WATER-QUALITY AND LAKE-STAGE DATA FOR WISCONSIN LAKES, WATER YEAR 1994

By Wisconsin District Lake-Studies Team

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Prepared in cooperation with
THE STATE OF WISCONSIN AND OTHER AGENCIES

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TABLE

CONVERSION FACTORS, VERTICAL DATUM, AND ABBREVIATED WATER-QUALITY UNITS

Multiply	By	To Obtain
mile (mi)	1.609	kilometer
pound (lb)	453.6	gram
acre	0.4048	hectare
foot (ft)	0.3048	meter
gallon (gal)	3.785	liter
square mile (mi^2)	2.590	square kilometer

Temperature, in degrees Celsius (°C) can be converted to degrees Fahrenheit (°F) by use of the following equation:

$$°F = 1.8(°C) + 32.$$

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

Abbreviated water-quality units: Chemical concentrations and water temperature are given in metric units. Chemical concentration is given in milligrams per liter (mg/L) or micrograms per liter (µg/L). Milligrams per liter is a unit expressing the concentration of chemical constituents in solution as weight (milligrams) of solute per unit volume (liter) of water. One thousand micrograms per liter is equivalent to one milligram per liter. For water with dissolved-solids concentrations less than 7,000 mg/L, the numerical values for concentrations expressed as mg/L and µg/L are the same as for concentrations in parts per million and parts per billion, respectively. Specific conductance of water is expressed in microsiemens per centimeter at 25 degrees Celsius (µS/cm). This unit is equivalent to micromhos per centimeter at 25 degrees Celsius (µmho/cm), formerly used by the U.S. Geological Survey.

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INTRODUCTION

The U.S. Geological Survey (USGS), in cooperation with local and other agencies, collects data at selected lakes throughout Wisconsin. These data, accumulated over many years, provide a data base for developing an improved understanding of the water quality of lakes. To make these data available to interested parties outside the USGS, the data are published annually in this report series. The location of surface water-quality and lake-stage stations in Wisconsin for water year 1994 are shown in figure 1. A water year is the 12-month period from October 1 through September 30. It is designated by the calendar year in which it ends and which includes 9 of the 12 months. Thus the period October 1, 1993 through September 30, 1994, is called "water year 1994."

The purpose of this report is to provide information about the physical, chemical, and biological characteristics of Wisconsin lakes. Data that have been collected at specific lakes, and information to aid in the interpretation of those data, are included in this report. Data collected includes measurements of lake stage and in-lake water quality. Graphs of Secchi depths, and total-phosphorus and chlorophyll-*a* concentrations versus time are included for lakes with two or more years of data. Descriptive information for each lake includes location of the lake, drainage area of the lake's watershed, period for which data are available, revisions to previously published records, and pertinent remarks. Additional data, such as streamflow and water quality in tributary and outlet streams of some of the lakes, are published in two other volumes: "Water Resources Data-Wisconsin, 1994, St. Lawrence River Basin" (Volume 1) and "Water Resources Data-Wisconsin, 1994, Upper Mississippi River Basin" (Volume 2).

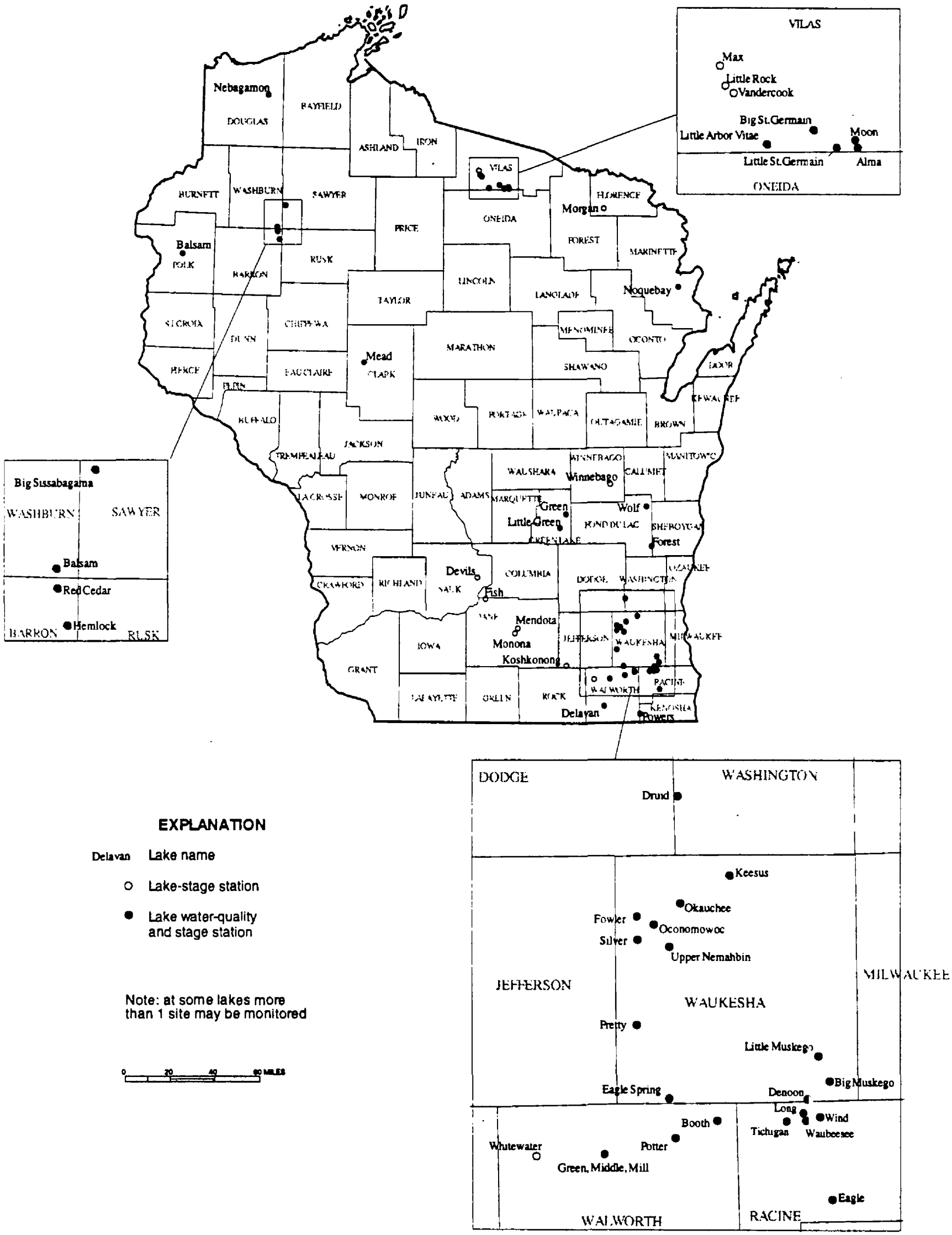

Figure 1. Location of lake water-quality and lake-stage stations in Wisconsin.

The USGS has done cooperative lake monitoring with local and other agencies since 1983. Cooperators in 1994 included:

Alma/Moon Lake District
Balsam Lake Protection and Rehabilitation District
Big Muskego Lake District
City of Muskego
Dane County Department of Public Works
Druid Lake Protection and Rehabilitation District
Eagle Spring Lake Management District
Fowler Lake Management District
Green Lake Sanitary District
Lake Keesus Management District
Lauderdale Lakes Management District
Little Arbor Vitae Lake District
Little Green Lake Protection and Rehabilitation District
Little Muskego Lake District
Little St. Germain Lake District
Marinette County Land Conservation Department
Okauchee Lake District
Potters Lake Protection and Rehabilitation District
Powers Lake Management District
Pretty Lake Protection and Rehabilitation District
Rock County Public Works Department
Town of Auburn
Town of Cedar Lake
Town of Delavan
Town of Kansasville
Town of Mead
Town of Norway
Town of Sand Lake
Town of St. Germain
Town of Summit
Town of Troy
Town of Waterford
Upper Nemahbin Lake Management District
U.S. Army Corps of Engineers
Village of Lake Nebagamon
Village of Oconomowoc Lake
Whitewater Lake Management District
Wind Lake Management District
Wisconsin Department of Natural Resources
Wolf Lake Management District

Lake data collection sites are identified by a unique identification number. Lake water-quality sites are identified by a 15-digit number that is a concatenation of the site's latitude, longitude, and a two-digit sequence number. The sequence number is used to distinguish between sites located at the same latitude-longitude designation. The site identification number is permanently assigned to the site; actual latitude and longitude of the site are subject to update and are stored separately. For some of the lakes, which have historical records of lake stage, an eight-to-ten digit number is assigned according to downstream order. Gaps are left in the numerical series to allow for new stations; hence, the numbers are not consecutive. The first two digits of the complete eight-to-ten digit number, such as 04087000, 054310157, or 0407809265, designate the major river basin. For example, "04" designates the St. Lawrence River Basin and "05" designates the Upper Mississippi River Basin.

The water-quality lake stations that were discontinued prior to water year 1994 are listed in table 1. Discontinued lake-stage stations are not included in this list.

This report is the culmination of a concerted effort by a number of people who collected, compiled, analyzed, verified, and organized the data, and who typed, edited, and assembled the report. The authors had primary responsibility for assuring that the information contained herein is accurate, complete, and adheres to USGS policy and established guidelines. Technicians-in-charge of the field offices are: J.T. Freshwaters (Rice Lake), J.W. George (Merrill), and J. Habale (Madison). The data were collected and processed by B.M. Esser, G.L. Goddard, J.J. Hanig, H.L. Hanson, D.E. Housner, D.L. Olson, R.J. Ostreng, T.J. Popowski, J.G. Schuler, T.L. Seidel, and P.A Stark. Additional assistance in preparation of the report was provided by S.Z. Jones, K.A. Lonsdorf, R.E. Bagwell, and S.H. Linder. Technical colleague review of this report was provided by J.C. Panuska and J.B. Bode of the Wisconsin Department of Natural Resources (WDNR).

METHODS OF DATA COLLECTION

Depth profiles of water temperature, dissolved oxygen, pH, and specific conductance were collected using a multi-parameter meter. Prior to measurements, the meter is calibrated using standards for pH and conductance, and dissolved oxygen is calibrated using the air calibration method.

Table 1. Discontinued lake stations

Station name	Site identification number	Period of record
Bass Lake near Shawano	445215088300300	Feb. 1990-Aug. 1992
Bear Lake at Deep Hole near Haugen	453754091490900	Mar. 1992-Aug. 1993
Beaver Dam Lake South end at Beaver Dam	432814088515000	June-Oct. 1991
Beaver Dam Lake North end near Beaver Dam	433122088545700	June-Oct. 1991
Big Blacksmith Lake near Keshena	445401088334500	Feb. 1990-Aug. 1992
Big Muskego Lake at North Site near Muskego	425301088061300	Feb.-Aug. 1988
Fox Lake Deep Hole at Fox Lake	433458088560600	June 1991-Mar. 1993
Hills Lake near Wild Rose	440912089092000	June 1983-Aug. 1984, Feb.-Aug. 1987, Feb.-Aug. 1990, Feb.-Aug. 1993
Hooker Lake at Salem	423335088060300	Feb. 1992-Aug. 1993
Lac La Belle Center at Oconomowoc	430733088305900	Feb. 1984-Aug. 1985, Feb.-Sep. 1991
Lac La Belle NW at Oconomowoc	430809088313900	Feb. 1984-Aug. 1985
Lac La Belle SE at Oconomowoc	430707088301400	Feb. 1984-Aug. 1985
Lake Blass at Lake Delton	433545089482400	Mar. 1989-Aug. 1990
Lake Morris at Mount Morris	440654089120500	Jun. 1983-Sep. 1989
Lamotte Lake near Shawano	445305088361200	Feb. 1990-Aug. 1992
Legend Lake (site 1) near Shawano	445342088312700	Feb. 1990-Feb. 1992
Loon Lake near Shawano	445009088303700	Feb. 1991-Aug. 1993
Lost Lake near Beaver Dam	432640088580500	June-Oct. 1991
Moshawquit Lake near Shawano	445352088295800	Feb. 1990-Aug. 1992
Park Lake (site 1) at Pardeeville	433239089175800	Feb. 1986-Aug. 1987, May-Nov. 1993
Park Lake (site 2) at Pardeeville	433226089175500	May-Nov. 1993
Park Lake (site 3) at Pardeeville	433245089173000	May-Nov. 1993
Park Lake (site 4) at Pardeeville	433257089165100	May-Nov. 1993
Rice Lake at Deep Hole near Whitewater	424629088415700	Apr.-Nov. 1991
Round Lake near Shawano	445328088335000	Feb. 1990-Aug. 1992
Sand Lake (Deep Hole) near Keshena	445321088323101	June-Aug. 1992
Sinissippi Lake off Anthony Is. at Hustisford	432113088361100	Feb. 1991-Aug. 1993
Sinissippi Lake off Butternut Is. near Hustisford	432240088363900	Apr. 1991-Aug. 1993
Sinissippi Lake off Sam Point near Hustisford	432300088374200	Apr. 1991-Aug. 1993
Spirit Lake near Keshena	445400088320100	Apr.-Aug. 1992
Stewart Lake at Mt. Horeb	430117089442701	May 1992-Sep. 1993
Watosah-skice Lake near Keshena	445330088361400	Feb. 1990-Aug. 1992
Whitewater Lake off Heart Prairie near Whitewater	424533088420100	Apr.-Nov. 1991
Whitewater Lake near Whitewater	424608088414800	Apr.-Oct. 1991
Whitewater Lake North Bay near Whitewater	424625088405500	Apr.-Nov. 1991
Whitewater Lake South Bay near Whitewater	424501088422300	Apr.-Nov. 1991

Chemical analyses of water samples were performed using standard analytical methods by either the USGS National Water Quality Laboratory (Wershaw and others, 1987; Fishman and Friedman, 1989; Fishman, 1993) or the Wisconsin State Laboratory of Hygiene (Wisconsin State Laboratory of Hygiene, 1993). Analyses for dissolved constituents are performed on samples that were filtered in the field through a 0.45-µm (micrometer) pore-size filter. Total or total recoverable constituents are determined by analyzing unfiltered water samples. Preservation and shipment of samples follows standard protocols established by the laboratories.

Records of lake stage are considered complete when one or more manual or automatic measurements are obtained per day. Partial records of lake stage result when measurements are less frequent than daily. A complete description of manual or automatic measurements of lake stage are described by Rantz and others (1982).

EXPLANATION OF PHYSICAL AND CHEMICAL CHARACTERISTICS OF LAKES

Following are brief, generalized explanations of some of the common measurements of water quality and some of the physical processes occurring in lakes that influence these measures of water quality. More detailed explanations of water-quality data and lake processes are given by Wetzel (1983), Hem (1985), and Shaw and others (1993).

Water Temperature and Thermal Stratification

Water temperature in lakes is important because of its role in thermal stratification and because of the temperature dependence of many chemical reactions and life processes of aquatic organisms. The interaction between meteorological conditions, lake shape, and water clarity are the primary factors which determine the temperature distribution in lakes. The extent of thermal stratification in lakes depends on solar heating, water clarity, and wind-driven mixing. Complete mixing of the lake is usually restricted by thermal stratification in summer and by ice cover in winter. Thermal stratification affects lake-water quality and the distribution of organisms in the lake. Summer thermal stratification can occur in any lake, but in Wisconsin it commonly occurs in lakes deeper than about 20 ft (Shaw and others, 1993).

The density of water increases with decreasing temperature down to a temperature of 4 degrees Celsius (°C), then decreases with decreasing temperature between 4°C and the freezing point of water (0°C). For a brief period in the spring after the ice is out, water temperature is uniform through the entire water column and wind action causes the lake to mix thoroughly. This process is known as "spring turnover." As the lake absorbs the sun's energy, the surface water becomes warmer and its density decreases, making it more resistant to mixing. In most lakes, therefore, a density "barrier" forms between the warmer surface water and the underlying colder water. This barrier is often marked by a sharp temperature gradient known as the "thermocline." During the stratified summer period, three distinct layers of lake water are present. The upper warm layer is known as the "epilimnion" and the cold lower layer is known as the "hypolimnion." The transition layer between the epilimnion and the hypolimnion has a steep temperature gradient (greatest temperature change per foot of depth), and is known as the "thermocline" or "metalimnion." As the temperature difference between surface and deep water increases, this "stratified" condition stabilizes and can persist until surface temperatures decrease in the fall, which decreases the stability of the stratification. The mixing of the lake water in the fall is known as "fall turnover."

Thermal stratification may also occur under ice cover in the winter. In the winter, the coldest water (near 0°C) under the ice at the surface of the lake is less dense than water deeper in the lake with a temperature near 4°C.

Specific Conductance

Specific conductance is a measure of the ability of water to conduct an electrical current and is an indicator of the concentration of dissolved minerals in the water. As the concentration of dissolved minerals increases, specific conductance increases. During winter and summer thermal stratification, concentrations of dissolved constituents near the lake bottom increase due to the decomposition of materials settling from the epilimnion, or release of dissolved materials (such as iron, manganese, and phosphorus) from the bottom sediments during anoxic periods. Therefore, differences in specific conductance with depth help distinguish differences in concentrations of dissolved minerals.

Water Clarity

Water clarity, or transparency, is commonly measured using a Secchi disc. The range of depths within which photosynthetic activity occurs depends largely on depth of light penetration, which is influenced by water clarity. A Secchi disc, most commonly an 8-in.-diameter disc with alternating black-and-white quadrants, is lowered to a depth at which it is no longer visible from the water surface. This depth is referred to as the Secchi depth. Clarity can be reduced by algae and zooplankton, water color, and suspended sediment. Algae are often the most dominant influence on clarity in most lakes and, therefore, Secchi depth is usually correlated with the algal abundance. Secchi depth is generally the least during summer when algal populations are largest.

pH

The pH is a measure of the acidity of the water. It is defined as the negative logarithm of hydrogen-ion concentration and varies over a 14-unit log scale, with a pH of 7 being neutral. Values less than 7 indicate acidic conditions; the lower the value, the stronger the acidity. Values greater than 7 indicate alkaline conditions. The pH of water is influenced in part by photosynthesis and respiration of planktonic algae and aquatic plants. It is important because it affects the solubility of many chemical constituents, and because aquatic organisms have limited pH tolerances. Planktonic algae and aquatic plants produce oxygen and consume carbon dioxide as they photosynthesize during daytime; they consume oxygen and produce carbon dioxide when they respire at night. When carbon dioxide concentrations decrease in the daytime, pH increases; when carbon dioxide concentrations increase at night, pH decreases resulting in a daily cycle of pH values. Because phytoplankton are usually concentrated in the near-surface water, changes in pH in the epilimnion are more extreme than in the hypolimnion, where less photosynthesis usually occurs.

Values of pH greater than 8.5 have been shown to cause the release of phosphorus from lake sediments (James and Barko, 1991). As pH increases above 8.5 the release rate of phosphorus also increases. Lakes having good fish populations and productivity generally have a pH between 6.7 and 8.2.

Dissolved Oxygen

Dissolved oxygen is one of the most critical factors affecting a lake ecosystem because it is essential to most aquatic organisms, and at very low concentrations can control chemical reactions that require oxygen. The solubility of oxygen in water is inversely related to temperature–that is, oxygen solubility decreases as water temperature increases. This relation is important because at warmer temperatures the metabolic rate of organisms increases but less oxygen is available for respiration. The primary sources of dissolved oxygen are from the air and from photosynthesis. The minimum dissolved-oxygen concentration specified in national water-quality criteria for warmwater aquatic life is 5.0 mg/L (U.S. Environmental Protection Agency, 1986).

In early summer, if stratification develops, the metalimnion restricts the surface supply of dissolved oxygen to the hypolimnion. The hypolimnion can become isolated from the atmosphere. Thus, as summer progresses, the dissolved-oxygen concentration can decrease in response to decomposition of dead algae that settle from the epilimnion and in response to the biological and chemical oxygen demand of the sediments. The oxygen demand from these processes may completely deplete the oxygen (anoxia) in the water near the lake bottom. The oxygen depletion then progresses upward but usually is confined to the hypolimnion.

Anoxia in the hypolimnion is common in stratified eutrophic (nutrient-rich) lakes in Wisconsin and can cause the release of phosphorus from the bottom sediments. This phosphorus then mixes throughout the water column during spring and fall turnover.

Phosphorus

Phosphorus is one of the essential nutrients for plant growth. Phosphorus is recognized as a major cause of eutrophication in lakes, and can cause problem algal blooms. In many regions of the country, other nutrients, particularly nitrogen, tend to be in abundant supply. Phosphorus is often the nutrient in shortest supply, therefore limiting or controlling plant growth. About 90 percent of the lakes in Wisconsin are limited by phosphorus (Shaw and others, 1993). In water, dissolved orthophosphate is that part of total phosphorus that is most readily available for use by algae.

