:00 1564

07/13/2002 22:30:00 1147

07/14/2002 11:30:00 1592

07/14/2002 19:30:00 1599

07/15/2002 10:00:00 1598

07/15/2002 14:30:00 1619

07/16/2002 00:30:00 1607

07/16/2002 21:00:00 1023

07/17/2002 06:00:00 1613

07/17/2002 13:30:00 1169

07/17/2002 14:00:00 1066

East Cribbings, August

Data for all parameters were deleted due to the sonde being exposed periodically at low tide.

08/01/02 00:00 - 08/02/02 15:00

All parameters are missing data due to sonde exchange.

8/26/02 11:00

During the following dates the turbidity data were outside of the sensor's

range. The data were retained. The high value reflects the turbid conditions

that occur during heavy rainfall and high wind events, when the probe is covered by sediment, or if a fish gets caught in the probe guard cup.

08/24/2002 03:00:00 1714

08/24/2002 08:30:00 1731

08/24/2002 18:30:00 1257

08/24/2002 19:30:00 1229

08/24/2002 21:30:00 1210

08/24/2002 22:00:00 1157

08/25/2002 03:00:00 1143

08/25/2002 19:30:00 1132

08/25/2002 20:00:00 1382

08/26/2002 03:00:00 1246

08/26/2002 03:30:00 1244

08/26/2002 04:00:00 1087

Depth, temperature, Sp. Cond, and Dissolved Oxygen all seem to be irregular for

the entire deployment dated 08/14/02 through 08/26/02. Technician had difficulty deploying the datasonde due to heavy currents. Use data with caution

and consider data suspect.

In addition, depth readings were negative for the following dates and times.

However, based on the other parameters measured, the sonde was not out of the

water. All data were retained.

8/18/02 12:00:00 -0.022

8/18/02 12:30:00 -0.037

8/19/02 13:00:00 -0.014

8/19/02 13:30:00 -0.007

East Cribbings, September

During the following dates the turbidity data were outside of the sensor's

range. The data were retained. The high value reflects the turbid conditions

that occur during heavy rainfall and high wind events, when the probe is covered by sediment, or if a fish gets caught in the probe guard cup.

09/13/2002	03:30:00	1523
09/17/2002	11:00:00	1020
09/22/2002	09:30:00	1550
09/22/2002	11:30:00	1293
09/22/2002	15:30:00	1189
09/22/2002	19:00:00	1567
09/22/2002	23:30:00	1349
09/23/2002	01:00:00	1262
09/23/2002	01:30:00	1459
09/23/2002	08:30:00	1551
09/23/2002	09:30:00	1025
09/23/2002	11:00:00	1518
09/23/2002	13:30:00	1512
09/23/2002	16:00:00	1079
09/23/2002	16:30:00	1576
09/23/2002	18:30:00	1044
09/24/2002	00:00:00	1024
09/24/2002	01:00:00	1443
09/24/2002	03:00:00	1026
09/24/2002	03:30:00	1505
09/24/2002	06:00:00	1449
09/24/2002	10:00:00	1505

During the following periods, the specific conductivity and salinity readings may have drifted downward as a result of fouling. Data at end of deployment considered suspect, including DO mg/l data. Data were retained.
09/01/02 11:00 - 09/09/02 10:30

East Cribbings, October

DO data were deleted for the following dates and times due to abnormally high and low values.
10/01/02 10:30 - 10/08/02 11:00

During the following dates the turbidity data were outside of the sensor's range. The data were retained. The high value reflects the turbid conditions that occur during heavy rainfall and high wind events, when the probe is covered by sediment, or if a fish gets caught in the probe guard cup. The small negative turbidity values could be a result of the probe's resolution or contamination of the zero standard when the probe was calibrated.

10/28/2002	09:30:00	1448
10/31/2002	10:30:00	-0002
10/31/2002	11:00:00	-0002

East Cribbings, November

On the following date, the turbidity data was outside of the sensor's range.

The data was retained. The small negative turbidity values could be a result of the probe's resolution or contamination of the zero standard when the probe was calibrated.

11/01/02 11:00:00 -0001

East Cribbings, December

All parameters are missing data due to a sonde shortage.

12/17/02 09:30 - 12/18/02 09:30

On the following date, the turbidity data was outside of the sensor's range.

The data was retained. The high value reflects the turbid conditions that

occur during heavy rainfall and high wind events, when the probe is covered by

sediment, or if a fish gets caught in the probe guard cup.

12/01/02 05:00:00 1027

Zeke's Basin, March

Monitoring for Zeke's Basin began 03/01/02 at 12:30.

All parameters are missing data due to sonde exchange.

03/14/02 11:30

On the following date, turbidity data were outside of the sensor's range.

The

data were retained. The high value reflects the turbid conditions that occur

during heavy rainfall and high wind events, when the probe is covered by sediment, or if a fish gets caught in the probe guard cup.

03/31/02 23:00:00 1198

03/31/02 23:30:00 1196

This site's benthic environment is characterized by sulfuric sediment.

It is

common to find the deployment structure or sonde stained with black markings

and smelling of sulfur. The presence of hydrogen sulfide interferes with the

function of the DO probe and is likely the cause of erratic and/or very low

(including negative) values for dissolved oxygen that are prevalent at this

site.

Zeke's Basin, April

All parameters are missing data due to sonde exchange.

04/12/02 09:30

This site's benthic environment is characterized by sulfuric sediment.

It is

common to find the deployment structure or sonde stained with black markings

and smelling of sulfur. The presence of hydrogen sulfide interferes with the

function of the DO probe and is likely the cause of erratic and/or very low

(including negative) values for dissolved oxygen that are prevalent at this

site. DO values were slightly negative for the following dates and times.

