

Old Woman Creek (OWC) NERR Site Water Quality Metadata
March through December 2001
Latest Update: May 1, 2002

1. Principal Investigator & contact persons:

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2. Entry verification:

The data were directly downloaded from the YSI PC6600 data loggers into the YSI Ecowatch for Windows program in the PC. The data were graphed and visually checked for any obvious outliers. Notes are made of any unusual data or faulty probes. The data is then exported as a .csv file into an Excel spreadsheet. The data files were edited to remove headers, footers, and spaces. The CDMO cdmomac3.xls macro was used to QA/QC the data. The macro automatically formatted the column widths to the correct number of decimal places based on YSI sensor specifications. It QA/QC the data file for missing data points and filled all cells without data with periods. It also compiled a list of all data that fell outside the stated range of the different data logger probes. An explanation for the missing and the deleted data is included in this meta data sheet. The files were then transferred along with the associated metadata by disk to the CDMO. The files are archived at OWC. Dr. David Klarer is responsible for both data logger deployment and data management.

3. Research Objectives:

Measurements are taken every 15 minutes over approximately two-week periods at two sites within the Old Woman Creek estuary- one in the upper reaches at State Route 2 (SU) and the other near the mouth, just south of State Route 6 (WM). The

data was initially collected at the 52-second mark due to the warm-up time needed for the dissolved oxygen probe. The data logger was instructed to collect a measurement on the 15 minutes, but it would not take a measurement until the 52 second warm-up period had elapsed. As per instructions from the Centralized Data Management Office, the 52-second time stamp in the edited data was corrected to read :00 seconds to obtain a uniform timestamp throughout the database. The purpose of this monitoring program is to document the role of this Great Lakes estuary in the Lake Erie ecosystem, particularly the estuary's role in mitigating storm flow that passes through it.

4. Research methods:

The YSI monitoring program began on 1 March, 2001 at both sites. The sampling at both sites ended for the year on 21 December, 2001. Prior to deployment of the data loggers, a 4-inch diameter PVC pipe was bolted to a metal 8 foot long metal post that had been driven into the sediment. Each pipe had 4 rows of holes drilled into it spanning the area of the probe guard on the data logger so that the probes would have direct contact with the surrounding waters. At site SU the area around the data logger was dredged so that the bottom of the logger was .245 meters above the bottom prior to the first deployment in March, 2001. At site WM the area around the data logger was also dredged so that the bottom of the data logger was .239 meters above the bottom. The locations of the two data loggers were the same as in 2000. Dissolved oxygen, pH, temperature, turbidity, and specific conductance readings are taken when the instrument is pulled at each site. The data loggers are replaced in the field after a one, two, or three-week deployment, depending on temperature and degree of fouling of the data loggers. The data is retrieved from each data logger and each data logger is recalibrated (according to the directions in the YSI Operations Manual) before being returned to the field. Conductivity, pH (2 point calibration),

and turbidity (2 point calibration) are calibrated using commercial standards.

5. Site location and character:

Old Woman Creek National Estuarine Research Reserve is located on the southern shore of Lake Erie, slightly east of the city of Huron, Ohio (Latitude 41(22'N; Longitude 82(31'W). Land use in the Old Woman Creek (OWC) watershed is primarily row crop agriculture, so pollution inputs entering OWC are generally associated with agricultural practices. Salinity in Old Woman Creek is normally 1ppt. or less.

The data logger at the State Route 6 (WM) site (Latitude 41(22'15"N; Longitude 82(30'50"W) is very close to the mouth of Old Woman Creek. In this portion of the estuary, the creek is very shallow but extends over a large surface area. The site frequently experiences influx of Lake Erie waters. The bottom sediments at this site are silty clay. There is no rooted aquatic vegetation directly adjacent to the site, although there is both emergent and submerged vegetation within 50 meters of the site. The data logger is about .24 meters above bottom sediments.

The data logger at the State Route 2 (SU) site (Latitude 41(21'45"N; Longitude 82(30'25"W) is very near the southern boundary of the Reserve. This site is in the upper reaches of the estuary. The data logger is sited near a concrete piling of the eastbound Ohio State Route 2 Bridge. At this site the creek is relatively deep and narrow. Although water direction and flow is influenced at this site by changes in Lake Erie water levels, this site doesn't have direct contact with Lake Erie waters. The bottom sediments at this site are silty clay. There is no rooted aquatic vegetation near or upstream in the estuary from this site. The data logger is about .25 meters above the bottom sediments at this site.

