

**WATER-QUALITY DATA FROM CONTINUOUSLY MONITORED SITES IN THE PAMLICO
AND NEUSE RIVER ESTUARIES, NORTH CAROLINA, 1990-91**

By Ronald G. Garrett

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CONVERSION FACTORS, VERTICAL DATUM, AND TEMPERATURE

Multiply	By	To obtain
Length		
inch (in.)	25.4	millimeter
foot (ft)	0.3048	meter
mile (mi)	1.609	kilometer
Area		
square mile (mi ²)	2.590	square kilometer
Volume		
gallon (gal)	3.785	liter
Flow		
cubic foot per second (ft ³ /s)	0.3048	meter per second
Mass		
ounce, avoirdupois (oz)	28.35	gram
Mass per unit volume		
grain per gallon (gr/gal)	0.05841	milligram per liter
Specific conductance		
micromho per centimeter at 25 degrees Celsius (μ mho/cm at 25°C)	1.000	microsiemen per centimeter at 25 degrees Celsius

Sea level: In this report, "sea level" refers to the National Geodetic Vertical Datum of 1929--a geodetic datum derived from a general adjustment of the first-order level nets of the United States and Canada, formerly called Sea Level Datum of 1929.

Temperature: In this report, atmospheric temperature is given in degrees Fahrenheit (°F), which can be converted to degrees Celsius (°C) by the following equation:

$$^{\circ}\text{C} = 5/9 \times (^{\circ}\text{F} - 32)$$

Water temperature is given in degrees Celsius (°C), which can be converted to degrees Fahrenheit (°F) by the following equation:

$$^{\circ}\text{F} = 1.8 (^{\circ}\text{C}) + 32$$

**WATER-QUALITY DATA FROM CONTINUOUSLY MONITORED SITES IN THE PAMLICO
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ABSTRACT

Water-quality measurements were made at six sites in or near North Carolina's Pamlico River estuary and at five sites in or near the Neuse River estuary. Measurements taken at 15-minute intervals included near-surface and near-bottom specific conductance; near-surface water temperature; and near-surface, mid-depth, and near-bottom dissolved-oxygen concentrations.

In the Pamlico River estuary, salinities generally ranged from 0.1 to about 20 parts per thousand during the period October 1990 through September 1991. Recorded water temperatures in the Pamlico River were between 3.5 and 33 degrees Celsius during the measurement period. Dissolved-oxygen concentrations ranged from less than 1 milligram per liter to 20 milligrams per liter.

In the Neuse River estuary, salinities ranged from 0.3 part per thousand to nearly 32 parts per thousand between October 1990 and September 1991. During the same period, recorded water temperatures in this estuary were between 3 and 33 degrees Celsius. Dissolved-oxygen concentrations ranged from less than 1 milligram per liter to 21 milligrams per liter.

Instantaneous values for selected periods are summarized in a series of box plots. Daily mean values of salinity; water temperature; dissolved-oxygen concentrations; and dissolved oxygen, percent saturation, are presented in tables and graphs. Five-day mean values of water temperature and dissolved-oxygen concentrations for day and night conditions are also presented in tables.

INTRODUCTION

Estuarine environmental monitoring has been defined as "a continuing program of modeling, measurement, analysis, and synthesis that predicts and quantifies environmental conditions or contaminants and incorporates that information effectively into decision making in environmental management" (National Research Council, 1990). Monitoring data can provide information to (1) evaluate pollution abatement activities and control waste discharges, (2) measure trends in water quality, (3) detect new environmental problems in their early stages, potentially leading to lower-cost solutions, (4) evaluate human health hazards, and (5) determine the response of organisms to changes in habitat quality (National Academy of Sciences, 1977; Pearce and Despres-Patanjo, 1988; National Research Council, 1990).

The estuarine environment is extremely complex and highly variable, and it is often difficult to detect changes or to separate trends from natural variations. For example, salinity may be affected by tides, variable freshwater inputs, meteorological conditions, bathymetry, sea-level rise, and other factors, all of which are temporally and spatially variable. Moreover, there is a physical coupling between salinity and the flow field. Flows are influenced by spatial salinity (density) gradients. The flow field, in turn, advects and mixes salt, and thereby affects the spatial salinity gradients. Salinity is also an important biological factor affecting species productivity and diversity, as well as perhaps the appearance of certain finfish diseases (Noga and Stanley, 1989).

Likewise, dissolved oxygen fluctuates in response to flows, to the salinity-controlled density field, to diurnal and vertical variations in biological community metabolism, and to variable water-quality conditions. Because vertical density gradients control the transport of oxygen through the water column, salinity distributions and dissolved-oxygen concentrations are closely related. Adequate dissolved-oxygen levels are critical to the biological health of the estuary.

Because of the complex and variable nature of estuaries, continuously recording water-quality instruments can play a key role in monitoring. For example, after evaluating data collected at bimonthly intervals, the Chesapeake Bay Program staff recognized the need for continuously monitored salinity, dissolved oxygen, and temperature data (Martin Marietta Environmental Systems, 1987a, 1987b). The recently initiated Environmental Monitoring and Assessment Program continuously monitored near-bottom dissolved oxygen during the summer of 1990 at 30 estuarine sites from Massachusetts to Virginia (Holland, 1990).

The Albemarle-Pamlico (A-P) Estuarine Study implemented an estuarine monitoring program in 1988 (Holman, 1988). The monitoring program includes an expanded ambient water-quality monitoring network (North Carolina Department of Environment, Health, and Natural Resources, 1990), fish tissue analysis, sediment-oxygen demand studies, a citizens monitoring program, and a network of continuous water-quality monitors. The expanded ambient monitoring network and the continuous-monitoring network were designed to provide compatible data, and, in many locations, the ambient- and continuous-monitoring network sites coincide. Information from these and other biological and water-quality monitoring activities in the Sounds provides a comprehensive overview of the health of the estuarine system.

In 1988, the U.S. Geological Survey (USGS), in cooperation with the North Carolina Department of Environment, Health, and Natural Resources, initiated an investigation of water quality in the Pamlico and Neuse River estuaries. The investigation involves the continuous measurement of certain water-quality constituents and analysis of those data to (1) provide information to be used in conjunction with other A-P Study monitoring data to characterize baseline conditions in the two estuaries; (2) evaluate temporal trends after sufficient data are available; (3) characterize the extent, frequency, and duration of density stratification; (4) describe the dissolved-oxygen regime, including the relation of hypoxia to density stratification; and (5) provide data for hydrodynamic and water-quality modeling.

This report is the second of a series of reports summarizing data collected from the Pamlico and Neuse River estuaries. The first, "Water-Quality Data from Continuously Monitored Sites in the Pamlico and Neuse River Estuaries, North Carolina, 1989-90," was published in 1991 as U.S. Geological Survey Open-File Report 91-465.

Purpose and Scope

The purpose of this report is to provide a summary of the continuously monitored water-quality data obtained in the Pamlico River and the Neuse River estuaries. This report covers the period from October 1990 through September 1991, which is the end of the second full water year¹ of data collection. Water-quality data were measured at 15-minute intervals at six sites in the Pamlico River estuary and at five sites in the Neuse River estuary. Measurements include near-surface and near-bottom specific conductance; near-surface water temperature; and near-surface, mid-depth, and near-bottom dissolved-oxygen concentrations and percent saturation. Specific-conductance data were converted to and reported as salinity values. Basic statistics were used to present selected data as box plots, and instantaneous data are summarized as daily mean values in tables and graphs.

Acknowledgments

This investigation is being conducted in cooperation with the North Carolina Department of Environment, Health, and Natural Resources (EHNR), Albemarle-Pamlico Estuarine Study. The contents of this report do not necessarily reflect the views and policies of the Albemarle-Pamlico Estuarine Study.

Douglas N. Rader (formerly of EHNR) saw the urgent need for continuously monitored water-quality data and was helpful in initiating this study; Robert E. Holman (formerly of EHNR) and Randall G. Waite (EHNR) have

¹Period extending from October 1 through the following September 30. The water year is determined by the calendar year in which it ends.

helped ensure the continued operation of the monitoring network. Steve Tedder, Jimmie Overton, Dianne Reid, and Jay Sauber of the North Carolina Division of Environmental Management, and Mike Street and Jess Hawkins of the North Carolina Division of Marine Fisheries cooperated in the design of the water-quality monitoring network and have provided continuing support for the study. The U.S. Coast Guard, Fifth District, granted permission for use of existing channel markers to support data-collection instrumentation. The Coast Guard also assisted in instrument installation at some of the sites and participated in the recovery of instrumentation at downed channel markers.

ESTUARIES AND MONITORED SITES

The Pamlico River estuary and the Neuse River estuary lie within the Coastal Plain physiographic province of North Carolina (fig. 1). Much of the shoreline surrounding these two estuaries is composed of marshes, particularly near the mouths of the estuaries (Bellis and others, 1975; Copeland and others, 1984). Land-surface elevations in the area are generally less than 25 feet (ft) above sea level. Streams which drain to the estuaries have small drainage basins with little topographic relief, low sediment loads, and fairly acidic waters (Copeland and others, 1984).

The climate of the region is moderately mild and humid. The annual mean temperature is more than 60 °F, and mean annual precipitation ranges from about 50 inches (in.) on the north side of the Pamlico River estuary to about 56 in. on the south side of the Neuse River estuary (Hardy and Hardy, 1971). Variability of annual precipitation is large, ranging from 35 to 80 in., but precipitation is relatively uniform throughout the year, with highest rainfall amounts typically occurring in July, August, and September. Evapotranspiration rates average about 34 in. per year, and exhibit much less variability from year to year than precipitation (Wilder and others, 1978). Average wind speeds are about 10 miles per hour. Winds typically blow from south to southwest between April and August, and from north to northwest between September and February; there is no predominant prevailing wind direction during March.

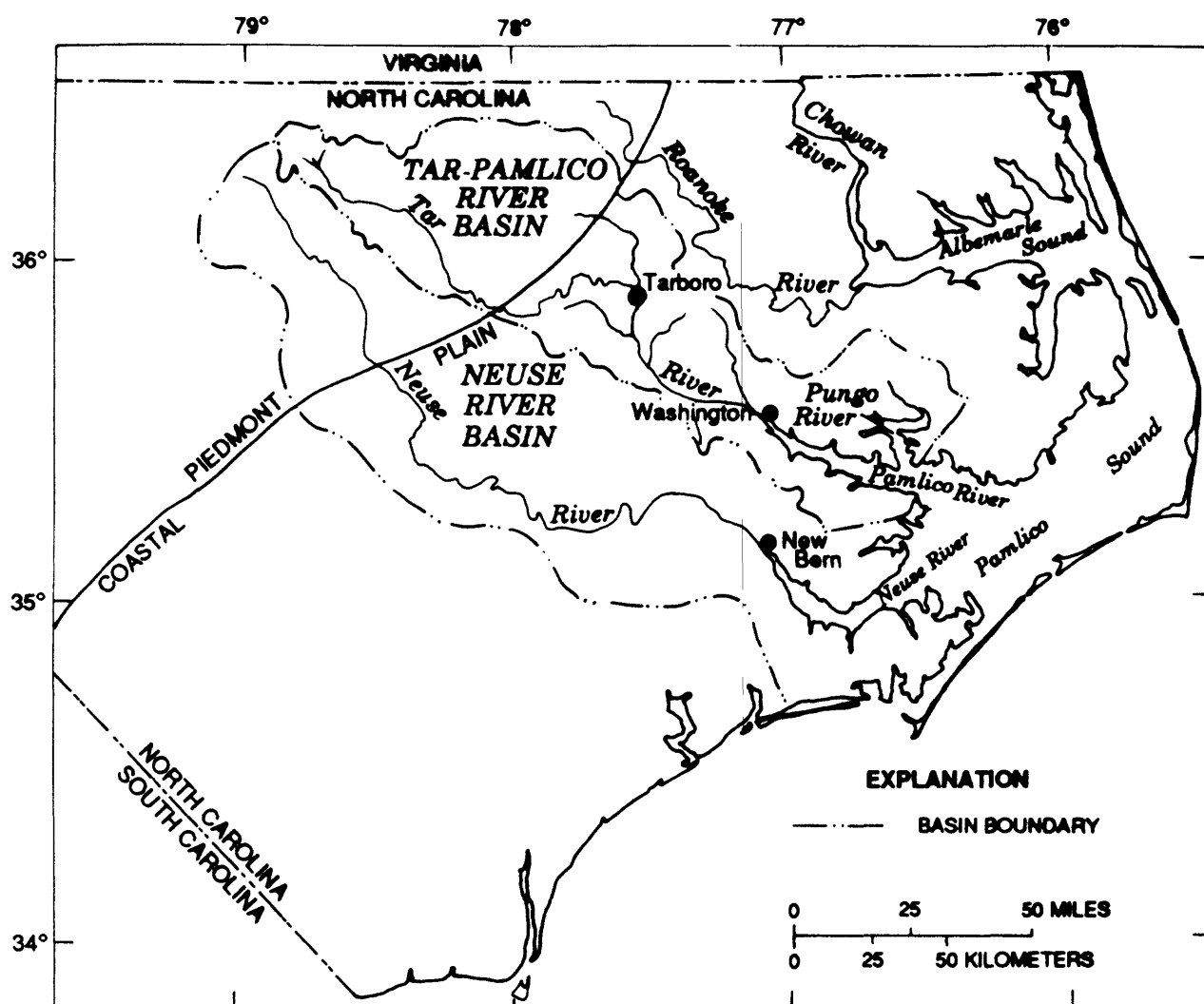


Figure 1.--Location of Tar-Pamlico and Neuse River drainage basins.

Pamlico River Estuary

Upstream from Washington, the Pamlico River is known as the Tar River and drains a 3,080 square-mile (mi^2) rural area in the Piedmont and Coastal Plain (fig. 1). Downstream from Washington, the Pamlico River estuary drains an additional area of 1,220 mi^2 near the confluence of the Pamlico and Pungo Rivers, giving a total drainage area of 4,300 mi^2 for the entire basin.

The distance from Washington to the confluence of the Pamlico and Pungo Rivers is about 30 miles (mi). The Pamlico River estuary width increases from about 1,000 ft at Washington to more than 4 mi at the Pamlico-Pungo confluence.

Maximum depths range from about 10 ft at Washington to about 18 ft at the mouth. The bottom material near Washington is primarily organic-rich mud; in the lower reaches of the estuary, fine-grained materials occur mostly along the channel axis, and sand predominates near the shoreline (Wells, 1989).

Annual average inflow to the Pamlico River estuary at Washington has been estimated to be 3,140 cubic feet per second (ft^3/s) (Harned and Davenport, 1990). Average annual runoff for the 1,220 mi^2 drainage area downstream from Washington is estimated to be 2,260 ft^3/s . Water-level fluctuations in the Pamlico River are primarily a result of wind and astronomical tides. Average daily water-level range is 1.0 ft at Washington and 0.6 ft near the mouth of the Pamlico River (Bales, 1990).

Four water-quality monitoring stations (sites 1-4) were established on channel markers in the Pamlico River estuary; two additional stations (sites 5 and 6) were placed at the mouths of Goose Creek and Pungo River, respectively, which flow into the Pamlico River (fig. 2). Site numbers used in this report correspond to those in an earlier report (Garrett and Bales, 1991). Water depth at the monitoring stations ranges from 11 ft at sites 1 and 4, to 15 ft at site 2 (table 1). Salinities in the Pamlico River estuary generally ranged from 0.1 to about 20 parts per thousand (ppt) during the period October 1990 through September 1991. Recorded water temperatures in the Pamlico River were between 3.5 °C and 33 °C during the measurement period. Dissolved-oxygen concentrations from less than 1 milligram per liter (mg/L) to 20 mg/L were recorded. Extremes for the period of record of salinity, water temperature, and dissolved-oxygen concentrations at each site are presented in table 2.

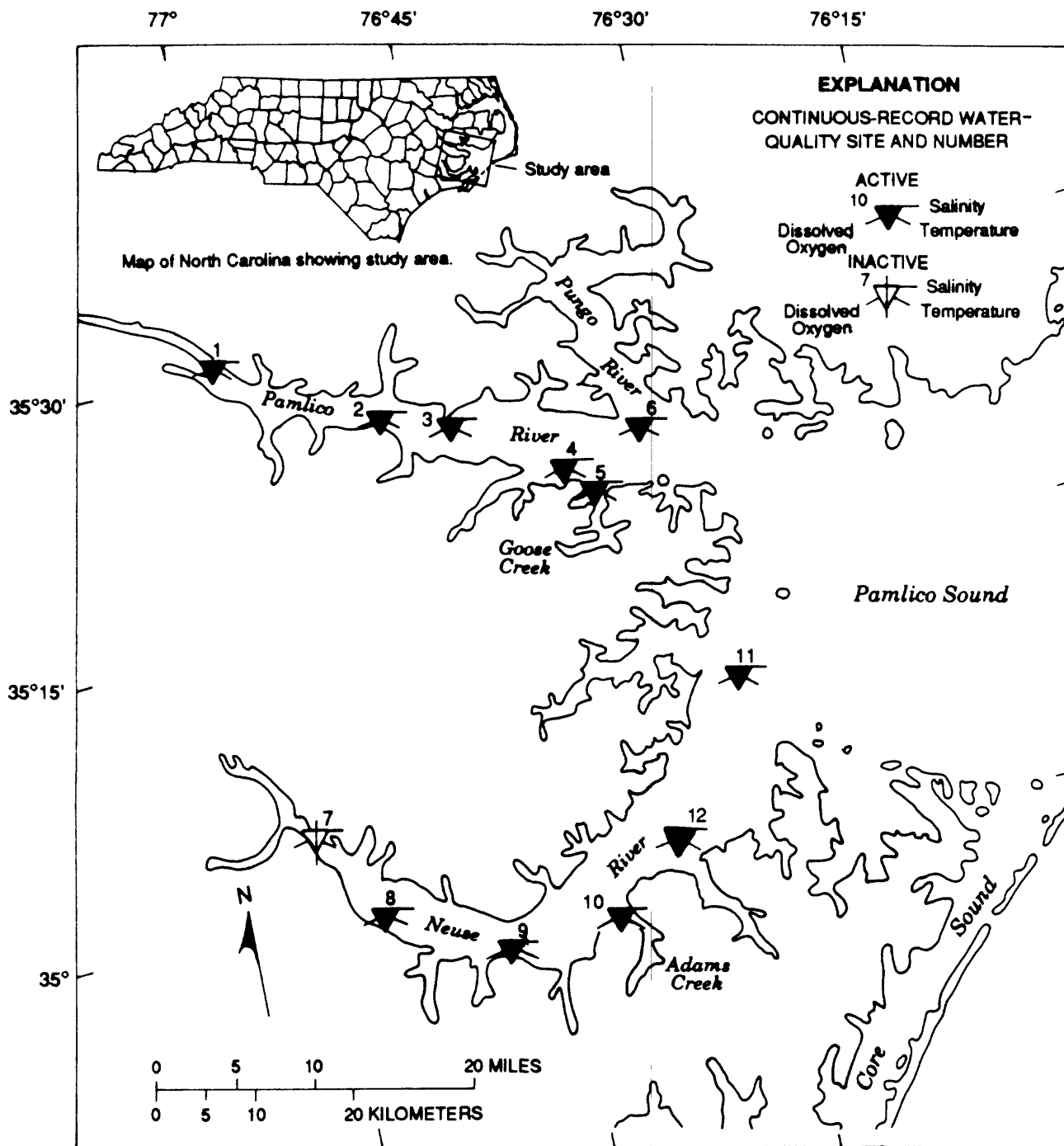


Figure 2.--Location of continuous water-quality monitoring sites in the Pamlico River and Neuse River estuaries

Table 1.--Continuous water-quality monitoring sites for salinity, water temperature, and dissolved oxygen

Site number (fig. 2)	Location	Latitude	Longitude	Mean water depth (feet)	Period of record
1	Pamlico River at Channel Light 16	35°30'30"	77°01'12"	11	04/89-09/91
2	Pamlico River at Light 5	35°25'48"	76°50'30"	15	04/89-09/91
3	Pamlico River at Light 4	35°24'47"	76°45'52"	14	04/89-09/91
4	Pamlico River at Light 3	35°21'24"	76°38'48"	11	05/89-09/91
5	Goose Creek at Light 6	35°19'54"	76°37'06"	12	05/89-09/91
6	Pungo River at Junction Light PR	35°22'42"	76°33'24"	12	05/89-09/91
7	Neuse River at Channel Light 22	35°04'48"	77°00'24"	15	05/89-12/89
8	Neuse River at Channel Light 11	34°59'56"	76°56'36"	13	¹ 05/89-12/89, 01/91-09/91
9	Neuse River at Channel Light 9	34°56'54"	76°48'36"	11	05/89-09/91
10	Adams Creek at Light 4	34°57'24"	76°40'54"	8	06/89-09/91
11	Neuse River at Junction Light	35°08'42"	76°30'06"	17	05/90-09/91
12	Neuse River at Light 7	35°00'30"	76°39'42"	12	02/91-05/91

¹Channel marker platform was destroyed December 1989 and rebuilt January 1991.

Table 2.--Maximum and minimum values recorded for salinity, water
April 1989 through

[ppt, parts per thousand; °C, degrees Celsius;

Site number (fig. 2)	Station name and number ^{1/} (Period of record)	Constituent			
		Salinity, near surface (ppt)		Salinity, near bottom (ppt)	
		Maximum (Date)	Minimum (Date)	Maximum (Date)	Minimum (Date)
1	Pamlico River at Channel Light 16, 0208450705 (4/89-9/91)	13.2 (2/11/91)	<0.1 (7/20-26/89; 8/21,23/89; 12/6,15,17- 22/89; 4/27-30/90; many days in May and June 1990; 7/10/90; 8/16/90)	13.5 (12/17/90)	<0.1 (many days in June, July, November, and December 1989; January, April, May, and June 1990)
2	Pamlico River at Light 5, 0208453300 (4/89-9/91)	11.6 (10/20/90)	0.1 (3/18,21/90)	16.7 (8/24/89)	<0.1 (4/12/90)
3	Pamlico River at Light 4, 0208454253 (4/89-9/91)	18.1 (11/10/90)	<0.1 (5/6/89)	20.1 (11/9/90)	0.4 (4/21/90)

^{1/}U.S. Geological Survey downstream order number.

temperature, and dissolved oxygen in water at the water-quality monitoring sites, September 1991

mg/L, milligram per liter; <, less than]

Constituent--Continued							
Water temperature, near surface (°C)		Dissolved oxygen, near surface (mg/L)		Dissolved oxygen, mid-depth (mg/L)		Dissolved oxygen, near bottom (mg/L)	
Maximum (Date)	Minimum (Date)	Maximum (Date)	Minimum (Date)	Maximum (Date)	Minimum (Date)	Maximum (Date)	Minimum (Date)
33.3 (8/14/90)	1.0 (12/4, 21, 22/89; 1/13/90)	19.4 (1/6/91)	<1.0 (5/30/91; 6/1, 2, 4/91; 7/4/91)	16.8 (2/22/91)	<1.0 (6/28/89; 10/28/89; 11/2-4/89; 8/19-23/90; 9/12-17, 27, 29/90; 10/1-3/90; 1/6/91; 7/4-31/91; 8/1-4, 6, 11-17/91; 9/7/91)	16.4 (7/19/90)	<1.0 (8/16, 18-31/89; 9/1-4, 9-11/89; 10/28-31/89; 11/1-4/89; 7/1/90; 8/14, 19-25/90; 9/11-21, 23, 26, 27, 29/90; 10/1-3/90; 11/26-30/90; 12/1, 23/90; 2/10/91; 6/16/91; 8/6-9/91)
33.0 (7/23/90)	0.0 (12/3/89)	18.5 (2/5/91)	2.5 (8/16/91)	20.2 (3/25/91)	<1.0 (11/2, 8, 9/89; 7/7/90; 5/25, 26/91)	18.2 (1/4/90)	<1.0 (5/12-14, 17, 20, 23, 24/89; 6/4, 15, 20, 21, 23-30/89; 7/1/89; 10/17-23, 27, 28/89; 11/9/89; 4/26-28/90; 7/27-31/90; 8/1-21, 27, 28/90; 2/11/91; 4/3-7/91; 5/16, 17, 18, 24, 25/91; 7/6, 7, 9, 10, 13, 14, 15/91; 8/3, 4, 5, 7, 8, 9/91; 9/7-12, 18, 19, 20/91)
31.8 (7/24/90)	3.5 (1/7/90)	17.4 (1/15/91)	<1.0 (10/17/89; 8/12/91)	15.3 (1/15/91)	<1.0 (8/24/89; 8/28, 29/90; 6/22, 23/91)	18.3 (3/21/91)	<1.0 (8/24, 25/89; 9/1/89; 5/29, 31/89; 6/1-3/89; 7/4, 7, 8, 20-25, 27, 28/89; 8/1-3, 5-31/89; 9/1-3/90; 4/30/91; 5/1, 2, 3/9 6/21/91; 7/11, 24/9 8/7, 9-18, 23, 24/91; 9/8, 14/91)

Table 2.--Maximum and minimum values recorded for salinity, water
April 1989 through

[ppt, parts per thousand; °C, degrees Celsius;

Site number (fig. 2)	Station name and number ^{1/} (Period of record)	Constituent			
		Salinity, near surface (ppt)		Salinity, near bottom (ppt)	
		Maximum (Date)	Minimum (Date)	Maximum (Date)	Minimum (Date)
4	Pamlico River at Light 3, 0208455155 (5/89-9/91)	16.2 (9/4/89; 9/1/90; 11/10,18/90)	0.9 (5/17/89)	20.4 (11/5/90)	1.7 (5/14,16/89)
5	Goose Creek at Light 6, 0208455615 (5/89-9/91)	16.6 (12/8/90)	2.1 (3/13/90)	50.7 (7/11/90)	2.9 (6/14/89)
6	Pungo River at Junction Light PR, 0208457700 (5/89-9/91)	19.4 (1/11/91)	1.3 (12/24/89)	19.4 (12/30/90)	4.1 (5/6/90)
7	Neuse River at Channel Light 22, 0209258400 (5/89-12/89)	9.2 (8/7/89)	<0.1 (5/12-17/89; 7/23,27, 28/89; 12/3, 6,11,12/89)	12.0 (8/8,9/89)	<0.1 (5/12-17, 24/89)
8	Neuse River at Channel Light 11, 0209262905 (5/89-12/89; 1/91-9/91)	11.4 (9/21/91)	<0.1 (5/14,15/89)	18.2 (8/10/91)	0.1 (5/15/89)

^{1/}U.S. Geological Survey downstream order number.

^{2/}Period of record October 1989 to September 1990.

temperature, and dissolved oxygen in water at the water-quality monitoring sites, September 1991--Continued

mg/L, milligram per liter; <, less than]

Constituent--Continued							
Water temperature, near surface (°C)		Dissolved oxygen, near surface (mg/L)		Dissolved oxygen, mid-depth (mg/L)		Dissolved oxygen, near bottom (mg/L)	
Maximum (Date)	Minimum (Date)	Maximum (Date)	Minimum (Date)	Maximum (Date)	Minimum (Date)	Maximum (Date)	Minimum (Date)
33.3 (8/20/90; 7/9/91)	3.5 (1/27/91)	18.7 (1/24/90)	1.5 (10/14/89; 5/31/91)	17.2 (2/7/91)	<1.0 (9/16/89; 10/16,18, 19/89; 7/9,10, 25-31/91; 8/1/91)	18.0 (5/3/91)	<1.0 (8/25,26/89; 9/13,15,16/89; 4/15/91; 5/17/91; 6/17/91; 7/11,12, 15/91; 8/3,4,5/91 9/18,20/91)
31.7 (7/12/89)	5.5 (2/16/91)	15.9 (1/28/90)	<1.0 (6/17-20/89; 7/25,26,28, 30/91; 8/1,3,5/91)	16.0 (1/29/90)	<1.0 (6/9,11,12, 14,15,18, 19/89; 7/31/91)	15.2 (2/13/90)	<1.0 (6/10-12, 14-26/89; 7/5,14/89; 9/15,16/89; 7/21-24/90; 8/4-7/90; 4/30/91; 5/1,2, 14-18/91; 7/2,3/9 8/3,5,6,7,8,14-18 21,22,23/91)
31.8 (8/2/90)	1.7 (12/20/89)	18.6 (1/20/90)	<1.0 (8/15,17,18, 19,26,27, 29/91; 9/10/91)	2/16.1 (2/3/91)	2/2.4 (6/23/90)	18.4 (1/6/90)	<1.0 (9/1/89; 6/5,6/90; 8/5,7-16,21/90; 4/30/91; 8/15/91; 9/7/91)
31.3 (7/26/89)	4.4 (12/4/89)	13.3 (9/12/89)	<1.0 (8/5,6,9,10, 13,14,24/89)	11.2 (6/11/89)	<1.0 (7/21/89; 8/28-30/89; 9/1,2,4-10/89)	6.2 (5/12/89)	<1.0 (7/21-31/89; 8/1-11,13-31/89; 9/1-4/89; 10/21-25/89)
31.6 (6/25/89)	4.7 (1/27/91)	18.9 (2/12/91)	<1.0 (6/23,24/91)	16.8 (3/2/91)	<1.0 (6/18-20, 22-24,26, 27/89; 4/25, 29,30/91; 5/1,2/91; 6/21,22,23/91; 8/10,11,12,14, 15,16/91; 9/18,19,20/91)	21.2 (2/20/91)	<1.0 (5/13/89; 6/14,15,18-20, 22-29/89; 4/25-30/91; 5/1,26/91; 6/20-24/91; 8/10-14,16-24/91)

Table 2.--Maximum and minimum values recorded for salinity, water
April 1989 through

[ppt, parts per thousand; °C, degrees Celsius;

Site number (fig. 2)	Station name and number ^{1/} (Period of record)	Constituent			
		Salinity, near surface (ppt)		Salinity, near bottom (ppt)	
		Maximum (Date)	Minimum (Date)	Maximum (Date)	Minimum (Date)
9	Neuse River at Channel Light 9, 0209265810 (5/89-9/91)	15.9 (10/28/90)	0.3 (12/30,31/89)	18.3 (7/26/91)	0.5 (12/24/89)
10	Adams Creek at Light 4, 0209266925 (6/89-9/91)	32.8 (3/18/90)	0.3 (4/8/91)	31.5 (6/9/89)	4.5 (12/17/89; 3/10,11/90)
11	Neuse River at Junction Light, 0209269000 (5/90-9/91)	31.6 (11/22/90)	10.6 (7/28/90)	30.8 (11/22/90)	10.6 (4/27/91)
12	Neuse River at Light 7, 0209267575 (2/91-5/91)	15.3 (3/2/91)	5.7 (4/30/91)	18.2 (3/25/91)	7.2 (4/7/91)

^{1/}U.S. Geological Survey downstream order number.

temperature, and dissolved oxygen in water at the water-quality monitoring sites,
September 1991--Continued

mg/L, milligram per liter; <, less than]

Constituent--Continued							
Water temperature, near surface (°C)		Dissolved oxygen, near surface (mg/L)		Dissolved oxygen, mid-depth (mg/L)		Dissolved oxygen, near bottom (mg/L)	
Maximum (Date)	Minimum (Date)	Maximum (Date)	Minimum (Date)	Maximum (Date)	Minimum (Date)	Maximum (Date)	Minimum (Date)
32.3 (8/6/89)	2.7 (1/27/91)	20.7 (4/10/91)	<1.0 (6/15/90; 7/3, 4/91)	17.9 (4/10/91)	<1.0 (6/12, 13, 15, 16, 20, 21/89; 5/31/91; 6/3, 4/91; 7/9, 10, 11, 17, 18/91; 9/17-20/91)	16.8 (4/26/91)	<1.0 (5/31/89; 6/1-5, 12, 13, 15-17/89; 8/23, 29/89; 9/2/89; 3/23/90; 4/26-30/90; 5/1, 4, 7, 16, 17, 20, 21/90; 6/15/90; 7/9/90; 4/6-9, 15, 18, 27-30/91; 5/1, 6, 27, 31/91; 6/1, 3/91; 7/13-16, 18, 21, 22, 24-31/91; 8/1-6, 9-19, 24, 25, 30, 31/91; 9/1, 14-17/91)
32.8 (8/19, 29/90; 7/24/91)	0.1 (12/24/89)	19.9 (1/28/90)	2.5 (8/18/91)	19.4 (1/28/90)	<1.0 (6/25/89; 7/2-5/89; 5/2/90; 7/19-31/91; 8/1, 2, 3, 5-9, 12/91; 9/23/91)	18.6 (1/28/90)	<1.0 (6/26/89; 7/3-5/89)
29.6 (7/13/91)	9.2 (3/13, 14/91)	13.7 (11/22/90)	<1.0 (9/15/91)	16.2 (11/22/90)	2.8 (8/19/91)	14.8 (6/16/90)	<1.0 (5/20/90; 7/21, 27/90; 10/1/90; 6/22, 23/91; 7/19, 20/91; 8/9/91; 9/16, 17, 18/91)
26.9 (5/15/91)	9.2 (3/1/91)	11.7 (4/2/91)	5.7 (4/30/91)	13.6 (3/1/91)	4.3 (5/1/91)	13.0 (3/22/91)	2.2 (5/18/91)

Neuse River Estuary

Like the Tar River, the Neuse River originates in the Piedmont Province of North Carolina (fig. 1) and drains upstream from New Bern, a 4,470 mi² area characterized by several large urban areas and widespread agriculture. Downstream from New Bern, an additional 1,130 mi² drain to the Neuse River estuary giving a total drainage area of 5,600 mi² near site 11, Neuse River at Junction Light (fig. 2).

The Neuse River estuary varies in width from 0.9 mi at New Bern to about 6.3 mi at the mouth. Average depths range from 8 ft at New Bern to 17 ft at the mouth (Giese and others, 1985). The bottom material composition of the Neuse River estuary is similar to that of the Pamlico River estuary, where fine-grained materials predominate along the channel axis and sand generally occurs near the shoreline (Wells, 1989).

Annual average inflow to the Neuse River estuary at New Bern is about 4,910 ft³/s (Harned and Davenport, 1990). Giese and others (1985) estimated that the average freshwater outflow from the entire Neuse River basin is about 6,500 ft³/s, meaning that the annual average freshwater inflow from lands adjacent to the estuary is about 1,600 ft³/s. As in the Pamlico River, water levels in the Neuse River estuary are affected by wind and astronomical tides. The daily mean water-level range is 1.0 ft at New Bern and 0.6 ft near site 10 (fig. 2).

Five active water-quality monitoring stations are located along an approximately 35-mi reach in the Neuse River estuary (sites 8-12, fig. 2). Site 7 was in operation from May 1989 until December 1989 when its channel marker platform was destroyed by ice. There are no data published in this report for site 7. The multi-pile channel marker which was destroyed was replaced by a single-pile marker, so it was not possible to reinstall the data-collection instrumentation. Site 7 is shown as an inactive site in figure 2. Site 8 was in operation from May 1989 until December 1989 when its channel marker platform was destroyed. Site 8 was rebuilt in January 1991. Site 12 was in operation from February 1991 through May 1991 when its channel marker was destroyed. Site 12 was reinstalled in April 1992. Site numbers correspond to those used in an earlier report (Garrett and Bales, 1991), with the exception of site 12, which was added for this report.

Between October 1990 and September 1991, salinities ranged from 0.3 ppt to nearly 32 ppt. During the same period, recorded water temperatures in the Neuse River estuary were between 3 °C and 33 °C. Dissolved-oxygen concentrations of less than 1 mg/L to 21 mg/L were recorded. Extremes for the period of record of salinity, water temperature, and dissolved-oxygen concentrations at each site are presented in table 2.

DATA COLLECTION AND PROCESSING

Standard U.S. Geological Survey procedures for the collection and analysis of water-quality data were followed. Procedures for servicing data-collection instrumentation and for processing the data were also developed for the specific instrumentation and conditions of this study. The description and function of the instruments used to collect data, as well as field and data-processing procedures, are outlined in this section.

Instrumentation

The central component of the data-collection system is the U.S. Geological Survey minimonitor (Gordon and Katzenbach, 1983; Ficken and Scott, 1989). The minimonitor consists of (1) a water-tight can (about 14.5 in. high by 10.5 in. in diameter) containing signal conditioners, (2) cables with waterproof connectors, (3) water-quality sensors, (4) a 12-volt (V) battery, and (5) solar panels for maintaining a full charge on the battery. Up to eight water-quality sensors may be attached to the minimonitor. Sensors are available to measure specific conductance, temperature, dissolved oxygen, and pH. pH was not measured in this investigation.

The specific-conductance sensor uses four electrodes to reduce the effects of fouling. Compensation for ambient water temperature is made by a signal conditioner so that all specific-conductance values are referenced to a temperature of 25 °C. Measurement ranges of 0 to 100, 0 to 1,000, 0 to 10,000, or 0 to 100,000 microsiemen per centimeter ($\mu\text{S}/\text{cm}$) may be selected. Following calibration, specific-conductance measurements are accurate to

± 3 percent of selected full scale in a temperature range of 0 to 40 °C. The standard range for the temperature sensor is from 0 to 50 °C, and for a calibrated system, temperature measurements are accurate to within ± 1 percent of full scale.

The dissolved-oxygen sensor uses a polarographic membrane and stirrer manufactured by Yellow Springs Instrument Company² and a signal conditioner that was designed by the USGS. The dissolved-oxygen measurement system is potentially subject to more types of errors than the temperature and specific-conductance measurement systems. Potential errors include sensor background error, temperature-compensation uncertainty, and sensor-calibration uncertainty. Measurements are estimated to be accurate within about 0.3 mg/L for a calibrated system.

The minimonitor is controlled by a CR10 measurement and control module (Campbell Scientific, Inc., 1988). The CR10 is a fully programmable datalogger and controller which will accept voltage inputs from multiple sensors. The CR10 is programmed to turn on the minimonitor at 15-minute intervals, allow the sensors to stabilize for one minute, collect data from each of the sensors, record the time, and turn off the minimonitor. An external 12-V battery provides power to the CR10; solar panels are used to maintain a full charge on the battery. The CR10 has sufficient internal memory to store about 30 days of minimonitor data collected at 15-minute intervals using six sensors. Data are lost, however, if the CR10 loses power.

To avoid potential problems associated with loss of power to the CR10 and to provide more operational flexibility, an SM192 storage module with nonvolatile memory (Campbell Scientific, Inc., 1987) is connected in series with the CR10. Data are automatically transferred from the CR10 to the SM192, which is not programmable and is only accessible through the CR10. The SM192 has an internal 3.5-V battery to protect the memory when the module is disconnected from the external power supply. Memory capacity is sufficient to store about 3 months of minimonitor data.

²Any use of trade, product, or firm names is for descriptive purposes only and does not imply endorsement by the U.S. Government or State of North Carolina.

All instruments are housed in water-tight shelters attached to U.S. Coast Guard channel markers. The datalogger and storage module are further protected in a moisture-proof container within the shelter. Weights were added to the ends of the sensor cables to minimize current-induced vertical motion of the sensors. A reference mark with a known elevation above the seabed was established at each station to ensure that sensors are returned to the same point in the water column after servicing.

Field Procedures

Instruments are serviced at approximately 3-week intervals. During the colder months (October through April), servicing at 4- to 5-week intervals is sufficient, although the 3-week schedule is generally maintained. More frequent servicing may be necessary during the warmer months because of biofouling problems.

Field meters are calibrated in the laboratory prior to visiting the field installations. Field meters used are the Yellow Springs Instrument Company Model 33 S-C-T meter for specific conductance, the Yellow Springs Instrument Company Model 54 dissolved-oxygen meter, and the Hydrolab, Surveyor II. The Hydrolab is capable of measuring specific conductance, dissolved oxygen, and temperature using one data sonde. Both Yellow Springs Instrument meters are also capable of measuring temperature. Temperature thermistors are calibrated against an American Society for Testing Materials (ASTM) thermometer at two temperatures. All values are within 0.5 °C after calibration. Specific-conductance standards are used to develop a calibration curve for each conductance meter. Field meter specific-conductance values are within 5 percent of the standards after calibration. The dissolved-oxygen meter is calibrated in water-saturated air adjusted for barometric pressure. After calibration, meter values are within 0.1 mg/L of the saturation value at the measured temperature and barometric pressure. The dissolved-oxygen calibration is for freshwater. Complete calibration records are maintained.

Upon reaching a site, simultaneous field-meter and minimonitor readings are made at coincident locations. Vertical positions of sensors are referenced to the seabed and the permanent datum at the site. If the difference between top and bottom readings for any of the constituents exceeds 5 percent, then field-meter readings are obtained throughout the full depth of the water column. The sensors are then removed from the water and cleaned. Dissolved-oxygen sensors are typically replaced during each visit.

After cleaning, sensors are returned to their original location in the water column, and a new set of field-meter and minimonitor readings is made. If necessary, the minimonitor span control for each measurement channel is adjusted until field and monitor readings agree. The SM192 storage modules containing recorded data are removed and replaced with modules prepared to begin recording a new set of data.

All minimonitors are calibrated with a full set of sensors in the laboratory prior to field installation. Subsequently, if a sensor or sensor cable is replaced, a field calibration must be performed for that particular measurement channel. Standard solutions are used for specific conductance field calibrations. Dissolved-oxygen field calibrations are performed using a sodium sulfite solution to achieve an oxygen-depleted sample.

Data Processing

The SM192 storage modules are returned to the office and data are transferred to the data base. Corrections for the difference between minimonitor and field-meter readings are applied to the data. Salinity is computed from specific-conductance records using the formulation given by Miller and others (1988). Dissolved oxygen, percent saturation, was computed using a barometric pressure of 760 millimeters and the water temperature, near surface, at each respective station. Finally, plots of the data are made.

Data are reviewed to ensure validity. Outliers are examined and deleted if values are physically unrealistic. Data are examined to ensure that water density at the surface is less than that at the bottom at a given time. Data are rejected if the field-meter and minimonitor readings at the time of servicing are not in reasonable agreement with each constituent. Simple daily statistics are then computed and time-series plots are prepared.

During the early phases of the investigation, various problems resulted in the loss of record. Problems included corrosion of connectors, loss of battery power, improperly calibrated instruments, human errors, and poor agreement between field-meter and minimonitor readings. As the study has progressed, the amount of lost record has substantially decreased. Corrosion problems have been essentially eliminated. Solar panels have been installed to maintain battery voltage at an acceptable level, and SM192 storage modules have been placed at all sites so that if batteries fail, the entire record between site visits will not be lost. Intensive training has resulted in significantly fewer human errors, and more frequent servicing has resulted in less biofouling and measurement drift.

WATER-QUALITY DATA

Water-quality data collected at continuously monitored sites in the Pamlico and Neuse River estuaries from October 1990 through September 1991 are presented in this section. Instantaneous values of salinity and dissolved-oxygen concentrations are summarized as box plots, whereas daily mean values of salinity; water temperature; dissolved-oxygen concentrations; and dissolved oxygen, percent saturation, for the period are given in tables and graphs. Five-day mean values of near-surface water temperature and near-surface, mid-depth, and near-bottom dissolved-oxygen concentrations for day (9:15 a.m.-9:00 p.m.) and night (9:15 p.m.-9:00 a.m.) conditions are presented in tables.

Box Plots

Box plots for salinity and dissolved-oxygen concentrations are presented in figures 3 through 18 to show short-term variability at a site, to illustrate longitudinal variations along the estuary, and to give an indication of seasonal variations. The box plots were developed from simple statistics using the 15-minute interval data; each box plot for a selected 5-day period represents a maximum of 480 observations. Periods were chosen to illustrate conditions occurring in a week during different seasons of the year.

Each figure includes near-surface and near-bottom box plots for salinity or dissolved oxygen in either the Pamlico or Neuse River estuary. At some sites, no data are available for the selected period. Site 12 appears on the box plots before site 11 because site 11 is located geographically downstream, or east, of site 12. No data from site 12 were available for the first report (Garrett and Bales, 1991), but the site numbering system from the first report was maintained for consistency.

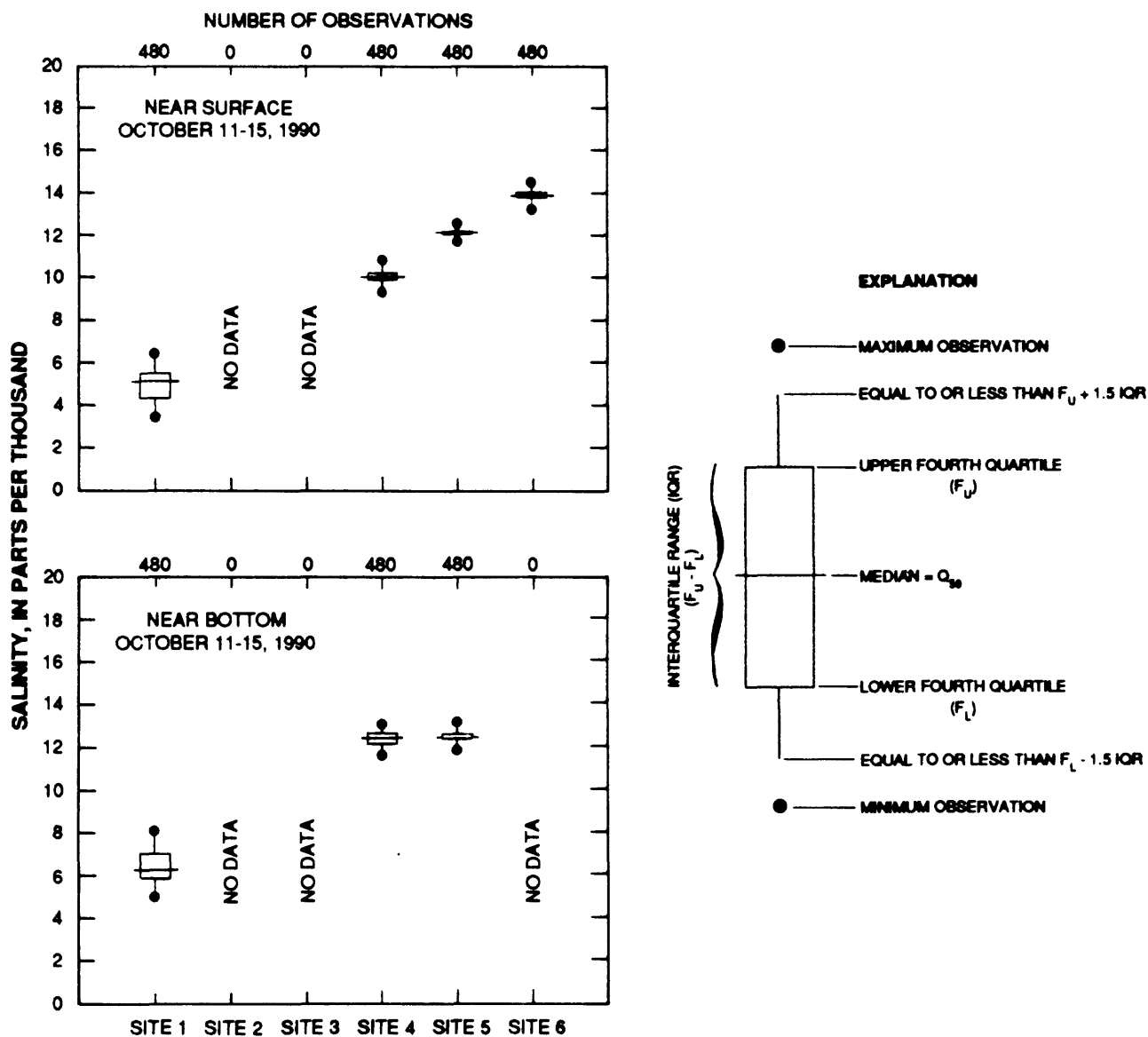


Figure 3.--Salinity concentrations at the Pamlico River estuary monitoring sites for October 11-15, 1990.

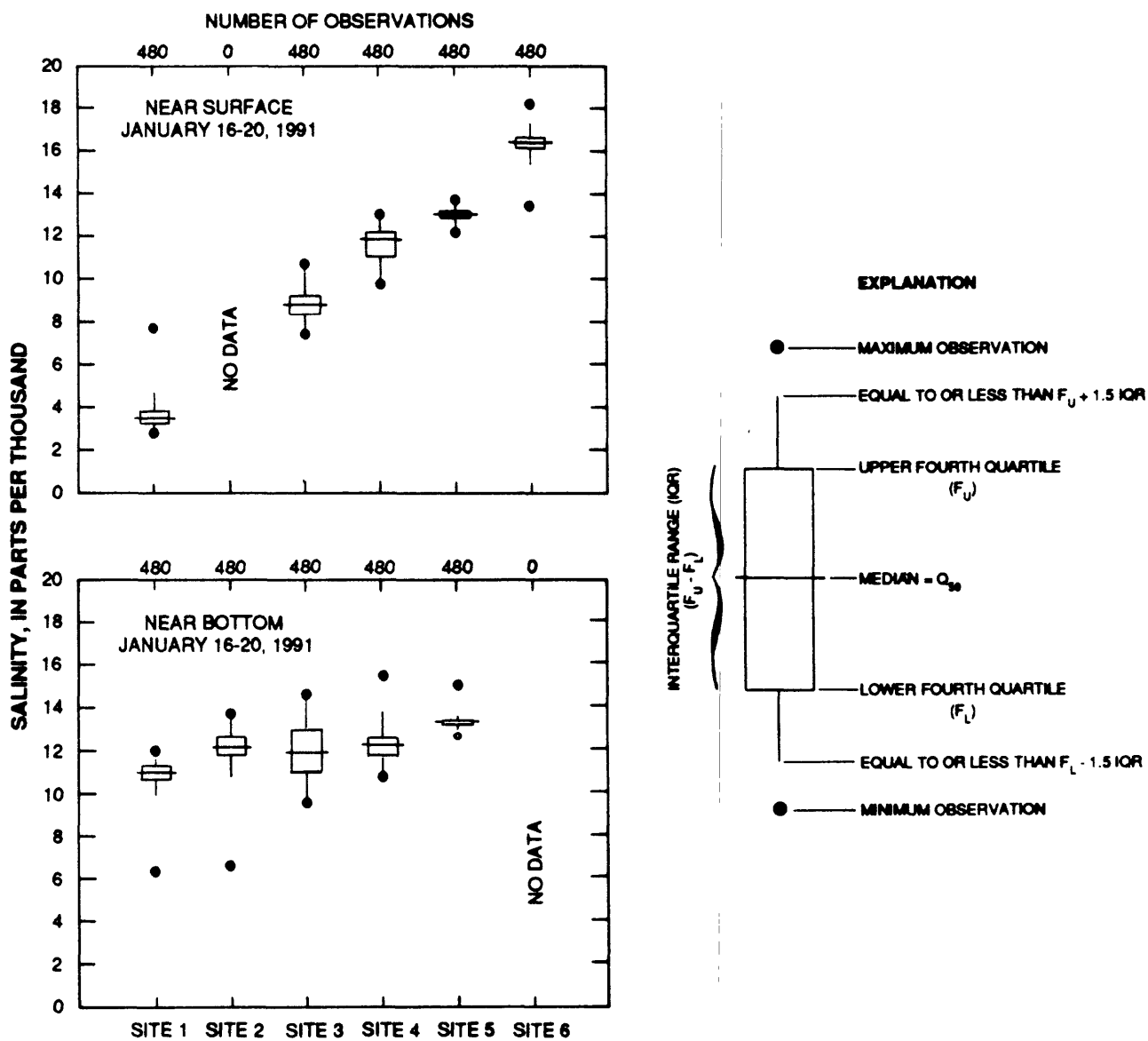


Figure 4.--Salinity concentrations at the Pamlico River estuary monitoring sites for January 16-20, 1991.

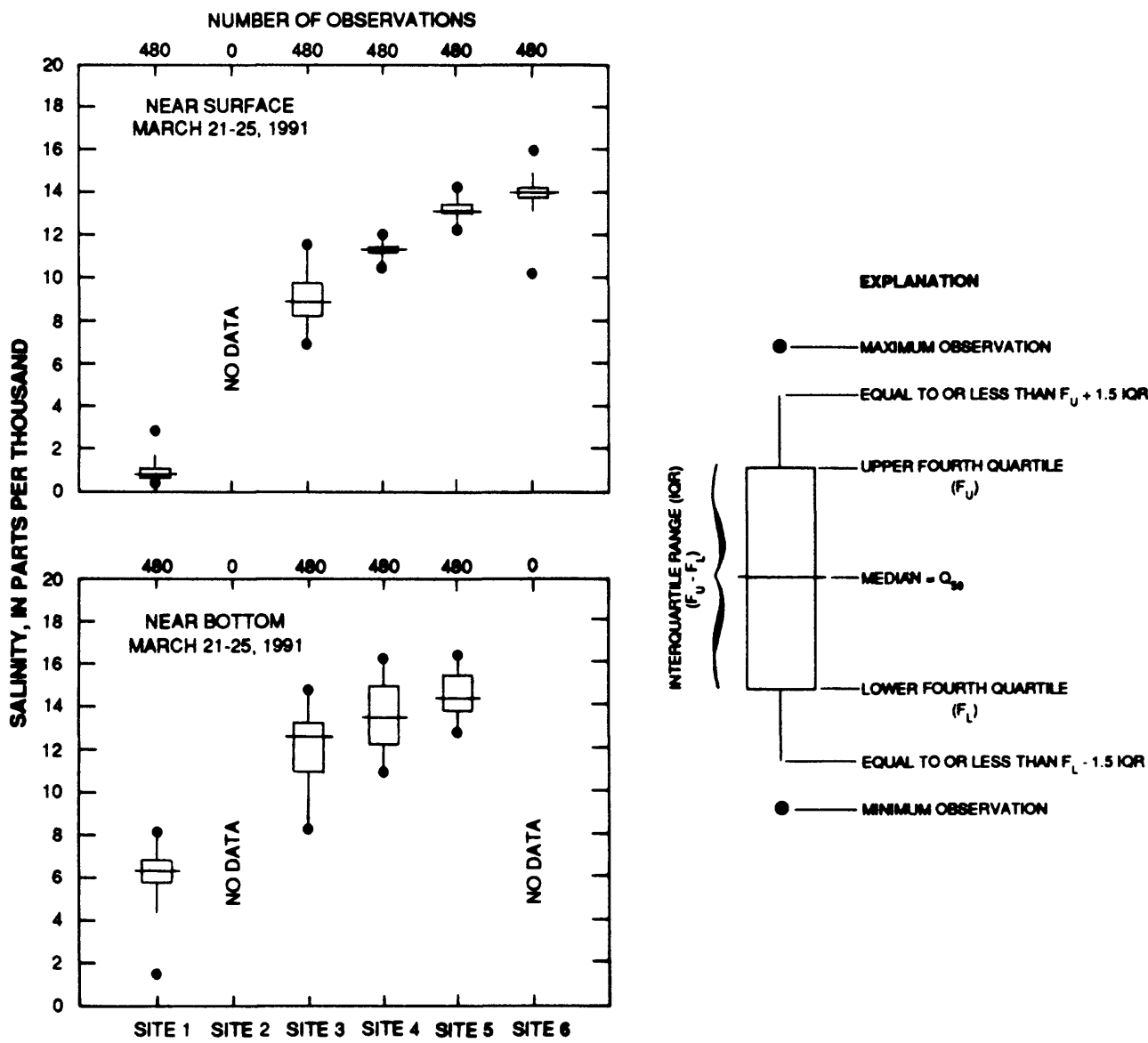


Figure 5.--Salinity concentrations at the Pamlico River estuary monitoring sites for March 21-25, 1991.

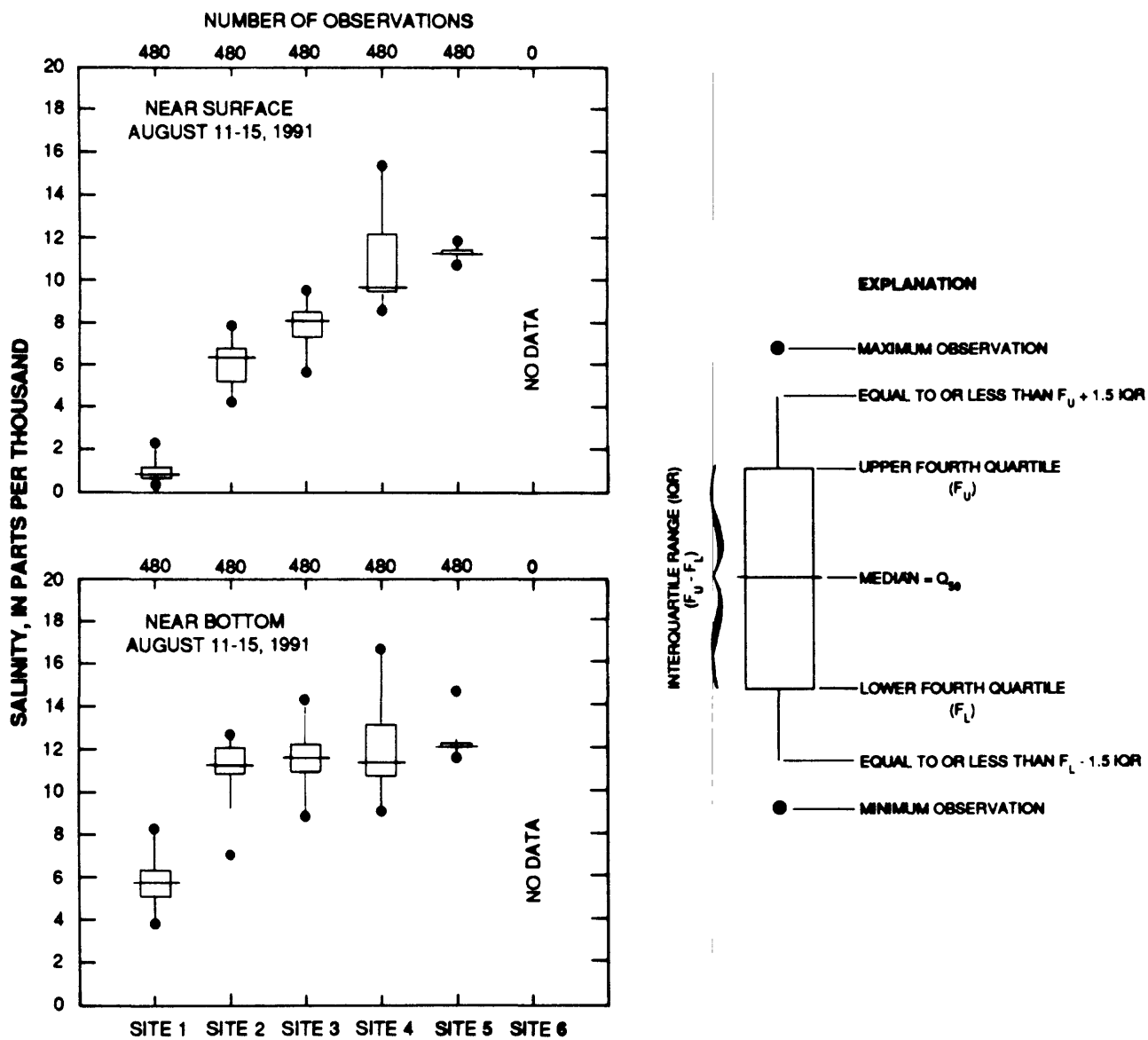


Figure 6.--Salinity concentrations at the Pamlico River estuary monitoring sites for August 11-15, 1991.

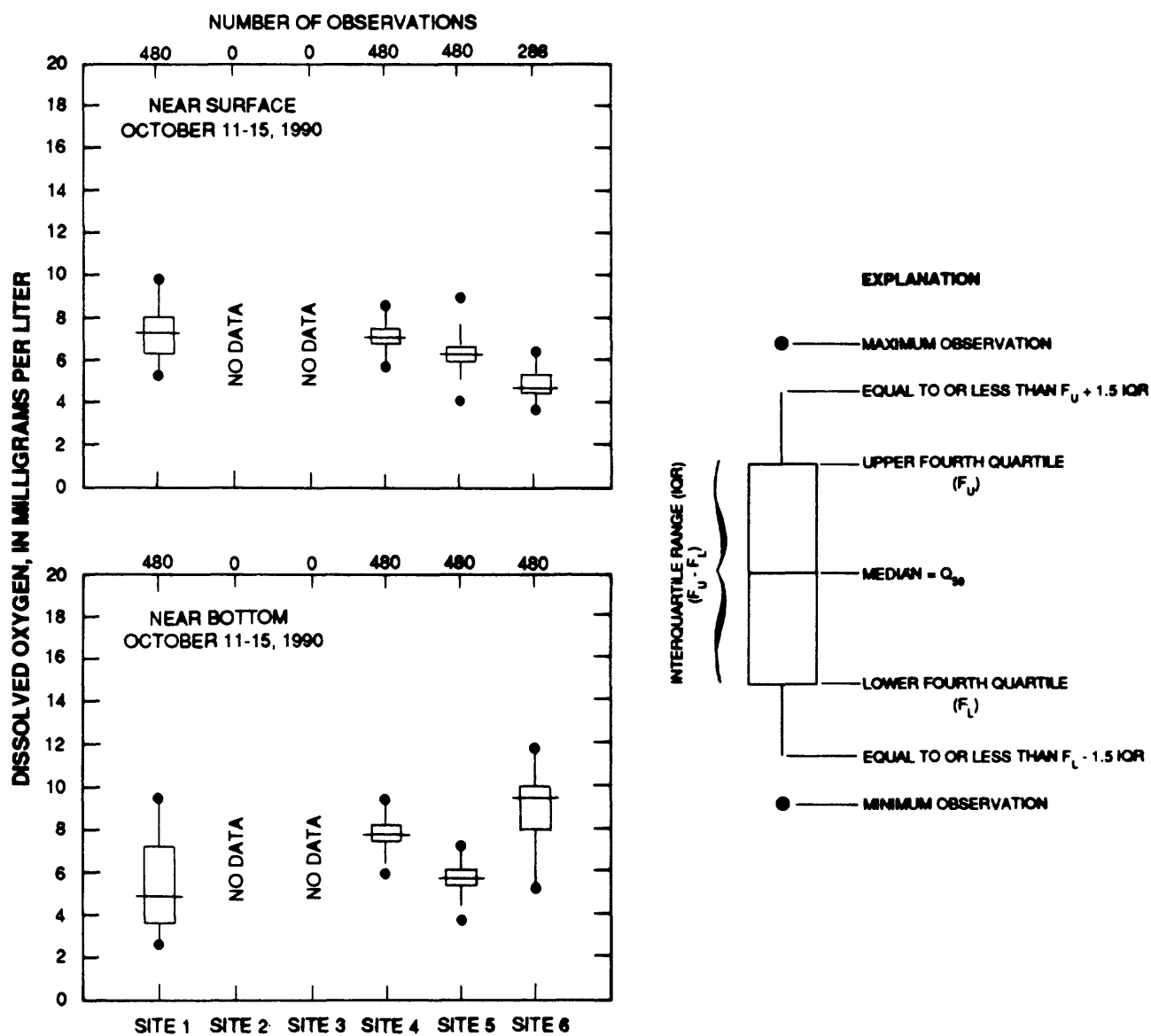


Figure 7.--Dissolved-oxygen concentrations at the Pamlico River estuary monitoring sites for October 11-15, 1990.

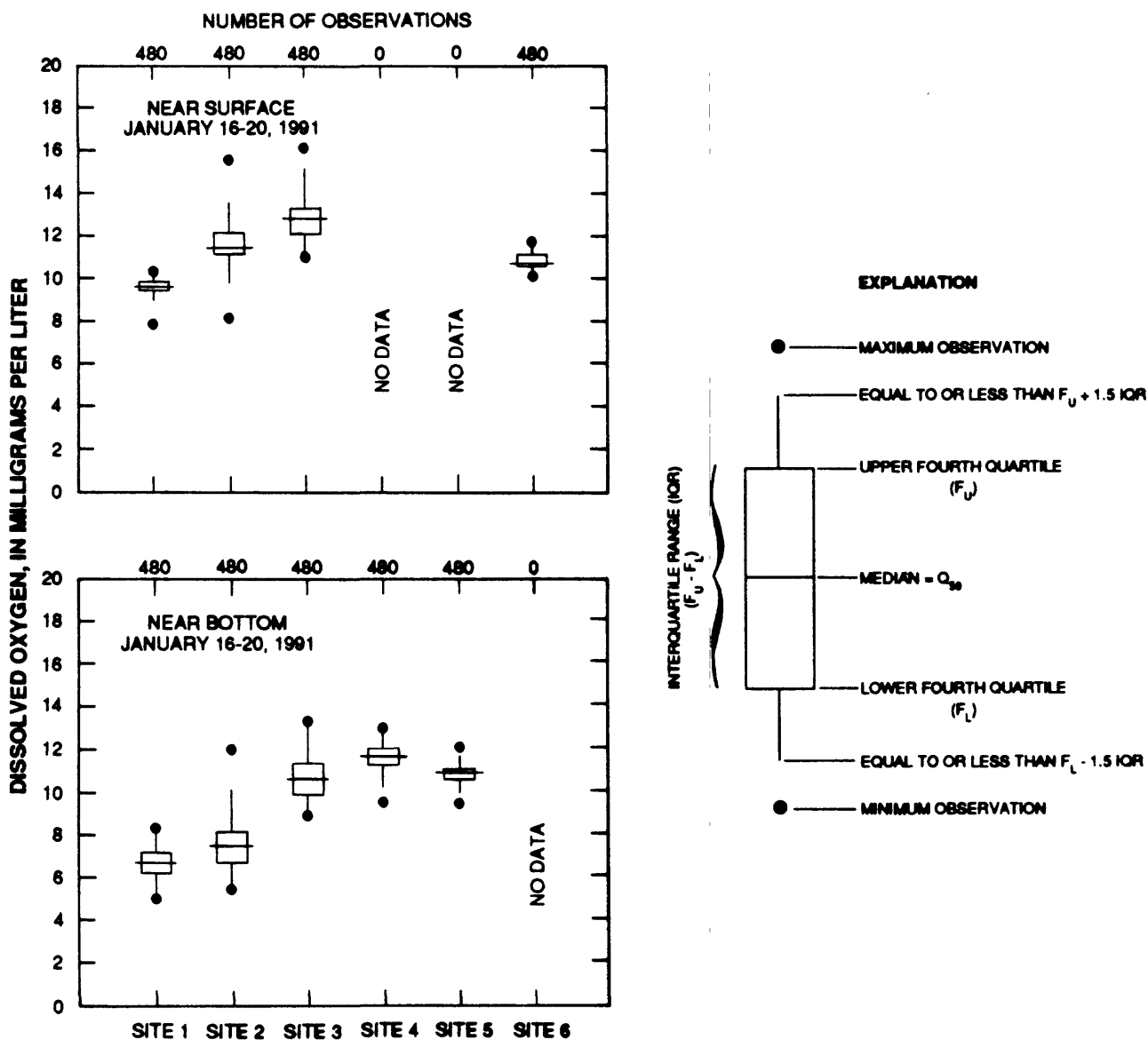


Figure 8.--Dissolved-oxygen concentrations at the Pamlico River estuary monitoring sites for January 16-20, 1991.

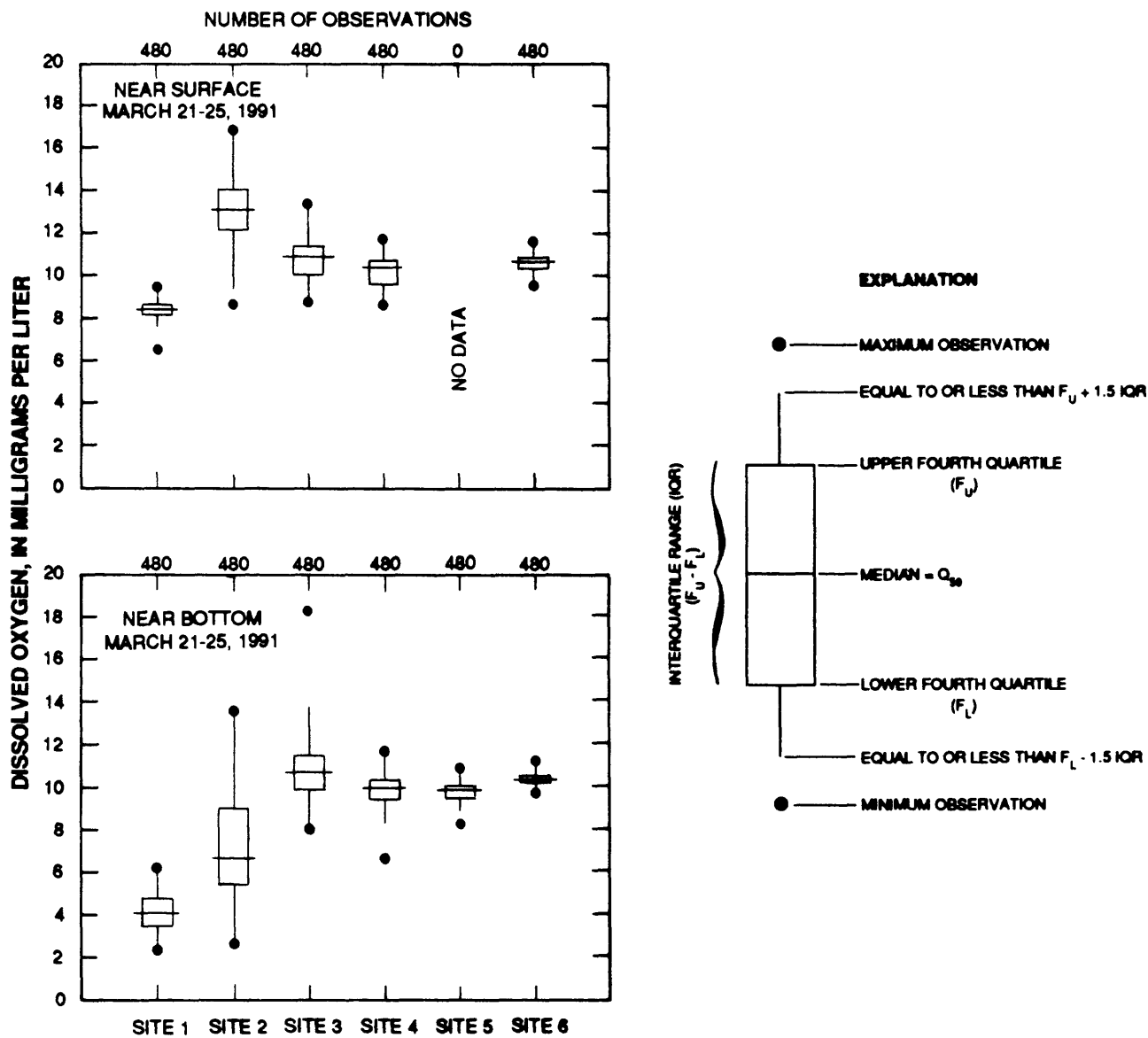


Figure 9.--Dissolved-oxygen concentrations at the Pamlico River estuary monitoring sites for March 21-25, 1991.

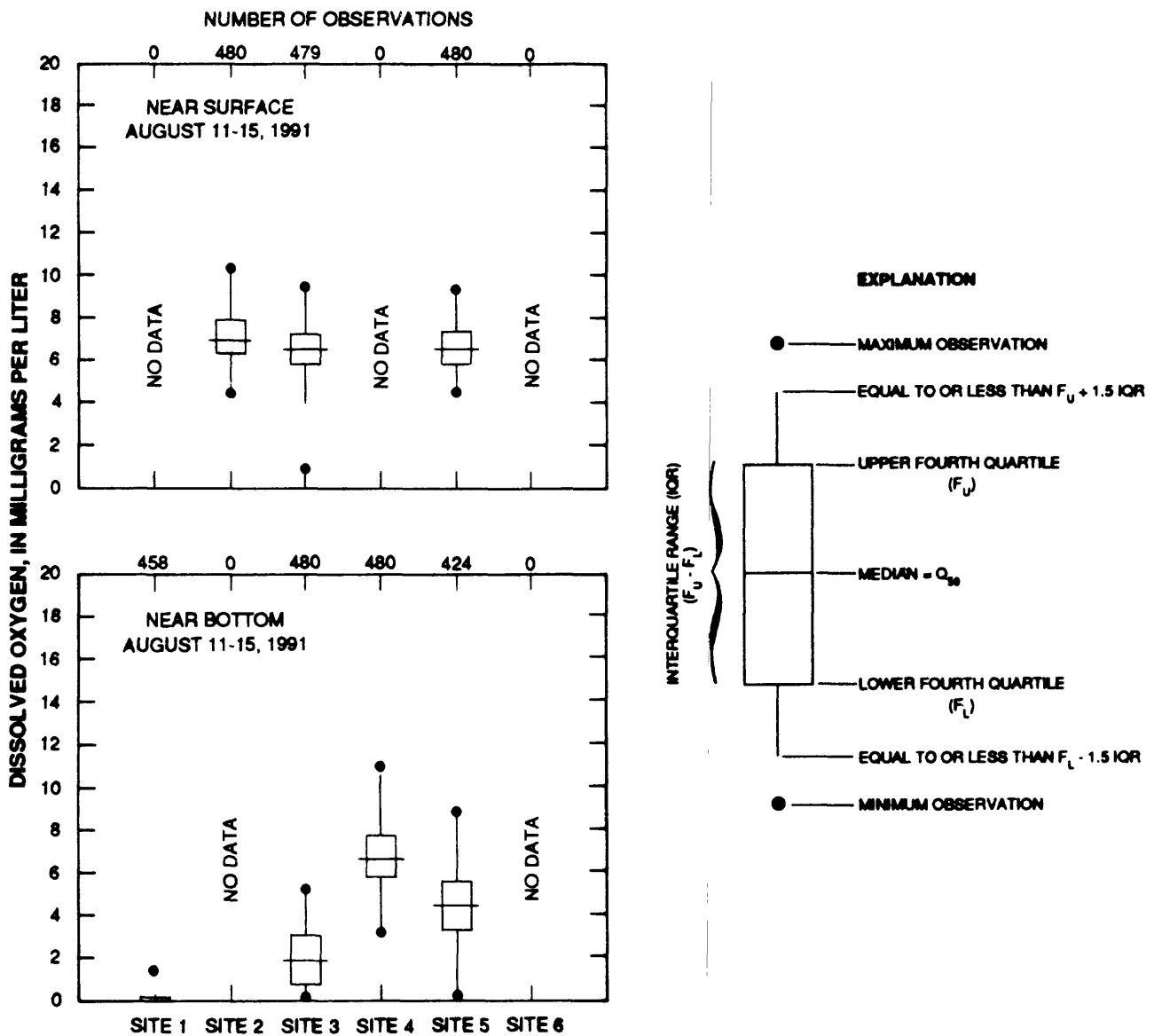


Figure 10.--Dissolved-oxygen concentrations at the Pamlico River estuary monitoring sites for August 11-15, 1991.

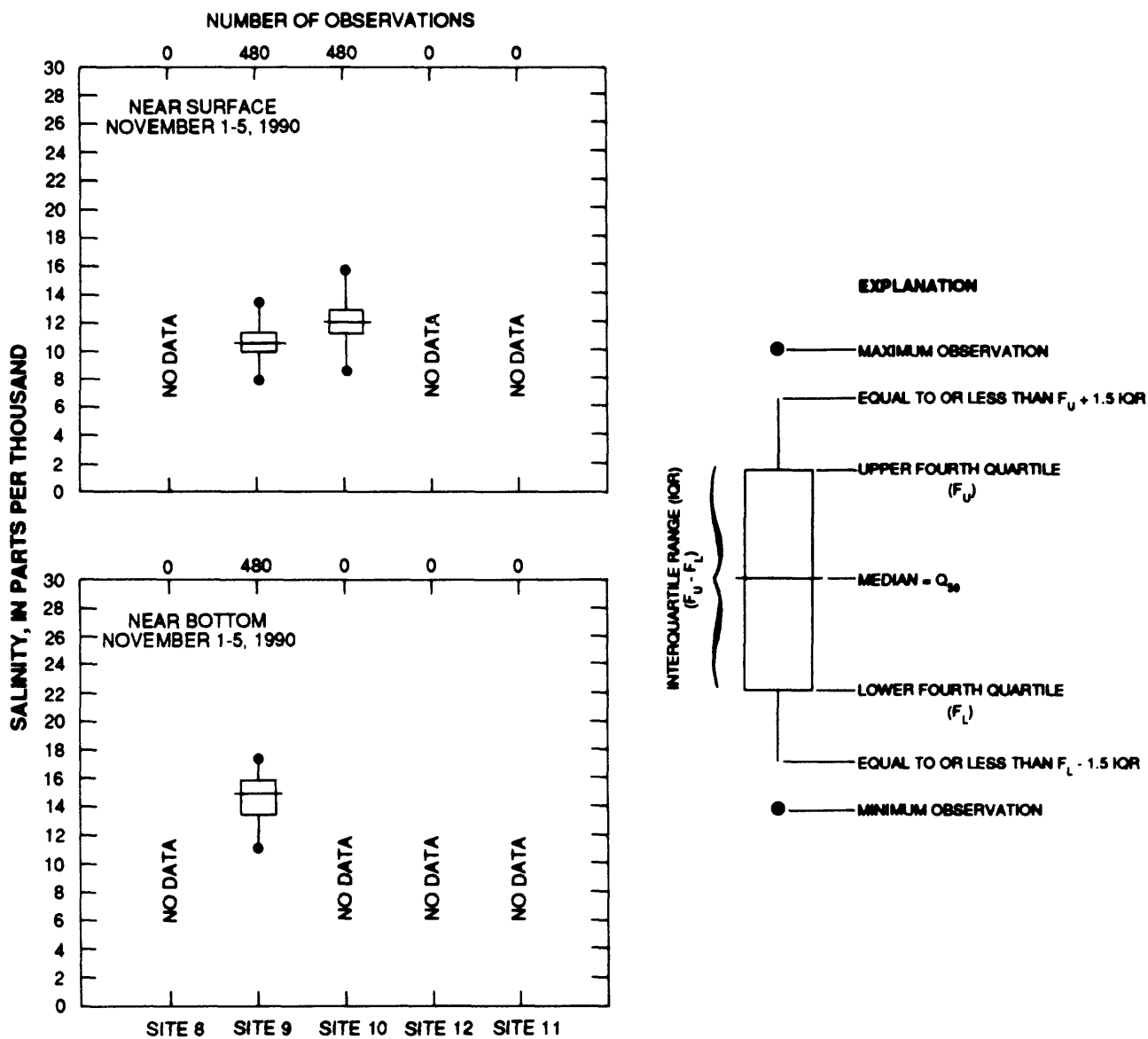


Figure 11.--Salinity concentrations at the Neuse River estuary monitoring sites for November 1-5, 1990.