Data were retained but should be considered suspect.

04/05/02 21:30 - 22:00

04/06/02 01:30 - 07:30

04/06/02 11:30 - 14:30

04/06/02 16:00 - 21:30

04/06/02 22:30

04/06/02 23:30

04/07/02 00:00

04/07/02 01:00 - 15:30

04/08/02 01:00 - 03:30

04/08/02 05:00 - 15:30

04/09/02 00:00 - 01:30

04/09/02 05:30 - 07:00

04/10/02 00:00 - 04:30

04/10/02 13:00 - 16:00

During the following dates the turbidity data were outside of the sensor's

range. The data were retained. The high value may reflect the turbid conditions that occur during heavy rainfall and high wind events, when the

probe is covered by sediment, or if a fish gets caught in the probe guard cup.

For the deployment dated 04/23/02 through 05/10/02, there was documentation

that the turbidity wiper had broken off, which could have also resulted in

large turbidity spikes.

04/01/2002 00:00:00 1089

04/23/2002 11:00:00 1585

04/23/2002 11:30:00 1300

04/23/2002 12:00:00 1586

04/28/2002 13:30:00 1448

04/28/2002 14:00:00 1470

04/28/2002 14:30:00 1471

04/28/2002	15:00:00	1478
04/28/2002	15:30:00	1477
04/28/2002	16:00:00	1480
04/28/2002	16:30:00	1478
04/28/2002	17:00:00	1470
04/28/2002	17:30:00	1471
04/28/2002	18:00:00	1473
04/28/2002	18:30:00	1480
04/28/2002	19:00:00	1478
04/28/2002	19:30:00	1476
04/28/2002	20:00:00	1482
04/28/2002	20:30:00	1463
04/28/2002	21:00:00	1315
04/28/2002	21:30:00	1429
04/28/2002	22:00:00	1458
04/28/2002	22:30:00	1459
04/28/2002	23:00:00	1472
04/28/2002	23:30:00	1471
04/29/2002	00:00:00	1472
04/29/2002	00:30:00	1230
04/29/2002	01:00:00	1156
04/29/2002	01:30:00	1185
04/29/2002	02:00:00	1172
04/29/2002	02:30:00	1200
04/29/2002	03:00:00	1201
04/29/2002	03:30:00	1017

Zeke's Basin, May

All parameters are missing data due to sonde exchange.
05/24/02 09:30

This site's benthic environment is characterized by sulfuric sediment. It is common to find the deployment structure or sonde stained with black markings and smelling of sulfur. The presence of hydrogen sulfide interferes with the function of the DO probe and is likely the cause of erratic and/or very low (including negative) values for dissolved oxygen that are prevalent at this site.

During the following dates the turbidity data were outside of the sensor's range. The data were retained. The high value may reflect the turbid conditions that occur during heavy rainfall and high wind events, when the probe is covered by sediment, or if a fish gets caught in the probe guard cup. For the deployment dated 04/23/02 through 05/10/02, there was documentation

that the turbidity wiper had broken off, which could have also resulted in large turbidity spikes.

05/02/2002	10:30:00	1131
05/02/2002	11:30:00	1269
05/02/2002	12:30:00	1308
05/02/2002	13:00:00	1469
05/02/2002	13:30:00	1481
05/02/2002	14:00:00	1487
05/02/2002	14:30:00	1489
05/02/2002	15:00:00	1490
05/02/2002	15:30:00	1491
05/02/2002	16:00:00	1489
05/02/2002	16:30:00	1074
05/02/2002	17:00:00	1170
05/02/2002	17:30:00	1153
05/02/2002	18:30:00	1049
05/03/2002	00:30:00	1055
05/03/2002	03:30:00	1349
05/03/2002	05:30:00	1008
05/08/2002	14:30:00	1391
05/09/2002	12:00:00	1039
05/09/2002	12:30:00	1267
05/09/2002	13:00:00	1328
05/09/2002	13:30:00	1394
05/09/2002	14:00:00	1285
05/09/2002	14:30:00	1153
05/09/2002	15:00:00	1179
05/09/2002	16:00:00	1051
05/14/2002	19:30:00	1665
05/25/2002	06:30:00	1417

Zeke's Basin, June

All parameters are missing data due to sonde exchange.
06/13/02 11:00

This site's benthic environment is characterized by sulfuric sediment. It is common to find the deployment structure or sonde stained with black markings and smelling of sulfur. The presence of hydrogen sulfide interferes with the function of the DO probe and is likely the cause of erratic and/or very low (including negative) values for dissolved oxygen that are prevalent at this site. The following negative value for DO % was retained.
06/30/02 07:30:00 -0.1

DO data for the following dates and times should be considered suspect due to compromised DO membrane integrity at some point during the deployment.

06/13/02 11:30 - 06/18/02 15:00

During the following dates the turbidity data were outside of the sensor's range. The data were retained. The high value reflects the turbid conditions that occur during heavy rainfall and high wind events, when the probe is covered by sediment, or if a fish gets caught in the probe guard cup. The small negative turbidity values could be a result of the probe's resolution or contamination of the zero standard when the probe was calibrated.