6. Data collection periods:

Sampling at WM began on March 1, 2001 at 00:00:52. Sampling for 2001 ceased at

WM site on December 21, 2001 at 08:30:40. Sampling at SU began on March 1, 2001 at 00:00:52. Sampling ceased at SU site on December 21, 2001 at 09:30:52. Specific deployment dates are listed below.

*As per instructions from the Centralized Data Management Office, the 52-second time stamp and 40-second time stamp in the edited data was corrected to read :00 seconds to obtain a uniform timestamp throughout the database.

Site	Deployed	Pulled
WM	02/27/01, 09:00:52	03/20/01, 08:30:52
	03/20/01, 08:45:52	04/03/01, 07:15:52
	04/03/01, 07:30:52	04/17/01, 07:30:52
	04/17/01, 07:45:52	05/01/01, 07:15:52
	05/01/01, 07:45:52	05/15/01, 07:30:52
	05/15/01, 07:45:52	05/29/01, 07:15:52
	05/29/01, 07:30:52	06/12/01, 07:30:52
	06/12/01, 07:45:52	06/19/01, 07:15:52
	06/19/01, 07:30:52	06/26/01, 07:15:52
	06/26/01, 07:30:52	07/02/01, 07:45:52
	07/02/01, 08:00:52	07/10/01, 07:45:52
	07/10/01, 08:00:52	07/24/01, 07:30:52
	07/24/01, 08:00:52	07/31/01, 07:45:52
	07/31/01, 08:00:52	08/07/01, 07:45:52
	08/07/01, 08:00:52	08/14/01, 07:45:52
	08/14/01, 08:00:52	08/21/01, 08:00:52
	08/21/01, 08:30:52	08/28/01, 07:30:52
	08/28/01, 07:45:52	09/11/01, 07:15:52
	09/11/01, 07:45:52	09/25/01, 07:15:52
	09/25/01, 07:30:52	10/09/01, 07:15:52
	10/09/01, 08:00:52	10/30/01, 08:30:52
	10/30/01, 22:45:40	11/19/01, 07:45:40
	11/19/01, 08:00:52	12/11/01, 08:30:52
	12/11/01, 08:45:40	12/21/01, 08:30:40
SU	02/27/01, 10:00:52	03/20/01, 09:00:52
	03/20/01, 09:15:52	04/03/01, 08:30:52
	04/03/01, 08:45:52	04/17/01, 08:00:52
	04/17/01, 08:15:52	05/01/01, 08:15:52
	05/01/01, 08:30:52	05/15/01, 08:15:52
	05/15/01, 08:30:52	05/29/01, 08:00:52
	05/29/01, 08:30:52	06/12/01, 08:15:52
	06/12/01, 08:30:52	06/19/01, 08:00:52
	06/19/01, 08:15:52	06/26/01, 08:00:52
	06/26/01, 08:15:52	07/02/01, 08:15:52
	07/02/01, 08:30:52	07/10/01, 08:30:52
	07/10/01, 08:45:52	07/24/01, 08:15:52
	07/24/01, 08:30:52	07/31/01, 08:30:52
	07/31/01, 08:45:52	08/07/01, 08:30:52
	08/07/01, 08:45:52	08/14/01, 08:30:52

08/14/01, 08:45:52	08/21/01, 09:15:52
08/21/01, 09:30:52	08/28/01, 08:00:52
08/28/01, 08:15:52	09/11/01, 08:00:52
09/11/01, 08:30:52	09/25/01, 07:45:52
09/25/01, 08:00:52	10/09/01, 08:15:52
10/09/01, 08:30:52	10/30/01, 09:15:52
10/30/01, 09:30:52	11/19/01, 09:15:52
11/19/01, 09:30:52	12/11/01, 09:30:52

7. Distribution

NOAA/ERD retains the right to analyze, synthesize, and publish summaries of the NERRS System-wide Monitoring Program data. The OWC Research Coordinator (RC) retains the right to be fully credited for having collected and processed the data. Following academic courtesy standard, the RC and the 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. The data set enclosed within this package/transmission is only as good as the quality assurance and quality control procedures outlined in the enclosed metadata reporting statement. The user bears all responsibility for its subsequent use/misuse in any further analyses or comparisons. The Federal government and the State of Ohio do not assume liability to the Recipient or third persons, nor will the Federal government or the State of Ohio 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 investigators and contact persons), from the Data Manager at the Centralized Data Management Office (please see personnel directory under general information link on CDMO homepage) or online at the CDMO homepage <http://inlet.geol.sc.edu/cdmohome.html>. Data are available in text tab-delimited format, Microsoft Excel spreadsheet format and comma-delimited format from the CDMO.