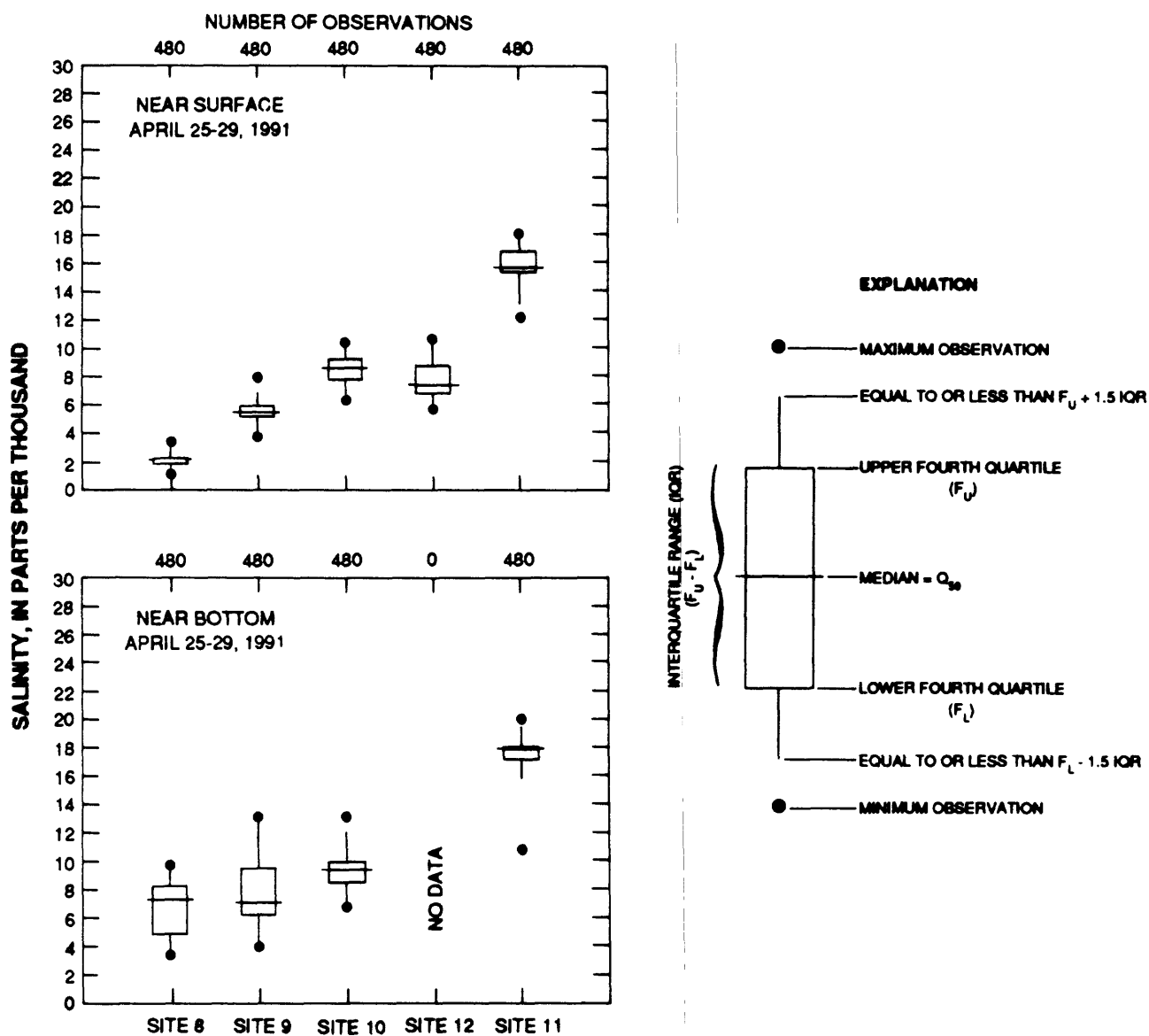


Figure 12.--Salinity concentrations at the Neuse River estuary monitoring sites for April 25-29, 1991.

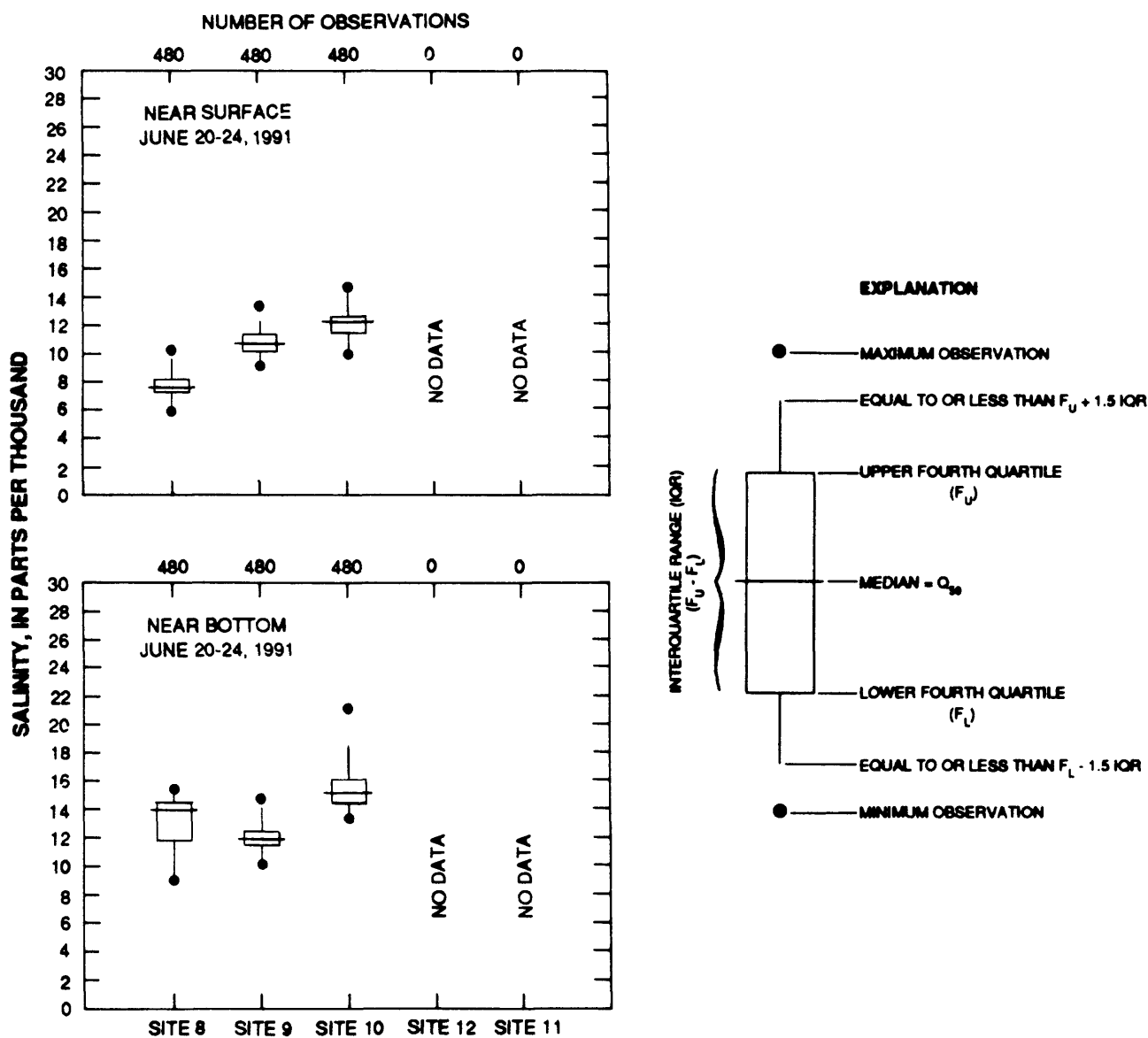


Figure 13.--Salinity concentrations at the Neuse River estuary monitoring sites for June 20-24, 1991.

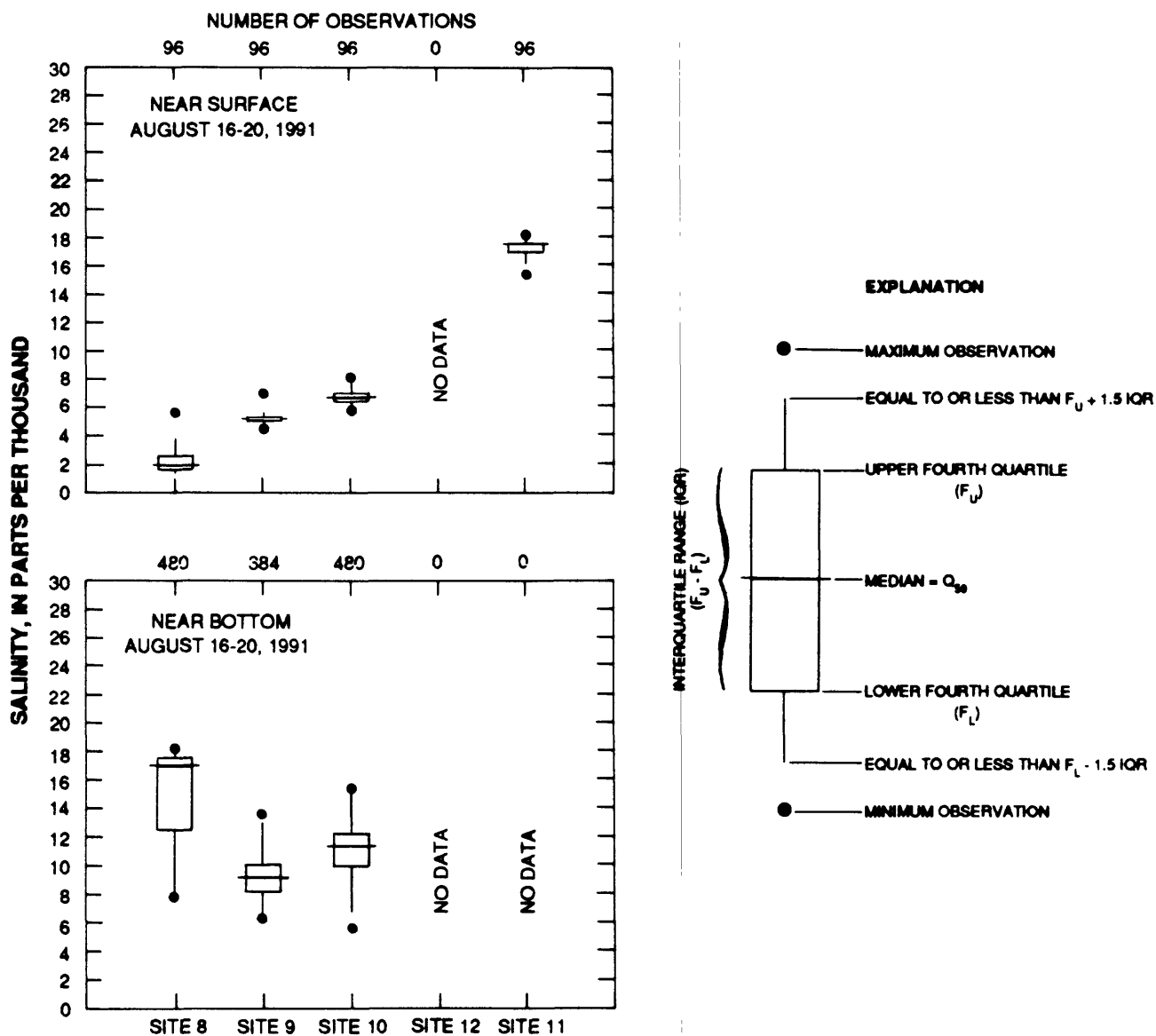


Figure 14.--Salinity concentrations at the Neuse River estuary monitoring sites for August 16-20, 1991.

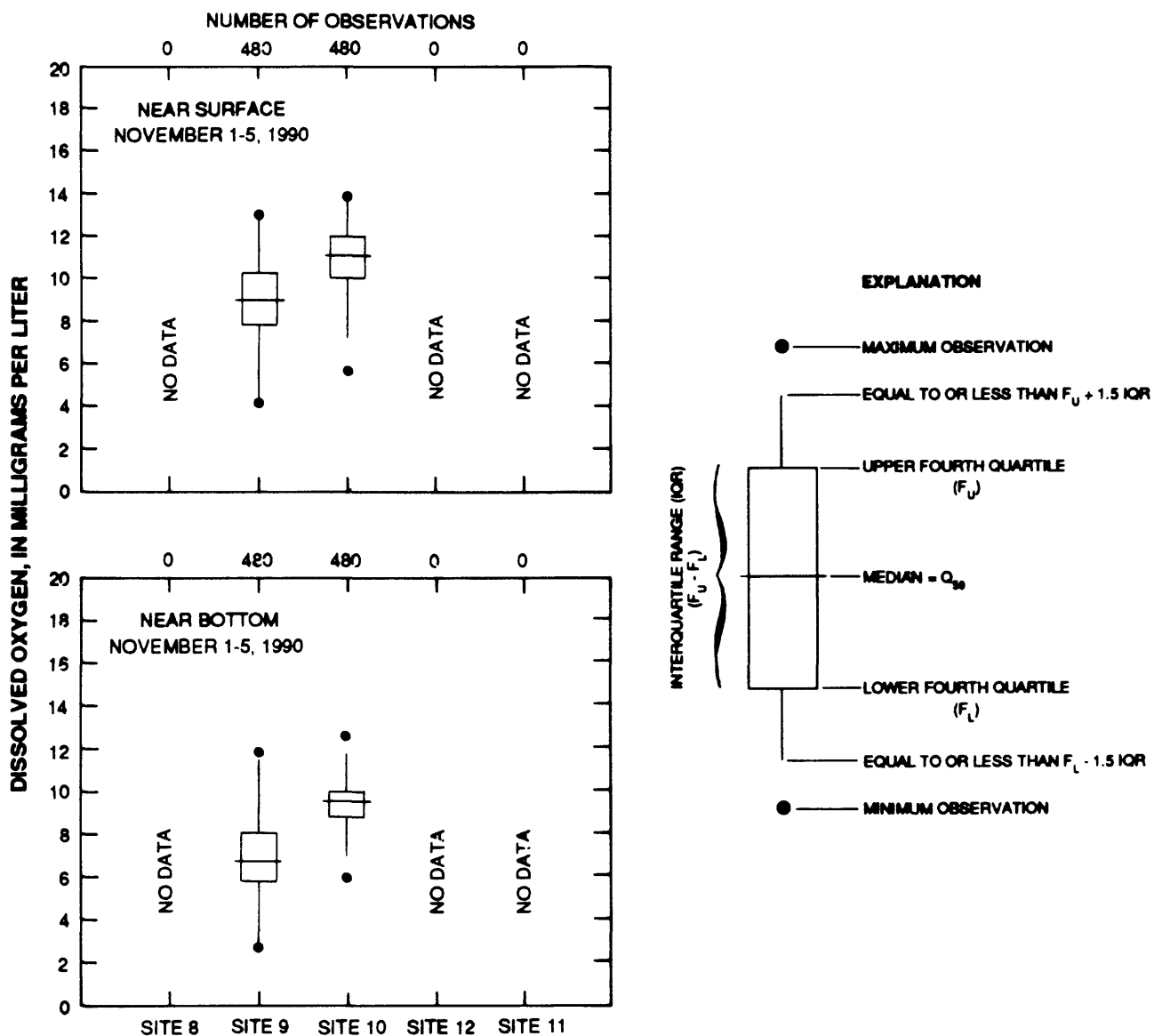


Figure 15.--Dissolved-oxygen concentrations at the Neuse River estuary monitoring sites for November 1-5, 1990.

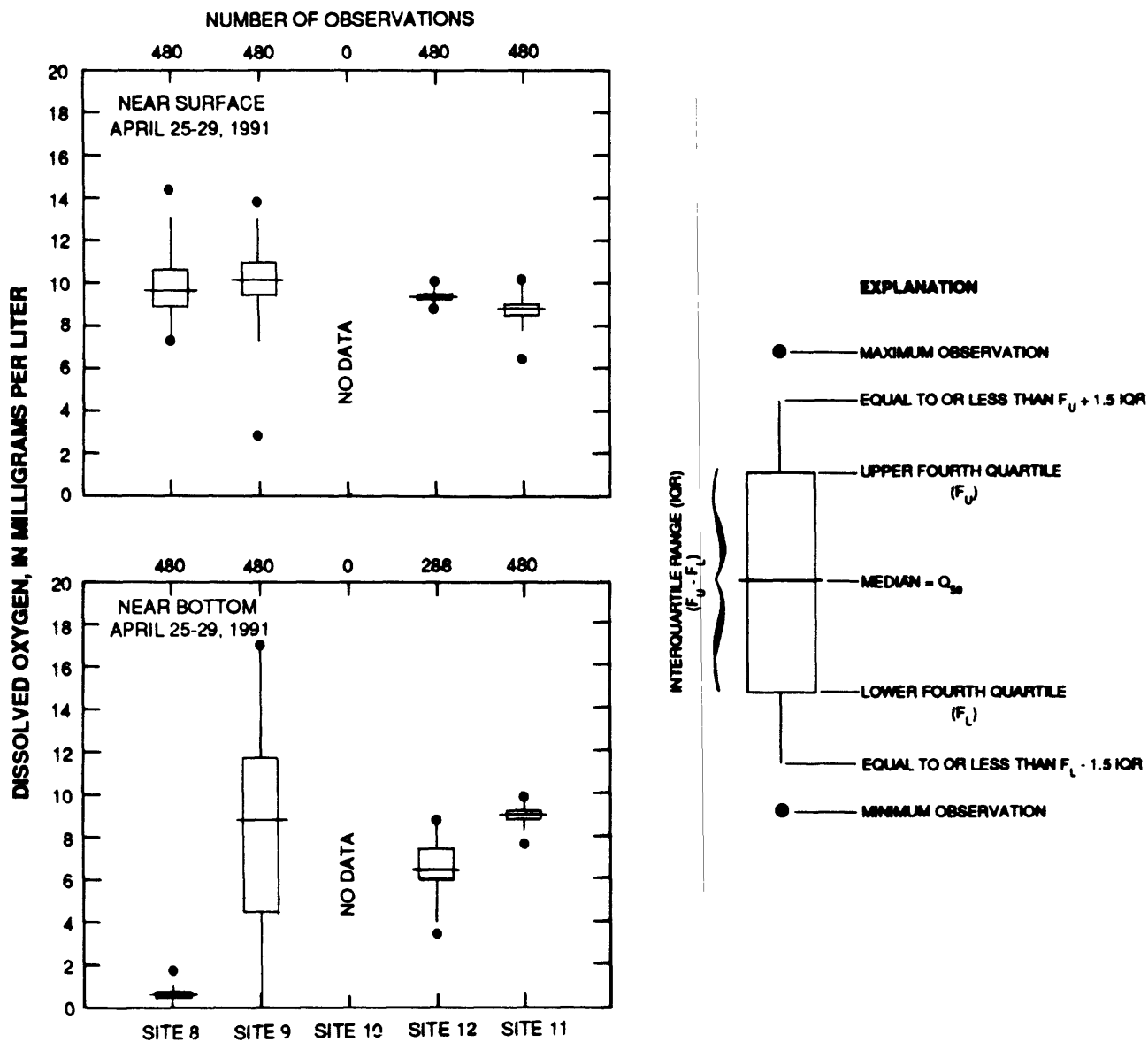


Figure 16.--Dissolved-oxygen concentrations at the Neuse River estuary monitoring sites for April 25-29, 1991.

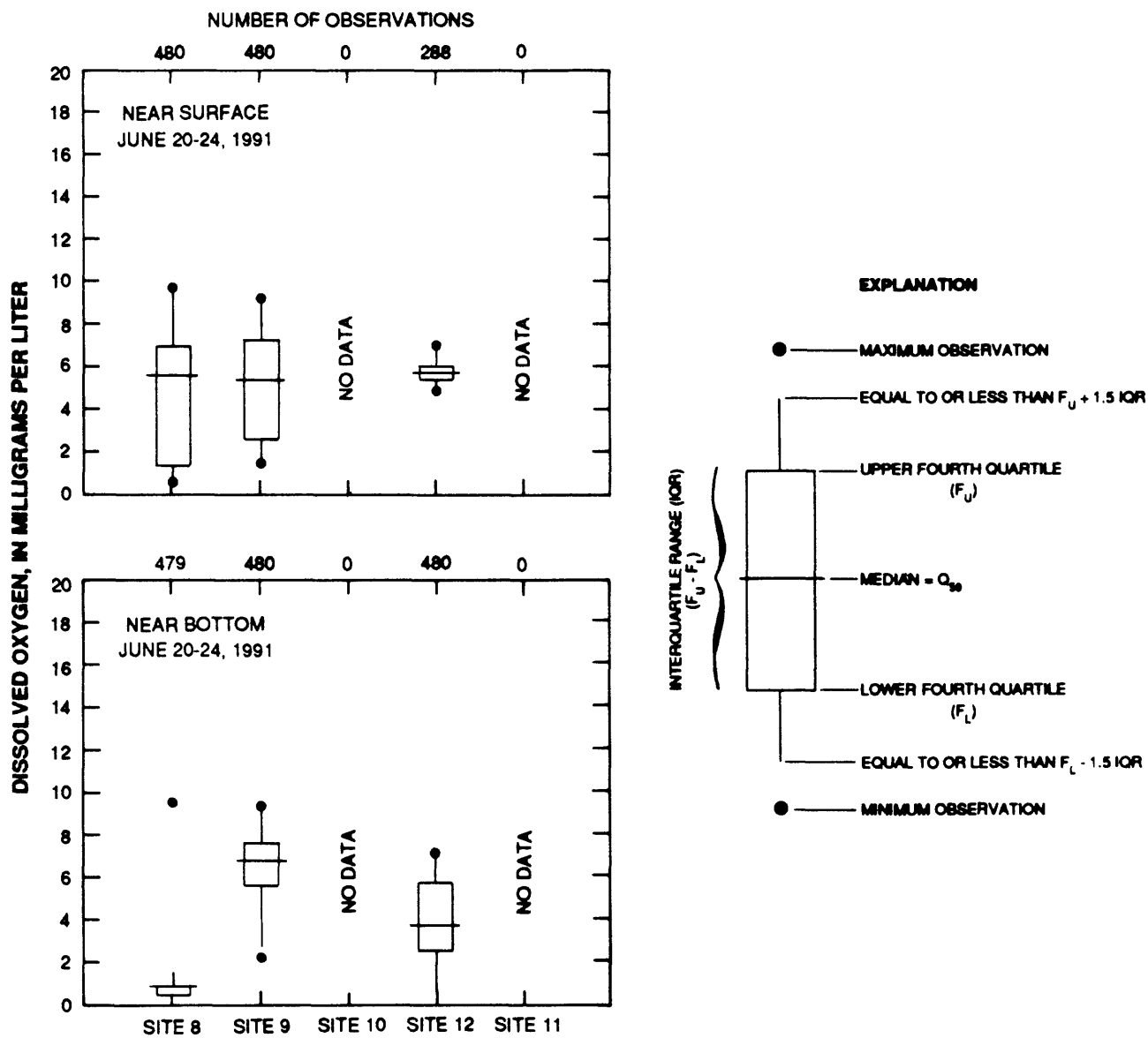


Figure 17.--Dissolved-oxygen concentrations at the Neuse River estuary monitoring sites for June 20-24, 1991.

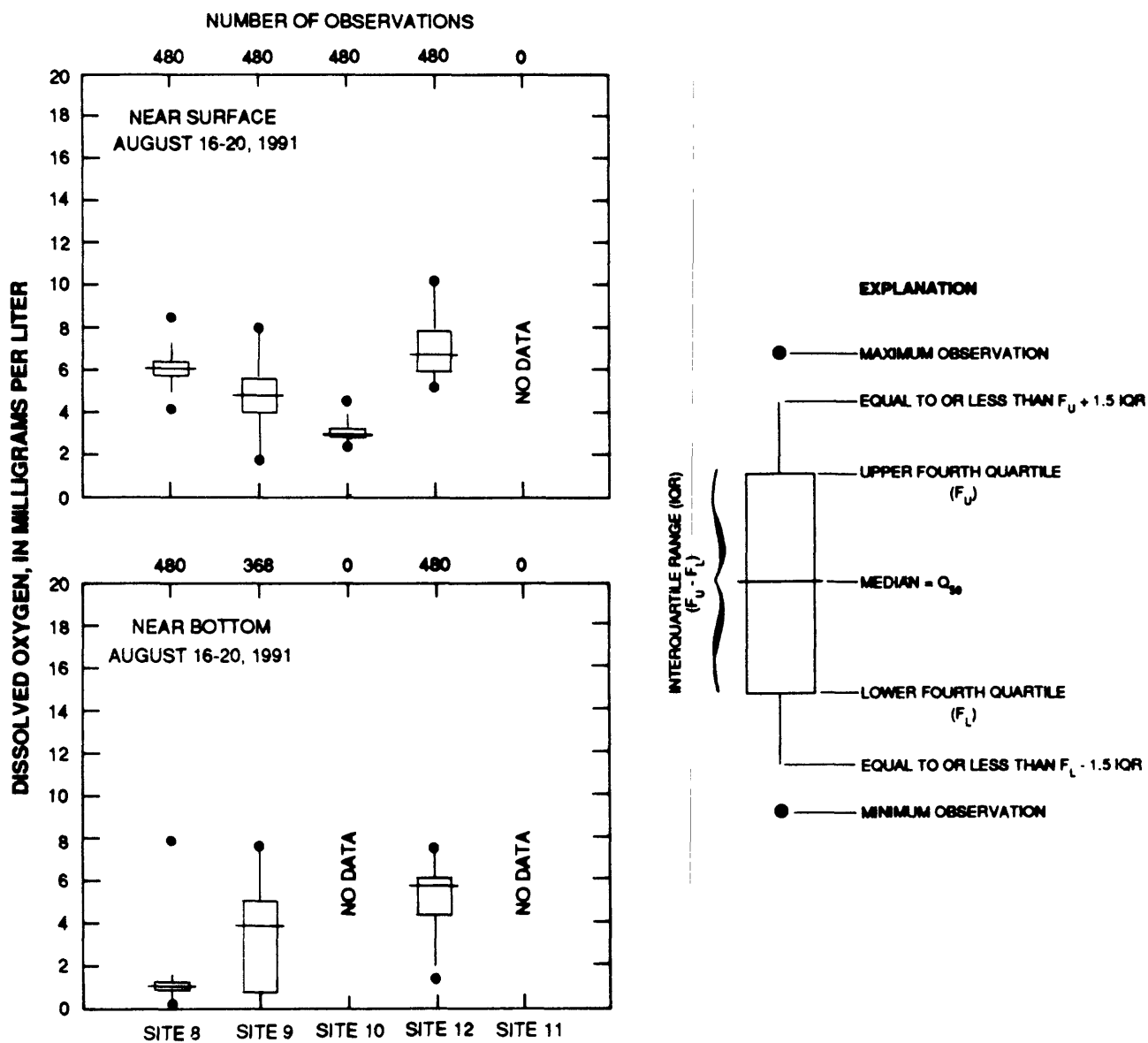


Figure 18.--Dissolved-oxygen concentrations at the Neuse River estuary monitoring sites for August 16-20, 1991.

Daily Mean Values

Daily mean values of salinity; water temperature; dissolved-oxygen concentrations; and dissolved oxygen, percent saturation, are presented for each of the 11 active sites (tables 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, and 23). Any significant changes that occur in these values at time scales of minutes and hours are not represented by the daily mean values. Mean values do, however, give a good indication of general conditions at a site so that a reasonable summary of the large amount of data collected can be presented. The instantaneous maximum and minimum values recorded for the period are listed in each table, and days during which instantaneous dissolved-oxygen concentrations were less than 5.0 mg/L and 2.0 mg/L are also noted.

Each numbered table contains all of the daily mean values for one site. Within each table, the data, if available, are presented in the form of one constituent per water year per page in the following order:

- Salinity, near surface
- Salinity, near bottom
- Water temperature, near surface
- Dissolved oxygen, near surface
- Dissolved oxygen, percent saturation, near surface
- Dissolved oxygen, mid-depth
- Dissolved oxygen, percent saturation, mid-depth
- Dissolved oxygen, near bottom
- Dissolved oxygen, percent saturation, near bottom

Each page within a given table contains the following information, some of which is repeated from page to page:

- Site location information
- USGS downstream order number
- Explanation of abbreviations used in the table
- Constituent for which data are presented in the table
- Distance above the streambed at which the sensor is located
- Observed extreme recorded values
- Tabulated daily mean values

At the end of the data table for each station, graphs are presented to illustrate the annual variation of each of the constituents (figures 19-51).

Salinity concentrations are given as parts per thousand; water temperature is expressed as degrees Celsius; dissolved-oxygen concentrations are presented as milligrams per liter; and dissolved oxygen, percent saturation, is given as percent. No correction for the effects of salinity on dissolved oxygen has been made in the data presented in this report.

Mean Day-Night Values

Five-day mean values of near-surface water temperature and near-surface, mid-depth, and near-bottom dissolved-oxygen concentrations for day and night conditions are presented for each of the 11 sites (tables 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, and 24). The means were calculated using values from 9:15 a.m. through 9:00 p.m. as day-time values and 9:15 p.m. through 9:00 a.m. as night-time values. If the 5-day period had missing data, then the mean was calculated using the data that were available during that time period. These data are presented to illustrate the diurnal variation in dissolved-oxygen concentrations that takes place.

Table 3.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 1, Pamlico River at Channel Light 16, October 1990-September 1991

[Site 1 is at latitude 35°30'30", longitude 77°01'12", Beaufort County; U.S. Geological Survey downstream order number 0208450705; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

SALINITY, NEAR SURFACE

SENSOR POSITION.--6 feet above streambed.

EXTREMES FOR OCTOBER 1990-SEPTEMBER 1991.--Maximum value recorded, 13.2 ppt February 11, 1991; minimum value recorded, 0.1 ppt May 5, 6, 8, June 1, 1991.

DAILY MEAN VALUES OF SALINITY, NEAR SURFACE (IN PARTS PER THOUSAND), OCTOBER 1990-SEPTEMBER 1991

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	4.3	---	---	3.8	5.6	---	0.5	0.3	0.6	1.9	0.4	2.1
2	4.4	---	---	5.8	4.0	---	.4	.3	.8	---	.5	3.3
3	5.0	---	---	3.8	3.3	---	.4	.7	1.0	2.2	.5	3.5
4	5.0	---	---	4.8	3.5	---	.4	.7	1.2	3.0	1.3	2.8
5	4.8	---	---	4.1	3.6	---	.4	.3	2.4	2.2	---	2.0
6	4.4	---	---	4.7	3.6	---	.5	.2	---	2.6	1.9	2.1
7	4.7	---	---	---	3.6	---	.5	---	---	3.8	1.5	2.8
8	4.5	---	---	6.9	4.3	---	---	.2	---	4.4	1.1	3.0
9	4.9	---	---	6.1	7.1	---	---	---	---	6.4	.8	2.0
10	5.2	---	---	---	5.9	---	---	---	---	6.6	.6	---
11	5.4	---	---	5.9	8.9	---	---	---	---	5.4	.8	---
12	5.6	---	---	3.8	9.4	---	---	---	---	5.9	.7	---
13	5.2	---	---	5.4	10.3	---	---	---	4.0	6.0	.9	---
14	4.3	---	---	4.5	6.7	---	---	---	5.2	5.7	1.4	3.6
15	4.3	---	---	3.7	7.2	---	---	---	4.6	5.5	1.0	3.5
16	5.2	---	---	3.6	6.4	---	---	---	3.9	5.9	1.6	3.5
17	6.0	---	---	5.0	5.7	---	---	---	3.9	5.5	1.1	---
18	---	---	---	4.3	5.5	---	---	---	3.8	4.8	.8	---
19	---	---	---	3.3	5.3	---	---	---	3.8	4.2	1.4	---
20	---	---	6.1	3.2	4.3	---	---	---	3.1	3.5	1.2	---
21	---	---	5.5	4.7	3.9	0.8	---	---	2.9	3.9	.8	---
22	---	---	4.9	4.0	---	.7	---	---	2.4	4.0	1.1	3.0
23	---	---	4.5	---	---	.5	---	---	2.3	4.4	1.1	---
24	---	---	2.7	3.0	---	1.1	---	---	3.3	4.3	.9	---
25	---	---	3.4	4.0	---	1.5	---	---	3.6	4.5	.9	---
26	---	---	2.6	3.4	---	1.8	---	---	3.3	4.7	.7	---
27	---	---	5.0	3.7	---	.9	.5	---	3.1	4.4	.8	---
28	---	---	6.0	3.2	---	.6	.5	---	2.6	3.0	.8	---
29	---	---	5.0	3.1	---	.6	.5	---	2.0	1.8	.4	1.4
30	---	---	6.3	3.4	---	.5	.4	---	1.7	1.7	---	1.5
31	---	---	5.7	6.1	---	.5	---	---	---	1.0	1.3	---

Table 3.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 1, Pamlico River at Channel Light 16, October 1990-September 1991--Continued

[Site 1 is at latitude 35°30'30", longitude 77°01'12", Beaufort County; U.S. Geological Survey downstream order number 0208450705; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

SALINITY, NEAR BOTTOM

SENSOR POSITION.--1 foot above streambed.

EXTREMES FOR OCTOBER 1990-SEPTEMBER 1991.--Maximum value recorded, 13.5 ppt December 17, 1990; minimum value recorded, 0.1 ppt May 17, 1991.

DAILY MEAN VALUES OF SALINITY, NEAR BOTTOM (IN PARTS PER THOUSAND), OCTOBER 1990-SEPTEMBER 1991

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	6.9	---	10.9	10.6	7.3	6.7	3.1	0.4	3.1	4.1	7.0	6.5
2	7.2	---	11.9	10.6	6.3	---	1.0	.6	3.5	---	7.1	6.8
3	6.8	---	10.9	10.4	6.9	---	.7	.9	3.6	3.9	6.9	5.6
4	5.5	---	7.8	11.1	7.4	3.0	.4	1.0	3.9	4.3	7.5	4.4
5	5.5	---	7.8	11.3	7.5	5.4	.4	.6	4.4	4.2	---	4.6
6	6.0	---	10.8	11.4	7.8	4.4	.4	.4	---	5.5	7.3	5.7
7	5.5	---	11.1	---	7.5	3.3	.5	---	---	6.5	4.4	6.2
8	5.8	---	11.8	11.4	8.3	6.2	---	1.4	---	7.6	4.4	6.0
9	5.5	---	11.4	8.5	9.2	6.6	---	.9	---	9.4	2.9	6.0
10	5.6	---	11.5	10.0	10.8	6.6	---	.6	---	9.8	3.0	5.7
11	5.9	---	12.5	10.0	12.4	4.8	---	.6	---	9.6	4.9	5.4
12	5.8	---	12.4	9.3	12.9	4.9	2.2	.5	---	9.5	5.4	5.8
13	6.0	---	12.4	11.3	11.5	5.4	1.4	1.2	5.0	7.5	6.4	5.6
14	6.8	---	13.0	11.6	8.3	5.8	1.3	1.0	5.3	7.6	5.8	4.6
15	7.4	---	12.9	11.8	8.8	7.0	1.8	1.0	5.0	8.1	6.6	4.7
16	8.0	---	12.9	10.9	6.0	6.9	1.2	1.1	4.5	7.1	8.9	4.2
17	7.2	---	13.3	11.1	9.2	6.7	---	.5	4.5	6.3	9.2	4.1
18	---	---	12.0	10.9	8.3	4.4	---	.7	4.5	6.3	9.6	---
19	---	---	---	11.0	7.7	4.3	---	1.0	4.7	6.7	7.8	3.9
20	---	---	10.6	10.5	7.1	5.2	---	1.3	4.8	6.2	3.6	3.5
21	---	11.8	10.9	7.2	7.1	6.1	---	1.4	4.8	6.7	4.2	4.9
22	---	11.7	10.9	8.0	7.6	5.9	---	1.0	4.6	7.0	6.4	4.4
23	---	11.3	10.6	---	7.8	6.2	---	.6	4.9	7.3	6.0	5.1
24	---	11.5	6.9	7.3	7.3	5.6	---	---	4.5	7.5	5.5	4.6
25	---	11.4	9.3	8.0	7.3	6.6	---	---	4.4	6.5	5.1	3.7
26	---	11.6	11.7	8.3	7.2	5.8	---	---	3.6	5.9	4.8	3.0
27	---	11.8	11.5	8.2	7.2	2.3	.5	---	3.0	5.7	3.8	3.9
28	---	10.9	11.2	7.0	6.6	2.7	.5	---	2.6	6.3	2.3	4.9
29	---	9.9	11.2	7.1	---	2.4	.5	---	2.7	5.7	2.3	4.8
30	---	10.7	10.7	7.3	---	.7	.5	1.8	3.4	6.1	---	4.4
31	---	---	10.3	6.2	---	2.4	---	2.2	---	6.4	5.3	---

Table 3.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 1, Pamlico River at Channel Light 16, October 1990-September 1991--Continued

[Site 1 is at latitude 35°30'30", longitude 77°01'12", Beaufort County; U.S. Geological Survey downstream order number 0208450705; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

WATER TEMPERATURE, NEAR SURFACE

SENSOR POSITION.--6 feet above streambed.

EXTREMES FOR OCTOBER 1990-SEPTEMBER 1991.--Maximum value recorded, 32.1 °C, July 23, 1991; minimum value recorded, 3.5 °C December 5, 1990.

DAILY MEAN VALUES OF WATER TEMPERATURE, NEAR SURFACE (IN DEGREES CELSIUS), OCTOBER 1990-SEPTEMBER 1991

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	22.3	---	11.5	10.6	10.2	12.6	---	---	28.8	29.3	25.3	28.4
2	22.6	---	12.6	10.5	10.7	---	---	---	28.9	---	25.1	26.2
3	22.3	---	13.6	10.4	11.7	---	---	---	28.5	29.6	25.4	25.9
4	22.5	---	13.9	10.0	12.0	12.8	---	---	28.4	29.5	26.1	26.4
5	23.0	---	9.0	9.5	12.5	13.0	---	---	26.1	29.8	---	27.6
6	22.9	---	10.5	10.1	12.7	12.1	---	---	24.8	29.2	30.0	27.7
7	23.9	---	10.6	---	12.6	12.8	---	---	23.9	29.5	28.9	27.4
8	24.3	---	11.0	9.1	12.4	13.5	---	25.0	24.0	29.7	28.2	26.5
9	24.5	---	10.2	8.2	12.5	12.9	19.2	24.4	24.4	29.3	28.4	26.2
10	24.4	---	10.2	8.8	12.6	11.5	21.8	24.2	24.4	30.1	29.0	---
11	24.3	---	10.1	9.3	12.1	10.0	20.8	24.5	25.7	30.4	29.4	27.2
12	24.4	---	10.1	9.7	10.6	9.4	19.2	24.6	25.7	29.9	28.4	27.7
13	24.9	---	10.8	9.4	11.7	9.8	18.9	25.1	25.7	29.8	27.7	27.1
14	25.4	---	10.4	8.7	12.9	9.9	---	25.6	26.2	29.9	28.5	27.2
15	24.7	---	10.0	8.5	---	9.8	---	26.4	27.1	29.3	28.5	27.8
16	23.6	---	11.0	9.2	---	10.7	---	26.5	27.5	28.6	28.1	27.9
17	22.9	---	10.1	9.1	7.2	10.7	---	26.9	27.9	28.1	28.6	28.3
18	---	---	11.3	8.6	8.6	10.3	---	27.4	28.2	28.6	28.5	---
19	---	---	---	7.9	10.4	11.0	---	25.1	28.2	28.7	28.1	28.8
20	---	---	12.3	8.2	14.0	12.1	---	23.0	27.6	28.6	27.5	26.4
21	---	12.0	12.6	8.2	15.1	13.3	---	22.7	27.7	29.1	27.7	23.4
22	---	12.2	13.7	7.2	14.2	14.0	---	23.6	28.5	29.5	27.7	22.3
23	---	12.3	14.8	---	12.7	15.2	---	24.9	27.9	30.3	27.7	22.7
24	---	12.5	13.5	9.6	11.9	15.4	---	25.4	26.4	30.2	27.1	23.4
25	---	12.4	11.6	9.3	12.7	15.7	---	26.1	25.8	30.1	27.1	24.0
26	---	12.6	10.8	8.5	11.2	15.9	---	26.7	25.6	29.5	27.0	24.1
27	---	13.2	10.2	8.8	11.0	16.9	---	27.5	26.1	29.0	27.0	22.6
28	---	14.4	10.4	9.0	12.0	17.8	---	27.9	27.0	28.5	27.6	21.5
29	---	15.2	10.2	9.1	---	18.2	---	28.8	28.1	28.2	27.6	21.2
30	---	12.7	11.7	9.6	---	---	---	28.4	29.3	27.3	---	21.5
31	---	---	13.0	10.8	---	---	---	28.9	---	26.0	29.0	---

Table 3.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 1, Pamlico River at Channel Light 16, October 1990-September 1991--Continued

[Site 1 is at latitude 35°30'30", longitude 77°01'12", Beaufort County; U.S. Geological Survey downstream order number 0208450705; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

DISSOLVED OXYGEN, NEAR SURFACE

SENSOR POSITION.--6 feet above streambed.

EXTREMES FOR OCTOBER 1990-SEPTEMBER 1991.--Maximum value recorded, 19.4 mg/L January 6, 1991; minimum value recorded, <1.0 mg/L May 30, June 1, 2, 4, July 4, 1991.

DAILY MEAN VALUES OF DISSOLVED OXYGEN, NEAR SURFACE (IN MILLIGRAMS PER LITER), OCTOBER 1990-SEPTEMBER 1991

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	6.8b	---	9.9	11.2	10.3	12.3	8.2	7.6	3.8a	7.8	---	---
2	7.5b	---	11.1	10.9	10.5	---	9.2	7.3	2.9a	---	---	---
3	6.6b	---	9.7	10.7	10.4	---	10.3	7.7	2.9a	6.7b	---	---
4	5.7b	---	8.4	10.8	10.3	11.4	---	8.5	4.2a	5.1a	---	---
5	6.8b	---	9.1	10.2	10.3	10.7	---	8.9	4.4a	5.7b	---	---
6	7.4b	---	9.8	11.7	10.4	9.6	---	8.0	4.9b	---	---	---
7	6.4b	---	10.1	---	10.7	9.8	---	---	5.6b	---	---	---
8	6.2b	---	8.8	8.6	10.5	10.1	---	8.1	6.4	---	---	---
9	5.9b	---	9.7	11.0	9.2	10.1	9.5	8.4	5.1b	---	---	---
10	5.5	---	11.0	11.7	9.5	9.1	9.4	8.4	5.3b	---	---	---
11	6.1	---	12.2	10.0	8.6	9.5	8.7	8.6	5.5b	5.8b	---	---
12	6.8	---	12.2	9.9	9.7	9.8	9.4	8.9	7.1b	5.1b	---	---
13	7.6	---	12.0	9.2	11.4	10.2	10.9	9.2	8.9	3.3a	---	7.6
14	8.0	---	11.5	9.2	11.1	10.2	9.8	9.1	8.1	4.2a	---	6.5b
15	7.8	---	11.1	9.3	---	9.9	9.9	8.8	7.8	---	---	7.4b
16	7.6	---	11.4	9.7	---	9.8	10.6	7.1	7.2b	---	---	6.4b
17	7.4	---	11.9	9.2	13.0	9.9	11.7	7.1	6.8b	---	---	6.4
18	---	---	12.7	9.4	13.8	10.1	11.0	7.0b	6.9b	---	---	---
19	---	---	12.0	9.5	13.8	9.6	11.0	4.9b	5.8b	---	---	6.3b
20	---	---	11.1	9.8	11.8	9.4	9.8	5.5b	6.7b	3.1a	---	6.6
21	---	10.3	10.9	9.6	11.8	9.0	9.3	5.6b	4.6a	4.4b	---	7.4
22	---	10.9	13.5	10.3	11.6	8.5	8.2	5.1b	6.7a	3.9b	---	8.1
23	---	10.4	14.0	---	12.3	8.4	7.9	4.6b	6.0b	4.4a	---	7.9
24	---	8.9	10.1	10.1	11.9	8.0	7.6	5.4b	5.8b	5.6b	---	9.1
25	---	9.6	10.8	10.6	13.4	7.9	7.8	5.5b	6.7b	5.9b	---	7.8
26	---	10.3	9.9	11.0	13.0	8.3	7.3	5.7b	6.2b	5.1b	---	6.8
27	---	10.8	9.5	10.7	12.9	7.7	7.1	5.1b	6.6b	4.0a	---	6.3
28	---	9.4	10.6	10.8	12.4	7.7	7.4	5.4b	7.2b	4.3a	---	6.4b
29	---	8.3	11.4	10.9	---	7.8	8.1	7.2b	7.9	---	---	6.0b
30	---	8.3	12.3	11.0	---	7.6	7.8	4.5a	9.0	---	---	5.4b
31	---	---	11.9	10.1	---	7.8	---	4.8b	---	---	---	---

Table 3.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 1, Pamlico River at Channel Light 16, October 1990-September 1991--Continued

[Site 1 is at latitude 35°30'30", longitude 77°01'12", Beaufort County; U.S. Geological Survey downstream order number 0208450705; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

DISSOLVED OXYGEN, PERCENT SATURATION, NEAR SURFACE

SENSOR POSITION.--6 feet above streambed.

EXTREMES FOR OCTOBER 1990-SEPTEMBER 1991.--Maximum value recorded, 185 percent of saturation December 22, 1990; minimum value recorded, ≤10 percent of saturation May 30, June 1, 2, 4, 1991.

DAILY MEAN VALUES OF DISSOLVED OXYGEN, PERCENT SATURATION, NEAR SURFACE (IN PERCENT), OCTOBER 1990-SEPTEMBER 1991

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	78	---	92	100	92	116	---	---	49	102	---	---
2	88	---	105	97	95	---	---	---	37	---	---	---
3	76	---	93	95	96	---	---	---	38	88	---	---
4	66	---	82	96	96	108	---	---	54	68	---	---
5	79	---	79	89	97	102	---	---	55	76	---	---
6	86	---	88	104	98	90	---	---	59	---	---	---
7	77	---	91	---	101	93	---	---	67	---	---	---
8	74	---	80	75	98	97	---	98	76	---	---	---
9	71	---	86	93	87	95	103	101	61	---	---	---
10	67	---	99	101	90	84	107	101	64	---	---	---
11	73	---	108	87	80	84	98	103	68	77	---	---
12	82	---	109	87	87	86	102	107	87	67	---	---
13	92	---	108	81	105	90	117	112	110	44	---	96
14	98	---	103	79	106	91	---	112	101	56	---	83
15	94	---	98	80	---	87	---	110	99	---	---	95
16	90	---	103	84	---	88	---	89	92	---	---	82
17	87	---	106	80	108	90	---	90	87	---	---	83
18	---	---	116	81	118	90	---	89	88	---	---	---
19	---	---	114	80	124	88	---	59	75	---	---	82
20	---	---	104	83	115	88	---	64	85	40	---	83
21	---	96	103	82	117	86	---	65	59	57	---	87
22	---	102	131	85	113	83	---	61	87	51	---	94
23	---	98	139	---	116	84	---	56	76	58	---	92
24	---	83	97	89	111	80	---	66	73	75	---	108
25	---	91	99	92	127	80	---	68	82	79	---	93
26	---	97	89	94	119	84	---	72	76	67	---	81
27	---	103	85	92	118	80	---	65	82	52	---	73
28	---	92	95	94	116	82	---	70	90	55	---	73
29	---	82	102	95	---	83	---	94	102	---	---	68
30	---	79	114	96	---	---	---	58	118	---	---	62
31	---	---	113	91	---	---	---	63	---	---	---	---

Table 3.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 1, Pamlico River at Channel Light 16, October 1990-September 1991--Continued

[Site 1 is at latitude 35°30'30", longitude 77°01'12", Beaufort County; U.S. Geological Survey downstream order number 0208450705; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

DISSOLVED OXYGEN, MID-DEPTH

SENSOR POSITION.--5 feet above streambed.

EXTREMES FOR OCTOBER 1990-SEPTEMBER 1991.--Maximum value recorded, 16.8 mg/L February 22, 1991; minimum value recorded, <1.0 mg/L October 1, 2, 3, 1990, January 6, July 4-31, August 1-4, 6, 11-17, September 7, 1991.

DAILY MEAN VALUES OF DISSOLVED OXYGEN, MID-DEPTH (IN MILLIGRAMS PER LITER), OCTOBER 1990-SEPTEMBER 1991

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	4.2a	---	8.0	10.0b	10.0	13.5	---	6.4	---	---	<1.0a	5.6b
2	2.7a	---	7.6	8.4b	9.9	---	---	6.5	---	---	<1.0a	5.1b
3	4.6a	---	9.3b	8.4	10.0	---	---	7.0	---	---	<1.0a	5.8b
4	6.8b	---	10.4	8.1b	11.0	11.6	---	7.7	---	1.5a	<1.0a	6.3b
5	7.2	---	11.2	6.8b	9.1	10.8	---	8.4	---	1.4a	---	6.8b
6	5.4b	---	11.4	5.6a	9.0	10.2	---	7.9	---	<1.0a	7.2a	5.7a
7	6.1b	---	10.1	---	10.6	10.6	---	---	---	<1.0a	8.8b	4.3a
8	4.7b	---	9.6	6.2b	8.8b	10.2	---	9.0	---	<1.0a	5.2b	6.2a
9	6.8	---	11.0	9.3	6.7b	9.0	---	9.6	6.6b	<1.0a	6.6b	6.1b
10	6.4	---	12.0	9.9	6.1b	8.1	---	9.3	6.5b	1.2a	6.6b	5.2a
11	6.6	---	10.6	10.5	6.4b	9.4	---	9.4	6.5b	<1.0a	2.7a	6.3b
12	7.4	---	10.8	10.1	8.9b	9.4	---	9.9	6.2b	1.0a	2.6a	6.1b
13	6.1b	---	9.8	9.1	11.6	9.7	---	10.3	6.8b	1.0a	2.1a	6.0b
14	5.4b	---	9.5b	8.8	12.4	10.0	---	10.1	6.7b	<1.0a	2.3a	5.0b
15	4.4b	---	9.4	7.6b	12.3	9.7	---	8.9	6.0b	<1.0a	4.7a	5.3b
16	4.8b	---	9.2	10.7	13.2	9.2	---	7.2b	4.3a	<1.0a	1.3a	4.6b
17	6.4b	---	8.5b	9.7	13.3	9.5	---	7.6	---	<1.0a	4.3a	4.4b
18	---	---	14.0	9.9	13.9	10.9	---	6.8b	---	<1.0a	10.3b	---
19	---	---	13.0	9.7	14.5	10.3	---	5.9b	---	<1.0a	9.0b	5.0b
20	---	---	11.4	10.9	13.6	9.6	---	6.8	---	<1.0a	9.5	5.4b
21	---	8.6	9.9	10.6	14.7	8.7	---	7.6	---	<1.0a	8.5b	5.9b
22	---	8.6	8.3b	11.4	13.8	8.4	---	7.3	---	<1.0a	4.2b	6.5b
23	---	9.8b	10.9a	---	12.8	8.3	---	7.7b	---	<1.0a	8.2b	5.9b
24	---	8.7b	9.8	9.7	12.9	7.6	---	8.4	---	<1.0a	9.5b	7.9
25	---	10.5b	10.3	9.8	12.5	6.6b	---	9.3	---	<1.0a	12.0	7.0
26	---	11.6	7.7b	9.2	13.1	6.6b	---	10.9	---	<1.0a	8.7b	6.1
27	---	9.5b	8.9	10.5	13.2	7.5	6.0	11.1	---	<1.0a	9.7b	5.7b
28	---	11.1b	7.5b	11.7	13.1	7.7	5.9	---	---	<1.0a	11.0	5.4b
29	---	9.9	4.7a	8.5	---	8.5	6.4b	---	---	<1.0a	9.5	4.9b
30	---	8.9	6.5a	6.9b	---	7.7	6.6	---	---	<1.0a	---	4.7b
31	---	---	10.2	9.6	---	---	---	---	---	<1.0a	4.2b	---

Table 3.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 1, Pamlico River at Channel Light 16, October 1990-September 1991--Continued

[Site 1 is at latitude 35°30'30", longitude 77°01'12", Beaufort County; U.S. Geological Survey downstream order number 0208450705; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

DISSOLVED OXYGEN, PERCENT SATURATION, MID-DEPTH

SENSOR POSITION.--5 feet above streambed.

EXTREMES FOR OCTOBER 1990-SEPTEMBER 1991.--Maximum value recorded, 203 percent of saturation August 28, 1991; minimum value recorded, ≤10 percent of saturation October 1, 2, 3, 1990, January 6, July 4-31, August 1-4, 6, 12-14, September 7, 1991.

DAILY MEAN VALUES OF DISSOLVED OXYGEN, PERCENT SATURATION, MID-DEPTH (IN PERCENT), OCTOBER 1990-SEPTEMBER 1991

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	48	---	74	90	89	128	---	---	---	---	≤10	72
2	31	---	71	75	90	---	---	---	---	---	≤10	63
3	53	---	90	75	93	---	---	---	---	---	≤10	71
4	79	---	100	72	103	110	---	---	---	20	≤10	79
5	84	---	97	59	86	103	---	---	---	19	---	87
6	63	---	103	50	85	95	---	---	---	≤10	96	72
7	72	---	91	---	100	101	---	---	---	≤10	114	55
8	56	---	87	54	83	98	---	109	---	≤10	67	78
9	82	---	98	79	63	85	---	115	79	≤10	85	75
10	77	---	107	85	58	75	---	111	78	15	86	65
11	79	---	94	91	59	83	---	113	80	11	35	80
12	89	---	96	89	80	82	---	119	77	13	34	78
13	74	---	88	80	108	86	---	125	84	14	27	76
14	65	---	85	76	117	89	---	124	83	12	29	64
15	53	---	83	65	114	85	---	111	76	≤10	61	68
16	57	---	84	93	112	83	---	89	54	≤10	16	59
17	74	---	76	84	110	86	---	95	---	≤10	56	57
18	---	---	128	85	120	97	---	86	---	≤10	134	---
19	---	---	124	82	130	94	---	72	---	≤10	116	66
20	---	---	107	93	132	89	---	80	---	≤10	121	67
21	---	80	94	90	146	84	---	89	---	≤10	109	70
22	---	80	80	94	135	81	---	87	---	≤10	54	75
23	---	92	107	---	121	83	---	94	---	≤10	105	69
24	---	82	94	86	120	76	---	102	---	≤10	120	93
25	---	99	95	86	118	67	---	116	---	≤10	152	84
26	---	109	70	79	119	68	---	136	---	≤10	110	73
27	---	90	80	91	120	77	---	141	---	≤10	122	66
28	---	109	67	101	122	81	---	---	---	≤10	141	62
29	---	99	42	74	---	90	---	---	---	≤10	121	56
30	---	84	61	60	---	---	---	---	---	≤10	---	53
31	---	---	97	87	---	---	---	---	---	≤10	55	---

Table 3.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 1, Pamlico River at Channel Light 16, October 1990-September 1991--Continued

[Site 1 is at latitude 35°30'30", longitude 77°01'12", Beaufort County; U.S. Geological Survey downstream order number 0208450705; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

DISSOLVED OXYGEN, NEAR BOTTOM

SENSOR POSITION.--1 foot above streambed.

EXTREMES FOR OCTOBER 1990-SEPTEMBER 1991.--Maximum value recorded, 15.5 mg/L February 21, 1991; minimum value recorded, <1.0 mg/L October 1, 2, 3, November 26-30, December 1, 23, 1990, February 10, June 16, August 6-9, 11-27, 31, September 1-14, 1991.

DAILY MEAN VALUES OF DISSOLVED OXYGEN, NEAR BOTTOM (IN MILLIGRAMS PER LITER), OCTOBER 1990-SEPTEMBER 1991

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	<1.0a	---	4.5a	4.2b	6.8	7.1	---	6.6b	---	---	---	<1.0a
2	<1.0a	---	5.7b	7.9b	7.0	---	---	5.8b	---	---	---	<1.0a
3	1.6a	---	5.4a	6.9b	5.5b	---	---	6.1b	---	---	---	1.4a
4	6.1b	---	7.6b	7.5b	4.9b	---	---	6.1b	---	---	---	2.4a
5	6.2b	---	9.3	7.9	4.7b	10.3	---	8.6	---	---	---	<1.0a
6	2.8a	---	9.4	6.7	3.8b	8.0	---	7.5	---	---	<1.0a	<1.0a
7	4.0a	---	8.4	---	3.3a	7.9	---	---	---	---	3.2a	<1.0a
8	3.9b	---	8.1	3.7b	2.6a	6.7	---	6.0b	8.7	---	2.3a	<1.0a
9	5.0a	---	8.5	9.3	2.4a	5.8b	---	7.5b	6.5b	---	2.5a	<1.0a
10	6.9	---	7.8	9.9b	1.8a	4.6b	---	8.5	3.7a	---	3.0a	<1.0a
11	7.1	---	8.6	10.0	1.9a	6.5b	---	8.0	4.0a	---	<1.0a	<1.0a
12	7.6	---	7.1	9.7	2.2a	9.5	---	8.0	4.1a	---	<1.0a	<1.0a
13	5.5b	---	5.2b	9.9	3.3b	9.0	---	4.4b	3.6a	---	<1.0a	1.3a
14	3.9b	---	6.2	9.8	6.4b	9.7	---	3.5a	5.0b	---	<1.0a	2.6a
15	3.1b	---	6.2	8.8	10.6	7.2	---	3.5a	3.8b	---	<1.0a	2.2a
16	2.9b	---	7.3	7.2	13.1	5.9b	---	3.9a	2.0a	---	<1.0a	3.6b
17	4.0b	---	6.9	6.6	12.2	5.0b	---	5.6b	---	---	<1.0a	3.6b
18	---	---	6.3b	6.7	12.7	8.1	---	4.7b	---	---	<1.0a	---
19	---	---	7.6b	7.1	10.7	8.5b	---	6.8	---	---	1.0a	---
20	---	---	9.2	6.0	9.3	7.5	---	7.0	---	---	4.0a	---
21	---	6.9	7.8	6.7b	13.8	5.2b	---	7.0	---	---	3.7a	---
22	---	5.6b	5.1b	7.9	11.5	4.4b	---	6.0b	---	---	<1.0a	---
23	---	3.1b	1.8a	---	10.0	3.7b	---	6.8b	---	---	<1.0a	---
24	---	4.1a	5.5a	8.6	11.4	3.6b	---	8.3	---	---	<1.0a	---
25	---	2.6a	7.9	8.7	10.4	4.2b	---	7.2b	---	---	<1.0a	---
26	---	1.4a	7.3	7.3	9.5	3.2b	---	8.2b	---	---	1.0a	---
27	---	1.2a	7.8	6.3	9.7	4.5b	7.2	9.8	---	---	2.9a	---
28	---	<1.0a	5.9b	5.7b	7.9	6.8	6.8	---	---	---	5.4b	---
29	---	2.4a	3.3b	4.9b	---	6.4b	6.3	---	---	---	4.3b	---
30	---	4.1a	2.9a	4.9b	---	6.2	6.7	---	---	---	---	---
31	---	---	4.8b	5.9b	---	---	---	---	---	---	<1.0a	---

Table 3.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 1, Pamlico River at Channel Light 16,
October 1990-September 1991--Continued

[Site 1 is at latitude 35°30'30", longitude 77°01'12", Beaufort County; U.S. Geological Survey downstream order number 0208450705; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

DISSOLVED OXYGEN, PERCENT SATURATION, NEAR BOTTOM

SENSOR POSITION.--1 foot above streambed.

EXTREMES FOR OCTOBER 1990-SEPTEMBER 1991.--Maximum value recorded, 155 percent of saturation February 21, 1991; minimum value recorded, ≤10 percent of saturation October 1, 2, 3, November 26-30, December 1, 23, 1990, February 10, 11, June 16, August 6-9, 11-27, 31, September 1-14, 1991.

DAILY MEAN VALUES OF DISSOLVED OXYGEN, PERCENT SATURATION, NEAR BOTTOM (IN PERCENT), OCTOBER 1990-SEPTEMBER 1991

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	≤10	---	42	38	60	67	---	---	---	---	---	≤10
2	≤10	---	53	71	63	---	---	---	---	---	---	≤10
3	18	---	52	62	51	---	---	---	---	---	---	17
4	71	---	73	67	46	---	---	---	---	---	---	30
5	72	---	80	69	44	98	---	---	---	---	---	12
6	33	---	85	60	36	75	---	---	---	---	≤10	11
7	48	---	75	---	31	75	---	---	---	---	41	≤10
8	47	---	73	33	25	64	---	72	104	---	29	≤10
9	60	---	75	79	23	55	---	90	78	---	32	≤10
10	83	---	70	85	17	42	---	101	44	---	40	≤10
11	85	---	77	88	17	58	---	96	50	---	≤10	≤10
12	91	---	63	85	20	83	---	96	50	---	≤10	≤10
13	67	---	48	86	30	79	---	53	45	---	≤10	17
14	48	---	56	84	60	86	---	43	62	---	≤10	32
15	38	---	55	75	99	63	---	43	48	---	≤10	29
16	34	---	67	63	112	53	---	49	26	---	≤10	46
17	47	---	62	57	101	45	---	70	---	---	≤10	46
18	---	---	57	58	109	72	---	59	---	---	≤10	---
19	---	---	73	60	95	77	---	82	---	---	13	---
20	---	---	87	51	90	70	---	82	---	---	51	---
21	---	64	74	57	138	50	---	81	---	---	47	---
22	---	52	49	66	112	43	---	71	---	---	≤10	---
23	---	29	18	---	94	36	---	82	---	---	≤10	---
24	---	39	52	76	106	36	---	102	---	---	≤10	---
25	---	24	72	76	98	42	---	90	---	---	≤10	---
26	---	14	66	62	87	33	---	102	---	---	13	---
27	---	11	69	54	89	46	---	125	---	---	37	---
28	---	≤10	53	49	73	72	---	---	---	---	69	---
29	---	24	29	43	---	68	---	---	---	---	54	---
30	---	38	27	43	---	---	---	---	---	---	---	---
31	---	---	46	53	---	---	---	---	---	---	≤10	---

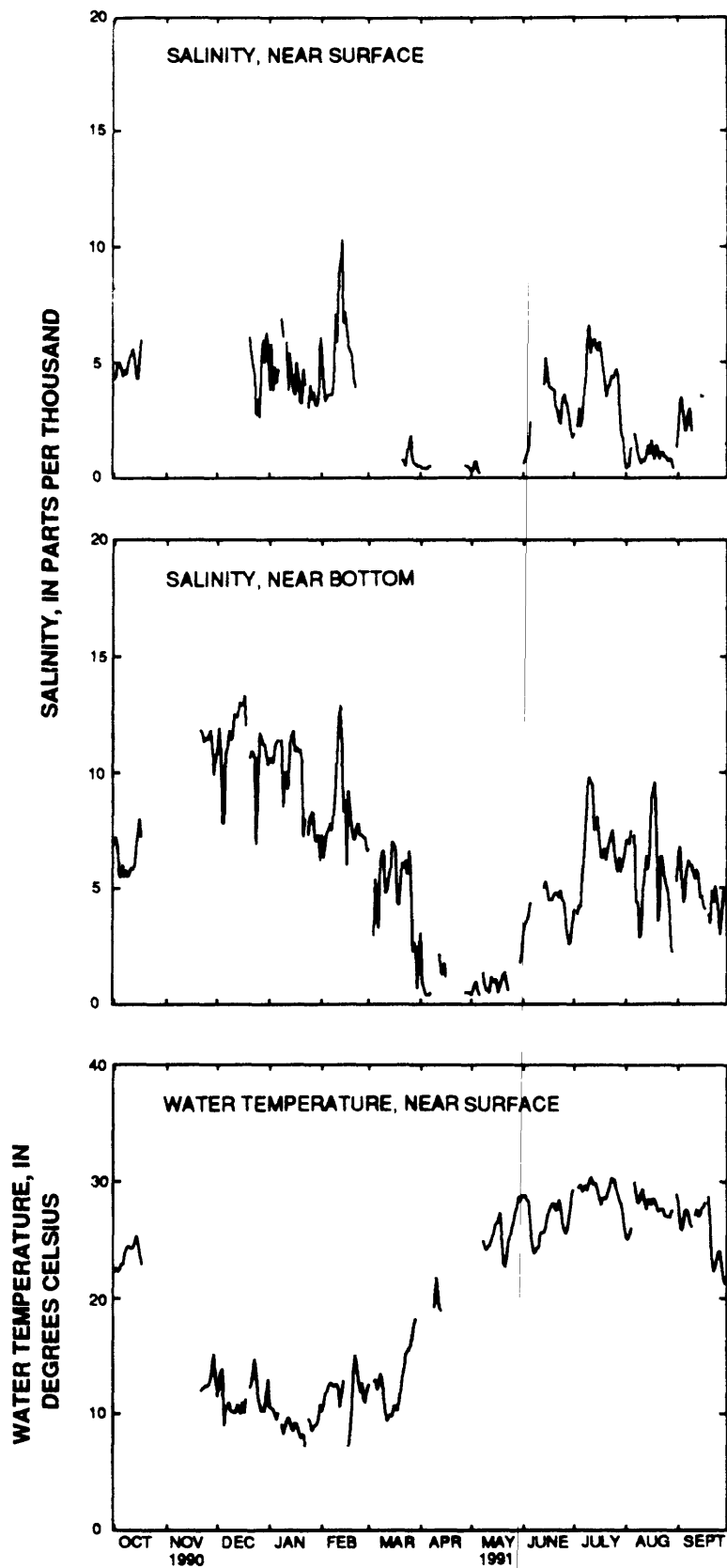


Figure 19.--Daily mean salinity and water temperature at site 1, Pamlico River at Channel Light 16, October 1990-September 1991.

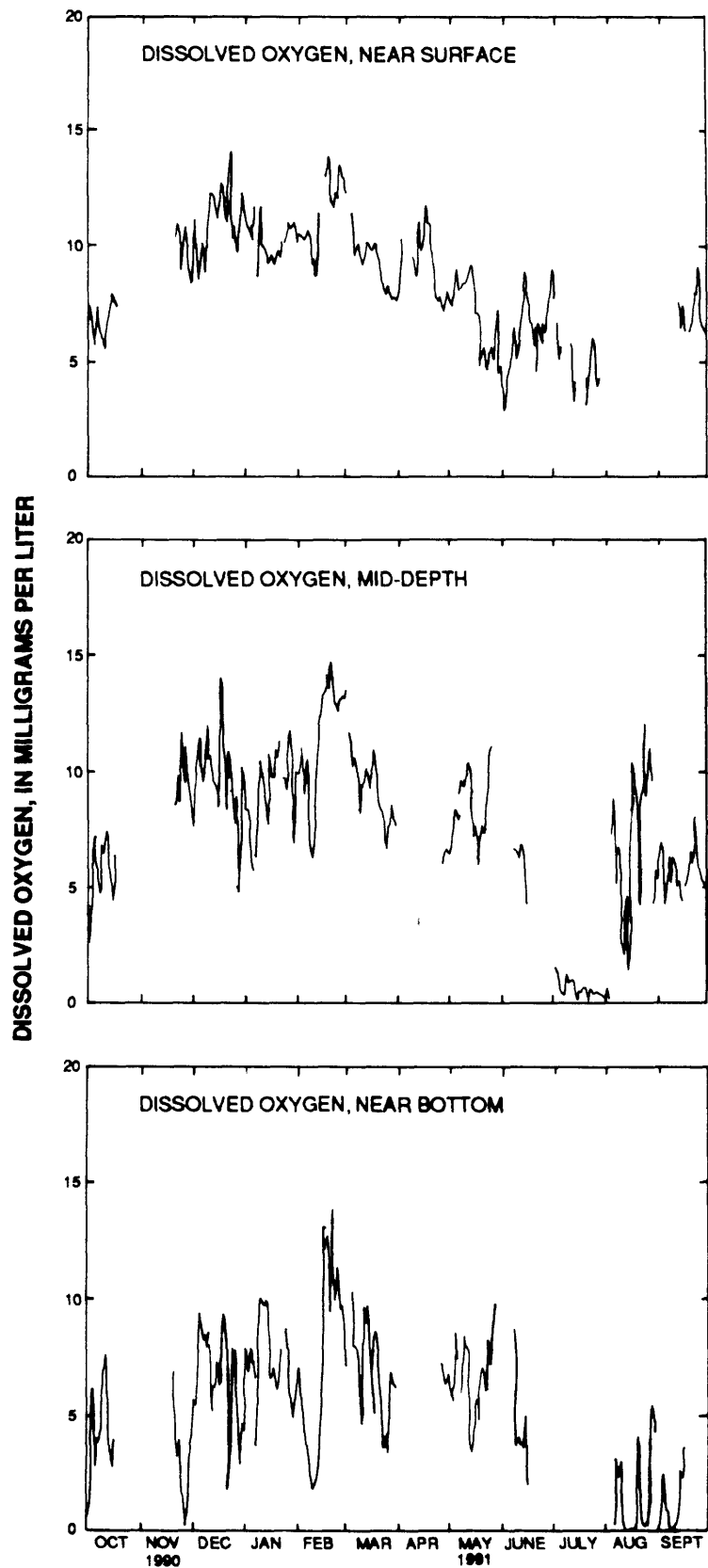


Figure 20.--Daily mean dissolved-oxygen concentrations at site 1, Pamlico River at Channel Light 16, October 1990-September 1991.

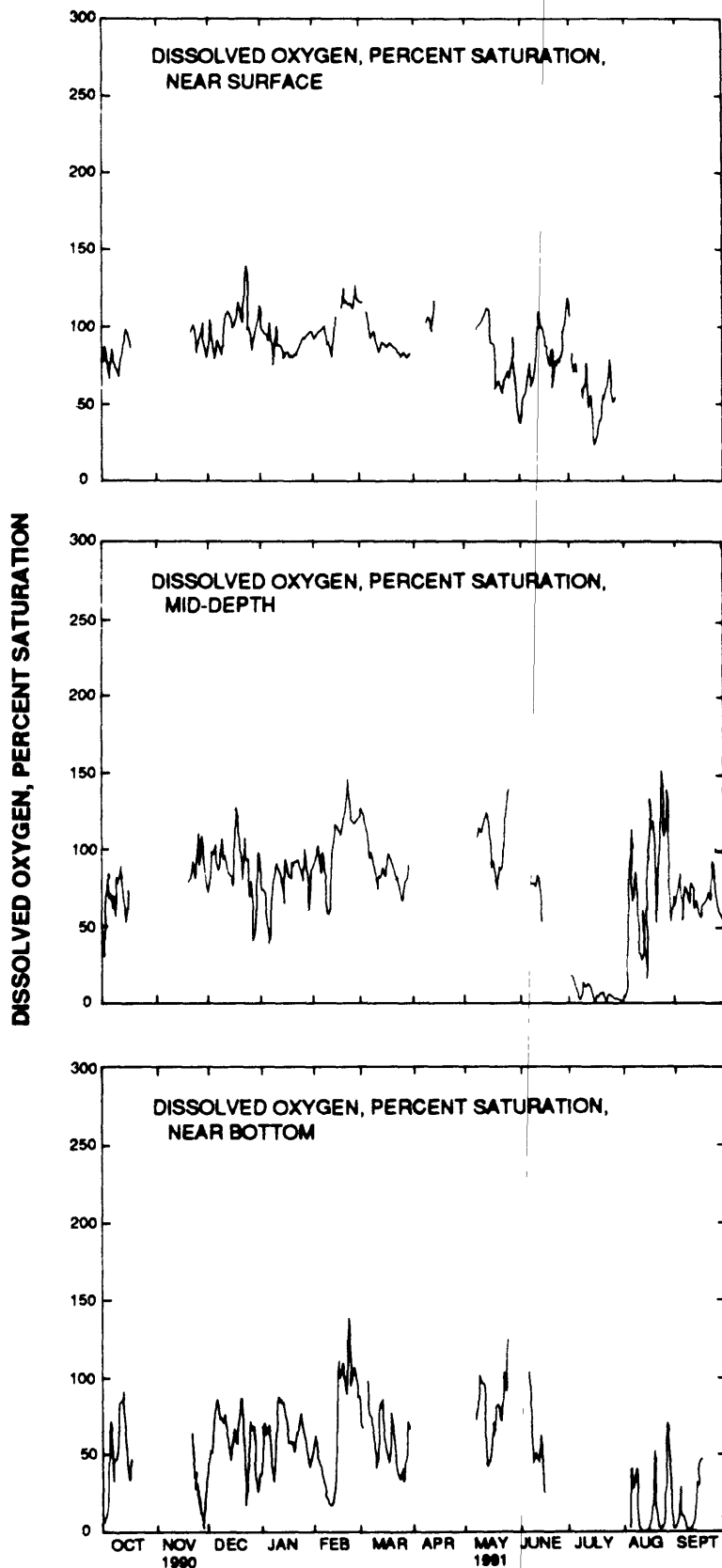


Figure 21.--Daily mean dissolved oxygen, percent saturation, at site 1, Pamlico River at Channel Light 16, October 1990-September 1991.

Table 4.--Five-day mean water temperature and dissolved-oxygen values in water at site 1, Pamlico River at Channel Light 16, October 1990-September 1991, for day and night periods

[°C, degrees Celsius; mg/L, milligram per liter; Day, 9:15 a.m.-9:00 p.m.; Night, 9:15 p.m.-9:00 a.m.; --, no data; <, less than]

Date	Mean water temperature, near surface (°C)		Mean dissolved oxygen, near surface (mg/L)		Mean dissolved oxygen, mid-depth (mg/L)		Mean dissolved oxygen, near bottom (mg/L)	
	Day	Night	Day	Night	Day	Night	Day	Night
10/01/90-10/05/90	22.8	22.3	7.0	6.5	5.3	5.0	3.2	3.2
10/06/90-10/10/90	24.5	23.9	6.9	5.3	5.8	6.0	4.4	5.3
10/11/90-10/15/90	25.0	24.4	7.8	6.8	5.8	5.9	5.3	4.9
10/16/90-10/20/90	23.4	22.8	8.0	7.1	5.6	6.1	3.7	4.6
10/21/90-10/25/90	--	--	--	--	--	--	--	--
10/26/90-10/30/90	--	--	--	--	--	--	--	--
10/31/90-11/04/90	--	--	--	--	--	--	--	--
11/05/90-11/09/90	--	--	--	--	--	--	--	--
11/10/90-11/14/90	--	--	--	--	--	--	--	--
11/15/90-11/19/90	--	--	--	--	--	--	--	--
11/20/90-11/24/90	12.6	11.9	10.6	9.5	8.8	9.0	5.1	4.7
11/25/90-11/29/90	13.9	13.4	10.0	8.9	10.9	10.1	1.9	1.2
11/30/90-12/04/90	13.1	11.5	9.9	9.4	9.6	8.5	6.3	5.6
12/05/90-12/09/90	10.8	10.2	9.8	9.4	11.0	10.6	9.0	8.1
12/10/90-12/14/90	10.7	10.0	12.4	11.0	11.0	9.9	7.1	6.8
12/15/90-12/19/90	11.4	11.3	12.6	11.2	10.9	10.8	7.4	7.1
12/20/90-12/24/90	13.4	13.3	12.7	11.0	9.9	9.8	6.0	5.5
12/25/90-12/29/90	10.7	10.3	11.5	9.7	7.8	7.2	6.3	5.6
12/30/90- 1/03/91	11.4	11.0	12.1	10.3	9.1	8.4	5.6	5.8
1/04/91- 1/08/91	9.9	9.2	11.2	9.5	6.7	6.0	6.1	6.2
1/09/91- 1/13/91	9.3	8.9	10.8	9.9	9.8	9.9	10.1	9.8
1/14/91- 1/18/91	9.1	8.4	9.3	9.5	9.1	9.7	7.8	7.4
1/19/91- 1/23/91	8.3	7.9	9.9	10.0	10.6	10.7	7.2	7.1
1/24/91- 1/28/91	9.2	8.7	10.6	10.8	10.0	10.2	7.2	6.9
1/29/91- 2/02/91	10.3	10.1	10.4	10.6	9.1	9.1	6.0	6.0
2/03/91- 2/07/91	12.7	12.2	10.4	10.5	10.2	9.9	4.5	3.9
2/08/91- 2/12/91	12.3	11.5	9.5	9.6	7.2	7.2	2.2	2.3
2/13/91- 2/17/91	10.6	9.7	12.1	12.1	13.0	12.8	9.2	10.5
2/18/91- 2/22/91	13.0	12.8	12.7	12.2	14.2	13.7	11.3	11.3
2/23/91- 2/27/91	12.1	11.4	13.1	12.5	13.3	12.7	10.2	10.0
2/28/91- 3/04/91	13.0	13.0	12.1	11.7	12.8	12.4	8.6	9.4
3/05/91- 3/09/91	13.2	12.3	10.0	9.9	10.1	9.8	7.4	7.2
3/10/91- 3/14/91	10.4	9.5	9.8	9.9	9.3	9.5	8.1	8.1
3/15/91- 3/19/91	10.9	10.4	9.9	9.7	9.7	10.3	7.2	6.9
3/20/91- 3/24/91	14.4	14.1	8.7	8.5	8.3	8.2	4.6	4.5
3/25/91- 3/29/91	17.2	16.9	8.0	7.8	7.4	7.5	5.1	5.2
3/30/91- 4/03/91	--	--	8.7	8.7	7.5	7.3	6.0	5.9

Table 4.--Five-day mean water temperature and dissolved-oxygen values in water at site 1, Pamlico River at Channel Light 16, October 1990-September 1991, for day and night periods--Continued

[°C, degrees Celsius; mg/L, milligram per liter; Day, 9:15 a.m.-9:00 p.m.; Night, 9:15 p.m.-9:00 a.m.; --, no data; <, less than]

Date	Mean water temperature, near surface (°C)		Mean dissolved oxygen, near surface (mg/L)		Mean dissolved oxygen, mid-depth (mg/L)		Mean dissolved oxygen, near bottom (mg/L)	
	Day	Night	Day	Night	Day	Night	Day	Night
4/04/91- 4/08/91	20.2	18.3	9.6	9.4	--	--	--	--
4/09/91- 4/13/91	20.5	19.7	9.8	9.3	--	--	--	--
4/14/91- 4/18/91	--	--	11.5	9.9	--	--	--	--
4/19/91- 4/23/91	--	--	9.3	8.7	--	--	--	--
4/24/91- 4/28/91	--	--	7.5	7.5	6.1	6.1	7.1	6.9
4/29/91- 5/03/91	--	--	8.0	7.4	6.7	6.6	6.3	6.5
5/04/91- 5/08/91	25.5	24.7	8.6	8.1	8.4	8.3	6.9	7.1
5/09/91- 5/13/91	24.8	24.4	9.2	8.3	10.3	9.2	7.4	6.7
5/14/91- 5/18/91	26.8	26.4	8.1	6.9	8.2	7.4	4.1	5.0
5/19/91- 5/23/91	24.0	23.6	5.3	4.9	7.2	7.3	6.8	6.9
5/24/91- 5/28/91	27.0	26.9	6.0	5.1	10.6	9.6	8.2	8.6
5/29/91- 6/02/91	28.9	28.6	5.1	3.6	--	--	--	--
6/03/91- 6/07/91	26.3	25.6	4.9	4.5	--	8.7	9.4	8.8
6/08/91- 6/12/91	24.9	25.1	6.2	6.0	6.9	6.9	5.4	4.6
6/13/91- 6/17/91	27.1	27.1	8.2	6.9	6.3	5.3	3.6	3.7
6/18/91- 6/22/91	28.0	28.0	6.2	6.1	--	--	--	--
6/23/91- 6/27/91	26.5	25.9	6.6	5.9	--	--	--	--
6/28/91- 7/02/91	28.9	28.7	8.2	7.5	--	2.3	--	--
7/03/91- 7/07/91	29.6	29.6	5.9	5.0	1.1	<1.0	--	--
7/08/91- 7/12/91	29.8	29.8	4.9	4.1	<1.0	<1.0	--	--
7/13/91- 7/17/91	29.2	29.0	3.3	2.4	<1.0	<1.0	--	--
7/18/91- 7/22/91	29.0	29.0	3.9	3.0	<1.0	<1.0	--	--
7/23/91- 7/27/91	29.9	29.5	5.7	4.3	<1.0	<1.0	--	--
7/28/91- 8/01/91	27.1	26.5	4.8	5.3	<1.0	<1.0	--	--
8/02/91- 8/06/91	27.2	27.4	--	--	1.7	3.4	<1.0	<1.0
8/07/91- 8/11/91	28.9	28.5	--	--	5.9	5.0	2.2	2.0
8/12/91- 8/16/91	28.3	28.0	--	--	2.6	2.9	<1.0	<1.0
8/17/91- 8/21/91	28.3	27.8	--	--	8.3	8.1	1.8	2.0
8/22/91- 8/26/91	27.4	27.1	--	--	7.9	9.9	<1.0	<1.0
8/27/91- 8/31/91	28.3	27.9	9.9	7.1	8.1	7.4	3.0	2.9
9/01/91- 9/05/91	27.2	26.4	--	--	6.1	6.0	<1.0	1.2
9/06/91- 9/10/91	27.2	26.4	--	--	5.4	5.3	<1.0	<1.0
9/11/91- 9/15/91	27.8	27.1	8.3	6.7	6.2	5.1	1.4	2.0
9/16/91- 9/20/91	28.2	27.3	7.0	6.2	5.2	4.9	3.4	3.7
9/21/91- 9/25/91	23.3	23.1	8.3	7.9	6.9	6.6	--	--
9/26/91- 9/30/91	22.4	21.5	6.6	5.9	5.7	5.1	--	--

Table 5.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 2, Pamlico River at Light 5, October 1990-September 1991

[Site 2 is at latitude 35°25'48", longitude 76°50'30", Beaufort County; U.S. Geological Survey downstream order number 0208453300; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

SALINITY, NEAR SURFACE

SENSOR POSITION.--12 feet above streambed.