06/11/2002	20:00:00	1424
06/12/2002	21:00:00	1892
06/14/2002	02:00:00	1096
06/14/2002	21:30:00	1501
06/27/2002	22:30:00	1030
06/27/2002	23:30:00	1150
06/28/2002	00:30:00	-0001
06/28/2002	06:00:00	-0002
06/28/2002	06:30:00	-0002
06/28/2002	07:00:00	-0002
06/28/2002	08:00:00	-0002
06/28/2002	08:30:00	-0002
06/28/2002	09:00:00	-0002
06/28/2002	09:30:00	-0002
06/28/2002	10:00:00	-0002
06/28/2002	10:30:00	-0001
06/28/2002	11:00:00	-0002
06/28/2002	13:30:00	-0002
06/28/2002	15:30:00	-0002
06/28/2002	16:00:00	-0002
06/28/2002	16:30:00	-0002
06/28/2002	17:00:00	-0002
06/28/2002	19:30:00	-0002
06/28/2002	21:00:00	-0002
06/28/2002	21:30:00	-0002
06/28/2002	22:00:00	-0002
06/28/2002	22:30:00	-0002
06/28/2002	23:00:00	-0002
06/28/2002	23:30:00	-0002
06/29/2002	01:00:00	-0001
06/29/2002	01:30:00	-0001
06/29/2002	02:00:00	-0001
06/29/2002	02:30:00	-0002
06/29/2002	03:00:00	-0002
06/29/2002	03:30:00	-0002
06/29/2002	05:00:00	-0001
06/29/2002	05:30:00	-0002
06/29/2002	06:00:00	-0002
06/29/2002	08:00:00	-0002
06/29/2002	08:30:00	-0001
06/29/2002	09:00:00	-0002
06/29/2002	09:30:00	-0002

06/29/2002	12:00:00	-0002
06/29/2002	21:00:00	-0001
06/29/2002	23:30:00	-0002

Zeke's Basin, July

This site's benthic environment is characterized by sulfuric sediment. It is common to find the deployment structure or sonde stained with black markings and smelling of sulfur. The presence of hydrogen sulfide interferes with the function of the DO probe and is likely the cause of erratic and/or very low (including negative) values for dissolved oxygen that are prevalent at this site.

07/01/02	08:00
07/01/02	08:30
07/02/02	17:00

DO data for the following dates and times should be considered suspect due to

compromised DO membrane integrity at some point during the deployment.

07/09/02 10:00 - 07/17/02 14:30

07/24/02 10:00 - 07/31/02 23:30

During the following dates the turbidity data were outside of the sensor's range. The data were retained. The high value reflects the turbid conditions

that occur during heavy rainfall and high wind events, when the probe is covered by sediment, or if a fish gets caught in the probe guard cup.

The

small negative turbidity values could be a result of the probe's resolution or

contamination of the zero standard when the probe was calibrated.

07/01/2002	22:30:00	1661
07/03/2002	16:30:00	1474
07/03/2002	17:30:00	-0002
07/03/2002	18:30:00	-0002
07/03/2002	19:00:00	-0002
07/03/2002	19:30:00	-0002
07/03/2002	20:00:00	-0002
07/03/2002	20:30:00	-0002
07/03/2002	21:30:00	-0002
07/03/2002	23:30:00	-0002
07/04/2002	00:00:00	-0002
07/04/2002	00:30:00	-0002
07/04/2002	01:00:00	-0002
07/04/2002	01:30:00	-0002
07/04/2002	02:00:00	-0002
07/04/2002	02:30:00	-0002
07/04/2002	03:00:00	-0002

07/04/2002	03:30:00	-0002
07/04/2002	04:00:00	-0002
07/04/2002	04:30:00	-0002
07/04/2002	05:00:00	-0002
07/04/2002	05:30:00	-0002
07/04/2002	06:00:00	-0002
07/04/2002	06:30:00	-0002
07/04/2002	07:00:00	-0002
07/04/2002	07:30:00	-0002
07/04/2002	08:00:00	-0002
07/04/2002	08:30:00	-0002
07/04/2002	09:00:00	-0002
07/04/2002	09:30:00	-0002
07/04/2002	10:00:00	-0001
07/04/2002	10:30:00	-0002
07/04/2002	11:00:00	-0002
07/04/2002	11:30:00	-0002
07/04/2002	12:00:00	-0002
07/04/2002	12:30:00	-0002
07/05/2002	05:30:00	1642
07/24/2002	10:30:00	-0001
07/24/2002	11:00:00	-0001
07/24/2002	11:30:00	-0001
07/24/2002	12:00:00	-0001
07/24/2002	12:30:00	-0001
07/24/2002	13:00:00	-0001
07/24/2002	13:30:00	-0001
07/24/2002	14:00:00	-0002
07/24/2002	14:30:00	-0002
07/24/2002	15:00:00	-0002
07/24/2002	15:30:00	-0002
07/24/2002	16:00:00	-0002
07/24/2002	16:30:00	-0002
07/24/2002	17:00:00	-0002
07/24/2002	17:30:00	-0002
07/24/2002	18:00:00	-0001
07/24/2002	18:30:00	-0001
07/24/2002	19:00:00	-0001
07/24/2002	19:30:00	-0001
07/24/2002	20:00:00	-0002
07/24/2002	20:30:00	-0002
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07/24/2002	21:30:00	-0001
07/24/2002	22:00:00	-0001
07/24/2002	22:30:00	-0002
07/24/2002	23:00:00	-0001
07/24/2002	23:30:00	-0001
07/25/2002	00:00:00	-0001
07/25/2002	00:30:00	-0001
07/25/2002	01:00:00	-0001
07/25/2002	01:30:00	-0001
07/25/2002	02:00:00	-0001
07/25/2002	02:30:00	-0001
07/25/2002	03:00:00	-0001