8. Associated projects: Samples for chemical analysis of the water are collected

at each site every time the data loggers are changed. Samples for phytoplankton determination are collected at the same time at sites near the data logger deployment sites.

II. Physical Structure and Descriptors:

9. Variable sequence, column format, range of measurements, units, Resolution, 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:

SU- State Route 2; WM- State Routes 6.

File definitions: YSI deployment site/month/year (e.g. SU0800 (State Route 2,

August, 2000)

11. Data anomalies

*As per instructions from the Centralized Data Management Office, the 52-second time stamp and 40-second time stamp in the edited data was corrected to read :00 seconds to obtain a uniform timestamp throughout the database.

March 2001

WM: depth readings were zero or negative due to shallow water and depth probe being above water level. There is no indication from the other readings that any of the other probes were out of the water. The following depth readings were either zero or negative:

03/01/01 (11:30:00-17:45:00)
03/02/01 (02:15:00-13:30:00), (14:15:00), (16:15:00) through 03/03/01 (00:45:00)
03/03/01 (11:15:00-11:30:00), (12:45:00-13:00:00)
03/05/01 (11:30:00-13:00:00), (17:15:00)
03/07/01 (19:00:00-22:15:00)
03/08/01 (09:00:00-16:45:00), (21:45:00-22:45:00), (23:15:00) through 03/09/01 01:45:00)
03/13/01 (11:00:00-18:00:00)
03/14/01 (02:30:00-10:30:00), (14:00:00-15:00:00), (17:45:00-20:15:00)

SU: depth readings were zero or negative due to shallow water and depth probe being above water level. There is no indication from the other readings that any of the other probes were out of the water. The following depth readings were either zero or negative:

03/01/01 (11:45:00-16:00:00)
03/07/01 (21:15:00) and (21:45:00- through 03/08/01 (17:45:00)
03/10/01 (16:00:00- 16:15:00), (16:45:42), and (17:15:00-18:30:00)

April 2001

WM: No missing or anomalous data during this month

SU: The following turbidity readings were at or just below 0. This may be a result of incorrect calibration of the zero standard or a contaminated zero standard. 04/05/01 (19:31:05)

May 2001

WM: All data is missing 05/01/01 (07:30:00) changing data loggers.
Dissolved oxygen levels were deleted from 5/10/01 (21:00:00) through 5/15/01

(07:30:00) due to probe failure.

The following turbidity readings were at or just below 0. This may be a result

of incorrect calibration of the zero standard or a contaminated zero standard.

05/13/01 (04:15:46), (17:00:00-17:15:00), (21:15:00)

05/14/01 (00:30:00), (02:00:00), (02:45:48), (03:30:00), (19:30:00-19:45:00),

(20:15:00-21:30:00), (22:45:00-23:15:00)

05/15/01 (00:15:00), (01:00:00), (02:30:00-02:45:49), (03:30:00), (04:15:49-

04:30:00), (06:00:00), (07:15:49-07:30:00), (08:00:00), (08:45:00)

05/16/01 (04:30:00-05:00:00), (06:45:00), (11:45:00-12:30:00), (13:15:00),

(15:00:36-15:15:00), (16:00:00-16:15:00), (17:45:00)

DO% and mg/L were deleted 05/15/01 (15:15:00) through 05/21/01 (08:45:00) due to probe failure.

SU: All data missing 05/29/01 (08:15:00) changing data loggers

June 2001

SU: No missing or anomalous data during this month

WM: The following turbidity readings were at or just below 0. This may be a

result of incorrect calibration of the zero standard or a contaminated zero standard.

06/07/01 (00:30:00), (04:00:00), (05:00:00), (05:30:00), (06:45:00), (08:00:00),

(09:00:34-09:15:00), (10:15:00), (11:30:00-11:45:00), (13:00:00), (14:30:00),

(16:00:00), (17:15:00-17:30:00), (21:45:00)

06/08/01 (00:30:00), (01:30:00-01:45:00), (03:30:00), (04:30:34-04:45:00),

(08:00:00), (10:00:00), (12:45:00), (15:30:00), (18:30:00), (21:00:36-21:15:00),

(23:30:00)

06/09/01 (02:15:00)

06/10/01 (17:45:00), (19:15:00)

July 2001

WM: All data missing from 07/24/01 (07:45:00) changing data logger

SU: All data missing from 07/02/01 (08:30:00) changing data logger

August 2001

WM: All data missing from 08/21/01 (08:15:00) changing the data logger

SU: The following turbidity readings were at or just below 0. This may be a result of incorrect calibration of the zero standard or a contaminated zero standard.