EXTREMES FOR OCTOBER 1990-SEPTEMBER 1991.--Maximum value recorded, 11.6 ppt October 20, 1990; minimum value recorded, 1.4 ppt May 1, 1991.

DAILY MEAN VALUES OF SALINITY, NEAR SURFACE (IN PARTS PER THOUSAND), OCTOBER 1990-SEPTEMBER 1991

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	---	---	---	---	---	---	---	2.0	6.0	5.4	7.0	6.5
2	---	---	---	---	---	---	---	3.1	6.3	---	5.4	8.0
3	---	---	---	---	---	---	---	5.5	6.5	7.3	5.4	8.0
4	---	---	---	---	---	---	---	6.6	6.6	7.3	5.6	---
5	---	---	---	---	---	---	---	6.5	7.4	7.2	5.3	6.9
6	---	---	---	---	---	---	---	6.4	7.8	7.1	---	6.6
7	---	---	---	---	---	---	---	6.0	8.2	6.9	7.9	7.1
8	---	---	---	---	---	---	---	5.6	7.9	6.8	7.4	7.4
9	---	---	---	---	---	---	---	6.0	8.1	7.0	7.4	7.3
10	---	---	---	---	---	---	---	5.4	8.0	7.2	7.0	7.1
11	---	---	---	---	---	---	---	6.2	7.9	7.6	6.7	6.4
12	---	---	---	---	---	---	---	5.4	---	8.4	7.2	6.3
13	---	---	---	---	---	---	---	5.0	8.0	8.6	6.3	7.3
14	---	---	---	---	---	---	---	4.9	7.9	8.7	5.2	7.0
15	---	---	---	---	---	---	---	4.7	7.9	8.8	5.1	7.0
16	---	---	---	---	---	---	---	5.6	7.6	9.3	5.9	7.2
17	---	---	---	---	---	---	---	5.3	7.5	9.3	6.3	7.1
18	---	---	---	---	---	---	---	5.4	7.4	9.2	6.9	7.8
19	10.3	---	---	---	---	---	---	6.4	7.3	9.2	7.3	8.1
20	11.0	---	---	---	---	---	---	6.1	7.0	9.4	7.5	8.2
21	11.2	---	---	---	---	---	---	6.1	6.6	9.1	7.2	8.9
22	10.9	---	---	---	---	---	---	5.8	6.5	9.1	6.6	9.0
23	---	---	---	---	---	---	---	5.8	6.5	9.3	7.6	8.4
24	10.3	---	---	---	---	---	---	5.3	7.2	9.1	8.1	8.2
25	10.6	---	---	---	---	---	---	5.1	7.2	9.2	8.2	8.1
26	9.6	---	---	---	---	---	4.0	5.3	6.9	9.3	8.1	7.6
27	9.6	---	---	---	---	---	3.3	5.1	6.8	9.6	8.2	7.1
28	9.3	---	---	---	---	---	3.0	5.2	6.6	9.5	7.9	7.6
29	8.9	---	---	---	---	---	2.8	4.6	5.7	9.5	7.2	8.0
30	7.2	---	---	---	---	---	2.3	4.4	5.2	9.4	6.2	7.4
31	---	---	---	---	---	---	---	5.2	---	8.7	5.7	---

Table 5.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 2, Pamlico River at Light 5, October 1990-September 1991--Continued

[Site 2 is at latitude 35°25'48", longitude 76°50'30", Beaufort County; U.S. Geological Survey downstream order number 0208453300; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

SALINITY, NEAR BOTTOM

SENSOR POSITION.--4 feet above streambed.

EXTREMES FOR OCTOBER 1990-SEPTEMBER 1991.--Maximum value recorded, 13.8 ppt February 9, 10, 1991; minimum value recorded, 2.8 ppt May 2, 1991.

DAILY MEAN VALUES OF SALINITY, NEAR BOTTOM (IN PARTS PER THOUSAND), OCTOBER 1990-SEPTEMBER 1991

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	---	---	---	---	12.3	7.6	6.5	4.8	9.5	7.7	9.0	9.2
2	---	---	---	---	11.4	7.4	7.1	6.5	9.7	---	9.8	8.3
3	---	---	---	---	11.9	7.2	7.0	8.4	10.2	7.4	9.8	8.1
4	---	---	---	---	12.4	6.9	6.0	6.6	10.1	8.6	10.5	---
5	---	---	---	---	12.5	6.8	6.1	6.3	9.9	9.0	11.9	7.7
6	---	---	---	---	12.7	7.0	7.7	6.2	8.6	9.8	---	8.6
7	---	---	---	---	12.6	6.1	8.3	6.1	8.4	10.1	8.1	9.5
8	---	---	---	---	13.0	6.9	---	6.0	8.4	10.6	9.1	---
9	---	---	---	---	13.4	7.5	---	6.0	8.1	11.2	8.5	---
10	---	---	---	---	13.6	6.9	---	5.7	7.9	11.1	9.7	---
11	---	---	---	12.6	12.9	5.8	---	6.0	7.9	11.0	10.8	---
12	---	---	---	11.4	12.6	7.0	---	5.9	---	10.6	10.9	---
13	---	---	---	11.3	12.1	7.0	---	5.7	8.6	9.6	10.9	---
14	---	---	---	12.5	11.0	6.7	---	6.5	7.9	9.9	12.1	---
15	---	---	---	12.4	10.5	7.1	---	6.6	8.2	9.8	11.9	---
16	---	---	---	11.9	7.8	7.3	---	6.5	8.8	9.1	12.3	---
17	---	---	---	10.9	8.5	7.3	---	5.7	9.4	8.9	12.2	---
18	---	---	---	11.2	8.1	6.1	---	5.8	9.5	8.9	10.9	---
19	10.2	---	---	12.3	8.1	5.4	---	6.0	9.7	9.0	9.4	---
20	10.9	---	---	11.8	7.9	8.1	---	5.6	8.8	8.8	9.1	---
21	10.8	---	---	9.5	7.8	10.7	---	5.6	9.0	8.7	9.4	---
22	10.5	---	---	8.9	8.0	11.7	---	5.6	8.6	8.7	10.5	---
23	10.1	---	---	9.3	7.8	12.7	---	5.8	8.7	9.0	9.8	---
24	10.0	---	---	10.0	7.8	11.2	---	5.5	8.7	9.0	9.6	---
25	10.0	---	---	11.1	8.2	10.5	---	5.9	8.8	9.5	8.6	---
26	9.2	---	---	10.8	7.6	9.6	3.7	5.9	8.3	9.3	8.4	---
27	10.0	---	---	11.4	7.4	9.0	3.9	6.0	8.2	8.9	8.4	---
28	10.2	---	---	11.4	7.5	8.8	3.9	6.4	8.0	8.7	8.4	---
29	11.6	---	---	12.2	---	8.7	4.1	8.4	7.8	8.8	8.4	---
30	11.8	---	---	12.5	---	7.9	4.0	8.7	7.7	8.8	8.8	---
31	---	---	---	11.4	---	7.5	---	9.0	---	8.7	9.5	---

Table 5.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 2, Pamlico River at Light 5, October 1990-September 1991--Continued

[Site 2 is at latitude 35°25'48", longitude 76°50'30", Beaufort County; U.S. Geological Survey downstream order number 0208453300; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

WATER TEMPERATURE, NEAR SURFACE

SENSOR POSITION.--12 feet above streambed.

EXTREMES FOR OCTOBER 1990-SEPTEMBER 1991.--Maximum value recorded, 32.2 °C August 30, 1991; minimum value recorded, 5.0 °C January 26, 1991.

DAILY MEAN VALUES OF WATER TEMPERATURE, NEAR SURFACE (IN DEGREES CELSIUS), OCTOBER 1990-SEPTEMBER 1991

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	---	---	---	---	8.5	9.7	16.3	23.6	28.5	28.2	27.7	28.1
2	---	---	---	---	8.6	10.5	16.7	23.0	28.3	---	27.7	26.7
3	---	---	---	---	9.3	11.2	16.6	21.8	28.5	28.7	28.1	26.0
4	---	---	---	---	9.7	11.7	16.5	21.3	28.7	29.2	29.2	---
5	---	---	---	---	9.7	11.8	17.0	21.3	26.7	29.1	29.6	27.6
6	---	---	---	---	9.9	11.9	17.6	22.1	25.3	29.2	---	27.7
7	---	---	---	---	10.4	12.6	18.9	23.6	24.3	29.8	28.6	27.4
8	---	---	---	---	11.0	12.3	---	23.6	24.0	29.8	28.2	26.7
9	---	---	---	---	10.5	11.4	20.0	23.5	24.4	30.3	28.2	26.5
10	---	---	---	---	10.7	11.2	20.1	23.6	25.3	30.5	28.8	27.2
11	---	---	---	9.0	10.1	11.1	19.4	23.9	25.5	30.0	29.2	27.4
12	---	---	---	9.9	9.2	10.5	18.4	23.9	---	29.7	28.5	27.8
13	---	---	---	9.8	9.1	10.6	17.7	24.4	26.2	29.5	28.0	27.2
14	---	---	---	9.4	10.2	10.8	17.5	24.9	25.9	29.7	28.4	27.5
15	---	---	---	9.1	9.8	10.5	18.0	25.6	26.8	29.5	27.9	27.8
16	---	---	---	10.1	7.3	10.1	19.1	26.0	27.5	28.6	27.9	27.8
17	---	---	---	10.3	6.4	11.0	19.9	26.3	27.6	28.6	28.2	28.4
18	---	---	---	9.6	6.7	11.4	20.0	26.6	27.8	28.7	28.2	28.8
19	22.6	---	---	9.0	7.7	11.9	19.1	24.8	27.7	28.5	27.9	28.6
20	21.5	---	---	9.2	9.8	12.0	18.2	23.3	27.2	28.5	27.8	27.0
21	21.4	---	---	9.2	10.6	13.3	17.3	23.1	27.5	28.9	28.1	24.9
22	21.3	---	---	8.6	12.0	14.3	16.8	23.7	28.4	29.1	28.0	23.5
23	21.7	---	---	8.2	10.5	15.7	16.5	24.2	28.0	29.6	27.6	23.8
24	21.5	---	---	6.9	9.5	16.1	17.2	24.4	26.3	29.8	27.4	23.7
25	21.5	---	---	7.1	10.0	15.6	---	25.2	25.6	29.9	27.2	24.1
26	19.3	---	---	6.5	9.5	15.8	18.2	25.9	25.3	29.3	27.2	24.1
27	17.9	---	---	6.6	9.0	16.2	19.5	26.8	25.6	28.8	27.2	23.3
28	16.8	---	---	7.8	9.1	17.1	20.3	27.8	26.5	28.8	27.8	22.4
29	16.6	---	---	8.2	---	17.7	20.9	28.9	27.8	28.4	28.1	22.5
30	15.8	---	---	8.3	---	18.0	22.5	29.4	28.2	28.0	29.0	22.3
31	---	---	---	9.2	---	17.0	---	28.5	---	27.7	28.8	---

Table 5.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 2, Pamlico River at Light 5, October 1990-September 1991--Continued

[Site 2 is at latitude 35°25'48", longitude 76°50'30", Beaufort County; U.S. Geological Survey downstream order number 0208453300; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

DISSOLVED OXYGEN, NEAR SURFACE

SENSOR POSITION.--12 feet above streambed.

EXTREMES FOR OCTOBER 1990-SEPTEMBER 1991.--Maximum value recorded, 18.5 mg/L February 5, 1991; minimum value recorded, 2.5 mg/L August 16, 1991.

DAILY MEAN VALUES OF DISSOLVED OXYGEN, NEAR SURFACE (IN MILLIGRAMS PER LITER), OCTOBER 1990-SEPTEMBER 1991

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	---	---	---	---	9.8	14.5	10.8	---	---	---	12.3	---
2	---	---	---	---	12.2	12.7	10.6	---	---	---	8.6	---
3	---	---	---	---	13.2	12.6	10.2	---	---	---	8.1	---
4	---	---	---	---	13.3	12.1	9.6	---	---	---	8.2	---
5	---	---	---	---	14.5	12.9	10.7	---	---	---	8.4	8.7
6	---	---	---	---	15.3	13.4	---	---	---	---	---	9.0
7	---	---	---	---	14.0	12.9	---	---	---	---	6.6	9.0
8	---	---	---	---	13.4	12.0	---	---	---	---	6.9b	8.3
9	---	---	---	---	13.1	12.0	9.3	---	---	---	6.5	8.0
10	---	---	---	---	13.6	12.2	10.8	---	---	---	7.3b	8.6
11	---	---	---	11.1	12.3	11.5	11.3	---	---	---	7.3	8.8
12	---	---	---	12.7	11.8	12.7	11.1	---	---	---	7.0	8.7
13	---	---	---	12.6	12.6	12.7	10.5	---	---	---	7.1b	7.4
14	---	---	---	12.5	11.8	13.3	10.2	---	---	---	7.4	7.8
15	---	---	---	10.6	11.4	12.8	9.5	---	---	---	6.0b	7.6
16	---	---	---	12.1	11.5	13.3	9.4	---	---	7.0	4.6b	7.1
17	---	---	---	12.0	12.0	12.8	9.9	---	---	8.6	---	7.7
18	---	---	---	11.5	12.6	12.8	8.7	---	---	9.5	---	8.5
19	7.5	---	---	11.1	12.5	12.2	7.7	---	---	10.4	---	8.8
20	8.2	---	---	11.2	12.1	12.5	8.2	---	---	10.1	---	7.4
21	8.8	---	---	10.6	13.0	13.7	9.0	---	---	11.9	---	7.6
22	8.5	---	---	10.9	14.2	13.6	9.6	---	---	12.7	---	8.2
23	7.9	---	---	13.5	13.1	13.3	9.0	---	---	13.1	---	7.2
24	7.9	---	---	12.5	12.7	12.1	9.7	---	---	12.6	---	7.2
25	7.7	---	---	11.4	13.7	12.6	---	---	---	12.8	---	---
26	8.3	---	---	12.4	12.8	12.3	---	---	---	12.4	---	---
27	8.7	---	---	11.0	13.6	11.2	---	---	---	11.4	---	---
28	9.9	---	---	8.6	14.2	10.5	---	---	---	12.6	---	---
29	10.4	---	---	8.1b	---	9.9	---	---	---	12.4	---	---
30	11.0	---	---	6.3	---	9.4	---	---	---	12.5	---	---
31	---	---	---	8.8	---	9.5	---	---	---	13.2	---	---

Table 5.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 2, Pamlico River at Light 5, October 1990-September 1991--Continued

[Site 2 is at latitude 35°25'48", longitude 76°50'30", Beaufort County; U.S. Geological Survey downstream order number 0208453300; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

DISSOLVED OXYGEN, PERCENT SATURATION, NEAR SURFACE

SENSOR POSITION.--12 feet above streambed.

EXTREMES FOR OCTOBER 1990-SEPTEMBER 1991.--Maximum value recorded, 212 percent of saturation July 22, 1991; minimum value recorded, 32 percent of saturation August 16, 1991.

DAILY MEAN VALUES OF DISSOLVED OXYGEN, PERCENT SATURATION, NEAR SURFACE (IN PERCENT), OCTOBER 1990-SEPTEMBER 1991

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	---	---	---	---	84	128	110	---	---	---	157	---
2	---	---	---	---	105	114	109	---	---	---	109	---
3	---	---	---	---	115	115	105	---	---	---	104	---
4	---	---	---	---	117	112	98	---	---	---	107	---
5	---	---	---	---	128	119	111	---	---	---	---	112
6	---	---	---	---	135	124	---	---	---	---	103	114
7	---	---	---	---	125	121	---	---	---	---	85	115
8	---	---	---	---	121	112	---	---	---	---	89	104
9	---	---	---	---	117	110	102	---	---	---	83	100
10	---	---	---	---	122	111	119	---	---	---	95	108
11	---	---	---	96	109	104	123	---	---	---	96	111
12	---	---	---	113	102	114	118	---	---	---	91	111
13	---	---	---	112	110	114	110	---	---	---	92	94
14	---	---	---	109	105	121	107	---	---	---	96	100
15	---	---	---	92	101	115	101	---	---	---	77	97
16	---	---	---	108	96	119	102	---	---	91	58	91
17	---	---	---	108	98	117	110	---	---	112	---	100
18	---	---	---	101	103	117	96	---	---	124	---	110
19	87	---	---	97	105	113	83	---	---	135	---	114
20	94	---	---	98	107	117	88	---	---	131	---	93
21	100	---	---	92	117	131	93	---	---	155	---	92
22	97	---	---	94	132	133	99	---	---	167	---	97
23	90	---	---	114	117	135	93	---	---	173	---	85
24	90	---	---	103	111	123	101	---	---	167	---	85
25	88	---	---	94	121	127	---	---	---	170	---	---
26	90	---	---	101	112	124	---	---	---	163	---	---
27	92	---	---	90	118	114	---	---	---	148	---	---
28	102	---	---	72	123	109	---	---	---	164	---	---
29	107	---	---	69	---	105	---	---	---	159	---	---
30	111	---	---	54	---	99	---	---	---	160	---	---
31	---	---	---	77	---	98	---	---	---	169	---	---

Table 5.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 2, Pamlico River at Light 5, October 1990-September 1991--Continued

[Site 2 is at latitude 35°25'48", longitude 76°50'30", Beaufort County; U.S. Geological Survey downstream order number 0208453300; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

DISSOLVED OXYGEN, MID-DEPTH

SENSOR POSITION.--8 feet above streambed.

EXTREMES FOR OCTOBER 1990-SEPTEMBER 1991.--Maximum value recorded, 20.2 mg/L March 25, 1991; minimum value recorded, <1.0 mg/L May 25, 26, 1991.

DAILY MEAN VALUES OF DISSOLVED OXYGEN, MID-DEPTH (IN MILLIGRAMS PER LITER), OCTOBER 1990-SEPTEMBER 1991

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	---	---	---	---	9.2	15.8	15.7	---	---	7.0b	---	---
2	---	---	---	---	12.0	14.2	15.9	---	---	---	---	---
3	---	---	---	---	14.1	14.1	15.6	6.6b	---	---	---	---
4	---	---	---	---	14.2	13.6	15.5	6.4b	---	---	---	---
5	---	---	---	---	---	13.8	18.3	7.0	---	---	---	6.4b
6	---	---	---	---	---	14.8	14.9a	7.4	---	---	---	7.0b
7	---	---	---	---	---	14.5	13.0b	7.8	---	---	---	6.6b
8	---	---	---	---	---	13.2	---	6.6	---	---	---	6.6
9	---	---	---	---	---	12.8	9.7	7.1	---	---	---	6.2b
10	---	---	---	---	---	12.4	8.2b	5.9	---	---	---	6.4
11	---	---	---	11.9	---	12.8	7.6b	6.9b	---	---	---	6.8b
12	---	---	---	13.4	---	14.0	---	7.4	---	---	---	5.5a
13	---	---	---	12.9	---	13.9	---	8.1	7.4b	---	---	5.5a
14	---	---	---	11.5	---	14.8	---	7.8b	7.7	---	---	6.9b
15	---	---	---	10.2	12.1	13.9	---	6.2a	7.5	---	---	4.7a
16	---	---	---	11.2	11.9	14.4	---	6.7a	7.0a	---	---	5.8b
17	---	---	---	12.4	12.1	13.1	---	6.1b	6.4a	---	---	6.6a
18	---	---	---	11.8	12.7	12.9	---	6.2b	5.6a	---	---	7.7b
19	7.0	---	---	11.5	12.6	12.6	---	5.8	5.5a	---	---	7.7b
20	7.7	---	---	11.4	12.3	13.1	---	6.0	4.8a	---	---	7.0b
21	8.4	---	---	10.8	13.3	15.0	---	6.9	4.9a	---	---	7.2
22	8.2	---	---	11.0	14.7	15.6	---	6.5b	5.2a	---	---	7.2
23	7.7	---	---	13.9	14.4	16.3	---	6.2b	7.3a	---	---	5.2b
24	7.6	---	---	13.1	14.0	15.5	---	5.2a	7.1	---	---	---
25	7.6	---	---	10.3	14.3	15.9	---	4.1a	7.5	---	---	---
26	8.4	---	---	11.5	14.3	15.9	---	4.8a	7.7	---	---	---
27	8.7	---	---	10.0	15.1	14.7	---	6.1b	7.9	---	---	---
28	9.8	---	---	8.4	15.7	14.3	---	6.7a	7.4	---	---	---
29	10.2	---	---	8.1	---	13.9	---	---	6.5b	---	---	---
30	10.2	---	---	5.4b	---	13.6	---	---	6.9b	---	---	---
31	---	---	---	8.3b	---	14.0	---	---	---	---	---	---

Table 5.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 2, Pamlico River at Light 5, October 1990-September 1991--Continued

[Site 2 is at latitude 35°25'48", longitude 76°50'30", Beaufort County; U.S. Geological Survey downstream order number 0208453300; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

DISSOLVED OXYGEN, PERCENT SATURATION, MID-DEPTH

SENSOR POSITION.--8 feet above streambed.

EXTREMES FOR OCTOBER 1990-SEPTEMBER 1991.--Maximum value recorded, 210 percent of saturation April 5, 1991; minimum value recorded, ≤10 percent of saturation May 25, 26, September 15, 1991.

DAILY MEAN VALUES OF DISSOLVED OXYGEN, PERCENT SATURATION, MID-DEPTH (IN PERCENT), OCTOBER 1990-SEPTEMBER 1991

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	---	---	---	---	79	140	161	---	---	91	---	---
2	---	---	---	---	103	128	164	---	---	---	---	---
3	---	---	---	---	123	129	161	75	---	---	---	---
4	---	---	---	---	125	126	159	72	---	---	---	---
5	---	---	---	---	---	128	190	80	---	---	---	82
6	---	---	---	---	---	137	157	85	---	---	---	89
7	---	---	---	---	---	136	140	92	---	---	---	84
8	---	---	---	---	---	124	---	79	---	---	---	83
9	---	---	---	---	---	118	107	83	---	---	---	78
10	---	---	---	---	---	113	91	70	---	---	---	80
11	---	---	---	103	---	117	83	82	---	---	---	86
12	---	---	---	119	---	125	---	88	---	---	---	71
13	---	---	---	114	---	126	---	97	92	---	---	70
14	---	---	---	101	---	134	---	95	95	---	---	87
15	---	---	---	89	107	125	---	76	95	---	---	61
16	---	---	---	100	99	129	---	82	89	---	---	74
17	---	---	---	111	99	119	---	76	81	---	---	85
18	---	---	---	104	104	118	---	78	71	---	---	100
19	82	---	---	100	106	117	---	70	70	---	---	100
20	87	---	---	99	109	123	---	71	61	---	---	89
21	95	---	---	94	120	144	---	81	62	---	---	87
22	92	---	---	95	137	153	---	76	67	---	---	85
23	88	---	---	118	129	165	---	74	94	---	---	61
24	86	---	---	108	123	158	---	62	88	---	---	---
25	87	---	---	85	127	161	---	50	92	---	---	---
26	91	---	---	94	125	160	---	60	94	---	---	---
27	92	---	---	82	131	150	---	77	97	---	---	---
28	101	---	---	70	136	148	---	86	92	---	---	---
29	105	---	---	68	---	146	---	---	83	---	---	---
30	103	---	---	46	---	144	---	---	89	---	---	---
31	---	---	---	72	---	145	---	---	---	---	---	---

Table 5.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 2, Pamlico River at Light 5,
October 1990-September 1991--Continued

[Site 2 is at latitude 35°25'48", longitude 76°50'30", Beaufort County; U.S. Geological Survey downstream order number 0208453300; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

DISSOLVED OXYGEN, NEAR BOTTOM

SENSOR POSITION.--4 feet above streambed.

EXTREMES FOR OCTOBER 1990-SEPTEMBER 1991.--Maximum value recorded, 17.7 mg/L June 13, 1991; minimum value recorded, <1.0 mg/L February 11, April 3-7, May 16, 17, 18, 24, 25, July 6, 7, 9, 10, 13, 14, 15, August 3, 4, 5, 7, 8, 9, September 7-12, 18, 19, 20, 1991.

DAILY MEAN VALUES OF DISSOLVED OXYGEN, NEAR BOTTOM (IN MILLIGRAMS PER LITER), OCTOBER 1990-SEPTEMBER 1991

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	---	---	---	---	6.9	10.3	10.3	---	---	5.9b	2.8b	---
2	---	---	---	---	6.4	11.6	7.9	---	---	---	1.5a	---
3	---	---	---	---	4.8b	12.2	4.7a	---	---	8.9	<1.0a	---
4	---	---	---	---	4.9b	11.8	3.9a	6.5b	---	3.9b	<1.0a	---
5	---	---	---	---	4.6b	10.6	1.0a	6.4	---	2.2a	<1.0a	3.8b
6	---	---	---	---	3.8b	10.2	<1.0a	7.3	---	1.5a	---	2.3a
7	---	---	---	---	3.2b	11.1	1.3a	7.9	---	1.0a	2.1a	1.0a
8	---	---	---	---	3.0a	7.3	---	6.0b	---	1.3a	1.4a	3.3a
9	---	---	---	---	2.3a	7.1	---	7.3	---	1.0a	1.3a	2.5a
10	---	---	---	---	1.7a	7.6	---	5.2b	---	1.3a	1.3a	3.4a
11	---	---	---	10.2	1.7a	10.5	---	6.9b	---	1.3a	1.1a	2.7a
12	---	---	---	10.8	2.4a	10.3	---	6.4b	---	2.6a	---	1.1a
13	---	---	---	10.5	5.8b	9.8	---	5.9b	9.6a	2.6a	---	1.5a
14	---	---	---	9.3	10.9b	7.7	---	2.8a	11.6a	1.9a	---	3.5a
15	---	---	---	9.4	12.2	6.7	---	2.3a	10.9	2.8a	---	1.7a
16	---	---	---	7.8	11.9	6.1b	---	2.5a	5.6b	6.9a	---	2.7a
17	---	---	---	7.6	11.3	6.1b	---	3.5a	4.3a	5.9	---	2.6a
18	---	---	---	7.5	11.5	8.1	---	2.7a	3.3a	6.2	---	1.4a
19	6.2	---	---	7.5	9.9	10.1	---	6.1b	2.1a	4.6b	---	1.1a
20	7.0	---	---	7.1	12.0	9.7	---	6.6	2.9a	5.6b	---	10.6a
21	7.8	---	---	8.7	12.7	9.0	---	7.6	3.2b	5.6b	---	7.2
22	7.4	---	---	9.9	10.8	6.2	---	5.3a	5.3b	5.3b	---	6.4
23	7.5	---	---	11.3	11.9	5.2b	---	3.5a	5.2b	5.0b	---	4.8b
24	7.2	---	---	10.4	12.3	8.1b	---	2.4a	6.9	4.0b	---	4.0b
25	7.1b	---	---	10.0	11.5	8.1b	---	1.0a	5.8	2.9a	---	4.1b
26	8.3	---	---	8.5	11.6	8.2b	---	---	5.5	3.5a	---	3.9b
27	8.5	---	---	7.9	11.8	7.5b	---	---	5.4	5.0b	---	3.5b
28	8.4	---	---	7.0	11.8	9.7a	---	---	5.3	4.8b	---	3.8b
29	7.1	---	---	6.1	---	10.3	---	---	5.5	4.8b	---	---
30	6.0	---	---	5.4b	---	10.4	---	---	6.5	4.2b	---	---
31	---	---	---	6.6b	---	10.8	---	---	---	3.8b	---	---

Table 5.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 2, Pamlico River at Light 5, October 1990-September 1991--Continued

[Site 2 is at latitude 35°25'48", longitude 76°50'30", Beaufort County; U.S. Geological Survey downstream order number 0208453300; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

DISSOLVED OXYGEN, PERCENT SATURATION, NEAR BOTTOM

SENSOR POSITION.--4 feet above streambed.

EXTREMES FOR OCTOBER 1990-SEPTEMBER 1991.--Maximum value recorded, 224 percent of saturation June 13, 1991; minimum value recorded, ≤10 percent of saturation February 11, April 3-7, May 3, 16, 17, 18, 24, 25, August 4, 5, 7-9, September 7-10, 18, 19, 20, 1991.

DAILY MEAN VALUES OF DISSOLVED OXYGEN, PERCENT SATURATION, NEAR BOTTOM (IN PERCENT), OCTOBER 1990-SEPTEMBER 1991

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	---	---	---	---	59	91	105	---	---	76	36	---
2	---	---	---	---	55	104	82	---	---	---	20	---
3	---	---	---	---	42	111	49	27	---	116	11	---
4	---	---	---	---	43	109	40	73	---	51	10	---
5	---	---	---	---	40	98	11	72	---	29	≤10	49
6	---	---	---	---	34	95	≤10	84	---	19	---	29
7	---	---	---	---	28	105	15	93	---	13	27	13
8	---	---	---	---	27	68	26	71	---	17	18	42
9	---	---	---	---	20	65	---	86	---	14	16	31
10	---	---	---	---	16	70	---	62	---	17	17	42
11	---	---	---	88	15	95	---	82	---	17	15	34
12	---	---	---	96	21	93	---	76	---	34	---	14
13	---	---	---	93	50	88	---	71	119	34	---	19
14	---	---	---	81	97	69	---	34	144	26	---	45
15	---	---	---	82	108	60	---	29	137	37	---	21
16	---	---	---	70	99	54	---	30	71	89	---	35
17	---	---	---	67	91	55	---	43	55	76	---	33
18	---	---	---	66	94	74	---	34	42	81	---	18
19	73	---	---	65	83	93	---	74	27	59	---	14
20	80	---	---	62	106	91	---	77	36	73	---	134
21	88	---	---	76	115	86	---	89	41	73	---	88
22	84	---	---	85	100	61	---	63	69	69	---	76
23	85	---	---	96	106	52	---	42	66	65	---	57
24	81	---	---	85	108	82	---	29	86	53	---	48
25	81	---	---	82	102	82	---	13	71	39	---	49
26	90	---	---	70	102	83	---	---	67	46	---	47
27	90	---	---	64	102	76	---	---	67	64	---	42
28	87	---	---	59	102	101	---	---	66	63	---	44
29	73	---	---	52	---	108	---	---	70	62	---	---
30	61	---	---	46	---	110	---	---	83	54	---	---
31	---	---	---	57	---	112	---	---	---	48	---	---

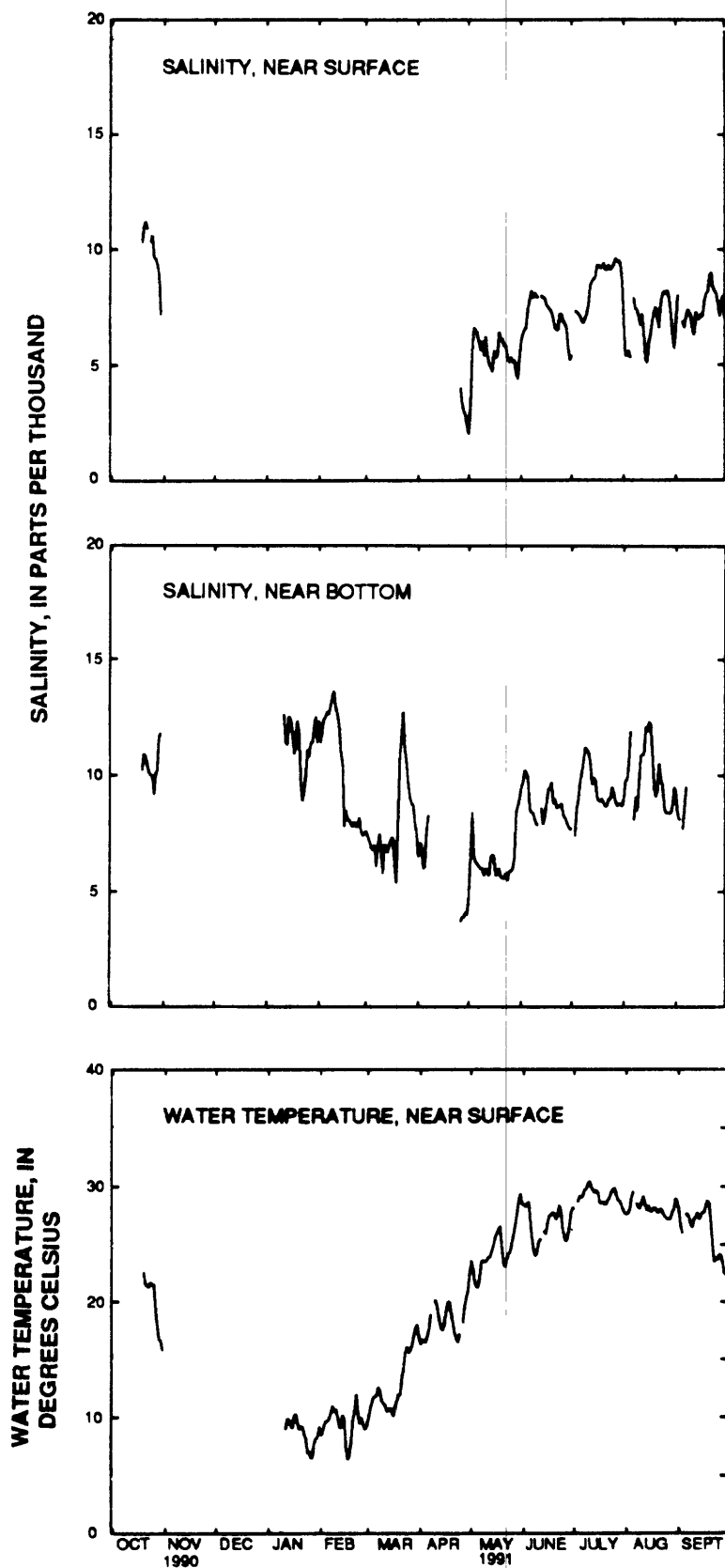


Figure 22.--Daily mean salinity and water temperature at site 2, Pamlico River at Light 5, October 1990-September 1991.

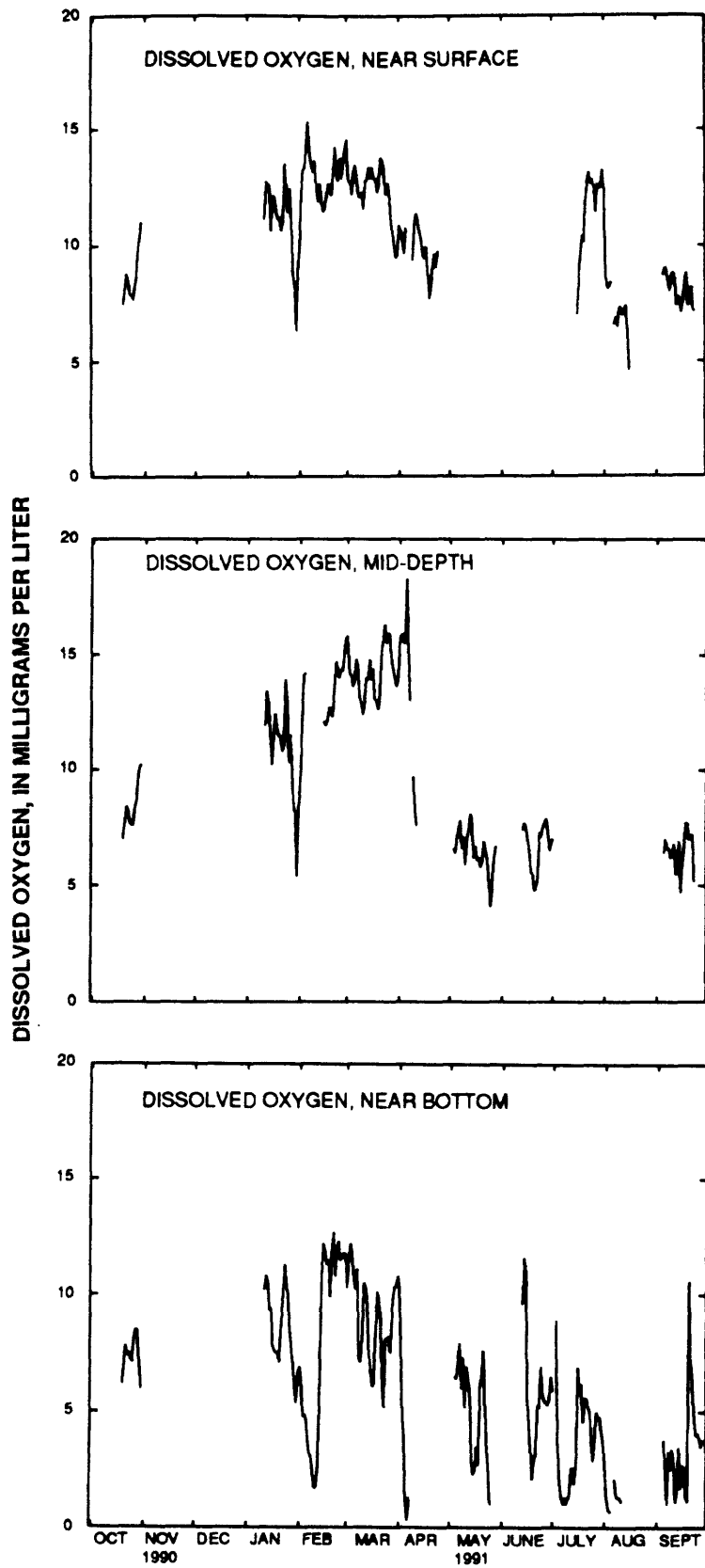


Figure 23.--Daily mean dissolved-oxygen concentrations at site 2, Pamlico River at Light 5, October 1990-September 1991.

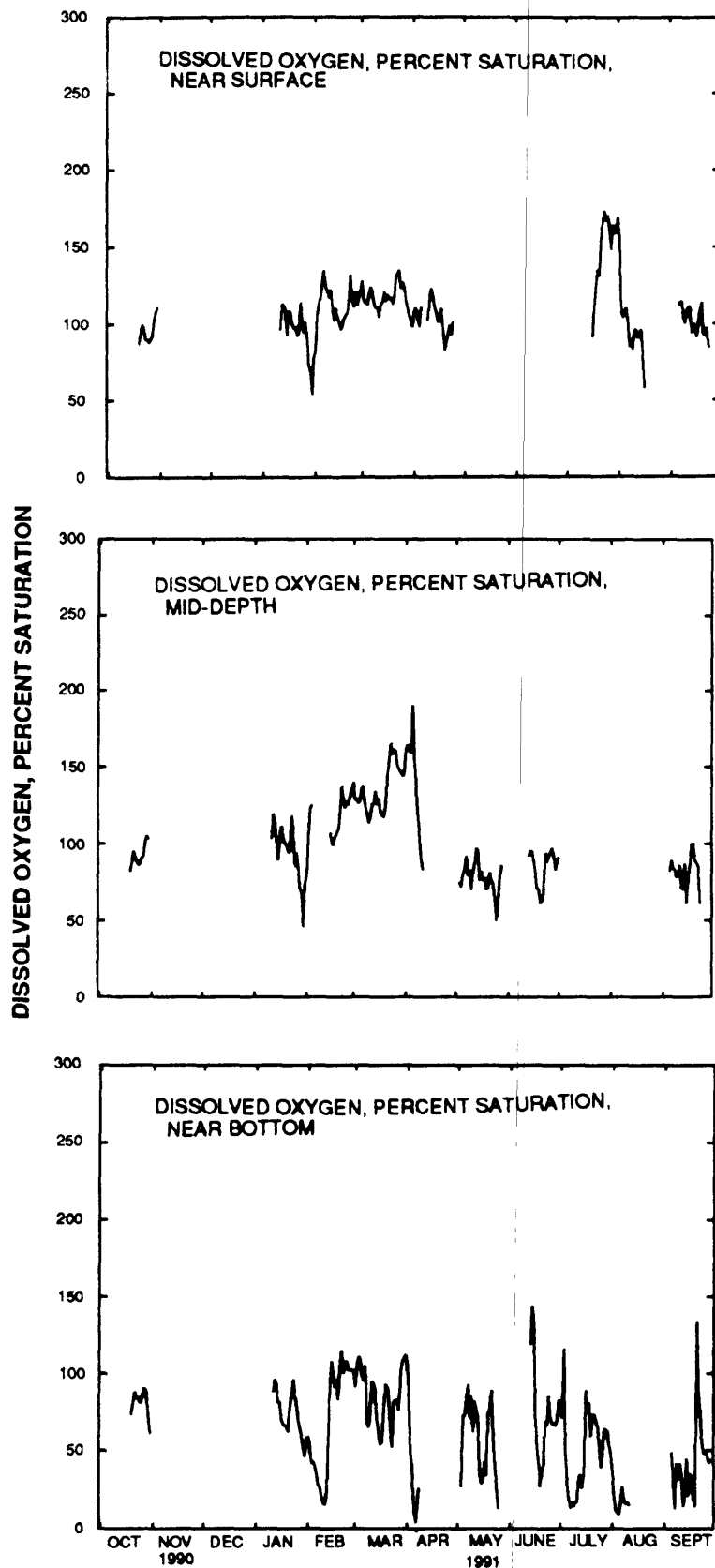


Figure 24.--Daily mean dissolved oxygen, percent saturation, at site 2, Pamlico River at Light 5, October 1990-September 1991.

Table 6.--Five-day mean water temperature and dissolved-oxygen values in water at site 2, Pamlico River at Light 5, October 1990-September 1991, for day and night periods

[°C, degrees Celsius; mg/L, milligram per liter; Day, 9:15 a.m.-9:00 p.m.; Night, 9:15 p.m.-9:00 a.m.; --, no data; <, less than]

Date	Mean water temperature, near surface (°C)		Mean dissolved oxygen, near surface (mg/L)		Mean dissolved oxygen, mid-depth (mg/L)		Mean dissolved oxygen, near bottom (mg/L)	
	Day	Night	Day	Night	Day	Night	Day	Night
10/01/90-10/05/90	--	--	--	--	--	--	--	--
10/06/90-10/10/90	--	--	--	--	--	--	--	--
10/11/90-10/15/90	--	--	--	--	--	--	--	--
10/16/90-10/20/90	22.3	22.1	8.0	7.7	7.4	7.3	6.8	6.7
10/21/90-10/25/90	21.6	21.3	8.3	8.0	8.0	7.8	7.4	7.4
10/26/90-10/30/90	17.2	16.6	9.9	9.9	9.6	9.7	7.7	7.2
10/31/90-11/04/90	14.9	--	11.6	--	11.0	--	4.2	--
11/05/90-11/09/90	--	--	--	--	--	--	--	--
11/10/90-11/14/90	--	--	--	--	--	--	--	--
11/15/90-11/19/90	--	--	--	--	--	--	--	--
11/20/90-11/24/90	--	--	--	--	--	--	--	--
11/25/90-11/29/90	--	--	--	--	--	--	--	--
11/30/90-12/04/90	--	--	--	--	--	--	--	--
12/05/90-12/09/90	--	--	--	--	--	--	--	--
12/10/90-12/14/90	--	--	--	--	--	--	--	--
12/15/90-12/19/90	--	--	--	--	--	--	--	--
12/20/90-12/24/90	--	--	--	--	--	--	--	--
12/25/90-12/29/90	--	--	--	--	--	--	--	--
12/30/90- 1/03/91	--	--	--	--	--	--	--	--
1/04/91- 1/08/91	--	--	--	--	--	--	--	--
1/09/91- 1/13/91	9.5	9.5	12.2	11.7	12.9	12.0	10.4	10.3
1/14/91- 1/18/91	9.8	9.5	12.0	11.5	11.7	11.4	8.6	7.6
1/19/91- 1/23/91	8.8	8.5	11.6	11.5	11.8	11.9	9.4	9.0
1/24/91- 1/28/91	7.0	7.1	11.0	10.8	10.6	9.9	8.6	8.2
1/29/91- 2/02/91	8.6	8.6	9.3	9.5	8.7	9.2	6.3	6.0
2/03/91- 2/07/91	9.9	10.0	14.2	14.1	14.2	14.4	4.3	4.0
2/08/91- 2/12/91	10.3	9.9	12.8	12.5	--	--	2.0	2.7
2/13/91- 2/17/91	8.7	8.1	12.0	11.7	12.4	12.1	11.0	10.8
2/18/91- 2/22/91	9.6	9.9	13.3	12.7	13.5	13.0	11.1	11.5
2/23/91- 2/27/91	9.7	9.3	13.5	12.8	14.8	14.2	12.2	11.6
2/28/91- 3/04/91	10.6	10.7	13.4	12.7	14.8	14.3	11.6	11.4
3/05/91- 3/09/91	12.1	11.8	13.0	12.3	14.1	13.3	9.2	8.6
3/10/91- 3/14/91	10.9	10.7	12.8	12.2	13.9	13.5	9.5	8.8
3/15/91- 3/19/91	11.1	11.0	12.9	12.4	13.5	12.9	7.8	7.5
3/20/91- 3/24/91	14.6	14.5	13.6	12.4	15.9	14.7	7.9	7.1
3/25/91- 3/29/91	16.7	16.8	11.6	10.8	15.3	14.5	8.8	9.1
3/30/91- 4/03/91	17.1	16.4	10.6	9.7	15.7	14.7	8.4	8.5

Table 6.--Five-day mean water temperature and dissolved-oxygen values in water at site 2, Pamlico River at Light 5, October 1990-September 1991, for day and night periods--Continued

[°C, degrees Celsius; mg/L, milligram per liter; Day, 9:15 a.m.-9:00 p.m.; Night, 9:15 p.m.-9:00 a.m.; --, no data; <, less than]

Date	Mean water temperature, near surface (°C)		Mean dissolved oxygen, near surface (mg/L)		Mean dissolved oxygen, mid-depth (mg/L)		Mean dissolved oxygen, near bottom (mg/L)	
	Day	Night	Day	Night	Day	Night	Day	Night
4/04/91- 4/08/91	18.3	18.1	10.3	9.4	13.8	14.1	1.4	1.7
4/09/91- 4/13/91	19.3	18.6	11.4	10.1	8.5	8.3	--	--
4/14/91- 4/18/91	19.2	19.0	10.0	8.7	--	--	--	--
4/19/91- 4/23/91	17.6	17.2	9.1	8.6	--	--	--	--
4/24/91- 4/28/91	18.8	18.9	10.2	9.4	--	--	--	--
4/29/91- 5/03/91	22.8	22.0	--	--	7.7	6.0	2.9	3.3
5/04/91- 5/08/91	22.7	22.5	--	--	7.3	6.9	6.9	6.7
5/09/91- 5/13/91	24.1	23.8	--	--	7.3	7.1	6.5	5.5
5/14/91- 5/18/91	26.3	25.6	--	--	6.4	6.4	1.9	4.1
5/19/91- 5/23/91	23.9	23.5	--	--	6.2	6.2	5.4	5.8
5/24/91- 5/28/91	26.5	26.2	--	--	5.2	5.7	1.5	1.6
5/29/91- 6/02/91	29.2	28.2	--	--	--	--	--	--
6/03/91- 6/07/91	26.8	25.9	--	--	--	--	--	--
6/08/91- 6/12/91	25.5	24.9	--	--	8.6	7.3	11.7	11.4
6/13/91- 6/17/91	27.1	26.8	--	--	7.2	7.1	7.6	7.9
6/18/91- 6/22/91	28.0	27.6	--	--	4.8	5.7	3.2	3.7
6/23/91- 6/27/91	26.3	25.7	--	--	7.9	7.2	5.7	6.0
6/28/91- 7/02/91	28.3	27.6	6.9	8.6	7.0	6.7	5.9	6.2
7/03/91- 7/07/91	29.5	29.0	--	--	--	--	3.2	2.5
7/08/91- 7/12/91	30.4	29.8	--	--	--	--	1.3	1.8
7/13/91- 7/17/91	29.4	28.8	8.1	7.5	--	--	4.0	4.6
7/18/91- 7/22/91	29.1	28.5	11.8	10.6	--	--	5.5	5.2
7/23/91- 7/27/91	29.8	29.2	13.0	11.9	--	--	4.2	3.9
7/28/91- 8/01/91	28.2	27.8	12.9	11.9	--	--	4.0	3.7
8/02/91- 8/06/91	29.0	28.6	8.2	7.9	--	--	1.1	<1.0
8/07/91- 8/11/91	28.9	28.3	7.3	6.5	--	--	1.4	1.6
8/12/91- 8/16/91	28.3	27.8	6.9	5.8	--	--	--	--
8/17/91- 8/21/91	28.2	27.8	--	--	--	--	--	--
8/22/91- 8/26/91	27.5	27.3	--	--	--	--	--	--
8/27/91- 8/31/91	28.6	28.0	--	--	--	--	--	--
9/01/91- 9/05/91	27.2	26.7	9.3	7.8	6.5	6.4	4.0	3.8
9/06/91- 9/10/91	27.4	26.7	9.1	7.9	6.7	6.3	2.4	2.7
9/11/91- 9/15/91	27.8	27.4	8.6	7.4	6.4	5.3	2.0	2.1
9/16/91- 9/20/91	28.4	27.5	8.5	7.4	7.1	7.0	2.8	5.2
9/21/91- 9/25/91	24.1	23.7	7.9	7.2	6.7	6.2	5.2	4.9
9/26/91- 9/30/91	23.1	22.5	--	--	--	--	3.8	3.6

Table 7.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 3, Pamlico River at Light 4, October 1990-September 1991

[Site 3 is at latitude 35°24'47", longitude 76°45'52", Beaufort County; U.S. Geological Survey downstream order number 0208454253; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

SALINITY, NEAR SURFACE

SENSOR POSITION.--8 feet above streambed.

EXTREMES FOR OCTOBER 1990-SEPTEMBER 1991.--Maximum value recorded, 18.1 ppt November 10, 1990; minimum value recorded, 2.4 ppt April 7, 1991.

DAILY MEAN VALUES OF SALINITY, NEAR SURFACE (IN PARTS PER THOUSAND), OCTOBER 1990-SEPTEMBER 1991

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	---	9.9	---	---	---	---	9.1	5.0	6.8	8.6	9.6	8.7
2	---	10.2	---	---	---	---	8.9	5.4	7.1	8.8	8.3	9.7
3	---	11.1	---	---	---	---	7.9	5.9	7.2	9.3	8.0	9.4
4	---	11.7	---	---	---	---	7.0	6.5	8.0	8.7	8.6	---
5	---	11.5	---	---	---	---	5.7	6.3	8.5	8.6	8.5	9.5
6	---	11.9	---	---	---	---	4.2	6.0	9.0	8.7	---	9.3
7	---	12.3	---	---	---	---	3.1	6.2	8.9	8.6	9.2	9.6
8	---	14.1	---	---	---	---	3.0	6.4	8.8	8.6	9.6	9.7
9	---	16.7	---	---	---	---	---	6.3	8.7	8.7	8.9	9.7
10	---	15.9	---	---	---	---	5.4	6.2	8.7	8.5	9.1	9.2
11	---	13.1	---	---	---	---	6.8	6.4	8.4	8.9	8.8	8.8
12	---	13.3	---	---	---	---	6.8	6.1	8.4	9.4	8.2	8.9
13	---	13.6	---	---	---	---	6.8	6.2	8.8	9.6	8.3	8.7
14	---	13.6	---	---	---	---	7.1	5.9	9.6	9.8	7.3	8.6
15	---	12.5	---	---	---	---	7.1	6.4	9.2	10.0	7.0	9.0
16	---	11.6	---	9.0	---	---	7.1	6.8	8.9	9.8	7.2	9.0
17	---	12.2	---	9.3	---	---	7.1	7.1	9.1	9.2	7.3	8.7
18	---	13.0	---	9.3	---	---	7.0	7.2	9.1	9.0	7.7	8.9
19	---	12.9	---	8.5	---	---	7.0	7.6	9.0	9.2	8.7	9.0
20	---	---	---	8.1	---	---	6.5	7.2	8.7	9.2	8.4	9.9
21	---	---	---	8.3	---	9.7	6.4	7.6	8.6	9.3	8.8	10.3
22	---	---	---	9.4	---	8.7	6.2	7.5	8.8	9.4	8.9	10.3
23	---	---	---	7.7	---	8.2	6.4	7.6	9.0	9.3	8.9	10.0
24	---	---	---	8.4	---	8.4	6.2	8.0	9.6	9.5	9.0	10.0
25	---	---	---	---	---	10.2	6.4	7.3	9.4	9.8	9.1	9.7
26	---	---	---	---	---	10.5	6.3	7.7	9.5	10.0	9.3	9.6
27	---	---	---	---	---	10.1	5.6	6.9	9.4	10.1	9.6	10.0
28	---	---	---	---	---	10.1	5.5	6.9	9.3	10.2	9.2	9.6
29	---	---	---	---	---	10.1	6.0	6.8	9.3	10.1	9.1	9.2
30	---	---	---	---	---	9.4	5.7	6.4	8.9	10.2	9.2	9.0
31	---	---	---	---	---	9.6	---	6.3	---	10.0	8.1	---

Table 7.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 3, Pamlico River at Light 4, October 1990-September 1991--Continued

[Site 3 is at latitude 35°24'47", longitude 76°45'52", Beaufort County; U.S. Geological Survey downstream order number 0208454253; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

SALINITY, NEAR BOTTOM

SENSOR POSITION.--2 feet above streambed.

EXTREMES FOR OCTOBER 1990-SEPTEMBER 1991.--Maximum value recorded, 20.1 ppt November 9, 1990; minimum value recorded, 5.8 ppt May 1, 1991.

DAILY MEAN VALUES OF SALINITY, NEAR BOTTOM (IN PARTS PER THOUSAND), OCTOBER 1990-SEPTEMBER 1991

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	---	13.4	---	13.2	---	---	9.7	9.3	11.1	8.4	10.7	9.6
2	---	14.3	---	13.2	---	---	9.6	11.2	11.0	8.2	11.0	9.3
3	---	15.2	---	13.2	---	---	8.8	10.5	11.2	9.0	10.9	8.9
4	---	15.9	---	13.2	---	---	8.1	7.5	11.4	8.9	11.3	---
5	---	16.6	---	13.3	---	---	---	7.2	9.6	9.5	11.7	9.9
6	---	16.2	---	13.6	---	---	---	6.8	9.3	9.8	---	10.3
7	---	17.1	---	14.1	---	---	---	7.4	8.9	10.5	11.6	10.3
8	---	16.0	---	13.4	---	---	---	7.3	8.7	11.0	11.3	10.6
9	---	17.5	---	13.5	---	---	---	7.2	8.4	10.7	10.1	10.2
10	---	15.5	---	13.9	---	---	---	7.1	8.3	11.1	12.0	10.1
11	---	13.2	---	12.8	---	---	---	7.0	8.1	11.7	11.5	9.9
12	---	13.5	---	12.8	---	---	---	6.8	8.2	12.0	11.3	10.1
13	---	13.7	---	12.5	---	---	---	7.0	10.3	11.4	11.1	9.5
14	---	13.8	14.9	12.6	---	---	---	7.3	9.5	12.0	11.8	10.0
15	---	13.7	14.3	13.4	---	---	---	8.6	9.4	12.4	12.4	10.1
16	---	14.3	14.1	13.0	---	---	---	8.2	9.6	12.1	14.6	9.9
17	---	14.5	14.0	12.2	---	---	---	---	10.0	11.6	13.3	10.1
18	---	13.6	13.9	11.8	---	---	---	---	9.9	11.3	10.9	9.9
19	---	14.1	13.9	11.7	---	---	---	---	9.7	11.4	10.4	10.0
20	---	---	13.8	11.3	---	---	---	---	9.4	11.4	9.9	10.2
21	---	---	13.7	11.2	---	12.2	---	---	10.1	11.4	10.5	10.0
22	---	---	13.6	10.2	---	12.8	---	---	9.6	11.5	10.4	10.0
23	---	---	13.3	10.8	---	12.7	---	7.8	10.0	11.4	10.3	9.9
24	---	---	12.9	12.0	---	12.0	---	8.2	10.2	11.4	9.9	10.3
25	---	---	13.7	---	---	10.7	---	8.3	9.8	11.5	9.9	9.7
26	---	---	13.5	---	---	10.7	---	8.5	9.8	11.1	9.9	10.1
27	---	---	13.5	---	---	10.1	8.3	8.7	9.7	10.8	9.9	10.3
28	---	---	13.4	---	---	10.2	8.8	9.0	9.8	10.5	9.6	9.9
29	---	---	13.5	---	---	10.2	8.2	10.7	9.4	10.6	9.8	9.8
30	---	---	13.6	---	---	9.8	7.8	10.7	8.9	10.6	9.9	9.7
31	---	---	13.0	---	---	9.8	---	10.6	---	10.0	9.6	---

Table 7.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 3, Pamlico River at Light 4, October 1990-September 1991--Continued

[Site 3 is at latitude 35°24'47", longitude 76°45'52", Beaufort County; U.S. Geological Survey downstream order number 0208454253; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

WATER TEMPERATURE, NEAR SURFACE

SENSOR POSITION.--8 feet above streambed.

EXTREMES FOR OCTOBER 1990-SEPTEMBER 1991.--Maximum value recorded, 31.7 °C July 10, 1991; minimum value recorded, 6.9 °C January 23, 24, 1991.

DAILY MEAN VALUES OF WATER TEMPERATURE, NEAR SURFACE (IN DEGREES CELSIUS), OCTOBER 1990-SEPTEMBER 1991

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	---	15.3	---	10.6	---	---	16.1	24.0	28.3	29.2	28.3	28.8
2	---	15.9	---	10.4	---	---	16.1	23.6	28.3	28.9	28.2	27.3
3	---	16.4	---	10.3	---	---	16.0	22.3	28.0	28.9	28.0	27.1
4	---	16.7	---	10.2	---	---	15.8	22.0	28.1	29.6	28.7	---
5	---	17.3	---	9.8	---	---	16.2	22.2	26.7	29.6	29.4	26.2
6	---	17.6	---	9.9	---	---	16.9	22.5	25.4	29.4	---	26.7
7	---	17.0	---	10.2	---	---	17.4	23.0	24.6	29.5	28.8	26.5
8	---	16.5	---	9.6	---	---	18.7	23.2	24.2	30.2	28.3	26.2
9	---	---	---	8.8	---	---	---	23.1	24.2	30.2	28.5	25.9
10	---	---	---	8.6	---	---	20.2	23.7	24.9	30.6	28.7	26.2
11	---	---	---	8.7	---	---	19.7	23.8	24.9	30.3	29.2	26.0
12	---	14.3	---	9.3	---	---	19.4	23.5	25.0	30.1	28.6	26.5
13	---	14.0	---	9.4	---	---	18.5	24.1	25.4	30.2	28.1	26.4
14	---	13.3	10.2	8.9	---	---	18.3	24.7	25.7	29.8	28.2	26.4
15	---	13.1	9.7	8.9	---	---	18.7	25.2	26.3	29.6	28.1	27.0
16	---	13.1	10.1	9.3	---	---	19.6	25.7	27.1	29.4	27.9	27.6
17	---	13.1	9.9	9.7	---	---	20.1	26.5	27.3	29.0	28.9	27.8
18	---	12.1	10.5	9.4	---	---	20.6	26.4	27.0	29.0	28.6	28.1
19	---	11.4	11.5	9.0	---	---	19.7	24.0	27.3	29.0	28.2	27.9
20	---	---	11.3	9.0	---	---	19.3	22.8	27.3	28.9	28.1	26.0
21	---	---	11.6	9.1	---	12.7	18.4	22.6	27.2	29.0	27.6	24.3
22	---	---	12.4	8.4	---	14.0	17.9	23.3	27.9	29.5	27.9	23.1
23	---	---	13.6	7.3	---	15.4	17.8	24.4	27.5	30.0	28.1	23.1
24	---	---	13.9	7.2	---	15.9	18.3	24.9	26.6	29.9	27.9	23.2
25	---	---	12.1	---	---	15.3	19.0	25.5	26.5	29.9	27.7	23.6
26	---	---	11.4	---	---	15.4	19.8	26.4	26.1	29.6	27.8	23.4
27	---	---	10.5	---	---	15.8	20.4	26.5	26.6	29.3	28.0	22.8
28	---	---	10.0	---	---	16.6	21.6	26.9	27.3	29.1	28.3	22.2
29	---	---	9.8	---	---	17.2	22.8	27.4	27.9	28.8	28.6	22.1
30	---	---	10.5	---	---	17.6	23.4	27.8	29.0	28.3	29.2	22.1
31	---	---	11.4	---	---	16.7	---	28.2	---	28.2	29.5	---

Table 7.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 3, Pamlico River at Light 4, October 1990-September 1991--Continued

[Site 3 is at latitude 35°24'47", longitude 76°45'52", Beaufort County; U.S. Geological Survey downstream order number 0208454253; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

DISSOLVED OXYGEN, NEAR SURFACE

SENSOR POSITION.--8 feet above streambed.

EXTREMES FOR OCTOBER 1990-SEPTEMBER 1991.--Maximum value recorded, 17.4 mg/L January 15, 1991; minimum value recorded, <1.0 mg/L August 12, 1991.

DAILY MEAN VALUES OF DISSOLVED OXYGEN, NEAR SURFACE (IN MILLIGRAMS PER LITER), OCTOBER 1990-SEPTEMBER 1991

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	---	11.4	---	10.7	---	---	8.8	8.2	7.8	4.6b	6.7	4.3b
2	---	11.1	---	10.7	---	---	9.4	7.7	7.1	4.6b	7.4b	3.6a
3	---	---	---	11.0	---	---	9.9	7.2	6.4b	4.8b	7.7b	4.6b
4	---	---	---	10.9	---	---	9.5	7.3	---	---	7.9	---
5	---	---	---	11.4	---	---	10.5	7.7	7.2b	---	8.4	8.4
6	---	---	---	12.0	---	---	10.2	7.2	---	---	---	8.7
7	---	---	---	11.3	---	---	9.9	7.2	7.2	---	7.4	8.2
8	---	---	---	11.2	---	---	9.6	7.1	7.4	---	6.8b	7.8
9	---	---	---	11.4	---	---	---	6.7	7.9	---	7.8	7.8
10	---	---	---	11.9	---	---	8.4	7.4	8.6	---	6.9b	8.1
11	---	---	---	12.1	---	---	8.7	6.8	8.5	6.7b	7.4	7.6
12	---	---	---	12.4	---	---	9.2	7.0	8.0	7.5	6.4a	8.0
13	---	---	---	11.9	---	---	8.7	7.6	8.7	6.3	5.4b	7.6
14	---	---	11.2	13.0	---	---	8.2	8.3	7.2	4.9b	6.5b	7.8
15	---	---	11.5	14.4	---	---	7.8	8.0	7.5	3.9b	6.0b	8.5b
16	---	---	11.5	13.2	---	---	8.1	8.2	7.7	3.6b	4.8b	8.9
17	---	---	11.6	12.0	---	---	8.0	7.8	7.1	3.0b	6.9a	8.9
18	---	---	11.7	12.3	---	---	7.9	7.5	6.7	2.6b	6.4b	8.9
19	---	---	10.8	13.0	---	---	7.4	6.5	6.7	2.9b	4.4b	8.7
20	---	---	10.5	13.1	---	---	7.9	7.0	7.2	3.4b	5.3b	6.4
21	---	---	10.6	11.9	---	11.1	8.1	8.1	6.0b	3.9b	5.0b	7.2
22	---	---	11.2	12.3	---	11.2	9.1	9.2	6.0b	4.3b	6.3b	7.9
23	---	---	11.6	13.0	---	11.1	9.6	9.2	4.3a	4.6b	6.3b	7.7
24	---	---	10.9	13.0	---	10.3	9.8	9.0	4.4b	4.1b	5.7b	8.6
25	---	---	10.6	---	---	9.9	9.7	8.7	5.1b	4.1b	4.7a	8.9
26	---	---	10.4	---	---	9.6	9.6	9.1	4.9b	3.7b	3.8a	8.2
27	---	---	10.6	---	---	9.5	9.2	9.1	5.3b	3.5b	4.4b	7.9
28	---	---	10.9	---	---	8.6	8.6	8.7	5.2b	4.0b	5.1b	8.8
29	---	---	11.4	---	---	8.3	8.8	8.7	5.0b	4.2b	4.6b	8.6
30	---	---	11.9	---	---	7.8	8.2	8.3	5.2b	4.6b	5.9b	8.6
31	---	---	11.2	---	---	8.0	---	8.7	---	5.6b	6.0b	---

Table 7.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 3, Pamlico River at Light 4, October 1990-September 1991--Continued

[Site 3 is at latitude 35°24'47", longitude 76°45'52", Beaufort County; U.S. Geological Survey downstream order number 0208454253; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

DISSOLVED OXYGEN, PERCENT SATURATION, NEAR SURFACE

SENSOR POSITION.--8 feet above streambed.

EXTREMES FOR OCTOBER 1990-SEPTEMBER 1991.--Maximum value recorded, 151 percent of saturation January 15, 1991; minimum value recorded, ≤10 percent of saturation August 12, 1991.

DAILY MEAN VALUES OF DISSOLVED OXYGEN, PERCENT SATURATION, NEAR SURFACE (IN PERCENT), OCTOBER 1990-SEPTEMBER 1991

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	---	114	---	96	---	---	89	98	101	60	86	56
2	---	112	---	96	---	---	96	91	92	60	95	45
3	---	---	---	98	---	---	100	83	83	62	99	58
4	---	---	---	98	---	---	96	84	---	---	103	---
5	---	---	---	101	---	---	107	88	91	---	111	104
6	---	---	---	106	---	---	105	83	81	---	---	109
7	---	---	---	101	---	---	103	84	---	---	96	102
8	---	---	---	98	---	---	103	83	88	---	87	97
9	---	---	---	98	---	---	---	79	94	---	101	97
10	---	---	---	103	---	---	93	88	104	---	90	101
11	---	---	---	104	---	---	96	81	103	89	96	94
12	---	---	---	108	---	---	100	82	97	99	83	100
13	---	---	---	104	---	---	93	91	106	84	70	94
14	---	---	100	113	---	---	87	100	89	65	84	98
15	---	---	101	125	---	---	84	98	94	52	77	107
16	---	---	102	115	---	---	88	101	97	48	62	114
17	---	---	102	106	---	---	89	97	90	40	89	114
18	---	---	105	108	---	---	88	93	84	34	83	115
19	---	---	99	112	---	---	81	78	84	37	56	112
20	---	---	96	113	---	---	86	82	91	44	68	79
21	---	---	98	104	---	105	87	94	77	51	63	87
22	---	---	105	105	---	109	97	109	77	57	81	93
23	---	---	111	108	---	111	102	110	55	61	81	90
24	---	---	106	108	---	104	104	109	55	54	74	102
25	---	---	98	---	---	99	105	107	64	55	60	105
26	---	---	96	---	---	96	106	114	61	49	49	97
27	---	---	95	---	---	96	102	114	66	46	56	92
28	---	---	97	---	---	88	98	109	66	52	65	101
29	---	---	101	---	---	87	102	110	64	55	60	98
30	---	---	107	---	---	82	97	106	67	60	78	99
31	---	---	103	---	---	82	---	112	---	72	79	---

Table 7.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 3, Pamlico River at Light 4, October 1990-September 1991--Continued

[Site 3 is at latitude 35°24'47", longitude 76°45'52", Beaufort County; U.S. Geological Survey downstream order number 0208454253; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

DISSOLVED OXYGEN, MID-DEPTH

SENSOR POSITION.--6 feet above streambed.

EXTREMES FOR OCTOBER 1990-SEPTEMBER 1991.--Maximum value recorded, 15.3 mg/L January 15, 1991; minimum value recorded, <1.0 mg/L June 22, 23, 1991.

DAILY MEAN VALUES OF DISSOLVED OXYGEN, MID-DEPTH (IN MILLIGRAMS PER LITER), OCTOBER 1990-SEPTEMBER 1991

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	---	10.7	---	10.6	---	---	---	7.4b	7.1b	3.0b	---	---
2	---	10.0	---	10.5	---	---	---	7.5b	6.5b	3.1a	---	---
3	---	9.7	---	10.8	---	---	---	7.6	4.7b	3.6a	---	---
4	---	9.8	---	10.7	---	---	---	7.8	4.4b	---	---	---
5	---	10.4	---	11.0	---	---	---	8.2	5.4b	---	---	8.4
6	---	8.8	---	11.5	---	---	---	7.7	5.4b	---	---	8.6
7	---	9.1	---	10.8	---	---	---	7.4	5.5b	---	---	8.5
8	---	9.5	---	10.9	---	---	---	7.6	6.1b	---	---	8.1b
9	---	12.3	---	11.2	---	---	---	7.4	7.0	---	---	8.0
10	---	11.4	---	11.5	---	---	8.0	7.9	7.9	---	---	8.1
11	---	9.1	---	11.8	---	---	8.6b	7.4	8.4	---	---	8.0
12	---	9.6	---	11.9	---	---	9.9	7.5	7.9	---	---	8.2
13	---	9.9	---	11.6	---	---	9.0	8.2	8.4	---	---	7.8
14	---	10.1	10.9	12.0	---	---	7.7b	8.9	7.8	---	---	7.6
15	---	10.4	11.1	12.8	---	---	7.3b	8.1	8.0	---	---	8.0b
16	---	10.6	11.1	12.7	---	---	7.5b	8.9	7.5	---	---	8.1
17	---	9.8	11.2	11.7	---	---	7.0b	8.2	5.3b	---	---	7.6
18	---	9.9	11.2	12.1	---	---	---	7.8	4.6b	---	---	7.8b
19	---	10.3	10.4	12.1	---	---	6.2b	7.0	4.0b	---	---	6.4a
20	---	---	10.3	11.9	---	---	6.9	7.1	4.3b	---	---	5.5a
21	---	---	10.3	11.7	---	11.5	7.1	7.6	1.9a	---	---	6.1
22	---	---	10.6	11.8	---	7.9	8.6	8.1	1.9a	---	---	---
23	---	---	11.5	11.8	---	5.5	9.0	8.9	1.2a	---	---	---
24	---	---	10.8	11.4	---	5.5	8.8	8.3	1.9a	---	---	---
25	---	---	10.5	---	---	5.2b	9.2	7.6	2.1a	---	---	---
26	---	---	10.4	---	---	5.7	9.7	8.2	2.2a	---	---	---
27	---	---	10.4	---	---	5.9	8.8	8.4	3.0a	---	---	---
28	---	---	10.7	---	---	5.9	8.3b	7.8	3.3b	---	---	---
29	---	---	11.1	---	---	6.3	9.5	7.5	3.0a	---	---	---
30	---	---	11.5	---	---	---	8.3	7.9b	3.3a	---	---	---
31	---	---	11.0	---	---	---	---	7.7b	---	---	---	---

Table 7.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 3, Pamlico River at Light 4, October 1990-September 1991--Continued

[Site 3 is at latitude 35°24'47", longitude 76°45'52", Beaufort County; U.S. Geological Survey downstream order number 0208454253; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

DISSOLVED OXYGEN, PERCENT SATURATION, MID-DEPTH

SENSOR POSITION.--6 feet above streambed.

EXTREMES FOR OCTOBER 1990-SEPTEMBER 1991.--Maximum value recorded, 148 percent of saturation September 18, 1991; minimum value recorded, ≤10 percent of saturation June 21, 22, 23, September 20, 1991.

DAILY MEAN VALUES OF DISSOLVED OXYGEN, PERCENT SATURATION, MID-DEPTH (IN PERCENT), OCTOBER 1990-SEPTEMBER 1991

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	---	107	---	95	---	---	---	89	91	40	---	---
2	---	101	---	94	---	---	---	89	84	41	---	---
3	---	99	---	96	---	---	---	88	60	47	---	---
4	---	101	---	95	---	---	---	89	56	---	---	---
5	---	108	---	97	---	---	---	94	68	---	---	104
6	---	93	---	102	---	---	---	89	67	---	---	108
7	---	95	---	97	---	---	---	87	67	---	---	106
8	---	97	---	95	---	---	---	90	73	---	---	100
9	---	---	---	96	---	---	---	86	84	---	---	99
10	---	---	---	99	---	---	88	94	96	---	---	100
11	---	---	---	102	---	---	94	88	102	---	---	98
12	---	94	---	104	---	---	107	88	95	---	---	102
13	---	96	---	102	---	---	96	98	103	---	---	98
14	---	96	97	104	---	---	82	108	96	---	---	95
15	---	99	98	111	---	---	78	99	99	---	---	101
16	---	101	99	111	---	---	82	109	94	---	---	104
17	---	93	100	103	---	---	77	103	67	---	---	97
18	---	92	100	106	---	---	---	97	57	---	---	100
19	---	94	96	105	---	---	68	83	50	---	---	82
20	---	---	94	103	---	---	75	83	54	---	---	67
21	---	---	95	102	---	109	75	88	24	---	---	73
22	---	---	100	101	---	77	91	96	25	---	---	---
23	---	---	111	98	---	55	95	106	16	---	---	---
24	---	---	104	94	---	56	94	100	23	---	---	---
25	---	---	98	---	---	52	99	93	26	---	---	---
26	---	---	95	---	---	57	107	102	27	---	---	---
27	---	---	94	---	---	60	98	105	37	---	---	---
28	---	---	95	---	---	60	95	98	42	---	---	---
29	---	---	98	---	---	66	110	95	39	---	---	---
30	---	---	103	---	---	---	98	101	43	---	---	---
31	---	---	101	---	---	---	---	99	---	---	---	---

Table 7.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 3, Pamlico River at Light 4, October 1990-September 1991--Continued

[Site 3 is at latitude 35°24'47", longitude 76°45'52", Beaufort County; U.S. Geological Survey downstream order number 0208454253; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

DISSOLVED OXYGEN, NEAR BOTTOM

SENSOR POSITION.--2 feet above streambed.

EXTREMES FOR OCTOBER 1990-SEPTEMBER 1991.--Maximum value recorded, 18.3 mg/L March 21, 1991; minimum value recorded, <1.0 mg/L April 30, May 1, 2, 3, June 21, July 11, 24, August 7, 9-18, 23, 24, September 8, 14, 1991.