07/25/2002	03:30:00	-0001
07/25/2002	04:00:00	-0001
07/25/2002	04:30:00	-0001
07/25/2002	05:00:00	-0001
07/25/2002	05:30:00	-0001
07/25/2002	06:00:00	-0001
07/25/2002	06:30:00	-0001
07/25/2002	07:00:00	-0001
07/25/2002	07:30:00	-0001
07/25/2002	08:00:00	-0001
07/25/2002	08:30:00	-0001
07/25/2002	09:00:00	-0001
07/25/2002	09:30:00	-0001
07/25/2002	10:00:00	-0001
07/25/2002	10:30:00	-0001
07/25/2002	11:00:00	-0001
07/25/2002	11:30:00	-0001
07/25/2002	12:00:00	-0001
07/25/2002	12:30:00	-0002
07/25/2002	13:00:00	-0002
07/25/2002	13:30:00	-0002
07/25/2002	14:00:00	-0002
07/25/2002	14:30:00	-0002
07/25/2002	15:00:00	-0002
07/25/2002	15:30:00	-0002
07/25/2002	16:00:00	-0002
07/25/2002	16:30:00	-0002
07/25/2002	17:00:00	-0002
07/25/2002	17:30:00	-0002
07/25/2002	18:00:00	-0002
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07/25/2002	22:30:00	-0002
07/25/2002	23:00:00	-0002
07/25/2002	23:30:00	-0002
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07/26/2002	00:30:00	-0002
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07/26/2002	01:30:00	-0002
07/26/2002	02:00:00	-0002
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07/26/2002	03:30:00	-0001
07/26/2002	04:00:00	-0001
07/26/2002	04:30:00	-0001
07/26/2002	05:00:00	-0001
07/26/2002	05:30:00	-0001
07/26/2002	06:00:00	-0001

07/26/2002	06:30:00	-0001
07/26/2002	07:00:00	-0001
07/26/2002	07:30:00	-0001
07/26/2002	08:00:00	-0001
07/26/2002	08:30:00	-0001
07/26/2002	09:00:00	-0001
07/26/2002	09:30:00	-0001
07/26/2002	10:00:00	-0001
07/26/2002	10:30:00	-0001
07/26/2002	11:00:00	-0002
07/26/2002	11:30:00	-0001
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07/26/2002	12:30:00	-0001
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07/27/2002	02:30:00	-0001
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07/27/2002	03:30:00	-0002
07/27/2002	04:00:00	-0001
07/27/2002	04:30:00	-0001
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07/27/2002	10:00:00	-0001
07/27/2002	10:30:00	-0002
07/27/2002	11:00:00	-0002
07/27/2002	11:30:00	-0002
07/27/2002	12:00:00	-0002
07/27/2002	12:30:00	-0002
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07/28/2002	10:30:00	-0002
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07/28/2002	12:30:00	-0002

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07/28/2002	18:30:00	-0002
07/28/2002	19:00:00	-0002
07/28/2002	19:30:00	-0002
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07/28/2002	21:00:00	-0002
07/28/2002	21:30:00	-0002
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07/28/2002	23:00:00	-0002
07/28/2002	23:30:00	-0002
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07/29/2002	00:30:00	-0002
07/29/2002	01:00:00	-0002
07/29/2002	01:30:00	-0002
07/29/2002	02:00:00	-0001
07/29/2002	02:30:00	-0001
07/29/2002	03:00:00	-0001
07/29/2002	03:30:00	-0002
07/29/2002	04:00:00	-0002
07/29/2002	04:30:00	-0002
07/29/2002	05:00:00	-0001
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07/29/2002	06:00:00	-0002
07/29/2002	06:30:00	-0001
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07/29/2002	07:30:00	-0001
07/29/2002	08:00:00	-0001
07/29/2002	08:30:00	-0002
07/29/2002	09:00:00	-0002
07/29/2002	09:30:00	-0002
07/29/2002	10:00:00	-0002
07/29/2002	10:30:00	-0002
07/29/2002	11:00:00	-0002
07/29/2002	11:30:00	-0002
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07/29/2002	12:30:00	-0002
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07/29/2002	13:30:00	-0002
07/29/2002	14:00:00	-0002
07/29/2002	14:30:00	-0002
07/29/2002	15:00:00	-0002
07/29/2002	15:30:00	-0002

07/29/2002	16:00:00	-0002
07/29/2002	16:30:00	-0002
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07/29/2002	17:30:00	-0002
07/29/2002	18:00:00	-0002
07/29/2002	18:30:00	-0002
07/29/2002	19:00:00	-0002
07/29/2002	19:30:00	-0002
07/29/2002	20:00:00	-0002
07/29/2002	20:30:00	-0002
07/29/2002	21:00:00	-0002
07/29/2002	21:30:00	-0002
07/29/2002	22:00:00	-0002
07/29/2002	22:30:00	-0002
07/29/2002	23:00:00	-0002
07/29/2002	23:30:00	-0002
07/30/2002	00:00:00	-0002
07/30/2002	00:30:00	-0002
07/30/2002	01:00:00	-0002
07/30/2002	01:30:00	-0002
07/30/2002	02:00:00	-0001
07/30/2002	02:30:00	-0001
07/30/2002	03:00:00	-0002
07/30/2002	03:30:00	-0002
07/30/2002	04:00:00	-0002
07/30/2002	04:30:00	-0002
07/30/2002	05:00:00	-0002
07/30/2002	05:30:00	-0001
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07/30/2002	08:30:00	-0001
07/30/2002	09:00:00	-0002
07/30/2002	09:30:00	-0002
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07/30/2002	10:30:00	-0002
07/30/2002	11:00:00	-0002
07/30/2002	11:30:00	-0002
07/30/2002	12:00:00	-0002
07/30/2002	12:30:00	-0002
07/30/2002	13:00:00	-0002
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07/30/2002	14:00:00	-0002
07/30/2002	14:30:00	-0002
07/30/2002	15:00:00	-0002
07/30/2002	15:30:00	-0001
07/30/2002	16:00:00	-0001
07/30/2002	16:30:00	-0002
07/30/2002	17:00:00	-0001
07/30/2002	17:30:00	-0002
07/30/2002	18:00:00	-0001
07/30/2002	19:00:00	-0002