08/29/01 (18:30:00), (19:00:00), (23:15:00)

08/30/01 (02:15:00), (03:45:00), (07:00:00-07:30:00), (09:15:00), (10:45:00),

(11:15:00), (12:15:00-12:30:00), (13:00:00-13:30:00), (17:00:00-17:30:00),

(18:45:00-19:00:00), (20:15:00), (22:45:00), (23:46:13)

08/31/01 (00:00:00), (00:45:00), (02:00:00-02:15:00), (03:30:00), (05:30:00-

06:00:00), (06:45:00-07:00:00), (08:15:00), (09:15:00-09:30:00), (10:16:19-

10:30:00), (11:15:00-11:30:00), (12:15:00), (13:00:00)

The following dissolved oxygen data was removed because it was slightly negative 08/06/01 (09:30:00-10:00:00)

September 2001

WM: All data missing 09/11/01 (07:30:00) changing data logger

SU: The following turbidity readings were at or just below 0. This may be a result of incorrect calibration of the zero standard or a contaminated zero standard.

09/03/01 (22:30:00)

09/04/01 (00:30:00), (01:00:00), (01:30:00), (02:00:00-02:15:00), (02:45:00),

(03:30:00-03:45:00), (04:30:00-04:45:00), (06:45:00-07:30:00), (08:00:00),

(09:15:00), (10:00:00-10:15:00), (12:00:00), (17:15:00-17:30:00), (18:15:00)

09/07/01 (19:00:00), (21:30:00)

09/08/01 (04:45:00)

09/10/01 (04:30:00), (05:15:00)

All data missing 09/11/01 (08:15:00) changing data logger

October 2001

WM: depth readings were zero or negative due to shallow water and depth probe being above water level. There is no indication from the other readings that any

of the other probes were out of the water. The following depth readings were

either zero or negative:

10/15/01 (20:00:00)-(23:15:00)
10/16/01 (00:00:00)-(04:30:00), (11:45:00) through 10/17/01 (17:30:00)
10/17/01 (18:30:00) through 10/19/01 (14:30:00)
10/19/01 (20:15:00) through 10/20/01 (12:15:00)
10/20/01 (01:30:00) through 10/21/01 (15:00:00)
10/22/01 (01:15:00), (05:30:00), (06:15:00), (06:45:00), (09:45:00-10:15:00),
(11:45:00), (17:45:00), (20:30:00)
10/23/01 (04:45:00-10:00:00), (10:45:00-12:15:00), (13:15:00),
(15:00:00),
(16:00:00-19:45:00), (20:45:00-21:00:00), (22:30:00), (23:30:00) through
10/24/01 (00:30:00)
10/24/01 (01:00:00-02:00:00), (02:45:00-10:30:00), (11:00:00-12:45:00),
(13:15:00), (17:15:00) through 10/25/01 (13:45:00)
10/25/01 (14:45:00), (15:15:00-15:30:00), (16:00:00) through 10/27/01
(03:15:00)
10/27/01 (13:45:00-15:30:00), (16:00:00), (18:00:00)
10/28/01 (02:15:00-03:00:00), (03:45:00) through 10/29/01 (15:00:00)
10/29/01 (15:30:00), (16:00:00), (17:15:00), (18:15:00-21:45:00),
(23:00:00)
10/31/01 (13:45:00)

From 10/30/01 (08:45:00) through end of month data logger was collecting data at 15 hour intervals instead of 15 minute intervals due to a programming error. Therefore, data is missing 10/30 8:45:00 - 22:30:00 and 23:00:00 - 10/31 13:30:00 and 10/31 14:00:00 - 23:45:00. Unless otherwise stated above, it is believed that this data was correct.

SU:

Turbidity data 10/09/01 (08:30:00) through 10/31/01 (23:45:00) reading high due to silting. Data retained.

November 2001

WM: From 11/01/01 (00:00:00) through 11/19/01 (07:45:00) data logger was collecting data at 15 hour intervals instead of 15 minute intervals due to a programming error. Unless stated otherwise, it is believed that this data is correct.