Internal phosphorus recycling occurs in many lakes. Phosphorus used by algae, aquatic plants, fish, and zooplankton is stored within the organisms. As these organisms die and decompose, this phosphorus is returned to the lake water and sediments. Anoxia in the hypolimnion makes phosphorus more soluble, adding further to the release of phosphorus from the falling particles and the lake sediments. These phenomena are part of the internal-recycling processes of lakes. During spring and fall turnover, the phosphorus that was released from the bottom sediments into the hypolimnion during anoxia becomes mixed throughout the lake, where it becomes available for algal growth.

Nitrogen

Nitrogen, like phosphorus, is an essential nutrient for plant and algal growth. Usually, nitrogen is in abundant supply from the atmosphere and other sources. If phosphorus is abundant relative to algal needs, nitrogen can become the limiting nutrient. In that case, algal blooms are more likely to be triggered by increases in nitrogen than by increases in phosphorus. Some bluegreen algal species can fix nitrogen from the atmosphere (Wetzel, 1983). Therefore, in situations where other types of algae are excluded because of a shortage of nitrogen, the nitrogen-fixing bluegreen algae have a competitive advantage and may be present in abundance.

Lakes with a total nitrogen to total phosphorus ratio larger than 15 to 1 near the surface may generally be considered phosphorus limited; a ratio from 10 to 1 to 15 to 1 indicates a transition situation; and a ratio smaller than 10 to 1 generally indicates nitrogen limitation (Lillie and Mason, 1983). Total nitrogen is the sum of ammonia and organic nitrogen, and nitrate and nitrite nitrogen. The near-surface concentration is used to compute the total nitrogen to phosphorus ratio because most algal species grow near the lake surface.

Chlorophyll *a*

Chlorophyll *a* is a photosynthetic pigment found in algae (Wetzel, 1983). Its concentration, therefore, is commonly used as a measure of the density of the algal population in a lake. Chlorophyll *a* concentrations are generally highest when algal populations are highest, usually during summer. While moderate populations of desirable algae are important in the food chain, dense algal populations (blooms) are undesirable. Algal blooms can cause taste and odor problems, and limit light penetration needed to support growth of submerged aquatic plants. Certain species of bluegreen algae can produce toxins (Rapavich and others, 1987).

CLASSIFICATION OF LAKES

Two methods are commonly used to classify Wisconsin lakes according to their water quality or trophic state: Lillie and Mason's (1983) water-quality index and a modification of Carlson's (1977) Trophic State Index (TSI) are commonly used. Both methods evaluate in-lake conditions. Three water-quality measures are used in these classification systems: near-surface concentrations of total phosphorus and chlorophyll *a*, and water clarity as measured by a Secchi disc.

Lillie and Mason's (1983) water-quality index of Wisconsin lakes used random summer measurements of total phosphorus and chlorophyll *a* concentrations, and Secchi depth as shown below:

Water-quality index	Approximate total phosphorus range (mg/L)	Approximate chlorophyll *a* range (µg/L)	Approximate water clarity range (Secchi depth, in meters)
Excellent	<0.001	<1	>6.0
Very good	.001-.010	1-5	3.0-6.0
Good	.010-.030	5-10	2.0-3.0
Fair	.030-.050	10-15	1.5-2.0
Poor	.050-.150	15-30	1.0-1.5
Very poor	>.150	>30	<1.0

Three trophic conditions are generally used to describe the wide range of lake water-quality conditions. Oligotrophic lakes are typically clear, algal populations and phosphorus concentrations are low, and the deepest water is likely to contain oxygen throughout the year. Mesotrophic lakes typically have a moderate supply of nutrients, experience moderate algal blooms and have occasional oxygen depletions at depth. Eutrophic lakes are nutrient rich with relatively severe water-quality problems, such as frequent seasonal algal blooms, oxygen depletion in lower parts of the lakes, and poor clarity. When eutrophic conditions are very severe, the lake is considered hyper-eutrophic.

The WDNR modified the lakes classification scheme developed by Carlson (1977) to apply specifically to Wisconsin lakes. The WDNR system (Lillie and others, 1993) uses total phosphorus and chlorophyll *a* concentrations, and Secchi depth for ice-free periods to calculate values for a TSI. The WDNR has adopted the following TSI ranges to classify Wisconsin lakes: TSIs of less than 40 define oligotrophic conditions, 41 to 50 define mesotrophic conditions, 51-70 define eutrophic conditions, and greater than 70 define hypereutrophic conditions (Wisconsin Department of Natural Resources, 1992, p. 52-53). These ranges are used to make relative comparisons in all Wisconsin lake trophic-state evaluations by the WDNR and others.

The TSI for a lake can be calculated using the following equations (Lillie and others, 1993):

TSI (Secchi) = 60 - 33.2 ($\log_{10}$ Secchi depth)

TSI (chlorophyll *a*) = 34.82 + (17.41 ($\log_{10}$ chlorophyll *a* concentration)

TSI (total phosphorus) = 28.24 + (17.81 ($\log_{10}$ total phosphorus concentration)

where Secchi depth is in meters,
chlorophyll *a* is in micrograms per liter, and
total phosphorus is in micrograms per liter.

The three trophic conditions are defined with the following boundaries for total phosphorus, Secchi disc, and chlorophyll *a*:

Trophic Level	Trophic State Index	Total phosphorus (µg/L)	Secchi disc (m)	Chlorophyll *a* (µg/L)
Eutrophic				
	50	17	2.0	7.5
Mesotrophic				
	40	4	4.0	2.0
Oligotrophic				

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LAKE DATA

1 pages Wisconsin

455426089254700 ALMA LAKE NEAR ST. GERMAIN, WI

LOCATION.--Lat 45°54'26", long 89°25'47", in NE 1/4 sec.36, T.40 N., R.8 E., Vilas County, Hydrologic Unit 07070001, 3 mi east of St. Germain.

LAKE-STAGE RECORDS

PERIOD OF RECORD.--October 1984 to September 1990, May 1992 to current year.

GAGE.--Staff gage read by John P. Seibel. Elevation of gage is 1,617 ft above sea level, from topographic map.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height observer, 12.35 ft, Apr. 11, 12, 1986; minimum observed, 8.98 ft, Oct. 26, 27, 1989.

EXTREMES FOR CURRENT YEAR.--Maximum gage height observed, 12.21 ft, July 21; minimum observed, 10.53 ft, Sept. 10.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	10.87	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	10.81	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	11.09	---	11.04	---	10.53
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	11.01	---	---	---
16	---	---	---	---	---	---	---	---	---	---	10.71	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	10.97	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	11.01	---	---
21	---	---	---	---	---	---	---	---	---	12.21	10.69	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	11.17	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	10.97	---	---	---
26	---	---	---	---	---	---	---	---	---	---	10.64	---
27	---	---	---	---	---	---	11.15	---	---	---	---	---
28	---	---	---	---	---	---	---	10.93	---	---	---	---
29	---	---	---	---	---	---	---	---	---	11.74	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---

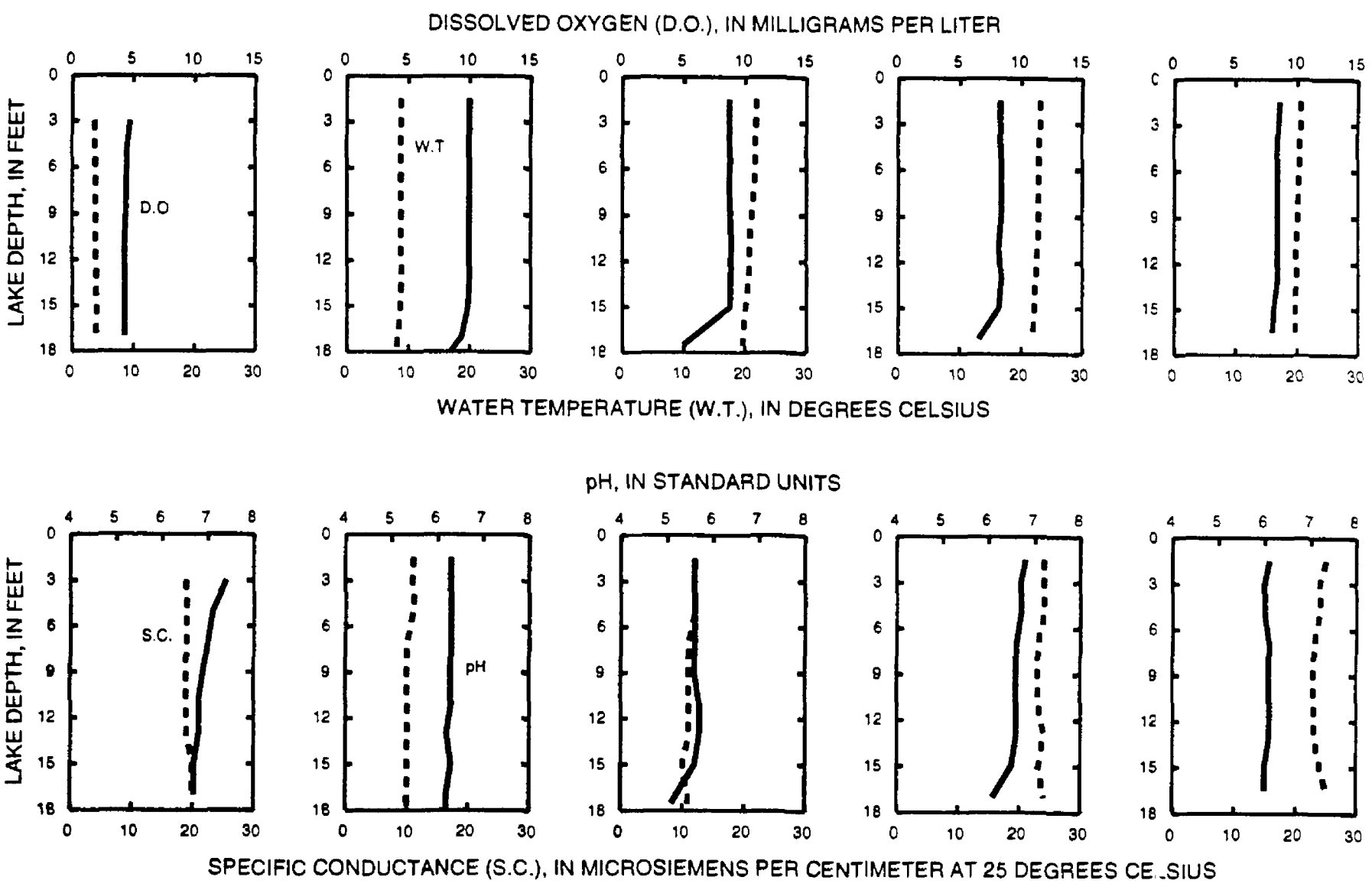
WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1984 to September 1990 secchi depth only; February 1992 to current year.

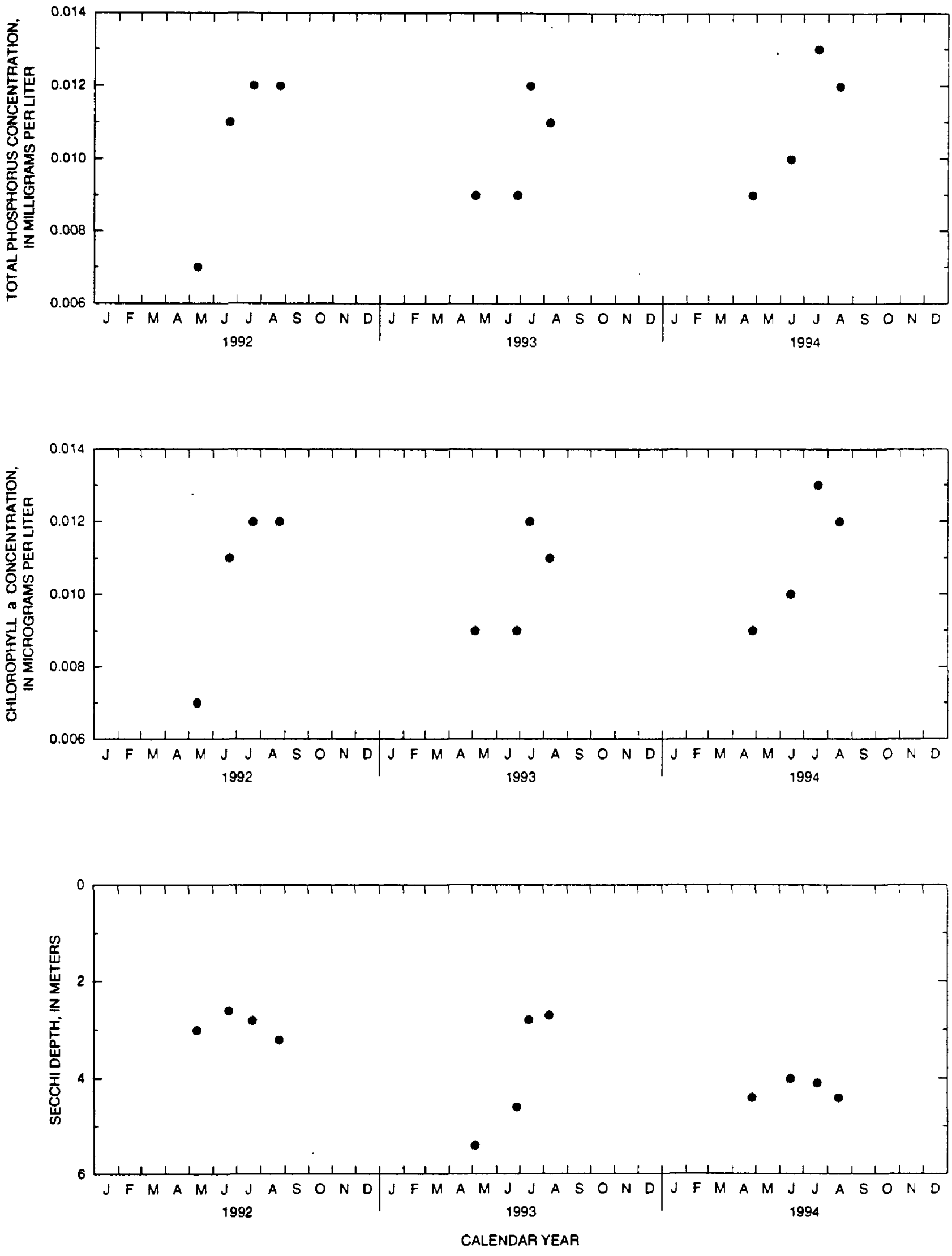
REMARKS.--Lake sampled near center of southern lobe of lake at deep hole. Lake ice-covered during February sampling. Water-quality analyses by Wisconsin State Laboratory of Hygiene.

WATER-QUALITY DATA, FEBRUARY 27 TO AUGUST 16, 1994
(Milligrams per liter unless otherwise indicated)

	Feb. 24		Apr. 27		June 15		July 20		Aug. 16	
Depth of sample (ft)	3.0	17	1.5	18	1.5	17	1.5	17	1.5	16
Lake stage (ft)	11.17		11.15		11.01		11.01		10.71	
Specific conductance (µS/cm)	19	20	11	10	12	11	24	24	25	25
pH (units)	7.4	6.7	6.3	6.2	5.6	5.1	6.8	6.1	6.1	6.0
Water temperature (°C)	3.5	4.0	9.0	8.0	22.0	19.5	23.0	22.0	20.5	19.5
Color (Pt-Co. scale)	---	---	10	10	---	---	---	---	---	---
Turbidity (NTU)	---	---	0.60	0.60	---	---	---	---	---	---
Secchi-depth (meters)	---		4.4		4.0		4.1		4.4	
Dissolved oxygen	4.7	4.3	10.0	8.5	8.7	5.0	8.3	6.6	8.6	8.0
Calcium, dissolved (Ca)	---	---	1.8	1.7	---	---	---	---	---	---
Magnesium, dissolved (Mg)	---	---	< 1.0	< 1.0	---	---	---	---	---	---
Sodium, dissolved (Na)	---	---	< 1.0	< 1.0	---	---	---	---	---	---
Potassium, dissolved (K)	---	---	0.4	0.5	---	---	---	---	---	---
Alkalinity, as CaCO3	---	---	6	6	---	---	---	---	---	---
Sulfate, dissolved (SO4)	---	---	5.0	3.0	---	---	---	---	---	---
Chloride, dissolved (Cl)	---	---	0.2	0.2	---	---	---	---	---	---
Fluoride, dissolved (F)	---	---	<0.0	0.0	---	---	---	---	---	---
Silica, dissolved (SiO2)	---	---	<0.2	<0.2	---	---	---	---	---	---
Solids, dissolved, at 180°C	---	---	12	12	---	---	---	---	---	---
Nitrogen, NO2 + NO3, diss. (as N)	---	---	0.05	0.05	---	---	---	---	---	---
Nitrogen, ammonia, dissolved (as N)	---	---	0.15	0.16	---	---	---	---	---	---
Nitrogen, amm. + org., total (as N)	---	---	0.50	0.40	---	---	---	---	---	---
Nitrogen, total (as N)	---	---	0.55	0.45	---	---	---	---	---	---
Phosphorus, total (as P)	---	---	0.009	0.011	0.010	0.010	0.013	0.020	0.012	0.015
Phosphorus, ortho, dissolved (as P)	---	---	<0.002	<0.002	---	---	---	---	---	---
Iron, dissolved (Fe) µg/L	---	---	<50	<50	---	---	---	---	---	---
Manganese, dissolved (Mn) µg/L	---	---	<40	<40	---	---	---	---	---	---
Chlorophyll a, phytoplankton (µg/L)	---	---	2.5	---	2.6	---	3.5	---	1.4	---



2-24-94 4-27-94 6-15-94 7-20-94 8-16-94



Surface total phosphorus and chlorophyll a concentrations, and Secchi depths for Alma Lake near St. Germain, Wisconsin.

453907091345800 BALSAM LAKE NEAR BIRCHWOOD, WI

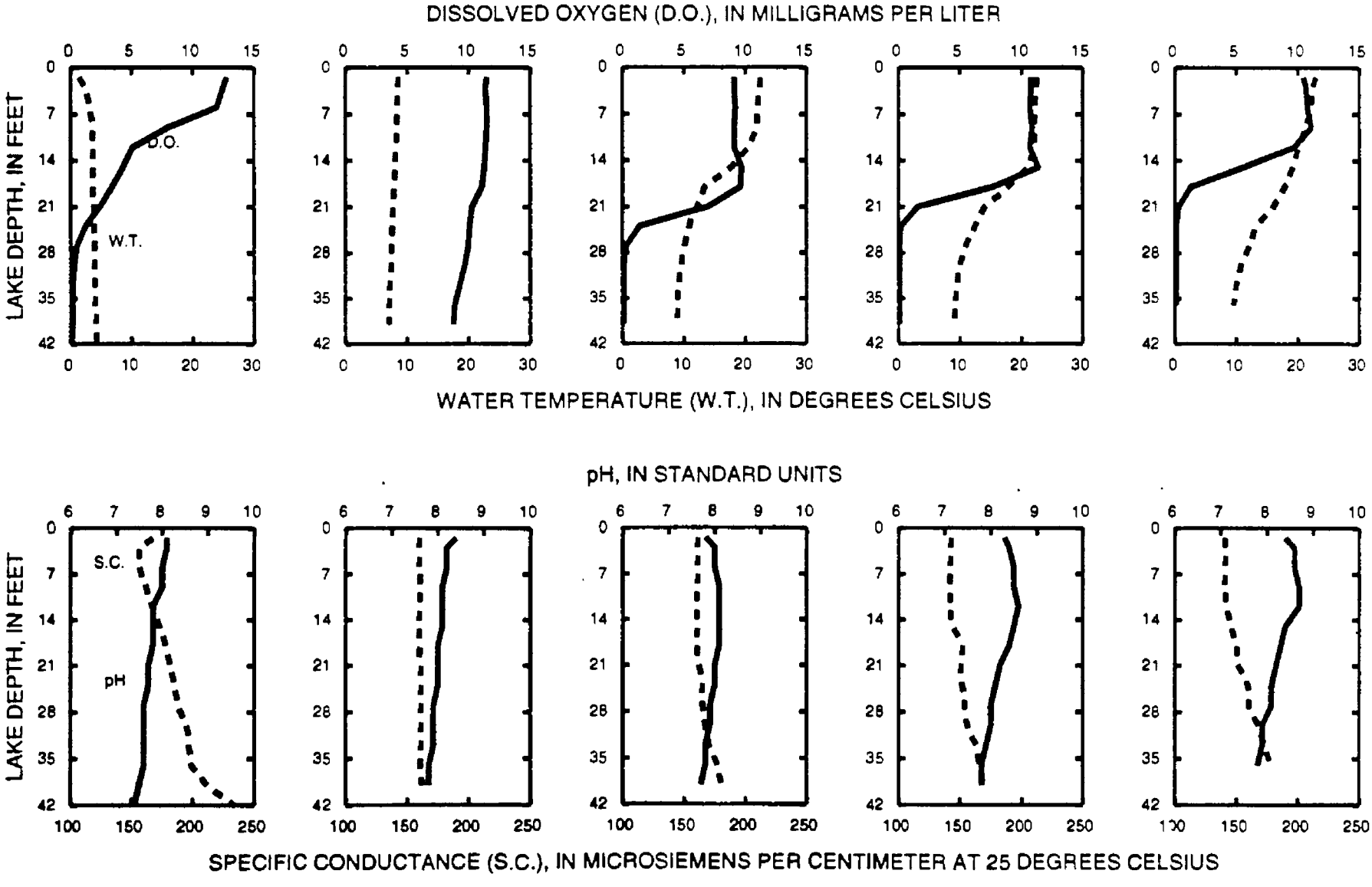
LOCATION.--Lat 45°39'07", long 91°34'58", in NE 1/4 NE 1/4 sec.34, T.37 N., R.10 W., Washburn County, Hydrologic Unit 07050007, 1.2 mi southwest of Birchood.