07/30/2002	19:30:00	-0002
07/30/2002	20:00:00	-0002
07/30/2002	20:30:00	-0002
07/30/2002	21:00:00	-0002
07/30/2002	21:30:00	-0002
07/30/2002	22:00:00	-0002
07/30/2002	22:30:00	-0002
07/30/2002	23:00:00	-0002
07/30/2002	23:30:00	-0002
07/31/2002	00:00:00	-0002
07/31/2002	00:30:00	-0002
07/31/2002	01:00:00	-0002
07/31/2002	01:30:00	-0002
07/31/2002	02:00:00	-0002
07/31/2002	02:30:00	-0002
07/31/2002	03:00:00	-0002
07/31/2002	03:30:00	-0002
07/31/2002	04:00:00	-0002
07/31/2002	04:30:00	-0002
07/31/2002	05:00:00	-0002
07/31/2002	05:30:00	-0002
07/31/2002	06:00:00	-0001
07/31/2002	06:30:00	-0002
07/31/2002	07:00:00	-0001
07/31/2002	07:30:00	-0001
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07/31/2002	08:30:00	-0002
07/31/2002	09:00:00	-0002
07/31/2002	09:30:00	-0002
07/31/2002	10:00:00	-0002
07/31/2002	10:30:00	-0002
07/31/2002	11:00:00	-0002
07/31/2002	11:30:00	-0002
07/31/2002	12:00:00	-0002
07/31/2002	12:30:00	-0002
07/31/2002	13:00:00	-0002
07/31/2002	13:30:00	-0002
07/31/2002	14:00:00	-0002
07/31/2002	14:30:00	-0002
07/31/2002	15:00:00	-0002
07/31/2002	15:30:00	-0002
07/31/2002	16:00:00	-0002
07/31/2002	16:30:00	-0002
07/31/2002	17:00:00	-0002
07/31/2002	17:30:00	-0002
07/31/2002	18:00:00	-0002
07/31/2002	18:30:00	-0002
07/31/2002	19:00:00	-0002
07/31/2002	19:30:00	-0002
07/31/2002	20:00:00	-0002
07/31/2002	20:30:00	-0002
07/31/2002	21:00:00	-0002
07/31/2002	21:30:00	-0002
07/31/2002	22:00:00	-0002

07/31/2002 22:30:00 -0002
07/31/2002 23:00:00 -0001
07/31/2002 23:30:00 -0001

Zeke's Basin, August

This site's benthic environment is characterized by sulfuric sediment. It is common to find the deployment structure or sonde stained with black markings and smelling of sulfur. The presence of hydrogen sulfide interferes with the function of the DO probe and is likely the cause of erratic and/or very low (including negative) values for dissolved oxygen that are prevalent at this site.

DO data for the following dates and times should be considered suspect due to

compromised DO membrane integrity at some point during the deployment.
08/01/02 00:00 - 08/02/02 15:00

DO data were deleted for the following periods due to probe failure while deployed.

08/27/02 04:00 - 08/31/02 23:30

During the following dates the turbidity data were outside of the sensor's range. The data were retained. The high value reflects the turbid conditions that occur during heavy rainfall and high wind events, when the probe is covered by sediment, or if a fish gets caught in the probe guard cup.

The

small negative turbidity values could be a result of the probe's resolution or

contamination of the zero standard when the probe was calibrated.

08/01/2002 00:00:00 -0001
08/01/2002 00:30:00 -0002
08/01/2002 01:00:00 -0002
08/01/2002 01:30:00 -0002
08/01/2002 02:00:00 -0002
08/01/2002 02:30:00 -0002
08/01/2002 03:00:00 -0002
08/01/2002 03:30:00 -0002
08/01/2002 04:00:00 -0001
08/01/2002 04:30:00 -0002
08/01/2002 05:00:00 -0001
08/01/2002 05:30:00 -0001
08/01/2002 06:00:00 -0001
08/01/2002 06:30:00 -0001
08/01/2002 07:00:00 -0001
08/01/2002 07:30:00 -0001
08/01/2002 08:00:00 -0001
08/01/2002 08:30:00 -0001

08/01/2002	09:00:00	-0001
08/01/2002	09:30:00	-0001
08/01/2002	10:00:00	-0002
08/01/2002	10:30:00	-0001
08/01/2002	11:00:00	-0002
08/01/2002	11:30:00	-0001
08/01/2002	12:00:00	-0002
08/01/2002	12:30:00	-0002
08/01/2002	13:00:00	-0002
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08/27/2002	20:00:00	1784
08/31/2002	01:30:00	1764

Zeke's Basin, September

This site's benthic environment is characterized by sulfuric sediment. It is common to find the deployment structure or sonde stained with black markings and smelling of sulfur. The presence of hydrogen sulfide interferes with the function of the DO probe and is likely the cause of erratic and/or very low (including negative) values for dissolved oxygen that are prevalent at this site. DO data for the following dates should be considered suspect.
09/09/02 11:30 - 09/24/02 04:30

DO data were deleted for the following periods due to probe failure while deployed.
09/01/02 0:00 - 09/09/02 11:00

DO data were deleted for the following period due to a membrane puncture at the end of the deployment.
09/24/02 03:30 - 10:30

During the following dates the turbidity data were outside of the sensor's range. The data were retained. The high value reflects the turbid conditions that occur during heavy rainfall and high wind events, when the probe is covered by sediment, or if a fish gets caught in the probe guard cup. The small negative turbidity values could be a result of the probe's resolution or contamination of the zero standard when the probe was calibrated.