Depth readings were zero or negative due to shallow water and depth probe being above water level. There is no indication from the other readings that any of the other probes were out of the water. The following depth readings were either zero or negative:

11/01/01 (04:45:00), (19:45:00)
11/02/01 (10:45:00)
11/03/01 (01:45:00), (16:45:00)
11/04/01 (07:45:00)
11/06/01 (04:45:00), (19:45:00)
11/07/01 (10:45:00)
11/08/01 (16:45:00)
11/11/01 (19:45:00)
11/13/01 (01:45:00), (16:45:00)
11/14/01 (07:45:00), (22:45:00)
11/15/01 (13:45:00)
11/16/01 (04:45:00), (19:45:00)
11/19/01 (07:45:00- 08:30:00), (09:15:00-21:00:00)
11/21/01 (14:15:00) through 11/26/01 (19:30:00)
11/29/01 (12:00:00-15:15:00)

During the readings 11/09/01 (22:45:00) and 11/10/01 (13:45:00) all probes were out of the water and all readings for these two times were deleted.

All data were deleted 11/19/01 (07:45:00) through (09:00:00) due to deployment problems.

SU:

Turbidity data 11/19/01 (10:00:00) through 11/30/01 (23:45:00) reading high due to silting. Data retained.
From 11/15/01 (21:45:00) through end of month turbidity data is questionable due to buildup of sediment around data logger

Change in conductivity on 11/19/01 (09:30:00-09:45:00) from one deployment to the next probably due to calibration problems.

depth readings were zero or negative due to shallow water and depth probe being above water level. There is no indication from the other readings that any of the other probes were out of the water. The following depth readings were

either zero or negative:

11/11/01 (21:30:00) through 11/12/01 (08:45:00)
11/17/01 (01:00:00- 04:30:00)
11/19/01 (21:45:00) through 11/20/01 (08:00:00)
11/21/01 (20:30:00) through 11/22/01 (11:45:00)
11/22/01 (17:30:00) through 11/23/01 (21:30:00)
11/23/01 (22:00:00), (22:30:00) through 11/24/01 (07:45:00)
11/24/01 ((08:15:00- 09:15:00), (10:00:00- 10:30:00), (11:30:00- 12:00:00), (12:30:00)
11/26/01 (06:15:00- 15:45:00), (16:15:00) through 11/27/01 (03:45:00)

December 2001:

WM: Depth readings were zero or negative due to shallow water and the depth probe being above water level. There is no indication from the other readings that any of the other probes were out of water. The following depth readings were either zero or negative:

12/01/01 (01:15:00) through 12/02/01 (08:15:00)
12/02/01 (09:45:00), (10:15:00 - 21:00:00), (21:30:45) through 12/03/01 (21:00:00)
12/03/01 (23:00:00) through 12/04/01 (11:00:00)
12/04/01 (11:30:00) through 12/05/01 (01:45:00)
12/05/01 (02:15:00) through 12/06/01 (13:00:00)
12/06/01 (15:00:00-16:30:00), (17:15:00), (18:30:00) through 12/07/01 (15:30:00)
12/07/01 (16:00:00), (16:45:00), (18:30:00) (19:15:00-21:15:00)
12/09/01 (00:00:00), (00:30:00-05:30:00), (06:30:00), (07:00:00-07:30:00), (16:15:00) through 12/10/01 (06:00:00)
12/10/01 (10:00:00-15:30:00), (16:30:00) through 12/11/01 (00:30:00)
12/12/01 (15:00:00), (18:30:00) through 12/14/01 (08:30:00)
12/16/01 (20:45:00-22:45:00)
12/17/01 (00:00:00 - 01:45:00), (06:30:00-16:45:00)
12/18/01 (11:45:00) through 12/20/01 (21:15:00)

During the following times conductivity probe was out of the water and possibly all probes were out of the water and so all readings for these times were deleted:

12/01/01 (06:00:00-14:30:00), (16:45:00-20:30:00), (21:45:00) through 12/02/01 (02:45:00)
12/03/01 (04:15:00-06:30:00), (07:00:00-09:15:00), (10:15:00-12:00:00), (13:15:00-13:30:00), (14:00:00-15:00:00)
12/04/01 (17:15:00-19:45:00), (20:15:00)
12/05/01 (18:15:00-19:00:00), (19:30:00), (20:00:00-20:30:00), (21:00:00-21:15:00), (22:00:00) through 12/06/01 (10:30:00)
12/06/01 (11:30:00), (20:30:00), (21:30:00-21:45:00)
12/19/01 (23:45:00) through 12/20/01 (10:30:00)
12/20/01 (11:15:00), (12:00:00-12:45:00), (13:45:00-18:00:00)

SU: From 12/01/01 (00:00:00) through 12/11/01 (09:15:00) turbidity data is questionable due to buildup of sediment around data logger. Prior to deployment on 12/11/01 (09:30:00) sediment was cleaned away from the data logger trap.