DAILY MEAN VALUES OF DISSOLVED OXYGEN, NEAR BOTTOM (IN MILLIGRAMS PER LITER), OCTOBER 1990-SEPTEMBER 1991

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	---	8.0	---	10.0	---	---	4.9b	2.2a	---	3.3b	---	---
2	---	6.0b	---	10.1	---	---	4.5b	2.7a	---	4.2b	---	---
3	---	6.7	---	10.1	---	---	4.3b	3.6a	---	3.8b	---	---
4	---	7.1	---	10.2	---	---	4.3b	6.8b	---	---	---	---
5	---	6.4	---	10.4	---	---	4.1b	6.9b	---	---	---	6.8b
6	---	6.8	---	10.5	---	---	3.9b	6.7b	---	---	---	5.7b
7	---	6.2	---	10.1	---	---	4.1b	5.8b	---	---	4.2a	5.4b
8	---	8.2b	---	10.4	---	---	3.8b	6.2b	---	---	3.7a	4.7a
9	---	10.7	---	10.7	---	---	---	6.1b	---	---	5.2a	6.5b
10	---	10.7	---	10.9	---	---	---	5.6b	---	---	2.8a	5.6b
11	---	8.4	---	11.2	---	---	---	6.1b	---	1.3a	2.0a	5.5b
12	---	8.8	---	10.6	---	---	---	5.3b	---	1.5a	<1.0a	5.6b
13	---	9.7	---	11.0	---	---	---	6.3b	---	1.4a	3.4a	5.8b
14	---	10.7	10.1	11.1	---	---	---	---	2.6b	1.4a	2.7a	4.0a
15	---	11.0	10.1	11.0	---	---	---	---	3.3b	2.4a	1.3a	5.3b
16	---	11.1	10.0	10.1	---	---	---	---	3.7b	2.5a	<1.0a	5.8b
17	---	10.3	10.0	10.6	---	---	---	---	3.8a	1.9a	<1.0a	5.5b
18	---	11.2	9.9	11.3	---	---	---	---	4.5b	1.8a	1.5a	---
19	---	11.3	9.8	10.9	---	---	---	---	5.3b	2.2a	3.6a	---
20	---	---	9.7	10.7	---	---	---	---	6.7b	2.3b	4.0a	---
21	---	---	9.7	10.8	---	15.1	---	7.9b	3.3a	2.3b	3.1a	---
22	---	---	9.4	12.3	---	10.6	---	---	---	2.4b	3.2a	---
23	---	---	9.8	11.6	---	9.8	---	---	---	2.2a	4.0a	---
24	---	---	10.0	10.4	---	10.5	---	---	3.5b	2.1a	3.9a	---
25	---	---	9.8	---	---	11.1	---	---	3.5b	1.4a	3.0a	---
26	---	---	9.6	---	---	10.7	---	---	3.3b	1.3a	---	---
27	---	---	9.8	---	---	10.6	6.8b	---	3.1b	1.3a	---	---
28	---	---	9.9	---	---	8.8	4.9b	---	3.0b	---	---	---
29	---	---	10.2	---	---	7.2	4.1a	---	2.9b	---	---	---
30	---	---	9.8	---	---	6.1	4.7a	---	3.3b	---	---	---
31	---	---	10.0	---	---	5.3b	---	---	---	---	---	---

Table 7.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 3, Pamlico River at Light 4, October 1990-September 1991--Continued

{Site 3 is at latitude 35°24'47", longitude 76°45'52", Beaufort County; U.S. Geological Survey downstream order number 0208454253; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to}

DISSOLVED OXYGEN, PERCENT SATURATION, NEAR BOTTOM

SENSOR POSITION.--2 feet above streambed.

EXTREMES FOR OCTOBER 1990-SEPTEMBER 1991.--Maximum value recorded, 170 percent of saturation March 21, 1991; minimum value recorded, ≤10 percent of saturation April 30, May 1, 2, June 21, July 24, August 7, 9-18, 23, 1991.

DAILY MEAN VALUES OF DISSOLVED OXYGEN, PERCENT SATURATION, NEAR BOTTOM (IN PERCENT), OCTOBER 1990-SEPTEMBER 1991

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	---	80	---	90	---	---	50	26	---	44	---	---
2	---	61	---	91	---	---	46	32	---	55	---	---
3	---	69	---	90	---	---	44	42	---	50	---	---
4	---	73	---	91	---	---	43	78	---	---	---	---
5	---	67	---	92	---	---	42	80	---	---	---	85
6	---	71	---	93	---	---	40	78	---	---	---	71
7	---	64	---	90	---	---	43	68	---	---	54	67
8	---	84	---	91	---	---	41	73	---	---	48	59
9	---	---	---	92	---	---	---	72	---	---	67	80
10	---	---	---	93	---	---	---	66	---	---	37	70
11	---	---	---	96	---	---	---	72	---	17	26	68
12	---	86	---	92	---	---	---	63	---	19	12	71
13	---	94	---	96	---	---	---	75	---	19	43	72
14	---	102	90	96	---	---	---	---	32	18	35	50
15	---	105	89	95	---	---	---	---	41	31	16	67
16	---	105	89	88	---	---	---	---	46	32	≤10	74
17	---	98	88	93	---	---	---	---	49	25	≤10	70
18	---	105	89	99	---	---	---	---	57	24	20	---
19	---	103	90	94	---	---	---	---	67	29	46	---
20	---	---	89	93	---	---	---	---	84	30	51	---
21	---	---	89	94	---	143	---	92	42	31	39	---
22	---	---	88	105	---	103	---	---	60	31	41	---
23	---	---	94	96	---	98	---	---	43	30	51	---
24	---	---	97	86	---	107	---	---	44	27	50	---
25	---	---	92	---	---	111	---	---	44	18	39	---
26	---	---	88	---	---	107	---	---	41	17	---	---
27	---	---	88	---	---	107	75	---	39	17	---	---
28	---	---	88	---	---	91	56	---	38	---	---	---
29	---	---	90	---	---	75	48	---	38	---	---	---
30	---	---	88	---	---	64	56	---	43	---	---	---
31	---	---	92	---	---	55	---	---	---	---	---	---

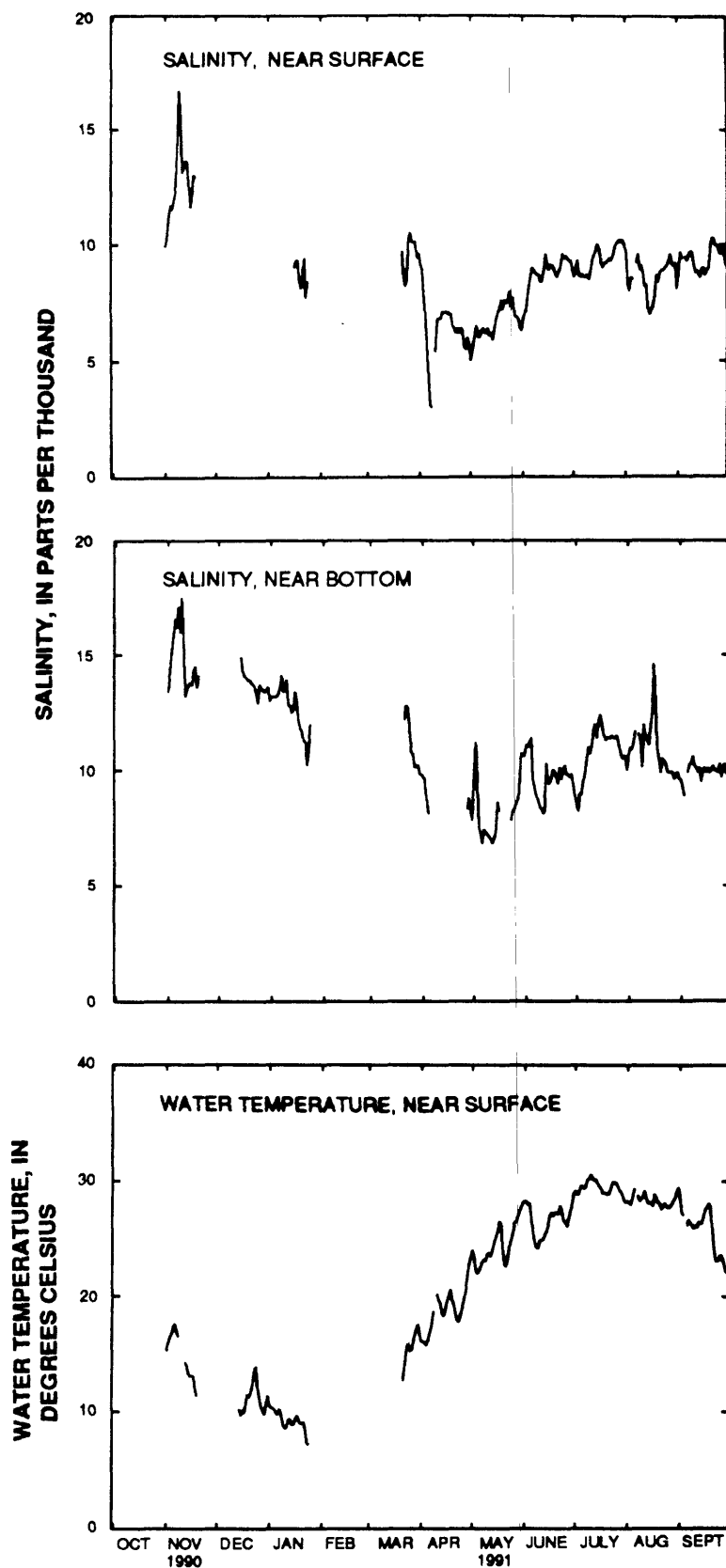


Figure 25.--Daily mean salinity and water temperature at site 3, Pamlico River at Light 4, October 1990-September 1991.

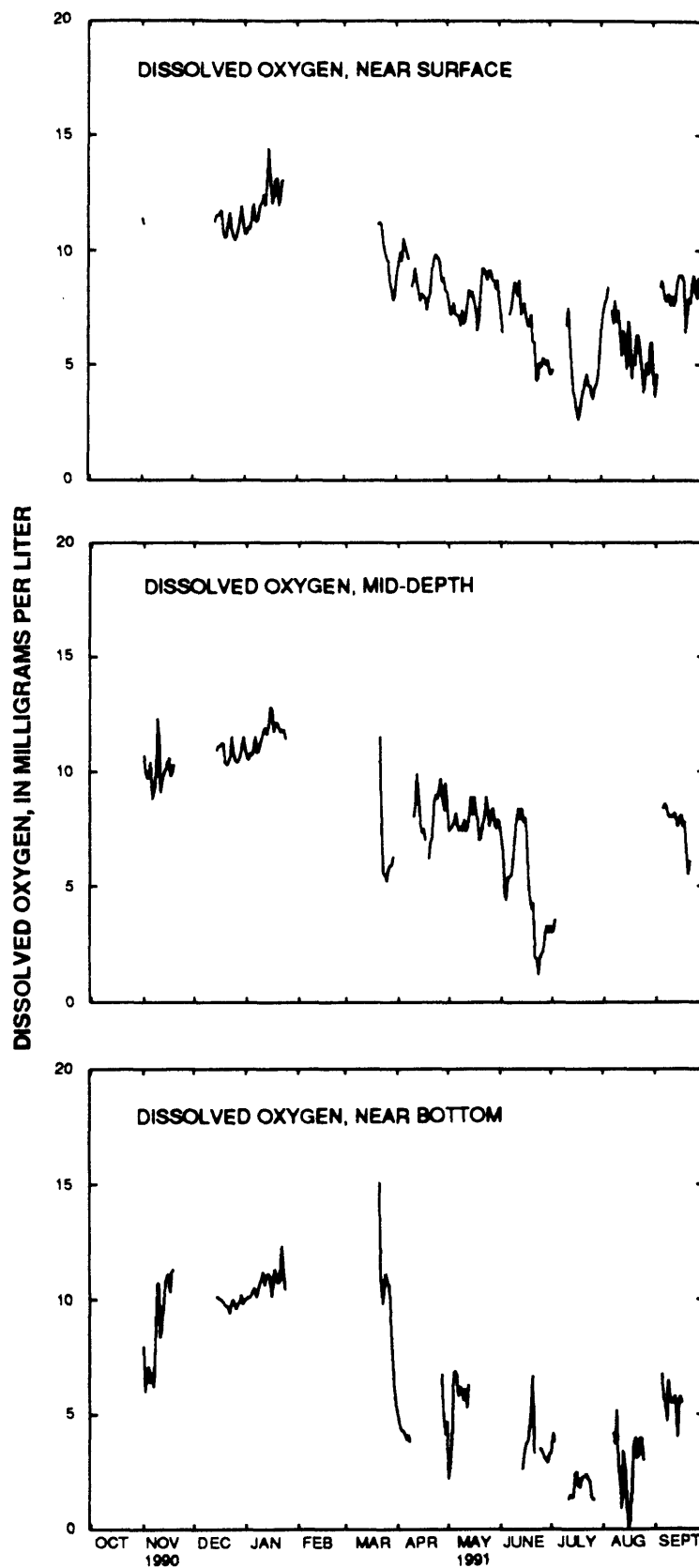


Figure 26.--Daily mean dissolved-oxygen concentrations at site 3, Pamlico River at Light 4, October 1990-September 1991.

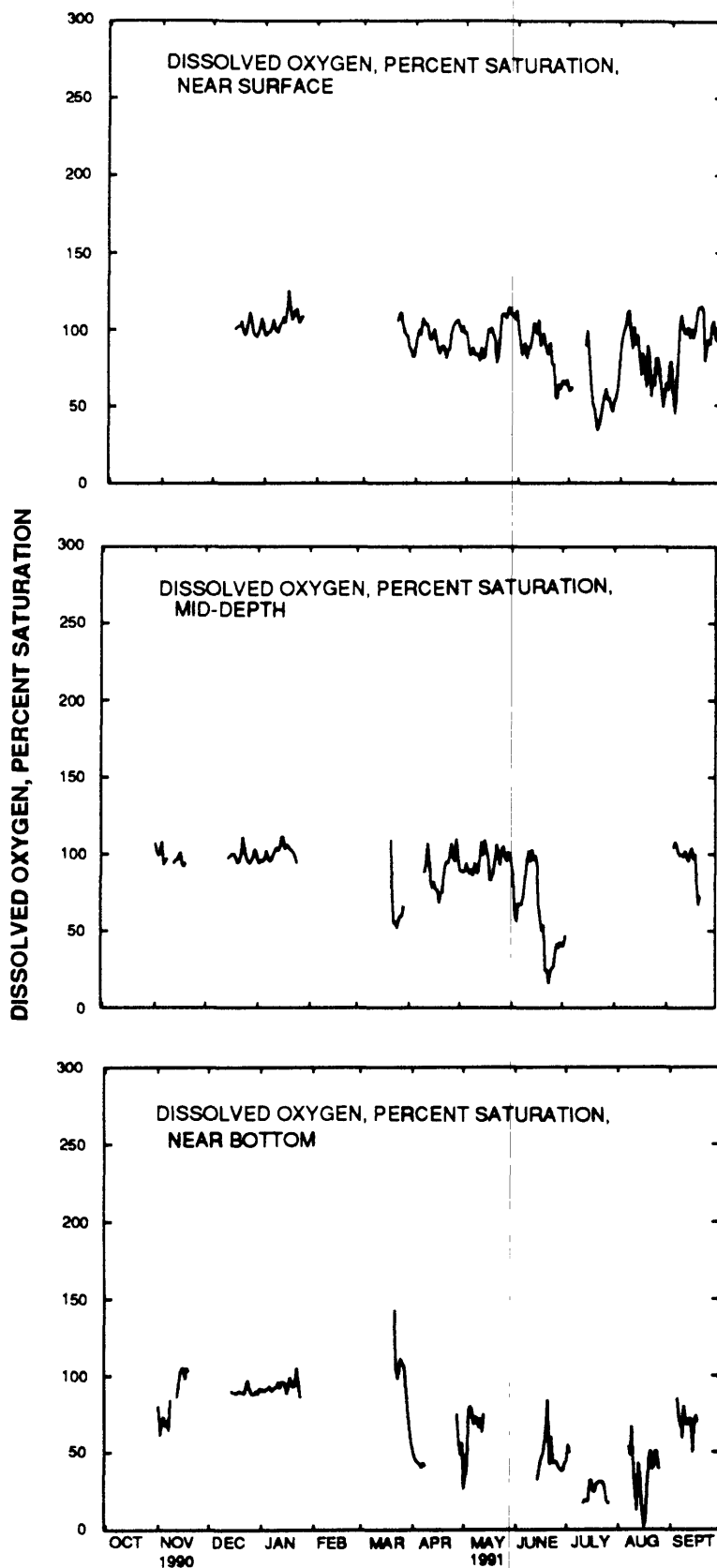


Figure 27.--Daily mean dissolved oxygen, percent saturation, at site 3, Pamlico River at Light 4, October 1990-September 1991.

Table 8.--Five-day mean water temperature and dissolved-oxygen values in water at site 3, Pamlico River at Light 4, October 1990-September 1991, for day and night periods

[°C, degrees Celsius; mg/L, milligram per liter; Day, 9:15 a.m.-9:00 p.m.; Night, 9:15 p.m.-9:00 a.m.; --, no data]

Date	Mean water temperature, near surface (°C)		Mean dissolved oxygen, near surface (mg/L)		Mean dissolved oxygen, mid-depth (mg/L)		Mean dissolved oxygen, near bottom (mg/L)	
	Day	Night	Day	Night	Day	Night	Day	Night
10/01/90-10/05/90	--	--	--	--	--	--	--	--
10/06/90-10/10/90	--	--	--	--	--	--	--	--
10/11/90-10/15/90	--	--	--	--	--	--	--	--
10/16/90-10/20/90	--	--	--	--	--	--	--	--
10/21/90-10/25/90	--	--	--	--	--	--	--	--
10/26/90-10/30/90	--	--	--	--	--	--	--	--
10/31/90-11/04/90	16.0	16.1	11.6	10.8	10.4	9.8	7.4	7.1
11/05/90-11/09/90	17.1	17.2	--	--	10.4	10.2	8.1	8.0
11/10/90-11/14/90	14.2	13.9	--	--	10.1	9.5	9.8	9.3
11/15/90-11/19/90	12.6	12.2	--	--	10.3	10.1	11.2	10.6
11/20/90-11/24/90	11.5	--	--	--	10.3	--	10.0	--
11/25/90-11/29/90	--	--	--	--	--	--	--	--
11/30/90-12/04/90	--	--	--	--	--	--	--	--
12/05/90-12/09/90	--	--	--	--	--	--	--	--
12/10/90-12/14/90	10.3	10.0	11.6	11.5	11.2	11.0	10.2	10.0
12/15/90-12/19/90	10.4	10.5	11.5	11.2	11.1	10.8	10.1	9.7
12/20/90-12/24/90	12.7	12.6	11.1	10.8	10.8	10.6	9.8	9.7
12/25/90-12/29/90	10.6	10.5	10.9	10.8	10.8	10.6	10.0	9.8
12/30/90- 1/03/91	10.7	10.6	11.2	10.9	11.0	10.7	10.1	10.0
1/04/91- 1/08/91	10.0	9.7	11.4	11.3	11.1	10.9	10.4	10.3
1/09/91- 1/13/91	9.0	8.9	12.2	12.0	11.8	11.6	11.0	10.8
1/14/91- 1/18/91	9.4	9.2	13.1	12.8	12.4	12.1	11.0	10.5
1/19/91- 1/23/91	8.6	8.2	13.0	12.5	12.0	11.8	11.5	11.0
1/24/91- 1/28/91	7.3	7.0	12.8	12.6	10.7	10.2	10.2	9.3
1/29/91- 2/02/91	--	--	--	--	--	--	--	--
2/03/91- 2/07/91	--	--	--	--	--	--	--	--
2/08/91- 2/12/91	--	--	--	--	--	--	--	--
2/13/91- 2/17/91	--	--	--	--	--	--	--	--
2/18/91- 2/22/91	--	--	--	--	--	--	--	--
2/23/91- 2/27/91	--	--	--	--	--	--	--	--
2/28/91- 3/04/91	--	--	--	--	--	--	--	--
3/05/91- 3/09/91	--	--	--	--	--	--	--	--
3/10/91- 3/14/91	--	--	--	--	--	--	--	--
3/15/91- 3/19/91	--	--	--	--	--	--	--	--
3/20/91- 3/24/91	14.4	14.2	11.0	10.6	8.0	7.6	11.9	11.8
3/25/91- 3/29/91	16.2	16.3	9.4	8.7	5.9	5.8	9.8	8.9
3/30/91- 4/03/91	16.6	16.1	9.2	8.7	--	--	5.0	4.7

Table 8.--Five-day mean water temperature and dissolved-oxygen values in water at site 3, Pamlico River at Light 4, October 1990-September 1991, for day and night periods--Continued

[°C, degrees Celsius; mg/L, milligram per liter; Day, 9:15 a.m.-9:00 p.m.; Night, 9:15 p.m.-9:00 a.m.; --, no data]

Date	Mean water temperature, near surface (°C)		Mean dissolved oxygen, near surface (mg/L)		Mean dissolved oxygen, mid-depth (mg/L)		Mean dissolved oxygen, near bottom (mg/L)	
	Day	Night	Day	Night	Day	Night	Day	Night
4/04/91- 4/08/91	17.2	17.2	10.2	9.4	--	--	4.1	3.9
4/09/91- 4/13/91	19.7	19.3	8.9	8.5	9.3	8.4	3.4	--
4/14/91- 4/18/91	19.6	19.6	8.1	7.6	7.4	6.6	--	--
4/19/91- 4/23/91	18.6	18.3	8.7	8.6	8.0	7.6	--	--
4/24/91- 4/28/91	20.2	20.1	9.6	9.0	9.2	8.8	7.1	5.3
4/29/91- 5/03/91	23.3	23.1	8.1	7.7	8.1	7.7	3.6	4.0
5/04/91- 5/08/91	22.8	22.6	7.5	7.0	8.0	7.5	6.5	6.4
5/09/91- 5/13/91	23.9	23.6	7.4	7.0	7.9	7.6	5.9	5.8
5/14/91- 5/18/91	25.9	25.5	8.2	7.5	8.4	8.1	--	--
5/19/91- 5/23/91	23.5	23.3	8.4	8.1	8.0	7.7	7.9	6.4
5/24/91- 5/28/91	26.4	26.2	9.0	8.8	8.1	7.8	--	--
5/29/91- 6/02/91	27.9	28.1	8.0	7.9	7.4	6.9	--	--
6/03/91- 6/07/91	26.6	26.0	6.8	7.0	5.2	5.1	--	--
6/08/91- 6/12/91	24.9	24.5	8.4	8.0	7.6	7.6	--	--
6/13/91- 6/17/91	26.5	26.5	7.9	7.1	7.5	6.7	3.6	3.3
6/18/91- 6/22/91	27.4	27.4	6.9	5.8	3.4	2.8	5.1	4.7
6/23/91- 6/27/91	26.8	26.4	5.2	4.5	2.3	2.1	3.3	3.3
6/28/91- 7/02/91	28.6	28.6	5.1	4.7	3.3	3.1	3.4	3.4
7/03/91- 7/07/91	29.4	29.6	4.9	5.1	3.6	4.0	4.0	4.3
7/08/91- 7/12/91	30.4	30.2	7.6	6.5	--	--	1.6	1.6
7/13/91- 7/17/91	29.7	29.3	4.5	3.7	--	--	1.8	2.0
7/18/91- 7/22/91	29.2	29.1	3.6	3.5	--	--	2.2	2.3
7/23/91- 7/27/91	29.8	29.5	4.2	3.7	--	--	1.6	1.6
7/28/91- 8/01/91	28.6	28.4	5.3	5.3	--	--	--	--
8/02/91- 8/06/91	28.9	28.8	8.2	7.9	--	--	4.5	4.1
8/07/91- 8/11/91	28.7	28.6	7.4	6.9	--	--	3.6	3.0
8/12/91- 8/16/91	28.3	28.1	5.9	5.7	--	--	1.8	1.4
8/17/91- 8/21/91	28.4	28.0	5.9	5.2	--	--	2.8	2.7
8/22/91- 8/26/91	27.9	27.8	5.7	4.8	--	--	3.8	3.2
8/27/91- 8/31/91	28.8	28.9	5.3	5.3	--	--	--	--
9/01/91- 9/05/91	27.2	26.8	6.1	5.4	8.6	8.4	7.1	5.9
9/06/91- 9/10/91	26.4	26.1	8.3	7.7	8.3	8.0	6.1	5.1
9/11/91- 9/15/91	26.6	26.6	8.3	7.7	8.1	7.8	5.2	5.4
9/16/91- 9/20/91	27.5	27.0	8.9	7.6	7.2	6.6	5.1	4.6
9/21/91- 9/25/91	23.5	23.3	8.4	8.0	6.2	5.7	--	--
9/26/91- 9/30/91	22.7	22.2	8.5	8.3	--	--	--	--

Table 9.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 4, Pamlico River at Light 3, October 1990-September 1991

[Site 4 is at latitude 35°21'24", longitude 76°38'48", Beaufort County; U.S. Geological Survey downstream order number 0208455155; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

SALINITY, NEAR SURFACE

SENSOR POSITION.--8 feet above streambed.

EXTREMES FOR OCTOBER 1990-SEPTEMBER 1991.--Maximum value recorded, 16.2 ppt November 10, 18, 1990; minimum value recorded, 4.5 ppt January 30, 1991.

DAILY MEAN VALUES OF SALINITY, NEAR SURFACE (IN PARTS PER THOUSAND), OCTOBER 1990-SEPTEMBER 1991

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	---	11.7	---	14.9	11.3	13.2	11.2	7.0	8.0	9.9	12.5	11.0
2	---	11.0	---	14.4	11.7	13.6	11.1	---	8.2	10.2	12.2	11.5
3	---	10.1	---	14.2	11.7	13.4	11.0	8.0	8.3	10.3	11.2	---
4	---	9.7	---	14.6	11.2	13.0	10.6	8.8	8.4	10.1	10.5	---
5	---	9.8	---	14.1	10.8	13.3	10.4	9.5	8.9	10.0	10.5	---
6	---	12.8	---	12.6	9.5	13.2	8.6	9.3	10.0	9.7	11.3	---
7	---	13.6	---	12.2	10.1	12.8	6.5	9.2	9.9	10.0	---	---
8	---	14.2	---	12.9	11.6	13.1	6.3	9.2	9.8	10.0	---	---
9	---	14.9	---	12.7	12.2	12.4	---	9.6	9.8	10.1	11.0	---
10	10.7	15.2	---	12.9	10.0	11.5	6.7	9.5	9.7	10.0	10.4	---
11	10.4	15.4	---	13.6	10.0	10.9	6.7	9.7	9.7	10.1	12.1	---
12	10.2	15.0	---	13.6	10.7	10.3	8.6	9.4	9.9	11.4	13.2	---
13	10.0	15.4	---	13.9	11.9	10.9	9.5	9.1	---	11.7	9.7	---
14	9.7	15.3	14.7	13.4	13.1	11.5	8.7	9.1	10.8	11.3	9.5	---
15	10.0	14.3	14.3	11.7	12.7	12.4	9.1	8.7	10.5	10.8	9.2	11.9
16	10.2	13.8	14.8	12.5	---	11.8	9.0	9.3	10.3	11.0	8.8	11.8
17	10.8	14.2	14.8	12.1	12.7	10.6	8.9	9.3	10.4	11.2	8.9	11.1
18	11.6	15.6	14.9	12.1	12.9	12.2	9.3	9.3	10.4	11.2	9.9	11.5
19	12.0	14.1	15.4	10.9	13.0	12.1	10.4	10.3	10.3	11.3	10.4	11.7
20	12.6	---	15.5	11.0	13.0	12.1	9.8	10.1	10.0	11.4	10.7	12.3
21	12.9	---	15.1	10.9	13.0	11.2	9.6	9.8	9.6	11.2	10.7	12.6
22	13.1	---	14.8	11.1	12.8	11.4	8.9	---	9.8	11.3	10.8	12.9
23	13.4	---	14.6	10.4	13.3	11.5	9.2	9.7	9.6	11.6	11.0	12.2
24	13.3	---	15.1	10.4	13.3	11.4	9.2	9.4	10.0	11.7	11.1	11.9
25	14.2	---	15.5	10.4	13.1	11.5	9.0	8.9	10.1	12.1	11.5	11.5
26	13.9	---	15.2	10.7	13.2	12.1	8.8	8.7	10.2	12.3	11.5	11.0
27	14.0	---	15.5	9.6	13.5	11.9	8.4	8.6	10.1	12.3	11.3	11.1
28	13.4	---	14.9	8.3	12.9	11.6	8.1	8.9	9.7	12.4	11.0	11.4
29	14.2	---	14.6	8.0	---	11.8	8.2	8.9	9.7	12.7	11.2	11.1
30	13.7	---	12.7	7.3	---	11.7	7.6	8.1	9.8	12.6	11.0	10.9
31	12.0	---	14.8	9.7	---	11.9	---	7.9	---	12.7	10.6	---

Table 9.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 4, Pamlico River at Light 3, October 1990-September 1991--Continued

[Site 4 is at latitude 35°21'24", longitude 76°38'48", Beaufort County; U.S. Geological Survey downstream order number 0208455155; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

SALINITY, NEAR BOTTOM

SENSOR POSITION.--2 feet above streambed.

EXTREMES FOR OCTOBER 1990-SEPTEMBER 1991.--Maximum value recorded, 20.4 ppt November 5, 1990; minimum value recorded, 6.1 ppt April 11, 1991.

DAILY MEAN VALUES OF SALINITY, NEAR BOTTOM (IN PARTS PER THOUSAND), OCTOBER 1990-SEPTEMBER 1991

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	11.2	13.0	---	15.1	12.7	13.8	11.4	9.1	10.3	10.3	---	11.2
2	11.3	13.2	---	14.7	12.7	14.1	11.1	---	10.3	10.6	---	12.0
3	---	13.7	---	14.6	12.5	14.0	11.1	---	10.4	10.7	---	---
4	11.6	13.6	---	14.9	11.8	13.4	11.2	---	10.4	10.9	---	---
5	11.5	16.6	---	14.4	11.7	13.7	10.9	---	10.8	10.5	---	---
6	11.7	14.2	---	13.4	12.5	13.6	10.7	---	11.4	10.0	---	---
7	11.6	14.0	---	13.2	13.3	13.3	10.9	---	11.1	10.2	---	---
8	11.2	14.4	---	13.1	12.4	13.5	10.7	---	11.0	10.0	---	---
9	12.1	15.3	---	12.8	12.6	13.0	---	---	10.7	10.2	11.6	---
10	12.4	15.6	---	13.5	11.7	12.2	7.9	---	10.5	10.6	11.2	---
11	12.4	15.6	---	14.0	10.7	11.1	8.2	---	10.8	11.7	13.3	11.9
12	12.6	15.4	---	13.8	11.3	10.9	10.6	---	10.4	12.3	14.6	12.1
13	12.6	15.6	---	13.9	13.0	12.1	9.7	---	---	11.7	11.2	12.7
14	12.1	15.6	15.1	13.7	13.4	11.7	9.6	---	11.5	11.5	11.0	---
15	12.2	15.0	14.8	12.8	13.4	12.6	9.7	---	10.9	11.9	10.3	12.3
16	12.6	14.4	15.3	13.6	13.0	12.6	9.4	---	10.7	12.2	9.3	12.9
17	12.9	14.5	15.5	12.3	13.1	13.0	9.9	---	10.8	11.8	10.7	12.4
18	12.8	16.0	15.5	12.2	13.6	13.0	---	---	10.9	11.7	11.5	13.3
19	12.4	15.2	15.8	11.8	13.5	12.3	---	---	10.9	11.5	10.7	12.7
20	12.8	---	15.9	11.5	13.4	12.9	---	---	10.8	11.5	10.6	12.4
21	12.7	---	15.6	11.0	13.6	13.6	---	---	10.2	11.5	10.4	12.8
22	12.9	---	15.4	11.4	13.4	14.2	---	---	10.8	---	10.4	13.1
23	12.9	---	15.1	11.9	13.7	14.9	---	9.7	9.8	---	10.4	13.0
24	12.8	---	15.6	10.6	13.7	12.1	---	9.7	10.2	---	10.4	12.8
25	13.3	---	15.9	10.5	13.7	12.5	---	9.8	10.5	---	10.7	12.6
26	12.9	---	15.6	11.0	14.0	12.3	---	10.2	10.8	---	10.7	12.3
27	13.0	---	15.9	10.7	14.0	11.8	---	10.3	10.9	---	10.6	12.4
28	12.6	---	15.3	11.2	13.6	11.6	---	9.4	10.6	---	10.5	12.7
29	13.0	---	15.3	11.5	---	12.1	8.6	9.7	10.6	---	10.8	12.7
30	13.1	---	14.5	12.4	---	11.6	9.1	11.4	10.1	---	10.8	12.4
31	12.4	---	15.1	10.6	---	11.8	---	10.5	---	---	10.6	---

Table 9.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 4, Pamlico River at Light 3, October 1990-September 1991--Continued

[Site 4 is at latitude 35°21'24", longitude 76°38'48", Beaufort County; U.S. Geological Survey downstream order number 0208455155; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

WATER TEMPERATURE, NEAR SURFACE

SENSOR POSITION.--8 feet above streambed.

EXTREMES FOR OCTOBER 1990-SEPTEMBER 1991.--Maximum value recorded, 33.3 °C July 9, 1991; minimum value recorded, 3.5 °C January 27, 1991.

DAILY MEAN VALUES OF WATER TEMPERATURE, NEAR SURFACE (IN DEGREES CELSIUS), OCTOBER 1990-SEPTEMBER 1991

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	22.9	15.2	---	10.9	7.9	9.7	16.8	23.0	28.0	26.9	27.6	27.5
2	22.9	15.9	---	10.7	8.0	10.6	16.8	---	28.1	27.0	27.6	26.0
3	---	16.1	---	10.6	8.8	11.3	16.6	21.1	27.5	28.0	27.9	25.6
4	22.9	16.7	---	10.4	9.7	11.9	16.8	20.1	28.4	28.5	28.7	25.6
5	23.0	16.9	---	9.9	10.0	11.9	17.2	20.3	27.1	28.6	29.1	26.1
6	23.0	16.9	---	9.8	10.8	11.6	18.2	21.0	25.9	28.8	28.9	26.2
7	23.6	16.6	---	10.2	10.8	12.3	19.2	22.0	24.8	29.5	---	26.2
8	23.8	16.0	---	9.7	10.5	11.9	19.5	21.7	24.2	29.5	---	25.7
9	24.2	14.7	---	9.1	9.9	11.3	---	21.8	24.7	30.1	28.1	25.4
10	24.1	15.3	---	8.9	9.9	10.9	20.7	22.0	24.7	30.0	---	25.4
11	23.7	14.5	---	9.1	10.0	10.7	20.2	22.2	24.5	29.6	---	25.4
12	24.3	13.5	---	9.9	9.3	10.3	19.2	22.5	24.3	29.4	---	26.1
13	24.8	13.7	---	9.7	9.3	10.3	18.5	22.5	---	29.4	---	26.3
14	24.9	13.4	10.2	9.3	10.2	10.7	18.2	22.7	25.6	29.6	28.2	26.6
15	24.7	---	10.0	9.0	9.6	10.3	18.7	23.2	26.4	29.1	27.7	27.0
16	23.8	13.0	10.4	9.9	7.7	10.1	19.6	24.0	26.6	28.4	27.8	27.0
17	23.1	---	10.3	10.2	6.4	10.3	20.2	24.7	26.3	28.4	27.6	27.3
18	22.8	---	10.6	9.8	7.0	11.1	20.4	24.6	25.6	28.0	---	27.5
19	20.9	---	11.8	9.2	8.0	11.6	19.4	22.2	26.7	27.9	---	27.5
20	19.9	---	11.6	9.3	9.0	11.8	18.9	21.8	26.2	28.0	---	25.6
21	19.8	---	12.0	9.4	9.7	12.8	18.0	22.0	26.5	28.5	---	23.6
22	19.3	---	12.9	8.6	10.5	13.9	16.9	---	27.2	28.5	---	22.8
23	20.3	---	13.5	6.7	10.0	15.0	16.9	22.8	27.3	28.8	---	22.9
24	20.2	---	13.4	6.3	9.5	15.9	17.5	23.3	26.6	29.2	---	23.0
25	20.1	---	12.3	6.9	9.8	16.2	18.1	24.1	26.0	29.1	---	23.3
26	18.2	---	11.3	5.7	9.5	16.2	18.3	25.0	25.7	28.7	26.7	22.7
27	16.5	---	10.5	4.6	9.0	16.7	19.1	25.0	25.8	28.4	26.7	22.5
28	15.5	---	10.5	5.1	9.1	17.7	20.1	24.9	26.4	28.5	26.8	22.0
29	15.2	---	10.3	5.7	---	18.2	20.8	27.0	27.5	28.0	27.5	21.9
30	14.5	---	10.7	6.5	---	18.6	21.8	27.0	27.2	27.6	28.0	21.9
31	14.5	---	11.7	8.0	---	17.3	---	27.7	---	27.5	27.8	---

Table 9.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 4, Pamlico River at Light 3, October 1990-September 1991--Continued

[Site 4 is at latitude 35°21'24", longitude 76°38'48", Beaufort County; U.S. Geological Survey downstream order number 0208455155; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

DISSOLVED OXYGEN, NEAR SURFACE

SENSOR POSITION.--8 feet above streambed.

EXTREMES FOR OCTOBER 1990-SEPTEMBER 1991.--Maximum value recorded, 11.5 mg/L March 21, 1991; minimum value recorded, 1.5 mg/L May 31, 1991.

DAILY MEAN VALUES OF DISSOLVED OXYGEN, NEAR SURFACE (IN MILLIGRAMS PER LITER), OCTOBER 1990-SEPTEMBER 1991

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	---	8.4	---	---	---	---	8.8	8.6	---	---	---	---
2	---	8.9	---	---	---	---	8.7	---	---	---	---	---
3	---	9.5	---	---	---	---	8.6	6.7	---	---	---	---
4	---	9.8	---	---	---	---	8.8	6.2	---	---	---	---
5	7.8	9.5	---	---	---	---	8.7	6.3	---	---	---	---
6	7.8	8.5	---	---	---	---	9.0	6.2	---	---	---	---
7	8.0	8.3	---	---	---	---	9.5	6.2	---	---	---	---
8	8.1	8.2	---	---	---	---	9.3	5.9	---	---	---	---
9	6.9b	8.3	---	---	---	---	---	5.7	---	---	---	---
10	6.6	8.0	---	---	---	---	8.2	6.0	---	---	---	---
11	6.7	8.3	---	---	---	---	8.4	6.0	---	---	---	7.1
12	7.1	8.9	---	---	---	---	7.9	6.1	---	---	---	7.0
13	7.2	9.3	---	---	---	---	7.7	6.0	---	---	---	7.8
14	7.5	9.5	---	---	---	---	8.1	6.1	7.6	---	---	7.9
15	7.2	10.1	---	---	---	---	7.8	6.7	7.1	---	---	7.9
16	6.8	10.4	---	---	---	---	7.8	---	5.5b	---	---	7.8
17	6.6	10.2	---	---	---	---	8.3	---	---	---	---	7.8
18	6.1	10.1	---	---	---	---	8.1	---	---	---	---	7.6
19	6.4	10.4	---	---	---	---	8.1	---	---	---	---	7.5
20	6.4	---	---	---	---	---	8.1	---	---	---	---	6.6
21	6.7	---	---	---	---	10.9	7.0	---	---	---	---	6.6
22	6.5	---	---	---	---	10.8	7.5	---	---	---	---	7.2
23	6.3	---	---	---	---	10.4	6.4b	7.6	---	---	---	7.1
24	6.3	---	---	---	---	9.7	6.8b	7.7	---	---	---	7.0
25	6.2	---	---	---	---	9.2	6.9b	7.2	---	---	---	6.2b
26	6.5	---	---	---	---	9.0	7.5	6.2b	---	---	---	5.8
27	6.9	---	---	---	---	8.8	7.3	4.8b	---	---	---	5.3b
28	7.6	---	---	---	---	8.5	7.6	4.0b	---	---	---	4.8b
29	7.3	---	---	---	---	8.3	7.8	6.5b	---	---	---	4.3b
30	7.6	---	---	---	---	7.9	8.2	5.2b	---	---	---	3.7b
31	7.9	---	---	---	---	8.4	---	3.2a	---	---	---	---

Table 9.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 4, Pamlico River at Light 3, October 1990-September 1991--Continued

[Site 4 is at latitude 35°21'24", longitude 76°38'48", Beaufort County; U.S. Geological Survey downstream order number 0208455155; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

DISSOLVED OXYGEN, PERCENT SATURATION, NEAR SURFACE

SENSOR POSITION.--8 feet above streambed.

EXTREMES FOR OCTOBER 1990-SEPTEMBER 1991.--Maximum value recorded, 138 percent of saturation May 29, 1991; minimum value recorded, 19 percent of saturation May 31, 1991.

DAILY MEAN VALUES OF DISSOLVED OXYGEN, PERCENT SATURATION, NEAR SURFACE (IN PERCENT), OCTOBER 1990-SEPTEMBER 1991

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	---	84	---	---	---	---	91	100	---	---	---	---
2	---	90	---	---	---	---	90	---	---	---	---	---
3	---	97	---	---	---	---	88	75	---	---	---	---
4	---	101	---	---	---	---	91	69	---	---	---	---
5	92	98	---	---	---	---	91	70	---	---	---	---
6	91	88	---	---	---	---	95	70	---	---	---	---
7	95	85	---	---	---	---	103	72	---	---	---	---
8	96	84	---	---	---	---	101	68	---	---	---	---
9	82	82	---	---	---	---	---	66	---	---	---	---
10	79	80	---	---	---	---	91	69	---	---	---	---
11	80	82	---	---	---	---	93	70	---	---	---	87
12	86	86	---	---	---	---	85	70	---	---	---	87
13	88	89	---	---	---	---	83	69	---	---	---	97
14	91	91	---	---	---	---	86	71	93	---	---	99
15	87	95	---	---	---	---	84	78	88	---	---	100
16	80	99	---	---	---	---	86	---	69	---	---	99
17	78	97	---	---	---	---	92	---	---	---	---	99
18	71	95	---	---	---	---	91	---	---	---	---	97
19	72	96	---	---	---	---	88	---	---	---	---	95
20	71	---	---	---	---	---	87	---	---	---	---	81
21	74	---	---	---	---	103	74	---	---	---	---	78
22	71	---	---	---	---	105	77	---	---	---	---	83
23	70	---	---	---	---	104	66	89	---	---	---	83
24	70	---	---	---	---	98	71	90	---	---	---	82
25	68	---	---	---	---	94	73	86	---	---	---	73
26	69	---	---	---	---	92	80	75	---	---	---	67
27	71	---	---	---	---	91	79	59	---	---	---	61
28	76	---	---	---	---	89	84	49	---	---	---	56
29	73	---	---	---	---	88	87	82	---	---	---	49
30	75	---	---	---	---	85	94	65	---	---	---	42
31	78	---	---	---	---	88	---	41	---	---	---	---

Table 9.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 4, Pamlico River at Light 3,
October 1990-September 1991--Continued

[Site 4 is at latitude 35°21'24", longitude 76°38'48", Beaufort County; U.S. Geological Survey downstream order number 0208455155; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

DISSOLVED OXYGEN, MID-DEPTH

SENSOR POSITION.--6 feet above streambed.

EXTREMES FOR OCTOBER 1990-SEPTEMBER 1991.--Maximum value recorded, 17.2 mg/L February 7, 1991; minimum value recorded, <1.0 July 9, 10, 25-31, August 1, 1991.

DAILY MEAN VALUES OF DISSOLVED OXYGEN, MID-DEPTH (IN MILLIGRAMS PER LITER), OCTOBER 1990-SEPTEMBER 1991

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	5.8b	9.0	---	---	11.7	12.0	---	---	---	4.5b	1.7a	---
2	5.5b	9.3	---	---	12.6	11.6	---	---	---	5.0b	2.9a	---
3	---	9.5	---	---	13.4	11.3	---	---	---	4.4b	---	---
4	5.0b	9.7	---	---	14.6	11.0	---	---	---	3.2a	---	---
5	4.3b	8.7	---	---	14.8	10.9	---	---	---	2.6a	---	---
6	4.1b	8.6	---	---	14.8	11.2	---	---	---	2.8a	---	---
7	4.1b	8.5	---	---	14.3	11.0	---	---	---	2.7a	---	---
8	4.0b	8.4	---	---	12.5	10.9	---	---	---	2.1a	---	---
9	3.6b	8.4	---	---	11.5	11.2	---	---	---	1.1a	7.3	---
10	---	8.0	---	---	11.9	11.5	---	---	---	5.1a	7.3	---
11	---	8.4	---	---	12.8	11.5	---	---	---	8.8	8.7	7.4
12	---	9.0	---	---	12.2	11.7	---	---	---	8.0	9.0	7.6
13	---	9.3	---	---	11.4	11.4	---	---	---	7.1	7.9	8.6
14	---	9.6	---	---	10.7	11.5	---	---	8.8	7.5	8.5	8.4
15	---	10.1	---	---	10.4	11.2	---	---	9.3	6.5b	7.8	8.2
16	---	10.5	---	11.2	10.4	11.5	---	---	8.9	3.2	7.8	7.9
17	---	10.1	---	11.1	10.7	11.6	---	---	8.4	1.8a	7.2b	7.8
18	---	9.9	---	10.8	10.9	11.5	---	---	8.0	1.4a	5.7b	7.8
19	---	10.4	---	10.6	11.2	11.3	---	---	7.6	1.3a	5.8b	7.6
20	---	---	---	10.9	11.3	---	---	---	7.4	1.3a	5.3b	6.2
21	---	---	---	10.8	11.6	---	---	---	7.2	1.4a	6.7b	5.6
22	---	---	---	10.8	12.2	---	---	---	7.5	1.6a	8.0	5.7
23	---	---	---	11.5	11.4	---	---	6.7	7.1	1.6a	6.9	5.6b
24	---	---	---	12.0	10.8	---	---	6.4b	7.0	1.8a	5.4b	5.5b
25	---	---	---	11.8	10.7	---	---	6.2b	6.5	1.5a	5.8b	4.6b
26	---	---	---	12.0	10.7	---	---	5.7a	5.4b	1.1a	6.1	4.3b
27	---	---	---	13.3	11.0	---	---	5.4b	5.0b	1.1a	5.6b	---
28	---	---	---	13.2	11.8	---	---	---	5.2b	1.8a	5.3b	---
29	---	---	---	11.5	---	---	---	---	5.1b	1.5a	4.8b	---
30	---	---	---	10.5	---	---	---	---	5.1b	1.1a	4.3b	---
31	8.7	---	---	11.8	---	---	---	---	---	<1.0a	---	---

Table 9.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 4, Pamlico River at Light 3, October 1990-September 1991--Continued

[Site 4 is at latitude 35°21'24", longitude 76°38'48", Beaufort County; U.S. Geological Survey downstream order number 0208455155; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

DISSOLVED OXYGEN, PERCENT SATURATION, MID-DEPTH

SENSOR POSITION.--6 feet above streambed.

EXTREMES FOR OCTOBER 1990-SEPTEMBER 1991.--Maximum value recorded, 158 percent of saturation July 14, 1991; minimum value recorded, ≤10 percent of saturation July 9, 10, 25-31, August 1, 1991.

DAILY MEAN VALUES OF DISSOLVED OXYGEN, PERCENT SATURATION, MID-DEPTH (IN PERCENT), OCTOBER 1990-SEPTEMBER 1991

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	68	90	---	---	99	106	---	---	---	57	22	---
2	65	94	---	---	107	104	---	---	---	63	37	---
3	---	97	---	---	116	103	---	---	---	57	---	---
4	59	100	---	---	128	102	---	---	---	41	---	---
5	51	90	---	---	131	101	---	---	---	33	---	---
6	48	89	---	---	134	103	---	---	---	37	---	---
7	49	87	---	---	129	103	---	---	---	35	---	---
8	47	85	---	---	112	101	---	---	---	27	---	---
9	44	83	---	---	102	103	---	---	---	15	94	---
10	---	80	---	---	106	104	---	---	---	68	---	---
11	---	82	---	---	114	104	---	---	---	115	---	91
12	---	86	---	---	106	104	---	---	---	105	---	94
13	---	90	---	---	100	102	---	---	---	93	---	107
14	---	93	---	---	95	104	---	---	108	99	110	106
15	---	95	---	---	91	100	---	---	116	85	100	103
16	---	100	---	99	87	102	---	---	112	41	99	100
17	---	96	---	99	87	104	---	---	104	23	91	99
18	---	94	---	95	90	105	---	---	98	18	---	99
19	---	96	---	93	95	104	---	---	95	16	---	96
20	---	---	---	95	98	---	---	---	92	17	---	76
21	---	---	---	95	102	---	---	---	90	18	---	66
22	---	---	---	93	110	---	---	---	94	21	---	66
23	---	---	---	94	101	---	---	78	90	20	---	65
24	---	---	---	97	95	---	---	75	87	24	---	64
25	---	---	---	97	95	---	---	74	80	19	---	54
26	---	---	---	96	94	---	---	69	67	14	77	49
27	---	---	---	104	96	---	---	65	62	14	71	---
28	---	---	---	103	102	---	---	---	65	24	67	---
29	---	---	---	92	---	---	---	---	65	20	61	---
30	---	---	---	86	---	---	---	---	64	14	56	---
31	85	---	---	100	---	---	---	---	---	10	---	---

Table 9.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 4, Pamlico River at Light 3, October 1990-September 1991--Continued

[Site 4 is at latitude 35°21'24", longitude 76°38'48", Beaufort County; U.S. Geological Survey downstream order number 0208455155; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

DISSOLVED OXYGEN, NEAR BOTTOM

SENSOR POSITION.--2 feet above streambed.

EXTREMES FOR OCTOBER 1990-SEPTEMBER 1991.--Maximum value recorded, 18.0 mg/L May 3, 1991; minimum value recorded, <1.0 April 15, May 17, June 17, July 11, 12, 13, 15, August 3, 4, 5, September 18, 20, 1991.

DAILY MEAN VALUES OF DISSOLVED OXYGEN, NEAR BOTTOM (IN MILLIGRAMS PER LITER), OCTOBER 1990-SEPTEMBER 1991

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	---	6.8	---	---	11.8	12.3	9.1	---	---	---	5.1b	---
2	---	7.0	---	---	12.4	12.0	9.1	---	---	---	6.5b	---
3	---	6.8	---	---	12.5	11.7	9.2	14.4b	---	---	4.7a	---
4	---	6.3b	---	---	14.1	11.5	8.9	11.5	---	---	6.2a	---
5	9.0	6.7	---	---	14.3	11.3	8.8	13.8	---	---	4.1a	---
6	8.4	7.4	---	---	12.9	11.6	7.7	13.2	---	---	---	---
7	7.9	7.6	---	---	11.3	11.4	4.9b	12.8	---	---	---	---
8	7.9b	7.8	---	---	12.7	11.3	4.3a	10.6	---	---	---	---
9	7.3b	7.8	---	---	12.3	11.5	---	11.8	---	---	6.2a	---
10	7.5	7.9	---	---	12.4	11.7	6.3b	11.3	---	---	6.6	---
11	7.6	8.2	---	---	13.2	11.9	6.9b	11.1	---	4.8a	7.2b	6.4b
12	8.2	8.5	---	---	12.5	11.7	5.3a	9.5	---	3.2a	9.0	6.2b
13	8.0	8.7	---	---	11.7	11.5	6.4a	8.7b	---	5.9a	6.4b	7.0b
14	7.8	8.9	8.4	---	11.5	11.7	5.5b	6.2b	5.7b	6.3	5.9b	6.4a
15	7.5	9.1	8.0	---	11.2	11.4	5.9a	8.1b	6.3b	5.1a	6.4b	5.4b
16	6.8	9.4	7.7	11.3	10.9	11.4	6.4	4.9b	6.4b	5.2a	6.5b	3.7a
17	6.9	9.5	7.5	12.0	10.8	11.4	5.7b	2.4a	5.9a	5.7b	---	4.4a
18	6.7	9.7	7.2	11.7	10.7	11.1	4.8b	7.6b	5.2b	6.3b	---	3.9a
19	7.1	9.9	6.7	11.3	11.2	11.3	6.8	7.4	4.9a	5.9b	---	5.0a
20	6.7	---	6.5	11.6	11.3	11.0	6.9	7.5	5.0a	5.8b	---	6.7a
21	7.3	---	6.2	11.8	11.5	10.6	6.8	7.8	---	5.6b	---	6.9
22	6.6	---	6.2	11.6	12.1	10.3	7.0	---	---	5.5b	---	7.5
23	6.0b	---	5.8	11.7	11.8	9.0	6.4b	4.4b	---	5.3a	---	7.0
24	6.2b	---	---	12.5	11.6	10.2	6.9b	3.7b	---	5.3b	---	6.4b
25	5.7	---	---	12.6	11.6	9.6	6.8b	2.8b	---	4.4a	---	6.5
26	5.7b	---	---	12.6	11.4	9.3	---	2.8b	---	3.8a	---	6.5
27	4.7b	---	---	13.2	11.8	9.3	---	2.8b	---	3.7b	---	6.2
28	6.0b	---	---	12.4	12.2	8.9	---	---	---	4.6b	---	6.1
29	6.5b	---	---	11.1	---	8.4	---	---	---	5.5b	---	---
30	7.2	---	---	9.9	---	8.6	---	---	---	4.9b	---	---
31	6.7	---	---	12.3	---	9.0	---	---	---	4.5b	---	---

Table 9.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 4, Pamlico River at Light 3, October 1990-September 1991--Continued

[Site 4 is at latitude 35°21'24", longitude 76°38'48", Beaufort County; U.S. Geological Survey downstream order number 0208455155; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

DISSOLVED OXYGEN, PERCENT SATURATION, NEAR BOTTOM

SENSOR POSITION.--2 feet above streambed.

EXTREMES FOR OCTOBER 1990-SEPTEMBER 1991.--Maximum value recorded, 205 percent of saturation May 3, 1991; minimum value recorded, ≤10 percent of saturation April 15, May 17, June 17, July 11, 12, 13, 15, August 3, 4, 5, September 18, 20, 1991.

DAILY MEAN VALUES OF DISSOLVED OXYGEN, PERCENT SATURATION, NEAR BOTTOM (IN PERCENT), OCTOBER 1990-SEPTEMBER 1991

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	---	68	---	---	100	108	94	---	---	---	65	---
2	---	71	---	---	105	108	94	---	---	---	82	---
3	---	70	---	---	108	107	94	162	---	---	60	---
4	---	65	---	---	124	107	92	127	---	---	80	---
5	105	70	---	---	127	105	92	153	---	---	53	---
6	98	76	---	---	116	107	81	148	---	---	---	---
7	94	78	---	---	102	107	53	147	---	---	---	---
8	94	79	---	---	114	105	47	120	---	---	---	---
9	88	77	---	---	109	105	---	135	---	---	80	---
10	89	79	---	---	110	106	70	129	---	---	---	---
11	90	81	---	---	117	107	76	128	---	63	---	78
12	98	81	---	---	109	104	58	110	---	42	---	77
13	97	84	---	---	102	102	69	100	---	77	---	87
14	94	86	75	---	102	106	58	73	71	83	76	80
15	91	86	71	---	99	102	64	95	78	66	81	68
16	81	89	69	100	92	102	70	58	80	67	83	47
17	81	90	67	107	88	102	63	29	74	74	---	56
18	79	92	65	103	88	101	54	91	63	81	---	50
19	79	92	62	99	95	104	74	85	61	76	---	64
20	73	---	59	102	98	102	74	86	63	74	---	82
21	80	---	57	103	102	100	72	89	---	72	---	82
22	72	---	58	99	109	100	72	---	---	71	---	87
23	67	---	56	96	105	89	67	51	---	70	---	81
24	69	---	---	101	102	103	72	44	---	70	---	74
25	63	---	---	103	103	98	72	34	---	58	---	77
26	60	---	---	101	100	95	---	35	---	50	---	75
27	48	---	---	102	102	96	---	35	---	47	---	71
28	60	---	---	98	106	94	---	---	---	59	---	70
29	65	---	---	88	---	90	---	---	---	71	---	---
30	71	---	---	80	---	92	---	---	---	63	---	---
31	66	---	---	104	---	94	---	---	---	58	---	---

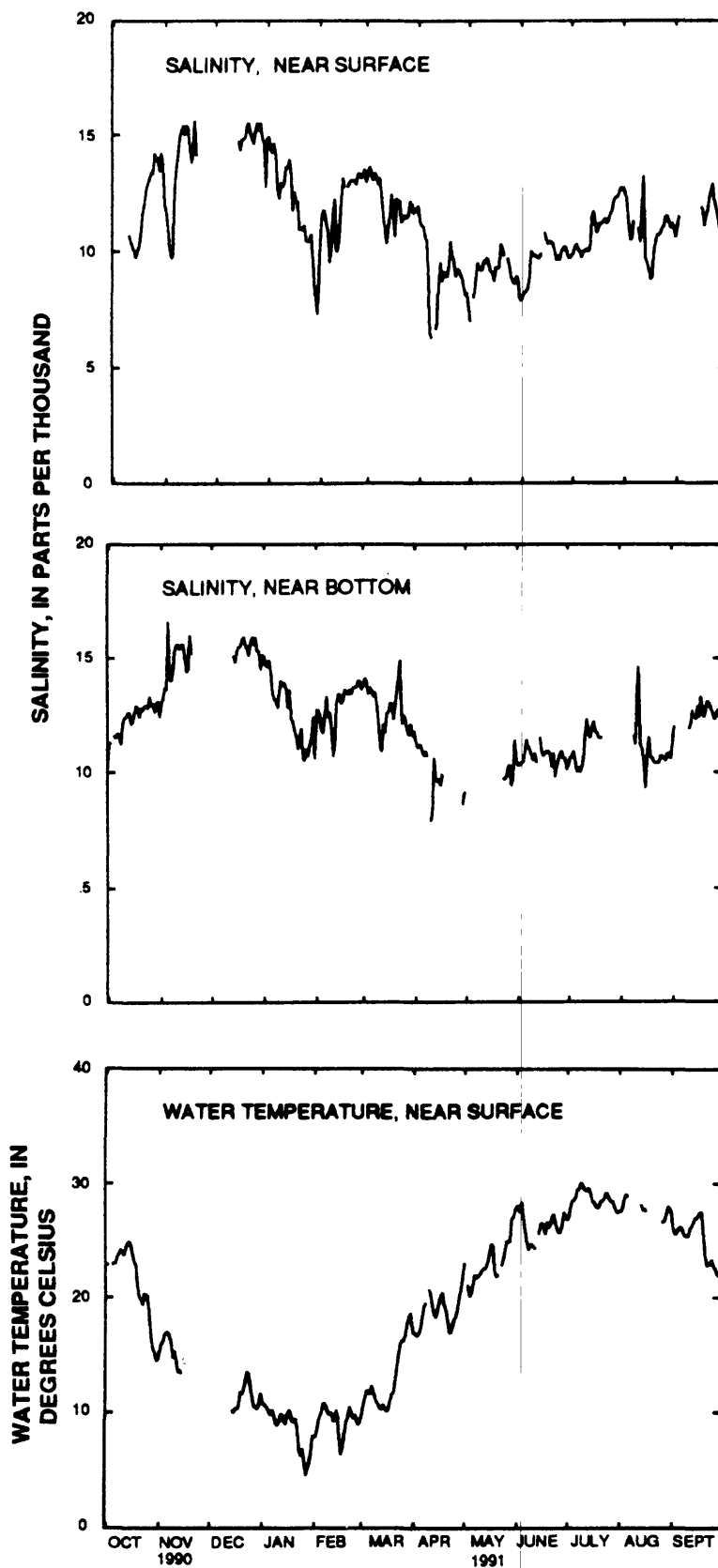


Figure 28.--Daily mean salinity and water temperature at site 4, Pamlico River at Light 3, October 1990-September 1991.

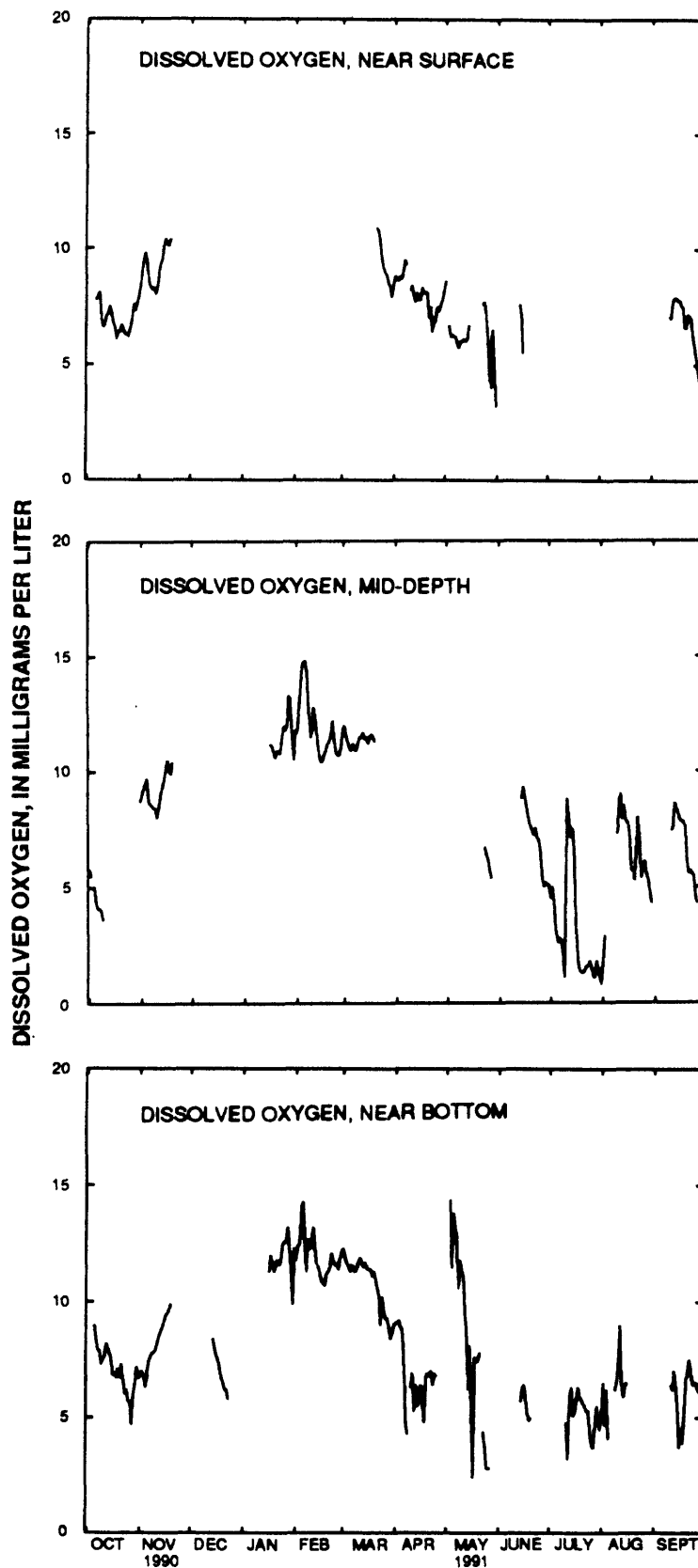


Figure 29.--Daily mean dissolved-oxygen concentrations at site 4, Pamlico River at Light 3, October 1990-September 1991.

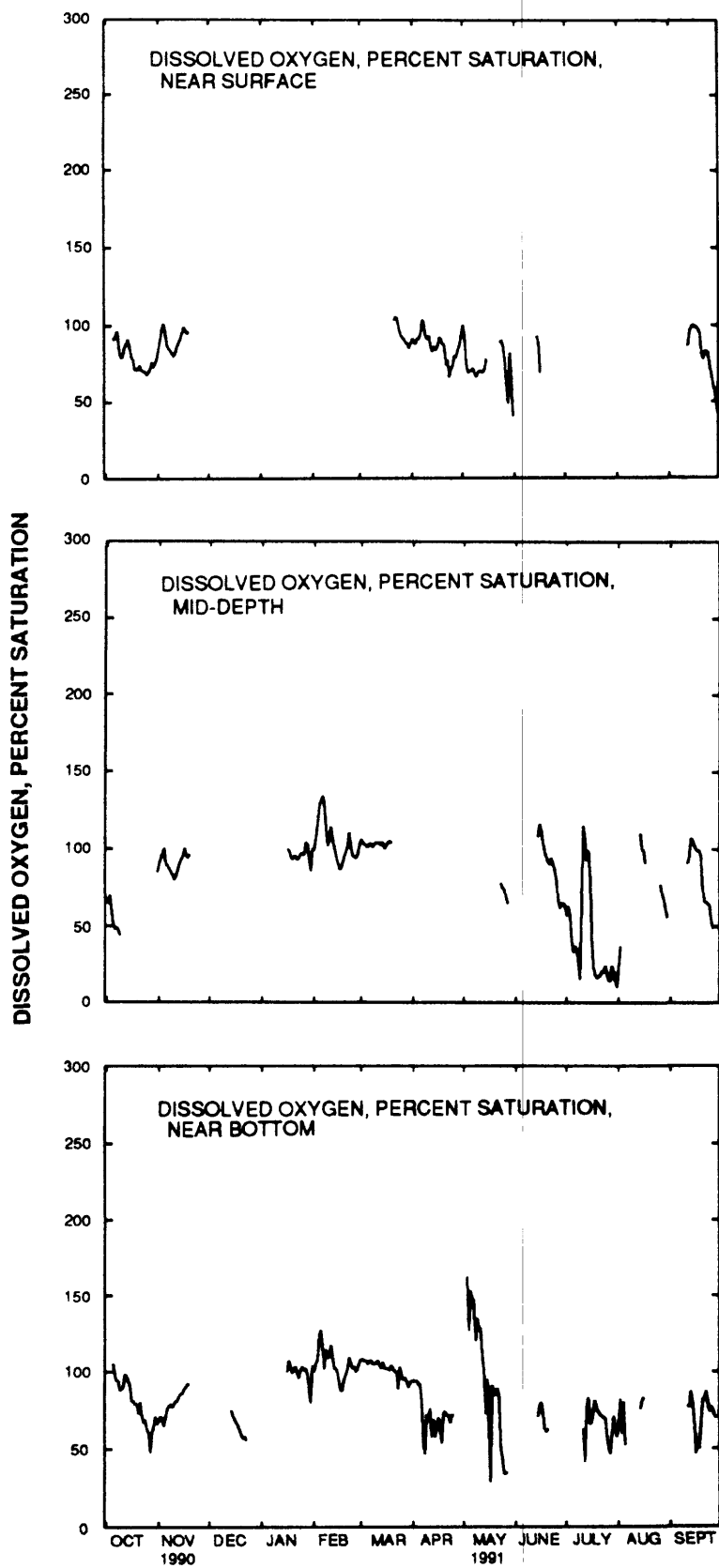


Figure 30.--Daily mean dissolved oxygen, percent saturation, at site 4, Pamlico River at Light 3, October 1990-September 1991.

Table 10.--Five-day mean water temperature and dissolved-oxygen values in water at site 4, Pamlico River at Light 3, October 1990-September 1991, for day and night periods

[°C, degrees Celsius; mg/L, milligram per liter; Day, 9:15 a.m.-9:00 p.m.; Night, 9:15 p.m.-9:00 a.m.; --, no data]

Date	Mean water temperature, near surface (°C)		Mean dissolved oxygen, near surface (mg/L)		Mean dissolved oxygen, mid-depth (mg/L)		Mean dissolved oxygen, near bottom (mg/L)	
	Day	Night	Day	Night	Day	Night	Day	Night
10/01/90-10/05/90	23.1	22.7	8.0	7.5	5.4	5.0	9.2	8.7
10/06/90-10/10/90	24.0	23.6	7.9	7.0	4.1	3.8	8.1	7.4
10/11/90-10/15/90	24.6	24.4	7.4	7.0	--	--	8.0	7.6
10/16/90-10/20/90	22.0	21.6	6.6	6.3	--	--	6.9	6.7
10/21/90-10/25/90	20.2	19.6	6.5	6.3	--	--	6.4	6.3
10/26/90-10/30/90	16.0	15.2	7.3	7.2	8.6	8.4	6.0	6.0
10/31/90-11/04/90	16.1	15.6	9.0	9.1	9.4	9.1	6.8	6.7
11/05/90-11/09/90	16.2	15.9	8.6	8.3	8.6	8.4	7.5	7.6
11/10/90-11/14/90	14.0	13.9	9.0	8.9	9.1	9.0	8.5	8.6
11/15/90-11/19/90	12.5	12.5	10.4	10.1	10.3	10.2	9.6	9.6
11/20/90-11/24/90	11.0	--	10.8	--	10.6	--	10.2	--
11/25/90-11/29/90	--	--	--	--	--	--	--	--
11/30/90-12/04/90	--	--	--	--	--	--	--	--
12/05/90-12/09/90	--	--	--	--	--	--	--	--
12/10/90-12/14/90	10.2	10.1	--	--	--	--	8.5	8.4
12/15/90-12/19/90	10.7	10.8	--	--	--	--	7.4	7.2
12/20/90-12/24/90	12.8	12.7	--	--	--	--	6.1	6.1
12/25/90-12/29/90	10.9	10.7	--	--	--	--	--	--
12/30/90- 1/03/91	11.0	10.9	--	--	--	--	--	--
1/04/91- 1/08/91	10.1	9.8	--	--	--	--	--	--
1/09/91- 1/13/91	9.4	9.3	--	--	--	--	--	--
1/14/91- 1/18/91	9.8	9.5	11.9	11.7	11.4	10.9	11.7	11.5
1/19/91- 1/23/91	8.7	8.2	--	--	11.2	11.0	11.7	11.6
1/24/91- 1/28/91	5.6	5.5	--	--	12.4	12.5	12.5	12.7
1/29/91- 2/02/91	7.5	7.4	--	--	11.6	11.8	11.5	11.4
2/03/91- 2/07/91	10.2	10.3	--	--	14.7	14.1	13.2	13.0
2/08/91- 2/12/91	10.0	9.5	--	--	12.2	11.8	12.8	12.2
2/13/91- 2/17/91	8.7	8.2	--	--	10.8	10.5	11.4	10.9
2/18/91- 2/22/91	9.0	9.3	--	--	11.7	11.4	11.6	11.4
2/23/91- 2/27/91	9.6	9.3	--	--	11.0	10.9	11.7	11.6
2/28/91- 3/04/91	10.8	10.7	--	--	11.7	11.2	12.1	11.7
3/05/91- 3/09/91	11.9	11.5	--	--	11.3	10.9	11.6	11.2
3/10/91- 3/14/91	10.7	10.4	--	--	11.7	11.4	11.9	11.6
3/15/91- 3/19/91	10.9	10.6	--	--	11.5	11.3	11.4	11.1
3/20/91- 3/24/91	14.3	14.2	10.6	10.1	11.2	--	10.4	9.8
3/25/91- 3/29/91	17.2	17.3	8.9	8.5	--	--	9.2	8.8
3/30/91- 4/03/91	17.3	16.7	8.7	8.3	--	--	9.2	8.9

Table 10.--Five-day mean water temperature and dissolved-oxygen values in water at site 4, Pamlico River at Light 3, October 1990-September 1991, for day and night periods--Continued

[°C, degrees Celsius; mg/L, milligram per liter; Day, 9:15 a.m.-9:00 p.m.; Night, 9:15 p.m.-9:00 a.m.; --, no data]

Date	Mean water temperature, near surface (°C)		Mean dissolved oxygen, near surface (mg/L)		Mean dissolved oxygen, mid-depth (mg/L)		Mean dissolved oxygen, near bottom (mg/L)	
	Day	Night	Day	Night	Day	Night	Day	Night
4/04/91- 4/08/91	18.6	18.3	9.3	8.8	--	--	7.0	6.5
4/09/91- 4/13/91	19.9	19.3	8.3	7.8	--	--	6.5	6.0
4/14/91- 4/18/91	19.7	19.4	8.3	7.7	--	--	5.5	5.9
4/19/91- 4/23/91	17.9	17.7	7.5	7.0	--	--	6.9	6.5
4/24/91- 4/28/91	19.0	18.7	7.5	7.1	--	--	7.2	7.3
4/29/91- 5/03/91	22.2	21.4	8.0	7.6	--	--	13.4	12.9
5/04/91- 5/08/91	21.3	21.0	6.4	5.9	--	--	13.0	12.2
5/09/91- 5/13/91	22.4	22.1	6.2	5.9	--	--	10.7	9.2
5/14/91- 5/18/91	24.3	23.5	6.7	6.1	--	--	5.8	6.2
5/19/91- 5/23/91	22.5	22.2	8.1	7.5	7.0	6.4	7.2	6.1
5/24/91- 5/28/91	24.9	24.5	6.6	5.2	6.1	5.6	3.1	2.8
5/29/91- 6/02/91	28.0	27.3	4.9	4.6	--	--	--	--
6/03/91- 6/07/91	26.8	26.1	--	--	--	--	--	--
6/08/91- 6/12/91	24.9	24.2	--	--	--	--	--	--
6/13/91- 6/17/91	26.2	25.8	7.3	6.6	8.8	8.6	6.3	5.6
6/18/91- 6/22/91	26.8	26.5	--	--	7.7	7.1	4.9	5.1
6/23/91- 6/27/91	26.4	25.9	--	--	6.4	5.6	--	--
6/28/91- 7/02/91	27.4	26.8	--	--	5.3	4.5	--	--
7/03/91- 7/07/91	29.0	28.5	--	--	3.3	2.6	--	--
7/08/91- 7/12/91	30.1	29.4	--	--	5.6	5.2	4.5	4.4
7/13/91- 7/17/91	29.2	28.5	--	--	5.4	4.3	6.0	5.4
7/18/91- 7/22/91	28.5	28.0	--	--	1.4	1.4	6.1	5.4
7/23/91- 7/27/91	29.1	28.6	--	--	1.5	1.2	4.7	4.3
7/28/91- 8/01/91	28.0	27.6	--	--	1.5	1.4	5.0	5.2
8/02/91- 8/06/91	28.7	28.4	--	--	3.3	3.3	5.5	4.8
8/07/91- 8/11/91	28.4	28.1	--	--	7.7	7.9	6.4	7.2
8/12/91- 8/16/91	28.2	27.6	--	--	8.5	7.6	6.9	6.2
8/17/91- 8/21/91	27.7	27.7	--	--	6.3	6.0	--	--
8/22/91- 8/26/91	26.8	26.5	--	--	6.7	5.8	--	--
8/27/91- 8/31/91	27.8	27.1	--	--	5.3	4.6	--	--
9/01/91- 9/05/91	26.3	25.7	--	--	--	--	--	--
9/06/91- 9/10/91	26.0	25.4	7.5	6.1	6.8	6.4	5.4	5.8
9/11/91- 9/15/91	26.6	26.3	8.0	7.2	8.4	7.9	6.8	5.3
9/16/91- 9/20/91	27.2	26.4	7.9	6.8	7.7	6.9	5.3	4.6
9/21/91- 9/25/91	23.2	22.9	7.1	6.5	5.5	5.0	6.9	6.8
9/26/91- 9/30/91	22.4	21.9	5.1	4.5	4.4	4.6	6.4	5.9

Table 11.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 5, Goose Creek at Light 6, October 1990-September 1991

[Site 5 is at latitude 35°19'54", longitude 76°37'06", Beaufort County; U.S. Geological Survey downstream order number 0208455615; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

SALINITY, NEAR SURFACE

SENSOR POSITION.--9 feet above streambed.

EXTREMES FOR OCTOBER 1990-SEPTEMBER 1991.--Maximum value recorded, 16.6 ppt December 8, 1990; minimum value recorded, 6.9 ppt April 11, 1991.

DAILY MEAN VALUES OF SALINITY, NEAR SURFACE (IN PARTS PER THOUSAND), OCTOBER 1990-SEPTEMBER 1991

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	11.8	12.7	15.8	15.5	11.0	14.7	12.3	8.7	10.3	11.3	12.6	12.0
2	12.0	12.1	15.8	15.2	11.0	15.1	12.1	8.6	10.2	11.2	12.5	12.0
3	---	11.6	15.9	14.5	11.4	15.2	12.1	8.4	9.9	11.4	12.4	12.2
4	---	11.5	16.0	13.8	11.2	15.1	12.2	8.3	9.8	11.4	12.3	12.1
5	---	11.5	15.9	13.7	11.2	14.8	12.3	8.7	9.6	11.4	10.9	12.2
6	---	13.4	16.0	13.3	11.1	14.8	12.1	9.4	10.0	11.2	11.1	12.3
7	---	13.6	16.2	12.5	11.3	15.1	11.3	9.7	10.7	11.1	11.3	12.3
8	---	14.3	16.4	12.6	12.3	14.9	11.1	---	10.9	11.2	11.2	12.4
9	---	14.1	16.2	12.4	12.2	14.5	11.9	---	10.7	11.0	11.3	12.4
10	---	13.9	16.4	11.4	12.2	14.2	10.3	---	10.7	11.0	11.8	---
11	12.1	13.8	16.1	11.7	11.8	13.6	8.3	---	11.0	10.9	11.4	12.6
12	12.1	14.0	---	12.6	10.9	11.4	8.9	---	11.5	11.1	11.5	12.3
13	12.1	13.9	---	13.0	12.3	11.2	9.7	---	11.3	11.6	11.4	12.4
14	12.2	13.8	15.2	12.9	13.9	12.1	9.6	---	11.3	12.1	11.1	12.5
15	12.2	13.6	15.1	12.9	14.3	11.9	9.5	---	11.9	11.9	11.4	12.3
16	12.1	13.6	15.2	13.0	13.8	11.8	10.3	---	12.3	11.5	10.7	12.2
17	12.2	13.7	15.2	13.2	14.0	11.9	10.0	---	12.3	11.2	10.1	12.3
18	12.4	13.2	15.3	13.2	14.1	12.5	9.9	---	12.2	11.2	10.5	12.6
19	12.7	13.2	16.0	13.0	14.2	12.9	9.9	---	12.0	11.3	10.7	12.7
20	12.8	12.5	15.8	12.7	14.5	12.6	9.9	---	11.8	11.5	11.1	12.7
21	13.1	12.2	15.7	12.6	14.6	12.7	9.4	---	11.3	11.8	11.4	11.9
22	13.4	12.3	15.5	12.2	14.2	13.3	9.4	---	11.0	11.8	11.3	11.9
23	13.5	13.3	15.6	11.7	14.4	13.4	---	---	10.7	11.8	11.3	12.1
24	13.5	14.3	15.8	12.0	14.4	13.9	9.3	---	10.1	11.9	11.3	12.0
25	13.5	14.7	15.6	11.4	14.2	13.3	9.1	---	10.0	12.0	11.5	12.1
26	13.0	14.8	15.5	11.7	14.2	13.0	8.8	---	10.0	12.4	11.6	12.1
27	12.6	14.9	15.6	11.2	14.4	13.3	8.9	---	10.3	12.6	11.8	12.0
28	13.2	15.1	15.5	10.1	14.4	13.1	9.3	---	10.7	12.7	11.8	12.2
29	13.5	15.8	14.8	9.6	---	13.1	8.7	---	10.7	12.7	11.7	12.6
30	13.4	15.7	14.7	9.2	---	12.7	8.8	9.7	11.0	12.7	12.0	12.6
31	13.4	---	15.4	10.7	---	12.5	---	10.1	---	12.5	12.0	---

Table 11.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 5, Goose Creek at Light 6, October 1990-September 1991--Continued

[Site 5 is at latitude 35°19'54", longitude 76°37'06", Beaufort County; U.S. Geological Survey downstream order number 0208455615; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

SALINITY, NEAR BOTTOM

SENSOR POSITION.--2 feet above streambed.

EXTREMES FOR OCTOBER 1990-SEPTEMBER 1991.--Maximum value recorded, 19.4 ppt November 5, 1990; minimum value recorded, 7.8 ppt May 3, 4, 1991.