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09/07/2002	13:30:00	-0001
09/07/2002	14:30:00	1781
09/07/2002	15:00:00	-0001
09/07/2002	15:30:00	1431
09/07/2002	16:00:00	-0001
09/07/2002	16:30:00	-0001

09/07/2002	17:00:00	-0001
09/07/2002	17:30:00	-0001
09/07/2002	18:00:00	-0001
09/07/2002	18:30:00	-0001
09/07/2002	19:00:00	-0001
09/07/2002	19:30:00	-0001
09/07/2002	20:00:00	-0001
09/07/2002	20:30:00	-0001
09/07/2002	21:00:00	-0001
09/07/2002	21:30:00	-0001
09/07/2002	22:00:00	-0001
09/07/2002	22:30:00	-0001
09/07/2002	23:00:00	-0001
09/07/2002	23:30:00	-0001
09/08/2002	00:00:00	-0001
09/08/2002	00:30:00	-0001
09/08/2002	01:00:00	-0001
09/08/2002	01:30:00	-0001
09/08/2002	02:00:00	-0001
09/08/2002	02:30:00	-0001
09/08/2002	03:00:00	-0001
09/08/2002	04:30:00	-0001
09/08/2002	05:00:00	-0001
09/08/2002	05:30:00	-0001
09/08/2002	06:00:00	-0001
09/08/2002	06:30:00	-0001
09/08/2002	08:00:00	-0001
09/08/2002	09:00:00	-0001
09/08/2002	09:30:00	-0001
09/08/2002	10:00:00	-0001
09/08/2002	10:30:00	-0001
09/08/2002	11:00:00	-0001
09/08/2002	11:30:00	-0001
09/08/2002	12:00:00	-0001
09/08/2002	12:30:00	-0001
09/08/2002	13:00:00	-0001
09/08/2002	13:30:00	-0001
09/08/2002	14:00:00	-0001
09/08/2002	14:30:00	-0001
09/08/2002	15:30:00	-0001
09/08/2002	16:00:00	-0001
09/08/2002	16:30:00	-0001
09/08/2002	17:00:00	-0001
09/08/2002	17:30:00	-0001
09/08/2002	18:00:00	-0001
09/08/2002	18:30:00	-0001
09/08/2002	19:00:00	-0001
09/08/2002	19:30:00	-0001
09/08/2002	20:00:00	-0001
09/08/2002	20:30:00	-0001
09/08/2002	21:00:00	-0001
09/08/2002	21:30:00	-0001
09/08/2002	22:00:00	-0001
09/08/2002	22:30:00	-0001

09/08/2002	23:30:00	-0001
09/09/2002	00:00:00	-0001
09/09/2002	01:30:00	-0001
09/09/2002	02:00:00	-0001
09/09/2002	02:30:00	-0001
09/09/2002	03:00:00	-0001
09/09/2002	03:30:00	-0001
09/09/2002	04:00:00	-0001
09/09/2002	04:30:00	-0001
09/09/2002	05:00:00	-0001
09/09/2002	05:30:00	-0001
09/09/2002	06:00:00	-0001
09/09/2002	06:30:00	-0001
09/09/2002	07:00:00	-0001
09/09/2002	07:30:00	-0001
09/09/2002	08:00:00	-0001
09/09/2002	09:00:00	-0001
09/09/2002	09:30:00	-0001
09/09/2002	10:00:00	-0001
09/09/2002	10:30:00	-0001
09/09/2002	11:00:00	-0001

Zeke's Basin, October

This site's benthic environment is characterized by sulfuric sediment. It is common to find the deployment structure or sonde stained with black markings and smelling of sulfur. The presence of hydrogen sulfide interferes with the function of the DO probe and is likely the cause of erratic and/or very low (including negative) values for dissolved oxygen that are prevalent at this site. DO values for the following dates and times were slightly negative and should be considered suspect.

10/22/2002	08:30:00
10/22/2002	09:30:00
10/25/2002	16:00:00
10/25/2002	16:30:00
10/25/2002	17:00:00
10/25/2002	17:30:00
10/25/2002	18:00:00
10/28/2002	02:30:00
10/28/2002	03:00:00
10/28/2002	03:30:00
10/28/2002	04:00:00
10/28/2002	04:30:00
10/28/2002	05:00:00
10/28/2002	08:30:00
10/29/2002	05:30:00
10/30/2002	00:30:00

During the following periods the turbidity data were outside of the sensor's range. The data were retained. The small negative turbidity values could be a result of the probe's resolution or contamination of the zero standard when the probe was calibrated.

10/01/2002	10:30:00	-0002
10/01/2002	11:00:00	-0001

Zeke's Basin, November

During the following periods DO data were slightly negative. The data were retained. This site's benthic environment is characterized by sulfuric sediment. It is common to find the deployment structure or sonde stained with black markings and smelling of sulfur. The presence of hydrogen sulfide interferes with the function of the DO probe and is likely the cause of erratic and/or very low (including negative) values for dissolved oxygen that are prevalent at this site.