Depth readings were zero or negative due to shallow water and the depth

probe being above water level. There is no indication from the other readings that any of the other probes were out of water. The following depth readings were either zero or negative:

12/10/01 (01:45:00-13:30:00). (14:45:00) through 12/11/01 (03:00:00)

12. Missing data:

Missing data are denoted by a period in the data set. Data are missing due to equipment failure when 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 Solutions:
Dissolved

oxygen standard is 100%, unless noted. Depth is always 0.0 meters. The specific conductivity standard is 1 mS/cm. The pH standard is 7.00.

Site	Date	Sp. Cond.	DO(%)	pH	Turb	
Depth						
WM	03/20/01	.999	110	7.02	0.4	.004
	04/03/01	1.027	95.7	7.13	1.0	.002
	04/17/01	.981	99.4	7.09	1.6	-.004
	05/01/01	.980	91.0	7.10	0.0	
.000						
	05/15/01	.943	74.2	7.13	0.8	-.007
	05/29/01	.980	103.7	7.16	0.2	.002
	06/12/01	.470	66.1 (98.2) *	7.17	1.2	.002
	06/19/01	.980	62 (102) *	7.14	-0.5	.005
	06/26/01	.958	11.9 (100.3) *	7.18	0.3	.002
	07/02/01	.974	91.0	7.12	5.0	.000
	07/10/01	.971	91.9	7.20	1.0	.002
	07/24/01	.970	86.6	7.70	1.2	.000
	07/31/01	.982	99.9	7.10		
	08/07/01	.914	90.5	7.09	0.2	.001
	08/14/01	.981	85.1	7.21	0.4	.000
	08/21/01	.996	63 (98) *	7.02	1.6	-.001
	08/28/01	.963	93.1	7.14	0.8	-.002
	09/11/01	.927	58.4 (99) *	7.09	1.6	.000
	09/25/01	.966	95.5	7.15	0.2	-.002
	10/09/01	.957	99.5	7.08	0.6	.002

	10/30/01	.978	102.5	7.19	2.6	-.001
	11/19/01	.996	110.1	7.11	0.5	-.211
	12/11/01	1.003	99.6	7.09	1.0	-.003
	12/21/01	.990	105.3	7.05	0.9	.045
*Dissolved Oxygen rechecked after cleaning periphyton off membrane						
SU	03/20/01	.998	101.5	7.04	1.2	-.003
	04/03/01	1.018	95.2	7.18	1.6	.004
	04/17/01	.994	102.1	7.09	1.9	-.004
	05/01/01	.991	100.9	7.20	0.5	.002
	05/15/01	.995	100.6	7.08	0.6	.000
	05/29/01	.940	100.5	7.14	-0.5	
.009						
	06/12/01	1.001	101.5	7.14	0.4	
.004						
	06/19/01	.997	97.6	7.13	0.5	.005
	06/26/01	.963	98.4	7.12	0.5	-
.001						
	07/02/01	.987	97.8	7.13	2.1	
.000						
	07/10/01	.978	93.4	7.13	1.7	.001
	07/24/01	.967	76.6	7.24	1.2	.000
	07/31/01	.972	75 (100)*	7.12	1.4	
.004						
	08/07/01	.952	90.2	7.06	1.7	.001
	08/14/01	.980	80.1	7.07	1.2	-.004
	08/21/01	1.007	91.4	7.08	1.2	-
.002						
	08/28/01	.986	98.8	7.20	0.8	.001
	09/11/01	.991	93.3	7.07	1.7	
.000						
	09/25/01	.970	77.7	7.17	0.8	-
.007						
	10/09/01	.973	102.8	7.01	0.6	
.002						
	10/30/01	.990	114	7.10	0.4	-
.009						
	11/19/01	.987	97.4	7.01	0.9	.004
	12/11/01	1.002	106.3	7.17	53 (0.7)**	-
.079						
	12/21/01	.983	98.9	7.02	0.3	.002

*Dissolved Oxygen rechecked after cleaning periphyton off membrane

** Turbidity rechecked after cleaning off mud from wiper

14. Other Remarks

High turbidity readings (> 1000) are very normal for State Route 2 and State

Route 6 sampling sites. Documentation was not made regarding these high data

points due to the regularity of the turbidity readings. If there are any questions regarding turbidity, please contact the RC at this NERR site.