DAILY MEAN VALUES OF SALINITY, NEAR BOTTOM (IN PARTS PER THOUSAND), OCTOBER 1990-SEPTEMBER 1991

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	12.2	13.0	16.4	15.6	11.7	15.6	12.5	9.3	11.5	11.9	12.8	11.5
2	12.0	12.9	16.4	15.6	13.6	15.4	12.3	9.4	10.5	11.8	12.6	11.6
3	---	13.4	16.4	15.5	13.7	15.3	12.2	8.6	10.2	12.5	12.7	12.1
4	---	14.5	16.4	14.3	13.4	15.0	12.2	8.3	9.9	11.8	12.6	12.3
5	---	16.9	16.4	14.5	13.4	14.7	12.4	8.8	9.5	12.6	12.4	12.3
6	---	16.7	16.6	14.8	13.5	15.1	12.1	9.6	9.9	12.0	12.2	12.2
7	---	13.9	17.0	13.7	15.0	15.2	11.7	9.7	10.7	11.6	13.0	12.1
8	---	13.8	17.0	12.8	13.1	14.9	12.0	9.5	11.1	11.8	12.3	12.2
9	---	13.4	17.0	12.9	12.2	14.5	12.5	9.5	11.1	11.6	13.4	12.4
10	---	13.9	17.1	13.5	12.4	14.4	12.5	9.6	10.9	11.9	13.7	---
11	12.3	13.5	17.0	13.6	12.3	14.1	9.5	9.5	11.7	12.2	12.2	12.6
12	12.4	13.9	---	15.3	11.8	13.7	9.2	9.4	13.5	11.5	12.1	12.5
13	12.8	13.7	---	13.7	14.8	13.4	9.8	9.3	11.9	12.9	12.2	12.6
14	12.6	13.6	15.5	13.3	14.4	13.3	10.0	9.7	11.7	13.2	12.1	12.7
15	12.4	13.8	15.7	13.6	14.2	12.4	9.8	10.3	12.2	12.2	13.5	12.7
16	12.3	14.7	15.6	14.0	13.9	12.5	10.2	9.3	12.8	11.8	12.1	12.7
17	12.3	14.2	15.5	13.3	14.8	12.8	9.8	9.5	12.6	11.7	11.7	13.1
18	12.4	13.4	15.6	13.3	14.7	15.6	9.6	9.6	12.1	11.9	11.7	13.6
19	12.4	13.9	16.4	13.2	14.8	14.2	9.7	9.6	11.6	12.0	11.5	14.0
20	12.5	14.6	16.0	12.8	15.0	13.2	9.9	10.0	11.4	12.4	11.9	13.0
21	12.7	14.6	15.9	12.6	14.7	13.7	9.9	10.4	11.1	12.7	11.8	12.8
22	12.8	15.0	15.8	12.4	14.5	14.8	9.9	10.4	10.7	12.6	11.6	13.0
23	13.0	16.4	15.8	12.7	14.3	15.4	---	10.1	10.1	12.6	11.4	13.3
24	12.8	16.5	15.9	13.0	14.4	14.8	9.7	10.0	9.8	12.8	11.4	12.4
25	12.7	16.4	15.7	11.9	14.3	13.7	9.6	10.0	9.9	13.3	11.6	11.7
26	12.2	15.8	15.8	12.1	14.3	13.2	9.4	9.8	10.2	13.4	11.6	11.4
27	12.1	15.7	15.9	12.4	14.5	13.2	9.4	10.1	10.7	13.3	11.8	11.3
28	12.9	16.2	16.1	12.3	15.6	13.1	9.8	---	10.8	13.3	11.9	11.6
29	12.5	16.5	15.9	12.4	---	13.2	9.3	10.3	11.3	13.2	12.0	12.3
30	12.7	16.3	15.5	13.1	---	12.7	9.4	10.2	11.4	13.0	11.7	12.6
31	13.0	---	15.6	15.3	---	12.5	---	10.8	---	12.8	11.5	---

Table 11.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 5, Goose Creek at Light 6, October 1990-September 1991--Continued

[Site 5 is at latitude 35°19'54", longitude 76°37'06", Beaufort County; U.S. Geological Survey downstream order number 0208455615; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

WATER TEMPERATURE, NEAR SURFACE

SENSOR POSITION.--9 feet above streambed.

EXTREMES FOR OCTOBER 1990-SEPTEMBER 1991.--Maximum value recorded, 31.2 °C August 5, 1991; minimum value recorded, 5.5 °C February 16, 1991.

DAILY MEAN VALUES OF WATER TEMPERATURE, NEAR SURFACE (IN DEGREES CELSIUS), OCTOBER 1990-SEPTEMBER 1991

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	22.5	---	12.3	11.7	7.8	10.5	15.6	24.0	28.8	27.2	27.9	28.1
2	22.4	---	12.6	11.0	8.1	11.7	16.0	24.2	28.8	27.1	28.0	25.5
3	---	---	13.4	10.9	9.2	12.4	16.0	23.3	28.8	27.6	28.3	25.1
4	---	---	14.3	10.7	10.1	12.6	16.2	22.7	28.9	28.0	29.4	25.7
5	---	---	12.3	10.0	10.6	12.6	16.8	22.9	26.9	27.7	30.4	26.5
6	---	---	11.1	10.2	11.1	12.3	17.8	23.4	24.8	28.0	30.1	26.7
7	---	---	10.9	11.0	11.1	12.9	19.3	24.2	23.3	28.5	29.3	26.5
8	---	---	10.7	10.3	10.3	12.7	19.6	24.3	23.6	29.0	28.7	26.2
9	---	---	9.4	9.3	9.8	11.7	20.1	23.9	24.5	29.2	29.0	25.7
10	---	---	9.2	9.1	10.0	11.3	20.6	24.2	25.6	29.8	29.2	---
11	24.8	---	9.5	9.5	9.7	10.8	20.2	24.2	25.4	30.3	29.1	26.4
12	25.0	---	---	11.1	8.9	10.1	19.6	24.3	25.0	29.9	28.5	26.8
13	25.5	---	---	10.7	9.0	10.3	18.5	24.4	25.7	29.9	28.1	26.6
14	25.8	---	10.3	9.9	10.1	10.8	18.4	24.9	26.4	30.0	28.7	26.8
15	25.5	---	10.0	9.5	9.9	10.3	19.0	26.0	26.8	29.6	28.2	27.4
16	24.3	---	10.7	10.2	6.9	10.2	20.3	26.5	26.9	28.7	28.2	28.1
17	23.2	---	10.7	10.3	6.2	10.8	21.3	27.3	26.9	28.5	28.7	28.1
18	23.2	---	11.2	9.8	7.0	11.7	21.3	27.0	26.7	28.6	28.5	27.9
19	21.5	---	12.8	9.2	8.0	12.0	19.8	24.3	26.5	28.5	27.7	27.6
20	19.7	11.0	12.6	9.3	9.6	12.4	19.2	22.4	26.5	28.5	27.4	25.4
21	19.9	11.4	13.5	9.3	11.3	13.2	18.1	22.4	27.0	28.7	27.4	22.2
22	20.5	11.8	15.1	8.4	11.4	14.0	17.7	23.5	27.9	28.9	28.1	21.1
23	21.0	12.2	15.4	7.4	11.0	15.3	---	24.3	27.5	29.4	27.8	22.0
24	21.1	12.5	14.8	7.1	9.8	15.7	19.0	25.0	25.8	29.5	27.4	23.0
25	20.7	12.6	12.4	6.8	9.8	16.2	19.3	25.4	24.8	29.5	27.0	24.2
26	17.5	13.1	11.5	6.2	9.8	16.7	19.8	26.1	24.3	29.0	27.0	24.4
27	14.9	13.5	10.0	6.4	9.4	17.3	21.1	26.4	25.0	28.7	27.5	23.7
28	14.8	14.4	9.8	6.7	9.6	17.5	21.3	---	26.1	28.8	28.3	22.5
29	14.4	15.2	10.2	6.9	---	18.2	22.4	28.1	27.6	28.4	29.1	22.4
30	---	13.1	11.5	7.4	---	18.2	23.6	29.3	27.5	27.9	29.2	22.8
31	---	---	12.6	8.5	---	16.0	---	28.9	---	27.7	29.1	---

Table 11.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 5, Goose Creek at Light 6, October 1990-September 1991--Continued

[Site 5 is at latitude 35°19'54", longitude 76°37'06", Beaufort County; U.S. Geological Survey downstream order number 0208455615; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

DISSOLVED OXYGEN, NEAR SURFACE

SENSOR POSITION.--9 feet above streambed.

EXTREMES FOR OCTOBER 1990-SEPTEMBER 1991.--Maximum value recorded, 12.6 mg/L December 2, 1990; minimum value recorded, <1.0 mg/L July 25, 26, 28, 30, August 1, 3, 5, 1991.

DAILY MEAN VALUES OF DISSOLVED OXYGEN, NEAR SURFACE (IN MILLIGRAMS PER LITER), OCTOBER 1990-SEPTEMBER 1991

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	7.2	---	10.2	8.7	---	---	---	7.9	3.8b	7.4	3.3a	7.5
2	7.8	---	11.3	8.8	---	---	---	7.8	---	7.6	4.4b	7.4
3	---	---	10.9	9.3	---	---	---	6.9	---	7.9	5.6a	7.3
4	---	---	10.4	9.5	---	---	---	7.0	---	7.8	6.8b	7.3
5	---	---	10.5	9.6	---	---	9.0	6.8	---	7.2	6.3a	7.1
6	---	---	10.9	10.0	---	---	8.8	6.9	---	8.1	---	6.7
7	---	---	11.4	10.3	---	---	8.9	6.9	---	8.6	---	6.8
8	---	---	10.9	9.7	---	---	8.3	6.6	---	8.6	7.7	6.8
9	---	---	11.1	9.9	---	---	7.7	6.1	---	8.6	7.0	7.1
10	---	---	11.5	10.7	---	---	7.8	6.6	---	8.3	6.8	---
11	7.4	---	11.9	10.7	---	---	---	---	---	7.4	6.6	7.6
12	6.4b	---	---	10.5	---	---	---	---	---	6.7b	5.7b	8.3
13	6.4	---	---	10.4	---	---	---	---	---	5.7b	6.3b	8.2
14	6.2	---	10.2	10.9	---	---	---	---	8.4	7.2b	7.3	8.6
15	5.7b	---	10.4	11.3	---	---	---	---	7.7	5.3b	6.6	8.5
16	4.7b	---	10.6	---	---	---	---	---	7.5	4.4b	8.0	8.1
17	4.9b	---	11.0	---	---	---	---	---	7.3	4.5b	8.5	7.2
18	4.9b	---	11.0	---	---	---	---	---	7.2	4.9b	6.6b	6.4
19	5.0b	---	9.4	---	---	---	---	---	7.1	3.5b	5.7b	6.0b
20	5.4b	---	8.8	---	---	---	---	---	7.5	3.0a	5.7	5.5b
21	5.9	11.6	9.1	---	---	---	---	---	8.3	3.2b	6.4b	5.7
22	6.3	11.7	9.7	---	---	---	---	---	8.7	4.5a	8.2	---
23	6.3	11.0	9.5	---	---	---	---	---	7.0	3.4a	7.0	---
24	6.8	10.5	8.5	---	---	---	9.3	---	6.4	4.5a	6.8	---
25	6.6	10.6	8.4	---	---	---	9.2	---	6.6	2.6a	7.0	---
26	6.4	10.9	8.3	---	---	---	9.3	---	6.6	1.1a	7.0	---
27	7.1	11.4	8.8	---	---	---	9.0	---	6.8	---	7.5	---
28	7.5	10.7	9.1	---	---	---	8.3	---	7.2	4.3a	8.2	---
29	7.6	9.5	10.0	---	---	---	8.7	3.7b	8.1	4.0a	8.6	---
30	8.2	9.6	10.1	---	---	---	8.1	3.8b	7.9	3.7a	8.7	---
31	---	---	8.9	---	---	---	---	3.4b	---	---	8.3	---

Table 11.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 5, Goose Creek at Light 6, October 1990-September 1991--Continued

[Site 5 is at latitude 35°19'54", longitude 76°37'06", Beaufort County; U.S. Geological Survey downstream order number 0208455615; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

DISSOLVED OXYGEN, PERCENT SATURATION, NEAR SURFACE

SENSOR POSITION.--9 feet above streambed.

EXTREMES FOR OCTOBER 1990-SEPTEMBER 1991.--Maximum value recorded, 167 percent of saturation July 14, 1991; minimum value recorded, ≤10 percent of saturation July 25, 26, 28, 30, August 1, 3, 1991.

DAILY MEAN VALUES OF DISSOLVED OXYGEN, PERCENT SATURATION, NEAR SURFACE (IN PERCENT), OCTOBER 1990-SEPTEMBER 1991

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	83	---	95	80	---	---	---	94	49	94	42	96
2	90	---	106	80	---	---	---	93	---	96	57	91
3	---	---	104	84	---	---	---	81	---	100	73	88
4	---	---	102	85	---	---	---	82	---	100	89	90
5	---	---	99	85	---	---	93	80	---	92	85	89
6	---	---	99	89	---	---	93	82	---	104	---	85
7	---	---	103	93	---	---	97	83	---	111	---	85
8	---	---	98	87	---	---	91	79	---	112	100	84
9	---	---	97	86	---	---	86	73	---	113	92	87
10	---	---	100	93	---	---	87	79	---	110	89	---
11	90	---	104	94	---	---	---	---	---	98	87	95
12	78	---	---	96	---	---	---	---	---	89	73	104
13	78	---	---	94	---	---	---	---	---	76	81	103
14	76	---	91	97	---	---	---	---	105	96	95	108
15	69	---	93	99	---	---	---	---	96	70	85	108
16	56	---	96	---	---	---	---	---	95	58	104	104
17	57	---	99	---	---	---	---	---	92	58	110	92
18	57	---	100	---	---	---	---	---	90	64	86	81
19	57	---	89	---	---	---	---	---	88	46	72	76
20	60	---	83	---	---	---	---	---	94	39	72	67
21	65	106	88	---	---	---	---	---	105	42	81	66
22	70	108	97	---	---	---	---	---	111	58	105	---
23	71	103	95	---	---	---	---	---	89	45	90	---
24	76	99	84	---	---	---	100	---	79	59	86	---
25	74	99	78	---	---	---	100	---	80	34	88	---
26	67	104	77	---	---	---	102	---	79	14	89	---
27	70	109	79	---	---	---	102	---	83	---	95	---
28	75	105	81	---	---	---	94	---	89	56	105	---
29	75	95	89	---	---	---	101	47	103	52	113	---
30	---	92	93	---	---	---	96	50	100	48	113	---
31	---	---	84	---	---	---	---	45	---	---	109	---

Table 11.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 5, Goose Creek at Light 6, October 1990-September 1991--Continued

[Site 5 is at latitude 35°19'54", longitude 76°37'06", Beaufort County; U.S. Geological Survey downstream order number 0208455615; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

DISSOLVED OXYGEN, MID-DEPTH

SENSOR POSITION.--6 feet above streambed.

EXTREMES FOR OCTOBER 1990-SEPTEMBER 1991.--Maximum value recorded, 15.0 mg/L February 3, 4, 1991; minimum value recorded, <1.0 mg/L July 31, 1991.

DAILY MEAN VALUES OF DISSOLVED OXYGEN, MID-DEPTH (IN MILLIGRAMS PER LITER), OCTOBER 1990-SEPTEMBER 1991

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	7.1	8.6	10.4	---	12.7	11.9	9.2	7.9	---	---	---	---
2	7.2	8.7	11.2	---	12.8	11.2	9.7	8.1	---	---	---	---
3	---	8.6	11.2	---	13.5	10.8	9.6	7.3	---	---	---	---
4	---	8.6	10.8	---	13.8	10.5	9.6	7.5	---	---	---	---
5	---	7.8	10.9	---	13.9	10.6	9.4	7.5	---	---	---	---
6	---	7.9	11.1	---	13.7	10.7	9.4	7.9	---	---	---	---
7	---	8.2	11.5	---	12.8	10.4	9.6	8.1	---	---	---	---
8	---	7.6	11.2	---	11.5	10.1	9.1	8.0	---	---	6.3b	---
9	---	8.3	11.4	---	10.8	10.1	8.7	7.4	---	---	4.8b	---
10	---	8.6	11.7	---	11.2	10.4	8.8	7.8	---	---	4.4b	---
11	6.7	8.8	12.2	---	11.7	10.3	9.3	7.7	---	8.1	4.0b	---
12	6.9	9.3	---	---	11.8	10.7	9.1	7.8	---	6.6	3.0a	7.6
13	6.8	9.4	---	---	11.7	10.5	9.2	7.5	---	5.5b	3.4b	6.8
14	6.7b	9.8	---	---	11.3	9.9	9.3	7.3	7.9	5.8b	3.9b	6.8
15	6.3	10.3	---	---	10.9	10.1	9.2	7.8	7.2	5.4b	3.0a	7.2
16	6.2	10.6	---	11.5	11.5	10.4	9.3	7.9	6.9	4.8b	4.6a	7.6
17	6.1	10.4	---	11.1	11.9	10.5	9.3	7.3	6.5b	4.8b	5.3b	7.2
18	6.1	10.5	---	11.1	12.2	10.2	8.7	6.7	6.3	5.3b	3.0a	5.8b
19	6.3	10.9	---	11.0	12.0	10.0	8.3	6.7	6.1	5.0b	2.3a	6.0b
20	6.8	11.2	---	10.8	11.4	9.8	8.2	7.1	6.6	4.9b	2.1a	6.0
21	7.1	11.4	---	10.9	11.1	9.6	8.6	7.5	7.6	4.2b	3.1a	6.9
22	7.2	11.6	---	11.2	11.8	9.5	9.1	8.4	6.6b	4.2b	7.0b	7.6
23	6.6	10.7	---	11.7	10.9	9.4	---	8.7	---	3.6b	3.7b	8.1
24	6.5	10.8	---	11.8	10.7	9.2	9.2	8.4	---	3.5b	---	7.9
25	6.2	10.8	---	12.1	11.1	9.1	9.2	8.2	---	2.9b	---	7.7
26	6.7	11.2	---	12.1	10.9	9.0	9.3	8.4	---	2.8b	---	6.9
27	7.0	11.4	---	12.4	11.0	8.9	9.0	7.8	---	2.9b	---	6.9
28	7.0	11.0	---	12.5	11.6	9.0	8.4	---	---	2.5a	---	6.9
29	7.3	9.8	---	12.5	---	8.7	8.9	7.3	---	2.1a	---	7.0
30	7.8	10.0	---	12.9	---	8.5	8.2	5.3b	---	1.5a	---	7.4
31	8.1	---	---	12.3	---	8.9	---	2.8b	---	1.2a	---	---

Table 11.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 5, Goose Creek at Light 6, October 1990-September 1991--Continued

[Site 5 is at latitude 35°19'54", longitude 76°37'06", Beaufort County; U.S. Geological Survey downstream order number 0208455615; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

DISSOLVED OXYGEN, PERCENT SATURATION, MID-DEPTH

SENSOR POSITION.--6 feet above streambed.

EXTREMES FOR OCTOBER 1990-SEPTEMBER 1991.--Maximum value recorded, 142 percent of saturation June 21, 1991; minimum value recorded, 10 percent of saturation July 31, 1991.

DAILY MEAN VALUES OF DISSOLVED OXYGEN, PERCENT SATURATION, MID-DEPTH (IN PERCENT), OCTOBER 1990-SEPTEMBER 1991

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	82	---	98	---	107	107	93	95	---	---	---	---
2	84	---	105	---	108	104	99	97	---	---	---	---
3	---	---	107	---	118	101	97	85	---	---	---	---
4	---	---	106	---	123	99	98	87	---	---	---	---
5	---	---	102	---	125	100	97	88	---	---	---	---
6	---	---	101	---	124	100	100	93	---	---	---	---
7	---	---	105	---	116	99	104	97	---	---	---	---
8	---	---	101	---	103	96	99	96	---	---	82	---
9	---	---	100	---	95	94	96	88	---	---	62	---
10	---	---	102	---	100	95	98	93	---	---	58	---
11	81	---	107	---	104	93	103	93	---	108	53	---
12	84	---	---	---	102	95	100	93	---	88	39	95
13	84	---	---	---	101	94	98	90	---	73	43	85
14	83	---	---	---	101	90	99	88	99	77	50	86
15	77	---	---	---	96	90	99	96	91	71	38	91
16	74	---	---	102	94	93	103	98	86	62	59	98
17	71	---	---	100	96	95	106	93	81	62	68	92
18	71	---	---	98	100	94	99	84	79	69	39	74
19	72	---	---	96	102	93	91	80	76	65	30	76
20	75	102	---	95	100	92	89	82	82	63	27	74
21	78	104	---	95	102	92	91	87	95	55	40	79
22	80	107	---	95	108	92	96	99	84	55	90	85
23	74	101	---	97	99	94	---	104	---	47	48	93
24	74	101	---	98	95	93	99	102	---	46	---	93
25	69	102	---	99	98	92	100	100	---	38	---	92
26	70	107	---	98	97	93	102	104	---	37	---	83
27	70	110	---	101	96	93	101	97	---	38	---	82
28	70	108	---	102	102	95	95	---	---	33	---	80
29	72	98	---	103	---	93	103	94	---	27	---	81
30	---	96	---	108	---	91	97	70	---	20	---	86
31	---	---	---	105	---	90	---	36	---	15	---	---

Table 11.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 5, Goose Creek at Light 6, October 1990-September 1991--Continued

[Site 5 is at latitude 35°19'54", longitude 76°37'06", Beaufort County; U.S. Geological Survey downstream order number 0208455615; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

DISSOLVED OXYGEN, NEAR BOTTOM

SENSOR POSITION.--2 feet above streambed. .

EXTREMES FOR OCTOBER 1990-SEPTEMBER 1991.--Maximum value recorded, 13.3 mg/L March 9, 1991; minimum value recorded, <1.0 mg/L April 30, May 1, 2, 14-18, July 2, 3, August 3, 5, 6, 7, 8, 14-18, 21, 22, 23, 1991.

DAILY MEAN VALUES OF DISSOLVED OXYGEN, NEAR BOTTOM (IN MILLIGRAMS PER LITER), OCTOBER 1990-SEPTEMBER 1991

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	6.3	7.8	10.3	10.4	11.7	11.6	9.6	2.5a	4.5b	2.8a	4.3b	---
2	6.6	7.6	10.3	10.3	11.3	10.9	9.8	2.5a	4.5b	2.9a	4.8b	---
3	---	7.0	11.0	10.0	11.7	10.8	9.8	3.3a	4.7b	1.5a	2.3a	---
4	---	6.5b	11.0	10.8	11.0	10.6	9.6	3.4b	5.6b	---	2.5a	---
5	---	6.0b	11.0	10.8	10.7	10.5	9.3	3.2a	7.8	---	1.5a	---
6	---	6.3	11.3	10.3	10.1	10.6	9.1	3.6b	8.5	---	1.3a	---
7	---	6.9b	11.1	10.7	8.3	10.4	9.0	3.2a	9.1	---	2.1a	---
8	---	7.8b	11.3	10.9	10.3	10.2	7.8	3.7b	8.6	---	---	---
9	---	8.8	11.5	10.8	10.7	10.4	8.0	3.2b	8.8	---	---	---
10	---	8.8	11.9	10.9	10.3	10.7	7.7	3.0a	9.0	---	---	---
11	6.1	9.0	12.1	11.0	10.7	10.7	8.3	3.7b	8.4	5.1a	5.6a	---
12	6.1	9.5	---	10.5	11.1	10.5	8.7	3.7b	7.2	9.7b	5.7b	---
13	5.4b	9.5	---	10.6	11.2	10.2	9.1	3.6b	8.1	6.3b	3.9b	---
14	5.0b	9.9	11.8	11.2	11.1	9.8	9.0	2.5a	7.5b	3.8a	3.4a	---
15	5.7b	9.9	10.8	11.3	10.9	10.7	8.8	1.8a	7.4	7.6a	1.0a	---
16	5.7	9.7	10.6	10.9	11.4	10.8	8.9	3.0a	5.5b	8.1	2.6a	---
17	5.9	9.8	10.5	11.0	11.3	10.4	8.5	1.8a	5.5a	7.7	1.3a	---
18	6.1b	10.2	10.6	11.0	11.6	10.1	8.1	1.6a	6.0b	7.0	2.8a	1.9a
19	6.3	10.1	10.1	10.6	11.1	10.2	7.9	3.3b	5.3b	6.8b	3.5a	1.5a
20	6.8	10.0	9.9	10.8	10.9	10.2	7.7	3.9b	4.3b	6.3b	3.9b	1.4a
21	6.9	9.3	10.0	10.9	10.7	10.0	7.7	4.2a	3.5b	6.0b	3.0a	---
22	6.6	8.7	10.2	11.0	10.7	10.3	8.0	4.1a	2.9a	5.6b	4.2a	---
23	6.6	9.3	10.3	11.0	10.9	10.1	---	4.5a	3.2b	7.7	4.7a	---
24	6.9	9.6	10.1	10.6	10.7	9.7	5.1b	4.4	3.9b	6.2b	3.8a	---
25	6.7	9.6	10.0	11.4	10.8	9.3	5.1b	---	3.5b	3.5a	4.6a	---
26	7.1	10.2	10.0	11.7	10.8	9.3	5.0b	---	3.1b	4.1a	---	6.3
27	7.4	10.2	10.5	11.5	11.0	9.4	3.9b	---	3.5b	5.3b	---	7.2
28	7.2	9.5	10.3	11.1	11.1	9.5	3.0a	---	3.3a	5.6b	---	8.2
29	8.0	9.4	10.5	10.7	---	9.0	3.5a	5.2b	3.8b	6.1b	---	7.6
30	8.3	10.0	11.0	10.6	---	8.9	2.6a	3.8a	4.0b	4.9b	---	6.2
31	8.4	---	10.7	9.6	---	9.4	---	4.0a	---	4.7b	---	---

Table 11.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 5, Goose Creek at Light 6, October 1990-September 1991--Continued

[Site 5 is at latitude 35°19'54", longitude 76°37'06", Beaufort County; U.S. Geological Survey downstream order number 0208455615; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

DISSOLVED OXYGEN, PERCENT SATURATION, NEAR BOTTOM

SENSOR POSITION.--2 feet above streambed.

EXTREMES FOR OCTOBER 1990-SEPTEMBER 1991.--Maximum value recorded, 168 percent of saturation July 12, 1991; minimum value recorded, ≤10 percent of saturation April 30, May 1, 2, 14-18, July 2, 3, August 3, 5, 6, 7, 11, 14-18, 21, 22, 23, 1991.

DAILY MEAN VALUES OF DISSOLVED OXYGEN, PERCENT SATURATION, NEAR BOTTOM (IN PERCENT), OCTOBER 1990-SEPTEMBER 1991

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	73	---	97	96	98	104	97	30	58	35	56	---
2	77	---	97	94	96	100	99	30	58	37	61	---
3	---	---	106	91	102	101	99	39	62	19	29	---
4	---	---	108	98	98	100	98	40	73	---	33	---
5	---	---	103	96	97	99	96	37	99	---	20	---
6	---	---	102	92	92	99	96	42	102	---	17	---
7	---	---	101	97	76	99	98	39	106	---	28	---
8	---	---	102	97	92	97	85	44	102	---	---	---
9	---	---	100	95	94	96	88	38	106	---	---	---
10	---	---	103	94	91	98	86	35	110	---	---	---
11	73	---	106	96	94	96	92	44	103	68	73	---
12	74	---	107	95	96	93	96	44	88	129	73	---
13	66	---	107	96	97	91	97	43	99	84	50	---
14	61	---	106	99	99	89	96	30	93	50	44	---
15	70	---	96	99	97	95	96	22	93	100	13	---
16	69	---	96	97	94	96	98	38	70	106	34	---
17	69	---	95	99	92	94	96	23	69	99	16	---
18	71	---	97	97	96	94	92	19	75	91	36	24
19	72	---	95	93	94	95	87	40	66	87	44	19
20	74	90	93	94	96	96	83	45	54	81	50	18
21	76	85	96	95	98	96	82	49	44	78	38	---
22	74	80	102	94	98	100	84	49	38	73	54	---
23	74	87	104	92	99	102	---	54	41	101	60	---
24	78	90	100	88	94	98	55	54	48	82	48	---
25	75	91	94	93	95	95	56	---	42	47	58	---
26	75	97	92	95	95	96	55	---	37	53	---	76
27	73	98	93	93	96	98	44	---	42	68	---	85
28	71	93	91	91	98	100	34	---	41	73	---	95
29	78	94	93	88	---	96	40	66	48	79	---	88
30	---	95	101	88	---	95	30	50	51	62	---	72
31	---	---	101	82	---	95	---	52	---	60	---	---

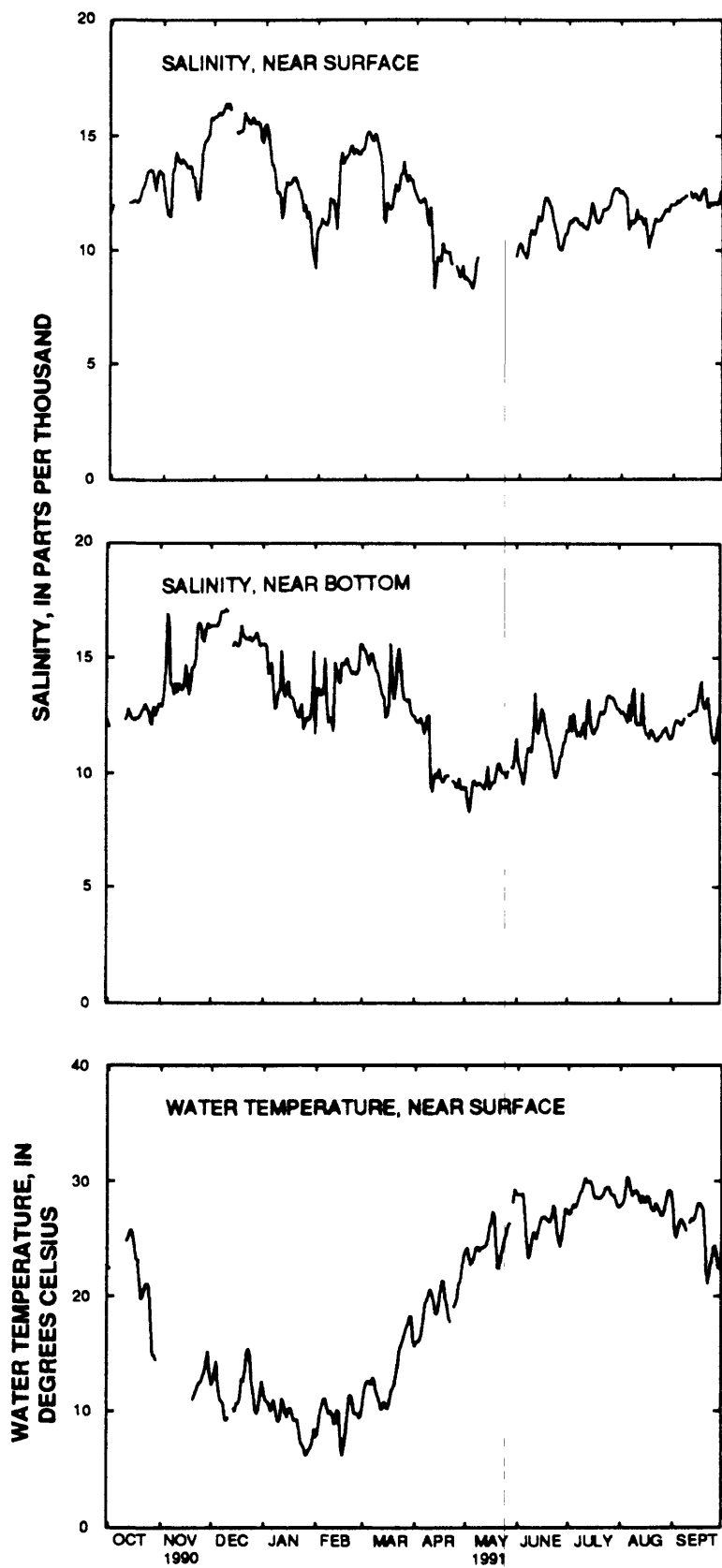


Figure 31.--Daily mean salinity and water temperature at site 5, Goose Creek at Light 6, October 1990-September 1991.

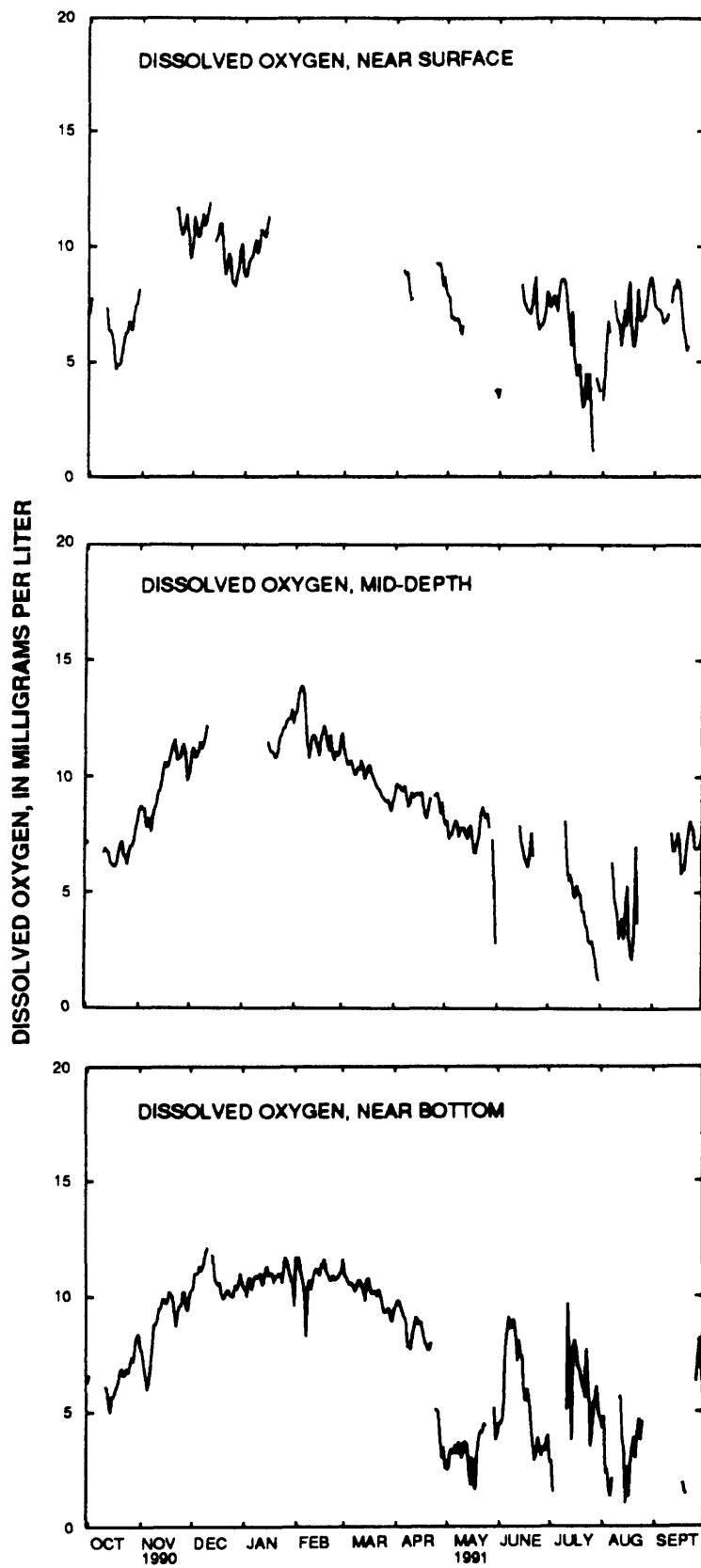


Figure 32.--Daily mean dissolved-oxygen concentrations at site 5, Goose Creek at Light 6, October 1990-September 1991.

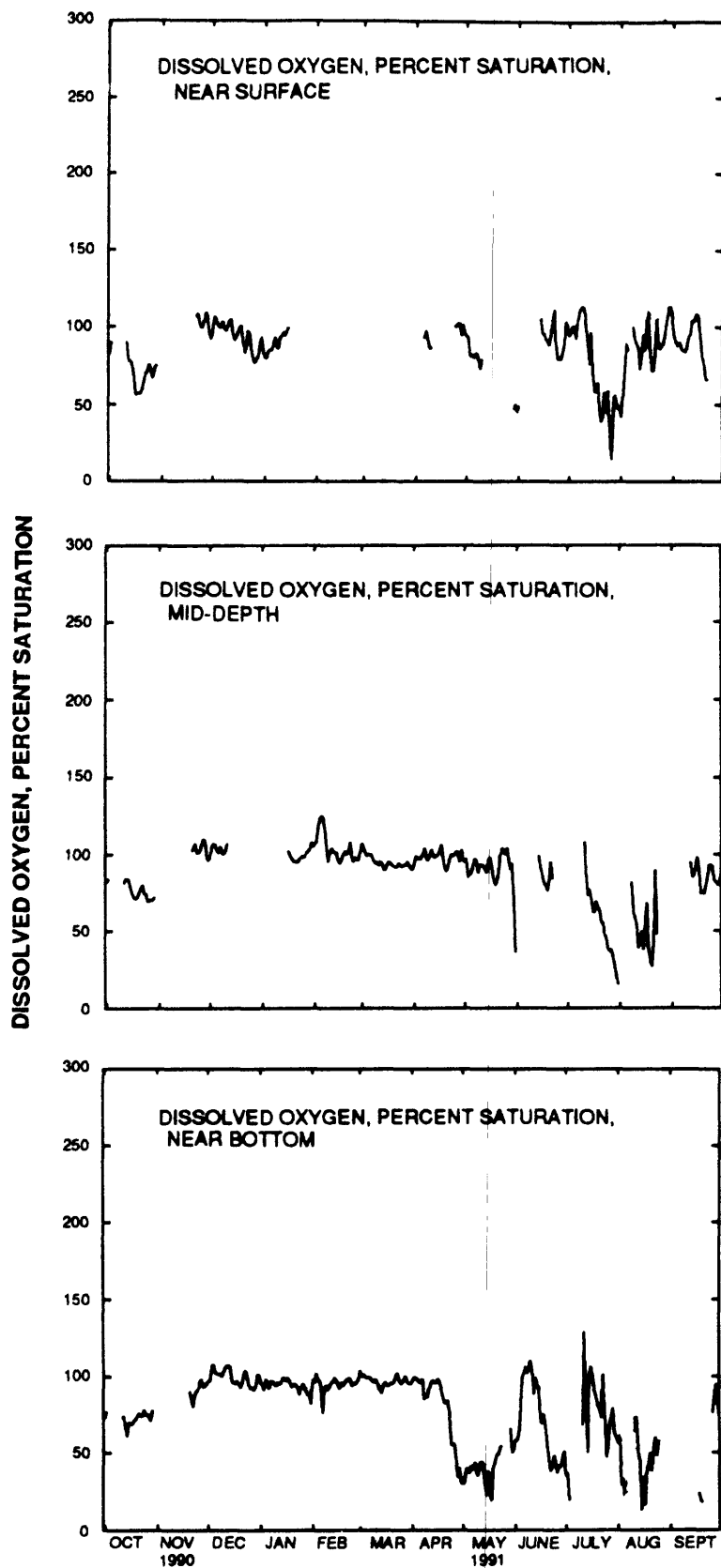


Figure 33.--Daily mean dissolved oxygen, percent saturation, at site 5, Goose Creek at Light 6, October 1990-September 1991.

Table 12.--Five-day mean water temperature and dissolved-oxygen values in water at site 5, Goose Creek at Light 6, October 1990-September 1991, for day and night periods

[°C, degrees Celsius; mg/L, milligram per liter; Day, 9:15 a.m.-9:00 p.m.; Night, 9:15 p.m.-9:00 a.m.; --, no data]

Date	Mean water temperature, near surface (°C)		Mean dissolved oxygen, near surface (mg/L)		Mean dissolved oxygen, mid-depth (mg/L)		Mean dissolved oxygen, near bottom (mg/L)	
	Day	Night	Day	Night	Day	Night	Day	Night
10/01/90-10/ 5/90	22.6	22.2	7.7	7.5	7.3	7.2	6.6	6.7
10/06/90-10/10/90	25.4	24.8	7.8	7.4	7.2	6.5	6.7	5.9
10/11/90-10/15/90	25.5	25.2	6.5	6.0	6.8	6.5	5.7	5.6
10/16/90-10/20/90	22.3	21.6	5.0	5.0	6.5	6.2	6.3	6.2
10/21/90-10/25/90	20.8	20.4	6.4	6.5	6.8	6.6	6.8	6.7
10/26/90-10/30/90	15.1	14.6	7.5	7.5	7.3	7.2	7.7	7.7
10/31/90-11/04/90	--	--	--	--	8.8	8.2	7.6	7.0
11/05/90-11/09/90	--	--	--	--	8.3	7.8	7.4	7.4
11/10/90-11/14/90	--	--	--	--	9.3	9.2	9.5	9.3
11/15/90-11/19/90	11.2	10.6	--	10.9	10.7	10.4	10.0	9.8
11/20/90-11/24/90	11.9	11.9	11.4	11.0	11.5	10.8	9.4	9.2
11/25/90-11/29/90	14.0	13.8	10.7	10.3	11.0	10.7	10.0	9.7
11/30/90-12/04/90	13.3	12.9	10.7	10.4	10.9	10.6	10.6	10.6
12/05/90-12/09/90	10.8	10.3	11.1	10.9	11.4	11.2	11.3	11.3
12/10/90-12/14/90	9.8	9.7	11.3	10.9	12.2	12.1	12.1	11.8
12/15/90-12/19/90	11.2	11.3	10.6	10.2	--	--	10.5	10.3
12/20/90-12/24/90	14.4	14.1	9.3	8.9	--	--	10.2	10.0
12/25/90-12/29/90	10.8	10.5	9.1	9.1	--	--	10.3	10.4
12/30/90- 1/03/91	11.6	11.5	9.2	8.9	--	--	10.5	10.4
1/04/91- 1/08/91	10.5	10.2	9.9	9.8	--	--	10.8	10.7
1/09/91- 1/13/91	10.0	9.9	10.5	10.4	--	--	10.8	10.8
1/14/91- 1/18/91	10.0	9.8	11.4	11.1	11.4	11.2	11.0	11.1
1/19/91- 1/23/91	8.8	8.4	--	--	11.2	11.2	10.9	10.9
1/24/91- 1/28/91	6.7	6.5	--	--	12.3	12.2	11.4	11.1
1/29/91- 2/02/91	7.8	7.9	--	--	12.7	12.6	10.7	11.0
2/03/91- 2/07/91	10.6	10.5	--	--	13.7	13.2	10.5	9.9
2/08/91- 2/12/91	9.8	9.4	--	--	11.4	11.3	10.8	10.7
2/13/91- 2/17/91	8.4	8.1	--	--	11.6	11.3	11.3	11.1
2/18/91- 2/22/91	9.7	10.0	--	--	11.8	11.5	11.2	10.8
2/23/91- 2/27/91	10.0	9.6	--	--	10.9	10.9	10.8	10.8
2/28/91- 3/04/91	11.5	11.6	--	--	11.4	10.9	11.1	10.8
3/05/91- 3/09/91	12.5	12.2	--	--	10.5	10.3	10.5	10.4
3/10/91- 3/14/91	10.8	10.4	--	--	10.4	10.2	10.5	10.3
3/15/91- 3/19/91	11.2	11.1	--	--	10.3	10.2	10.5	10.3
3/20/91- 3/24/91	14.4	14.4	--	--	9.6	9.3	10.2	9.8
3/25/91- 3/29/91	17.4	17.4	--	--	9.1	8.8	9.4	9.2
3/30/91- 4/03/91	16.4	15.8	--	--	9.3	9.2	9.6	9.5

Table 12.--Five-day mean water temperature and dissolved-oxygen values in water at site 5, Goose Creek at Light 6, October 1990-September 1991, for day and night periods--Continued

[°C, degrees Celsius; mg/L, milligram per liter; Day, 9:15 a.m.-9:00 p.m.; Night, 9:15 p.m.-9:00 a.m.; --, no data]

Date	Mean water temperature, near surface (°C)		Mean dissolved oxygen, near surface (mg/L)		Mean dissolved oxygen, mid-depth (mg/L)		Mean dissolved oxygen, near bottom (mg/L)	
	Day	Night	Day	Night	Day	Night	Day	Night
4/04/91- 4/08/91	18.3	18.2	9.1	8.4	9.6	9.1	9.1	8.5
4/09/91- 4/13/91	20.1	19.3	8.1	7.4	9.2	8.9	8.7	8.2
4/14/91- 4/18/91	20.3	20.1	--	--	9.3	8.8	8.7	8.4
4/19/91- 4/23/91	18.5	18.3	9.7	9.3	8.9	8.7	7.8	7.3
4/24/91- 4/28/91	20.3	20.4	9.1	8.8	9.1	8.8	4.4	4.2
4/29/91- 5/03/91	23.8	23.4	8.1	7.4	8.3	7.6	3.4	2.3
5/04/91- 5/08/91	23.7	23.5	7.0	6.6	8.0	7.7	3.5	3.3
5/09/91- 5/13/91	24.4	24.1	6.6	6.2	7.8	7.4	3.5	3.3
5/14/91- 5/18/91	26.6	26.2	--	--	7.6	7.1	2.3	1.9
5/19/91- 5/23/91	23.4	23.2	--	--	7.9	7.7	4.3	3.9
5/24/91- 5/28/91	26.1	26.1	6.4	3.8	8.2	7.6	4.5	5.3
5/29/91- 6/02/91	29.0	28.7	3.8	3.5	5.0	4.7	4.8	3.7
6/03/91- 6/07/91	26.5	25.8	--	--	--	--	7.6	7.5
6/08/91- 6/12/91	25.0	24.9	--	--	--	--	8.8	7.9
6/13/91- 6/17/91	26.7	26.6	8.0	7.5	7.5	6.9	7.4	5.9
6/18/91- 6/22/91	27.1	26.9	8.1	7.4	7.0	6.4	4.4	4.0
6/23/91- 6/27/91	25.6	25.1	6.9	6.4	--	--	3.5	3.4
6/28/91- 7/02/91	27.4	27.1	8.0	7.5	--	--	3.7	2.7
7/03/91- 7/07/91	28.1	28.0	8.3	7.6	--	--	1.8	1.4
7/08/91- 7/12/91	29.9	29.6	8.2	7.3	8.0	7.0	7.7	6.4
7/13/91- 7/17/91	29.5	29.0	6.0	4.5	5.4	5.0	6.9	6.7
7/18/91- 7/22/91	28.9	28.6	4.5	3.2	5.0	4.4	6.6	6.1
7/23/91- 7/27/91	29.4	29.0	3.5	1.8	3.3	2.7	5.7	4.6
7/28/91- 8/01/91	28.2	28.0	5.0	3.1	1.9	1.7	5.1	5.2
8/02/91- 8/06/91	29.4	29.3	5.9	6.0	--	--	2.3	1.9
8/07/91- 8/11/91	29.1	28.8	7.3	6.5	5.5	4.3	3.9	3.7
8/12/91- 8/16/91	28.5	28.2	7.2	6.8	3.9	3.5	3.6	2.5
8/17/91- 8/21/91	28.0	27.7	6.8	6.3	3.6	3.1	3.5	2.7
8/22/91- 8/26/91	27.6	27.3	7.3	6.9	5.4	4.5	4.4	4.6
8/27/91- 8/31/91	28.9	28.7	8.7	7.9	--	--	--	--
9/01/91- 9/05/91	26.3	25.8	7.6	7.0	--	--	--	--
9/06/91- 9/10/91	26.4	26.0	7.3	6.8	--	7.5	--	--
9/11/91- 9/15/91	27.0	26.9	8.5	8.1	7.4	7.0	--	--
9/16/91- 9/20/91	27.4	26.6	6.9	6.0	6.7	6.2	1.8	1.7
9/21/91- 9/25/91	22.7	22.7	5.9	5.9	7.9	7.5	7.8	6.5
9/26/91- 9/30/91	23.2	22.8	--	--	7.0	6.9	7.5	6.9

Table 13.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 6, Pungo River at Junction Light PR, October 1990-September 1991

[Site 6 is at latitude 35°22'42", longitude 76°33'24", Beaufort County; U.S. Geological Survey downstream order number 0208457700; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

SALINITY, NEAR SURFACE

SENSOR POSITION.--8 feet above streambed.

EXTREMES FOR OCTOBER 1990-SEPTEMBER 1991.--Maximum value recorded, 19.4 ppt January 11, 1991; minimum value recorded, 5.2 ppt August 15, 1991.

DAILY MEAN VALUES OF SALINITY, NEAR SURFACE (IN PARTS PER THOUSAND), OCTOBER 1990-SEPTEMBER 1991

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	---	---	---	18.1	13.7	15.1	13.0	9.3	10.4	---	---	---
2	---	---	---	18.0	13.2	15.2	13.0	9.1	10.7	---	---	---
3	---	---	---	17.8	14.7	15.4	13.1	9.8	10.6	---	---	---
4	12.4	---	---	18.2	14.5	15.1	12.0	9.7	10.3	---	---	---
5	13.5	---	---	18.0	14.8	15.2	11.4	9.0	11.2	---	---	---
6	13.2	---	---	17.9	15.2	15.3	11.8	8.8	11.0	---	---	---
7	13.5	---	---	18.1	14.9	14.9	11.1	9.2	11.1	---	---	---
8	13.5	---	---	18.5	15.7	15.2	9.7	9.4	10.8	---	---	---
9	13.7	---	---	18.3	16.1	15.2	8.5	9.3	10.6	---	---	---
10	14.0	---	---	18.5	15.9	14.9	9.1	9.5	10.5	---	---	---
11	14.1	---	---	17.8	15.7	15.2	10.8	9.8	10.1	---	---	---
12	13.9	---	---	17.5	16.4	15.4	10.1	9.0	10.2	---	---	---
13	14.0	---	---	18.1	13.7	14.9	10.0	9.2	10.5	---	---	---
14	13.9	---	---	17.8	14.1	15.3	10.5	9.3	10.8	---	---	---
15	13.6	---	---	16.9	14.4	15.2	10.5	9.4	10.7	---	9.1	---
16	14.1	---	---	16.7	15.2	15.0	10.7	9.8	10.5	---	8.4	---
17	14.2	---	---	16.9	15.0	15.2	10.8	10.0	10.3	---	9.0	---
18	14.7	---	---	16.5	15.0	13.7	10.7	10.0	---	---	8.8	---
19	14.3	---	18.3	16.2	14.9	14.9	11.1	10.5	---	---	8.5	12.7
20	14.7	---	18.4	15.9	15.0	15.3	10.2	10.4	---	---	---	13.2
21	14.4	---	18.4	15.1	15.0	14.5	10.1	9.8	---	---	---	---
22	14.1	---	18.2	15.9	14.9	14.3	9.7	10.0	---	---	---	---
23	14.1	---	17.9	15.5	15.6	13.9	10.0	10.3	---	---	---	11.6
24	14.1	---	17.3	14.4	15.4	13.8	10.2	10.3	---	---	---	---
25	14.4	---	17.4	14.4	15.2	14.2	---	10.6	---	---	---	---
26	14.2	---	18.1	14.4	15.2	14.4	9.7	10.7	---	---	---	---
27	14.3	---	18.3	14.0	15.1	13.9	9.6	10.4	---	---	---	---
28	13.9	---	17.8	14.3	15.0	13.3	9.6	10.1	---	---	---	---
29	14.7	---	17.8	14.2	---	13.8	9.6	10.5	---	---	---	---
30	14.9	---	17.6	15.2	---	12.9	9.5	10.7	---	---	---	---
31	14.9	---	17.5	16.2	---	13.2	---	10.3	---	---	---	---

Table 13.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 6, Pungo River at Junction Light PR, October 1990-September 1991--Continued

[Site 6 is at latitude 35°22'42", longitude 76°33'24", Beaufort County; U.S. Geological Survey downstream order number 0208457700; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

SALINITY, NEAR BOTTOM

SENSOR POSITION.--2 feet above streambed.

EXTREMES FOR OCTOBER 1990-SEPTEMBER 1991.--Maximum value recorded, 19.4 ppt December 30, 1990; minimum value recorded, 8.9 ppt April 30, 1991.

DAILY MEAN VALUES OF SALINITY, NEAR BOTTOM (IN PARTS PER THOUSAND), OCTOBER 1990-SEPTEMBER 1991

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	---	---	---	17.9	---	---	---	---	---	---	---	12.0
2	---	---	---	17.9	---	15.6	---	---	---	---	---	12.0
3	---	---	---	---	---	15.6	---	---	---	---	---	11.5
4	13.2	---	---	---	---	15.4	---	---	11.1	---	---	11.7
5	13.4	---	---	---	---	15.6	12.6	---	11.6	---	---	12.1
6	---	---	---	---	---	15.7	12.7	---	11.1	---	---	12.2
7	---	---	---	---	---	15.3	12.4	---	---	---	---	11.8
8	---	---	---	---	---	15.7	12.0	---	---	---	---	11.6
9	---	---	---	---	---	15.8	10.9	---	---	---	---	12.0
10	---	---	---	---	---	15.6	10.7	---	---	---	---	12.0
11	---	---	---	---	---	16.2	11.9	---	---	---	---	12.4
12	---	---	---	---	---	16.6	11.5	---	---	---	---	12.3
13	---	---	---	---	---	15.6	11.5	---	---	---	---	12.4
14	---	---	---	---	---	---	12.4	---	---	---	---	12.9
15	---	---	---	---	---	---	12.3	---	---	---	13.9	12.9
16	---	---	---	---	---	---	12.5	---	---	---	12.6	13.3
17	---	---	---	---	---	---	12.4	---	---	---	13.0	---
18	---	---	---	---	---	---	11.5	---	---	---	12.9	15.1
19	---	---	18.5	---	---	---	11.3	---	---	---	12.4	14.5
20	---	---	18.6	---	---	---	10.5	---	---	---	12.4	14.4
21	---	---	18.7	---	---	---	10.5	---	---	---	12.3	14.0
22	---	---	18.7	---	---	---	9.9	---	---	---	11.7	12.9
23	---	---	18.6	---	---	---	10.3	---	---	---	11.6	12.2
24	---	---	17.6	---	---	---	10.3	---	---	---	11.7	12.1
25	---	---	17.8	---	---	---	---	---	---	---	11.5	---
26	---	---	18.3	---	---	---	9.9	---	---	---	11.2	12.2
27	---	---	18.5	---	---	---	10.3	---	---	---	11.2	12.4
28	---	---	18.1	---	---	---	9.8	---	---	---	11.1	12.4
29	---	---	18.0	---	---	---	9.4	---	---	---	11.4	11.9
30	---	---	18.1	---	---	---	9.6	---	---	---	11.6	12.3
31	---	---	17.7	---	---	---	---	---	---	---	11.6	---

Table 13.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 6, Pungo River at Junction Light PR, October 1990-September 1991--Continued

[Site 6 is at latitude 35°22'42", longitude 76°33'24", Beaufort County; U.S. Geological Survey downstream order number 0208457700; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

WATER TEMPERATURE, NEAR SURFACE

SENSOR POSITION.--8 feet above streambed.

EXTREMES FOR OCTOBER 1990-SEPTEMBER 1991.--Maximum value recorded, 31.0 °C June 3, 1991; minimum value recorded, 5.5 °C January 27, 1991.

DAILY MEAN VALUES OF WATER TEMPERATURE, NEAR SURFACE (IN DEGREES CELSIUS), OCTOBER 1990-SEPTEMBER 1991

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	---	---	---	10.7	7.9	9.6	16.1	22.9	28.1	---	---	27.8
2	---	---	---	10.4	8.0	10.0	16.5	23.2	28.0	---	---	26.4
3	---	---	---	10.4	9.1	10.3	16.1	22.3	28.9	---	---	26.0
4	21.6	---	---	10.3	9.3	11.0	16.1	21.5	29.8	---	---	26.0
5	22.3	---	---	9.8	9.8	11.1	16.5	21.7	28.3	---	---	26.1
6	21.8	---	---	10.1	10.4	11.1	17.6	22.2	26.6	---	---	26.5
7	22.5	---	---	10.2	10.8	11.7	18.4	22.8	25.5	---	---	26.4
8	22.8	---	---	9.7	10.0	11.6	19.5	22.7	24.9	---	---	26.2
9	23.5	---	---	9.2	9.5	11.1	20.3	22.5	25.1	---	---	25.8
10	23.6	---	---	8.9	9.7	11.0	20.6	22.9	25.4	---	---	26.1
11	23.4	---	---	9.0	9.6	10.5	20.0	22.7	25.8	---	---	25.9
12	23.5	---	---	9.8	8.9	10.1	19.6	23.0	25.6	---	---	26.4
13	24.3	---	---	9.6	8.9	10.0	18.8	23.4	26.0	---	---	26.5
14	24.7	---	---	9.3	9.7	10.4	18.9	24.0	25.9	---	---	26.4
15	24.1	---	---	9.1	9.4	10.0	19.2	24.8	26.7	---	28.3	26.8
16	23.2	---	---	9.8	7.5	9.9	19.9	25.1	27.4	---	27.7	27.1
17	22.5	---	---	9.8	6.8	10.2	20.4	25.6	27.6	---	28.1	---
18	22.5	---	---	9.7	7.1	10.5	---	25.9	---	---	28.3	27.9
19	21.6	---	11.2	9.3	7.6	10.9	---	24.0	---	---	27.8	28.1
20	20.4	---	11.1	9.4	8.6	11.4	---	22.6	---	---	27.7	26.6
21	20.1	---	11.6	9.5	9.5	12.2	---	22.4	---	---	27.3	24.6
22	20.4	---	12.5	8.8	10.2	13.1	---	23.0	---	---	27.5	23.4
23	20.5	---	13.1	7.9	9.4	14.4	---	23.4	---	---	27.6	23.3
24	20.7	---	13.6	7.6	9.0	15.3	---	23.7	---	---	27.4	23.7
25	20.4	---	12.2	7.3	9.4	15.6	---	24.5	---	---	27.3	---
26	19.3	---	11.4	6.8	9.1	15.6	18.4	25.2	---	---	27.1	25.1
27	17.5	---	10.6	6.8	8.7	16.3	19.7	26.0	---	---	27.4	24.3
28	17.0	---	10.1	7.2	9.0	16.9	20.5	26.7	---	---	27.8	23.4
29	16.7	---	10.2	7.7	---	17.4	21.5	27.8	---	---	28.0	23.0
30	16.3	---	10.9	8.4	---	17.8	22.0	28.3	---	---	28.2	23.1
31	16.1	---	11.5	8.6	---	16.7	---	28.1	---	---	28.1	---

Table 13.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 6, Pungo River at Junction Light PR, October 1990-September 1991--Continued

[Site 6 is at latitude 35°22'42", longitude 76°33'24", Beaufort County; U.S. Geological Survey downstream order number 0208457700; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

DISSOLVED OXYGEN, NEAR SURFACE

SENSOR POSITION.--8 feet above streambed.

EXTREMES FOR OCTOBER 1990-SEPTEMBER 1991.--Maximum value recorded, 13.6 mg/L September 15, 1991; minimum value recorded, <1.0 mg/L August 15, 17, 18, 19, 26, 27, 29, September 10, 1991.

DAILY MEAN VALUES OF DISSOLVED OXYGEN, NEAR SURFACE (IN MILLIGRAMS PER LITER), OCTOBER 1990-SEPTEMBER 1991

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	---	---	---	10.4	---	---	9.6	---	---	---	---	---
2	---	---	---	10.3	---	11.5	10.1	---	---	---	---	3.1a
3	---	---	---	10.4	---	11.0	9.9	---	---	---	---	4.9b
4	6.1	---	---	10.4	---	10.5	9.6	---	6.7	---	---	---
5	5.5b	---	---	10.6	---	10.7	9.8	---	6.0	---	---	---
6	5.3b	---	---	10.5	---	10.9	10.3	---	6.0b	---	---	---
7	5.5b	---	---	10.6	---	10.7	9.8	---	6.5	---	---	4.3b
8	5.4b	---	---	10.5	---	10.2	9.7	---	7.0	---	---	4.0b
9	5.6b	---	---	10.6	---	10.4	9.6	---	7.1	---	---	5.0a
10	5.1b	---	---	10.8	---	10.9	9.0	---	7.5	---	---	4.9a
11	4.9b	---	---	11.1	---	11.0	8.8	---	7.6	---	---	6.2b
12	4.8b	---	---	11.1	---	10.9	9.1	---	7.2	---	---	9.2b
13	5.1b	---	---	10.7	---	11.0	8.5	---	7.3	---	---	9.3
14	---	---	---	11.0	---	10.8	8.5	---	7.1	---	---	8.0b
15	---	---	---	11.2	---	10.9	8.6	---	7.0	---	5.7a	10.1b
16	---	---	---	11.2	---	11.2	8.5	---	7.0	---	9.3b	8.2b
17	---	---	---	10.7	---	11.3	8.6	---	6.5	---	5.4a	---
18	---	---	---	10.6	---	11.2	8.6	---	---	---	3.1a	6.7
19	---	---	10.9	10.6	---	10.7	8.2	---	---	---	1.3a	7.0
20	---	---	10.7	10.6	---	10.7	8.1	---	---	---	---	5.1b
21	---	---	10.8	10.7	---	10.8	8.2	---	---	---	---	5.1b
22	---	---	11.0	10.4	---	10.9	8.4	---	---	---	---	5.6b
23	---	---	11.1	---	---	10.7	8.7	---	---	---	---	---
24	---	---	10.5	---	---	10.4	9.5	---	---	---	---	---
25	---	---	10.1	---	---	10.0	---	---	---	---	---	---
26	---	---	10.1	---	---	10.0	---	---	---	---	2.5a	7.1
27	---	---	10.3	---	---	9.9	---	---	---	---	2.3a	7.2
28	---	---	10.3	---	---	9.6	---	---	---	---	2.2a	7.0
29	---	---	10.5	---	---	9.3	---	---	---	---	1.9a	6.0b
30	---	---	11.0	---	---	9.2	---	---	---	---	---	5.1b
31	---	---	10.6	---	---	9.2	---	---	---	---	---	---

Table 13.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 6, Pungo River at Junction Light PR, October 1990-September 1991--Continued

[Site 6 is at latitude 35°22'42", longitude 76°33'24", Beaufort County; U.S. Geological Survey downstream order number 0208457700; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

DISSOLVED OXYGEN, PERCENT SATURATION, NEAR SURFACE

SENSOR POSITION.--8 feet above streambed.

EXTREMES FOR OCTOBER 1990-SEPTEMBER 1991.--Maximum value recorded, 173 percent of saturation September 15, 1991; minimum value recorded, ≤10 percent of saturation August 15, 17, 18, 19, 26, 27, 29, 1991.

DAILY MEAN VALUES OF DISSOLVED OXYGEN, PERCENT SATURATION, NEAR SURFACE (IN PERCENT), OCTOBER 1990-SEPTEMBER 1991

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	---	---	---	94	---	---	97	---	---	---	---	---
2	---	---	---	92	---	102	103	---	---	---	---	39
3	---	---	---	93	---	99	101	---	---	---	---	60
4	69	---	---	93	---	95	98	---	89	---	---	---
5	64	---	---	93	---	98	100	---	78	---	---	---
6	60	---	---	94	---	99	108	---	75	---	---	---
7	64	---	---	95	---	99	105	---	79	---	---	54
8	63	---	---	93	---	94	106	---	85	---	---	50
9	67	---	---	92	---	95	106	---	86	---	---	62
10	60	---	---	93	---	99	100	---	92	---	---	61
11	58	---	---	96	---	98	97	---	94	---	---	76
12	57	---	---	98	---	97	100	---	88	---	---	114
13	61	---	---	94	---	98	92	---	90	---	---	116
14	---	---	---	96	---	97	92	---	87	---	---	100
15	---	---	---	97	---	96	94	---	87	---	74	126
16	---	---	---	99	---	99	94	---	88	---	119	103
17	---	---	---	94	---	101	96	---	83	---	69	---
18	---	---	---	93	---	100	---	---	---	---	41	86
19	---	---	99	93	---	97	---	---	---	---	16	90
20	---	---	97	93	---	98	---	---	---	---	---	64
21	---	---	99	94	---	101	---	---	---	---	---	62
22	---	---	103	89	---	104	---	---	---	---	---	66
23	---	---	106	---	---	105	---	---	---	---	---	---
24	---	---	102	---	---	104	---	---	---	---	---	---
25	---	---	94	---	---	101	---	---	---	---	---	---
26	---	---	92	---	---	101	---	---	---	---	31	87
27	---	---	93	---	---	102	---	---	---	---	29	87
28	---	---	92	---	---	100	---	---	---	---	29	83
29	---	---	94	---	---	98	---	---	---	---	24	71
30	---	---	99	---	---	97	---	---	---	---	---	59
31	---	---	98	---	---	94	---	---	---	---	---	---

Table 13.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 6, Pungo River at Junction Light PR, October 1990-September 1991--Continued

[Site 6 is at latitude 35°22'42", longitude 76°33'24", Beaufort County; U.S. Geological Survey downstream order number 0208457700; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

DISSOLVED OXYGEN, MID-DEPTH

SENSOR POSITION.--6 feet above streambed.

EXTREMES FOR OCTOBER 1990-SEPTEMBER 1991.--Maximum value recorded, 16.1 mg/L February 3, 1991; minimum value recorded, 3.0 mg/L October 14, 1990.

DAILY MEAN VALUES OF DISSOLVED OXYGEN, MID-DEPTH (IN MILLIGRAMS PER LITER), OCTOBER 1990-SEPTEMBER 1991

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	---	---	---	9.7	11.4	11.3	9.5	8.1	7.4	---	---	4.2b
2	---	---	---	9.6	12.2	11.8	10.1	7.8	7.3	---	---	4.3b
3	---	---	---	9.8	11.8	11.2	10.1	7.6	7.4	---	---	4.6b
4	8.8	---	---	9.8	12.3	10.8	9.6	7.2	7.6	---	---	5.1b
5	8.2	---	---	9.9	12.6	10.8	9.6	6.8	7.1	---	---	6.2b
6	7.7	---	---	9.8	12.1	11.1	10.1	7.1	7.0	---	---	6.5
7	7.6	---	---	9.8	11.3	10.9	9.6	7.2	7.3	---	---	7.6
8	7.7	---	---	9.7	10.0	10.4	9.6	7.3	7.7	---	---	7.6
9	7.9	---	---	9.8	9.3	10.6	9.3	7.1	7.6	---	---	7.7
10	7.6	---	---	10.1	9.7	11.1	8.7	7.5	8.0	---	---	---
11	7.4	---	---	10.1	10.2	11.1	8.7	7.5	7.8	---	---	4.6b
12	7.4	---	---	10.1	9.8	11.0	8.9	7.7	7.2	---	---	5.3b
13	7.2	---	---	9.7	10.1	11.1	8.5	7.7	7.2	---	---	5.5b
14	7.1b	---	---	10.0	9.5	11.0	8.5	7.9	7.0	---	---	6.1
15	7.3	---	---	10.3	9.0	11.1	8.6	7.9	6.7	---	7.2	6.9
16	7.4	---	---	10.3	9.1	11.4	8.6	7.8	6.8	---	8.5	7.1
17	7.3	---	---	9.8	9.1	11.6	8.7	7.6	6.1	---	10.6	---
18	6.8	---	---	9.7	9.3	11.5	8.5	7.3	---	---	10.2	7.7
19	7.1	---	10.1	9.8	9.4	11.1	8.2	6.9	---	---	8.3	7.8
20	7.2	---	9.9	9.7	9.5	11.1	8.2	7.1	---	---	7.4	6.4
21	7.6	---	10.0	9.8	9.6	11.2	8.2	7.5	---	---	8.7	7.2
22	7.3	---	10.3	9.4	9.6	11.1	8.6	7.6	---	---	11.0	8.1
23	7.1	---	10.5	9.7	9.0	11.0	8.8	8.0	---	---	10.0	8.2
24	7.1	---	9.9	9.8	8.5	10.5	9.6	7.6	---	---	9.1	8.5
25	7.1	---	9.5	9.9	8.4	10.2	---	7.6	---	---	8.8	---
26	7.2	---	9.4	10.2	8.3	10.0	8.8	7.7	---	---	8.8	8.1
27	7.7	---	9.5	10.8	9.0	9.9	9.1	8.1	---	---	7.6	8.4
28	8.2	---	9.6	11.0	10.1	9.7	9.1	7.9	---	---	7.2	9.0
29	8.5	---	9.8	11.3	---	9.3	9.1	7.9	---	---	7.4	8.3
30	8.7	---	10.1	10.6	---	9.1	8.8	7.9	---	---	6.3	8.6
31	8.8	---	9.9	10.5	---	9.0	---	7.7	---	---	4.4b	---

Table 13.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 6, Pungo River at Junction Light PR, October 1990-September 1991--Continued

[Site 6 is at latitude 35°22'42", longitude 76°33'24", Beaufort County; U.S. Geological Survey downstream order number 0208457700; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

DISSOLVED OXYGEN, PERCENT SATURATION, MID-DEPTH

SENSOR POSITION.--6 feet above streambed.

EXTREMES FOR OCTOBER 1990-SEPTEMBER 1991.--Maximum value recorded, 176 percent of saturation September 14, 1991; minimum value recorded, 37 percent of saturation October 14, 1990.

DAILY MEAN VALUES OF DISSOLVED OXYGEN, PERCENT SATURATION, MID-DEPTH (IN PERCENT), OCTOBER 1990-SEPTEMBER 1991

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	---	---	---	88	97	99	96	95	95	---	---	53
2	---	---	---	86	103	104	104	91	94	---	---	53
3	---	---	---	87	103	100	103	88	97	---	---	56
4	100	---	---	87	108	98	97	82	100	---	---	64
5	95	---	---	87	112	99	98	78	91	---	---	77
6	88	---	---	88	109	101	106	82	87	---	---	81
7	88	---	---	88	102	100	103	84	90	---	---	94
8	90	---	---	85	89	96	104	85	93	---	---	95
9	93	---	---	85	82	97	104	83	92	---	---	94
10	90	---	---	87	85	101	97	88	97	---	---	---
11	87	---	---	88	90	99	96	88	96	---	---	57
12	87	---	---	89	85	98	98	91	89	---	---	66
13	86	---	---	86	87	99	91	91	89	---	---	69
14	85	---	---	87	83	99	92	95	86	---	---	75
15	87	---	---	89	79	98	94	96	84	---	93	87
16	87	---	---	91	76	101	95	95	86	---	109	90
17	85	---	---	87	75	103	96	93	78	---	136	---
18	79	---	---	86	77	103	---	91	---	---	132	98
19	80	---	92	85	79	101	---	82	---	---	105	101
20	80	---	90	85	82	102	---	83	---	---	95	80
21	84	---	92	86	84	104	---	87	---	---	110	86
22	81	---	97	81	86	106	---	89	---	---	139	96
23	79	---	100	82	78	108	---	95	---	---	127	97
24	79	---	96	82	74	106	---	90	---	---	115	100
25	79	---	89	83	74	103	---	91	---	---	111	---
26	78	---	87	84	72	101	94	94	---	---	111	98
27	80	---	86	89	77	101	100	100	---	---	96	101
28	85	---	86	91	88	100	101	99	---	---	92	106
29	88	---	87	95	---	97	103	102	---	---	95	97
30	89	---	92	90	---	96	100	102	---	---	81	101
31	90	---	91	90	---	93	---	98	---	---	56	---

Table 13.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 6, Pungo River at Junction Light PR, October 1990-September 1991--Continued

[Site 6 is at latitude 35°22'42", longitude 76°33'24", Beaufort County; U.S. Geological Survey downstream order number 0208457700; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

DISSOLVED OXYGEN, NEAR BOTTOM

SENSOR POSITION.--2 feet above streambed.

EXTREMES FOR OCTOBER 1990-SEPTEMBER 1991.--Maximum value recorded, 12.6 mg/L September 12, 1991; minimum value recorded, <1.0 mg/L April 30, August 15, September 7, 1991.

DAILY MEAN VALUES OF DISSOLVED OXYGEN, NEAR BOTTOM (IN MILLIGRAMS PER LITER), OCTOBER 1990-SEPTEMBER 1991

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	---	---	---	---	---	---	9.6	6.8b	---	---	---	---
2	---	---	---	---	---	11.1	9.9	6.7b	---	---	---	---
3	---	---	---	---	---	10.9	10.4	6.9	---	---	---	---
4	5.1b	---	---	---	---	10.5	9.6	6.3	6.0a	---	---	---
5	7.5b	---	---	---	---	10.3	9.4	5.8b	6.5	---	---	---
6	7.1b	---	---	---	---	10.8	---	5.9b	6.5	---	---	---
7	8.5b	---	---	---	---	10.6	---	6.0b	6.9	---	---	1.8a
8	7.8b	---	---	---	---	10.1	---	6.1	7.1	---	---	1.3a
9	7.4b	---	---	---	---	10.4	---	6.1	6.4b	---	---	4.0a
10	10.0	---	---	---	---	10.9	---	6.3	6.1b	---	---	5.4b
11	10.2	---	---	---	---	10.8	---	6.3	6.5b	---	---	7.1b
12	9.9	---	---	---	---	10.7	---	6.0b	6.5	---	---	10.8
13	9.3	---	---	---	---	10.8	---	6.3	6.7	---	---	9.2
14	7.6	---	---	---	---	10.7	---	6.2	6.7	---	---	6.7b
15	7.8	---	---	---	---	10.8	---	5.9b	5.9b	---	4.4a	6.6b
16	10.6	---	---	---	---	11.0	---	5.8b	5.9b	---	7.1b	6.2b
17	9.4b	---	---	---	---	11.0	---	5.2b	5.2b	---	6.2b	---
18	8.8b	---	---	---	---	11.0	---	4.7b	---	---	6.0b	6.2b
19	9.0	---	---	---	---	10.9	---	3.7b	---	---	6.4b	5.5b
20	9.1	---	---	---	---	10.8	---	3.4b	---	---	6.8	5.9b
21	9.7	---	---	---	---	10.7	---	3.4b	---	---	6.6	6.8
22	8.6	---	---	---	---	10.6	---	3.1b	---	---	7.6b	7.6
23	8.9	---	---	---	---	10.6	---	3.5b	---	---	---	7.6
24	8.7	---	---	---	---	10.4	---	3.4b	---	---	---	7.9
25	9.5	---	---	---	---	10.1	---	3.5b	---	---	---	---
26	10.2	---	---	---	---	10.1	8.1	4.0b	---	---	---	7.8
27	10.0	---	---	---	---	10.0	7.7	5.5b	---	---	---	8.6
28	9.3	---	---	---	---	9.7	7.4	6.0b	---	---	---	9.5
29	9.7	---	---	---	---	9.4	7.7	5.9b	---	---	---	8.8
30	9.8	---	---	---	---	9.3	6.4a	5.4b	---	---	---	8.4
31	9.1	---	---	---	---	9.4	---	---	---	---	---	---

Table 13.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 6, Pungo River at Junction Light PR, October 1990-September 1991--Continued

[Site 6 is at latitude 35°22'42", longitude 76°33'24", Beaufort County; U.S. Geological Survey downstream order number 0208457700; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

DISSOLVED OXYGEN, PERCENT SATURATION, NEAR BOTTOM

SENSOR POSITION.--2 feet above streambed.

EXTREMES FOR OCTOBER 1990-SEPTEMBER 1991.--Maximum value recorded, 158 percent of saturation September 12, 1991; minimum value recorded, ≤10 percent of saturation April 30, August 15, 1991.

DAILY MEAN VALUES OF DISSOLVED OXYGEN, PERCENT SATURATION, NEAR BOTTOM (IN PERCENT), OCTOBER 1990-SEPTEMBER 1991

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	---	---	---	---	---	---	97	79	---	---	---	---
2	---	---	---	---	---	99	101	79	---	---	---	---
3	---	---	---	---	---	97	106	80	---	---	---	---
4	58	---	---	---	---	95	98	71	80	---	---	---
5	87	---	---	---	---	94	96	66	84	---	---	---
6	81	---	---	---	---	99	---	68	82	---	---	---
7	98	---	---	---	---	98	---	70	85	---	---	23
8	91	---	---	---	---	93	---	71	86	---	---	16
9	87	---	---	---	---	94	---	70	78	---	---	50
10	119	---	---	---	---	99	---	74	75	---	---	67
11	121	---	---	---	---	97	---	74	81	---	---	88
12	117	---	---	---	---	96	---	71	79	---	---	135
13	111	---	---	---	---	96	---	74	83	---	---	115
14	92	---	---	---	---	95	---	73	82	---	---	84
15	93	---	---	---	---	96	---	72	74	---	56	83
16	124	---	---	---	---	98	---	71	75	---	91	78
17	109	---	---	---	---	98	---	64	66	---	80	---
18	102	---	---	---	---	99	---	58	---	---	77	79
19	102	---	---	---	---	99	---	44	---	---	81	71
20	101	---	---	---	---	99	---	39	---	---	87	73
21	107	---	---	---	---	100	---	40	---	---	84	82
22	96	---	---	---	---	101	---	36	---	---	96	90
23	100	---	---	---	---	104	---	41	---	---	---	90
24	97	---	---	---	---	104	---	41	---	---	---	94
25	106	---	---	---	---	102	---	42	---	---	---	---
26	111	---	---	---	---	101	86	48	---	---	---	95
27	105	---	---	---	---	102	84	68	---	---	---	102
28	97	---	---	---	---	100	83	75	---	---	---	111
29	100	---	---	---	---	98	88	76	---	---	---	103
30	100	---	---	---	---	98	74	69	---	---	---	99
31	93	---	---	---	---	97	---	---	---	---	---	---

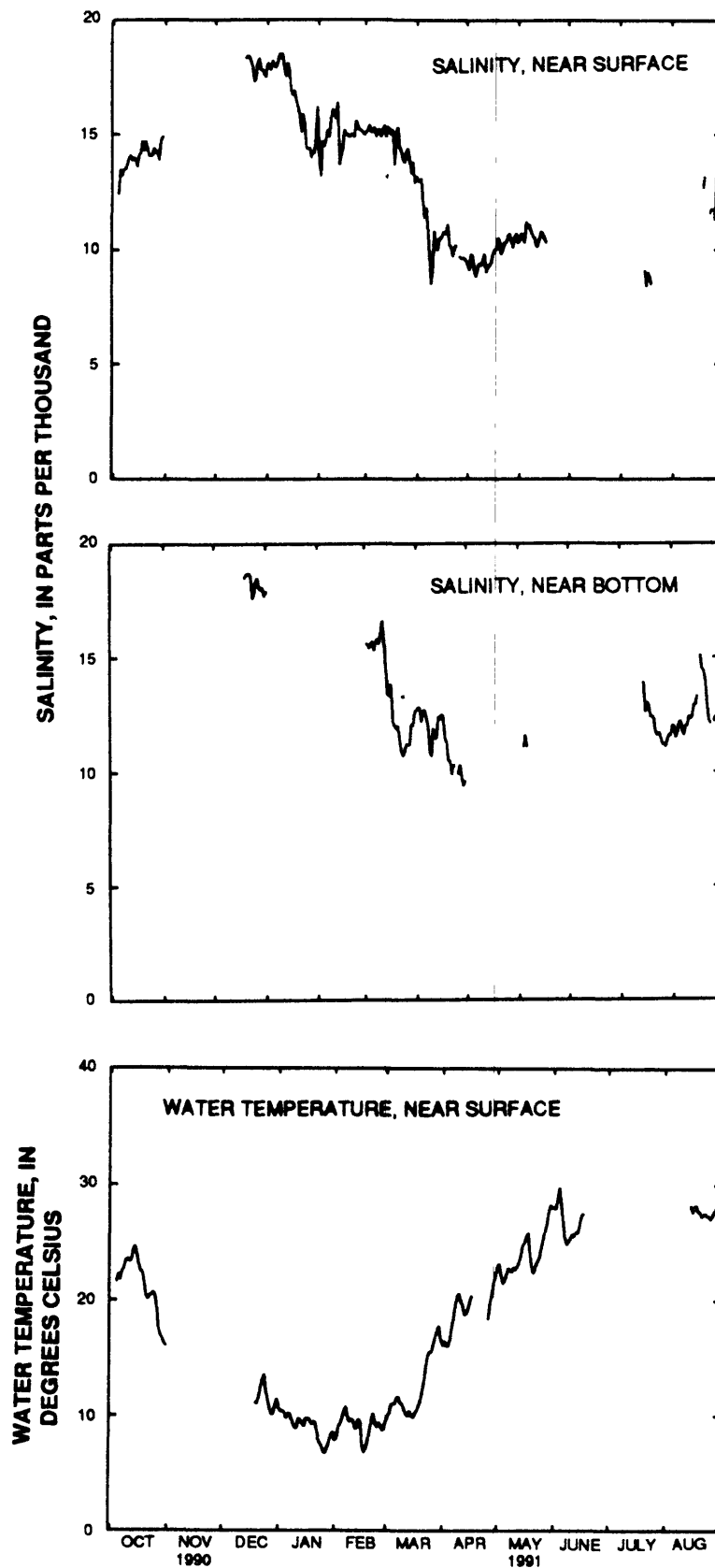


Figure 34.--Daily mean salinity and water temperature at site 6, Pungo River at Junction Light PR, October 1990-September 1991.