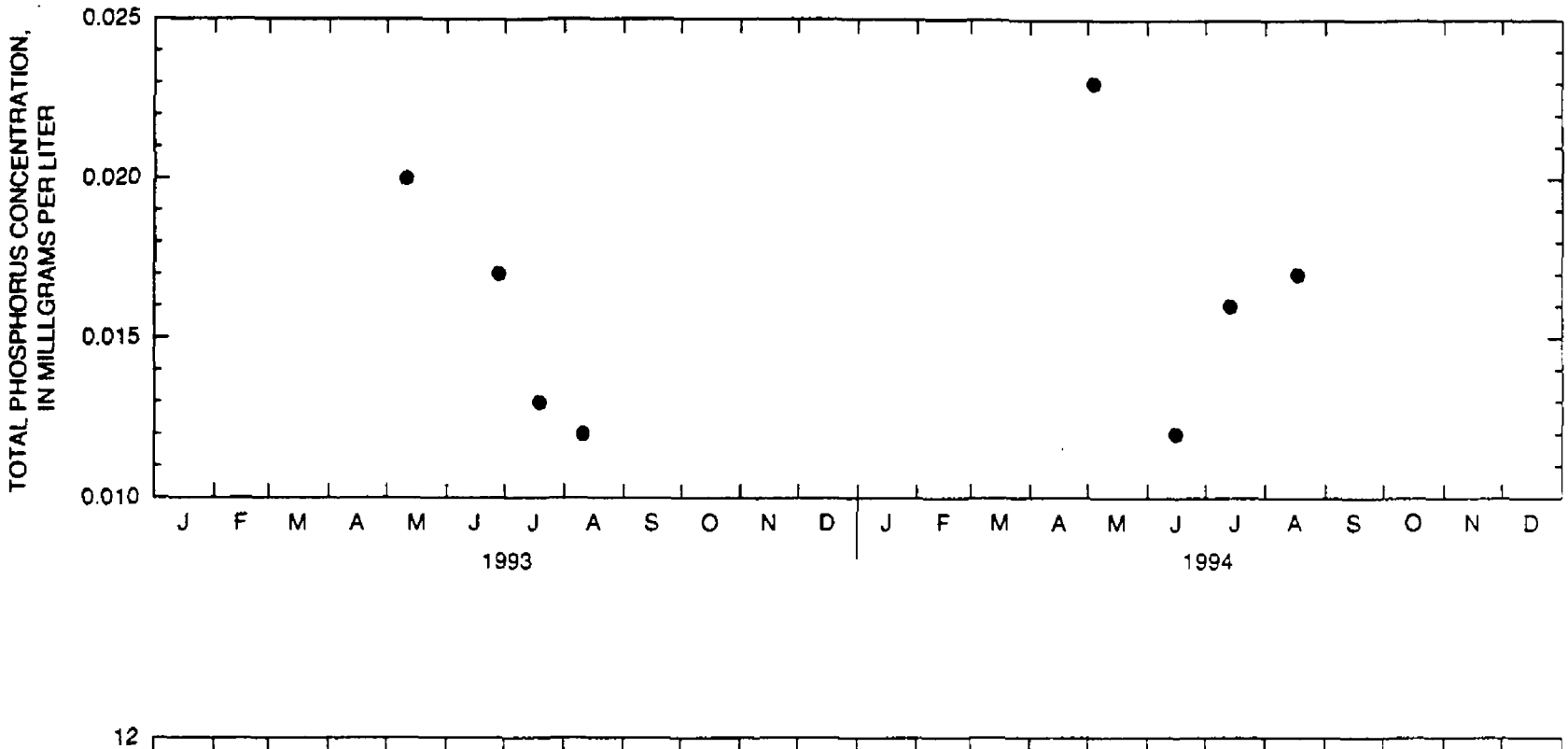
PERIOD OF RECORD.--March 1993 to August 1994 (discontinued).

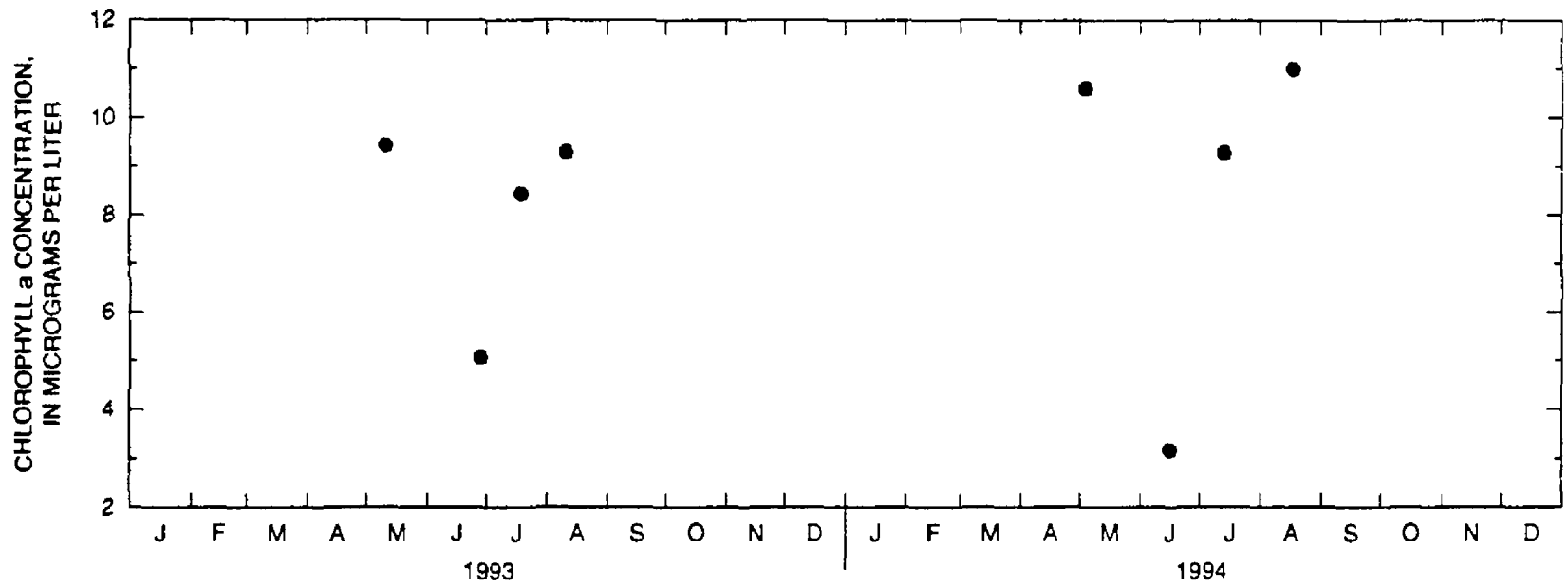
REMARKS.--Lake sampled near southern end of Balsam Lake at a lake depth of about 43 ft. Lake ice-covered during March sampling. Water-quality analyses by Wisconsin State Laboratory of Hygiene.

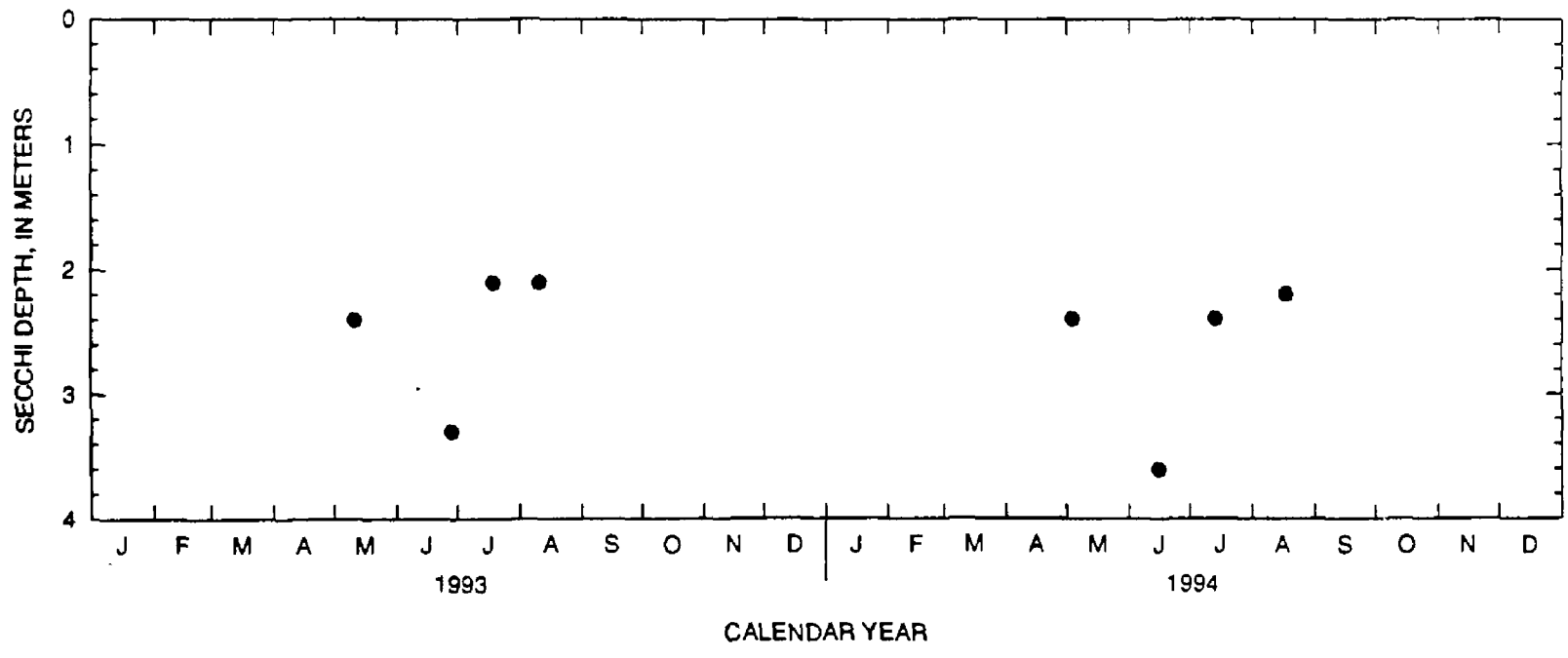
WATER-QUALITY DATA, MARCH 09 TO AUGUST 18, 1994
(Milligrams per liter unless otherwise indicated)

	Mar. 09		May 04		June 16		July 14		Aug. 18	
Depth of sample (ft)	1.5	42	1.5	39	1.5	39	1.5	39	1.5	39
Lake stage (ft)	10.72		10.66		10.40		10.50		10.50	
Specific conductance (µS/cm)	167	234	160	162	161	180	143	169	141	179
pH (units)	8.1	7.4	8.4	7.8	7.8	7.7	8.3	7.8	8.4	7.7
Water temperature (°C)	1.5	4.5	8.5	7.0	22.5	9.0	22.5	9.0	23.0	9.5
Color (Pt-Co. scale)	---	---	10	10	---	---	---	---	---	---
Turbidity (NTU)	---	---	1.1	1.3	---	---	---	---	---	---
Secchi-depth (meters)	---		2.4		3.6		2.4		2.2	
Dissolved oxygen	12.8	0.1	11.5	8.8	9.1	0.1	10.8	0.1	10.5	0.1
Hardness, as CaCO3	---	---	81	81	---	---	---	---	---	---
Calcium, dissolved (Ca)	---	---	21	21	---	---	---	---	---	---
Magnesium, dissolved (Mg)	---	---	7.0	7.0	---	---	---	---	---	---
Sodium, dissolved (Na)	---	---	3.0	3.0	---	---	---	---	---	---
Potassium, dissolved (K)	---	---	0.8	0.8	---	---	---	---	---	---
Alkalinity, as CaCO3	---	---	81	82	---	---	---	---	---	---
Sulfate, dissolved (SO4)	---	---	4.0	4.0	---	---	---	---	---	---
Chloride, dissolved (Cl)	---	---	2.4	2.4	---	---	---	---	---	---
Fluoride, dissolved (F)	---	---	0.0	0.0	---	---	---	---	---	---
Silica, dissolved (SiO2)	---	---	15	15	---	---	---	---	---	---
Solids, dissolved, at 180°C	---	---	108	108	---	---	---	---	---	---
Nitrogen, NO2 + NO3, diss. (as N)	---	---	0.08	0.12	---	---	---	---	---	---
Nitrogen, ammonia, dissolved (as N)	---	---	0.04	0.10	---	---	---	---	---	---
Nitrogen, amm. + org., total (as N)	---	---	0.40	0.40	---	---	---	---	---	---
Nitrogen, total (as N)	---	---	0.48	0.52	---	---	---	---	---	---
Phosphorus, total (as P)	---	---	0.023	0.030	0.012	0.320	0.016	0.330	0.017	0.448
Phosphorus, ortho, dissolved (as P)	---	---	<0.002	<0.002	---	---	---	---	---	---
Iron, dissolved (Fe) µg/L	---	---	<50	<50	---	---	---	---	---	---
Manganese, dissolved (Mn) µg/L	---	---	<40	140	---	---	---	---	---	---
Chlorophyll a, phytoplankton (µg/L)	---	---	11	---	3.2	---	9.3	---	11	---
	3-9-94		5-4-94		6-16-94		7-14-94		8-18-94	









Surface total phosphorus and chlorophyll a concentrations, and Secchi depths for Balsam Lake near Birchwood, Wisconsin.

452755092264600 BALSAM LAKE, OFF CEDAR ISLAND, AT BALSAM LAKE, WI

LOCATION.--Lat 45°27'55", long 92°26'46", in NW 1/4 SW 1/4 sec.2, T.34 N., R.17 W., Polk County, Hydrologic Unit 07030005, 1 mi north of Balsam Lake.

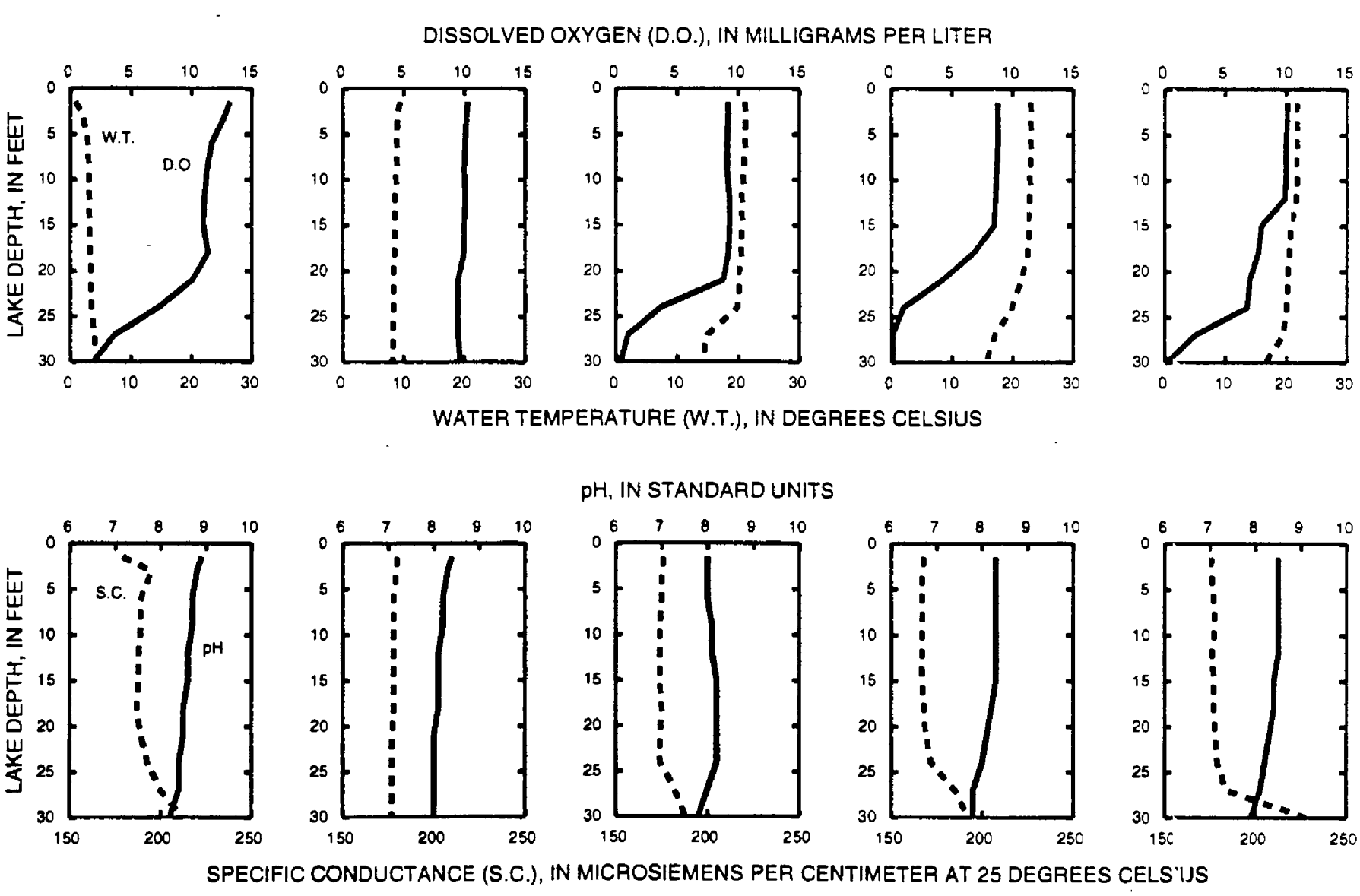
DRAINAGE AREA.--52.7 mi^2.