11/02/2002	03:00:00
11/03/2002	18:00:00
11/04/2002	05:00:00
11/04/2002	05:30:00
11/06/2002	05:30:00
11/17/2002	03:30:00
11/20/2002	03:30:00
11/20/2002	04:00:00
11/20/2002	04:30:00
11/21/2002	03:30:00
11/21/2002	04:00:00
11/21/2002	04:30:00
11/21/2002	05:00:00
11/21/2002	05:30:00
11/21/2002	06:00:00

During the following dates the turbidity data were outside of the sensor's range. The data were retained. The high value reflects the turbid conditions that occur during heavy rainfall and high wind events, when the probe is covered by sediment, or if a fish gets caught in the probe guard cup. The

small negative turbidity values could be a result of the probe's resolution or contamination of the zero standard when the probe was calibrated.

11/06/2002	05:30:00	-0001
11/12/2002	23:30:00	1423
11/17/2002	13:30:00	2053
11/22/2002	11:30:00	1215
11/30/2002	17:30:00	1457
11/30/2002	18:30:00	1132

11/30/2002	19:00:00	1130
11/30/2002	19:30:00	1558
11/30/2002	20:00:00	1149
11/30/2002	20:30:00	1054
11/30/2002	21:00:00	1040

Zeke's Basin, December

All parameters are missing data due to a sonde shortage.
12/17/02 10:00 - 12/18/02 09:30

During the following dates the turbidity data were outside of the sensor's range. The data were retained. The high value reflects the turbid conditions that occur during heavy rainfall and high wind events, when the probe is covered by sediment, or if a fish gets caught in the probe guard cup.

12/14/2002	12:30:00	1556
12/16/2002	12:00:00	1120
12/16/2002	23:30:00	1546
12/17/2002	03:00:00	1531
12/19/2002	19:00:00	1545
12/25/2002	17:00:00	1548
12/29/2002	02:30:00	1020

Data were deleted for the following period due to the sonde being exposed periodically at low tide.
12/30/02 00:00 - 12/31/02 23:30

12) Missing data:

Missing data are denoted by a period in the data set. Data are missing due to equipment failure where no probes were deployed, maintenance/calibration of equipment, and elimination of obvious outliers or elimination of data due to calibration problems (both pre and post). For more details on deleted data, see the Data Anomalies Section. 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 Solutions, uncleaned probes:
[standards used: DO = 100%; pH = 7.00; Specific conductivity = 50.00 mS/cm;
Turbidity = 0.0 NTU]

Site RC

Date; DO(%Sat.); pH 7; Conductivity 50.00; Turbidity 0; Depth 0.000m

01/10/02; 104.3; 7.11; 49.05; 0.6; -0.153
01/31/02; 100.9; 7.29; 49.91; 1.2; 0.094
02/26/02; 96.1; 7.1; 49.6; 2.7; -0.15
03/12/02; 102.4; 7.07; 49.7; 0.9; 0.018
04/03/02; 109.8; 7.12; 47.1; 0.0; -0.001
04/22/02; 88.8; 7.1; 49.5; 0.9; -0.05
05/08/02; 104.1; 7.57; 47.96; 2.6; 0.066
05/23/01; 100.7; 7.05; 49.22; 1.3; 0.013
06/11/02; 111.0; 7.15; 48.44; 25.9; -0.062
06/20/02; 100; 7.01; 50.30; 0.7; 0.07
07/03/02; 96.7; 7.2; 49.53; 0.1; -0.126
07/12/02; 102.2; 7.0; 47.48; 0.9; 0.044
07/22/02; 104.0; 7.21; 47.46; 1.9; 0.036
07/31/02; 99.0; 7.25; 49.43; -0.2; -0.079
08/11/02; 106.7; 7.2; 49.36; -0.3; 0.077
08/22/02; 102.2; 7.2; 51.8; 0.5; -0.055
09/04/02; 96.3; 7.36; 48.6; 0.4; -0.053
09/17/02; 103.1; 7.1; 49.7; 0.6; 0.150
10/02/02; 100.2; 7.18; 50.50; 0.9; 0.045
10/16/02; 65.7; 7.14; 49.84; 0.2; -0.180
10/30/02; 103.8; 7.04; 49.6; 0.3; 0.162
11/18/02; 91.2; 7.07; 49.1; 0.6; 0.179
12/17/02; 104.8; 7.19; 49.67; 0.0; -0.024
01/14/03; 91.6; 7.14; 49.12; 1.1; -0.090

Site LC

Date; DO(%Sat.); pH 7; Conductivity 50.00; Turbidity 0; Depth 0.000m

03/07/02; 104.6; not recorded; 48.8; -0.2; 0.105
04/03/02; 104.7; 7.02; 50.6; 0.0; -0.089
04/22/02; 106.8; 7.1, 48.6, 1.3, -0.08
05/08/02; 103.5; 7.17; 48.2; -2.1; 0.084
05/23/02; 103.2; 7.04; 49.34; 1.8; 0.017
06/11/02; 95.5; 7.07; 46.38; 0.0; -0.061
06/20/02; 55.9; 7.03; 49.32; 0.5; 0.077
07/03/02; 100.0; 6.67; 48.59; 0.5; -0.125
07/12/02; 100.8; 7.2; 49.11; 2.0; 0.005
07/22/02; 104.2; 7.18; 47.76; 0.7; 0.037
07/31/02; 101.4; 7.15; 49.72; 0.2; -0.079
08/11/02; 103.2; 7.20; 49.88; 1.0; 0.093
08/22/02; 103.0; 6.88; 49.37; -0.4; -0.051
09/04/02; 98.1; 7.00; 48.3; 0.7; -0.043
09/17/02; 99.5; 7.2; 48.5; 0.3; 0.025
10/02/02; 98.6; 7.03; 48.1; 2.0; 0.043
10/16/02; 99.8; 7.19; 51.2; -0.8; -0.191
10/30/02; 102.7; 7.15; 49.6; 1.0; 0.167