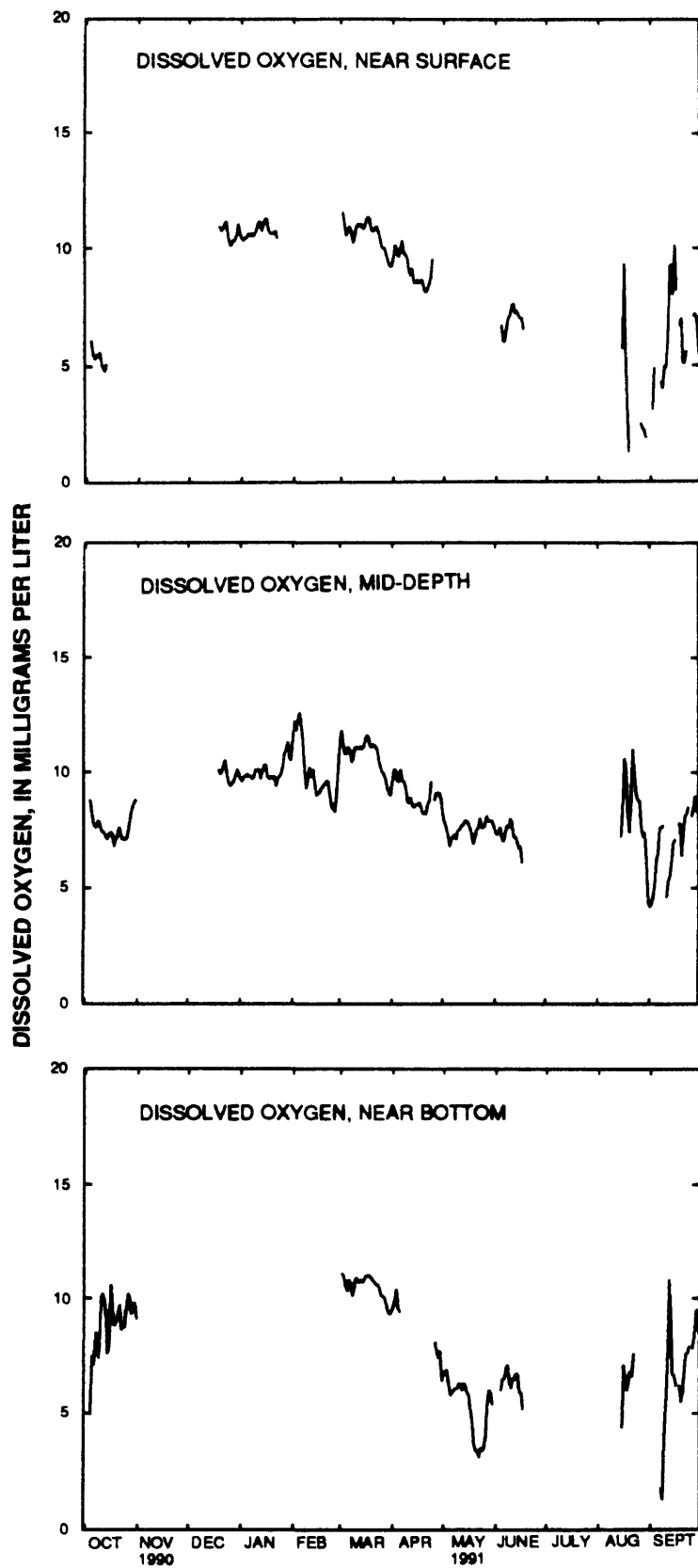


Figure 35.--Daily mean dissolved-oxygen concentrations at site 6, Pungo River at Junction Light PR, October 1990-September 1991.

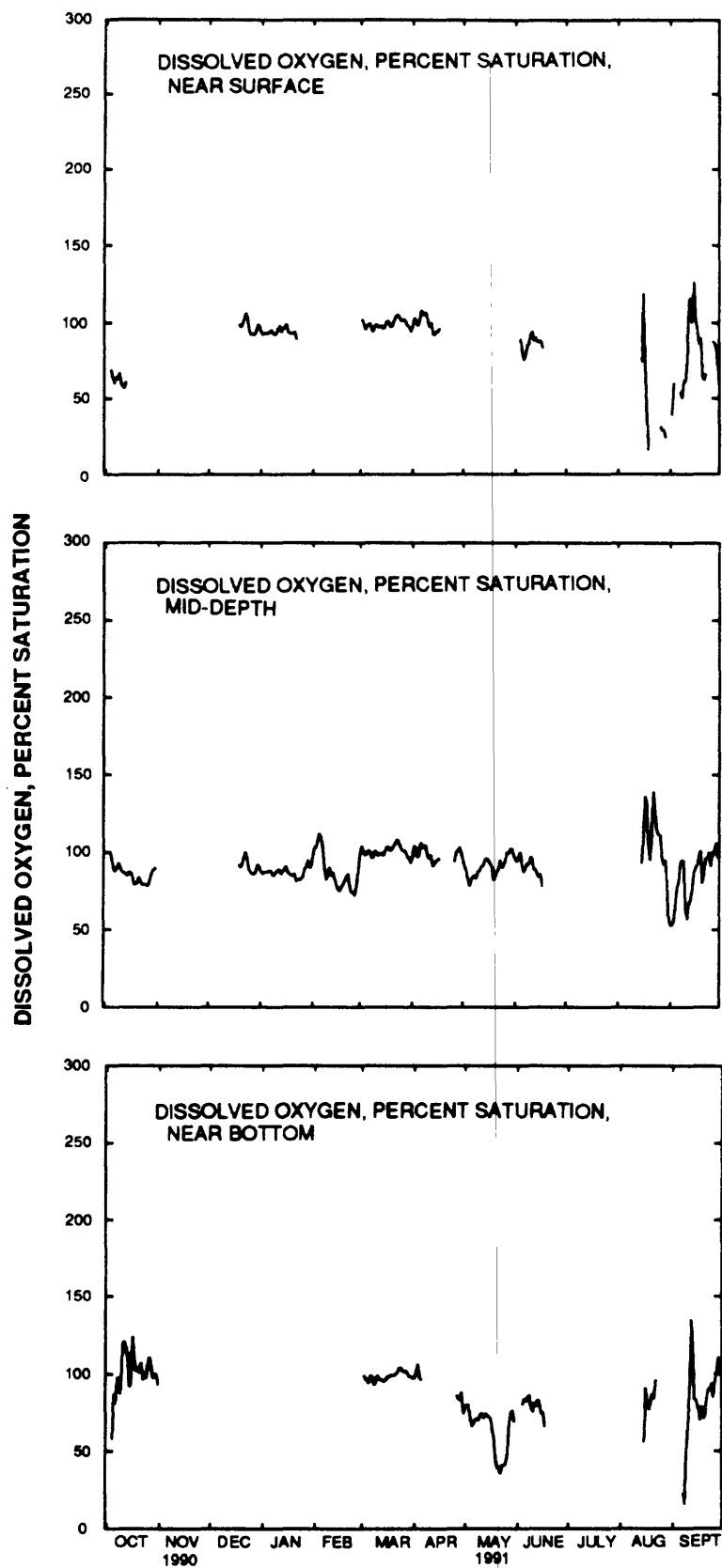


Figure 36.--Daily mean dissolved oxygen, percent saturation, at site 6, Pungo River at Junction Light PR, October 1990-September 1991.

Table 14.--Five-day mean water temperature and dissolved-oxygen values in water at site 6, Pungo River at Junction Light PR, October 1990-September 1991, for day and night periods

[°C, degrees Celsius; mg/L, milligram per liter; Day, 9:15 a.m.-9:00 p.m.; Night, 9:15 p.m.-9:00 a.m.; --, no data]

Date	Mean water temperature, near surface (°C)		Mean dissolved oxygen, near surface (mg/L)		Mean dissolved oxygen, mid-depth (mg/L)		Mean dissolved oxygen, near bottom (mg/L)	
	Day	Night	Day	Night	Day	Night	Day	Night
10/01/90-10/05/90	21.9	21.8	6.5	5.6	8.8	8.3	7.0	6.1
10/06/90-10/10/90	23.1	22.9	5.7	5.0	7.9	7.4	8.4	8.5
10/11/90-10/15/90	24.1	23.9	5.3	4.6	7.5	7.0	9.1	8.8
10/16/90-10/20/90	22.1	21.5	--	--	7.3	7.1	9.6	9.2
10/21/90-10/25/90	20.6	20.3	--	--	7.4	7.1	9.2	9.0
10/26/90-10/30/90	17.4	16.7	--	--	8.2	8.2	9.9	9.6
10/31/90-11/04/90	16.3	16.0	--	--	8.9	8.7	8.8	8.3
11/05/90-11/09/90	--	--	--	--	--	--	--	--
11/10/90-11/14/90	--	--	--	--	--	--	--	--
11/15/90-11/19/90	--	--	--	--	--	--	--	--
11/20/90-11/24/90	--	--	--	--	--	--	--	--
11/25/90-11/29/90	--	--	--	--	--	--	--	--
11/30/90-12/04/90	--	--	--	--	--	--	--	--
12/05/90-12/09/90	--	--	--	--	--	--	--	--
12/10/90-12/14/90	--	--	--	--	--	--	--	--
12/15/90-12/19/90	11.0	11.0	11.1	10.8	10.3	10.0	--	--
12/20/90-12/24/90	12.5	12.4	10.9	10.6	10.3	9.9	--	--
12/25/90-12/29/90	10.8	10.6	10.4	10.3	9.7	9.6	--	--
12/30/90- 1/03/91	10.8	10.7	10.6	10.4	9.9	9.7	--	--
1/04/91- 1/08/91	10.1	9.8	10.6	10.5	9.9	9.7	--	--
1/09/91- 1/13/91	9.3	9.3	11.0	10.7	10.1	9.8	--	--
1/14/91- 1/18/91	9.7	9.4	11.0	10.8	10.1	9.9	--	--
1/19/91- 1/23/91	9.0	8.7	10.6	10.7	9.7	9.7	--	--
1/24/91- 1/28/91	7.3	7.0	--	--	10.5	10.4	--	--
1/29/91- 2/02/91	8.2	8.2	--	--	11.4	10.9	--	--
2/03/91- 2/07/91	10.2	10.0	--	--	12.4	11.8	--	--
2/08/91- 2/12/91	9.6	9.2	--	--	9.9	9.6	--	--
2/13/91- 2/17/91	8.6	8.1	--	--	9.4	9.1	--	--
2/18/91- 2/22/91	8.9	8.8	--	--	9.7	9.3	--	--
2/23/91- 2/27/91	9.2	8.9	--	--	8.7	8.7	--	--
2/28/91- 3/04/91	10.2	10.1	11.2	11.0	11.1	11.0	11.0	10.8
3/05/91- 3/09/91	11.4	11.2	10.8	10.5	10.9	10.7	10.5	10.4
3/10/91- 3/14/91	10.5	10.2	11.0	10.9	11.2	11.0	10.9	10.7
3/15/91- 3/19/91	10.4	10.3	11.1	10.9	11.4	11.3	11.0	10.9
3/20/91- 3/24/91	13.6	13.6	10.8	10.5	11.1	10.8	10.6	10.5
3/25/91- 3/29/91	16.6	16.5	9.9	9.6	9.9	9.6	9.9	9.7
3/30/91- 4/03/91	16.8	16.2	9.7	9.4	9.7	9.5	9.8	9.7

Table 14.--Five-day mean water temperature and dissolved-oxygen values in water at site 6, Pungo River at Junction Light PR, October 1990-September 1991, for day and night periods--Continued

[°C, degrees Celsius; mg/L, milligram per liter; Day, 9:15 a.m.-9:00 p.m.; Night, 9:15 p.m.-9:00 a.m.; --, no data]

Date	Mean water temperature, near surface (°C)		Mean dissolved oxygen, near surface (mg/L)		Mean dissolved oxygen, mid-depth (mg/L)		Mean dissolved oxygen, near bottom (mg/L)	
	Day	Night	Day	Night	Day	Night	Day	Night
4/04/91- 4/08/91	18.0	17.8	10.0	9.7	9.9	9.4	9.4	9.4
4/09/91- 4/13/91	20.1	19.5	9.1	8.7	8.9	8.6	--	--
4/14/91- 4/18/91	19.8	19.5	8.7	8.4	8.7	8.4	--	--
4/19/91- 4/23/91	--	--	8.5	8.4	8.6	8.4	--	--
4/24/91- 4/28/91	19.8	19.5	9.4	8.9	9.3	9.0	7.7	7.8
4/29/91- 5/03/91	22.6	22.2	--	--	8.3	8.0	6.8	6.8
5/04/91- 5/08/91	22.4	22.1	--	--	7.1	7.1	6.0	5.9
5/09/91- 5/13/91	23.2	22.8	--	--	7.7	7.5	6.3	6.2
5/14/91- 5/18/91	25.4	24.9	--	--	7.8	7.4	5.5	5.2
5/19/91- 5/23/91	23.3	22.7	--	--	7.6	7.3	3.5	3.2
5/24/91- 5/28/91	25.6	25.4	--	--	8.0	7.6	4.6	4.7
5/29/91- 6/02/91	28.5	27.8	--	--	7.7	7.5	5.5	5.8
6/03/91- 6/07/91	28.0	27.2	6.5	6.3	7.4	7.2	6.8	6.3
6/08/91- 6/12/91	25.7	25.1	7.6	7.0	7.8	7.4	6.7	6.3
6/13/91- 6/17/91	27.0	26.7	7.2	6.7	6.9	6.6	6.1	6.0
6/18/91- 6/22/91	--	--	--	--	--	--	--	--
6/23/91- 6/27/91	--	--	--	--	--	--	--	--
6/28/91- 7/02/91	--	--	--	--	--	--	--	--
7/03/91- 7/07/91	--	--	--	--	--	--	--	--
7/08/91- 7/12/91	--	--	--	--	--	--	--	--
7/13/91- 7/17/91	--	--	--	--	--	--	--	--
7/18/91- 7/22/91	--	--	--	--	--	--	--	--
7/23/91- 7/27/91	--	--	--	--	--	--	--	--
7/28/91- 8/01/91	--	--	--	--	--	--	--	--
8/02/91- 8/06/91	--	--	--	--	--	--	--	--
8/07/91- 8/11/91	--	--	--	--	--	--	--	--
8/12/91- 8/16/91	27.9	28.1	7.0	7.0	7.9	8.2	5.1	5.9
8/17/91- 8/21/91	27.9	27.8	4.0	1.6	9.4	8.5	6.9	6.3
8/22/91- 8/26/91	27.4	27.3	2.7	2.3	10.0	8.7	7.5	6.3
8/27/91- 8/31/91	27.9	27.9	2.6	1.8	7.0	5.6	--	--
9/01/91- 9/05/91	26.5	26.2	4.0	3.2	5.2	4.9	--	2.2
9/06/91- 9/10/91	26.2	26.1	4.6	4.4	7.0	6.5	3.3	2.8
9/11/91- 9/15/91	26.4	26.5	9.1	8.5	6.0	5.8	8.6	7.6
9/16/91- 9/20/91	27.5	27.0	7.3	6.0	7.6	6.9	6.1	5.8
9/21/91- 9/25/91	24.0	23.9	6.0	6.1	8.0	8.0	7.5	7.5
9/26/91- 9/30/91	23.9	23.5	6.9	6.1	8.6	8.2	8.8	8.5

Table 15.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 8, Neuse River at Channel Light 11, January-September 1991

[Site 8 is at latitude 34°59'56", longitude 76°56'36", Craven County; U.S. Geological Survey downstream order number 0209262905; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

SALINITY, NEAR SURFACE

SENSOR POSITION.--10 feet above streambed.

EXTREMES FOR JANUARY-SEPTEMBER 1991.--Maximum value recorded, 11.4 ppt September 21, 1991; minimum value recorded, 0.3 ppt April 6, 1991.

DAILY MEAN VALUES OF SALINITY, NEAR SURFACE (IN PARTS PER THOUSAND), JANUARY-SEPTEMBER 1991

DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	---	---	7.8	---	4.2	6.9	---	---	4.6
2	---	---	7.9	2.0	3.7	5.5	---	---	4.6
3	---	---	7.6	2.6	5.1	5.5	---	---	4.3
4	---	---	6.5	2.0	6.2	6.5	---	---	4.1
5	---	---	6.9	1.0	6.2	6.7	---	---	3.5
6	---	---	6.0	.7	6.1	7.0	---	---	3.5
7	---	---	5.1	.6	6.1	7.4	---	---	3.6
8	---	---	4.6	1.4	6.3	8.3	---	---	4.3
9	---	---	3.2	2.1	6.2	8.4	---	---	4.6
10	---	---	---	1.1	5.8	8.5	---	1.3	4.4
11	---	---	---	2.5	6.3	8.6	---	1.2	4.4
12	---	8.1	---	3.3	5.4	9.1	---	1.2	4.6
13	---	8.6	---	3.2	5.8	9.3	---	1.1	5.1
14	---	9.9	---	2.5	6.4	9.5	---	2.4	4.9
15	---	10.7	---	2.0	5.8	9.4	---	3.7	5.2
16	---	10.3	---	2.5	5.0	9.7	---	2.5	5.4
17	---	9.8	---	2.2	4.7	9.9	---	3.9	---
18	---	9.7	---	2.2	5.0	---	---	3.2	5.2
19	---	9.2	---	3.0	5.7	9.0	---	4.0	5.2
20	---	9.7	---	2.5	5.4	8.5	---	4.8	7.6
21	---	9.1	---	2.0	4.5	7.8	---	4.0	8.8
22	---	6.6	---	2.8	4.3	7.3	---	2.9	10.2
23	---	7.6	---	2.4	3.9	7.2	---	2.9	6.9
24	---	8.6	---	1.7	3.7	7.5	---	3.9	7.3
25	---	7.9	---	2.3	4.0	---	---	4.4	7.6
26	---	8.0	---	2.3	3.4	---	---	3.9	8.5
27	---	7.6	---	2.0	3.5	---	---	3.6	8.6
28	---	8.4	---	1.6	3.0	---	---	3.6	8.3
29	---	---	---	2.2	2.8	---	---	3.1	6.6
30	---	---	---	2.3	4.4	---	---	2.4	5.8
31	---	---	---	---	6.0	---	---	2.8	---

Table 15.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 8, Neuse River at Channel Light 11, January-September 1991--Continued

[Site 8 is at latitude 34°59'56", longitude 76°56'36", Craven County; U.S. Geological Survey downstream order number 0209262905; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

SALINITY, NEAR BOTTOM

SENSOR POSITION.--2 feet above streambed.

EXTREMES FOR JANUARY-SEPTEMBER 1991.--Maximum value recorded, 18.2 ppt August 10, 1991; minimum value recorded, 3.6 ppt April 28, 1991.

DAILY MEAN VALUES OF SALINITY, NEAR BOTTOM (IN PARTS PER THOUSAND), JANUARY-SEPTEMBER 1991

DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	---	---	---	---	10.7	12.9	---	---	10.4
2	---	---	---	---	12.6	13.6	---	---	7.1
3	---	---	---	---	13.7	14.6	---	---	6.2
4	---	---	---	---	9.8	15.0	---	---	6.6
5	---	---	---	---	8.8	13.9	---	---	9.1
6	---	---	---	---	8.2	9.8	---	---	10.4
7	---	---	---	---	8.5	9.9	---	---	11.5
8	---	---	---	---	8.3	11.3	---	---	7.9
9	---	---	---	---	8.4	11.5	---	---	6.6
10	---	---	---	---	8.2	11.1	---	16.6	7.6
11	---	---	---	---	8.6	11.2	---	17.7	9.4
12	---	---	---	---	8.5	10.7	---	15.1	10.3
13	---	---	---	---	8.9	10.8	---	15.8	7.9
14	---	---	---	---	8.8	10.7	---	16.7	8.5
15	---	---	---	---	8.9	10.5	---	16.1	8.2
16	---	---	---	---	8.4	10.5	---	17.8	7.7
17	---	---	---	---	8.1	10.3	---	17.6	---
18	---	---	---	---	8.5	---	---	16.4	9.7
19	---	---	---	---	8.0	11.4	---	12.9	10.8
20	---	---	---	---	7.8	12.4	---	12.3	9.4
21	---	---	---	---	7.5	14.3	---	12.9	12.9
22	---	---	---	---	7.6	14.4	---	13.4	11.3
23	---	---	---	---	7.3	14.3	---	12.1	10.6
24	---	---	---	---	7.0	9.9	---	10.1	10.8
25	---	---	---	7.9	7.4	---	---	7.7	9.5
26	---	---	---	6.1	7.6	---	---	7.3	8.9
27	---	---	---	4.8	7.8	---	---	8.2	8.4
28	---	---	---	5.4	10.1	---	---	6.7	8.0
29	---	---	---	9.0	11.9	---	---	7.3	7.7
30	---	---	---	9.8	12.4	---	---	9.2	8.2
31	---	---	---	---	12.8	---	---	11.5	---

Table 15.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 8, Neuse River at Channel Light 11, January-September 1991--Continued

[Site 8 is at latitude 34°59'56", longitude 76°56'36", Craven County; U.S. Geological Survey downstream order number 0209262905; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

WATER TEMPERATURE, NEAR SURFACE

SENSOR POSITION.--10 feet above streambed.

EXTREMES FOR JANUARY-SEPTEMBER 1991.--Maximum value recorded, 30.9 °C June 22, August 30, 1991; minimum value recorded, 4.7 °C January 27, 1991.

DAILY MEAN VALUES OF WATER TEMPERATURE, NEAR SURFACE (IN DEGREES CELSIUS), JANUARY-SEPTEMBER 1991

DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	---	8.2	9.9	---	---	27.0	---	---	26.9
2	---	7.8	10.9	17.0	---	27.1	---	---	26.0
3	---	8.6	11.7	16.9	21.4	27.1	---	---	25.2
4	---	9.9	12.2	16.7	21.5	27.8	---	---	25.4
5	---	10.1	12.1	17.5	21.6	26.6	---	---	26.3
6	---	10.8	12.4	18.4	22.4	24.9	---	---	25.9
7	---	11.1	12.9	19.1	23.2	23.5	---	---	25.9
8	---	11.1	11.9	19.2	23.5	23.8	---	---	25.5
9	---	10.5	10.5	20.0	23.7	24.5	---	---	25.3
10	9.1	10.3	---	20.9	23.6	25.6	---	28.1	26.2
11	9.3	10.0	---	19.8	23.6	25.2	---	27.9	26.3
12	10.6	9.2	---	18.9	23.6	24.3	---	26.9	26.7
13	10.4	9.0	---	18.3	23.9	25.3	---	26.8	26.7
14	9.9	10.2	---	18.8	24.5	25.8	---	27.6	26.9
15	9.4	9.6	---	19.4	25.6	26.5	---	26.8	27.0
16	10.4	7.4	---	20.2	26.3	27.1	---	26.4	27.7
17	10.6	6.4	---	20.9	26.7	27.0	---	27.5	---
18	9.9	7.3	---	21.3	26.9	---	---	27.8	28.5
19	9.2	8.2	---	20.1	25.1	27.2	---	27.3	28.5
20	9.6	9.7	---	19.4	23.2	27.0	---	27.0	26.4
21	9.7	11.1	---	18.3	22.9	26.9	---	27.1	23.9
22	8.8	12.4	---	17.5	24.1	27.9	---	27.0	22.7
23	7.8	11.0	---	17.3	24.7	27.2	---	27.0	23.2
24	7.0	9.6	---	18.4	25.3	26.0	---	27.0	23.8
25	6.9	10.0	---	18.5	26.1	---	---	26.7	24.6
26	6.5	9.8	---	19.3	26.8	---	---	26.5	24.4
27	6.4	9.0	---	20.2	27.5	---	---	26.7	23.8
28	7.4	9.2	---	---	27.7	---	---	27.3	23.2
29	7.3	---	---	---	28.4	---	---	28.1	22.2
30	7.7	---	---	---	28.7	---	---	28.5	22.4
31	8.7	---	---	---	27.3	---	---	27.9	---

Table 15.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 8, Neuse River at Channel Light 11, January-September 1991--Continued

[Site 8 is at latitude 34°59'56", longitude 76°56'36", Craven County; U.S. Geological Survey downstream order number 0209262905; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

DISSOLVED OXYGEN, NEAR SURFACE

SENSOR POSITION.--10 feet above streambed.

EXTREMES FOR JANUARY-SEPTEMBER 1991.--Maximum value recorded, 18.9 mg/L February 12, 1991; minimum value recorded, <1.0 mg/L June 23, 24, 1991.

DAILY MEAN VALUES OF DISSOLVED OXYGEN, NEAR SURFACE (IN MILLIGRAMS PER LITER), JANUARY-SEPTEMBER 1991

DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	---	---	---	---	---	5.0a	---	---	3.2a
2	---	---	---	10.4	---	4.9b	---	---	4.4b
3	---	---	---	10.6	---	3.2a	---	---	4.3b
4	---	---	---	7.3	9.1	---	---	---	5.1b
5	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	7.2	---
11	---	---	---	---	---	---	---	7.1	---
12	---	12.6	---	---	---	---	---	6.8	---
13	---	13.1	---	---	---	---	---	7.0	---
14	---	11.4	---	---	---	---	---	7.2b	---
15	---	12.5	---	---	---	---	---	6.0b	---
16	---	---	---	---	---	---	---	5.8b	---
17	---	---	---	---	---	---	---	6.2b	---
18	---	---	---	---	---	---	---	6.2	8.4
19	---	---	---	---	---	7.7	---	6.3	7.2
20	---	---	---	---	---	7.0	---	5.6b	6.2
21	---	13.9	---	---	---	6.8b	---	6.7b	7.5
22	---	14.2	---	---	---	6.1b	---	5.4b	9.3
23	---	13.0	---	---	---	1.9a	---	5.3b	9.8
24	---	13.1	---	---	10.5	.9a	---	4.9b	10.0
25	---	15.4	---	9.9	9.9	---	---	4.5b	8.9
26	---	15.8	---	10.9	8.9	---	---	4.8b	7.1
27	---	---	---	10.9	7.7b	---	---	5.2b	7.8
28	---	---	---	9.1	7.6	---	---	5.3b	8.2
29	---	---	---	8.9	9.4	---	---	5.7b	9.0
30	---	---	---	---	8.2b	---	---	6.2b	10.9
31	---	---	---	---	5.1a	---	---	5.3b	---

Table 15.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent, saturation, in water at site 8, Neuse River at Channel Light 11, January-September 1991--Continued

[Site 8 is at latitude 34°59'56", longitude 76°56'36", Craven County; U.S. Geological Survey downstream order number 0209262905; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

DISSOLVED OXYGEN, PERCENT SATURATION, NEAR SURFACE

SENSOR POSITION.--10 feet above streambed.

EXTREMES FOR JANUARY-SEPTEMBER 1991.--Maximum value recorded, 175 percent of saturation May 29, 1991; minimum value recorded, ≤10 percent of saturation June 23, 24, 1991.

DAILY MEAN VALUES OF DISSOLVED OXYGEN, PERCENT SATURATION, NEAR SURFACE (IN PERCENT), JANUARY-SEPTEMBER 1991

DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	---	---	---	---	---	63	---	---	41
2	---	---	---	108	---	61	---	---	54
3	---	---	---	110	---	41	---	---	53
4	---	---	---	75	103	---	---	---	63
5	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	94	---
11	---	---	---	---	---	---	---	91	---
12	---	110	---	---	---	---	---	86	---
13	---	114	---	---	---	---	---	88	---
14	---	102	---	---	---	---	---	92	---
15	---	110	---	---	---	---	---	76	---
16	---	---	---	---	---	---	---	73	---
17	---	---	---	---	---	---	---	78	---
18	---	---	---	---	---	---	---	80	108
19	---	---	---	---	---	97	---	80	93
20	---	---	---	---	---	89	---	71	78
21	---	127	---	---	---	86	---	84	89
22	---	133	---	---	---	78	---	69	108
23	---	118	---	---	---	24	---	67	115
24	---	115	---	---	128	11	---	62	119
25	---	137	---	106	123	---	---	56	108
26	---	140	---	119	111	---	---	59	85
27	---	---	---	121	98	---	---	65	92
28	---	---	---	---	97	---	---	67	96
29	---	---	---	---	122	---	---	73	104
30	---	---	---	---	106	---	---	80	126
31	---	---	---	---	65	---	---	68	---

Table 15.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 8, Neuse River at Channel Light 11, January-September 1991--Continued

[Site 8 is at latitude 34°59'56", longitude 76°56'36", Craven County; U.S. Geological Survey downstream order number 0209262905; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

DISSOLVED OXYGEN, MID-DEPTH

SENSOR POSITION.--6 feet above streambed.

EXTREMES FOR JANUARY-SEPTEMBER 1991.--Maximum value recorded, 16.8 mg/L March 2, 1991; minimum value recorded, <1.0 mg/L April 25, 29, 30, May 1, 2, June 21, 22, 23, August 10, 11, 12, 14, 15, 16, September 18, 19, 20, 1991.

DAILY MEAN VALUES OF DISSOLVED OXYGEN, MID-DEPTH (IN MILLIGRAMS PER LITER), JANUARY-SEPTEMBER 1991

DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	---	---	15.0	---	<1.0a	2.2a	---	---	6.4b
2	---	---	12.3	10.1	2.7a	2.8a	---	---	8.0
3	---	---	11.5	11.0	7.8a	1.5a	---	---	6.8b
4	---	---	10.5	10.0	10.1	4.1a	---	---	6.4b
5	---	---	11.8	---	9.8	7.6a	---	---	5.1b
6	---	---	10.8	---	9.5	8.7	---	---	4.4b
7	---	---	10.7	---	9.1	8.7	---	---	4.1b
8	---	---	10.9	---	9.1	8.7	---	---	4.8b
9	---	---	10.5	---	8.3	8.9	---	---	4.7b
10	---	---	---	---	7.1	8.3	---	1.4a	5.4b
11	---	---	---	---	6.7	6.5b	---	<1.0a	5.4b
12	---	---	---	---	6.7	6.9b	---	3.7a	4.9b
13	---	---	---	---	7.3	9.2	---	4.7a	5.1b
14	---	---	---	---	7.1	9.4	---	2.0a	4.9b
15	---	---	---	---	5.9b	8.8	---	1.5a	5.0b
16	---	---	---	---	5.9	8.6	---	1.0a	5.7b
17	---	12.0	---	---	5.1b	7.5	---	1.2a	---
18	---	13.4	---	---	5.9b	---	---	3.3a	4.1a
19	---	15.0	---	---	6.2	7.0	---	4.6b	3.3a
20	---	13.4	---	---	7.8	6.1b	---	5.2b	5.4a
21	---	13.3	---	---	8.8	2.9a	---	5.6a	6.7
22	---	12.5	---	---	8.8	1.6a	---	2.8a	8.4
23	---	11.2	---	---	7.8	4.1a	---	5.2b	8.8
24	---	11.2	---	---	9.8	8.1	---	5.8b	7.4
25	---	10.3	---	7.5a	7.3	---	---	6.1	8.2b
26	---	12.5	---	9.7b	3.9b	---	---	6.7	7.6b
27	---	12.7	---	9.5	5.5a	---	---	7.0	8.7
28	---	14.2	---	6.9b	4.0a	---	---	6.8	8.8
29	---	---	---	2.4a	1.8a	---	---	7.0	9.0
30	---	---	---	<1.0a	1.2a	---	---	5.8b	8.7
31	---	---	---	---	2.4a	---	---	3.5b	---

Table 15.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 8, Neuse River at Channel Light 11, January-September 1991--Continued

[Site 8 is at latitude 34°59'56", longitude 76°56'36", Craven County; U.S. Geological Survey downstream order number 0209262905; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

DISSOLVED OXYGEN, PERCENT SATURATION, MID-DEPTH

SENSOR POSITION.--6 feet above streambed.

EXTREMES FOR JANUARY-SEPTEMBER 1991.--Maximum value recorded, 152 percent of saturation June 10, 1991; minimum value recorded, ≤10 percent of saturation April 25, June 21, 22, 23, August 10, 11, September 18, 19, 20, 1991.

DAILY MEAN VALUES OF DISSOLVED OXYGEN, PERCENT SATURATION, MID-DEPTH (IN PERCENT), JANUARY-SEPTEMBER 1991

DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	---	---	133	---	---	28	---	---	81
2	---	---	112	105	---	35	---	---	99
3	---	---	106	113	89	19	---	---	82
4	---	---	99	103	115	53	---	---	79
5	---	---	110	---	112	95	---	---	63
6	---	---	102	---	110	106	---	---	54
7	---	---	101	---	107	103	---	---	50
8	---	---	102	---	107	104	---	---	59
9	---	---	94	---	99	107	---	---	58
10	---	---	---	---	84	102	---	17	67
11	---	---	---	---	79	80	---	≤10	67
12	---	---	---	---	79	83	---	46	62
13	---	---	---	---	86	113	---	59	64
14	---	---	---	---	86	116	---	25	61
15	---	---	---	---	72	110	---	19	63
16	---	---	---	---	74	109	---	13	72
17	---	98	---	---	64	95	---	15	---
18	---	111	---	---	74	---	---	43	53
19	---	127	---	---	76	88	---	59	43
20	---	118	---	---	91	77	---	65	67
21	---	121	---	---	103	37	---	70	80
22	---	117	---	---	106	20	---	35	98
23	---	102	---	---	94	52	---	66	103
24	---	98	---	---	119	101	---	73	88
25	---	92	---	80	90	---	---	77	98
26	---	110	---	105	50	---	---	84	92
27	---	111	---	106	70	---	---	88	104
28	---	124	---	---	51	---	---	86	103
29	---	---	---	---	24	---	---	90	103
30	---	---	---	---	16	---	---	74	100
31	---	---	---	---	31	---	---	45	---

Table 15.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 8, Neuse River at Channel Light 11, January-September 1991--Continued

[Site 8 is at latitude 34°59'56", longitude 76°56'36", Craven County; U.S. Geological Survey downstream order number 0209262905; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

DISSOLVED OXYGEN, NEAR BOTTOM

SENSOR POSITION.--2 feet above streambed.

EXTREMES FOR JANUARY-SEPTEMBER 1991.--Maximum value recorded, 21.2 mg/L February 20, 1991; minimum value recorded, <1.0 mg/L April 25-30, May 1, 26, June 20-24, August 10-14, 16-24, 1991.

DAILY MEAN VALUES OF DISSOLVED OXYGEN, NEAR BOTTOM (IN MILLIGRAMS PER LITER), JANUARY-SEPTEMBER 1991

DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	---	---	5.0b	---	1.1a	1.2a	---	---	---
2	---	---	11.7b	---	1.6a	1.2a	---	---	---
3	---	---	13.3	---	1.8a	1.2a	---	---	---
4	---	---	13.3	---	1.9a	1.2a	---	---	---
5	---	---	14.1	---	8.4a	1.3a	---	---	---
6	---	---	12.3	---	5.6a	5.5a	---	---	---
7	---	---	---	---	5.8a	7.8b	---	---	---
8	---	---	---	---	8.3	7.4b	---	---	---
9	---	---	---	---	8.3	6.0b	---	---	---
10	---	---	---	---	8.2	4.5b	---	<1.0a	---
11	---	---	---	---	10.4	2.6a	---	<1.0a	---
12	---	---	---	---	9.4	4.6a	---	<1.0a	---
13	---	---	---	---	7.0	6.4b	---	<1.0a	---
14	---	---	---	---	7.0	8.2	---	<1.0a	---
15	---	---	---	---	6.1	7.3	---	1.4a	---
16	---	---	---	---	4.7b	7.3	---	1.1a	---
17	---	17.4	---	---	3.7b	7.3	---	1.1a	---
18	---	17.9	---	---	4.2b	---	---	1.2a	---
19	---	16.9	---	---	6.2	3.2a	---	2.3a	---
20	---	19.4	---	---	6.7	<1.0a	---	<1.0a	---
21	---	18.4	---	---	6.9	<1.0a	---	<1.0a	---
22	---	15.0	---	---	5.8b	<1.0a	---	<1.0a	---
23	---	14.9	---	---	5.5b	<1.0a	---	<1.0a	---
24	---	14.9	---	---	5.2b	5.2a	---	1.2a	---
25	---	12.0	---	<1.0a	2.9a	---	---	---	---
26	---	11.2	---	<1.0a	1.8a	---	---	---	---
27	---	12.5	---	<1.0a	1.0a	---	---	---	---
28	---	8.1	---	<1.0a	1.1a	---	---	---	---
29	---	---	---	<1.0a	1.1a	---	---	---	---
30	---	---	---	<1.0a	1.1a	---	---	---	---
31	---	---	---	---	1.1a	---	---	---	---

Table 15.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 8, Neuse River at Channel Light 11, January-September 1991--Continued

[Site 8 is at latitude 34°59'56", longitude 76°56'36", Craven County; U.S. Geological Survey downstream order number 0209262905; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

DISSOLVED OXYGEN, PERCENT SATURATION, NEAR BOTTOM

SENSOR POSITION.--2 feet above streambed.

EXTREMES FOR JANUARY-SEPTEMBER 1991.--Maximum value recorded, 189 percent of saturation February 20, 1991; minimum value recorded, ≤10 percent of saturation April 25, 26, 27, June 20-24, August 10-14, 18-24.

DAILY MEAN VALUES OF DISSOLVED OXYGEN, PERCENT SATURATION, NEAR BOTTOM (IN PERCENT), JANUARY-SEPTEMBER 1991

DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	---	---	44	---	---	15	---	---	---
2	---	---	107	---	---	15	---	---	---
3	---	---	123	---	20	15	---	---	---
4	---	---	124	---	21	15	---	---	---
5	---	---	132	---	96	16	---	---	---
6	---	---	116	---	65	67	---	---	---
7	---	---	---	---	69	93	---	---	---
8	---	---	---	---	99	88	---	---	---
9	---	---	---	---	98	72	---	---	---
10	---	---	---	---	97	55	---	≤10	---
11	---	---	---	---	123	32	---	≤10	---
12	---	---	---	---	112	55	---	≤10	---
13	---	---	---	---	83	78	---	≤10	---
14	---	---	---	---	84	101	---	≤10	---
15	---	---	---	---	75	92	---	18	---
16	---	---	---	---	58	92	---	14	---
17	---	142	---	---	46	92	---	14	---
18	---	149	---	---	53	---	---	15	---
19	---	144	---	---	75	40	---	30	---
20	---	171	---	---	79	≤10	---	10	---
21	---	167	---	---	81	≤10	---	12	---
22	---	140	---	---	69	≤10	---	≤10	---
23	---	135	---	---	67	≤10	---	≤10	---
24	---	131	---	---	64	64	---	15	---
25	---	106	---	≤10	36	---	---	---	---
26	---	99	---	≤10	23	---	---	---	---
27	---	108	---	≤10	13	---	---	---	---
28	---	70	---	---	14	---	---	---	---
29	---	---	---	---	14	---	---	---	---
30	---	---	---	---	14	---	---	---	---
31	---	---	---	---	14	---	---	---	---

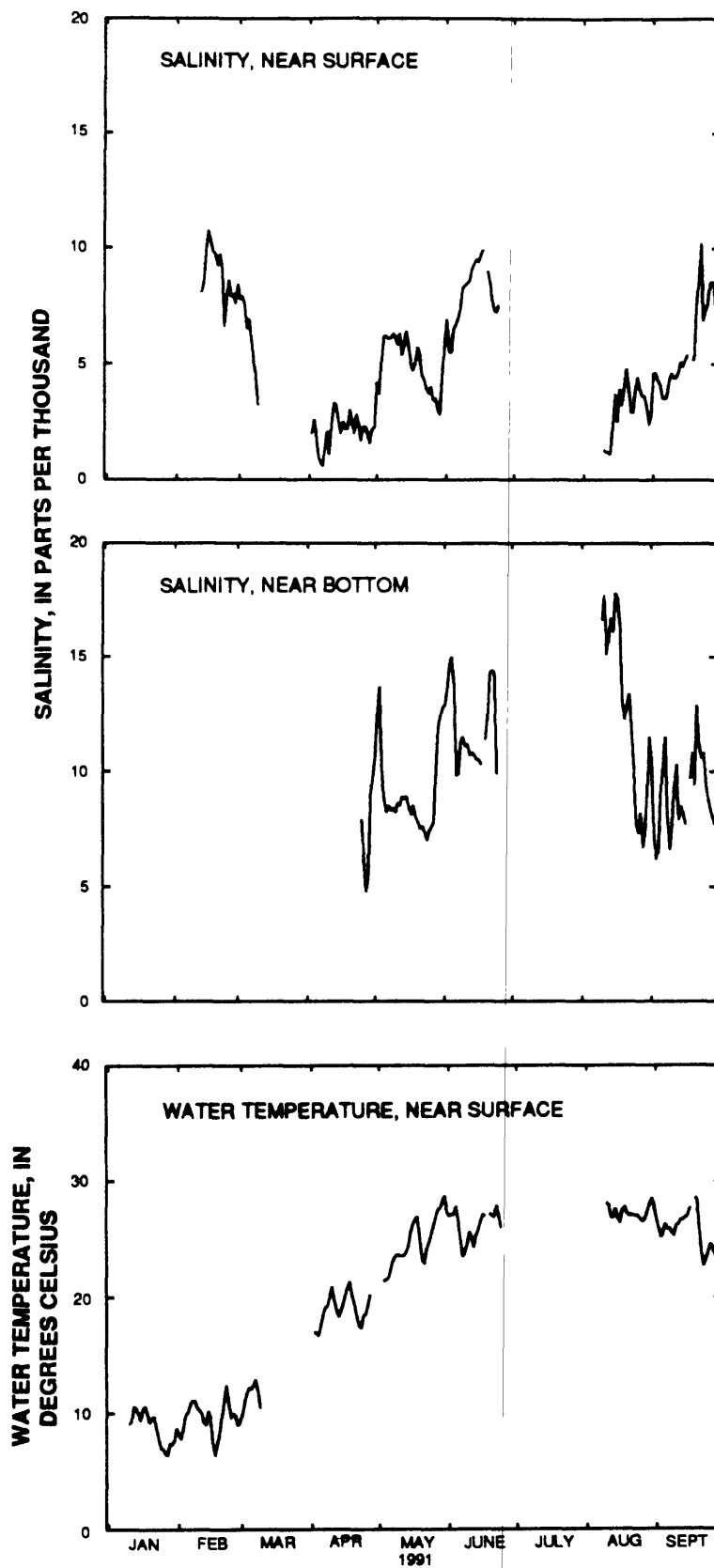


Figure 37.--Daily mean salinity and water temperature at site 8, Neuse River at Channel Light 11, January-September 1991.

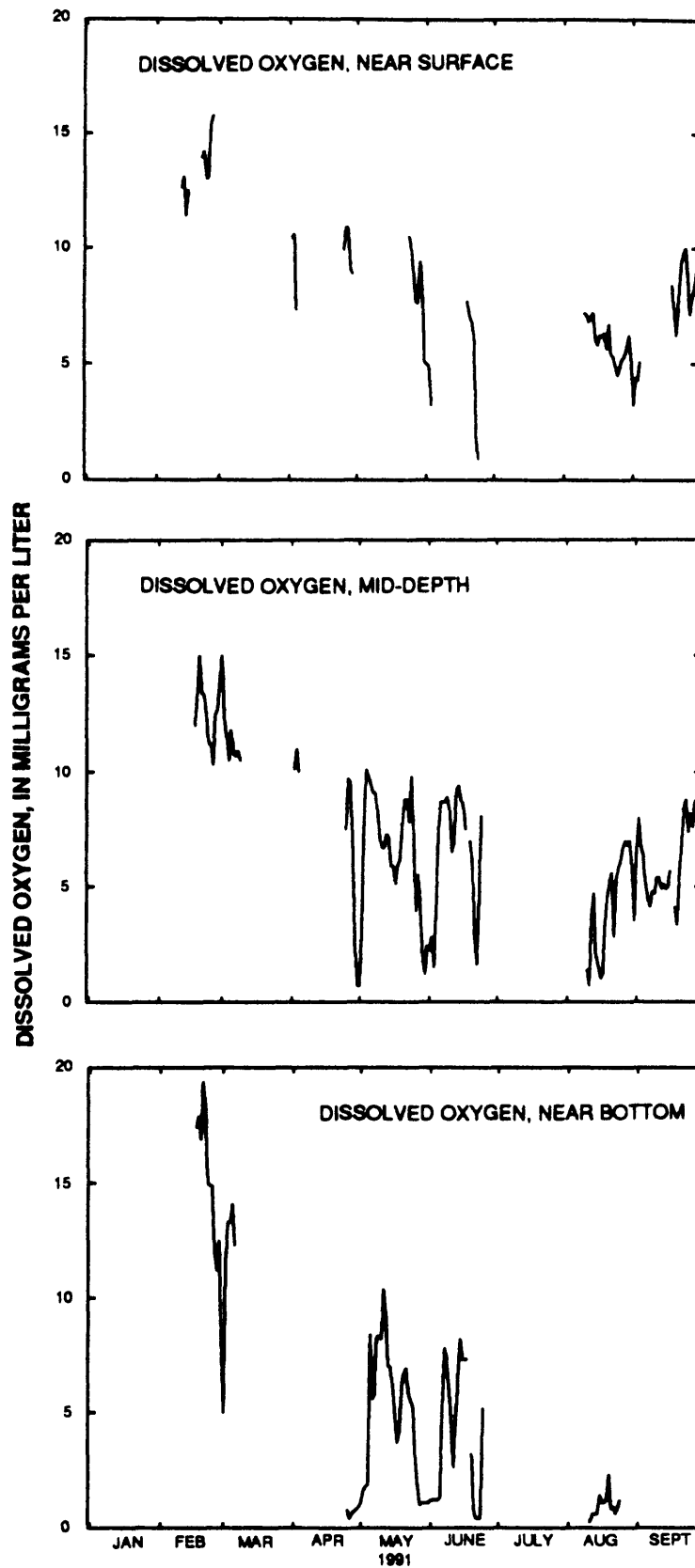


Figure 38.--Daily mean dissolved-oxygen concentrations at site 8, Neuse River at Channel Light 11, January-September 1991.

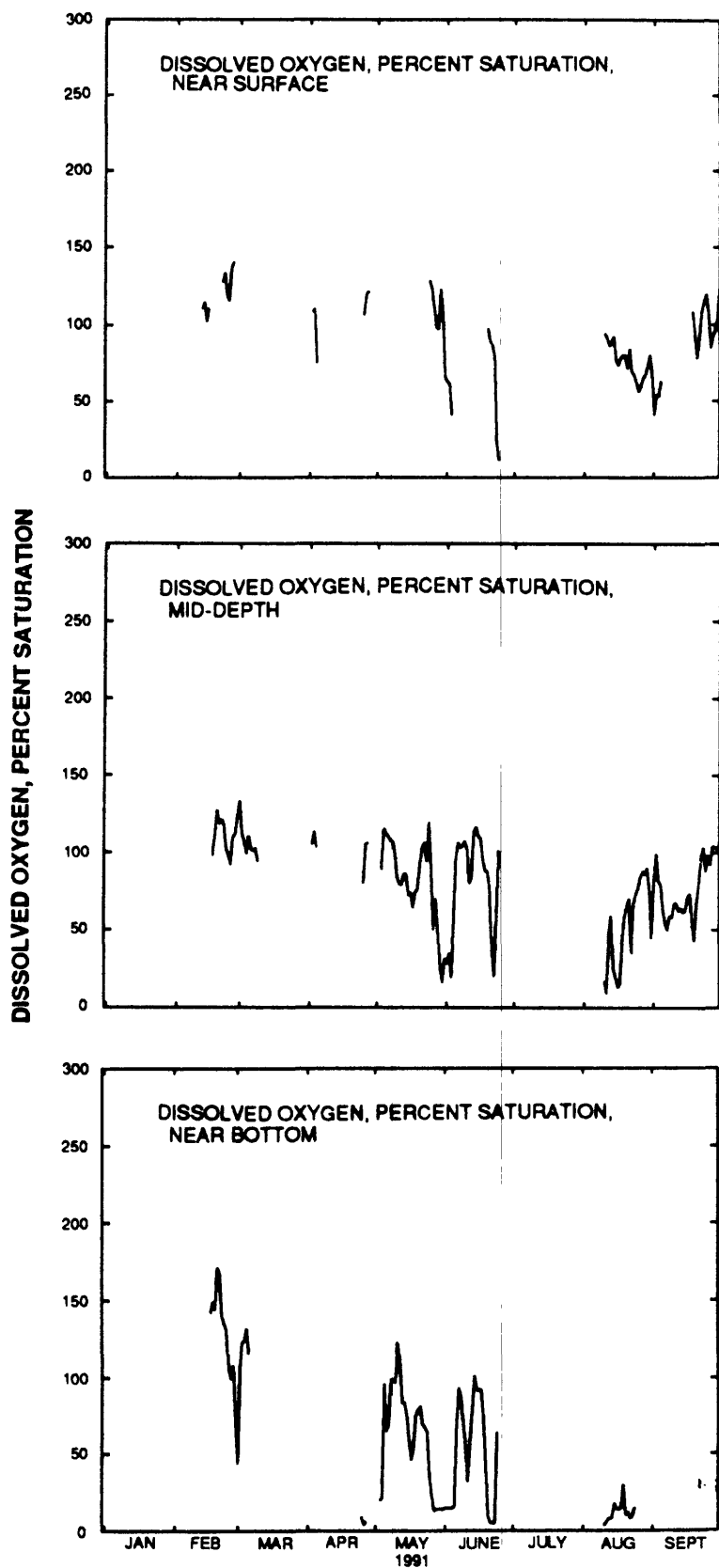


Figure 39.--Daily mean dissolved oxygen, percent saturation, at site 8, Neuse River at Channel Light 11, January-September 1991.

Table 16.--Five-day mean water temperature and dissolved-oxygen values in water at site 8, Neuse River at Channel Light 11, January-September 1991, for day and night periods

[°C, degrees Celsius; mg/L, milligram per liter; Day, 9:15 a.m.-9:00 p.m.; Night, 9:15 p.m.-9:00 a.m.; --, no data; <, less than]

Date	Mean water temperature, near surface (°C)		Mean dissolved oxygen, near surface (mg/L)		Mean dissolved oxygen, mid-depth (mg/L)		Mean dissolved oxygen, near bottom (mg/L)	
	Day	Night	Day	Night	Day	Night	Day	Night
1/09/91- 1/13/91	9.8	9.7	--	--	--	--	--	--
1/14/91- 1/18/91	10.2	9.8	--	--	--	--	--	--
1/19/91- 1/23/91	9.1	8.6	--	--	--	--	--	--
1/24/91- 1/28/91	6.9	6.7	--	--	--	--	--	--
1/29/91- 2/02/91	8.1	7.9	--	--	--	--	--	--
2/03/91- 2/07/91	10.2	10.6	--	--	--	--	--	--
2/08/91- 2/12/91	10.2	9.7	12.8	12.0	12.5	--	3.1	2.0
2/13/91- 2/17/91	8.6	8.2	12.4	12.2	12.1	12.1	17.5	17.0
2/18/91- 2/22/91	10.0	10.2	14.1	13.5	13.6	13.3	17.7	16.9
2/23/91- 2/27/91	9.9	9.4	14.7	14.2	11.7	11.8	12.9	12.3
2/28/91- 3/04/91	11.0	11.0	--	--	12.8	12.2	10.9	10.4
3/05/91- 3/09/91	12.0	12.0	--	--	11.2	10.6	13.4	12.9
3/10/91- 3/14/91	--	--	--	--	--	--	--	--
3/15/91- 3/19/91	--	--	--	--	--	--	--	--
3/20/91- 3/24/91	--	--	--	--	--	--	--	--
3/25/91- 3/29/91	--	--	--	--	--	--	--	--
3/30/91- 4/03/91	17.2	16.6	10.8	9.5	10.7	10.0	--	--
4/04/91- 4/08/91	18.7	18.2	6.9	5.4	10.1	9.9	--	--
4/09/91- 4/13/91	19.8	19.2	--	--	--	--	--	--
4/14/91- 4/18/91	20.4	20.1	--	--	--	--	--	--
4/19/91- 4/23/91	18.6	18.1	--	--	--	--	--	--
4/24/91- 4/28/91	19.5	19.0	10.7	9.5	8.2	8.0	1.2	<1.0
4/29/91- 5/03/91	22.1	21.4	9.3	8.2	3.1	3.4	1.3	1.3
5/04/91- 5/08/91	22.7	22.5	9.7	8.7	9.7	9.2	6.3	6.8
5/09/91- 5/13/91	23.9	23.5	--	--	7.2	7.0	8.6	8.4
5/14/91- 5/18/91	26.3	25.9	--	--	5.9	5.8	5.0	5.2
5/19/91- 5/23/91	24.1	23.8	10.4	10.0	8.0	8.4	6.3	5.9
5/24/91- 5/28/91	27.0	26.7	9.5	8.0	6.1	5.0	2.6	1.7
5/29/91- 6/02/91	28.1	27.1	7.7	4.6	2.1	2.0	1.1	1.1

Table 16.--Five-day mean water temperature and dissolved-oxygen values in water at site 8, Neuse River at Channel Light 11, January-September 1991, for day and night periods--Continued

[°C, degrees Celsius; mg/L, milligram per liter; Day, 9:15 a.m.-9:00 p.m.; Night, 9:15 p.m.-9:00 a.m.; --, no data; <, less than]

Date	Mean water temperature, near surface (°C)		Mean dissolved oxygen, near surface (mg/L)		Mean dissolved oxygen, mid-depth (mg/L)		Mean dissolved oxygen, near bottom (mg/L)	
	Day	Night	Day	Night	Day	Night	Day	Night
6/03/91- 6/07/91	26.1	25.3	3.3	2.5	6.6	6.7	3.7	4.0
6/08/91- 6/12/91	25.0	24.6	--	--	7.7	7.9	4.9	5.0
6/13/91- 6/17/91	26.6	26.4	--	--	9.0	8.2	7.1	7.4
6/18/91- 6/22/91	27.5	27.0	7.6	5.9	4.8	4.3	1.9	1.4
6/23/91- 6/27/91	26.6	25.9	1.2	<1.0	6.8	7.8	3.7	3.8
6/28/91- 7/02/91	--	--	--	--	--	--	--	--
7/03/91- 7/07/91	--	--	--	--	--	--	--	--
7/08/91- 7/12/91	--	--	--	--	--	--	--	--
7/13/91- 7/17/91	--	--	--	--	--	--	--	--
7/18/91- 7/22/91	--	--	--	--	--	--	--	--
7/23/91- 7/27/91	--	--	--	--	--	--	--	--
7/28/91- 8/01/91	--	--	--	--	--	--	--	--
8/02/91- 8/06/91	--	--	--	--	--	--	--	--
8/07/91- 8/11/91	28.3	27.5	7.1	6.6	1.3	1.8	<1.0	<1.0
8/12/91- 8/16/91	27.1	26.8	7.0	6.2	2.4	2.5	<1.0	<1.0
8/17/91- 8/21/91	27.5	27.1	6.6	5.7	4.4	3.9	<1.0	1.5
8/22/91- 8/26/91	27.0	26.7	5.2	4.7	5.4	5.8	<1.0	<1.0
8/27/91- 8/31/91	28.1	27.3	6.2	4.4	6.0	5.5	--	--
9/01/91- 9/05/91	26.1	25.6	4.7	4.2	7.1	6.2	--	--
9/06/91- 9/10/91	26.0	25.6	--	--	4.8	4.5	--	--
9/11/91- 9/15/91	27.0	26.6	--	--	5.2	4.9	--	--
9/16/91- 9/20/91	28.1	27.3	8.6	6.9	4.5	5.2	--	--
9/21/91- 9/25/91	23.9	23.5	9.7	8.6	8.1	7.8	--	--
9/26/91- 9/30/91	23.4	22.8	8.4	8.5	8.7	8.7	--	--

Table 17.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 9, Neuse River at Channel Light 9, October 1990-September 1991

[Site 9 is at latitude 34°56'54", longitude 76°48'36", Craven County; U.S. Geological Survey downstream order number 0209265810; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

SALINITY, NEAR SURFACE

SENSOR POSITION.--8 feet above streambed.

EXTREMES FOR OCTOBER 1990-SEPTEMBER 1991.--Maximum value recorded, 15.9 ppt October 28, 1990; minimum value recorded, 3.2 ppt April 8, 1991.

DAILY MEAN VALUES OF SALINITY, NEAR SURFACE (IN PARTS PER THOUSAND), OCTOBER 1990-SEPTEMBER 1991

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	---	10.4	---	13.8	---	9.4	---	5.3	8.7	8.9	10.0	6.1
2	---	10.2	---	12.8	---	10.4	---	7.5	8.9	9.8	10.8	7.3
3	---	10.1	---	11.4	---	10.5	---	7.5	9.0	10.4	12.6	8.3
4	---	10.7	---	11.2	---	10.2	---	8.7	9.4	11.0	10.6	8.2
5	---	12.4	---	9.9	---	10.2	---	8.4	9.8	11.2	9.5	7.4
6	---	12.1	---	8.9	---	9.6	4.7	8.2	10.8	11.2	11.2	6.4
7	---	12.4	---	10.1	---	9.6	3.8	8.0	10.9	11.2	11.3	6.7
8	---	12.6	---	10.8	7.8	8.7	4.1	7.8	10.5	10.7	9.3	7.9
9	---	12.8	---	10.3	7.5	8.2	6.1	7.9	9.5	10.8	9.6	7.9
10	---	12.9	---	11.2	6.8	7.5	6.2	7.9	9.8	10.9	8.3	7.7
11	---	12.4	---	11.5	6.1	7.0	5.9	8.2	10.4	11.6	7.5	6.9
12	---	12.5	---	11.8	7.8	---	7.6	7.7	11.0	11.5	8.5	7.2
13	---	12.1	---	11.6	9.2	---	7.2	8.2	11.5	11.3	6.4	---
14	---	---	---	11.3	10.8	---	6.3	8.5	11.7	11.5	4.3	7.3
15	---	---	---	11.1	10.6	---	7.1	8.4	11.8	11.1	4.9	7.9
16	---	---	---	11.4	10.0	---	7.0	8.8	11.8	10.9	5.4	8.0
17	---	---	---	10.3	9.5	---	6.8	9.2	12.1	10.9	6.0	7.4
18	---	---	---	9.5	9.5	---	6.7	9.4	12.4	10.1	7.8	7.8
19	---	---	---	9.5	9.9	---	7.7	10.0	12.4	10.2	8.2	8.2
20	---	---	---	10.0	10.4	---	6.9	10.1	11.9	10.6	7.6	8.6
21	---	---	---	10.0	10.5	---	5.8	9.8	11.1	10.9	8.0	8.4
22	---	---	---	10.1	9.5	---	5.5	9.6	10.2	11.2	7.1	9.4
23	13.3	---	---	9.1	9.5	---	4.9	9.6	10.2	11.6	7.8	9.0
24	13.3	---	---	9.2	8.6	---	---	9.6	10.3	11.9	8.3	9.1
25	13.6	---	---	8.9	8.1	---	5.3	8.8	10.9	13.0	8.7	9.7
26	12.8	---	---	7.5	9.2	---	5.7	8.4	11.0	13.4	8.5	9.9
27	---	---	---	5.7	9.4	---	6.0	8.9	10.5	13.6	7.9	---
28	13.7	---	---	6.3	9.5	---	5.8	7.8	9.8	13.7	7.8	---
29	12.6	---	---	6.0	---	---	5.0	6.7	9.6	13.3	7.1	---
30	12.0	---	---	6.9	---	---	5.2	6.1	8.9	12.8	6.0	---
31	10.7	---	13.4	8.8	---	---	---	7.1	---	11.8	5.3	---

Table 17.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 9, Neuse River at Channel Light 9, October 1990-September 1991--Continued

[Site 9 is at latitude 34°56'54", longitude 76°48'36", Craven County; U.S. Geological Survey downstream order number 0209265810; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

SALINITY, NEAR BOTTOM

SENSOR POSITION.--2 feet above streambed.

EXTREMES FOR OCTOBER 1990-SEPTEMBER 1991.--Maximum value recorded, 18.3 ppt July 26, 1991; minimum value recorded, 3.6 ppt April 7, 1991.

DAILY MEAN VALUES OF SALINITY, NEAR BOTTOM (IN PARTS PER THOUSAND), OCTOBER 1990-SEPTEMBER 1991

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	---	12.8	---	13.9	---	11.6	---	12.7	10.5	8.7	15.3	7.3
2	---	13.6	---	13.1	---	12.2	---	9.9	9.7	9.5	16.2	7.3
3	---	14.7	---	12.5	---	12.3	---	8.9	10.2	10.5	15.6	8.1
4	---	15.8	---	11.7	---	11.6	---	10.1	10.2	11.6	14.1	8.0
5	---	16.2	---	10.1	---	11.7	---	9.5	9.9	11.4	15.6	7.9
6	---	13.6	---	11.5	---	11.6	5.5	9.4	10.9	10.9	14.1	7.2
7	---	13.7	---	11.8	---	11.3	5.9	9.2	10.8	10.9	13.5	7.2
8	---	13.3	---	10.9	9.5	10.1	8.6	9.3	10.4	10.6	12.2	7.7
9	---	13.6	---	10.5	7.1	9.0	8.5	9.6	9.9	10.1	12.6	7.7
10	---	13.6	---	11.4	8.2	8.3	7.8	9.6	10.5	11.4	---	7.5
11	---	13.1	---	11.7	6.7	7.7	6.9	10.2	10.5	12.6	---	7.0
12	---	12.4	---	11.9	8.4	---	8.4	9.3	10.9	11.8	---	7.9
13	---	11.8	---	11.8	10.0	---	8.2	9.6	11.5	12.7	---	---
14	---	---	---	11.7	11.8	---	7.8	9.8	11.8	13.1	---	8.5
15	---	---	---	11.8	11.4	---	8.5	9.9	11.8	12.9	---	8.5
16	---	---	---	11.9	10.7	---	8.1	10.1	11.9	12.8	---	8.5
17	---	---	---	10.7	10.0	---	8.5	10.2	12.4	12.3	10.7	9.7
18	---	---	---	10.0	10.6	---	8.1	10.2	12.7	11.3	9.6	12.6
19	---	---	---	10.4	11.3	---	9.4	11.0	12.9	11.2	8.6	14.0
20	---	---	---	11.4	11.7	---	8.7	11.2	12.6	11.4	8.4	10.4
21	---	---	---	10.3	11.7	---	7.3	10.8	12.3	11.9	8.2	8.8
22	---	---	---	10.3	10.5	---	6.8	10.6	12.2	12.3	7.5	10.4
23	13.3	---	---	9.9	10.3	---	7.6	10.6	11.5	12.9	8.0	9.7
24	13.1	---	---	9.6	9.4	---	---	10.5	11.3	13.4	8.2	10.2
25	13.4	---	---	9.1	9.2	---	5.9	10.4	11.5	14.7	8.6	10.7
26	12.3	---	---	8.6	10.5	---	6.5	10.2	11.5	15.4	8.3	10.3
27	---	---	---	8.9	10.5	---	6.4	10.2	11.2	15.4	7.8	---
28	14.0	---	---	10.2	11.2	---	9.0	8.3	10.3	15.5	7.7	---
29	12.3	---	---	10.3	---	---	10.5	7.9	10.1	15.1	7.1	---
30	12.2	---	---	11.4	---	---	12.1	8.6	9.2	14.8	7.0	---
31	11.7	---	13.6	9.9	---	---	---	9.2	---	14.2	7.8	---

Table 17.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 9, Neuse River at Channel Light 9, October 1990-September 1991--Continued

[Site 9 is at latitude 34°56'54", longitude 76°48'36", Craven County; U.S. Geological Survey downstream order number 0209265810; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

WATER TEMPERATURE, NEAR SURFACE

SENSOR POSITION.--8 feet above streambed.

EXTREMES FOR OCTOBER 1990-SEPTEMBER 1991.--Maximum value recorded, 32.1 °C July 9, 1991; minimum value recorded, 2.7 °C January 27, 1991.

DAILY MEAN VALUES OF WATER TEMPERATURE, NEAR SURFACE (IN DEGREES CELSIUS), OCTOBER 1990-SEPTEMBER 1991

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	---	15.4	---	11.4	---	9.1	---	22.9	28.3	29.1	27.5	28.1
2	---	15.9	---	10.6	---	10.9	---	20.6	28.6	28.8	27.9	26.3
3	---	16.4	---	10.6	---	11.3	---	20.7	28.2	29.7	28.4	25.6
4	---	17.1	---	10.4	---	13.0	---	21.0	28.3	29.9	29.3	25.9
5	---	17.3	---	9.9	---	12.0	---	21.2	27.4	29.5	29.7	26.3
6	---	17.4	---	10.0	---	12.0	17.9	21.4	25.4	29.5	29.7	27.2
7	---	17.0	---	10.6	---	12.2	19.5	21.0	23.9	29.5	29.4	26.9
8	---	16.2	---	10.0	10.3	11.7	20.1	21.6	24.1	30.1	28.5	26.1
9	---	15.2	---	9.5	10.3	10.6	20.1	21.2	24.8	30.4	29.2	25.7
10	---	16.1	---	8.7	10.8	11.1	20.3	21.9	25.3	30.3	29.3	26.2
11	---	15.4	---	9.5	10.8	9.1	19.7	22.4	25.4	30.1	29.5	26.5
12	---	14.6	---	10.0	10.0	---	18.8	22.0	25.0	30.1	28.2	27.1
13	---	14.2	---	10.5	10.1	---	15.8	21.1	25.5	30.0	27.9	---
14	---	---	---	9.9	10.9	---	16.8	21.2	26.1	29.8	28.0	26.8
15	---	---	---	9.5	9.5	---	17.7	22.9	26.6	29.4	27.7	27.1
16	---	---	---	10.6	6.4	---	17.7	24.5	27.6	28.6	27.4	27.5
17	---	---	---	10.8	6.6	---	16.9	25.4	27.2	28.7	27.9	27.4
18	---	---	---	9.4	7.7	---	20.3	25.1	27.5	29.1	28.1	27.6
19	---	---	---	8.7	9.4	---	19.4	23.4	28.2	28.8	27.5	27.4
20	---	---	---	9.0	10.3	---	19.3	22.0	28.3	28.7	27.5	25.5
21	---	---	---	8.2	10.1	---	18.0	22.5	28.3	28.8	27.7	22.9
22	---	---	---	6.9	11.8	---	17.2	23.4	28.8	29.1	27.8	22.0
23	21.4	---	---	5.8	11.1	---	17.2	24.1	28.5	29.6	27.7	22.2
24	21.4	---	---	5.3	9.7	---	---	24.7	27.3	29.7	27.5	22.5
25	21.2	---	---	4.7	10.6	---	18.6	25.2	26.1	30.0	27.1	23.3
26	18.9	---	---	3.6	10.7	---	19.2	26.1	26.0	29.5	26.9	23.4
27	---	---	---	3.8	9.5	---	20.6	26.5	26.0	29.0	27.0	---
28	16.9	---	---	4.4	8.7	---	20.8	27.2	26.7	29.0	27.5	---
29	16.2	---	---	4.7	---	---	21.5	28.7	27.8	28.8	28.0	---
30	15.5	---	---	5.1	---	---	22.6	29.3	29.1	28.4	28.6	---
31	15.2	---	12.3	6.6	---	---	---	28.6	---	27.8	28.8	---

Table 17.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 9, Neuse River at Channel Light 9, October 1990-September 1991--Continued

[Site 9 is at latitude 34°56'54", longitude 76°48'36", Craven County; U.S. Geological Survey downstream order number 0209265810; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

DISSOLVED OXYGEN, NEAR SURFACE

SENSOR POSITION.--8 feet above streambed.

EXTREMES FOR OCTOBER 1990-SEPTEMBER 1991.--Maximum value recorded, 20.7 mg/L April 10, 1991; minimum value recorded, <1.0 mg/L July 3, 4, 1991.

DAILY MEAN VALUES OF DISSOLVED OXYGEN, NEAR SURFACE (IN MILLIGRAMS PER LITER), OCTOBER 1990-SEPTEMBER 1991

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	---	10.7	---	10.2	---	13.7	---	7.5b	5.6b	1.7a	9.5	---
2	---	10.2	---	10.6	---	10.4	---	7.5b	5.9b	1.5a	6.7b	---
3	---	8.5	---	11.5	---	9.9	---	8.6	5.3a	1.8a	4.9b	---
4	---	8.1	---	11.7	---	9.4	---	7.5	5.2a	2.1a	9.4	---
5	---	6.8b	---	11.8	---	11.2	---	6.5b	---	2.6a	10.1	---
6	---	8.7b	---	12.4	---	11.7	12.8	---	---	2.9a	9.2	---
7	---	10.0	---	12.8	---	10.4	13.1	---	---	3.2a	6.7b	---
8	---	10.0	---	11.2	12.0	10.4	11.3	---	---	3.4a	5.4b	---
9	---	9.4	---	10.6	12.0	10.5	10.1	---	---	4.1a	6.8b	---
10	---	9.1	---	11.2	13.5	10.9	12.0	---	---	4.4b	6.8b	---
11	---	9.3	---	11.1	12.5	9.8	11.9	---	---	4.9b	7.4	---
12	---	9.7	---	11.5	12.0	---	10.0	---	---	7.3	6.3b	---
13	---	10.1	---	12.0	11.9	---	10.3	---	---	5.4a	6.2b	---
14	---	---	---	12.4	10.3	---	10.5	---	---	5.5b	6.6b	6.7
15	---	---	---	12.8	10.8	---	8.9	---	---	4.9b	5.8b	7.9
16	---	---	---	12.4	10.9	---	9.9	---	---	4.4b	5.4b	8.1
17	---	---	---	12.3	11.7	---	10.6	---	---	4.8b	6.0b	9.6
18	---	---	---	11.9	12.3	---	9.6	---	---	5.6b	4.5b	8.1b
19	---	---	---	12.1	12.3	---	7.8	---	7.7	5.3b	4.2b	6.9b
20	---	---	---	11.6	11.4	---	7.8	---	8.1	4.7b	4.1a	6.1b
21	---	---	---	11.7	11.7	---	8.1	---	6.8b	4.3b	4.8b	6.5
22	---	---	---	11.6	12.8	---	8.8	---	5.6b	5.2b	---	6.6
23	6.3b	---	---	12.1	11.6	---	9.0	---	2.8a	5.9b	---	7.1
24	7.1	---	---	12.1	10.8	---	---	8.6	2.1a	5.3b	---	7.3
25	7.5	---	---	12.1	11.2	---	10.3	8.4	1.8a	4.6b	---	7.3
26	7.7	---	---	12.4	11.6	---	10.9	7.6	1.8a	4.3b	---	7.9
27	---	---	---	12.5	12.1	---	10.8	6.8b	1.8a	4.3b	---	---
28	10.5	---	---	12.2	13.1	---	9.4	7.9	2.6a	6.0b	---	---
29	10.2	---	---	12.9	---	---	9.2b	8.9	3.4a	6.7b	---	---
30	10.3	---	---	11.3	---	---	6.6b	8.5	2.6a	7.5b	---	---
31	11.2	---	10.5	10.7	---	---	---	6.8b	---	7.8b	---	---

Table 17.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 9, Neuse River at Channel Light 9, October 1990-September 1991--Continued

[Site 9 is at latitude 34°56'54", longitude 76°48'36", Craven County; U.S. Geological Survey downstream order number 0209265810; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

DISSOLVED OXYGEN, PERCENT SATURATION, NEAR SURFACE

SENSOR POSITION.--8 feet above streambed.

EXTREMES FOR OCTOBER 1990-SEPTEMBER 1991.--Maximum value recorded, 244 percent of saturation April 10, 1991; minimum value recorded, ≤10 percent of saturation July 4, 1991.

DAILY MEAN VALUES OF DISSOLVED OXYGEN, PERCENT SATURATION, NEAR SURFACE (IN PERCENT), OCTOBER 1990-SEPTEMBER 1991

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	---	107	---	93	---	119	---	88	73	22	120	---
2	---	103	---	95	---	95	---	84	76	19	86	---
3	---	87	---	104	---	90	---	97	68	23	63	---
4	---	85	---	105	---	90	---	84	67	28	124	---
5	---	71	---	104	---	105	---	73	---	35	133	---
6	---	91	---	110	---	109	135	---	---	38	122	---
7	---	104	---	115	---	97	143	---	---	43	88	---
8	---	102	---	100	107	96	125	---	---	45	70	---
9	---	94	---	93	108	94	112	---	---	56	89	---
10	---	92	---	96	122	99	134	---	---	59	90	---
11	---	94	---	97	113	86	131	---	---	65	97	---
12	---	96	---	102	107	---	108	---	---	97	81	---
13	---	99	---	108	106	---	104	---	---	72	80	---
14	---	---	---	110	93	---	109	---	---	74	85	84
15	---	---	---	112	95	---	94	---	---	64	75	99
16	---	---	---	111	89	---	104	---	---	57	69	103
17	---	---	---	111	96	---	110	---	---	62	77	122
18	---	---	---	104	103	---	106	---	---	74	58	103
19	---	---	---	104	107	---	84	---	100	68	54	88
20	---	---	---	100	102	---	85	---	104	62	52	74
21	---	---	---	99	104	---	86	---	87	55	62	76
22	---	---	---	95	119	---	92	---	73	68	---	76
23	72	---	---	97	105	---	94	---	36	78	---	82
24	81	---	---	96	95	---	---	104	27	70	---	84
25	85	---	---	95	100	---	110	102	22	60	---	86
26	83	---	---	94	104	---	119	94	23	56	---	93
27	---	---	---	95	106	---	120	84	22	56	---	---
28	108	---	---	94	113	---	106	100	33	78	---	---
29	104	---	---	101	---	---	104	116	43	87	---	---
30	103	---	---	89	---	---	77	111	34	97	---	---
31	112	---	98	87	---	---	---	88	---	99	---	---

Table 17.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 9, Neuse River at Channel Light 9, October 1990-September 1991--Continued

[Site 9 is at latitude 34°56'54", longitude 76°48'36", Craven County; U.S. Geological Survey downstream order number 0209265810; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

DISSOLVED OXYGEN, MID-DEPTH

SENSOR POSITION.--5 feet above streambed.

EXTREMES FOR OCTOBER 1990-SEPTEMBER 1991.--Maximum value recorded, 17.9 mg/L April 10, 1991; minimum value recorded, <1.0 mg/L May 31, June 3, 4, July 9, 10, 11, 17, 18, September 17-20, 1991.

DAILY MEAN VALUES OF DISSOLVED OXYGEN, MID-DEPTH (IN MILLIGRAMS PER LITER), OCTOBER 1990-SEPTEMBER 1991

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	---	13.3	---	---	---	---	---	6.1b	3.1a	---	5.5b	---
2	---	14.0	---	---	---	---	---	6.8b	3.5a	---	4.3b	---
3	---	14.6	---	---	---	---	---	7.1	2.9a	---	4.9b	---
4	---	13.6	---	---	---	---	---	6.0	2.9a	---	7.1b	---
5	---	8.8b	---	---	---	---	---	5.7	---	---	6.2b	---
6	---	7.6b	---	---	---	---	10.0b	5.7	---	---	6.1b	---
7	---	8.9	---	---	---	---	10.6	5.7	---	---	5.1b	---
8	---	8.6	---	---	8.6	---	8.8	5.6	---	---	4.2b	---
9	---	7.7	---	---	8.8	---	8.2	5.8	---	---	3.2a	---
10	---	7.9	---	---	8.7	---	10.1	6.9	---	---	2.6a	---
11	---	8.6	---	---	8.8	---	10.5	6.2	---	---	3.1a	---
12	---	8.3	---	---	8.7	---	8.9	6.0	---	---	3.3b	---
13	---	9.3	---	---	9.0	---	9.4	5.7	---	5.9b	3.4b	---
14	---	---	---	---	---	---	9.5	6.4	---	5.0b	3.4b	5.6b
15	---	---	---	---	---	---	8.6	6.6	---	5.7b	3.7a	7.4b
16	---	---	---	---	---	---	9.7	7.0	---	5.5b	4.0b	5.9b
17	---	---	---	---	---	---	10.9	6.6	---	6.1b	3.5a	3.1a
18	---	---	---	---	---	---	10.0	6.3	---	6.7b	3.2a	1.1a
19	---	---	---	---	---	---	8.5	6.0	8.2	6.8b	3.7b	2.0a
20	---	---	---	---	---	---	8.7	6.9	8.2b	6.8	3.5a	5.0a
21	---	---	---	---	---	---	9.4	7.9	7.2b	5.5b	4.3b	6.4
22	---	---	---	---	---	---	10.0	8.0	7.3b	5.6b	4.8b	6.9
23	6.9b	---	---	---	---	---	11.0	7.1b	6.4	5.5b	4.0b	6.4b
24	8.5	---	---	---	---	---	---	5.9b	6.2b	5.8b	---	6.1b
25	8.6	---	---	---	---	---	11.6	5.3b	6.1	6.6	---	5.1a
26	7.3	---	---	---	---	---	12.0	4.4b	5.8	6.6b	---	6.3b
27	---	---	---	---	---	---	9.9	4.4a	4.9b	6.1b	---	---
28	11.7	---	---	---	---	---	7.2b	5.3b	---	5.5	---	---
29	9.3	---	---	---	---	---	7.0b	5.9b	---	5.7b	---	---
30	10.5	---	---	---	---	---	6.2b	5.2b	---	5.7b	---	---
31	12.7	---	---	---	---	---	---	4.1a	---	5.4b	---	---

Table 17.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 9, Neuse River at Channel Light 9, October 1990-September 1991--Continued

[Site 9 is at latitude 34°56'54", longitude 76°48'36", Craven County; U.S. Geological Survey downstream order number 0209265810; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

DISSOLVED OXYGEN, PERCENT SATURATION, MID-DEPTH

SENSOR POSITION.--5 feet above streambed.