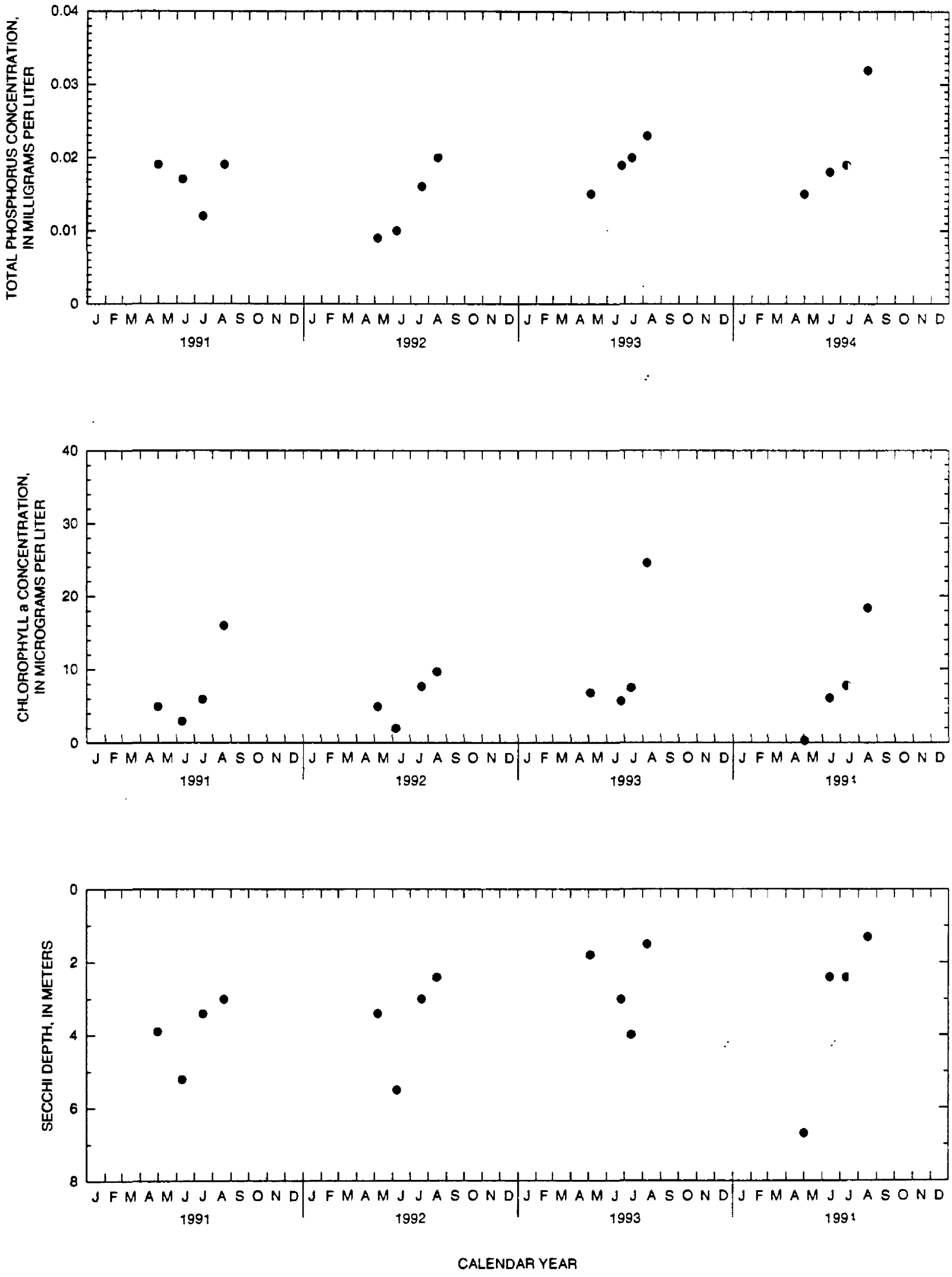
PERIOD OF RECORD.--February 1991 to current year.

REMARKS.--Lake sampled about 0.25 mi north of Cedar Island at a lake depth of about 34 ft. Lake ice-covered during March sampling. Water-quality analyses by Wisconsin State Laboratory of Hygiene.

WATER-QUALITY DATA, MARCH 07 TO AUGUST 17, 1994
(Milligrams per liter unless otherwise indicated)

	Mar. 07		May 02		June 14		July 12		Aug. 17	
Depth of sample (ft)	1.5	30	1.5	29	1.5	30	1.5	30	1.5	30
Lake stage (ft)	7.77		7.91		7.53		7.69		7.45	
Specific conductance (µS/cm)	179	212	180	180	176	188	168	193	176	228
pH (units)	8.9	8.2	8.4	8.0	8.0	7.8	8.3	7.8	8.5	7.9
Water temperature (°C)	1.0	4.5	9.5	8.0	21.0	14.0	23.0	15.5	22.0	16.5
Color (Pt-Co. scale)	---	---	5	10	---	---	---	---	---	---
Turbidity (NTU)	---	---	0.60	<0.50	---	---	---	---	---	---
Secchi-depth (meters)	---		6.7		2.4		2.4		1.3	
Dissolved oxygen	13.2	1.9	10.3	9.7	9.2	0.4	8.8	0.1	10.1	0.2
Hardness, as CaCO3	---	---	81	81	---	---	---	---	---	---
Calcium, dissolved (Ca)	---	---	21	21	---	---	---	---	---	---
Magnesium, dissolved (Mg)	---	---	7.0	7.0	---	---	---	---	---	---
Sodium, dissolved (Na)	---	---	5.0	5.0	---	---	---	---	---	---
Potassium, dissolved (K)	---	---	1	1	---	---	---	---	---	---
Alkalinity, as CaCO3	---	---	76	76	---	---	---	---	---	---
Sulfate, dissolved (SO4)	---	---	5.0	5.0	---	---	---	---	---	---
Chloride, dissolved (Cl)	---	---	9.5	9.5	---	---	---	---	---	---
Fluoride, dissolved (F)	---	---	0.1	0.1	---	---	---	---	---	---
Silica, dissolved (SiO2)	---	---	11	11	---	---	---	---	---	---
Solids, dissolved, at 180°C	---	---	110	112	---	---	---	---	---	---
Nitrogen, NO2 + NO3, diss. (as N)	---	---	0.11	0.11	---	---	---	---	---	---
Nitrogen, ammonia, dissolved (as N)	---	---	0.06	0.06	---	---	---	---	---	---
Nitrogen, amm. + org., total (as N)	---	---	0.40	0.40	---	---	---	---	---	---
Nitrogen, total (as N)	---	---	0.51	0.51	---	---	---	---	---	---
Phosphorus, total (as P)	---	---	0.015	0.025	0.018	0.030	0.019	0.130	0.032	0.040
Phosphorus, ortho, dissolved (as P)	---	---	0.010	0.008	---	---	---	---	---	---
Iron, dissolved (Fe) µg/L	---	---	<50	50	---	---	---	---	---	---
Manganese, dissolved (Mn) µg/L	---	---	44	44	---	---	---	---	---	---
Chlorophyll a, phytoplankton (µg/L)	---	---	0.3	---	6.1	---	7.8	---	18	---





Surface total phosphorus and chlorophyll a concentrations, and Secchi depths for Balsam Lake, off Cedar Island, at Balsam Lake, Wisconsin.

452858092265300 BALSAM LAKE, OFF LITTLE NARROWS, NEAR BALSAM LAKE, WI

LOCATION.--Lat 45°28'58", long 92°26'53", in NE 1/4 NE 1/4 sec.34, T.35 N., R.17 W., Polk County, Hydrologic Unit 07030005, 2.1 mi north of Balsam Lake.

PERIOD OF RECORD.--May 1991 to current year.

REMARKS.--Lake sampled about 0.25 mi northwest of Little Narrows. Water-quality analyses by Wisconsin State Laboratory of Hygiene.

WATER-QUALITY DATA, MAY 02 TO AUGUST 17, 1994
(Milligrams per liter unless otherwise indicated)

	May 02	June 14	July 12	Aug. 17
Depth of sample (ft)	1.5	1.5	1.5	1.5
Lake stage (ft)	7.91	7.53	7.69	7.45
Specific conductance (µS/cm)	213	204	192	202
pH (units)	8.4	7.8	8.4	8.4
Water temperature (°C)	9.5	21.5	24.5	21.5
Secchi-depth (meters)	1.5	2.4	1.5	1.1
Dissolved oxygen	10.3	8.1	10.3	9.8
Phosphorus, total (as P)	0.023	0.015	0.023	0.028
Chlorophyll a, phytoplankton (µg/L)	6.3	4.9	11	8.4

452754092234300 BALSAM LAKE, OFF ROCK ISLAND, NEAR BALSAM LAKE, WI

LOCATION.--Lat 45°27'54", long 92°23'43", in NW 1/4 NE 1/4 sec.6, T.34 N., R.16 W., Polk County, Hydrologic Unit 07030005, 3 mi northeast of Balsam Lake.

PERIOD OF RECORD.--May 1991 to current year.

REMARKS.--Lake sampled in eastern bay about 0.25 mi northeast of Rock Island. Water-quality analyses by Wisconsin State Laboratory of Hygiene.

WATER-QUALITY DATA, MAY 02 TO AUGUST 17, 1994
(Milligrams per liter unless otherwise indicated)

	May 02	June 14	July 12	Aug. 17
Depth of sample (ft)	1.5	1.5	1.5	1.5
Lake stage (ft)	7.91	7.53	7.69	7.45
Specific conductance (µS/cm)	167	171	163	171
pH (units)	8.7	8.0	8.1	8.8
Water temperature (°C)	11.0	22.0	23.5	21.5
Secchi-depth (meters)	4.9	2.7	2.1	1.0
Dissolved oxygen	10.4	8.4	7.9	10.5
Phosphorus, total (as P)	0.007	0.013	0.025	0.028
Chlorophyll a, phytoplankton (µg/L)	0.4	4.8	6.1	15

425344088070100 BIG MUSKEGO LAKE, BASS BAY, NEAR MUSKEGO, WI

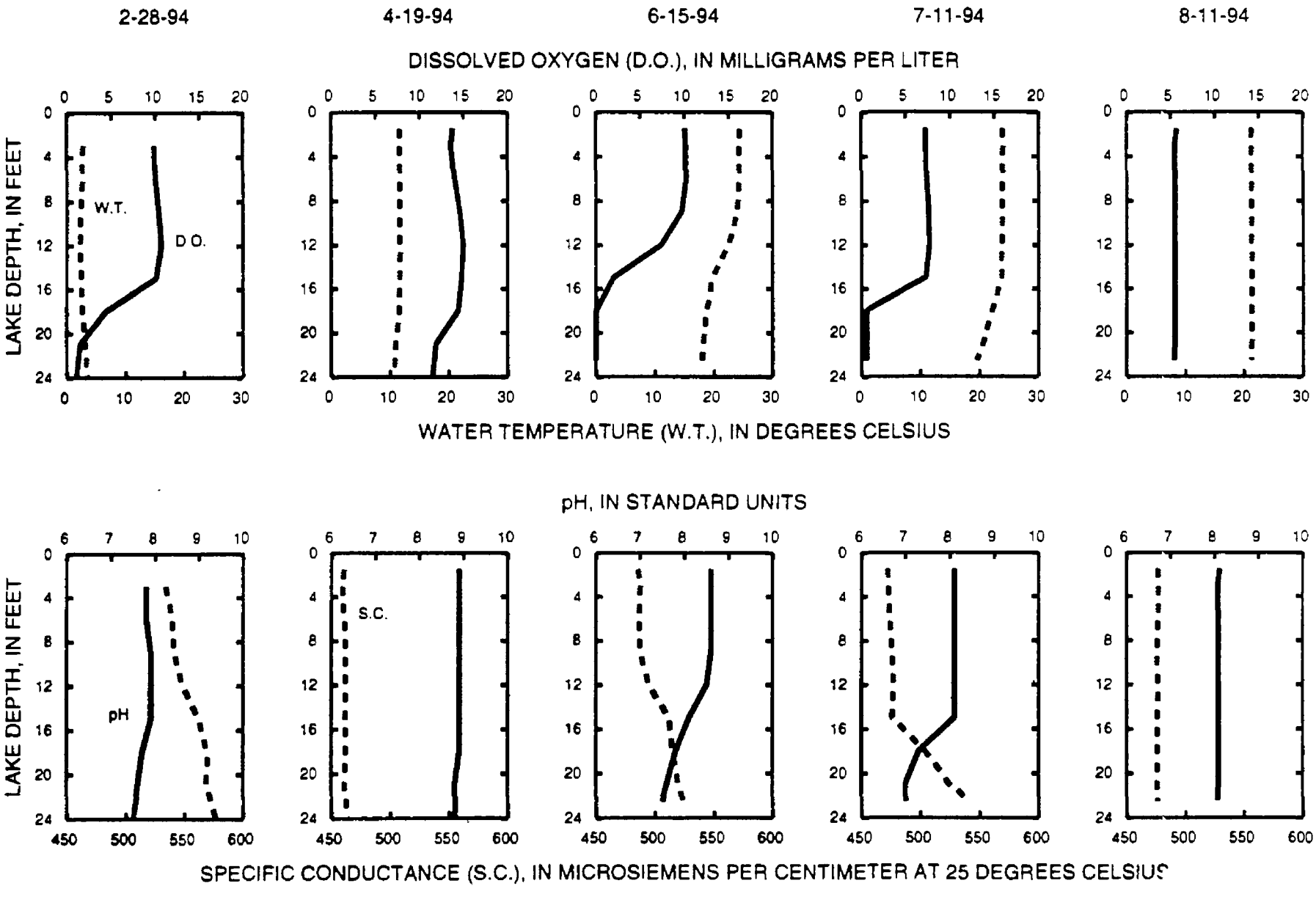
LOCATION.--Lat 42°53'44", long 88°07'01", in SW 1/4 NE 1/4 sec.15, T.5 N., R.20 E., Waukesha County, Hydrologic Unit 07120006, 1.3 mi southeast of Muskego.

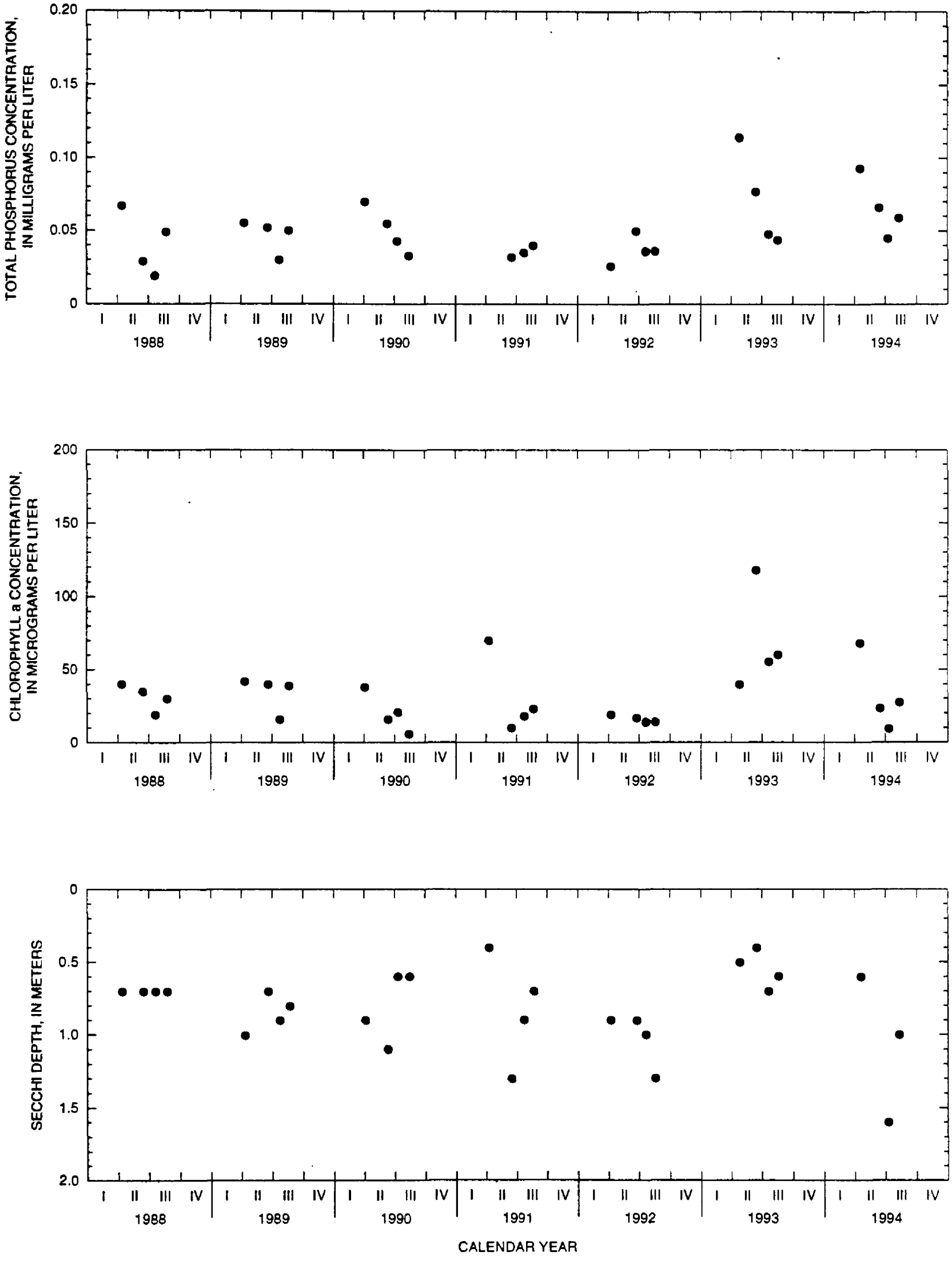
PERIOD OF RECORD.--February 1988 to current year.

REMARKS.--Lake sampled near center of lake at deep hole. Lake ice-covered during February sampling. Lake stages read at outlet of Big Muskego Lake. Water-quality analyses by Wisconsin State Laboratory of Hygiene.

WATER-QUALITY DATA, FEBRUARY 28 TO AUGUST 11, 1994
(Milligrams per liter unless otherwise indicated)

	Feb. 28		Apr. 19		June 15		July 11		Aug. 11	
Depth of sample (ft)	3.0	24	1.5	24	1.5	22	1.5	22	1.5	22
Lake stage (ft)	---		---		11.26		11.71		11.85	
Specific conductance (µS/cm)	534	577	461	463	486	524	472	542	477	476
pH (units)	7.8	7.5	8.9	8.8	8.6	7.5	8.1	7.0	8.1	8.1
Water temperature (°C)	3.0	3.5	11.5	10.5	24.5	18.0	24.0	19.5	21.5	21.5
Secchi-depth (meters)	---		0.6		---		1.6		1.0	
Dissolved oxygen	9.9	1.1	13.8	11.5	10.1	0.0	7.3	0.6	5.7	5.4
Phosphorus, total (as P)	---	---	0.093	0.080	0.066	0.176	0.045	0.300	0.059	0.075
Chlorophyll a, phytoplankton(µg/L)	---	---	68	---	23	---	9.4	---	28	---





Surface total phosphorus and chlorophyll a concentrations, and Secchi depths for Big Muskego Lake, Bass Bay, near Muskego, Wisconsin.

425235088075300 BIG MUSKEGO LAKE, RESEARCH BASE, NEAR MUSKEGO, WI

LOCATION.--Lat 42°52'35", long 88°07'53", in NE 1/4 SE 1/4 sec.21, T.5 N., R.20 E., Waukesha County, Hydrologic Unit 07120006, near Muskego.

DRAINAGE AREA.--33.9 mi^2.

PERIOD OF RECORD.--May to June 1994.

REMARKS.--Lake sampled at west side of lake at a depth of about 2 ft. Special research site. Water-quality analyses by Wisconsin State Laboratory of Hygiene.

WATER-QUALITY DATA, MAY 19 TO JULY 25, 1994
(Milligrams per liter unless otherwise indicated)

	May 19		June 01		June 15	
Depth of sample (ft)	0.2	1.8	0.2	2.0	0.2	1.8
Lake stage (ft)	---		11.51		11.26	
Specific conductance (µS/cm)	449	480	455	452	465	477
pH (units)	9.3	9.0	9.5	9.4	9.3	9.2
Water temperature (°C)	21.5	20.0	19.0	19.0	26.5	24.0
Turbidity (NTU)	5.6	7.3	7.2	1.00	6.8	7.8
Secchi-depth (meters)	---		---		---	
Dissolved oxygen	13.0	12.0	11.3	10.2	9.2	6.0
Phosphorus, total (as P)	0.064	0.084	0.092	0.118	0.103	0.114
Phosphorus, ortho, dissolved (as P)	<0.002	<0.002	0.005	0.004	0.006	0.008
Iron, dissolved (Fe) µg/L	<50	<50	<50	<50	<50	<50
Manganese, dissolved (Mn) µg/L	<40	<40	<40	<40	<40	<40
Chlorophyll a, phytoplankton (µg/L)	---	---	---	---	25	---

	June 29		July 11		July 25	
Depth of sample (ft)	0.2	2.0	0.2	2.4	0.2	2.4
Lake stage (ft)	11.35		11.71		11.62	
Specific conductance (µS/cm)	455	459	395	396	474	474
pH (units)	9.3	9.3	8.4	8.4	8.7	8.8
Water temperature (°C)	21.5	21.5	22.5	22.5	24.5	24.5
Turbidity (NTU)	9.1	9.7	3.5	3.7	5.8	5.2
Secchi-depth (meters)	---		---		---	
Dissolved oxygen	8.4	6.3	9.7	8.8	8.4	8.1
Phosphorus, total (as P)	0.118	0.113	0.083	0.086	0.091	0.089
Phosphorus, ortho, dissolved (as P)	<0.002	0.002	<0.002	<0.002	<0.002	<0.002
Iron, dissolved (Fe) µg/L	<50	<50	60	70	<50	<50
Manganese, dissolved (Mn) µg/L	<40	<40	<40	<40	<40	<40

425212088072800 BIG MUSKEGO LAKE, SOUTH SITE, NEAR MUSKEGO, WI

LOCATION.--Lat 42°52'12", long 88°07'28", in NW 1/4 NW 1/4 sec.27, T.5 N., R.20 E., Waukesha County, Hydrologic Unit 07120006, near Muskego.