11/18/02; 107.2; 6.6; 48.1; 0.0; 0.175
12/16/02; 104.9; 7.22; 47.84; -0.3; -0.116
01/14/03; 102.2; 7.26; 48.82; 1.3; 0.085

Site EC

Date; DO(%Sat.); pH 7; Conductivity 50.00; Turbidity 0; Depth 0.000m

01/09/02; 102.2; 7.08; 49.90; 0.7; -0.002
02/01/02; 99.3; 7.12; 49.54; 0.1; -0.124
03/01/02; 76.2; 7.07; 14.8; 1.5; 0.128
03/14/02; 97.7; 7.05; 50.16; 1.4; 0.080
04/12/02; 102.3; 7.00; 49.3; 1.5; 0.076
04/23/02; 99.4; 7.04; 46.9; 4.1; -0.030
05/10/02; 101.2; 7.05; 49.81; -1.0; 0.025
05/24/02; 101.6; 7.07; 50.16; -0.5; 0.026
06/13/02; 99.1; 6.99; 48.7; 0.8; -0.121
06/18/02; 103.9; 7.09; 49.74; 0.2; 0.128
06/24/02; 102.3; 6.78; 49.14; 0.3; 0.104
07/09/02; 96.7; 6.97; 45.65; 0.3; -0.017
07/17/02; 98.4; 6.92; 50.55; 0.5; -0.061
07/24/02; 113.7; 7.21; 50.23; -0.6; 0.016
08/02/02; 93.5; 7.14; 50.43; 0.5; -0.093
08/14/02; 100.6; 6.90; 49.98; -0.2; 0.080
08/26/02; 97.2; 7.25; 50.09; 1.8; -0.058
09/09/02; 109.3; 6.94; 49.7; 0.5; -0.005
09/24/02; 101.7; 7.1; 49.6; 0.1; 0.06
10/08/02; 106.0; 7.1; 49.6; 0.0; -0.013
10/23/02; 99.6; 6.9; 51.4; 1.2; 0.020
11/05/02; 100.1; 7.13; 49.5; 0.1; -0.076
11/21/02; 98.0; 7.16; 49.87; 0.9; -0.105
12/17/02; 107.5; 7.05; 49.58; 0.5; 0.097
01/15/03; 99.3; 7.19; 50.50; 1.1; -0.058

Site ZB

Date; DO(%Sat.); pH 7; Conductivity 50.00; Turbidity 0; Depth 0.000m

03/14/02; 93.0; 7.10; 48.86; 0.2; 0.077
04/12/02; 109.6; 6.84; 49.85; -0.3; 0.051
04/23/02; 100.8; 7.04; 50.07; 0.3; -0.081
05/10/02; 99.7; 7.14; 50.50; -1.1; 0.034
05/24/02; 96.6; 7.07; 49.55; 0.2; -0.029
06/13/02; 101.0; 7.15; 49.57; 0.7; -0.114
06/18/02; 103.3; 7.18; 50.16; 0.6; 0.125
06/24/02; 100.5; 7.17; 49.51; 0; 0.104
07/09/02; 98.9; 7.02; 50.12; -0.9; -0.031
07/17/02; 87.9; 7.27; 50.95; 0.1; -0.064
07/24/02; 97.9; 7.07; 49.95; 0.1; 0.034
08/02/02; 67.7; 7.09; 49.66; 0.3; -0.094
08/14/02; 92.1; 6.96; 49.59; 0.2; 0.078
08/26/02; 99.3; 7.24; 49.83; 0.9; -0.048

09/09/02; 87.9; 6.90; 48.83; 0.6; -0.014
09/24/02; 63.8; 7.0; 49.8; 0.4; 0.04
10/08/02; 105.1; 7.12; 49.8; 0.4; 0.003
10/23/02; 101.1; 7.02; 47.2; 0.3; 0.037
11/05/02; 99.5; 7.14; 50.08; 0.2; -0.095
11/21/02; 98.4; 7.06; 49.5; -0.4; -0.099
12/17/02; 105.5; 7.16; 49.52; 0.4; 0.097
01/15/03; 114.6; 7.48; 49.57; 114.7; -0.059

14) Notes:

On 07/01/2021 this dataset was updated to include embedded QAQC flags for anomalous/suspect data. System-wide monitoring data beginning in 2007 were processed to allow for QAQC flags and codes to be embedded in the data files rather than detailed in the metadata alone (as in the anomalous/suspect, deleted, and missing data sections above). Prior to 2006, rejected data were deleted from the dataset so they are unavailable to be used at all, but suspect data were only noted in the metadata document. Suspect data flags <1> were embedded retroactively in order to allow suspect data to be easily identified and filtered from the dataset if desired for analysis and reporting purposes. No other flags or codes were embedded in the dataset and users should still refer to the detailed explanations above for more information.

High turbidity values above instruments top range (1000 NTU), caused by blockage of light transmittance by an obstruction are left in the file.

Whenever specific conductivity or salinity data (referred to as conductivity data) were suspect, consider DO data in mg/l and depth suspect as well, since specific conductivity is used to calculate depth and DO data in mg/l.

Negative or zero depth readings were not deleted because the salinity and DO readings indicated that the sonde was submerged during these periods.