EXTREMES FOR OCTOBER 1990-SEPTEMBER 1991.--Maximum value recorded, 211 percent of saturation April 10, 1991; minimum value recorded, ≤10 percent of saturation May 31, June 3, 4, August 9, 10, 11, 17, 18, September 18, 19, 20, 1991.

DAILY MEAN VALUES OF DISSOLVED OXYGEN, PERCENT SATURATION, MID-DEPTH (IN PERCENT), OCTOBER 1990-SEPTEMBER 1991

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	---	133	---	---	---	---	---	71	41	---	69	---
2	---	142	---	---	---	---	---	76	46	---	55	---
3	---	149	---	---	---	---	---	79	38	---	64	---
4	---	141	---	---	---	---	---	67	37	---	94	---
5	---	91	---	---	---	---	---	64	---	---	81	---
6	---	80	---	---	---	---	106	64	---	---	81	---
7	---	92	---	---	---	---	116	64	---	---	67	---
8	---	88	---	---	77	---	98	64	---	---	54	---
9	---	77	---	---	79	---	91	66	---	---	43	---
10	---	81	---	---	79	---	114	79	---	---	34	---
11	---	86	---	---	79	---	115	72	---	---	41	---
12	---	82	---	---	77	---	96	69	---	---	42	---
13	---	91	---	---	80	---	95	65	---	79	44	---
14	---	---	---	---	---	---	99	72	---	67	44	71
15	---	---	---	---	---	---	90	77	---	74	47	93
16	---	---	---	---	---	---	103	84	---	71	50	75
17	---	---	---	---	---	---	114	81	---	79	44	39
18	---	---	---	---	---	---	110	76	---	88	41	15
19	---	---	---	---	---	---	92	71	105	88	46	25
20	---	---	---	---	---	---	94	80	106	89	45	61
21	---	---	---	---	---	---	99	92	93	71	55	75
22	---	---	---	---	---	---	105	95	95	73	61	79
23	78	---	---	---	---	---	115	85	82	73	51	74
24	96	---	---	---	---	---	127	71	79	77	---	71
25	98	---	---	---	---	---	124	65	76	88	---	60
26	79	---	---	---	---	---	131	54	72	86	---	75
27	123	---	---	---	---	---	110	55	61	79	---	---
28	121	---	---	---	---	---	81	67	---	72	---	---
29	95	---	---	---	---	---	80	76	---	74	---	---
30	105	---	---	---	---	---	72	68	---	73	---	---
31	126	---	---	---	---	---	---	53	---	69	---	---

Table 17.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 9, Neuse River at Channel Light 9, October 1990-September 1991--Continued

[Site 9 is at latitude 34°56'54", longitude 76°48'36", Craven County; U.S. Geological Survey downstream order number 0209265810; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

DISSOLVED OXYGEN, NEAR BOTTOM

SENSOR POSITION.--2 feet above streambed.

EXTREMES FOR OCTOBER 1990-SEPTEMBER 1991.--Maximum value recorded, 16.8 mg/L April 26, 1991; minimum value recorded, <1.0 mg/L April 6-9, 15, 18, 27-30, May 1, 6, 27, 31, June 1, 3, July 13-16, 18, 21, 22, 24-31, August 1-6, 9-19, 24, 25, 30, 31, September 1, 14-17, 1991.

DAILY MEAN VALUES OF DISSOLVED OXYGEN, NEAR BOTTOM (IN MILLIGRAMS PER LITER), OCTOBER 1990-SEPTEMBER 1991

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	---	9.5	---	10.5	---	10.6	---	3.0a	1.8a	---	<1.0a	3.0a
2	---	7.6	---	10.7	---	10.0	---	9.2a	2.1a	---	<1.0a	3.3a
3	---	6.7	---	10.3	---	9.5	---	12.1b	1.7a	---	<1.0a	4.1a
4	---	6.0b	---	12.0	---	9.9	---	11.7	2.9a	---	1.0a	---
5	---	6.0b	---	12.3	---	10.3	---	9.6b	4.9b	---	<1.0a	---
6	---	7.3b	---	11.2	---	9.1b	8.1a	8.0a	5.0b	---	1.7a	---
7	---	9.1	---	11.6	---	10.5	3.8a	8.7b	5.4b	---	1.8a	---
8	---	10.3	---	11.6	9.9	10.2	3.4a	8.8b	5.0b	---	1.3a	---
9	---	9.5	---	11.0	12.1	10.9	3.7a	8.2	5.4b	---	1.7a	---
10	---	9.1	---	11.5	11.1	11.5	6.4b	8.2	4.9b	---	1.1a	---
11	---	9.3	---	11.3	11.5	10.2	8.3b	9.6	6.0b	---	1.9a	---
12	---	9.7	---	11.4	12.0	---	9.1	8.0	6.2b	---	3.6a	---
13	---	10.0	---	12.2	11.0	---	9.2	8.4	6.9b	3.6a	3.0a	---
14	---	---	---	11.4	10.4	---	7.0a	8.8	6.1b	4.2a	<1.0a	3.3a
15	---	---	---	11.0	11.0	---	4.7a	7.3b	6.8b	5.1a	<1.0a	3.3a
16	---	---	---	12.0	11.2	---	7.3b	6.8b	5.3b	3.9a	<1.0a	4.1a
17	---	---	---	12.3	11.9	---	5.1b	5.3b	6.8b	5.1b	<1.0a	1.0a
18	---	---	---	11.6	11.2	---	5.8a	7.1b	7.9b	4.9a	2.8a	1.4a
19	---	---	---	10.4	10.9	---	7.2b	7.4	9.5	4.2a	4.4a	1.5a
20	---	---	---	10.2	11.2	---	7.3	7.7	6.7b	4.6a	4.6a	4.9a
21	---	---	---	11.6	11.7	---	7.2	7.9	7.0b	4.5a	5.4b	6.8
22	---	---	---	11.5	12.2	---	7.9b	7.6	5.2b	3.5a	5.1a	8.5
23	9.1	---	---	10.4	11.9	---	5.6b	6.3b	6.4b	3.8a	5.5b	8.6
24	9.8	---	---	11.0	11.0	---	---	6.2b	7.4	2.7a	3.5a	7.6b
25	10.1	---	---	12.2	10.9	---	12.4	5.7b	---	1.7a	4.5a	6.0b
26	10.6	---	---	12.5	11.3	---	11.2	4.2a	---	1.3a	4.3b	7.6
27	---	---	---	11.7	12.0	---	10.1a	3.2a	---	1.6a	3.3a	---
28	12.7	---	---	9.8	11.4	---	3.6a	4.5b	---	1.5a	3.1a	---
29	12.3	---	---	9.8	---	---	4.8a	3.0a	---	1.6a	2.0a	---
30	11.8	---	---	7.9b	---	---	3.7a	2.8a	---	1.5a	1.5a	---
31	11.3	---	10.9	9.6	---	---	---	3.1a	---	1.0a	<1.0a	---

Table 17.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 9, Neuse River at Channel Light 9, October 1990-September 1991--Continued

[Site 9 is at latitude 34°56'54", longitude 76°48'36", Craven County; U.S. Geological Survey downstream order number 0209265810; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

DISSOLVED OXYGEN, PERCENT SATURATION, NEAR BOTTOM

SENSOR POSITION.--2 feet above streambed.

EXTREMES FOR OCTOBER 1990-SEPTEMBER 1991.--Maximum value recorded, 189 percent of saturation April 24, 1991; minimum value recorded, ≤10 percent of saturation April 6-9, 15, 18, 27-30, May 1, 6, July 13-16, 18, 22, 24-31, August 1, 9-19, 24, 30, 31, September 1, 14, 16, 17, 1991.

DAILY MEAN VALUES OF DISSOLVED OXYGEN, PERCENT SATURATION, NEAR BOTTOM (IN PERCENT), OCTOBER 1990-SEPTEMBER 1991

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	---	95	---	96	---	92	---	35	23	---	11	38
2	---	77	---	97	---	90	---	103	27	---	11	41
3	---	69	---	93	---	87	---	135	22	---	12	50
4	---	62	---	107	---	94	---	132	38	---	14	---
5	---	62	---	109	---	96	---	109	62	---	12	---
6	---	76	---	99	---	84	85	90	61	---	22	---
7	---	94	---	104	---	98	42	98	64	---	23	---
8	---	106	---	103	89	94	38	100	60	---	17	---
9	---	95	---	97	108	98	41	93	65	---	22	---
10	---	92	---	99	101	105	72	94	60	---	14	---
11	---	93	---	99	104	89	90	111	74	---	25	---
12	---	96	---	102	106	---	98	92	76	---	46	---
13	---	98	---	109	98	---	93	95	85	48	39	---
14	---	---	---	101	94	---	72	99	76	55	≤10	41
15	---	---	---	97	97	---	50	84	85	67	≤10	42
16	---	---	---	108	91	---	77	82	67	51	≤10	52
17	---	---	---	111	97	---	52	65	85	66	≤10	13
18	---	---	---	101	94	---	64	87	100	64	35	18
19	---	---	---	89	95	---	78	87	122	55	56	20
20	---	---	---	88	100	---	80	88	86	60	58	60
21	---	---	---	99	104	---	76	92	90	58	69	80
22	---	---	---	95	113	---	83	89	67	46	65	97
23	103	---	---	83	108	---	58	75	83	50	70	99
24	111	---	---	87	97	---	93	75	93	36	44	88
25	114	---	---	95	98	---	133	69	---	23	56	70
26	114	---	---	95	102	---	122	52	---	17	55	89
27	139	---	---	89	105	---	113	41	---	21	41	---
28	132	---	---	76	98	---	41	56	---	20	39	---
29	125	---	---	76	---	---	54	39	---	21	26	---
30	119	---	---	63	---	---	43	37	---	19	19	---
31	112	---	102	79	---	---	---	41	---	12	12	---

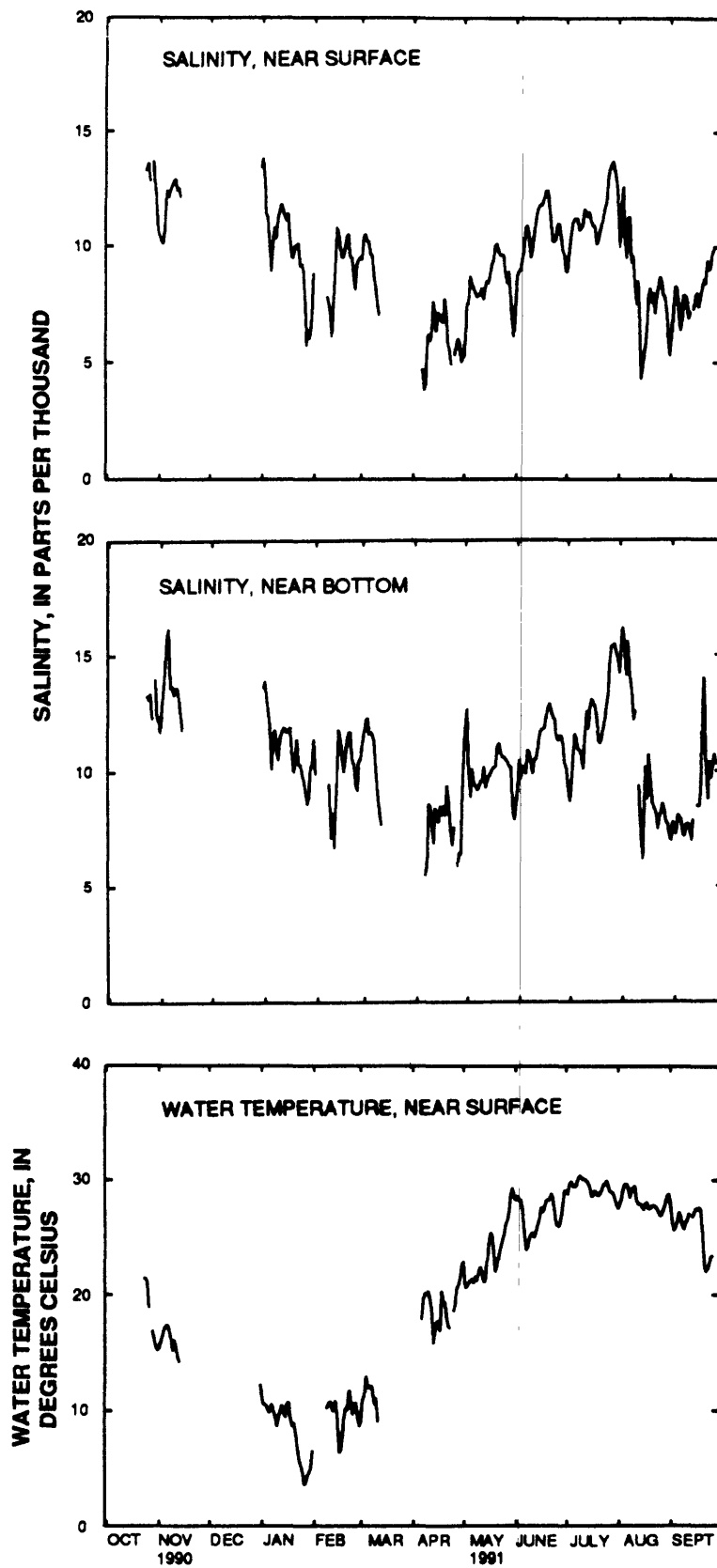


Figure 40.--Daily mean salinity and water temperature at site 9, Neuse River at Channel Light 9, October 1990-September 1991.

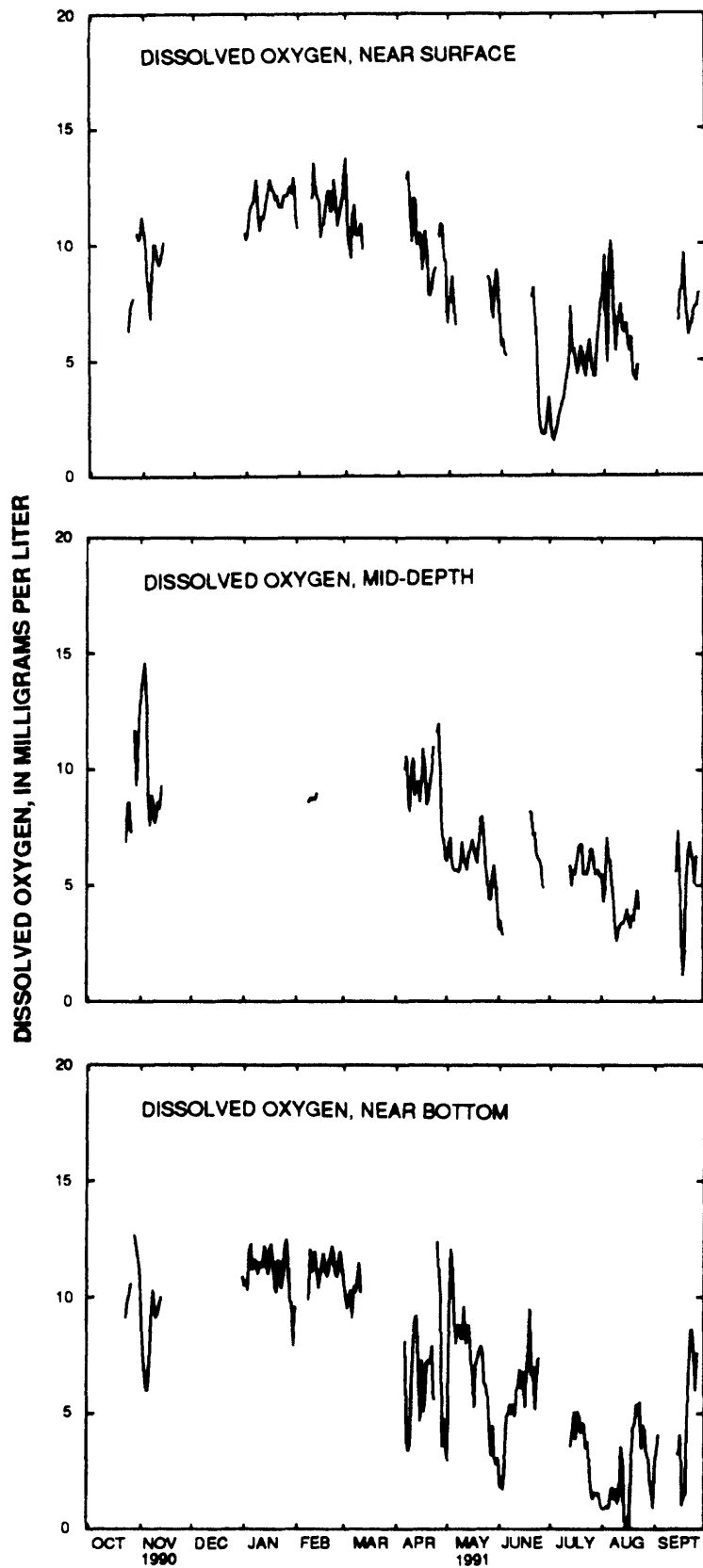


Figure 41.--Daily mean dissolved-oxygen concentrations at site 9, Neuse River at Channel Light 9, October 1990-September 1991.

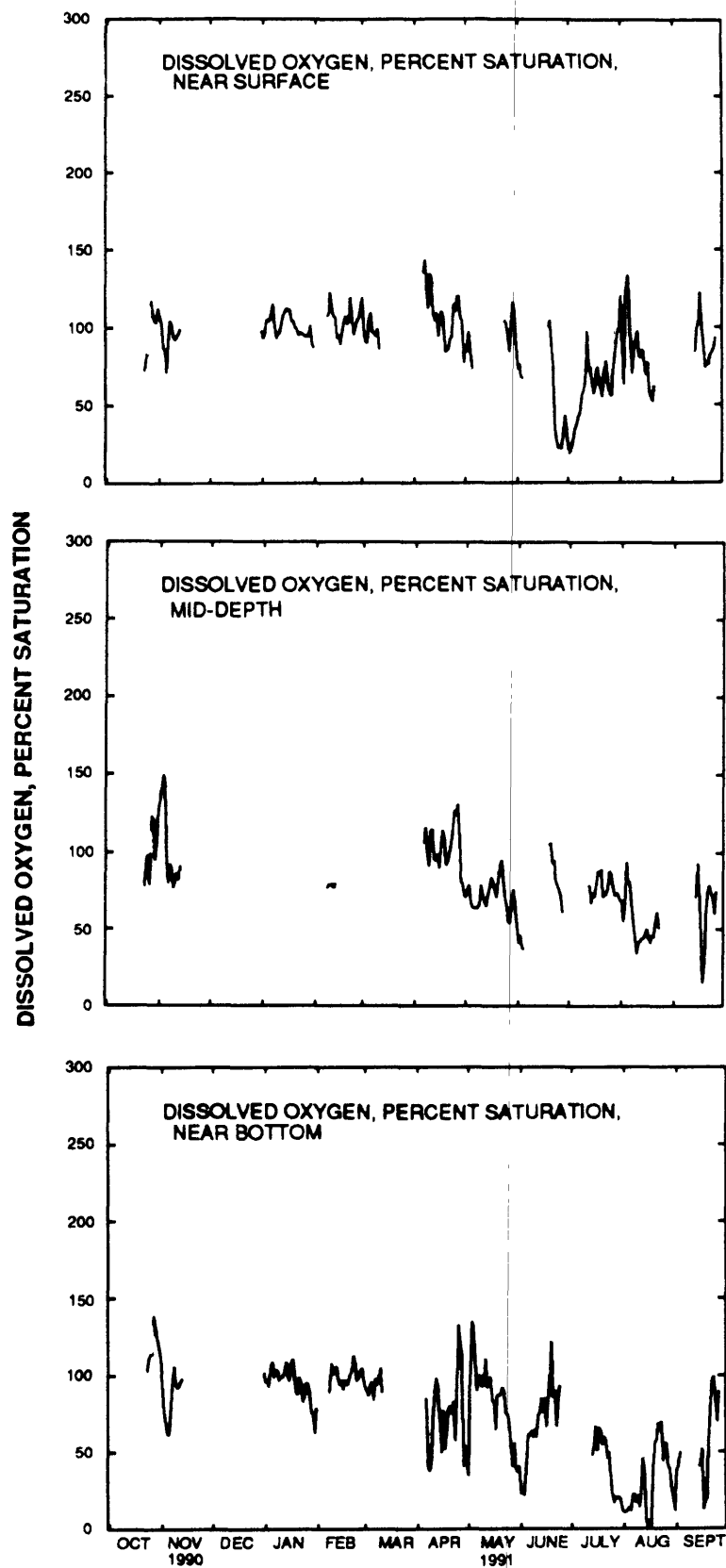


Figure 42.--Daily mean dissolved oxygen, percent saturation, at site 9, Neuse River at Channel Light 9, October 1990-September 1991.

Table 18.--Five-day mean water temperature and dissolved-oxygen values in water at site 9, Neuse River at Channel Light 9, October 1990-September 1991, for day and night periods

[°C, degrees Celsius; mg/L, milligram per liter; Day, 9:15 a.m.-9:00 p.m.; Night, 9:15 p.m.-9:00 a.m.; --, no data; <, less than]

Date	Mean water temperature, near surface (°C)		Mean dissolved oxygen, near surface (mg/L)		Mean dissolved oxygen, mid-depth (mg/L)		Mean dissolved oxygen, near bottom (mg/L)	
	Day	Night	Day	Night	Day	Night	Day	Night
10/01/90-10/05/90	--	--	--	--	--	--	--	--
10/06/90-10/10/90	--	--	--	--	--	--	--	--
10/11/90-10/15/90	--	--	--	--	--	--	--	--
10/16/90-10/20/90	--	--	--	--	--	--	--	--
10/21/90-10/25/90	21.4	21.1	6.9	7.1	8.0	7.6	9.7	9.8
10/26/90-10/30/90	17.0	16.6	10.0	10.4	10.4	10.6	12.2	12.3
10/31/90-11/04/90	16.0	16.3	9.8	9.2	13.6	13.2	8.0	7.3
11/05/90-11/09/90	16.6	16.4	9.3	9.0	8.6	7.9	9.0	8.5
11/10/90-11/14/90	15.0	14.6	9.8	9.5	8.6	8.6	9.7	9.5
11/15/90-11/19/90	--	--	--	--	--	--	--	--
11/20/90-11/24/90	--	--	--	--	--	--	--	--
11/25/90-11/29/90	--	--	--	--	--	--	--	--
11/30/90-12/04/90	--	--	--	--	--	--	--	--
12/05/90-12/09/90	--	--	--	--	--	--	--	--
12/10/90-12/14/90	--	--	--	--	--	--	--	--
12/15/90-12/19/90	--	--	--	--	--	--	--	--
12/20/90-12/24/90	--	--	--	--	--	--	--	--
12/25/90-12/29/90	--	--	--	--	--	--	--	--
12/30/90- 1/03/91	11.3	11.1	11.1	10.5	--	--	10.8	10.6
1/04/91- 1/08/91	10.3	10.0	12.3	11.6	--	--	11.8	11.6
1/09/91- 1/13/91	9.8	9.5	11.5	11.2	--	--	11.5	11.4
1/14/91- 1/18/91	10.1	9.8	12.7	12.1	--	--	11.7	11.6
1/19/91- 1/23/91	7.7	7.2	12.0	11.6	--	--	11.1	10.4
1/24/91- 1/28/91	4.4	4.1	12.3	12.2	--	--	11.6	11.3
1/29/91- 2/02/91	5.8	5.9	11.7	11.1	--	--	9.4	9.0
2/03/91- 2/07/91	9.6	10.1	13.1	12.6	8.1	8.3	7.2	9.5
2/08/91- 2/12/91	10.6	10.2	12.6	12.2	8.7	8.9	11.5	11.6
2/13/91- 2/17/91	8.7	8.3	11.4	10.8	9.0	9.0	11.3	10.9
2/18/91- 2/22/91	10.3	10.1	12.1	12.2	--	--	11.4	11.6
2/23/91- 2/27/91	10.2	9.9	11.7	11.1	--	--	11.6	11.1
2/28/91- 3/04/91	11.0	10.8	11.8	10.4	--	--	10.3	9.9
3/05/91- 3/09/91	12.3	11.1	11.5	10.4	--	--	10.6	10.0
3/10/91- 3/14/91	9.8	8.7	10.5	9.7	--	--	10.8	9.8
3/15/91- 3/19/91	--	--	--	--	--	--	--	--
3/20/91- 3/24/91	--	--	--	--	--	--	--	--
3/25/91- 3/29/91	--	--	--	--	--	--	--	--
3/30/91- 4/03/91	--	--	--	--	--	--	--	--

Table 18.--Five-day mean water temperature and dissolved-oxygen values in water at site 9, Neuse River at Channel Light 9, October 1990-September 1991, for day and night periods--Continued

[°C, degrees Celsius; mg/L, milligram per liter; Day, 9:15 a.m.-9:00 p.m.; Night, 9:15 p.m.-9:00 a.m.; --, no data; <, less than]

Date	Mean water temperature, near surface (°C)		Mean dissolved oxygen, near surface (mg/L)		Mean dissolved oxygen, mid-depth (mg/L)		Mean dissolved oxygen, near bottom (mg/L)	
	Day	Night	Day	Night	Day	Night	Day	Night
4/04/91- 4/08/91	19.4	18.7	12.8	11.3	10.4	8.9	6.4	4.1
4/09/91- 4/13/91	19.1	18.1	12.0	10.0	10.4	8.7	7.7	7.7
4/14/91- 4/18/91	18.4	18.1	10.4	9.0	10.2	9.1	6.4	5.4
4/19/91- 4/23/91	18.2	17.9	8.6	8.4	10.0	9.5	7.3	6.5
4/24/91- 4/28/91	19.8	19.9	10.7	10.0	10.5	9.9	10.0	8.3
4/29/91- 5/03/91	22.1	21.2	8.7	6.7	6.7	6.4	7.4	6.6
5/04/91- 5/08/91	21.5	21.1	6.9	6.9	5.8	5.6	10.0	8.5
5/09/91- 5/13/91	21.7	21.4	--	--	6.2	6.2	8.7	8.2
5/14/91- 5/18/91	24.5	23.9	--	--	6.6	6.5	6.7	7.2
5/19/91- 5/23/91	23.1	23.0	9.4	8.1	7.2	7.1	7.4	7.0
5/24/91- 5/28/91	26.2	26.2	8.1	7.7	5.1	5.0	4.9	4.3
5/29/91- 6/02/91	28.9	28.5	7.5	6.3	4.6	3.8	2.8	2.0
6/03/91- 6/07/91	26.7	25.9	5.5	4.8	3.1	2.4	4.3	4.1
6/08/91- 6/12/91	25.2	24.8	--	--	--	--	5.5	5.6
6/13/91- 6/17/91	26.8	26.7	--	--	--	--	6.5	6.4
6/18/91- 6/22/91	28.5	28.2	7.5	6.2	8.1	7.3	7.1	7.2
6/23/91- 6/27/91	26.9	26.4	2.2	1.8	6.3	5.5	7.1	7.0
6/28/91- 7/02/91	28.7	28.3	2.6	2.0	--	--	--	--
7/03/91- 7/07/91	29.9	29.4	2.8	2.4	--	--	--	--
7/08/91- 7/12/91	30.4	30.0	5.2	4.8	7.0	5.7	5.4	4.6
7/13/91- 7/17/91	29.5	29.0	5.6	4.3	5.9	5.6	4.5	4.5
7/18/91- 7/22/91	29.1	28.7	5.6	4.5	6.5	5.9	4.6	3.8
7/23/91- 7/27/91	29.7	29.3	5.6	4.1	6.4	5.8	2.5	1.7
7/28/91- 8/01/91	28.3	28.1	7.9	7.6	5.6	5.3	1.3	1.2
8/02/91- 8/06/91	29.2	29.0	8.2	7.7	5.9	5.6	1.2	<1.0
8/07/91- 8/11/91	29.2	28.9	6.9	6.3	3.8	3.2	2.0	1.3
8/12/91- 8/16/91	27.9	27.7	6.4	5.5	3.6	3.4	1.7	1.1
8/17/91- 8/21/91	27.9	27.6	5.2	4.2	4.1	3.5	4.0	3.6
8/22/91- 8/26/91	27.4	27.2	--	--	4.3	4.2	4.5	4.5
8/27/91- 8/31/91	28.2	28.0	--	--	--	--	2.2	1.8
9/01/91- 9/05/91	26.5	26.1	--	--	--	--	4.3	2.9
9/06/91- 9/10/91	26.6	26.1	--	--	--	--	--	--
9/11/91- 9/15/91	27.1	26.9	7.7	7.0	7.2	6.1	4.2	3.7
9/16/91- 9/20/91	27.1	26.4	8.4	6.9	4.0	2.8	2.6	2.8
9/21/91- 9/25/91	22.7	22.5	7.1	7.0	6.5	5.8	7.6	7.4
9/26/91- 9/30/91	23.2	22.9	8.1	7.7	6.6	5.9	8.1	7.9

Table 19.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 10, Adams Creek at Light 4, October 1990-September 1991

[Site 10 is at latitude 34°57'24", longitude 76°40'54", Craven County; U.S. Geological Survey downstream order number 0209266925; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

SALINITY, NEAR SURFACE

SENSOR POSITION.--6 feet above streambed.

EXTREMES FOR OCTOBER 1990-SEPTEMBER 1991.--Maximum value recorded, 19.0 ppt October 24, 1990; minimum value recorded, 0.3 ppt April 8, 1991.

DAILY MEAN VALUES OF SALINITY, NEAR SURFACE (IN PARTS PER THOUSAND), OCTOBER 1990-SEPTEMBER 1991

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	---	12.6	---	13.9	---	---	---	7.8	8.9	12.7	12.0	9.6
2	---	12.4	---	13.4	---	---	10.8	8.8	8.9	11.8	10.1	10.6
3	---	11.7	---	13.1	---	---	12.4	9.3	9.2	10.8	11.3	11.0
4	---	10.4	---	13.3	---	---	10.9	11.7	9.6	11.0	11.9	11.5
5	---	12.1	---	13.8	---	---	9.8	12.7	10.7	11.5	12.0	10.7
6	---	11.9	---	12.4	---	---	6.8	12.5	10.8	11.2	12.7	10.1
7	---	13.2	---	10.5	---	---	7.0	12.0	11.1	11.3	13.7	9.7
8	---	13.8	---	12.1	---	---	4.9	12.3	11.7	11.3	13.2	11.6
9	---	14.0	---	12.1	---	---	4.7	12.8	11.9	11.3	13.4	12.3
10	---	13.8	---	11.6	---	---	---	12.8	11.0	11.6	12.9	11.6
11	---	13.6	---	12.7	---	---	8.1	12.7	10.7	12.0	11.7	10.2
12	---	13.4	---	11.9	---	---	9.9	12.8	11.1	12.6	13.5	9.7
13	---	12.7	---	11.6	---	---	10.6	12.7	11.3	13.5	12.2	10.5
14	---	---	---	11.9	---	---	9.7	13.2	12.1	12.6	9.3	10.1
15	---	---	---	11.7	---	---	10.4	12.9	12.7	12.1	7.3	9.8
16	---	---	---	11.8	---	---	10.0	12.8	12.8	11.7	6.8	10.0
17	---	---	---	11.1	---	---	10.0	13.3	13.5	11.6	8.1	9.6
18	---	---	---	11.1	---	---	9.6	13.3	13.3	10.3	11.6	9.5
19	---	---	---	10.9	---	---	10.9	14.0	12.9	10.8	13.0	9.9
20	---	---	---	10.3	---	---	10.8	14.0	12.4	10.4	11.8	10.3
21	---	---	---	10.1	---	---	10.2	13.8	12.1	10.3	10.9	11.4
22	---	---	---	---	---	---	9.0	13.7	12.0	10.9	10.7	11.8
23	17.0	---	---	---	---	---	9.2	13.1	11.3	11.7	11.4	11.8
24	16.4	---	---	---	---	---	7.9	13.0	12.2	12.6	11.3	11.8
25	16.1	---	---	---	---	---	7.9	12.4	---	13.2	11.7	12.4
26	16.4	---	---	---	---	---	8.3	11.3	14.3	12.5	12.0	12.0
27	16.3	---	---	---	---	---	9.4	12.1	13.5	13.1	12.1	11.9
28	14.6	---	---	---	---	---	8.7	11.6	13.5	13.4	11.9	12.5
29	14.9	---	---	---	---	---	8.5	9.6	13.6	13.8	10.4	12.7
30	15.4	---	---	---	---	---	7.9	8.3	13.3	13.6	9.1	12.2
31	13.2	---	---	---	---	---	---	8.5	---	13.2	8.6	---

Table 19.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 10, Adams Creek at Light 4, October 1990-September 1991--Continued

[Site 10 is at latitude 34°57'24", longitude 76°40'54", Craven County; U.S. Geological Survey downstream order number 0209266925; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

SALINITY, NEAR BOTTOM

SENSOR POSITION.--2 feet above streambed.

EXTREMES FOR OCTOBER 1990-SEPTEMBER 1991.--Maximum value recorded, 27.8 ppt June 17, 1991; minimum value recorded, 5.7 ppt August 17, 1991.

DAILY MEAN VALUES OF SALINITY, NEAR BOTTOM (IN PARTS PER THOUSAND), OCTOBER 1990-SEPTEMBER 1991

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	---	---	---	15.1	---	---	---	10.2	19.2	16.8	12.8	10.9
2	---	---	---	15.0	---	---	11.3	9.4	15.4	20.6	12.1	9.5
3	---	---	---	14.6	---	---	12.9	9.9	14.4	19.3	12.4	9.9
4	---	---	---	14.6	---	---	12.8	12.4	13.3	15.8	12.6	10.2
5	---	---	---	15.3	---	---	11.6	13.1	11.8	18.0	12.4	10.5
6	---	---	---	14.3	---	---	9.3	12.3	11.4	17.3	13.1	11.1
7	---	---	---	12.5	---	---	8.4	12.2	11.7	15.2	13.0	11.1
8	---	---	---	13.0	---	---	8.3	12.3	12.4	14.6	12.5	10.7
9	---	---	---	13.3	---	---	9.9	12.6	12.8	14.5	12.4	10.9
10	---	---	---	12.6	---	---	---	12.6	12.4	13.7	12.0	10.5
11	---	---	---	13.9	---	---	10.6	12.5	12.4	15.1	12.1	10.2
12	---	---	---	13.0	---	---	12.4	12.6	14.1	13.4	12.6	10.4
13	---	---	---	12.4	---	---	12.8	13.1	16.1	13.8	12.2	11.1
14	---	---	---	12.5	---	---	11.6	15.0	15.3	14.9	10.6	10.5
15	---	---	---	12.2	---	---	11.9	17.3	16.6	12.4	9.5	10.3
16	---	---	---	12.4	---	---	13.4	13.9	19.5	11.9	8.7	10.6
17	---	---	---	11.6	---	---	11.8	14.0	21.5	11.3	10.5	10.8
18	---	---	---	11.3	---	---	10.9	14.3	20.2	11.2	12.0	13.2
19	---	---	---	10.9	---	---	12.0	13.3	19.1	11.5	12.3	14.6
20	---	---	---	10.4	---	---	11.4	13.3	17.0	12.7	12.1	10.4
21	---	---	---	9.8	---	---	10.8	13.2	15.9	13.6	12.5	11.3
22	---	---	---	---	---	---	10.1	13.4	15.4	14.2	10.8	11.7
23	---	---	---	---	---	---	9.9	12.9	14.4	15.5	11.5	11.7
24	---	---	---	---	---	---	9.1	12.9	14.2	17.9	11.0	11.7
25	---	---	---	---	---	---	8.5	12.7	---	17.3	10.6	12.1
26	---	---	---	---	---	---	9.3	12.2	14.4	17.3	10.8	14.2
27	---	---	---	---	---	---	9.7	13.5	14.6	16.9	10.5	12.6
28	---	---	---	---	---	---	9.0	16.3	14.6	15.5	10.3	12.7
29	---	---	---	---	---	---	9.6	13.4	14.3	14.9	9.4	13.0
30	---	---	---	---	---	---	8.8	12.7	14.2	14.5	8.9	12.5
31	---	---	---	---	---	---	---	17.3	---	13.8	9.5	---

Table 19.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 10, Adams Creek at Light 4, October 1990-September 1991--Continued

[Site 10 is at latitude 34°57'24", longitude 76°40'54", Craven County; U.S. Geological Survey downstream order number 0209266925; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

WATER TEMPERATURE, NEAR SURFACE

SENSOR POSITION.--6 feet above streambed.

EXTREMES FOR OCTOBER 1990-SEPTEMBER 1991.--Maximum value recorded, 32.8 °C July 24, 1991; minimum value recorded, 9.0 °C January 10, 1991.

DAILY MEAN VALUES OF WATER TEMPERATURE, NEAR SURFACE (IN DEGREES CELSIUS), OCTOBER 1990-SEPTEMBER 1991

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	---	16.1	---	11.1	---	---	---	23.5	---	29.3	28.0	27.7
2	---	16.6	---	10.9	---	---	17.1	22.8	---	29.7	28.0	25.3
3	---	16.9	---	11.3	---	---	17.1	22.0	---	29.9	28.3	25.0
4	---	17.5	---	11.0	---	---	17.1	21.4	---	29.8	29.3	25.4
5	---	17.6	---	10.3	---	---	17.7	21.4	---	29.3	30.3	26.1
6	---	18.0	---	10.7	---	---	18.8	22.4	---	29.1	30.0	26.7
7	---	17.4	---	11.0	---	---	19.6	23.6	---	29.4	29.4	26.5
8	---	16.6	---	10.4	---	---	20.8	22.9	---	29.9	29.1	25.6
9	---	15.4	---	9.5	---	---	21.3	22.5	---	29.9	29.5	25.3
10	---	16.7	---	9.4	---	---	---	22.6	---	30.1	30.3	25.7
11	---	15.6	---	9.7	---	---	21.0	22.9	---	29.7	30.2	26.1
12	---	15.0	---	11.2	---	---	19.3	23.3	---	29.6	29.5	26.6
13	---	14.6	---	10.9	---	---	18.5	23.9	---	30.1	29.3	26.7
14	---	---	---	10.3	---	---	18.7	24.9	---	30.0	28.9	27.3
15	---	---	---	10.4	---	---	19.6	25.8	---	29.6	28.0	28.0
16	---	---	---	11.4	---	---	20.3	25.5	---	28.9	27.8	28.3
17	---	---	---	11.6	---	---	20.6	25.9	---	29.0	27.7	28.4
18	---	---	---	10.8	---	---	20.5	26.2	---	29.2	27.6	28.4
19	---	---	---	9.9	---	---	18.5	23.5	---	29.2	27.1	28.0
20	---	---	---	10.2	---	---	18.2	22.0	---	29.0	27.1	25.9
21	---	---	---	10.0	---	---	17.1	22.4	---	28.9	27.1	22.5
22	---	---	---	---	---	---	16.2	23.1	---	29.3	27.7	21.3
23	21.6	---	---	---	---	---	17.2	23.8	---	30.0	27.3	21.9
24	21.6	---	---	---	---	---	18.6	---	---	30.4	27.1	22.5
25	21.3	---	---	---	---	---	18.9	---	---	30.5	26.6	23.5
26	18.7	---	---	---	---	---	19.2	---	25.6	29.4	26.5	23.3
27	16.7	---	---	---	---	---	20.0	---	25.7	29.1	26.5	22.6
28	16.2	---	---	---	---	---	21.0	---	26.7	29.1	26.9	21.7
29	16.2	---	---	---	---	---	22.1	---	28.2	28.9	27.6	21.5
30	16.1	---	---	---	---	---	23.0	---	29.3	28.7	28.4	22.1
31	15.6	---	---	---	---	---	---	---	---	28.2	29.0	---

Table 19.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 10, Adams Creek at Light 4, October 1990-September 1991--Continued

[Site 10 is at latitude 34°57'24", longitude 76°40'54", Craven County; U.S. Geological Survey downstream order number 0209266925; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

DISSOLVED OXYGEN, NEAR SURFACE

SENSOR POSITION.--6 feet above streambed.

EXTREMES FOR OCTOBER 1990-SEPTEMBER 1991.--Maximum value recorded, 17.9 mg/L January 15, 1991; minimum value recorded, 2.5 mg/L August 18, 1991.

DAILY MEAN VALUES OF DISSOLVED OXYGEN, NEAR SURFACE (IN MILLIGRAMS PER LITER), OCTOBER 1990-SEPTEMBER 1991

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	---	11.7	---	12.3	---	---	---	---	---	9.1	7.4	---
2	---	11.8	---	12.3	---	---	---	---	---	9.4	8.2	---
3	---	10.9	---	12.7	---	---	---	---	---	9.2	6.8	---
4	---	11.1	---	12.5	---	---	---	---	---	8.4	7.1	---
5	---	9.2	---	12.2	---	---	---	---	---	7.3	7.2	---
6	---	9.0	---	12.9	---	---	---	---	---	6.9	6.6	---
7	---	8.2	---	13.4	---	---	---	---	---	7.3	5.6b	---
8	---	9.3	---	12.1	---	---	---	---	---	7.7	5.7b	---
9	---	9.3	---	12.0	---	---	---	---	---	7.9	5.5b	---
10	---	9.6	---	12.0	---	---	---	---	---	7.9	6.3b	---
11	---	10.1	---	12.2	---	---	8.3	---	---	7.8	6.6b	---
12	---	10.0	---	12.9	---	---	7.6	---	---	7.7	5.2b	---
13	---	11.0	---	13.6	---	---	7.6	---	---	7.7	6.1b	---
14	---	---	---	14.1	---	---	8.2	---	---	8.1	6.3b	---
15	---	---	---	15.4	---	---	8.0	---	---	8.0	2.8b	---
16	---	---	---	14.3	---	---	8.4	---	---	7.1	2.9b	---
17	---	---	---	13.1	---	---	8.9	---	---	7.4	2.9b	---
18	---	---	---	12.9	---	---	8.5	---	---	7.7	3.0b	---
19	---	---	---	12.6	---	---	8.3	---	---	7.2	3.1b	---
20	---	---	---	12.5	---	---	8.6	---	---	7.6	3.7b	---
21	---	---	---	12.2	---	---	9.2	---	---	7.6	4.1b	---
22	---	---	---	---	---	---	---	---	---	7.6	3.9b	---
23	7.7	---	---	---	---	---	---	---	---	7.1	4.0b	---
24	8.3	---	---	---	---	---	---	---	---	6.6b	5.2b	---
25	8.5	---	---	---	---	---	---	---	---	6.0b	4.9b	---
26	8.7	---	---	---	---	---	---	---	8.6	5.7b	5.7b	---
27	9.4	---	---	---	---	---	---	---	8.6	6.1b	4.9b	---
28	10.3	---	---	---	---	---	---	---	9.2	6.1	4.8b	---
29	12.4	---	---	---	---	---	---	---	9.8	6.0	5.6b	---
30	12.5	---	---	---	---	---	---	---	10.1	6.1	5.7b	---
31	11.2	---	---	---	---	---	---	---	---	6.3	5.4b	---

Table 19.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 10, Adams Creek at Light 4, October 1990-September 1991--Continued

[Site 10 is at latitude 34°57'24", longitude 76°40'54", Craven County; U.S. Geological Survey downstream order number 0209266925; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

DISSOLVED OXYGEN, PERCENT SATURATION, NEAR SURFACE

SENSOR POSITION.--6 feet above streambed.

EXTREMES FOR OCTOBER 1990-SEPTEMBER 1991.--Maximum value recorded, 196 percent of saturation June 30, 1991; minimum value recorded, 32 percent of saturation August 18, 1991.

DAILY MEAN VALUES OF DISSOLVED OXYGEN, PERCENT SATURATION, NEAR SURFACE (IN PERCENT), OCTOBER 1990-SEPTEMBER 1991

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	---	119	---	112	---	---	---	---	---	120	95	---
2	---	121	---	111	---	---	---	---	---	124	105	---
3	---	113	---	116	---	---	---	---	---	122	88	---
4	---	116	---	113	---	---	---	---	---	111	93	---
5	---	97	---	109	---	---	---	---	---	95	97	---
6	---	95	---	117	---	---	---	---	---	90	87	---
7	---	85	---	122	---	---	---	---	---	96	74	---
8	---	96	---	109	---	---	---	---	---	102	74	---
9	---	93	---	105	---	---	---	---	---	105	72	---
10	---	99	---	105	---	---	---	---	---	105	84	---
11	---	102	---	108	---	---	94	---	---	103	88	---
12	---	100	---	118	---	---	83	---	---	102	68	---
13	---	108	---	124	---	---	81	---	---	103	80	---
14	---	---	---	126	---	---	88	---	---	107	82	---
15	---	---	---	138	---	---	88	---	---	106	36	---
16	---	---	---	131	---	---	94	---	---	92	37	---
17	---	---	---	121	---	---	99	---	---	96	36	---
18	---	---	---	117	---	---	95	---	---	101	38	---
19	---	---	---	112	---	---	89	---	---	94	40	---
20	---	---	---	111	---	---	92	---	---	99	46	---
21	---	---	---	108	---	---	95	---	---	99	52	---
22	---	---	---	---	---	---	---	---	---	99	50	---
23	88	---	---	---	---	---	---	---	---	94	51	---
24	94	---	---	---	---	---	---	---	---	89	66	---
25	96	---	---	---	---	---	---	---	---	80	61	---
26	94	---	---	---	---	---	---	---	105	75	72	---
27	97	---	---	---	---	---	---	---	106	80	62	---
28	105	---	---	---	---	---	---	---	115	80	61	---
29	127	---	---	---	---	---	---	---	126	78	71	---
30	127	---	---	---	---	---	---	---	133	80	74	---
31	113	---	---	---	---	---	---	---	---	81	70	---

Table 19.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 10, Adams Creek at Light 4, October 1990-September 1991--Continued

[Site 10 is at latitude 34°57'24", longitude 76°40'54", Craven County; U.S. Geological Survey downstream order number 0209266925; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

DISSOLVED OXYGEN, MID-DEPTH

SENSOR POSITION.--4 feet above streambed.

EXTREMES FOR OCTOBER 1990-SEPTEMBER 1991.--Maximum value recorded, 15.6 mg/L January 14, 15, 1991; minimum value recorded, <1.0 mg/L July 19-31, August 1, 2, 3, 5-9, 12, September 23, 1991.

DAILY MEAN VALUES OF DISSOLVED OXYGEN, MID-DEPTH (IN MILLIGRAMS PER LITER), OCTOBER 1990-SEPTEMBER 1991

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	---	9.9	---	10.6	---	---	---	6.8b	---	4.0a	2.0a	---
2	---	10.0	---	10.8	---	---	7.9b	8.9	---	3.5a	2.6a	---
3	---	10.5	---	11.4	---	---	7.2	8.4	---	---	2.8a	---
4	---	10.9	---	11.5	---	---	7.8	7.2	---	---	3.4a	---
5	---	8.9	---	11.3	---	---	7.3b	5.7b	---	---	3.3a	---
6	---	9.0	---	12.1	---	---	7.8b	6.0b	---	---	2.5a	---
7	---	8.2	---	12.6	---	---	7.6	6.6b	---	---	2.3a	---
8	---	9.0	---	11.1	---	---	7.4	6.9b	---	---	2.4a	---
9	---	9.4	---	11.5	---	---	7.1b	7.1b	---	---	2.6a	---
10	---	9.2	---	11.6	---	---	---	6.7b	---	---	4.5a	---
11	---	9.6	---	11.0	---	---	8.8	7.6	---	---	3.8a	---
12	---	10.0	---	11.4	---	---	8.0	7.1	---	---	2.7a	---
13	---	10.5	---	12.5	---	---	7.8	7.2	---	6.5b	3.0a	---
14	---	---	---	12.9	---	---	8.1	7.2b	---	5.8b	---	6.4b
15	---	---	---	14.2	---	---	7.7	7.6b	---	5.9b	---	6.9b
16	---	---	---	12.9	---	---	7.8	7.4b	---	4.9a	---	5.1a
17	---	---	---	12.2	---	---	7.8	7.2b	---	4.9b	---	5.3a
18	---	---	---	12.1	---	---	7.7	7.3b	---	4.7a	---	4.8a
19	---	---	---	11.8	---	---	7.9	7.2	---	3.3a	---	5.4b
20	---	---	---	11.6	---	---	8.8	7.3	---	3.3a	---	7.2
21	---	---	---	11.4	---	---	8.9	7.8	---	3.0a	---	7.6
22	---	---	---	---	---	---	9.3	7.6b	---	2.3a	---	6.8b
23	7.5	---	---	---	---	---	8.9	7.5	---	1.6a	---	5.0a
24	7.6	---	---	---	---	---	10.0	6.8	---	.9a	---	---
25	7.6	---	---	---	---	---	10.5	6.9b	---	1.4a	---	---
26	7.7	---	---	---	---	---	9.7	7.1b	7.8	1.5a	---	---
27	8.2	---	---	---	---	---	9.1	4.9b	7.2	1.6a	---	---
28	8.9	---	---	---	---	---	8.9	4.4b	6.4b	1.7a	---	7.9
29	10.8	---	---	---	---	---	7.7b	4.1b	6.2b	1.4a	---	7.5
30	10.8	---	---	---	---	---	8.3	3.3a	5.6b	1.0a	---	6.6b
31	9.6	---	---	---	---	---	---	3.1a	---	1.2a	---	---

Table 19.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 10, Adams Creek at Light 4, October 1990-September 1991--Continued

[Site 10 is at latitude 34°57'24", longitude 76°40'54", Craven County; U.S. Geological Survey downstream order number 0209266925; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

DISSOLVED OXYGEN, PERCENT SATURATION, MID-DEPTH

SENSOR POSITION.--4 feet above streambed.

EXTREMES FOR OCTOBER 1990-SEPTEMBER 1991.--Maximum value recorded, 146 percent of saturation November 4, 1990, April 29, 1991; minimum value recorded, ≤10 percent of saturation July 20-31, August 1, 2, 3, 6, 7, September 23, 1991.

DAILY MEAN VALUES OF DISSOLVED OXYGEN, PERCENT SATURATION, MID-DEPTH (IN PERCENT), OCTOBER 1990-SEPTEMBER 1991

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	---	101	---	97	---	---	---	80	---	52	25	---
2	---	103	---	98	---	---	82	104	---	46	33	---
3	---	109	---	105	---	---	74	96	---	---	36	---
4	---	115	---	105	---	---	81	82	---	---	44	---
5	---	94	---	101	---	---	76	64	---	---	44	---
6	---	95	---	109	---	---	84	70	---	---	33	---
7	---	86	---	114	---	---	83	78	---	---	30	---
8	---	92	---	99	---	---	83	81	---	---	32	---
9	---	94	---	100	---	---	80	82	---	---	34	---
10	---	95	---	102	---	---	---	77	---	---	60	---
11	---	97	---	97	---	---	98	89	---	---	51	---
12	---	99	---	104	---	---	87	83	---	---	35	---
13	---	104	---	113	---	---	83	86	---	86	40	---
14	---	---	---	115	---	---	87	87	---	76	---	82
15	---	---	---	127	---	---	84	94	---	78	---	88
16	---	---	---	118	---	---	87	91	---	64	---	66
17	---	---	---	112	---	---	87	89	---	64	---	69
18	---	---	---	109	---	---	86	91	---	61	---	62
19	---	---	---	104	---	---	85	85	---	43	---	70
20	---	---	---	104	---	---	93	84	---	43	---	88
21	---	---	---	102	---	---	93	90	---	39	---	88
22	---	---	---	---	---	---	94	89	---	30	---	77
23	85	---	---	---	---	---	93	90	---	22	---	57
24	86	---	---	---	---	---	108	---	---	12	---	---
25	86	---	---	---	---	---	113	---	---	18	---	---
26	83	---	---	---	---	---	106	---	96	19	---	---
27	85	---	---	---	---	---	101	---	88	21	---	---
28	90	---	---	---	---	---	100	---	80	22	---	90
29	110	---	---	---	---	---	89	---	79	18	---	85
30	110	---	---	---	---	---	97	---	73	13	---	76
31	97	---	---	---	---	---	---	---	---	15	---	---

Table 19.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 10, Adams Creek at Light 4, October 1990-September 1991--Continued

[Site 10 is at latitude 34°57'24", longitude 76°40'54", Craven County; U.S. Geological Survey downstream order number 0209266925; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

DISSOLVED OXYGEN, NEAR BOTTOM

SENSOR POSITION.--2 feet above streambed.

EXTREMES FOR OCTOBER 1990-SEPTEMBER 1991.--Maximum value recorded, 14.5 mg/L January 15, 1991; minimum value recorded, 2.4 mg/L April 4, 1991.

DAILY MEAN VALUES OF DISSOLVED OXYGEN, NEAR BOTTOM (IN MILLIGRAMS PER LITER), OCTOBER 1990-SEPTEMBER 1991

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	---	10.3	---	10.8	---	---	---	---	---	---	---	---
2	---	9.8	---	10.7	---	---	6.6b	---	---	---	---	---
3	---	9.8	---	11.1	---	---	6.7b	---	---	---	---	---
4	---	9.4	---	11.3	---	---	5.7b	---	---	---	---	---
5	---	7.8	---	11.0	---	---	---	---	---	---	---	---
6	---	7.9	---	11.4	---	---	---	---	---	---	---	---
7	---	7.2	---	11.6	---	---	---	---	---	---	---	---
8	---	9.0	---	10.7	---	---	---	---	---	---	---	---
9	---	9.4	---	11.0	---	---	---	---	---	---	---	---
10	---	9.3	---	11.0	---	---	---	---	---	---	---	---
11	---	9.3	---	10.5	---	---	7.8	---	---	---	---	---
12	---	9.6	---	10.5	---	---	6.5	---	---	---	---	---
13	---	10.2	---	11.7	---	---	5.9b	---	---	---	---	---
14	---	---	---	11.8	---	---	5.2b	---	---	---	---	---
15	---	---	---	12.9	---	---	---	---	---	---	---	---
16	---	---	---	11.7	---	---	---	---	---	---	---	---
17	---	---	---	11.5	---	---	---	---	---	---	---	---
18	---	---	---	11.4	---	---	---	---	---	---	---	---
19	---	---	---	11.2	---	---	---	---	---	---	---	---
20	---	---	---	11.0	---	---	---	---	---	---	---	---
21	---	---	---	11.0	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	7.4	---	---	---	---	---	---	---	---	---	---	---
24	7.3	---	---	---	---	---	---	---	---	---	---	---
25	7.6	---	---	---	---	---	---	---	---	---	---	---
26	8.3	---	---	---	---	---	---	---	5.4b	---	---	---
27	8.9	---	---	---	---	---	---	---	5.2b	---	---	---
28	9.2	---	---	---	---	---	---	---	5.2b	---	---	7.9
29	11.4	---	---	---	---	---	---	---	5.5b	---	---	8.0
30	11.3	---	---	---	---	---	---	---	5.0b	---	---	7.3
31	10.1	---	---	---	---	---	---	---	---	---	---	---

Table 19.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 10, Adams Creek at Light 4, October 1990-September 1991--Continued

[Site 10 is at latitude 34°57'24", longitude 76°40'54", Craven County; U.S. Geological Survey downstream order number 0209266925; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

DISSOLVED OXYGEN, PERCENT SATURATION, NEAR BOTTOM

SENSOR POSITION.--2 feet above streambed.

EXTREMES FOR OCTOBER 1990-SEPTEMBER 1991.--Maximum value recorded, 145 percent of saturation October 30, 1990; minimum value recorded, 25 percent of saturation April 4, 1991.

DAILY MEAN VALUES OF DISSOLVED OXYGEN, PERCENT SATURATION, NEAR BOTTOM (IN PERCENT), OCTOBER 1990-SEPTEMBER 1991

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	---	104	---	98	---	---	---	---	---	---	---	---
2	---	101	---	97	---	---	69	---	---	---	---	---
3	---	101	---	102	---	---	70	---	---	---	---	---
4	---	99	---	103	---	---	59	---	---	---	---	---
5	---	82	---	99	---	---	---	---	---	---	---	---
6	---	84	---	103	---	---	---	---	---	---	---	---
7	---	76	---	105	---	---	---	---	---	---	---	---
8	---	92	---	96	---	---	---	---	---	---	---	---
9	---	95	---	97	---	---	---	---	---	---	---	---
10	---	95	---	96	---	---	---	---	---	---	---	---
11	---	94	---	93	---	---	88	---	---	---	---	---
12	---	96	---	96	---	---	71	---	---	---	---	---
13	---	101	---	106	---	---	63	---	---	---	---	---
14	---	---	---	106	---	---	56	---	---	---	---	---
15	---	---	---	115	---	---	---	---	---	---	---	---
16	---	---	---	108	---	---	---	---	---	---	---	---
17	---	---	---	106	---	---	---	---	---	---	---	---
18	---	---	---	103	---	---	---	---	---	---	---	---
19	---	---	---	99	---	---	---	---	---	---	---	---
20	---	---	---	98	---	---	---	---	---	---	---	---
21	---	---	---	98	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	85	---	---	---	---	---	---	---	---	---	---	---
24	84	---	---	---	---	---	---	---	---	---	---	---
25	86	---	---	---	---	---	---	---	---	---	---	---
26	89	---	---	---	---	---	---	---	66	---	---	---
27	92	---	---	---	---	---	---	---	64	---	---	---
28	94	---	---	---	---	---	---	---	65	---	---	90
29	116	---	---	---	---	---	---	---	70	---	---	91
30	115	---	---	---	---	---	---	---	66	---	---	84
31	102	---	---	---	---	---	---	---	---	---	---	---

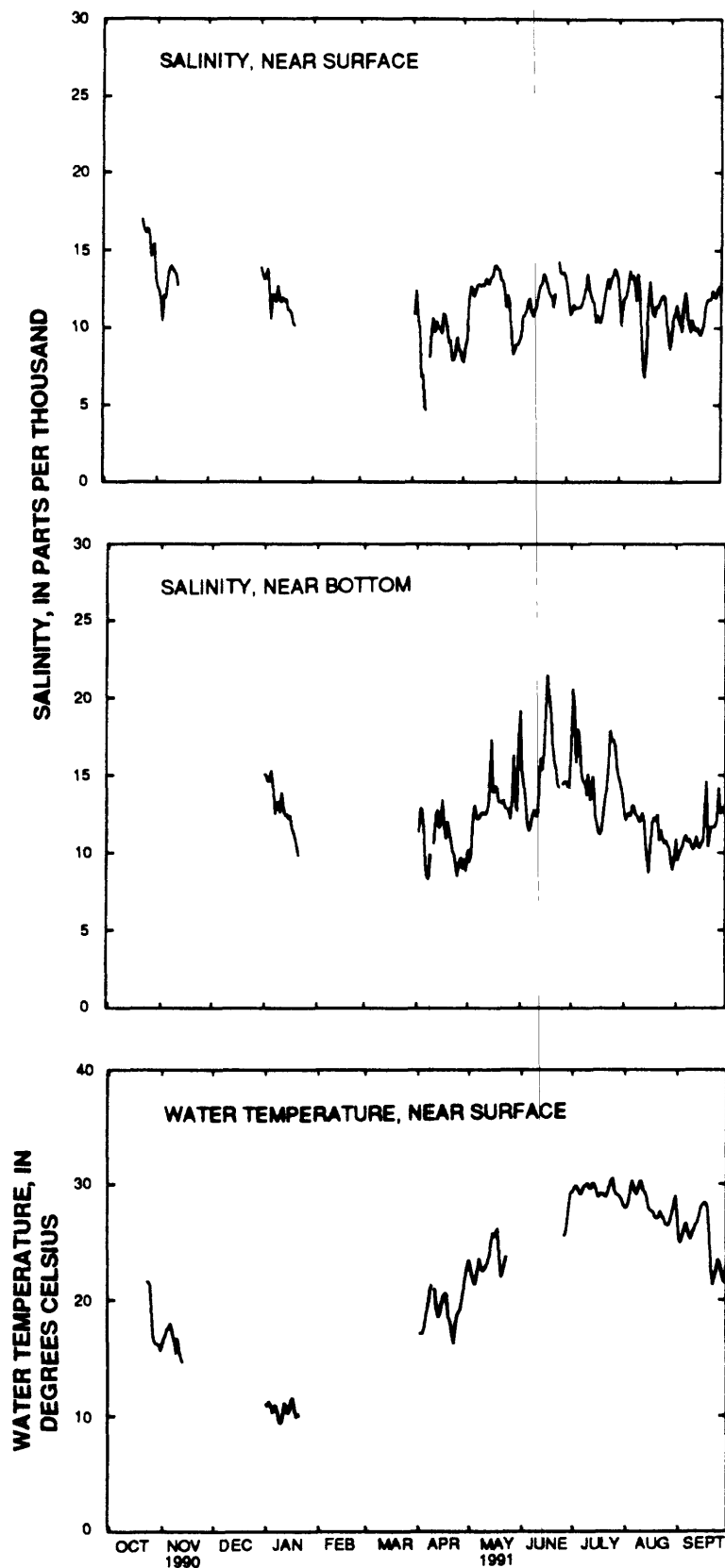


Figure 43.--Daily mean salinity and water temperature at site 10, Adams Creek at Light 4, October 1990-September 1991.

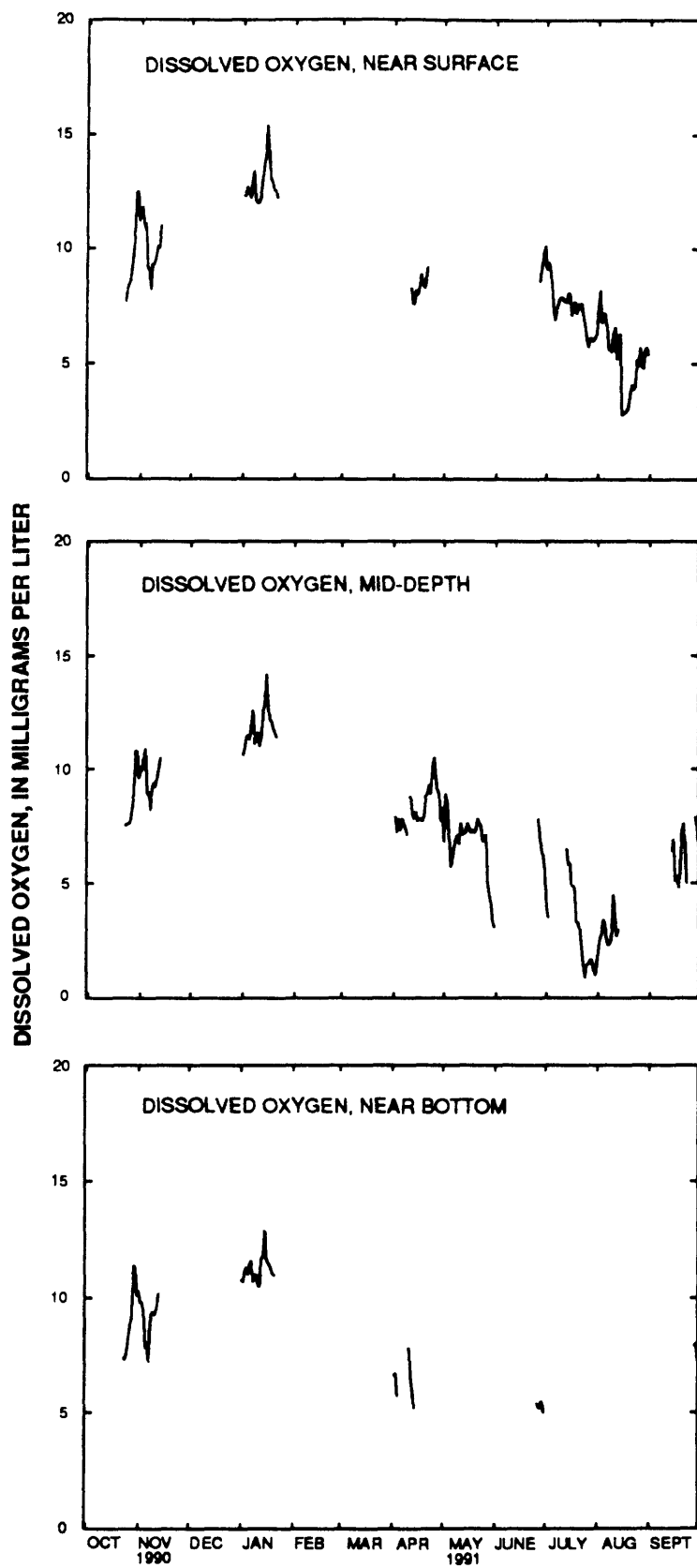


Figure 44.--Daily mean dissolved-oxygen concentrations at site 10, Adams Creek at Light 4, October 1990-September 1991.

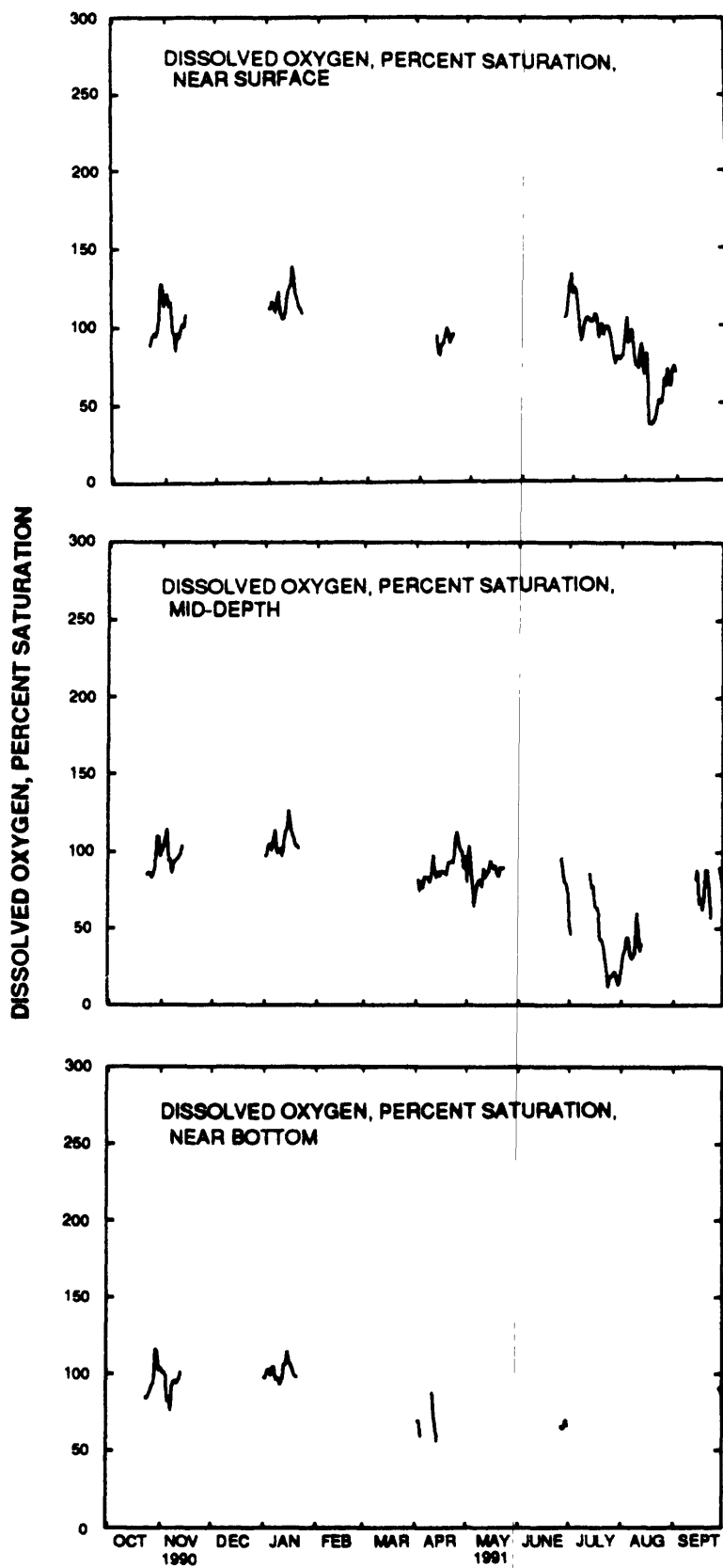


Figure 45.--Daily mean dissolved oxygen, percent saturation, at site 10, Adams Creek at Light 4, October 1990-September 1991.

Table 20.--Five-day mean water temperature and dissolved-oxygen values in water at site 10, Adams Creek at Light 4, October 1990-September 1991, for day and night periods

[°C, degrees Celsius; mg/L, milligram per liter; Day, 9:15 a.m.-9:00 p.m.; Night, 9:15 p.m.-9:00 a.m.; --, no data; <, less than]

Date	Mean water temperature, near surface (°C)		Mean dissolved oxygen, near surface (mg/L)		Mean dissolved oxygen, mid-depth (mg/L)		Mean dissolved oxygen, near bottom (mg/L)	
	Day	Night	Day	Night	Day	Night	Day	Night
10/01/90-10/05/90	--	--	--	--	--	--	--	--
10/06/90-10/10/90	--	--	--	--	--	--	--	--
10/11/90-10/15/90	--	--	--	--	--	--	--	--
10/16/90-10/20/90	--	--	--	--	--	--	--	--
10/21/90-10/25/90	21.5	21.2	8.4	8.1	7.9	7.5	7.6	7.5
10/26/90-10/30/90	16.6	16.3	10.8	10.9	9.4	9.4	9.8	10.1
10/31/90-11/04/90	16.7	16.8	11.6	11.1	10.4	10.2	9.9	9.7
11/05/90-11/09/90	17.0	16.8	9.0	8.8	8.9	8.7	8.5	8.2
11/10/90-11/14/90	15.3	15.0	10.4	10.3	10.1	9.9	9.8	9.7
11/15/90-11/19/90	--	--	--	--	--	--	--	--
11/20/90-11/24/90	--	--	--	--	--	--	--	--
11/25/90-11/29/90	--	--	--	--	--	--	--	--
11/30/90-12/04/90	--	--	--	--	--	--	--	--
12/05/90-12/09/90	--	--	--	--	--	--	--	--
12/10/90-12/14/90	--	--	--	--	--	--	--	--
12/15/90-12/19/90	--	--	--	--	--	--	--	--
12/20/90-12/24/90	--	--	--	--	--	--	--	--
12/25/90-12/29/90	--	--	--	--	--	--	--	--
12/30/90- 1/03/91	11.6	11.6	12.6	12.1	11.2	10.8	11.1	10.8
1/04/91- 1/08/91	10.7	10.4	12.8	12.4	11.9	11.4	11.3	11.0
1/09/91- 1/13/91	10.1	10.2	12.8	12.5	11.9	11.5	11.1	10.9
1/14/91- 1/18/91	11.1	10.7	14.4	13.4	13.3	12.4	12.1	11.6
1/19/91- 1/23/91	10.1	9.7	12.7	11.9	11.8	11.2	11.1	10.9
1/24/91- 1/28/91	--	--	--	--	--	--	--	--
1/29/91- 2/02/91	--	--	--	--	--	--	--	--
2/03/91- 2/07/91	--	--	--	--	--	--	--	--
2/08/91- 2/12/91	--	--	--	--	--	--	--	--
2/13/91- 2/17/91	--	--	--	--	--	--	--	--
2/18/91- 2/22/91	--	--	--	--	--	--	--	--
2/23/91- 2/27/91	--	--	--	--	--	--	--	--
2/28/91- 3/04/91	--	--	--	--	--	--	--	--
3/05/91- 3/09/91	--	--	--	--	--	--	--	--
3/10/91- 3/14/91	--	--	--	--	--	--	--	--
3/15/91- 3/19/91	--	--	--	--	--	--	--	--
3/20/91- 3/24/91	--	--	--	--	--	--	--	--
3/25/91- 3/29/91	--	--	--	--	--	--	--	--
3/30/91- 4/03/91	17.4	16.7	--	--	7.5	7.5	6.8	6.4

Table 20.--Five-day mean water temperature and dissolved-oxygen values in water at site 10, Adams Creek at Light 4, October 1990-September 1991, for day and night periods--Continued

[°C, degrees Celsius; mg/L, milligram per liter; Day, 9:15 a.m.-9:00 p.m.; Night, 9:15 p.m.-9:00 a.m.; --, no data; <, less than]

Date	Mean water temperature, near surface (°C)		Mean dissolved oxygen, near surface (mg/L)		Mean dissolved oxygen, mid-depth (mg/L)		Mean dissolved oxygen, near bottom (mg/L)	
	Day	Night	Day	Night	Day	Night	Day	Night
4/04/91- 4/08/91	19.3	18.9	--	--	7.9	7.2	5.6	4.6
4/09/91- 4/13/91	20.6	19.8	8.1	7.8	8.3	7.6	6.9	6.5
4/14/91- 4/18/91	20.3	19.7	8.8	8.1	8.0	7.6	5.2	5.1
4/19/91- 4/23/91	17.6	17.1	9.0	8.6	8.9	8.8	--	--
4/24/91- 4/28/91	20.0	19.6	--	--	9.9	9.3	--	--
4/29/91- 5/03/91	23.1	22.3	--	--	8.1	7.8	--	--
5/04/91- 5/08/91	22.6	22.3	--	--	6.9	5.8	--	--
5/09/91- 5/13/91	23.3	23.0	--	--	7.9	6.6	--	--
5/14/91- 5/18/91	26.1	25.3	--	--	7.8	6.9	--	--
5/19/91- 5/23/91	23.1	22.7	--	--	8.0	6.9	--	--
5/24/91- 5/28/91	24.0	--	--	--	6.5	5.4	--	--
5/29/91- 6/02/91	--	--	--	--	3.4	3.3	--	--
6/03/91- 6/07/91	--	--	--	--	--	--	--	--
6/08/91- 6/12/91	--	--	--	--	--	--	--	--
6/13/91- 6/17/91	--	--	--	--	--	--	--	--
6/18/91- 6/22/91	--	--	--	--	--	--	--	--
6/23/91- 6/27/91	25.9	25.6	8.8	8.3	7.8	7.0	5.9	5.1
6/28/91- 7/02/91	29.3	28.4	10.4	8.7	5.4	4.7	5.6	5.0
7/03/91- 7/07/91	29.9	29.2	8.2	7.2	--	--	--	--
7/08/91- 7/12/91	30.2	29.5	8.2	7.4	5.8	5.4	--	--
7/13/91- 7/17/91	29.8	29.1	8.2	7.0	6.1	4.9	--	--
7/18/91- 7/22/91	29.5	28.8	8.1	6.9	3.8	2.3	--	--
7/23/91- 7/27/91	30.2	29.5	6.7	5.8	2.0	<1.0	--	--
7/28/91- 8/01/91	28.7	28.3	6.7	6.4	1.8	1.4	--	--
8/02/91- 8/06/91	29.5	29.0	7.6	6.4	3.5	2.1	--	--
8/07/91- 8/11/91	29.9	29.5	6.4	5.4	3.8	2.5	--	--
8/12/91- 8/16/91	28.9	28.2	4.9	4.0	3.5	3.0	--	--
8/17/91- 8/21/91	27.5	27.1	3.5	3.4	--	--	--	--
8/22/91- 8/26/91	27.1	26.7	5.1	4.5	--	--	--	--
8/27/91- 8/31/91	28.2	27.5	5.9	4.7	--	--	--	--
9/01/91- 9/05/91	26.0	25.5	--	--	--	--	--	--
9/06/91- 9/10/91	26.2	25.6	--	--	--	--	--	--
9/11/91- 9/15/91	27.4	26.8	--	--	6.2	5.9	--	--
9/16/91- 9/20/91	28.0	26.9	--	--	6.3	5.3	--	--
9/21/91- 9/25/91	22.6	22.2	--	--	6.9	5.7	--	--
9/26/91- 9/30/91	22.4	21.8	--	--	8.1	7.4	8.4	7.6

Table 21.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 11, Neuse River at Junction Light, October 1990-September 1991

[Site 11 is at latitude 35°08'42", longitude 76°30'06", Pamlico County; U.S. Geological Survey downstream order number 0209269000; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

SALINITY, NEAR SURFACE

SENSOR POSITION.--12 feet above streambed.

EXTREMES FOR OCTOBER 1990-SEPTEMBER 1991.--Maximum value recorded, 31.6 ppt November 22, 1990; minimum value recorded, 11.1 ppt October 1, 1990.