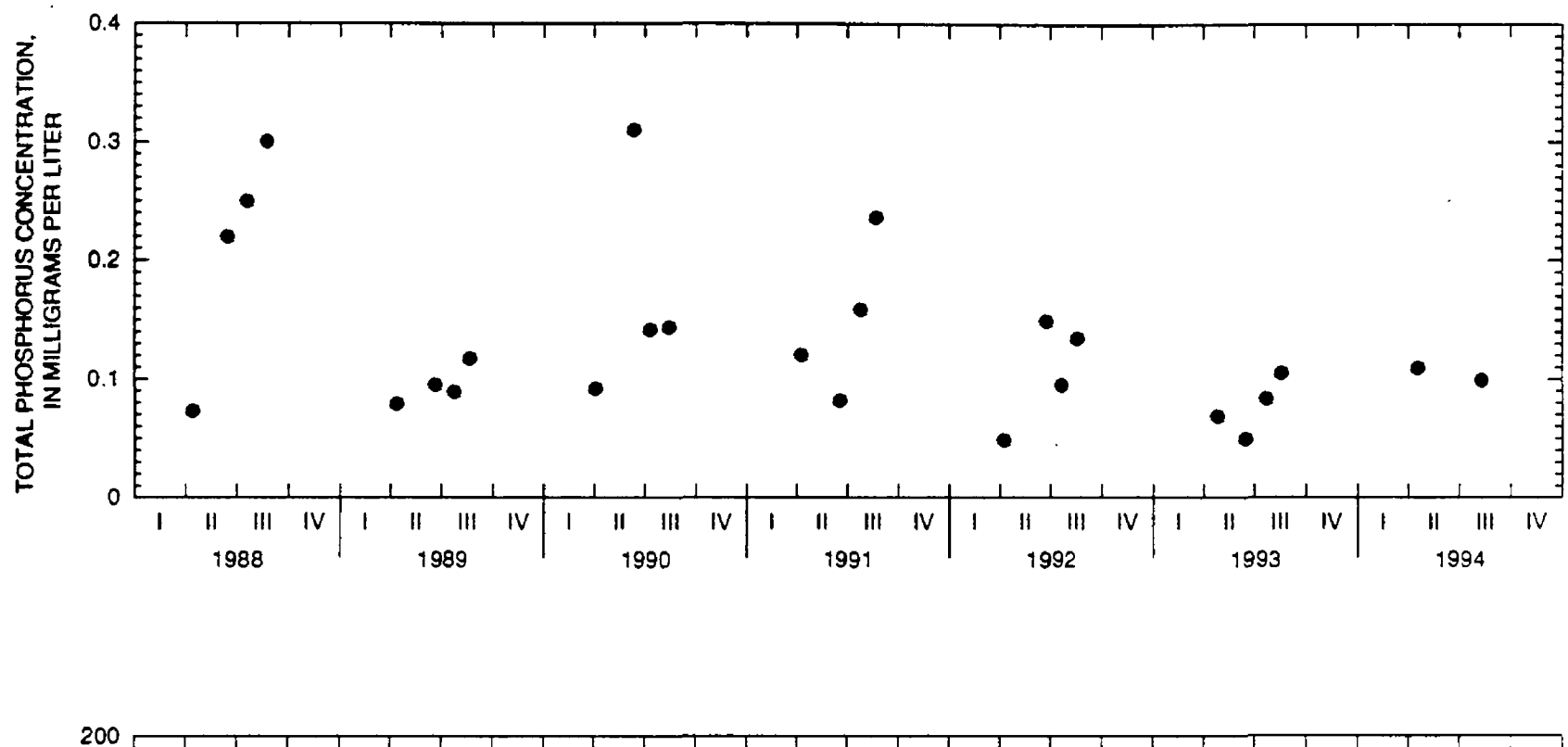
DRAINAGE AREA.--33.9 mi^2.

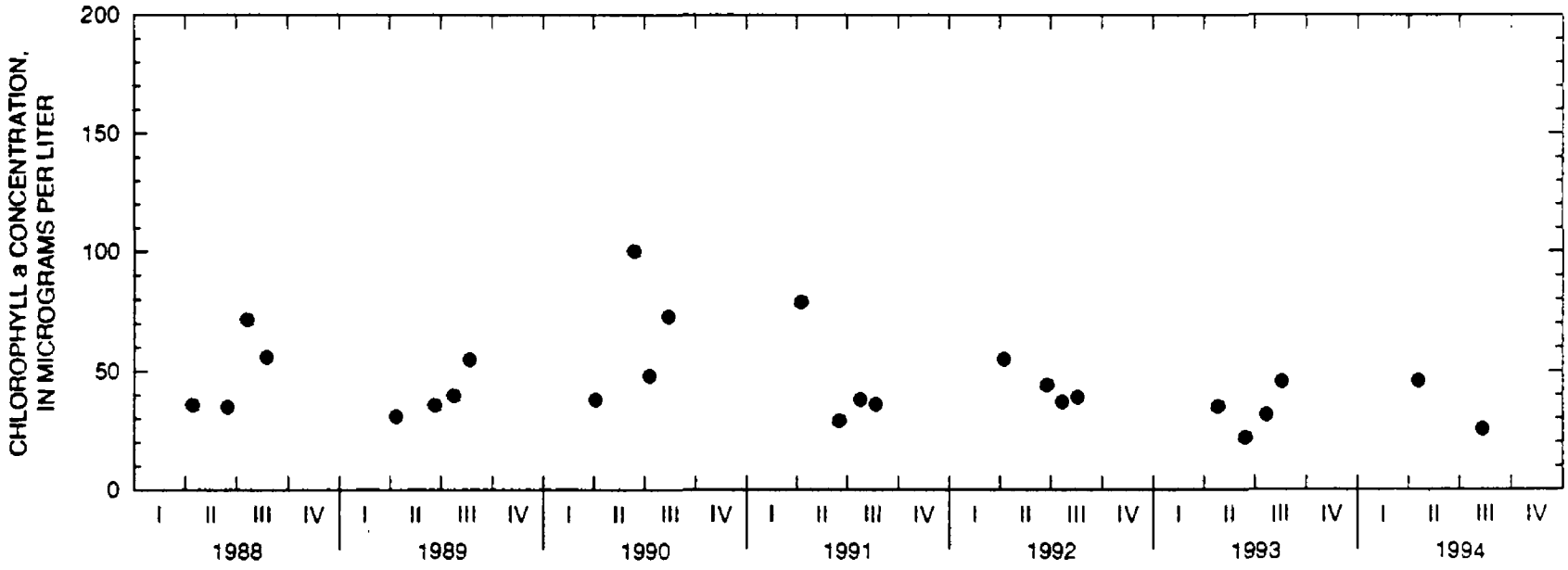
PERIOD OF RECORD.--February 1988 to current year.

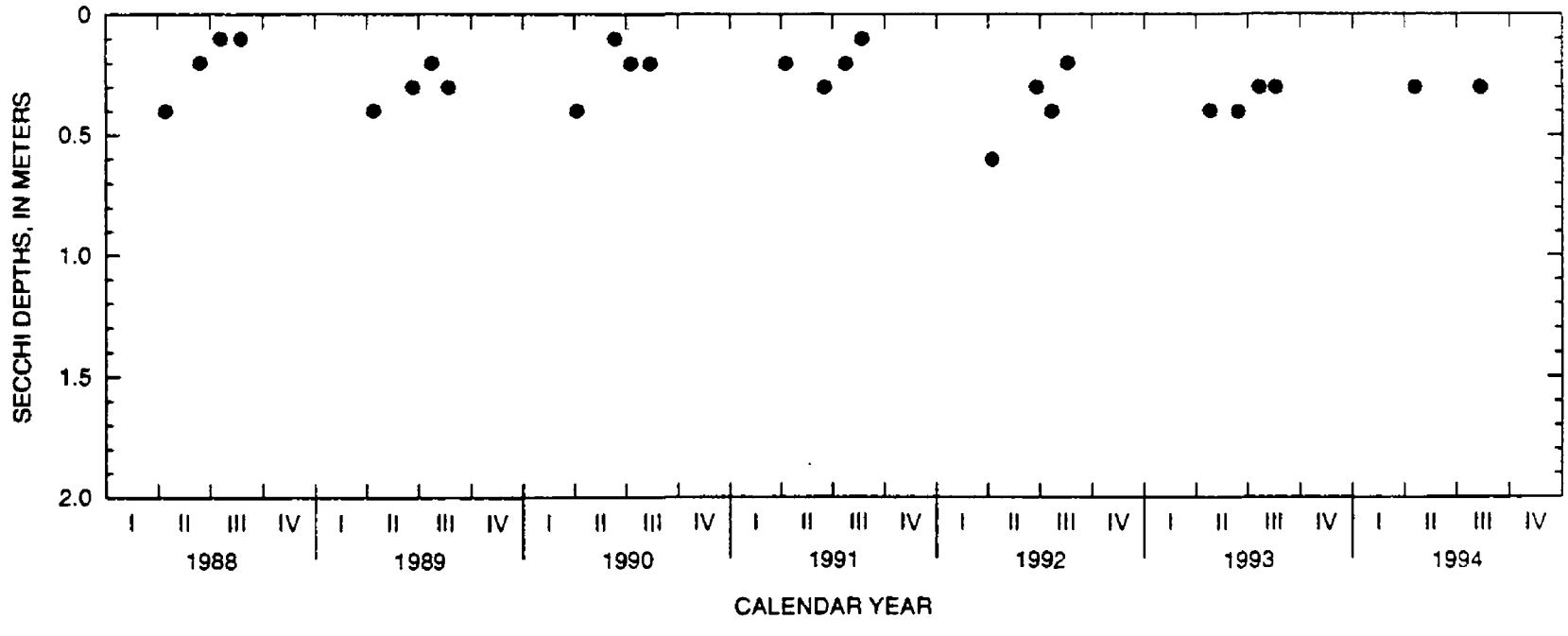
REMARKS.--Lake sampled at south end of lake at a depth of about 3 ft. Lake ice-covered during February sampling. Water-quality analyses by Wisconsin State Laboratory of Hygiene.

WATER-QUALITY DATA, FEBRUARY 28 TO AUGUST 11, 1994
(Milligrams per liter unless otherwise indicated)

	Feb. 28		Apr. 19	Aug. 11	
Depth of sample (ft)	0.5	2.5	0.5	0.5	2.0
Lake stage (ft)	---		---	11.85	
Specific conductance (µS/cm)	456	465	450	422	422
pH (units)	7.4	7.5	8.5	9.0	9.0
Water temperature (°C)	2.5	1.5	15.5	17.0	17.0
Color (Pt-Co. scale)	---	---	20	---	---
Turbidity (NTU)	---	---	15	---	---
Secchi-depth (meters)	---		0.3	0.3	
Dissolved oxygen	6.2	5.7	11.4	7.2	6.8
Hardness, as CaCO3	---	---	190	---	---
Calcium, dissolved (Ca)	---	---	38	---	---
Magnesium, dissolved (Mg)	---	---	22	---	---
Sodium, dissolved (Na)	---	---	20	---	---
Potassium, dissolved (K)	---	---	2	---	---
Alkalinity, as CaCO3	---	---	160	---	---
Sulfate, dissolved (SO_4)	---	---	27	---	---
Chloride, dissolved (Cl)	---	---	38	---	---
Fluoride, dissolved (F)	---	---	0.2	---	---
Silica, dissolved (SiO_2)	---	---	<0.2	---	---
Solids, dissolved, at 180°C	---	---	276	---	---
Nitrogen, NO_2 + NO_3, diss. (as N)	---	---	<0.01	---	---
Nitrogen, ammonia, dissolved (as N)	---	---	0.01	---	---
Nitrogen, amm. + org., total (as N)	---	---	1.1	---	---
Nitrogen, total (as N)	---	---	1.1	---	---
Phosphorus, total (as P)	---	---	0.109	0.099	0.104
Phosphorus, ortho, dissolved (as P)	---	---	0.002	0.002	0.004
Iron, dissolved (Fe) µg/L	---	---	<50	---	---
Manganese, dissolved (Mn) µg/L	---	---	<40	---	---
Chlorophyll a, phytoplankton (µg/L)	---	---	46	25	---







Surface total phosphorus and chlorophyll a concentrations, and Secchi depths for Big Muskego Lake, South Site, near Muskego, Wisconsin.

425109088075000 BIG MUSKEGO LAKE NEAR WIND LAKE, WI

LOCATION.--Lat 42°51'09", long 88°07'50", in SE 1/4 NE 1/4 sec.33, T.5 N., R.20 E., Waukesha County, Hydrologic Unit 07120006, on left bank 8 ft upstream of dam outlet of Muskego Lake, 700 ft north of Muskego Dam Drive, 2 mi northeast of Wind Lake.

DRAINAGE AREA.--28.3 mi^2.

PERIOD OF RECORD.--October 1987 to September 1989, January 1991 to current year.

GAGE.--Nonrecording gage. Staff read by the City of Muskego, Department of Public Works. Datum of gage is 760 ft above sea level. Between December 1987 and September 1989, data were collected using a water-stage recorder located on the right bank and at the same datum. Prior to December 18, 1987, nonrecording gage on right bank and at the same datum.

REMARKS.--Records good. Lake levels regulated by concrete dam with one 5-foot lift gate. Formerly called Muskego Lake Outlet near Wind Lake, WI.

EXTREMES FOR PERIOD OF RECORD.--Maximum observed gage height, 12.60 ft, Oct. 7, 1991 and Aug. 8, 1994; minimum instantaneous, 9.81 ft, Sept. 20, 1988.

EXTREMES FOR CURRENT YEAR.--Maximum observed gage-height, 12.60 ft, Aug. 8; minimum observed, 11.20 ft, June 20, 27.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	11.60	---	---	---	---	---	---	---	---	11.66	---
2	---	---	---	---	---	---	---	11.60	---	---	---	---
3	---	---	---	11.64	---	---	---	---	---	---	---	---
4	11.72	---	---	---	---	---	11.62	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	11.38	---	11.70
6	---	---	11.68	---	---	---	---	---	11.40	---	---	---
7	---	---	---	---	11.62	11.95	---	---	---	---	---	---
8	---	11.60	---	---	---	---	---	---	---	---	12.60	---
9	---	---	---	---	---	---	---	11.68	---	---	---	---
10	---	---	---	11.62	---	---	---	---	---	---	---	---
11	11.57	---	---	---	---	---	11.62	---	---	11.71	11.85	---
12	---	---	---	---	---	---	---	---	---	---	---	11.60
13	---	---	11.62	---	---	---	---	---	11.28	---	---	---
14	---	---	---	---	11.62	12.00	---	---	---	---	---	---
15	---	11.70	---	---	---	---	---	---	11.26	---	12.40	---
16	---	---	---	---	---	---	---	11.66	---	---	---	---
17	---	---	---	11.62	---	---	---	---	---	---	---	---
18	11.59	---	---	---	---	---	11.62	---	---	11.60	---	---
19	---	---	---	---	---	---	---	---	---	---	---	11.60
20	---	---	11.70	---	---	---	---	---	11.20	---	---	---
21	---	---	---	---	12.10	11.90	---	---	---	---	---	---
22	---	11.70	---	---	---	---	---	---	---	---	12.20	---
23	---	---	---	---	---	---	---	11.60	---	---	---	---
24	---	---	---	11.62	---	---	---	---	---	---	---	---
25	11.50	---	---	---	---	---	11.64	---	---	11.64	---	---
26	---	---	---	---	---	---	---	---	---	---	---	11.62
27	---	---	11.68	---	---	---	---	---	11.20	---	---	---
28	---	---	---	---	12.05	11.87	---	---	---	---	---	---
29	---	11.70	---	---	---	---	---	---	---	---	11.90	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	11.62	---	---	---	11.58	---	---	---	---

05390750 BIG ST. GERMAIN LAKE NEAR LAKE TOMAHAWK, WI

LOCATION.--Lat 45°55'00", long 89°31'55", in NE 1/4 SE 1/4 sec.30, T.40 N., R.8 E., Vilas County, Hydrologic Unit 07070001, at dam outlet, 7.7 mi northeast of Lake Tomahawk.

DRAINAGE AREA.--73.1 mi^2.

PERIOD OF RECORD.--October 1992 to current year. Lake stages for previous years were recorded by Wisconsin Valley Improvement Company.

GAGE.--Nonrecording staff gage. Datum of gage is 1,580 ft, above sea level.

COOPERATION.--Lake stages provided by Wisconsin Valley Improvement Company.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height observed, 10.78 ft, July 9, Sept. 15, 16, 1994; minimum observed, 8.32 ft, Mar. 1, 2, 1993.

EXTREMES FOR CURRENT YEAR.--Maximum gage height observed, 10.78 ft, July 9, Sept. 15, 16; minimum observed, 8.38 ft, Mar. 13, 14.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10.52	10.04	9.36	8.84	8.60	8.50	8.52	9.72	10.62	10.52	10.54	10.54
2	10.52	10.02	---	---	---	---	8.50	9.78	10.58	10.52	10.58	10.52
3	10.50	10.02	9.22	---	---	---	8.50	9.82	10.54	10.52	10.58	10.50
4	10.50	10.02	---	8.78	8.58	8.48	8.50	9.84	10.50	10.52	10.64	10.50
5	10.52	10.06	---	---	---	---	8.50	9.92	10.52	10.58	10.58	10.50
6	10.60	---	---	---	---	---	8.50	9.98	10.54	10.68	10.54	10.52
7	10.56	---	9.20	8.82	---	---	8.48	10.02	10.58	10.62	10.50	10.52
8	10.54	---	---	---	8.58	8.42	8.48	10.08	10.52	10.60	10.60	10.52
9	10.58	9.72	---	---	---	8.40	8.48	10.12	10.50	10.78	10.56	10.52
10	10.52	---	9.16	---	---	8.40	8.48	10.18	10.46	10.74	10.54	10.52
11	10.52	---	---	8.80	8.54	8.40	8.46	10.20	10.50	10.74	10.52	10.50
12	10.56	9.66	---	---	---	8.40	8.46	10.26	10.52	10.72	10.52	10.50
13	10.56	---	---	---	---	8.38	8.48	10.32	10.62	10.70	10.50	10.58
14	10.56	---	9.10	8.78	---	8.38	8.50	10.38	10.62	10.58	10.48	10.66
15	10.58	9.58	---	---	8.52	8.40	8.54	10.44	10.58	10.50	10.50	10.78
16	10.60	---	---	---	---	8.40	8.58	10.50	10.56	10.54	10.50	10.78
17	10.60	---	9.06	---	---	8.40	8.64	10.50	10.54	10.56	10.50	10.72
18	10.50	---	---	8.78	8.50	8.40	8.72	10.52	10.60	10.54	10.52	10.68
19	10.50	9.52	---	---	---	8.40	8.74	10.56	10.54	10.56	10.52	10.62
20	10.42	---	---	---	---	8.40	9.06	10.58	10.46	10.60	10.56	10.56
21	10.38	---	8.98	8.68	---	8.40	9.10	10.60	10.44	10.58	10.54	10.58
22	10.28	---	---	---	8.50	8.42	9.16	10.60	10.44	10.60	10.52	10.62
23	10.22	9.40	---	---	8.48	8.42	9.20	10.60	10.42	10.56	10.52	10.66
24	10.20	---	8.90	---	---	8.44	9.22	10.60	10.42	10.52	10.52	10.60
25	10.18	---	---	8.60	8.50	8.46	9.30	10.58	10.44	10.50	10.52	10.58
26	10.20	9.38	---	---	---	8.48	9.38	10.58	10.44	10.48	10.52	10.64
27	10.20	---	---	---	---	8.48	9.50	10.56	10.42	10.50	10.52	10.62
28	10.10	---	8.86	8.54	---	8.50	9.50	10.56	10.48	10.46	10.54	10.60
29	10.02	---	---	---	---	8.52	9.50	10.56	10.52	10.50	10.52	10.58
30	9.94	9.36	---	---	---	8.52	9.68	10.60	10.52	10.50	10.56	10.54
31	9.88	---	8.84	---	---	8.52	---	10.66	---	10.52	10.56	---
MEAN	10.40	---	---	---	---	---	8.82	10.33	10.51	10.58	10.54	10.59
MAX	10.60	---	---	---	---	---	9.68	10.66	10.62	10.78	10.64	10.78
MIN	9.88	---	---	---	---	---	8.46	9.72	10.42	10.46	10.48	10.50

455557089311000 BIG ST. GERMAIN LAKE NEAR ST. GERMAIN, WI

LOCATION.--Lat 45°55'57", long 89°31'10", in NE 1/4 SW 1/4 sec.20, T.40 N., R.8 E., Vilas County, Fydrologic Unit 07070001, 2.5 mi northwest of St. Germain.

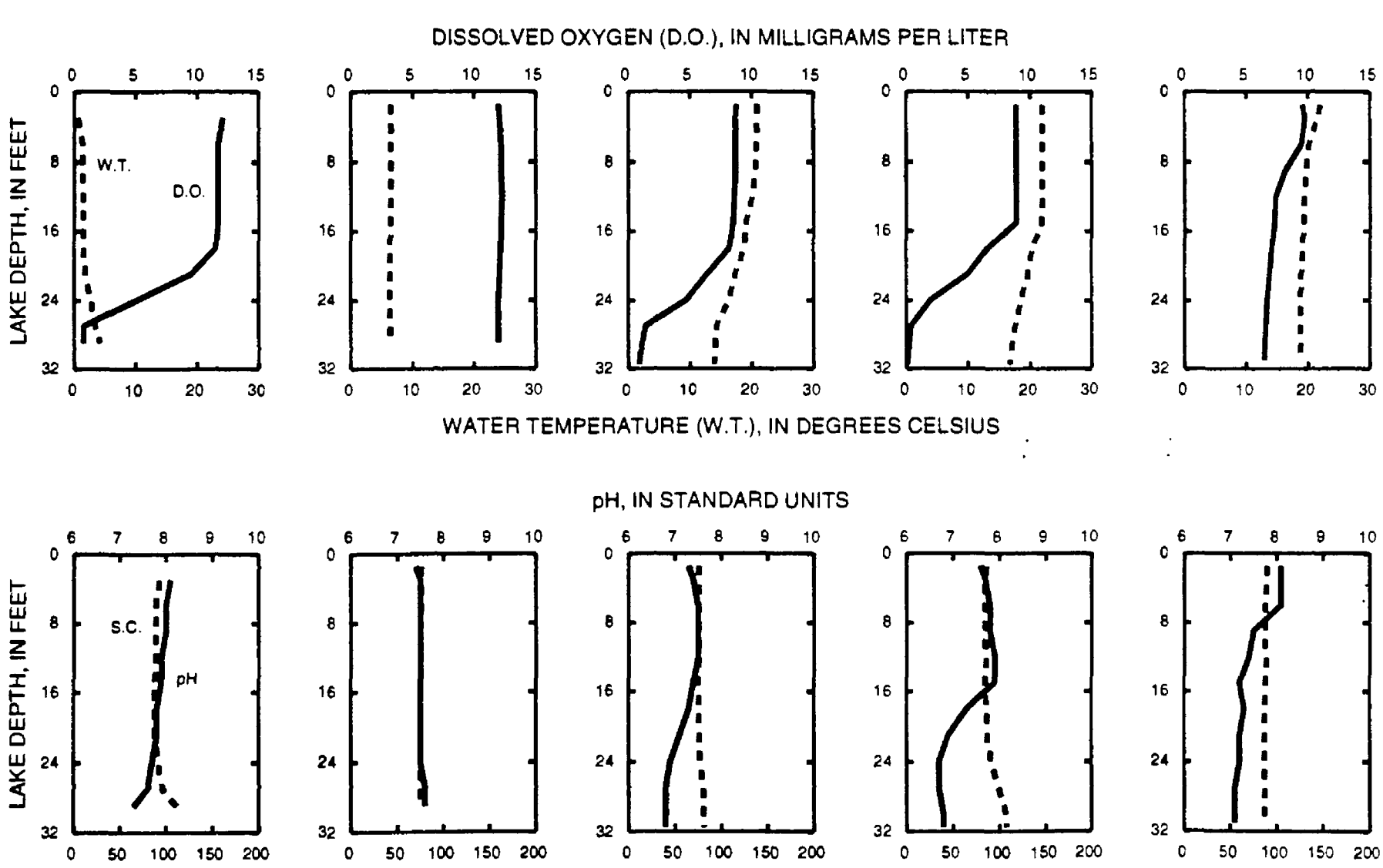
DRAINAGE AREA.--73.1 mi^2.

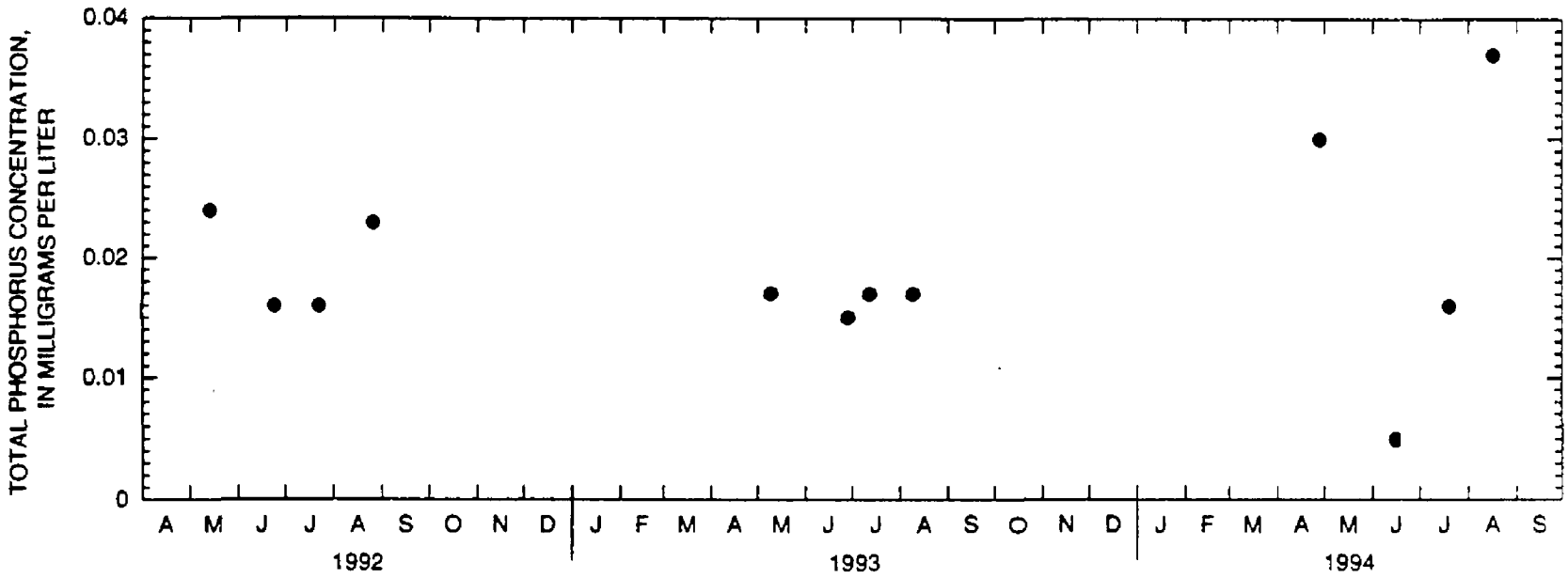
PERIOD OF RECORD.--February 1992 to current year.

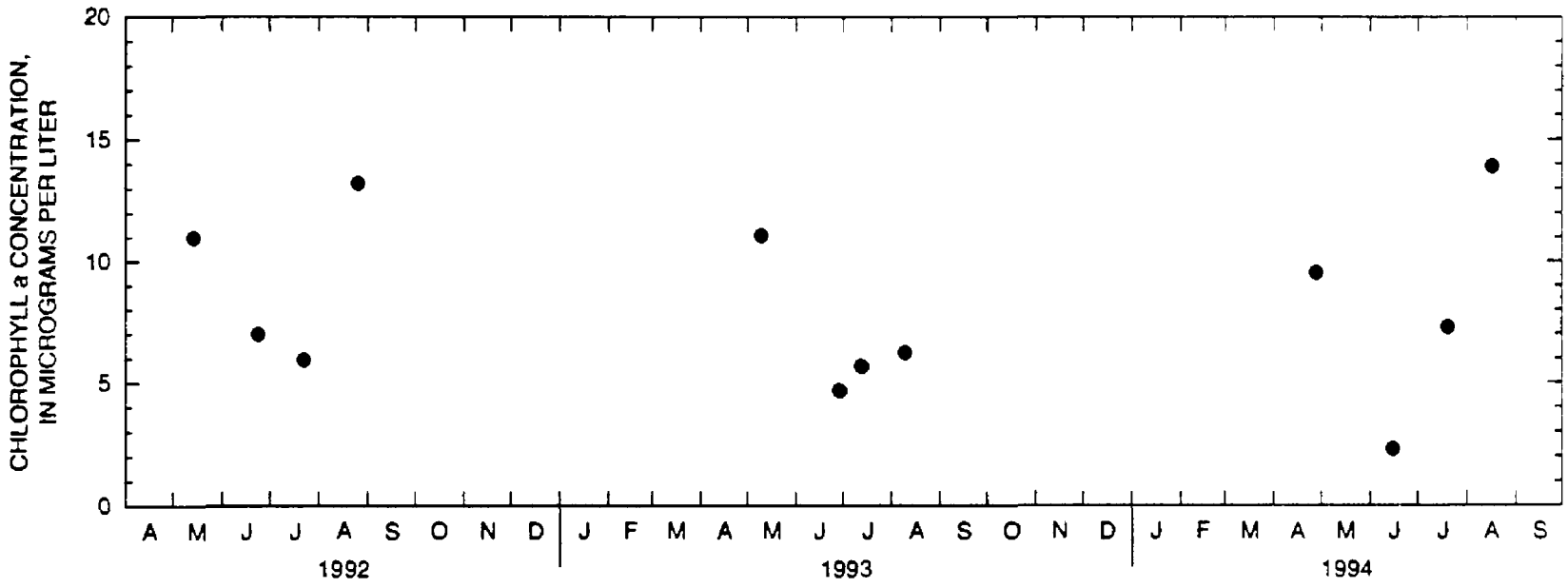
REMARKS.--Lake sampled near center of lake at deep hole. Lake ice-covered during February sampling. Water-quality analyses by Wisconsin State Laboratory of Hygiene.

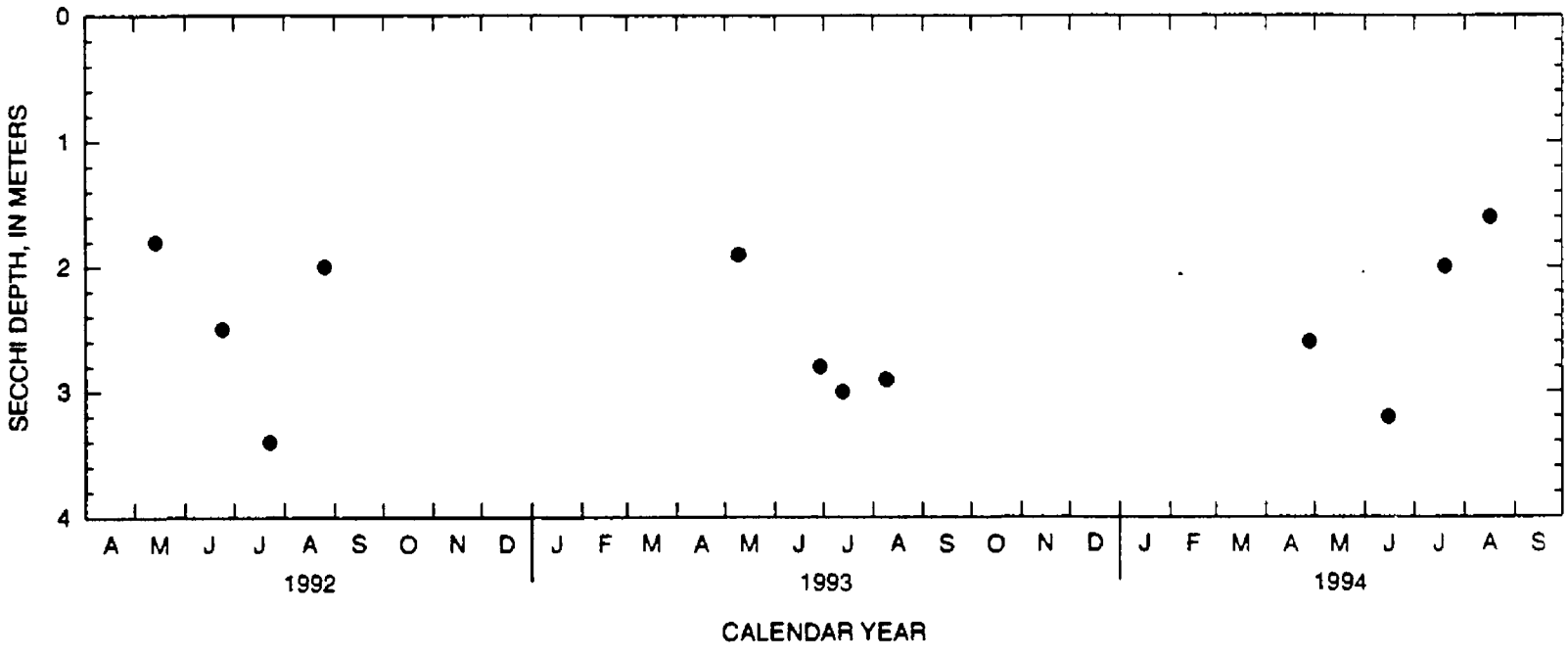
WATER-QUALITY DATA, FEBRUARY 23 TO AUGUST 17, 1994
(Milligrams per liter unless otherwise indicated)

	Feb. 23		Apr. 28		June 16		July 20		Aug. 17	
Depth of sample (ft)	3.0	29	1.5	29	1.5	31	1.5	31	1.5	31
Lake stage (ft)	8.48		9.56		10.55		10.61		10.50	
Specific conductance (µS/cm)	93	112	76	76	76	82	86	108	90	87
pH (units)	8.1	7.3	7.4	7.6	7.3	6.8	7.6	6.8	8.1	7.1
Water temperature (°C)	0.5	4.5	6.5	6.5	21.0	14.0	22.0	17.0	22.0	19.0
Color (Pt-Co. scale)	---	---	10	5	---	---	---	---	---	---
Turbidity (NTU)	---	---	1.2	1.3	---	---	---	---	---	---
Secchi-depth (meters)	---		2.6		3.2		2.0		1.6	
Dissolved oxygen	12.1	0.8	12.0	12.0	8.8	0.9	8.9	0.1	9.6	6.5
Hardness, as CaCO3	---	---	41	38	---	---	---	---	---	---
Calcium, dissolved (Ca)	---	---	11	10	---	---	---	---	---	---
Magnesium, dissolved (Mg)	---	---	3.2	3.2	---	---	---	---	---	---
Sodium, dissolved (Na)	---	---	2.2	2.2	---	---	---	---	---	---
Potassium, dissolved (K)	---	---	0.6	0.6	---	---	---	---	---	---
Alkalinity, as CaCO3	---	---	37	37	---	---	---	---	---	---
Sulfate, dissolved (SO4)	---	---	4.0	5.0	---	---	---	---	---	---
Chloride, dissolved (Cl)	---	---	2.3	2.3	---	---	---	---	---	---
Fluoride, dissolved (F)	---	---	0.0	0.1	---	---	---	---	---	---
Silica, dissolved (SiO2)	---	---	12	12	---	---	---	---	---	---
Solids, dissolved, at 180°C	---	---	62	62	---	---	---	---	---	---
Nitrogen, NO2 + NO3, diss. (as N)	---	---	<0.01	<0.01	---	---	---	---	---	---
Nitrogen, ammonia, dissolved (as N)	---	---	0.02	<0.00	---	---	---	---	---	---
Nitrogen, amm. + org., total (as N)	---	---	0.30	0.30	---	---	---	---	---	---
Nitrogen, total (as N)	---	---	0.30	0.30	---	---	---	---	---	---
Phosphorus, total (as P)	---	---	0.030	0.018	0.005	0.023	0.016	0.038	0.037	0.038
Phosphorus, ortho, dissolved (as P)	---	---	0.007	<0.002	---	---	---	---	---	---
Iron, dissolved (Fe) µg/L	---	---	<50	50	---	---	---	---	---	---
Manganese, dissolved (Mn) µg/L	---	---	99	94	---	---	---	---	---	---
Chlorophyll a, phytoplankton (µg/L)	---	---	9.5	---	2.3	---	7.3	---	14	---









Surface total phosphorus and chlorophyll a concentrations, and Secchi depths for Big St. Germain Lake near St. Germain, Wisconsin.

454724091303600 BIG SISSABAGAMA LAKE NEAR STONE LAKE, WI

LOCATION.--Lat 45°47'24", long 91°30'36", in NW 1/4 SE 1/4 sec.6, T.38 N., R.9 W., Sawyer County, Hydrologic Unit 07050001, near Stone Lake.

DRAINAGE AREA.--9.47 mi^2.

LAKE-STAGE RECORDS

PERIOD OF RECORD.--April 1986 to current year.

GAGE.--Staff gage read near lake outlet by Richard Roehrich. Elevation of lake is 1,320 ft above sea level, from topographic map.

EXTREMES FOR PERIOD OF RECORD: Maximum gage height observed, 6.09 ft, May 7 and Sept. 15, 1991; minimum observed, 4.78 ft, Sept. 15, 16, 1988.

EXTREMES FOR CURRENT YEAR.--Maximum gage height observed, 5.98 ft, Sept. 16; minimum observed, 5.38 ft, Nov. 24.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.62	5.49	---	---	---	---	5.49	---	5.63	5.57	5.64	5.53
2	5.59	5.48	---	---	---	---	5.49	5.84	5.62	5.56	5.63	5.52
3	5.59	5.48	---	---	---	---	5.49	5.84	5.60	5.54	5.72	5.52
4	5.56	5.47	5.53	---	---	---	5.49	5.81	5.58	5.53	5.70	5.52
5	5.55	5.55	5.53	---	---	---	5.49	5.79	5.63	5.69	5.69	5.51
6	5.53	5.52	5.52	---	---	---	5.51	5.77	5.63	5.70	5.69	5.51
7	5.50	---	5.52	---	---	---	5.52	5.76	5.61	5.69	5.67	5.50
8	5.57	---	5.52	---	---	5.43	5.50	5.73	5.59	5.70	5.64	5.49
9	5.57	5.52	5.52	---	---	---	5.49	5.73	5.58	5.69	5.63	5.48
10	5.56	5.51	5.52	---	---	---	5.51	5.72	5.57	5.68	5.61	5.48
11	5.59	5.50	5.51	---	---	---	5.55	5.70	5.56	5.67	5.61	5.48
12	5.60	5.52	5.49	---	---	---	5.56	5.70	5.54	5.66	5.59	5.51
13	5.59	5.57	5.49	---	---	---	5.57	5.69	5.56	5.65	5.59	5.69
14	5.59	5.58	5.50	---	---	---	5.58	5.74	5.56	5.63	5.58	5.71
15	5.57	5.58	5.50	---	---	---	5.59	5.73	5.55	5.62	5.56	5.94
16	5.59	5.58	5.50	---	---	---	5.64	5.71	5.57	5.59	5.55	5.98
17	5.58	5.57	5.50	---	---	---	5.64	5.70	5.56	5.59	5.54	5.97
18	5.58	5.57	5.51	---	---	5.39	5.62	5.69	5.59	5.60	5.53	5.94
19	5.60	5.55	5.50	---	---	5.40	5.63	5.69	5.59	5.62	5.56	5.93
20	5.59	5.56	5.51	---	---	5.39	5.64	5.68	5.59	5.71	5.54	5.90
21	5.63	5.55	5.51	---	---	5.42	5.63	5.66	5.59	5.74	5.54	5.88
22	5.62	5.46	---	---	---	5.44	5.62	5.67	5.58	5.72	5.54	5.89
23	5.61	5.39	---	---	---	5.43	5.60	5.66	5.58	5.72	5.54	5.87
24	5.60	5.38	---	---	---	5.47	5.62	5.66	5.57	5.69	5.53	5.85
25	5.59	---	---	---	---	5.48	5.64	5.66	5.58	5.68	5.52	5.85
26	5.58	---	---	---	---	5.49	5.78	5.64	5.57	5.66	5.57	5.84
27	5.56	---	---	---	---	5.49	5.84	5.62	5.57	5.65	5.56	5.80
28	5.54	---	---	---	---	5.49	5.82	5.62	5.59	5.64	5.54	5.79
29	5.53	---	---	---	---	5.49	5.89	5.61	5.59	5.63	5.53	5.76
30	5.52	---	---	---	---	5.49	5.89	5.59	5.58	5.62	5.55	5.79
31	5.51	---	---	---	---	5.49	---	5.64	---	5.64	5.55	---
MEAN	5.57	---	---	---	---	---	5.61	---	5.58	5.65	5.59	5.71
MAX	5.63	---	---	---	---	---	5.89	---	5.63	5.74	5.72	5.98
MIN	5.50	---	---	---	---	---	5.49	---	5.54	5.53	5.52	5.48