DAILY MEAN VALUES OF SALINITY, NEAR SURFACE (IN PARTS PER THOUSAND), OCTOBER 1990-SEPTEMBER 1991

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	11.5	---	---	---	---	16.7	---	14.6	---	---	---	16.9
2	11.6	---	---	---	---	16.8	---	---	---	---	---	17.0
3	---	---	---	---	---	16.7	---	---	---	---	---	16.9
4	---	---	---	---	---	15.9	---	---	---	---	---	16.7
5	---	---	---	---	---	16.0	---	---	---	---	---	16.4
6	---	---	---	---	---	16.2	---	---	---	---	---	17.2
7	---	---	---	---	---	16.3	---	---	---	---	---	18.0
8	---	---	---	---	---	16.6	---	---	---	---	---	17.9
9	---	---	---	---	---	16.7	---	---	---	---	17.8	17.4
10	---	---	---	---	---	16.6	---	---	---	---	17.7	16.2
11	---	---	---	---	---	16.3	---	---	---	---	17.8	15.9
12	---	---	---	---	---	16.3	---	---	---	---	17.7	16.4
13	---	---	---	---	---	16.7	---	---	---	---	17.4	15.7
14	---	20.0	---	---	---	17.1	---	---	---	---	17.4	15.7
15	---	24.2	---	---	---	17.6	---	---	---	---	17.4	15.9
16	---	23.8	---	---	---	17.1	---	---	---	---	17.3	---
17	---	21.9	---	---	---	17.1	---	---	---	---	17.0	16.3
18	---	22.6	---	---	---	16.4	16.0	---	---	---	16.7	16.1
19	---	22.6	---	---	---	16.6	16.9	---	---	---	16.6	15.9
20	---	23.5	---	---	---	16.6	16.6	---	---	---	16.8	17.3
21	---	25.1	---	---	---	16.7	16.5	---	---	---	16.8	17.3
22	---	25.6	---	---	---	16.4	16.6	---	---	---	17.3	17.0
23	---	23.9	---	---	---	16.1	17.0	---	---	---	17.5	16.4
24	---	24.5	---	---	---	15.7	17.0	---	---	---	16.7	16.2
25	---	---	---	---	---	14.9	17.6	---	---	---	16.7	15.9
26	---	---	---	---	---	14.6	16.2	---	---	---	16.6	15.7
27	---	---	---	---	---	14.1	15.5	---	---	---	16.7	16.2
28	---	---	---	---	---	13.5	15.3	---	---	---	16.5	16.4
29	---	---	---	---	---	---	14.9	---	---	---	16.4	15.3
30	---	---	---	---	---	---	14.6	---	---	---	16.6	---
31	---	---	---	---	---	---	---	---	---	---	16.5	---

Table 21.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 11, Neuse River at Junction Light, October 1990-September 1991--Continued

[Site 11 is at latitude 35°08'42", longitude 76°30'06", Pamlico County; U.S. Geological Survey downstream order number 0209269000; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

SALINITY, NEAR BOTTOM

SENSOR POSITION.--2 feet above streambed.

EXTREMES FOR OCTOBER 1990-SEPTEMBER 1991.--Maximum value recorded, 30.8 ppt November 22, 1990; minimum value recorded, 10.6 ppt April 27, 1991.

DAILY MEAN VALUES OF SALINITY, NEAR BOTTOM, (IN PARTS PER THOUSAND), OCTOBER 1990-SEPTEMBER 1991

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	16.9	---	---	---	---	17.4	---	17.2	14.2	---	---	---
2	16.8	---	---	---	---	---	---	16.6	14.6	---	---	---
3	---	---	---	---	---	---	---	17.2	15.2	---	---	---
4	---	---	---	---	---	---	---	15.9	---	---	---	---
5	---	---	---	---	---	---	---	16.3	15.6	---	---	---
6	---	---	---	---	---	---	---	16.5	15.5	---	---	---
7	---	---	---	---	---	---	---	16.1	15.6	---	---	---
8	---	---	---	---	---	---	---	16.3	15.0	---	---	---
9	---	---	---	---	---	---	---	16.3	15.1	---	---	---
10	---	---	---	---	---	---	---	16.5	15.7	---	---	---
11	---	---	---	---	---	16.4	---	16.7	16.5	---	---	---
12	---	---	---	---	---	17.6	---	16.7	16.1	---	---	---
13	---	---	---	---	---	17.2	---	16.8	16.6	---	---	---
14	---	19.8	---	---	---	17.2	---	16.9	16.7	---	---	---
15	---	23.5	---	---	---	17.4	---	17.6	---	---	---	---
16	---	24.5	---	---	---	17.0	---	18.7	---	---	---	---
17	---	22.0	---	---	---	17.1	---	19.8	---	---	---	17.6
18	---	22.8	---	---	---	16.7	---	20.6	---	---	---	18.0
19	---	23.4	---	---	---	16.8	---	20.4	---	---	---	17.2
20	---	23.7	---	---	---	17.4	---	19.9	---	---	---	16.9
21	---	24.4	---	---	---	17.7	16.4	19.4	---	---	---	16.8
22	---	25.6	---	---	---	17.4	16.9	19.3	---	---	---	16.7
23	---	24.6	---	---	---	16.6	17.8	18.7	---	---	---	16.6
24	---	24.4	---	---	---	16.2	17.9	17.3	---	---	---	16.5
25	---	---	---	---	---	16.1	17.8	16.9	---	---	---	16.5
26	---	---	---	---	---	15.9	17.9	16.7	---	---	---	16.7
27	---	---	---	---	---	15.4	14.7	16.2	---	---	---	17.2
28	---	---	---	---	---	15.3	17.0	15.2	---	---	---	17.4
29	---	---	---	---	---	---	17.6	13.9	---	---	---	16.8
30	---	---	---	---	---	---	17.2	14.9	---	---	---	---
31	---	---	---	---	---	---	---	15.1	---	---	---	---

Table 21.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 11, Neuse River at Junction Light, October 1990-September 1991--Continued

{Site 11 is at latitude 35°08'42", longitude 76°30'06", Pamlico County; U.S. Geological Survey downstream order number 0209269000; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to}

WATER TEMPERATURE, NEAR SURFACE

SENSOR POSITION.--12 feet above streambed.

EXTREMES FOR OCTOBER 1990-SEPTEMBER 1991.--Maximum value recorded, 29.6 °C July 13, 1991; minimum value recorded, 9.2 °C March 13, 14, 1991.

DAILY MEAN VALUES OF WATER TEMPERATURE, NEAR SURFACE (IN DEGREES CELSIUS), OCTOBER 1990-SEPTEMBER 1991

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	22.8	---	---	---	---	9.0	---	21.8	27.5	27.1	27.7	26.3
2	23.0	---	---	---	---	10.0	---	22.4	28.0	27.2	27.9	24.5
3	23.0	---	---	---	---	10.2	---	22.6	28.2	27.9	27.9	22.6
4	23.1	---	---	---	---	11.1	---	23.0	---	28.1	28.5	22.2
5	23.2	---	---	---	---	9.7	---	22.9	26.8	28.0	28.8	22.9
6	23.3	---	---	---	---	9.7	---	23.1	25.4	28.1	28.9	22.7
7	24.0	---	---	---	---	10.6	---	23.7	24.2	28.6	28.6	23.3
8	24.3	---	---	---	---	10.2	---	23.7	23.5	28.8	28.5	23.5
9	24.7	---	---	---	---	10.1	---	23.6	23.1	28.9	28.3	23.2
10	24.9	---	---	---	---	9.8	---	23.9	24.0	29.1	28.4	22.8
11	25.0	---	---	---	---	9.2	---	23.7	24.5	---	28.4	22.8
12	25.2	---	---	---	---	8.8	---	23.8	24.3	29.5	27.7	23.7
13	25.5	---	---	---	---	8.4	---	24.1	24.8	29.6	28.0	25.7
14	25.7	14.0	---	---	---	8.4	---	24.5	24.9	29.6	27.9	26.1
15	---	14.6	---	---	---	8.5	---	24.8	25.8	29.3	27.5	26.4
16	---	15.1	---	---	---	8.4	---	25.4	26.1	28.7	27.6	---
17	---	14.2	---	---	---	8.6	---	26.1	26.2	28.5	28.3	26.6
18	---	13.4	---	---	---	9.6	20.0	26.0	26.0	28.9	28.0	26.7
19	---	12.6	---	---	---	9.6	19.4	25.1	26.3	28.6	27.0	26.8
20	---	12.9	---	---	---	9.5	19.0	23.9	26.5	28.5	25.5	25.2
21	---	13.5	---	---	---	10.6	18.4	23.1	26.6	28.6	24.3	23.3
22	---	14.4	---	---	---	11.2	17.7	23.9	27.1	28.3	24.4	22.6
23	---	14.0	---	---	---	11.9	17.8	24.6	27.3	28.6	24.7	22.1
24	---	14.1	---	---	---	13.0	18.5	24.8	26.1	29.1	24.4	22.6
25	---	---	---	---	---	13.3	18.1	25.4	25.4	29.3	24.4	23.0
26	---	---	---	---	---	14.0	18.7	25.8	25.1	29.1	25.9	23.2
27	---	---	---	---	---	14.5	20.0	26.3	25.3	28.7	26.1	23.0
28	---	---	---	---	---	14.5	20.3	26.5	25.9	28.5	26.4	22.3
29	---	---	---	---	---	---	21.2	27.6	27.0	28.5	26.6	21.9
30	---	---	---	---	---	---	21.8	27.7	27.0	28.2	27.2	---
31	---	---	---	---	---	---	---	27.6	---	27.9	26.9	---

Table 21.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 11, Neuse River at Junction Light, October 1990-September 1991--Continued

[Site 11 is at latitude 35°08'42", longitude 76°30'06", Pamlico County; U.S. Geological Survey downstream order number 0209269000; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

DISSOLVED OXYGEN, NEAR SURFACE

SENSOR POSITION.--12 feet above streambed.

EXTREMES FOR OCTOBER 1990-SEPTEMBER 1991.--Maximum value recorded, 13.7 mg/L November 22, 1990; minimum value recorded, <1.0 mg/L September 15, 1991.

DAILY MEAN VALUES OF DISSOLVED OXYGEN, NEAR SURFACE (IN MILLIGRAMS PER LITER), OCTOBER 1990-SEPTEMBER 1991

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	---	---	---	---	---	---	---	8.8	---	---	---	5.5b
2	---	---	---	---	---	---	---	8.7	---	---	---	5.8
3	---	---	---	---	---	---	---	8.7	---	---	---	6.2
4	---	---	---	---	---	---	---	8.5	---	---	---	6.8
5	---	---	---	---	---	---	---	8.4	6.8	---	---	7.2
6	---	---	---	---	---	---	---	8.0	6.9	---	---	5.9b
7	---	---	---	---	---	---	---	8.1	6.9	---	---	5.7
8	---	---	---	---	---	---	---	7.9	7.8	---	---	5.6b
9	---	---	---	---	---	---	---	7.5	8.6	---	7.6	5.2b
10	---	---	---	---	---	---	---	7.3	9.0	---	7.2	4.7b
11	---	---	---	---	---	---	---	7.1	7.6	---	6.9	3.3b
12	---	---	---	---	---	---	---	6.5	6.5	6.2b	6.7	2.6b
13	---	---	---	---	---	---	---	5.9	6.9	---	7.3	2.3a
14	---	9.3	---	---	---	---	---	---	7.0	---	7.3	1.5a
15	---	11.3	---	---	---	---	---	---	7.0	---	6.6	.7a
16	---	11.0	---	---	---	---	---	---	6.2	---	7.7	---
17	---	9.7	---	---	---	---	---	---	5.3b	---	8.3	8.3
18	---	9.9	---	---	---	---	9.5	---	5.2b	---	7.2	8.6
19	---	10.5	---	---	---	---	9.2	---	5.2b	---	6.0	8.5
20	---	10.8	---	---	---	---	9.0	---	5.5b	---	5.7	7.6
21	---	11.3	---	---	---	---	9.0	---	6.0	---	7.3	8.3
22	---	11.8	---	---	---	---	9.3	---	5.9	---	8.3	8.3
23	---	11.2	---	---	---	---	9.5	---	---	---	7.8	8.8
24	---	10.6	---	---	---	---	9.7	---	---	---	6.2	9.2
25	---	---	---	---	---	---	9.4	---	---	---	6.2	9.0
26	---	---	---	---	---	---	9.5	---	---	---	6.8	8.8
27	---	---	---	---	---	---	9.5	---	---	---	7.3	9.3
28	---	---	---	---	---	---	9.3	---	---	---	7.1	9.5
29	---	---	---	---	---	---	9.3	---	---	---	7.3	10.1
30	---	---	---	---	---	---	9.1	---	---	---	7.4	---
31	---	---	---	---	---	---	---	---	---	---	7.0	---

Table 21.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 11, Neuse River at Junction Light, October 1990-September 1991--Continued

[Site 11 is at latitude 35°08'42", longitude 76°30'06", Pamlico County; U.S. Geological Survey downstream order number 0209269000; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

DISSOLVED OXYGEN, PERCENT SATURATION, NEAR SURFACE

SENSOR POSITION.--12 feet above streambed.

EXTREMES FOR OCTOBER 1990-SEPTEMBER 1991.--Maximum value recorded, 140 percent of saturation November 22, 1990; minimum value recorded, ≤10 percent of saturation September 15, 16, 1991.

DAILY MEAN VALUES OF DISSOLVED OXYGEN, PERCENT SATURATION, NEAR SURFACE (IN PERCENT), OCTOBER 1990-SEPTEMBER 1991

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	---	---	---	---	---	---	---	100	---	---	---	69
2	---	---	---	---	---	---	---	101	---	---	---	70
3	---	---	---	---	---	---	---	101	---	---	---	72
4	---	---	---	---	---	---	---	99	---	---	---	78
5	---	---	---	---	---	---	---	98	85	---	---	84
6	---	---	---	---	---	---	---	94	85	---	---	69
7	---	---	---	---	---	---	---	95	83	---	---	67
8	---	---	---	---	---	---	---	94	93	---	---	66
9	---	---	---	---	---	---	---	89	101	---	98	61
10	---	---	---	---	---	---	---	87	107	---	93	55
11	---	---	---	---	---	---	---	84	92	---	89	38
12	---	---	---	---	---	---	---	78	78	82	86	31
13	---	---	---	---	---	---	---	71	84	---	94	28
14	---	90	---	---	---	---	---	---	85	---	94	19
15	---	112	---	---	---	---	---	---	86	---	84	9
16	---	110	---	---	---	---	---	---	77	---	98	---
17	---	95	---	---	---	---	---	---	66	---	106	104
18	---	95	---	---	---	---	105	---	65	---	93	108
19	---	99	---	---	---	---	100	---	65	---	76	106
20	---	102	---	---	---	---	98	---	69	---	70	92
21	---	109	---	---	---	---	96	---	76	---	87	98
22	---	116	---	---	---	---	97	---	74	---	100	97
23	---	109	---	---	---	---	101	---	---	---	94	101
24	---	103	---	---	---	---	104	---	---	---	75	107
25	---	---	---	---	---	---	100	---	---	---	75	105
26	---	---	---	---	---	---	102	---	---	---	85	103
27	---	---	---	---	---	---	105	---	---	---	91	109
28	---	---	---	---	---	---	104	---	---	---	88	109
29	---	---	---	---	---	---	106	---	---	---	91	115
30	---	---	---	---	---	---	104	---	---	---	94	100
31	---	---	---	---	---	---	---	---	---	---	88	---

Table 21.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 11, Neuse River at Junction Light, October 1990-September 1991--Continued

[Site 11 is at latitude 35°08'42", longitude 76°30'06", Pamlico County; U.S. Geological Survey downstream order number 0209269000; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

DISSOLVED OXYGEN, MID-DEPTH

SENSOR POSITION.--8 feet above streambed.

EXTREMES FOR OCTOBER 1990-SEPTEMBER 1991.--Maximum value recorded, 16.2 mg/L November 22, 1990; minimum value recorded, 2.8 mg/L August 19, 1991.

DAILY MEAN VALUES OF DISSOLVED OXYGEN, MID-DEPTH (IN MILLIGRAMS PER LITER), OCTOBER 1990-SEPTEMBER 1991

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	5.3b	---	---	---	---	11.6	---	---	---	---	5.3b	---
2	5.6b	---	---	---	---	11.2	---	---	---	---	---	---
3	5.5b	---	---	---	---	11.0	---	8.8	---	---	---	---
4	5.6	---	---	---	---	10.4	---	8.5	---	---	---	---
5	5.2b	---	---	---	---	10.2	---	8.5	6.7	---	---	---
6	---	---	---	---	---	10.5	---	8.3	6.8	---	---	---
7	---	---	---	---	---	10.3	---	8.4	6.9	---	---	---
8	---	---	---	---	---	10.1	---	8.4	7.7	---	---	---
9	---	---	---	---	---	10.1	---	8.1	8.3	---	---	---
10	---	---	---	---	---	10.3	---	7.9	8.5	---	---	---
11	---	---	---	---	---	10.5	---	8.0	7.6	---	5.5b	---
12	---	---	---	---	---	10.5	---	7.8	6.8	8.1	5.2b	---
13	---	---	---	---	---	10.5	---	7.7	7.1	8.1	5.1b	---
14	---	10.4	---	---	---	10.4	---	---	7.2	7.3	5.5b	---
15	---	13.1	---	---	---	10.1	---	---	7.0	7.2	4.8b	---
16	---	12.9	---	---	---	10.4	---	---	6.6	6.5	4.9b	---
17	---	11.4	---	---	---	10.7	---	---	6.2	6.5	5.6b	---
18	---	11.6	---	---	---	10.6	8.6	---	6.0	6.9	4.9b	---
19	---	12.2	---	---	---	10.4	8.4	---	5.9b	6.1	3.8b	---
20	---	12.6	---	---	---	10.3	8.3	---	5.8	5.7b	3.6b	---
21	---	13.2	---	---	---	10.4	8.3	---	5.8	5.7	4.1b	---
22	---	13.8	---	---	---	10.3	8.5	---	5.6	5.8	5.6b	---
23	---	12.9	---	---	---	10.1	8.6	---	---	5.6b	5.1b	---
24	---	12.4	---	---	---	9.8	8.7	---	---	5.6	---	---
25	---	---	---	---	---	9.6	8.0	---	---	4.5b	---	---
26	---	---	---	---	---	9.5	7.3	---	---	5.5b	---	---
27	---	---	---	---	---	9.3	---	---	---	5.8	---	---
28	---	---	---	---	---	8.8	---	---	---	5.9	---	---
29	---	---	---	---	---	---	---	---	---	5.7b	---	---
30	---	---	---	---	---	---	---	---	---	5.6b	---	---
31	---	---	---	---	---	---	---	---	---	5.5b	---	---

Table 21.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 11, Neuse River at Junction Light, October 1990-September 1991--Continued

[Site 11 is at latitude 35°08'42", longitude 76°30'06", Pamlico County; U.S. Geological Survey downstream order number 0209269000; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

DISSOLVED OXYGEN, PERCENT SATURATION, MID-DEPTH

SENSOR POSITION.--8 feet above streambed.

EXTREMES FOR OCTOBER 1990-SEPTEMBER 1991.--Maximum value recorded, 165 percent of saturation November 22, 1990; minimum value recorded, 35 percent of saturation August 19, 1991.

DAILY MEAN VALUES OF DISSOLVED OXYGEN, PERCENT SATURATION, MID-DEPTH (IN PERCENT), OCTOBER 1990-SEPTEMBER 1991

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	61	---	---	---	---	100	---	---	---	---	68	---
2	66	---	---	---	---	100	---	---	---	---	---	---
3	65	---	---	---	---	98	---	102	---	---	---	---
4	65	---	---	---	---	94	---	100	---	---	---	---
5	61	---	---	---	---	90	---	99	85	---	---	---
6	---	---	---	---	---	92	---	97	83	---	---	---
7	---	---	---	---	---	93	---	100	83	---	---	---
8	---	---	---	---	---	90	---	99	91	---	---	---
9	---	---	---	---	---	90	---	95	97	---	---	---
10	---	---	---	---	---	91	---	94	102	---	---	---
11	---	---	---	---	---	91	---	95	91	---	71	---
12	---	---	---	---	---	91	---	93	81	107	66	---
13	---	---	---	---	---	89	---	92	86	106	65	---
14	---	101	---	---	---	89	---	---	87	96	70	---
15	---	129	---	---	---	87	---	---	87	94	62	---
16	---	129	---	---	---	89	---	---	82	85	63	---
17	---	111	---	---	---	92	---	---	77	84	72	---
18	---	111	---	---	---	93	95	---	75	90	63	---
19	---	115	---	---	---	91	91	---	74	79	48	---
20	---	120	---	---	---	91	89	---	72	74	44	---
21	---	127	---	---	---	94	88	---	72	74	49	---
22	---	136	---	---	---	94	89	---	71	75	67	---
23	---	126	---	---	---	94	91	---	---	73	62	---
24	---	121	---	---	---	93	93	---	---	73	---	---
25	---	---	---	---	---	92	85	---	---	59	---	---
26	---	---	---	---	---	93	79	---	---	72	---	---
27	---	---	---	---	---	92	---	---	---	75	---	---
28	---	---	---	---	---	87	---	---	---	76	---	---
29	---	---	---	---	---	---	---	---	---	74	---	---
30	---	---	---	---	---	---	---	---	---	72	---	---
31	---	---	---	---	---	---	---	---	---	70	---	---

Table 21.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 11, Neuse River at Junction Light, October 1990-September 1991--Continued

[Site 11 is at latitude 35°08'42", longitude 76°30'06", Pamlico County; U.S. Geological Survey downstream order number 0209269000; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

DISSOLVED OXYGEN, NEAR BOTTOM

SENSOR POSITION.--2 feet above streambed.

EXTREMES FOR OCTOBER 1990-SEPTEMBER 1991.--Maximum value recorded, 12.2 mg/L November 22, 1990; minimum value recorded, <1.0 mg/L October 1, 1990, June 22, 23, July 19, 20, August 9, September 16, 17, 18, 1991.

DAILY MEAN VALUES OF DISSOLVED OXYGEN, NEAR BOTTOM (IN MILLIGRAMS PER LITER), OCTOBER 1990-SEPTEMBER 1991

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	3.2a	---	---	---	---	---	---	7.9	---	3.7a	---	---
2	3.1b	---	---	---	---	---	---	8.3	---	4.6b	---	---
3	3.3a	---	---	---	---	---	---	7.7	---	4.0b	---	---
4	3.3b	---	---	---	---	---	---	8.4	---	---	---	---
5	3.0b	---	---	---	---	---	---	8.0	7.8	---	---	---
6	---	---	---	---	---	---	---	7.9	7.8	---	---	---
7	---	---	---	---	---	---	---	9.0	8.0	---	---	---
8	---	---	---	---	---	---	---	9.2	8.3	---	---	---
9	---	---	---	---	---	---	---	8.9	6.7b	---	3.2a	---
10	---	---	---	---	---	---	---	8.3	4.1a	---	6.3b	---
11	---	---	---	---	---	---	---	8.8	4.4a	---	6.4b	---
12	---	---	---	---	---	---	---	8.5	3.7a	6.4b	6.7	---
13	---	---	---	---	---	---	---	8.4	7.1b	6.5b	5.8b	---
14	---	9.6	---	---	---	---	---	---	8.1	6.7	5.0b	---
15	---	---	---	---	---	---	---	---	6.7b	6.5b	5.5b	---
16	---	---	---	---	---	---	---	---	5.8b	5.9	5.8b	---
17	---	9.7	---	---	---	---	---	---	6.1b	4.5b	5.1b	2.7a
18	---	10.0	---	---	---	---	8.2	---	5.0b	3.6b	4.2a	1.5a
19	---	9.7	---	---	---	---	8.3	---	4.2b	2.4a	5.3b	2.5a
20	---	9.3	---	---	---	---	8.2	---	3.7b	2.8a	5.8b	6.4a
21	---	10.5	---	---	---	---	8.2	---	3.2a	3.1b	5.5b	8.1
22	---	10.5	---	---	---	---	8.7	---	2.5a	3.0b	6.4b	8.4
23	---	9.9	---	---	---	---	8.3	---	3.7a	3.0b	7.6	8.2
24	---	9.9	---	---	---	---	8.6	---	6.3	3.2b	5.5b	7.3
25	---	---	---	---	---	---	9.2	---	6.2	3.4b	6.0b	7.5
26	---	---	---	---	---	---	9.2	---	5.9b	3.4b	4.9b	7.8
27	---	---	---	---	---	---	9.3	---	5.2b	3.4b	---	8.0
28	---	---	---	---	---	---	8.6	---	4.5b	2.7a	---	9.1
29	---	---	---	---	---	---	8.6	---	4.0b	---	---	9.0
30	---	---	---	---	---	---	8.2	---	2.7a	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---

Table 21.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 11, Neuse River at Junction Light, October 1990-September 1991--Continued

[Site 11 is at latitude 35°08'42", longitude 76°30'06", Pamlico County; U.S. Geological Survey downstream order number 0209269000; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; <, less than; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L; ≤, less than or equal to]

DISSOLVED OXYGEN, PERCENT SATURATION, NEAR BOTTOM

SENSOR POSITION.--2 feet above streambed.

EXTREMES FOR OCTOBER 1990-SEPTEMBER 1991.--Maximum value recorded, 125 percent of saturation November 22, 1990; minimum value recorded, ≤10 percent of saturation June 22, 23, July 19, 20, August 9, September 17, 18, 19, 1991.

DAILY MEAN VALUES OF DISSOLVED OXYGEN, PERCENT SATURATION, NEAR BOTTOM (IN PERCENT), OCTOBER 1990-SEPTEMBER 1991

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	37	---	---	---	---	---	---	90	---	47	---	---
2	36	---	---	---	---	---	---	96	---	58	---	---
3	39	---	---	---	---	---	---	90	---	51	---	---
4	39	---	---	---	---	---	---	98	---	---	---	---
5	36	---	---	---	---	---	---	94	97	---	---	---
6	---	---	---	---	---	---	---	93	96	---	---	---
7	---	---	---	---	---	---	---	107	95	---	---	---
8	---	---	---	---	---	---	---	109	98	---	---	---
9	---	---	---	---	---	---	---	105	78	---	41	---
10	---	---	---	---	---	---	---	99	49	---	82	---
11	---	---	---	---	---	---	---	104	53	---	83	---
12	---	---	---	---	---	---	---	101	45	84	86	---
13	---	---	---	---	---	---	---	100	86	85	74	---
14	---	94	---	---	---	---	---	---	98	88	64	---
15	---	---	---	---	---	---	---	---	83	86	70	---
16	---	---	---	---	---	---	---	---	72	77	74	---
17	---	95	---	---	---	---	---	---	76	59	66	34
18	---	96	---	---	---	---	90	---	62	47	54	19
19	---	92	---	---	---	---	91	---	53	31	66	31
20	---	88	---	---	---	---	89	---	46	36	71	78
21	---	101	---	---	---	---	88	---	40	40	66	95
22	---	103	---	---	---	---	91	---	31	39	77	97
23	---	96	---	---	---	---	87	---	47	39	92	94
24	---	96	---	---	---	---	92	---	78	42	66	84
25	---	---	---	---	---	---	97	---	76	44	72	87
26	---	---	---	---	---	---	99	---	72	44	60	91
27	---	---	---	---	---	---	102	---	64	44	---	94
28	---	---	---	---	---	---	96	---	55	35	---	105
29	---	---	---	---	---	---	98	---	50	---	---	103
30	---	---	---	---	---	---	93	---	34	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---

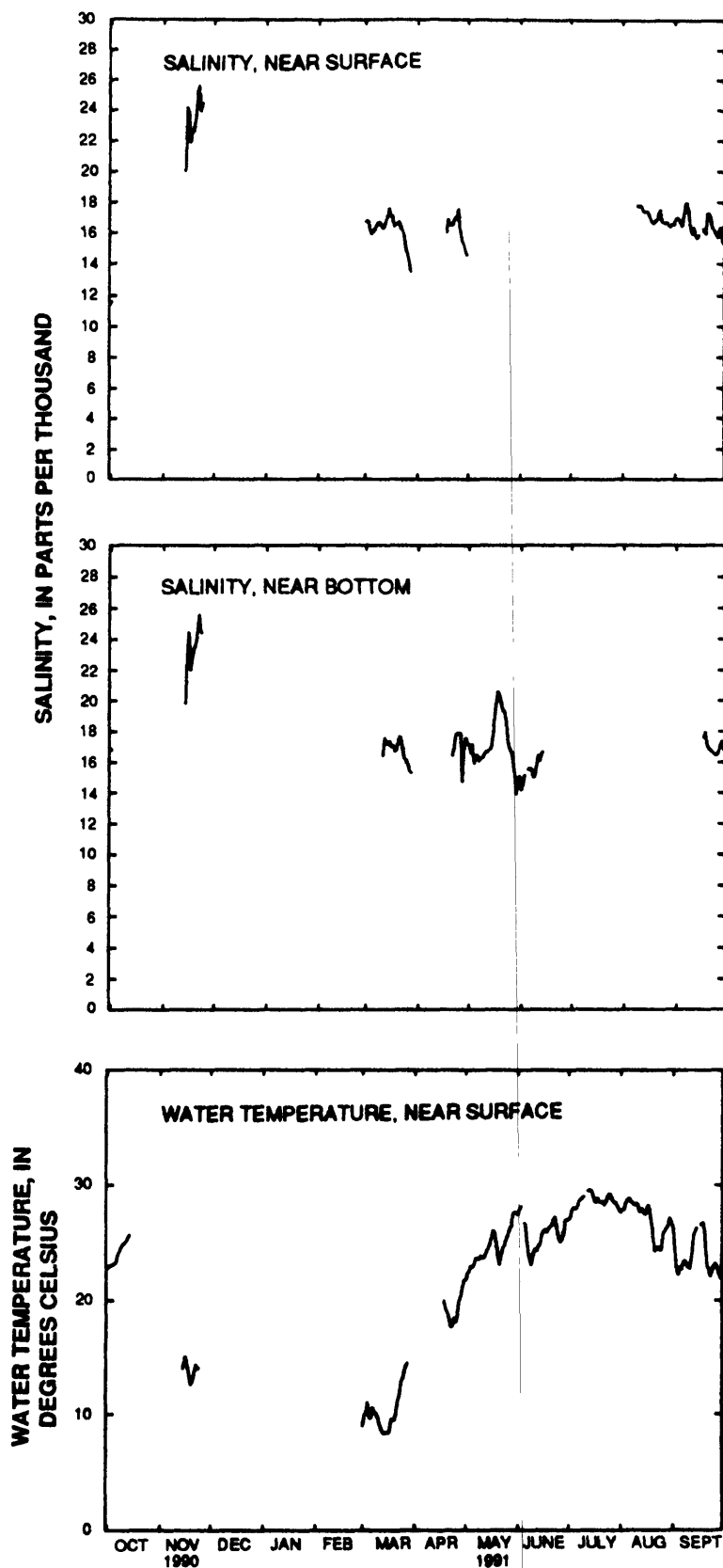


Figure 46.--Daily mean salinity and water temperature at site 11, Neuse River at Junction Light, October 1990-September 1991.

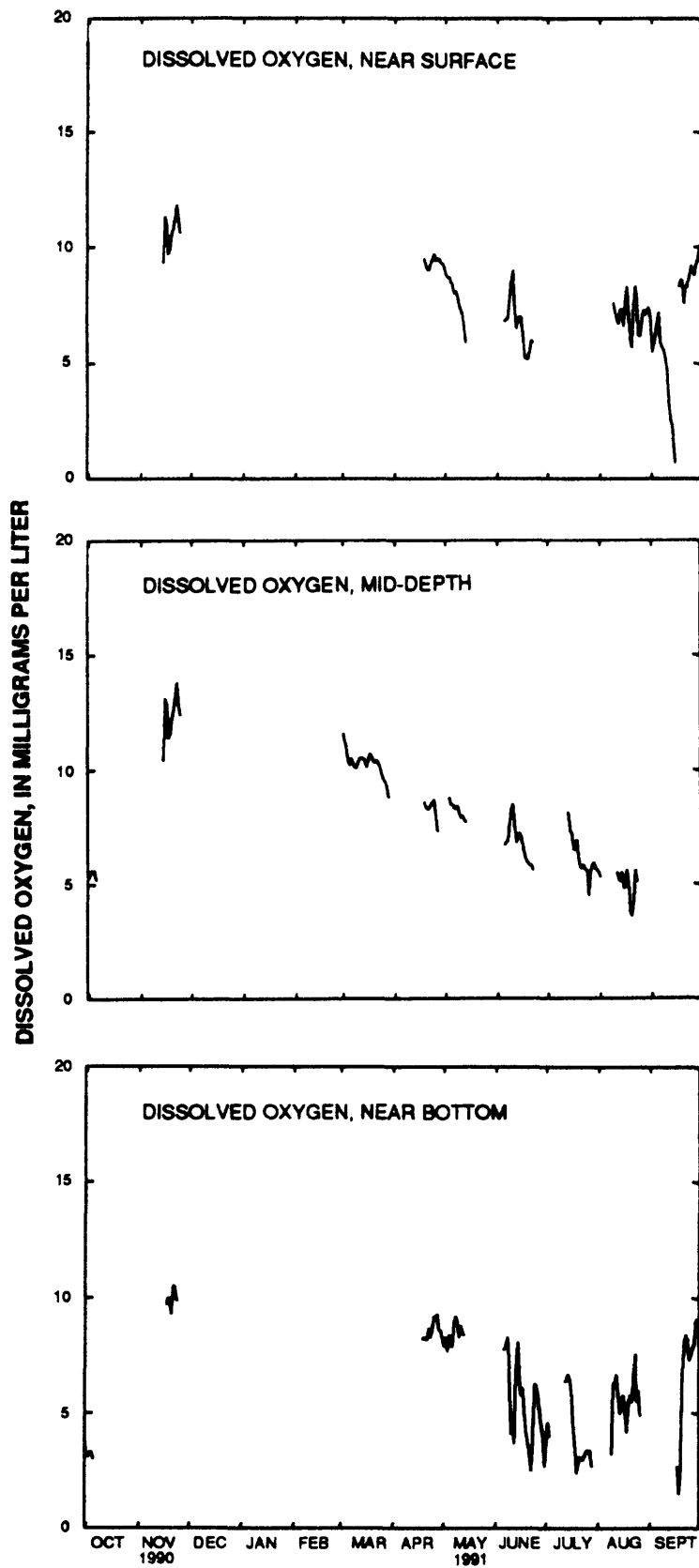


Figure 47.--Daily mean dissolved-oxygen concentrations at site 11, Neuse River at Junction Light, October 1990-September 1991.

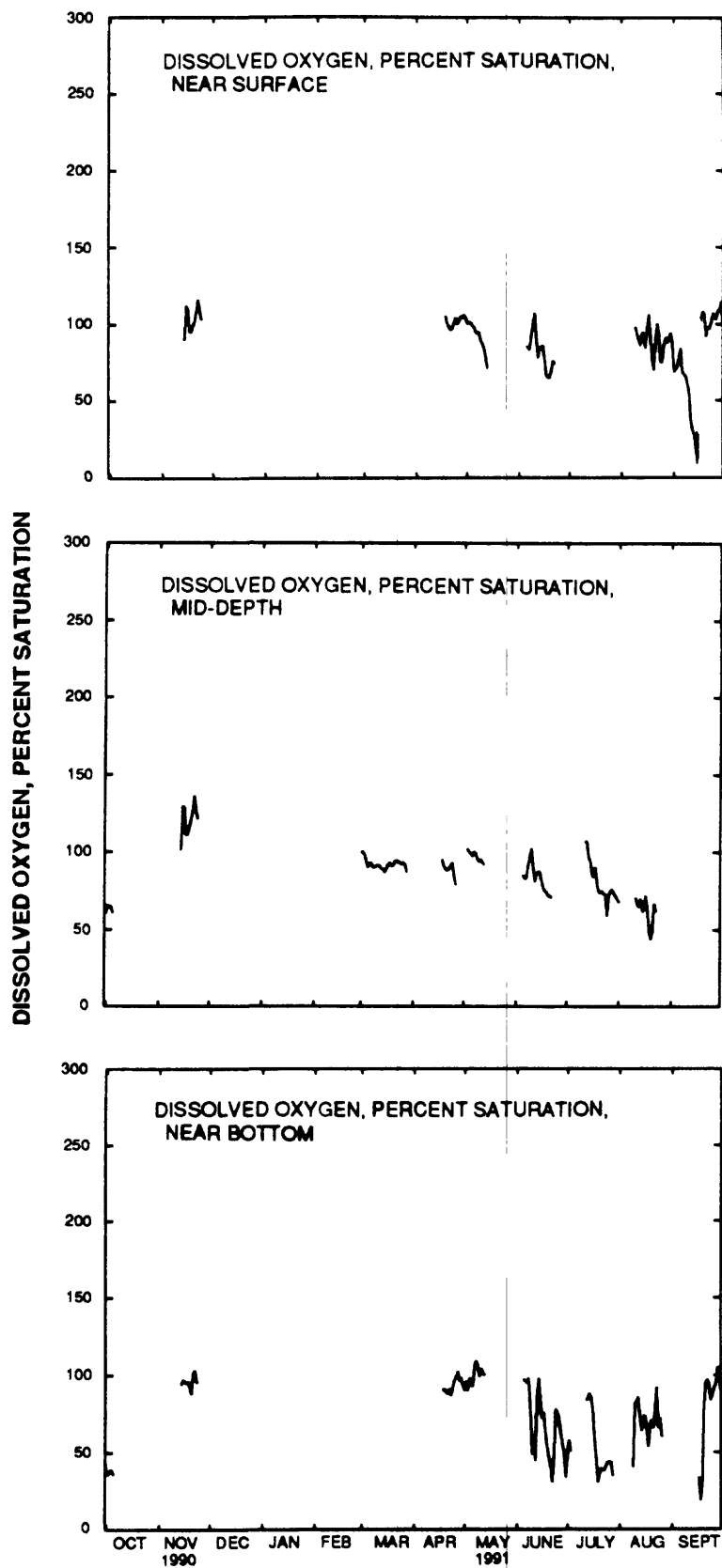


Figure 48.--Daily mean dissolved oxygen, percent saturation, at site 11, Neuse River at Junction Light, October 1990-September 1991.

Table 22.--Five-day mean water temperature and dissolved-oxygen values in water at site 11, Neuse River at Junction Light, October 1990-September 1991, for day and night periods

[°C, degrees Celsius; mg/L, milligram per liter; Day, 9:15 a.m.-9:00 p.m.; Night, 9:15 p.m.-9:00 a.m.; --, no data; <, less than]

Date	Mean water temperature, near surface (°C)		Mean dissolved oxygen, near surface (mg/L)		Mean dissolved oxygen, mid-depth (mg/L)		Mean dissolved oxygen, near bottom (mg/L)	
	Day	Night	Day	Night	Day	Night	Day	Night
10/01/90-10/05/90	23.1	22.9	--	--	5.6	5.3	3.4	3.0
10/06/90-10/10/90	24.4	24.3	--	--	--	--	--	--
10/11/90-10/15/90	25.4	25.3	<1.0	<1.0	--	--	--	--
10/16/90-10/20/90	--	--	--	--	--	--	--	--
10/21/90-10/25/90	--	--	--	--	--	--	--	--
10/26/90-10/30/90	--	--	--	--	--	--	--	--
10/31/90-11/04/90	--	--	--	--	--	--	--	--
11/05/90-11/09/90	--	--	--	--	--	--	--	--
11/10/90-11/14/90	14.2	13.9	9.9	9.8	10.6	10.9	9.7	9.8
11/15/90-11/19/90	13.9	13.9	10.6	10.5	12.3	12.3	9.8	9.6
11/20/90-11/24/90	13.8	14.0	11.2	11.2	13.0	13.0	9.9	10.3
11/25/90-11/29/90	--	--	--	--	--	--	--	--
11/30/90-12/04/90	--	--	--	--	--	--	--	--
12/05/90-12/09/90	--	--	--	--	--	--	--	--
12/10/90-12/14/90	--	--	--	--	--	--	--	--
12/15/90-12/19/90	--	--	--	--	--	--	--	--
12/20/90-12/24/90	--	--	--	--	--	--	--	--
12/25/90-12/29/90	--	--	--	--	--	--	--	--
12/30/90- 1/03/91	--	--	--	--	--	--	--	--
1/04/91- 1/08/91	--	--	--	--	--	--	--	--
1/09/91- 1/13/91	--	--	--	--	--	--	--	--
1/14/91- 1/18/91	--	--	--	--	--	--	--	--
1/19/91- 1/23/91	--	--	--	--	--	--	--	--
1/24/91- 1/28/91	--	--	--	--	--	--	--	--
1/29/91- 2/02/91	--	--	--	--	--	--	--	--
2/03/91- 2/07/91	--	--	--	--	--	--	--	--
2/08/91- 2/12/91	--	--	--	--	--	--	--	--
2/13/91- 2/17/91	--	--	--	--	--	--	--	--
2/18/91- 2/22/91	--	--	--	--	--	--	--	--
2/23/91- 2/27/91	--	--	--	--	--	--	--	--
2/28/91- 3/04/91	10.0	9.8	12.2	11.9	11.1	10.9	--	--
3/05/91- 3/09/91	10.1	10.0	--	--	10.3	10.1	--	--
3/10/91- 3/14/91	9.0	8.7	--	--	10.5	10.4	--	--
3/15/91- 3/19/91	9.1	8.9	--	--	10.4	10.4	--	--
3/20/91- 3/24/91	11.6	11.5	--	--	10.3	10.0	--	--
3/25/91- 3/29/91	14.6	14.3	--	--	9.2	9.1	--	--
3/30/91- 4/03/91	--	--	--	--	--	--	--	--

Table 22.--Five-day mean water temperature and dissolved-oxygen values in water at site 11, Neuse River at Junction Light, October 1990-September 1991, for day and night periods--Continued

[°C, degrees Celsius; mg/L, milligram per liter; Day, 9:15 a.m.-9:00 p.m.; Night, 9:15 p.m.-9:00 a.m.; --, no data; <, less than]

Date	Mean water temperature, near surface (°C)		Mean dissolved oxygen, near surface (mg/L)		Mean dissolved oxygen, mid-depth (mg/L)		Mean dissolved oxygen, near bottom (mg/L)	
	Day	Night	Day	Night	Day	Night	Day	Night
4/04/91- 4/08/91	--	--	--	--	--	--	--	--
4/09/91- 4/13/91	--	--	--	--	--	--	--	--
4/14/91- 4/18/91	20.2	19.8	9.6	9.4	8.8	8.6	8.3	8.1
4/19/91- 4/23/91	18.4	18.2	9.3	9.2	8.5	8.4	8.4	8.4
4/24/91- 4/28/91	19.3	19.3	9.6	9.4	8.0	7.8	9.0	8.9
4/29/91- 5/03/91	22.3	22.0	9.0	8.7	9.0	8.7	8.3	8.1
5/04/91- 5/08/91	23.4	23.2	8.3	8.0	8.5	8.3	8.5	8.6
5/09/91- 5/13/91	24.0	23.7	7.0	6.6	8.0	7.7	8.7	8.3
5/14/91- 5/18/91	25.6	25.3	--	--	--	--	--	--
5/19/91- 5/23/91	24.2	23.9	--	--	--	--	--	--
5/24/91- 5/28/91	26.1	25.8	--	--	--	--	--	--
5/29/91- 6/02/91	28.0	27.5	--	--	--	--	--	--
6/03/91- 6/07/91	26.6	25.8	7.1	6.8	7.0	6.8	8.0	7.8
6/08/91- 6/12/91	24.2	23.7	8.2	7.5	8.0	7.5	5.2	5.6
6/13/91- 6/17/91	25.8	25.4	6.7	6.0	7.0	6.5	6.9	6.4
6/18/91- 6/22/91	26.8	26.5	5.8	5.4	5.9	5.7	3.9	3.2
6/23/91- 6/27/91	25.9	25.4	--	--	--	--	5.7	5.6
6/28/91- 7/02/91	27.2	26.7	--	--	--	--	3.8	3.9
7/03/91- 7/07/91	28.4	28.1	--	--	--	--	3.8	3.2
7/08/91- 7/12/91	29.4	29.0	7.1	6.7	8.3	7.9	6.4	5.5
7/13/91- 7/17/91	29.3	29.0	--	--	7.3	6.7	6.1	5.7
7/18/91- 7/22/91	28.7	28.5	--	--	6.1	5.7	2.9	3.0
7/23/91- 7/27/91	29.1	28.8	--	--	5.5	5.4	3.3	3.3
7/28/91- 8/01/91	28.2	28.0	--	--	5.8	5.3	2.6	1.9
8/02/91- 8/06/91	28.6	28.3	--	--	--	--	--	--
8/07/91- 8/11/91	28.6	28.1	7.8	6.9	7.1	6.4	5.6	5.3
8/12/91- 8/16/91	27.9	27.5	7.5	6.9	5.3	4.9	5.8	5.5
8/17/91- 8/21/91	26.7	25.9	7.2	6.6	4.5	4.3	5.3	5.0
8/22/91- 8/26/91	24.8	25.0	7.2	6.8	5.6	5.2	6.1	6.2
8/27/91- 8/31/91	26.9	26.5	7.6	6.5	--	--	--	--
9/01/91- 9/05/91	23.8	23.1	6.6	6.1	--	--	--	--
9/06/91- 9/10/91	23.2	23.0	5.6	4.9	--	--	--	--
9/11/91- 9/15/91	25.2	25.2	2.1	1.6	--	--	--	--
9/16/91- 9/20/91	26.5	25.9	8.3	8.0	--	--	3.5	3.6
9/21/91- 9/25/91	22.7	22.7	9.0	8.5	--	--	7.9	7.9
9/26/91- 9/30/91	22.6	22.3	9.6	9.4	--	10.1	8.4	8.4

Table 23.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 12, Neuse River at Light 7, February-May 1991

[Site 12 is at latitude 35°00'30", longitude 76°39'42", Craven County; U.S. Geological Survey downstream order number 0209267575; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L]

SALINITY, NEAR SURFACE

SENSOR POSITION.--10 feet above streambed.

EXTREMES FOR FEBRUARY-MAY 1991.--Maximum value recorded, 15.3 ppt March 2, 1991; minimum value recorded, 5.7 ppt April 30, 1991.

DAILY MEAN VALUES OF SALINITY, NEAR SURFACE (IN PARTS PER THOUSAND), FEBRUARY-MAY 1991

DAY	FEB	MAR	APR	MAY
1	---	12.2	12.2	7.8
2	---	13.6	12.7	9.5
3	---	13.5	13.3	10.4
4	---	13.9	11.9	12.5
5	---	13.8	10.4	13.3
6	---	13.3	9.0	13.5
7	---	13.2	7.7	14.0
8	---	12.8	7.3	13.9
9	---	12.2	7.9	13.7
10	---	11.6	8.3	13.3
11	---	11.3	9.5	13.3
12	---	10.0	10.1	12.7
13	---	9.1	10.1	12.7
14	---	9.1	10.1	12.7
15	---	10.3	10.1	12.7
16	---	9.4	10.4	13.1
17	---	8.8	9.9	12.9
18	---	8.8	10.6	13.0
19	---	9.7	11.9	13.6
20	---	8.8	11.1	13.0
21	---	9.2	11.1	13.0
22	---	9.8	---	12.8
23	---	10.5	8.8	12.8
24	---	11.6	8.2	---
25	---	12.0	9.1	---
26	---	12.4	8.4	---
27	---	11.6	7.9	---
28	12.4	11.9	6.7	---
29	---	12.2	6.7	---
30	---	13.0	6.7	---
31	---	13.0	---	---

Table 23.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 12, Neuse River at Light 7, February-May 1991--Continued

[Site 12 is at latitude 35°00'30", longitude 76°39'42", Craven County; U.S. Geological Survey downstream order number 0209267575; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L]

SALINITY, NEAR BOTTOM

SENSOR POSITION.--3 feet above streambed.

EXTREMES FOR FEBRUARY-MAY 1991.--Maximum value recorded, 18.2 ppt March 25, 1991; minimum value recorded, 7.2 ppt April 7, 1991.

DAILY MEAN VALUES OF SALINITY, NEAR BOTTOM (IN PARTS PER THOUSAND), FEBRUARY-MAY 1991

DAY	FEB	MAR	APR	MAY
1	---	14.8	12.3	---
2	---	15.1	13.4	---
3	---	15.2	13.4	---
4	---	15.5	13.0	---
5	---	15.7	12.0	---
6	---	15.4	11.1	---
7	---	15.6	9.8	---
8	---	15.4	10.0	---
9	---	14.9	10.2	---
10	---	14.5	10.9	---
11	---	14.5	11.5	---
12	---	13.8	11.5	---
13	---	14.0	11.4	---
14	---	14.4	11.3	---
15	---	15.1	---	---
16	---	13.3	---	---
17	---	12.8	---	---
18	---	12.6	---	---
19	---	13.2	---	---
20	---	12.4	---	---
21	---	12.9	---	---
22	---	13.3	---	---
23	---	14.2	---	---
24	---	15.9	---	---
25	---	17.1	---	---
26	---	16.9	---	---
27	---	14.6	---	---
28	13.6	12.2	---	---
29	---	12.3	---	---
30	---	12.8	---	---
31	---	12.6	---	---

Table 23.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 12, Neuse River at Light 7, February-May 1991--Continued

[Site 12 is at latitude 35°00'30", longitude 76°39'42", Craven County; U.S. Geological Survey downstream order number 0209267575; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L]

WATER TEMPERATURE, NEAR SURFACE

SENSOR POSITION.--10 feet above streambed.

EXTREMES FOR FEBRUARY-MAY 1991.--Maximum value recorded, 26.9 °C May 15, 1991; minimum value recorded, 9.2 °C March 1, 1991.

DAILY MEAN VALUES OF WATER TEMPERATURE, NEAR SURFACE (IN DEGREES CELSIUS), FEBRUARY-MAY 1991

DAY	FEB	MAR	APR	MAY
1	---	10.5	17.0	21.5
2	---	11.3	17.8	21.6
3	---	11.6	17.3	21.3
4	---	12.4	16.9	20.8
5	---	12.2	17.6	21.0
6	---	12.3	18.5	21.5
7	---	12.9	19.0	22.3
8	---	12.4	19.6	22.3
9	---	11.5	20.1	22.2
10	---	11.3	20.6	22.5
11	---	11.0	19.8	22.4
12	---	10.6	18.9	22.7
13	---	10.8	18.3	23.1
14	---	11.3	18.3	23.6
15	---	10.7	18.8	24.6
16	---	10.7	19.6	24.8
17	---	11.3	20.0	25.3
18	---	12.2	20.0	25.3
19	---	12.9	19.1	23.9
20	---	12.7	18.8	23.0
21	---	13.8	18.2	22.8
22	---	14.5	---	23.3
23	---	15.2	17.5	23.7
24	---	15.8	18.3	---
25	---	16.2	18.4	---
26	---	16.4	18.8	---
27	---	17.3	20.2	---
28	9.9	17.8	20.6	---
29	---	18.3	21.6	---
30	---	18.6	22.2	---
31	---	17.1	---	---

Table 23.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 12, Neuse River at Light 7, February-May 1991--Continued

[Site 12 is at latitude 35°00'30", longitude 76°39'42", Craven County; U.S. Geological Survey downstream order number 0209267575; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L]

DISSOLVED OXYGEN, NEAR SURFACE

SENSOR POSITION.--10 feet above streambed.

EXTREMES FOR FEBRUARY-MAY 1991.--Maximum value recorded, 11.7 mg/L April 2, 1991; minimum value recorded, 5.7 mg/L April 30, 1991.

DAILY MEAN VALUES OF DISSOLVED OXYGEN, NEAR SURFACE (IN MILLIGRAMS PER LITER), FEBRUARY-MAY 1991

DAY	FEB	MAR	APR	MAY
1	---	---	---	7.3
2	---	---	10.5	---
3	---	---	10.1	---
4	---	---	9.4	---
5	---	---	10.0	---
6	---	---	9.9	---
7	---	---	10.4	---
8	---	---	10.0	---
9	---	---	9.2	---
10	---	---	8.7	---
11	---	---	8.6	---
12	---	---	8.3	---
13	---	---	8.2	---
14	---	---	8.2	---
15	---	---	8.3	---
16	---	---	8.3	---
17	---	---	8.6	---
18	---	---	8.4	---
19	---	---	7.9	---
20	---	---	7.8	---
21	---	---	7.9	---
22	---	---	---	---
23	---	---	8.2	---
24	---	---	9.0	---
25	---	---	8.5	---
26	---	---	8.7	---
27	---	---	8.9	---
28	---	---	9.1	---
29	---	---	8.7	---
30	---	---	8.1	---
31	---	---	---	---

Table 23.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 12, Neuse River at Light 7, February-May 1991--Continued

[Site 12 is at latitude 35°00'30", longitude 76°39'42", Craven County; U.S. Geological Survey downstream order number 0209267575; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L]

DISSOLVED OXYGEN, PERCENT SATURATION, NEAR SURFACE

SENSOR POSITION.--10 feet above streambed.

EXTREMES FOR FEBRUARY-MAY 1991.--Maximum value recorded, 124 percent of saturation April 2, 1991; minimum value recorded, 65 percent of saturation April 30, 1991.

DAILY MEAN VALUES OF DISSOLVED OXYGEN, PERCENT SATURATION, NEAR SURFACE (IN PERCENT), FEBRUARY-MAY 1991

DAY	FEB	MAR	APR	MAY
1	---	---	---	83
2	---	---	110	---
3	---	---	105	---
4	---	---	98	---
5	---	---	105	---
6	---	---	106	---
7	---	---	113	---
8	---	---	110	---
9	---	---	102	---
10	---	---	97	---
11	---	---	95	---
12	---	---	89	---
13	---	---	88	---
14	---	---	87	---
15	---	---	89	---
16	---	---	91	---
17	---	---	95	---
18	---	---	93	---
19	---	---	85	---
20	---	---	84	---
21	---	---	84	---
22	---	---	---	---
23	---	---	86	---
24	---	---	96	---
25	---	---	91	---
26	---	---	94	---
27	---	---	98	---
28	---	---	101	---
29	---	---	99	---
30	---	---	94	---
31	---	---	---	---

Table 23.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 12, Neuse River at Light 7, February-May 1991--Continued

[Site 12 is at latitude 35°00'30", longitude 76°39'42", Craven County; U.S. Geological Survey downstream order number 0209267575; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L]

DISSOLVED OXYGEN, MID-DEPTH

SENSOR POSITION.--7 feet above streambed.

EXTREMES FOR FEBRUARY-MAY 1991.--Maximum value recorded, 13.6 mg/L March 1, 1991; minimum value recorded, 4.3 mg/L May 1, 1991.

DAILY MEAN VALUES OF DISSOLVED OXYGEN, MID-DEPTH (IN MILLIGRAMS PER LITER), FEBRUARY-MAY 1991

DAY	FEB	MAR	APR	MAY
1	---	12.4	9.9	7.0b
2	---	11.5	10.6	8.2
3	---	11.0	10.5	9.4
4	---	10.2	9.8	8.8
5	---	10.7	10.1	8.7
6	---	11.5	10.1	8.8
7	---	10.8	10.8	8.9
8	---	10.4	10.3	8.9
9	---	10.3	9.5	8.8
10	---	10.4	8.9	8.8
11	---	10.6	8.8	8.9
12	---	10.8	8.4	9.2
13	---	10.9	8.3	9.3
14	---	10.5	8.1	9.6
15	---	10.4	8.3	9.5
16	---	11.1	8.3	9.6
17	---	11.5	8.0	10.3
18	---	11.9	8.3	9.7
19	---	11.5	7.8	7.8
20	---	11.7	7.7	7.5
21	---	12.0	7.8	7.1
22	---	11.8	---	6.5
23	---	11.3	8.1	6.9b
24	---	10.7	8.6	---
25	---	10.9	8.8	---
26	---	10.7	9.0	---
27	---	10.4	9.2	---
28	12.2	9.5	8.2	---
29	---	9.3	8.2	---
30	---	9.1	7.3	---
31	---	9.3	---	---

Table 23.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 12, Neuse River at Light 7, February-May 1991--Continued

[Site 12 is at latitude 35°00'30", longitude 76°39'42", Craven County; U.S. Geological Survey downstream order number 0209267575; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L]

DISSOLVED OXYGEN, PERCENT SATURATION, MID-DEPTH

SENSOR POSITION.--7 feet above streambed.

EXTREMES FOR FEBRUARY-MAY 1991.--Maximum value recorded, 148 percent of saturation May 17, 1991; minimum value recorded, 49 percent of saturation May 1, 1991.

DAILY MEAN VALUES OF DISSOLVED OXYGEN, PERCENT SATURATION, MID-DEPTH (IN PERCENT), FEBRUARY-MAY 1991

DAY	FEB	MAR	APR	MAY
1	---	112	103	79
2	---	105	112	94
3	---	101	109	106
4	---	96	102	98
5	---	100	106	98
6	---	108	108	100
7	---	103	117	103
8	---	98	113	102
9	---	95	105	101
10	---	95	100	102
11	---	96	97	103
12	---	98	91	108
13	---	98	89	109
14	---	96	86	113
15	---	94	89	114
16	---	100	91	117
17	---	105	89	126
18	---	111	91	119
19	---	109	84	93
20	---	110	83	88
21	---	116	83	83
22	---	116	---	76
23	---	113	85	82
24	---	108	91	---
25	---	111	94	---
26	---	110	97	---
27	---	109	102	---
28	108	100	92	---
29	---	99	93	---
30	---	98	84	---
31	---	97	---	---

Table 23.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 12, Neuse River at Light 7, February-May 1991--Continued

[Site 12 is at latitude 35°00'30", longitude 76°39'42", Craven County; U.S. Geological Survey downstream order number 0209267575; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L]

DISSOLVED OXYGEN, NEAR BOTTOM

SENSOR POSITION.--3 feet above streambed.

EXTREMES FOR FEBRUARY-MAY 1991.--Maximum value recorded, 13.0 mg/L March 22, 1991; minimum value recorded, 2.2 mg/L May 18, 1991.

DAILY MEAN VALUES OF DISSOLVED OXYGEN, NEAR BOTTOM (IN MILLIGRAMS PER LITER), FEBRUARY-MAY 1991

DAY	FEB	MAR	APR	MAY
1	---	9.5	9.5	---
2	---	10.9	10.1	6.2
3	---	10.2	10.4	6.8b
4	---	10.4	9.9	6.8b
5	---	8.8	9.5	6.8
6	---	10.4	8.0b	7.5
7	---	11.0	7.9	7.0b
8	---	10.3	9.2	7.2
9	---	10.6	8.7	7.2
10	---	10.3	7.8	6.5
11	---	10.5	7.8	7.2
12	---	10.7	7.6	7.4
13	---	11.1	7.3b	7.0
14	---	10.3	7.4	6.4b
15	---	10.2	7.8	5.5b
16	---	10.7	7.7	4.5b
17	---	10.7	7.1b	5.6b
18	---	10.9	7.3	4.4b
19	---	11.3	7.9	4.0b
20	---	11.2	8.3	3.7b
21	---	11.4	8.0b	---
22	---	11.4	---	---
23	---	11.6	7.4	---
24	---	10.9	7.1	---
25	---	10.6	7.2	---
26	---	10.2	6.9	---
27	---	10.1	5.9b	---
28	10.1	9.1	---	---
29	---	9.4	---	---
30	---	9.4	---	---
31	---	8.7	---	---

Table 23.--Daily mean values of salinity, water temperature, dissolved oxygen, and dissolved oxygen, percent saturation, in water at site 12, Neuse River at Light 7, February-May 1991--Continued

[Site 12 is at latitude 35°00'30", longitude 76°39'42", Craven County; U.S. Geological Survey downstream order number 0209267575; ppt, parts per thousand; ---, no data; °C, degrees Celsius; mg/L, milligrams per liter; a, daily minimum value is less than or equal to 2.0 mg/L; b, daily minimum value is less than or equal to 5.0 mg/L but greater than 2.0 mg/L]

DISSOLVED OXYGEN, PERCENT SATURATION, NEAR BOTTOM

SENSOR POSITION.--3 feet above streambed.

EXTREMES FOR FEBRUARY-MAY 1991.--Maximum value recorded, 129 percent of saturation March 22, 23, 1991; minimum value recorded, 28 percent of saturation May 18, 1991.

DAILY MEAN VALUES OF DISSOLVED OXYGEN, PERCENT SATURATION, NEAR BOTTOM (IN PERCENT), FEBRUARY-MAY 1991

DAY	FEB	MAR	APR	MAY
1	---	85	99	---
2	---	99	107	71
3	---	94	108	77
4	---	98	102	76
5	---	82	100	77
6	---	97	86	85
7	---	105	86	81
8	---	97	101	83
9	---	97	96	82
10	---	95	87	76
11	---	95	86	83
12	---	96	82	87
13	---	101	78	82
14	---	94	79	75
15	---	92	84	66
16	---	97	85	54
17	---	98	78	68
18	---	102	80	54
19	---	107	86	48
20	---	106	90	44
21	---	110	85	---
22	---	112	---	---
23	---	116	78	---
24	---	110	75	---
25	---	108	77	---
26	---	104	74	---
27	---	105	65	---
28	89	96	---	---
29	---	101	---	---
30	---	101	---	---
31	---	91	---	---

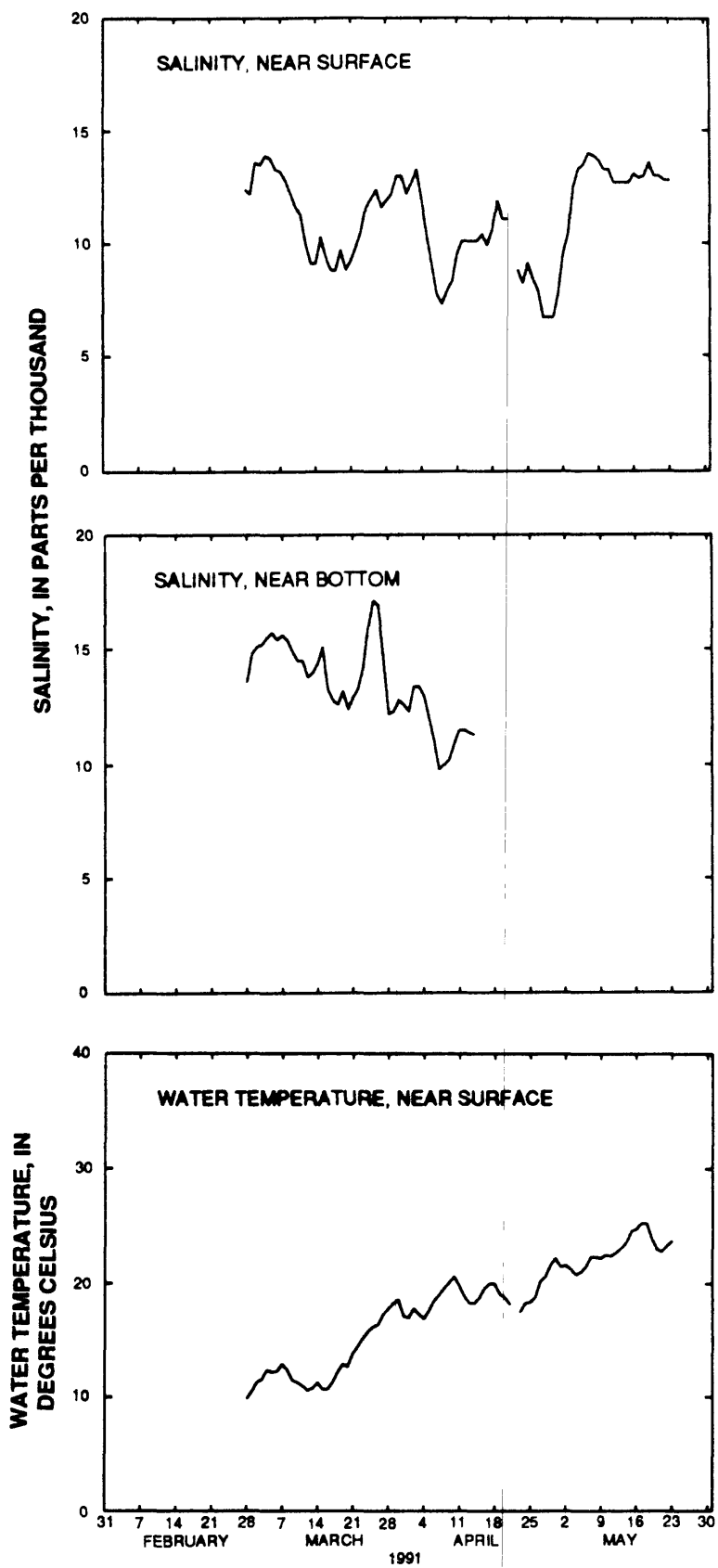


Figure 49.--Daily mean salinity and water temperature at site 12, Neuse River at Light 7, February-May 1991.

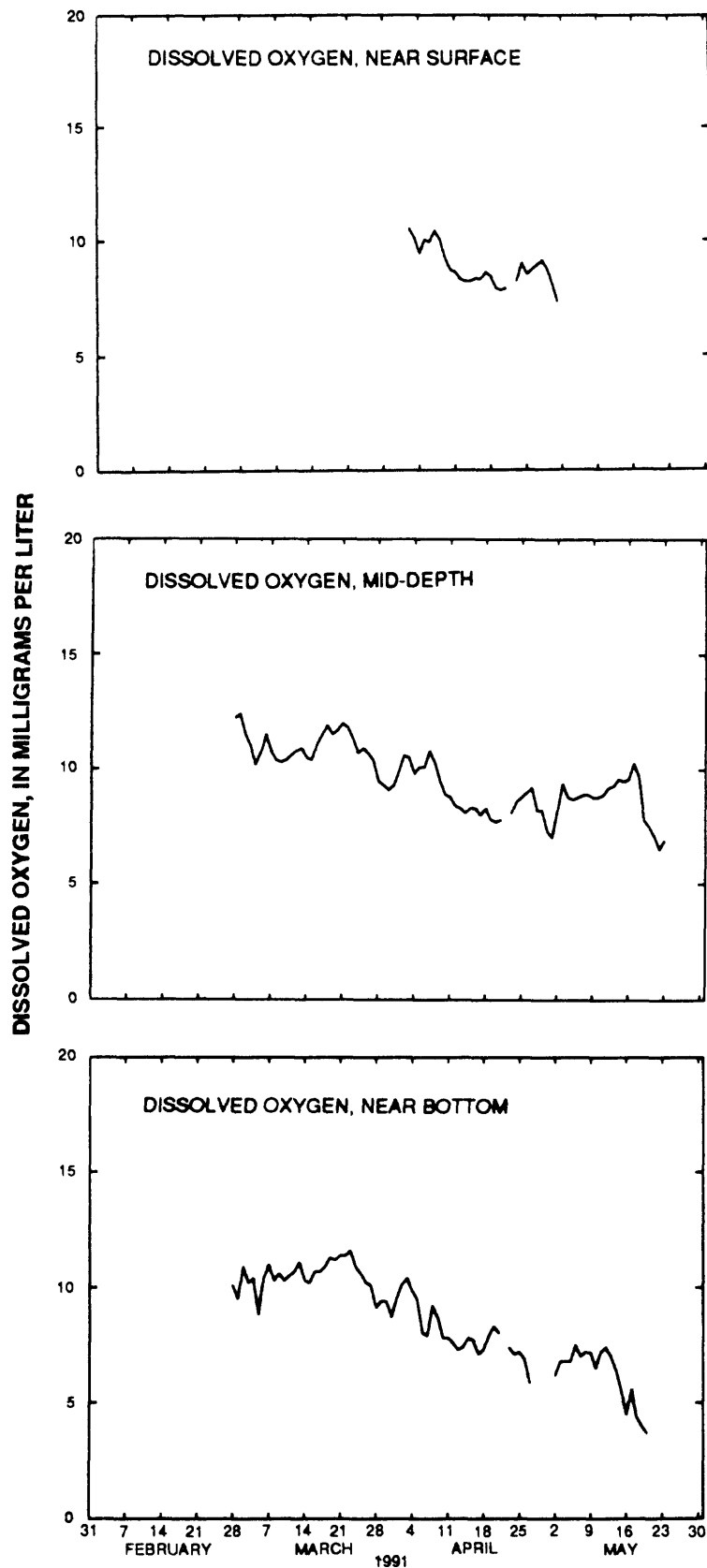


Figure 50.--Daily mean dissolved-oxygen concentrations at site 12, Neuse River at Light 7, February-May 1991.

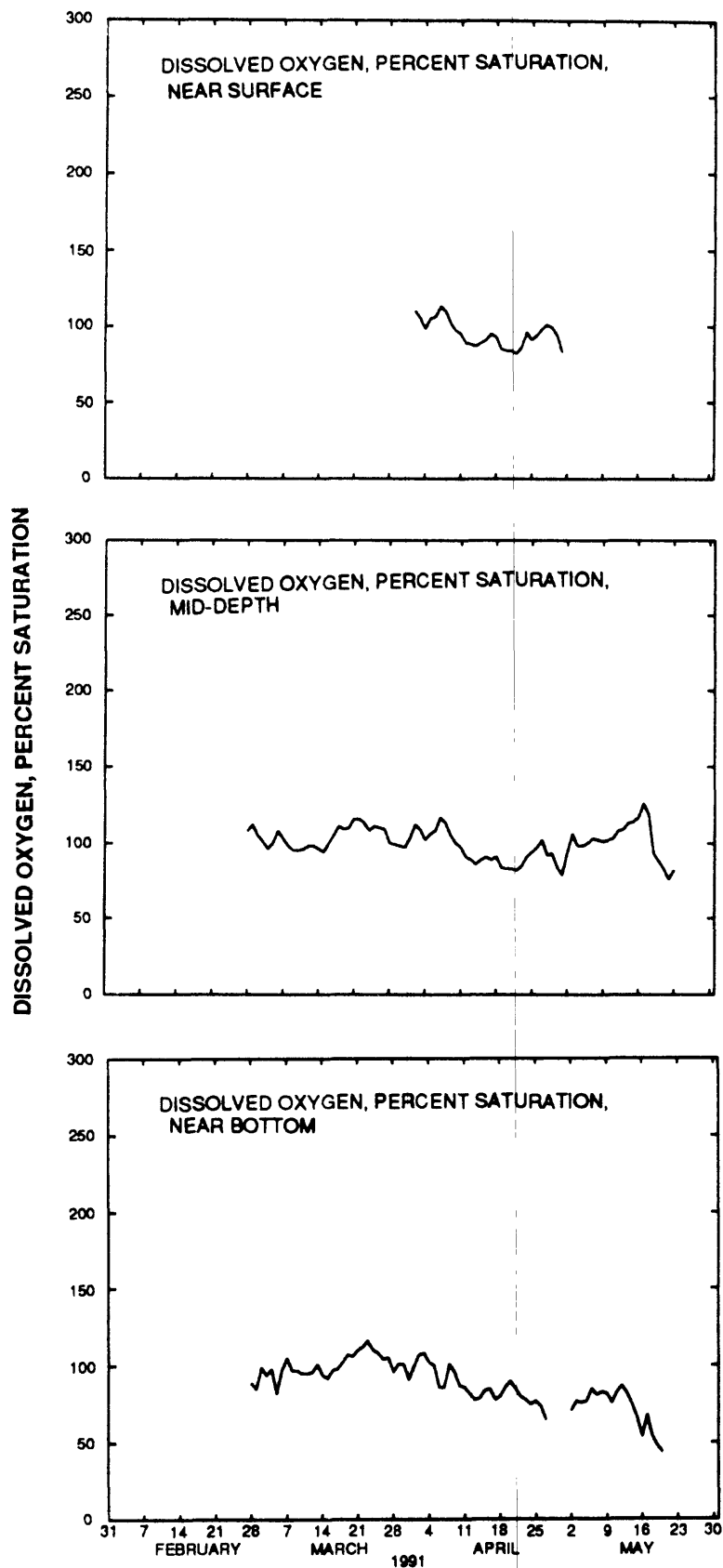


Figure 51.--Daily mean dissolved oxygen, percent saturation, at site 12, Neuse River at Light 7, February-May 1991.

Table 24.--Five-day mean water temperature and dissolved-oxygen values in water at site 12, Neuse River at Light 7, February-May 1991, for day and night periods

[°C, degrees Celsius; mg/L, milligram per liter; Day, 9:15 a.m.-9:00 p.m.; Night, 9:15 p.m.-9:00 a.m.; --, no data]

Date	Mean water temperature, near surface (°C)		Mean dissolved oxygen, near surface (mg/L)		Mean dissolved oxygen, mid-depth (mg/L)		Mean dissolved oxygen, near bottom (mg/L)	
	Day	Night	Day	Night	Day	Night	Day	Night
2/03/91- 2/07/91	--	--	--	--	--	--	--	--
2/08/91- 2/12/91	--	--	--	--	--	--	--	--
2/13/91- 2/17/91	--	--	--	--	--	--	--	--
2/18/91- 2/22/91	--	--	--	--	--	--	--	--
2/23/91- 2/27/91	9.3	8.9	--	--	11.8	11.6	10.7	10.3
2/28/91- 3/04/91	11.4	11.2	--	--	11.6	11.1	10.3	9.9
3/05/91- 3/09/91	12.4	12.1	--	--	10.9	10.7	10.4	10.3
3/10/91- 3/14/91	11.2	10.7	--	--	10.7	10.5	10.7	10.5
3/15/91- 3/19/91	11.9	11.4	--	--	11.4	11.3	11.1	10.5
3/20/91- 3/24/91	14.8	14.6	--	--	11.8	11.2	11.4	11.2
3/25/91- 3/29/91	17.4	17.5	--	--	10.2	9.9	10.0	9.5
3/30/91- 4/03/91	17.7	17.1	10.5	9.8	10.1	9.7	9.9	9.4
4/04/91- 4/08/91	18.7	18.4	10.1	9.7	10.4	10.0	9.0	8.6
4/09/91- 4/13/91	19.6	19.2	8.7	8.4	8.9	8.5	7.9	7.6
4/14/91- 4/18/91	19.5	19.4	8.6	8.1	8.2	8.1	7.7	7.3
4/19/91- 4/23/91	18.3	17.9	8.1	7.9	7.9	7.8	7.9	7.7
4/24/91- 4/28/91	19.6	19.5	9.0	8.6	8.8	8.5	6.7	6.7
4/29/91- 5/03/91	21.8	21.4	8.1	7.8	8.1	8.1	6.9	6.8
5/04/91- 5/08/91	21.8	21.6	--	--	8.9	8.7	7.3	6.9
5/09/91- 5/13/91	22.7	22.6	--	--	9.2	8.9	7.1	7.0
5/14/91- 5/18/91	25.0	24.6	--	--	9.9	9.3	5.2	5.0
5/19/91- 5/23/91	23.5	23.2	--	--	7.4	6.8	4.0	3.9
5/24/91- 5/28/91	--	--	--	--	--	--	--	--
5/29/91- 6/02/91	--	--	--	--	--	--	--	--

REFERENCES

- Bales, J.D., 1990, Data-collection program for Pamlico River estuary model calibration and validation in Spaulding, M.L., ed., Estuarine and Coastal Modeling: New York, American Society of Civil Engineers, p. 492-501.
- Bellis, V., O'Connor, M.P., and Riggs, S.R., 1975, Estuarine shoreline erosion in the Albemarle-Pamlico region of North Carolina: Raleigh, University of North Carolina Sea Grant College Program, North Carolina State University, Report No. UNC-SG-75-29, 67 p.
- Campbell Scientific, Inc., 1987, SM192/SM176 storage module preliminary instruction manual: Logan, Utah.
- _____, 1988, CR10 measurement and control module operator's manual: Logan, Utah.
- Copeland, B.J., Hodson, R.G., Riggs, S.R., and Pendleton, E.C., 1984, The ecology of the Pamlico River, North Carolina--an estuarine profile: Washington, D.C., U.S. Fish and Wildlife Service, Report No. FWS/OBS-82/06, 83 p.
- Ficken, J.H., and Scott, C.T., 1989, Operating manual for the U.S. Geological Survey minimonitor, 1988 edition, analog-voltage model: U.S. Geological Survey Open-File Report 89-403, 92 p.
- Garrett, R.G., and Bales, J.D., 1991, Water-quality data from continuously monitored sites in the Pamlico and Neuse River estuaries, North Carolina, 1989-90: U.S. Geological Survey Open-File Report 91-465, 151 p.
- Giese, G.L., Wilder, H.B., and Parker, G.G., 1985, Hydrology of major estuaries and sounds of North Carolina: U.S. Geological Survey Water-Supply Paper 2221, 108 p.

- Gordon, A.B., and Katzenbach, M., 1983, Guidelines for use of water quality monitors: U.S. Geological Survey Open-File Report 83-681, 94 p.
- Hardy, A.V., and Hardy, J.D., 1971, Weather and climate in North Carolina: Raleigh, Agricultural Experiment Station, North Carolina State University, Bulletin 396.
- Harned, D.A., and Davenport, M.S., 1990, Water-quality trends and basin activities and characteristics for the Albemarle-Pamlico estuarine system, North Carolina and Virginia: U.S. Geological Survey Open-File Report 90-398, 164 p.
- Holland, A.F., 1990, Near coastal program plan for 1990--estuaries: Narragansett, Rhode Island, Environmental Research Laboratory, U.S. Environmental Protection Agency, Report No. EPA/600/4-90/033.
- Holman, R.E., 1988 (revised 1989), Albemarle-Pamlico estuarine study baseline water quality monitoring plan: Raleigh, Albemarle-Pamlico Estuarine Study, North Carolina Department of Environment, Health, and Natural Resources, Project No. 88-01/02, 32 p.
- Martin Marietta Environmental Systems, 1987a, Chesapeake Bay mainstem monitoring program statistical and analytical support contract--final report, volume I: Annapolis, Maryland, Chesapeake Bay Program, Report No. CBP/TRS 12/87, 49 p.
- _____ 1987b, Chesapeake Bay mainstem monitoring program statistical and analytical support contract--final report, volume II: Annapolis, Maryland, Chesapeake Bay Program, Report No. CBP/TRS 13/87, 535 p.
- Miller, R.L., Bradford, W.L., and Peters, N.E., 1988, Specific conductance--theoretical considerations and application to analytical quality control: U.S. Geological Survey Water-Supply Paper 2311, 16 p.
- National Academy of Sciences, 1977, Environmental monitoring--a report to the U.S. Environmental Protection Agency: Washington, D.C., 181 p.

- National Research Council, 1990, Managing troubled waters--the role of marine environmental monitoring: Washington, D.C., National Academy Press, Committee on a Systems Assessment of Marine Environmental Monitoring, Marine Board, Commission on Engineering and Technical Systems, 125 p.
- Noga, E.J., and Stanley, D.W., 1989, Determining the relationship between water quality and ulcerative mycosis in Atlantic menhaden in Holman, R.E., ed., Project abstracts for the period 1989-1990: Raleigh, Albemarle-Pamlico Estuarine Study, North Carolina Department of Environment, Health, and Natural Resources, Project No. 89/08, p. 30.
- North Carolina Department of Environment, Health, and Natural Resources, 1990, Interim review (June-November 1988) of baseline water quality data from the Pamlico and Neuse River estuaries: Raleigh, Division of Environmental Management, Report no. 90-02, 47 p.
- Pearce, J.B., and Despres-Patanjo, L., 1988, A review of monitoring strategies and assessments of estuarine pollution: Aquatic Toxicology, v. 11, p. 323-343.
- Wells, J.T., 1989, A scoping study of the distribution, composition, and dynamics of water-column and bottom sediments--Albemarle-Pamlico estuarine system: Raleigh, Albemarle-Pamlico Estuarine Study, North Carolina Department of Natural Resources and Community Development, Project No. 89-05, 39 p.
- Wilder, H.B., Robison, T.M., and Lindskov, K.L., 1978, Water resources of northeast North Carolina: U.S. Geological Survey Water-Resources Investigations 77-81, 113 p.