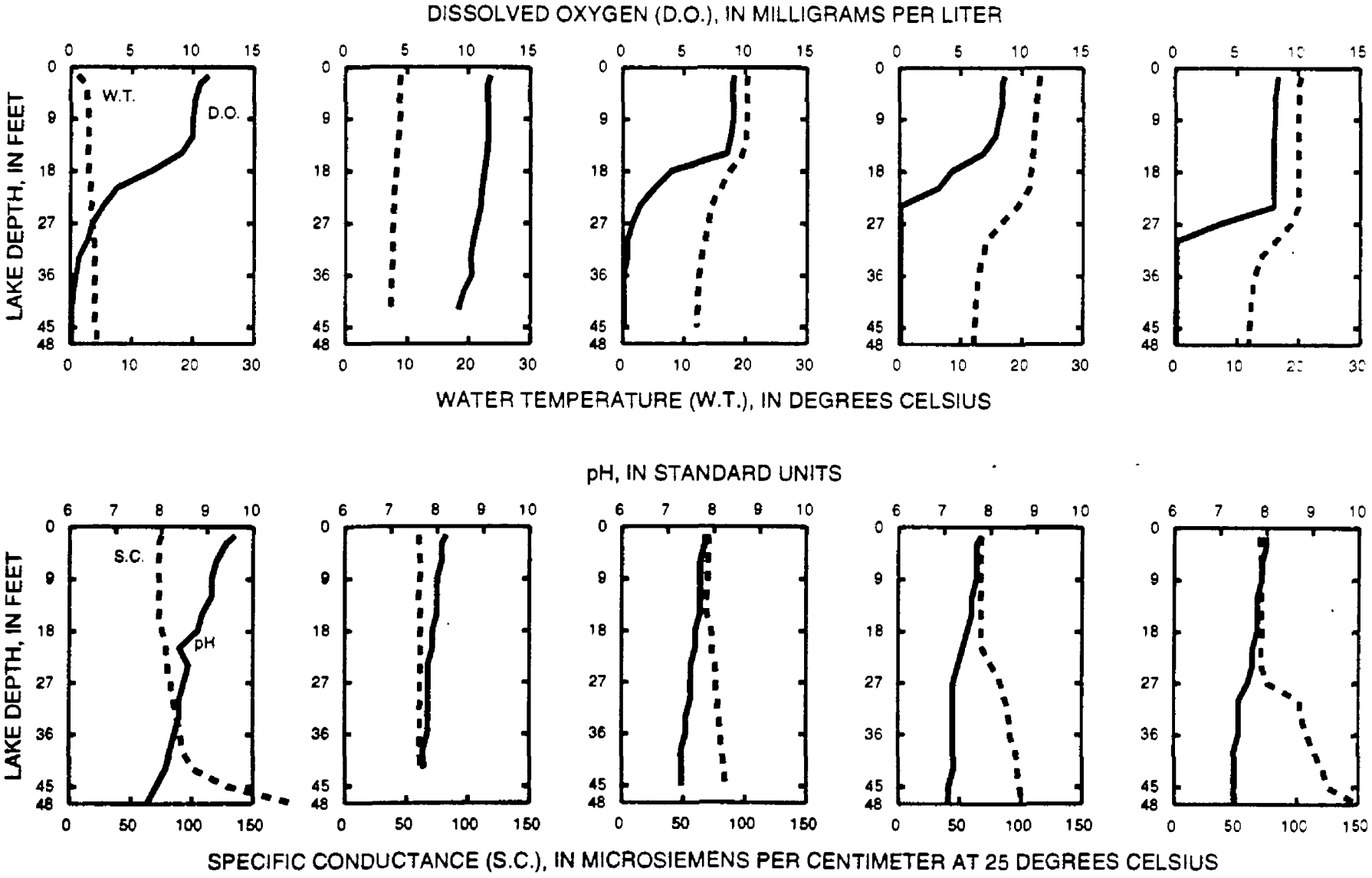
WATER-QUALITY RECORDS

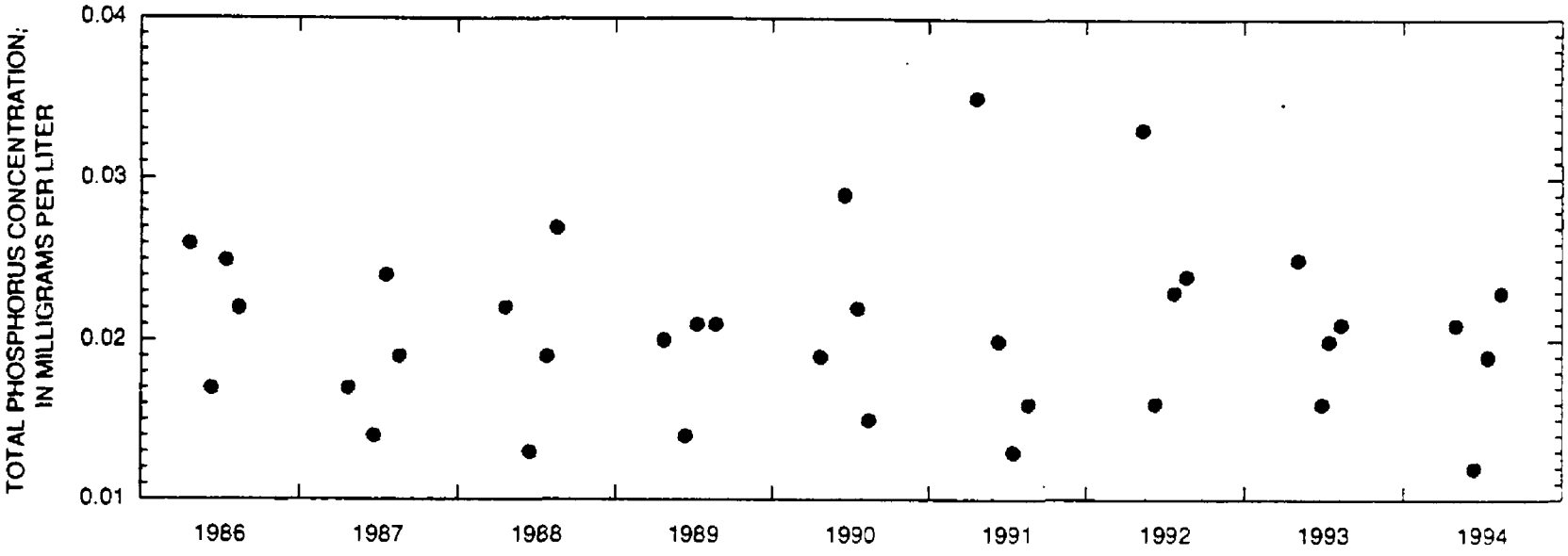
PERIOD OF RECORD.--March 1986 to current year.

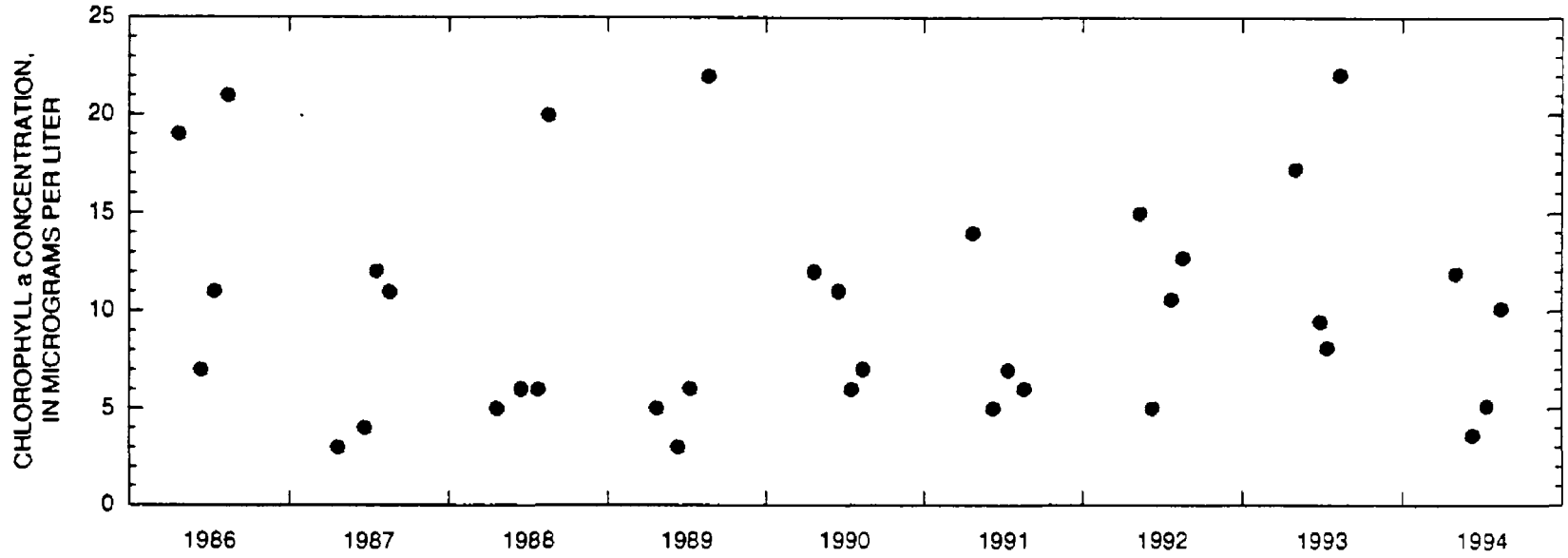
REMARKS.--Lake sampled near center at a lake depth of about 48 ft. Lake ice-covered during March sampling. Water-quality analyses by Wisconsin State Laboratory of Hygiene.

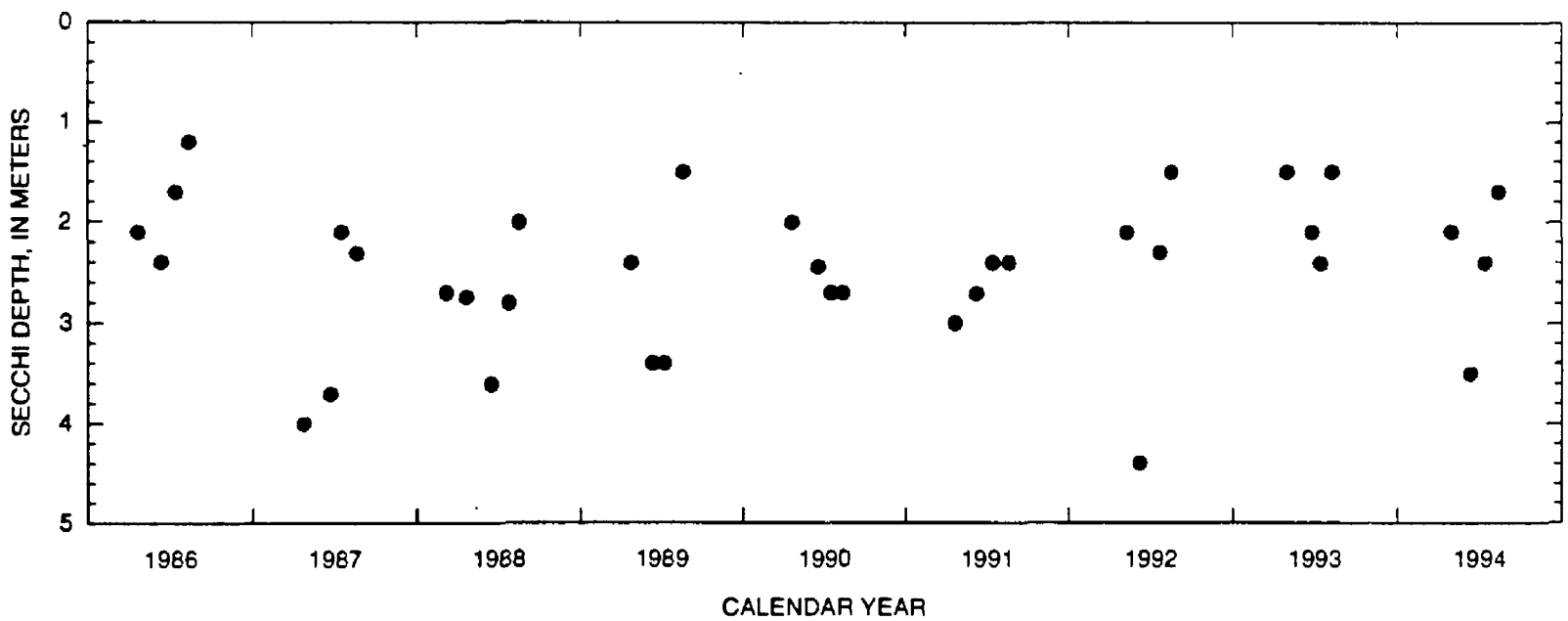
WATER-QUALITY DATA, MARCH 08 TO AUGUST 15, 1994
(Milligrams per liter unless otherwise indicated)

	Mar. 08		May 03		June 13		July 15		Aug. 15	
Depth of sample (ft)	1.5	48	1.5	42	1.5	45	1.5	49	1.5	48
Lake stage (ft)	5.43		5.84		5.56		5.62		5.56	
Specific conductance (µS/cm)	75	183	60	61	70	85	68	101	70	150
pH (units)	9.6	7.7	8.2	7.7	7.8	7.3	7.8	7.1	8.0	7.3
Water temperature (°C)	1.0	4.5	9.0	7.5	20.5	12.0	23.0	12.0	20.5	12.0
Color (Pt-Co. scale)	---	---	15	15	---	---	---	---	---	---
Turbidity (NTU)	---	---	1.1	1.6	---	---	---	---	---	---
Secchi-depth (meters)	---		2.1		3.5		2.4		1.7	
Dissolved oxygen	11.3	0.1	11.8	9.2	9.1	0.1	8.6	0.1	8.4	0.1
Hardness, as CaCO3	---	---	27	27	---	---	---	---	---	---
Calcium, dissolved (Ca)	---	---	7.4	7.5	---	---	---	---	---	---
Magnesium, dissolved (Mg)	---	---	2.0	2.0	---	---	---	---	---	---
Sodium, dissolved (Na)	---	---	2.0	2.0	---	---	---	---	---	---
Potassium, dissolved (K)	---	---	0.6	0.5	---	---	---	---	---	---
Alkalinity, as CaCO3	---	---	28	29	---	---	---	---	---	---
Sulfate, dissolved (SO4)	---	---	4.0	4.0	---	---	---	---	---	---
Chloride, dissolved (Cl)	---	---	1.0	1.0	---	---	---	---	---	---
Fluoride, dissolved (F)	---	---	0.1	0.0	---	---	---	---	---	---
Silica, dissolved (SiO2)	---	---	5.8	6.1	---	---	---	---	---	---
Solids, dissolved, at 180°C	---	---	48	52	---	---	---	---	---	---
Nitrogen, NO2 + NO3, diss. (as N)	---	---	0.02	0.03	---	---	---	---	---	---
Nitrogen, ammonia, dissolved (as N)	---	---	0.01	0.01	---	---	---	---	---	---
Nitrogen, amm. + org., total (as N)	---	---	0.60	0.40	---	---	---	---	---	---
Nitrogen, total (as N)	---	---	0.62	0.43	---	---	---	---	---	---
Phosphorus, total (as P)	---	---	0.021	0.025	0.012	0.118	0.019	0.200	0.023	0.285
Phosphorus, ortho, dissolved (as P)	---	---	<0.002	0.003	---	---	---	---	---	---
Iron, dissolved (Fe) µg/L	---	---	90	110	---	---	---	---	---	---
Manganese, dissolved (Mn) µg/L	---	---	<40	<40	---	---	---	---	---	---
Chlorophyll a, phytoplankton (µg/L)	---	---	12	---	3.6	---	5.1	---	10	---









Surface total phosphorus and chlorophyll a concentrations, and Secchi depths for Big Sissabagama Lake near Stone Lake, Wisconsin.

424800088254800 BOOTH LAKE NEAR EAST TROY, WI

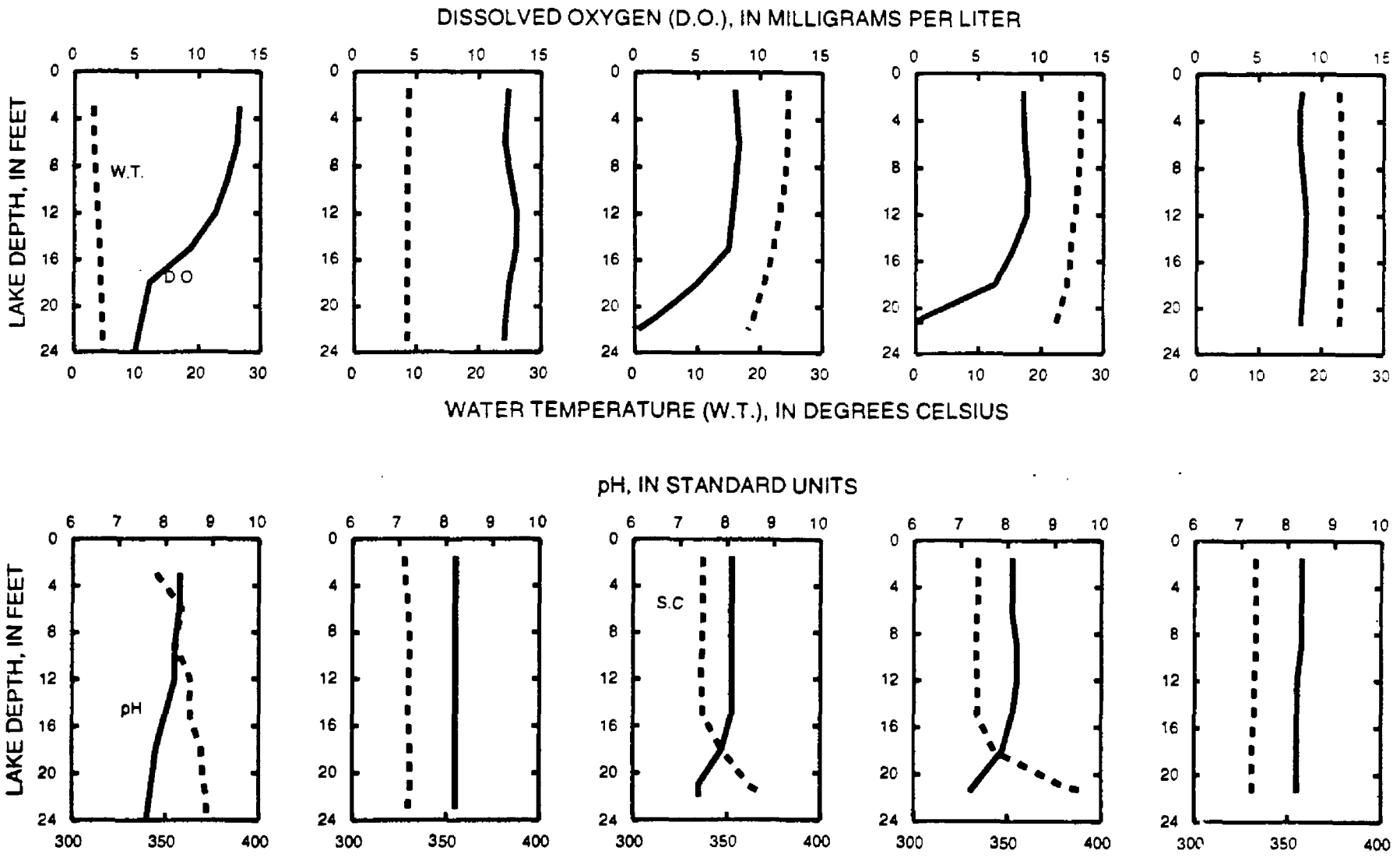
LOCATION.--Lat 42°48'00", long 88°25'48", in SW 1/4 SE 1/4 sec.13, T.4 N., R.17 E., Walworth County, Hydrologic Unit 07120006, 1.6 mi northwest of East Troy.

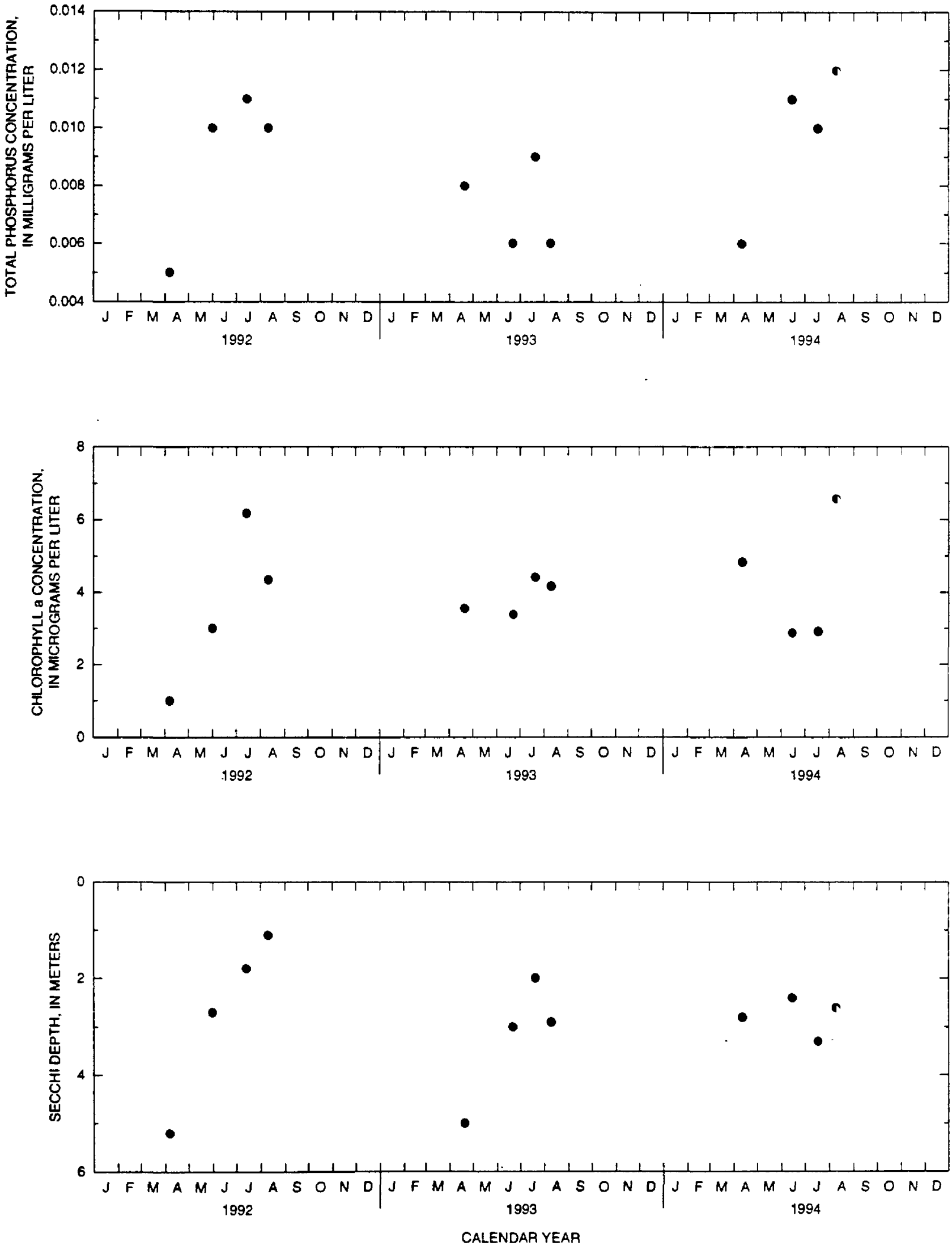
PERIOD OF RECORD.--February 1992 to August 1994 (discontinued).

REMARKS.--Lake sampled near center of lake at deep hole. Lake ice-covered during March sampling. Water-quality analyses by Wisconsin State Laboratory of Hygiene.

WATER-QUALITY DATA, MARCH 01 TO AUGUST 10, 1994
(Milligrams per liter unless otherwise indicated)

	Mar. 01		Apr. 12		June 15		July 18		Aug. 10	
Depth of sample (ft)	3.0	24	1.5	23	1.5	22	1.5	21	1.5	21
Lake stage (ft)	12.01		11.59		11.20		11.51		11.10	
Specific conductance (µS/cm)	345	373	328	330	337	370	334	393	333	331
pH (units)	8.3	7.6	8.2	8.2	8.1	7.4	8.1	7.2	8.3	8.2
Water temperature (°C)	3.0	4.5	9.0	8.5	24.5	18.0	26.5	22.0	23.0	23.0
Color (Pt-Co. scale)	---	---	5	5	---	---	---	---	---	---
Turbidity (NTU)	---	---	0.70	1.00	---	---	---	---	---	---
Secchi-depth (meters)	---		2.8		2.4		3.3		2.6	
Dissolved oxygen	13.3	4.9	12.4	12.1	8.0	0.3	8.6	0.4	8.5	8.4
Hardness, as CaCO3	---	---	160	160	---	---	---	---	---	---
Calcium, dissolved (Ca)	---	---	34	34	---	---	---	---	---	---
Magnesium, dissolved (Mg)	---	---	18	18	---	---	---	---	---	---
Sodium, dissolved (Na)	---	---	6.3	6.3	---	---	---	---	---	---
Potassium, dissolved (K)	---	---	1	1	---	---	---	---	---	---
Alkalinity, as CaCO3	---	---	140	140	---	---	---	---	---	---
Sulfate, dissolved (SO4)	---	---	16	16	---	---	---	---	---	---
Chloride, dissolved (Cl)	---	---	13	13	---	---	---	---	---	---
Fluoride, dissolved (F)	---	---	0.1	0.1	---	---	---	---	---	---
Silica, dissolved (SiO2)	---	---	<0.2	<0.2	---	---	---	---	---	---
Solids, dissolved, at 180°C	---	---	190	190	---	---	---	---	---	---
Nitrogen, NO2 + NO3, diss. (as N)	---	---	0.07	0.13	---	---	---	---	---	---
Nitrogen, ammonia, dissolved (as N)	---	---	0.12	0.12	---	---	---	---	---	---
Nitrogen, amm. + org., total (as N)	---	---	0.70	0.60	---	---	---	---	---	---
Nitrogen, total (as N)	---	---	0.77	0.73	---	---	---	---	---	---
Phosphorus, total (as P)	---	---	0.006	0.007	0.011	<0.020	0.010	0.021	0.012	0.027
Phosphorus, ortho, dissolved (as P)	---	---	<0.002	<0.002	---	---	---	---	---	---
Iron, dissolved (Fe) µg/L	---	---	<50	<50	---	---	---	---	---	---
Manganese, dissolved (Mn) µg/L	---	---	<40	<40	---	---	---	---	---	---
Chlorophyll a, phytoplankton (µg/L)	---	---	4.8	---	2.9	---	2.9	---	6.6	---
	3-1-94		4-12-94		6-15-94		7-18-94		8-10-94	





Surface total phosphorus and chlorophyll a concentrations, and Secchi depths for Booth Lake near East Troy, Wisconsin.

423706088363400 DELAVAN LAKE NEAR DELAVAN, WI

LOCATION.--Lat 42°36'27", long 88°36'19", in SW 1/4 NE 1/4 sec.28, T.2 N., R.16 E., Walworth County, Hydrologic Unit 07090001, at Delavan Lake Sanitary District Lift Station No. 2 at Delavan Lake Yacht Club, 1.0 mi southeast of outlet, and 2.7 mi southeast of Delavan.

DRAINAGE AREA.--41.4 mi^2, of which 2.3 mi^2 is non-contributing.

PERIOD OF RECORD.--October 1983 to current year. October 1983 to September 1985 data published in Water Resources Investigation series report "Water Quality and Hydrology of Delavan Lake in Southeastern Wisconsin" by Stephen J. Field and Marvin D. Duerk.

GAGE.--Water-stage recorder. Datum of gage is 922.92 ft above sea level. Prior to Sept. 5, 1989, staff gage at bridge on North Shore Drive at same datum.

REMARKS.--Estimated daily gage heights: June 21-23. Records good except estimated daily gage heights, which are fair. Lake was ice covered from Dec. 23 to Mar. 29. Lake levels controlled by Town of Delavan.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height observed, 6.19 ft, Feb. 21, 1994; minimum daily, -4.44 ft Nov. 6, 1989 (lake drawn down for lake rehabilitation program).

EXTREMES FOR CURRENT YEAR.--Maximum gage height observed, 6.19 ft, Feb. 21; minimum observed, 4.61 ft, Apr. 18.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.25	4.94	5.03	4.99	5.14	4.98	4.78	4.99	5.05	5.26	4.92	5.07
2	5.22	4.93	5.06	4.99	5.15	4.98	4.79	5.00	5.04	5.25	4.92	5.05
3	5.18	4.95	5.06	5.01	5.15	4.99	4.79	5.02	5.03	5.23	4.91	5.04
4	5.16	4.96	5.05	5.02	5.15	4.98	4.79	5.03	5.02	5.24	4.98	5.03
5	5.13	4.97	5.05	5.03	5.15	4.92	4.78	5.03	5.01	5.24	5.00	5.01
6	5.11	4.97	5.06	5.06	5.15	4.91	4.77	5.04	5.01	5.23	4.99	5.02
7	5.09	4.96	5.04	5.08	5.14	4.98	4.76	5.05	5.00	5.22	4.97	5.01
8	5.07	4.97	5.04	5.07	5.15	5.01	4.76	5.06	5.00	5.24	4.96	5.00
9	5.06	4.98	5.03	5.07	5.16	4.94	4.76	5.06	4.98	5.22	4.93	5.01
10	5.03	4.98	5.03	5.08	5.15	4.92	4.77	5.06	4.97	5.21	4.95	5.04
11	5.01	4.98	5.02	5.09	5.15	4.88	4.75	5.07	4.97	5.19	5.02	5.04
12	5.00	5.00	5.02	5.10	5.18	4.88	4.76	5.07	4.97	5.19	5.03	5.04
13	4.97	5.04	5.01	5.10	5.21	4.89	4.78	5.07	4.99	5.18	5.10	5.04
14	4.94	5.06	5.00	5.10	5.21	4.90	4.77	5.06	5.01	5.16	5.11	5.03
15	4.95	5.09	5.01	5.09	5.21	4.90	4.71	5.08	5.01	5.14	5.10	5.03
16	4.96	5.10	5.01	5.09	5.21	4.89	4.69	5.08	5.01	5.11	5.10	5.02
17	4.97	5.11	5.02	5.10	5.22	4.88	4.65	5.08	5.01	5.09	5.10	5.00
18	4.97	5.11	5.04	5.09	5.21	4.88	4.62	5.07	5.02	5.08	5.08	4.99
19	4.98	5.12	5.05	5.09	5.27	4.87	4.63	5.06	5.02	5.07	5.09	4.98
20	4.98	5.12	5.04	5.09	5.96	4.84	4.63	5.06	5.04	5.07	5.11	4.98
21	4.99	5.13	5.03	5.10	6.16	4.92	4.63	5.06	5.12	5.06	5.11	4.96
22	4.98	5.14	5.03	5.10	5.99	4.95	4.63	5.06	5.09	5.05	5.10	4.95
23	4.97	5.13	5.02	5.10	5.80	4.96	4.63	5.07	5.05	5.05	5.10	4.96
24	4.97	5.04	5.00	5.10	5.62	4.93	4.63	5.10	5.16	5.04	5.08	4.97
25	4.97	5.02	4.99	5.10	5.45	4.89	4.69	5.09	5.16	5.04	5.08	5.00
26	4.97	5.06	4.97	5.10	5.28	4.83	4.88	5.10	5.22	5.01	5.10	5.01
27	4.96	5.05	4.96	5.13	5.10	4.79	4.91	5.08	5.24	4.99	5.10	5.02
28	4.95	5.05	4.96	5.15	4.97	4.76	4.92	5.08	5.25	4.98	5.09	5.00
29	4.94	5.04	4.97	5.15	---	4.77	4.94	5.07	5.27	4.97	5.08	4.99
30	4.94	5.03	4.97	5.15	---	4.78	4.95	5.07	5.27	4.96	5.08	4.98
31	4.94	---	4.97	5.15	---	4.78	---	5.07	---	4.94	5.08	---
MEAN	5.02	5.03	5.02	5.09	5.31	4.90	4.75	5.06	5.07	5.12	5.04	5.01
MAX	5.25	5.14	5.06	5.15	6.16	5.01	4.95	5.10	5.27	5.26	5.11	5.07
MIN	4.94	4.93	4.96	4.99	4.97	4.76	4.62	4.99	4.97	4.94	4.91	4.95

CAL YR 1993 MEAN 5.12 MAX 5.93 MIN 4.78
WTR YR 1994 MEAN 5.03 MAX 6.16 MIN 4.62

423556088365001 DELAVAN LAKE AT CENTER NEAR DELAVAN LAKE, WI

LOCATION.--Lat 42°35'56", long 88°36'50", sec.28, T.2 N., R.16 E., Walworth County, Hydrologic Unit 07090001, 2.6 mi southeast of Delavan.

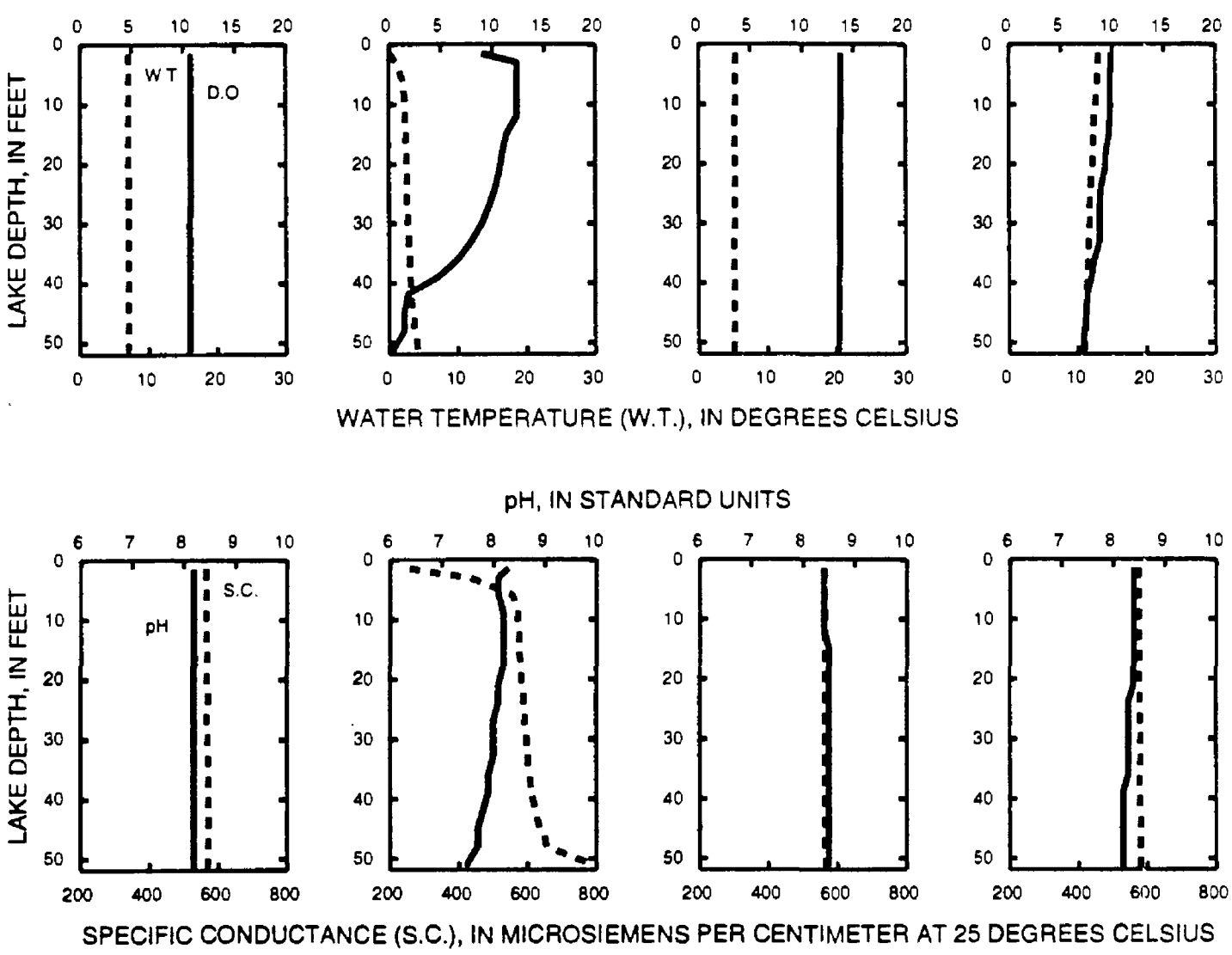
DRAINAGE AREA.--41.2 mi^2.

PERIOD OF RECORD.--October 1983 to current year.

REMARKS.--Lake ice-covered during March sampling.

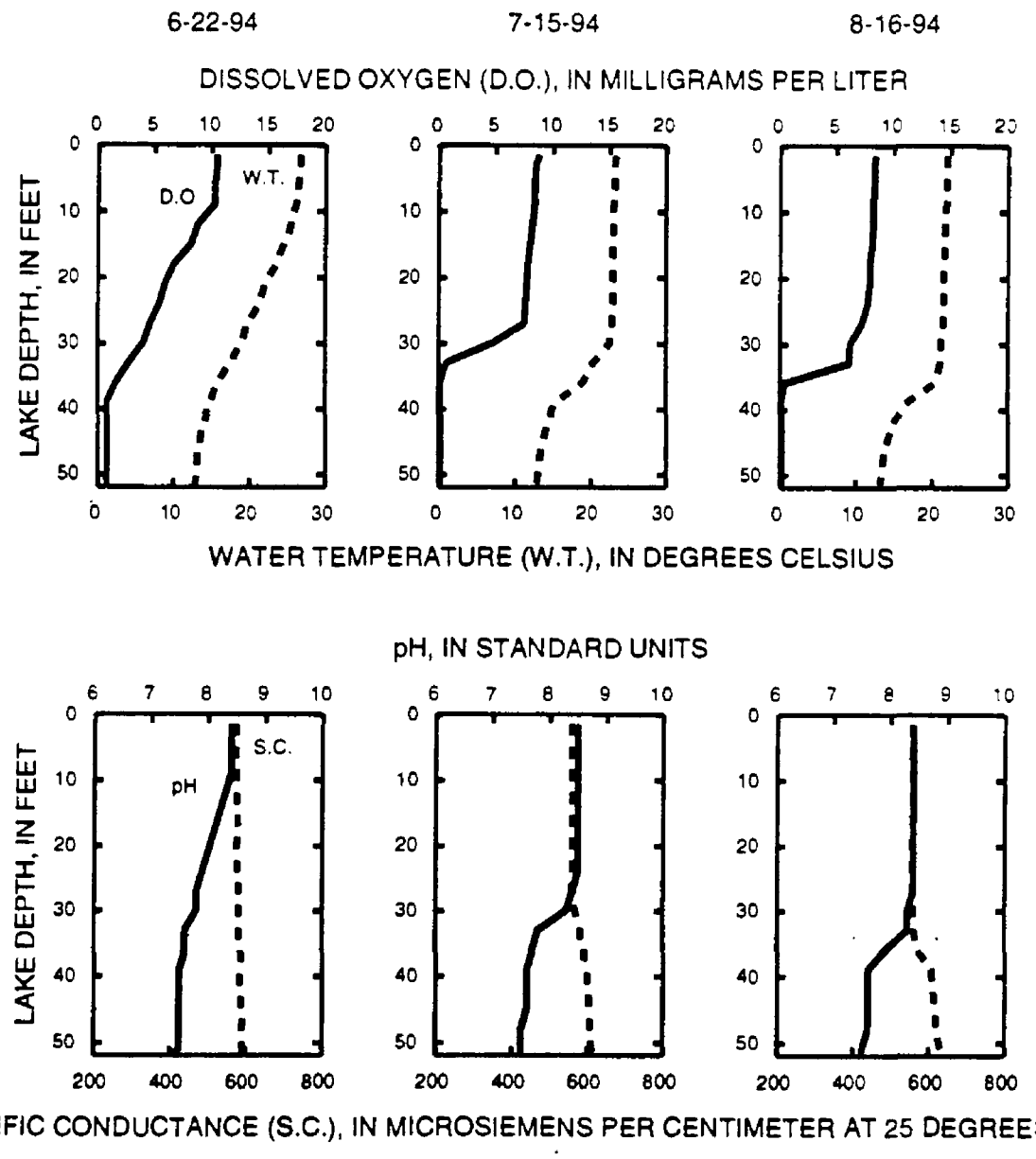
WATER-QUALITY DATA, NOVEMBER 15, 1993 TO MAY 10, 1994
(Milligrams per liter unless otherwise indicated)

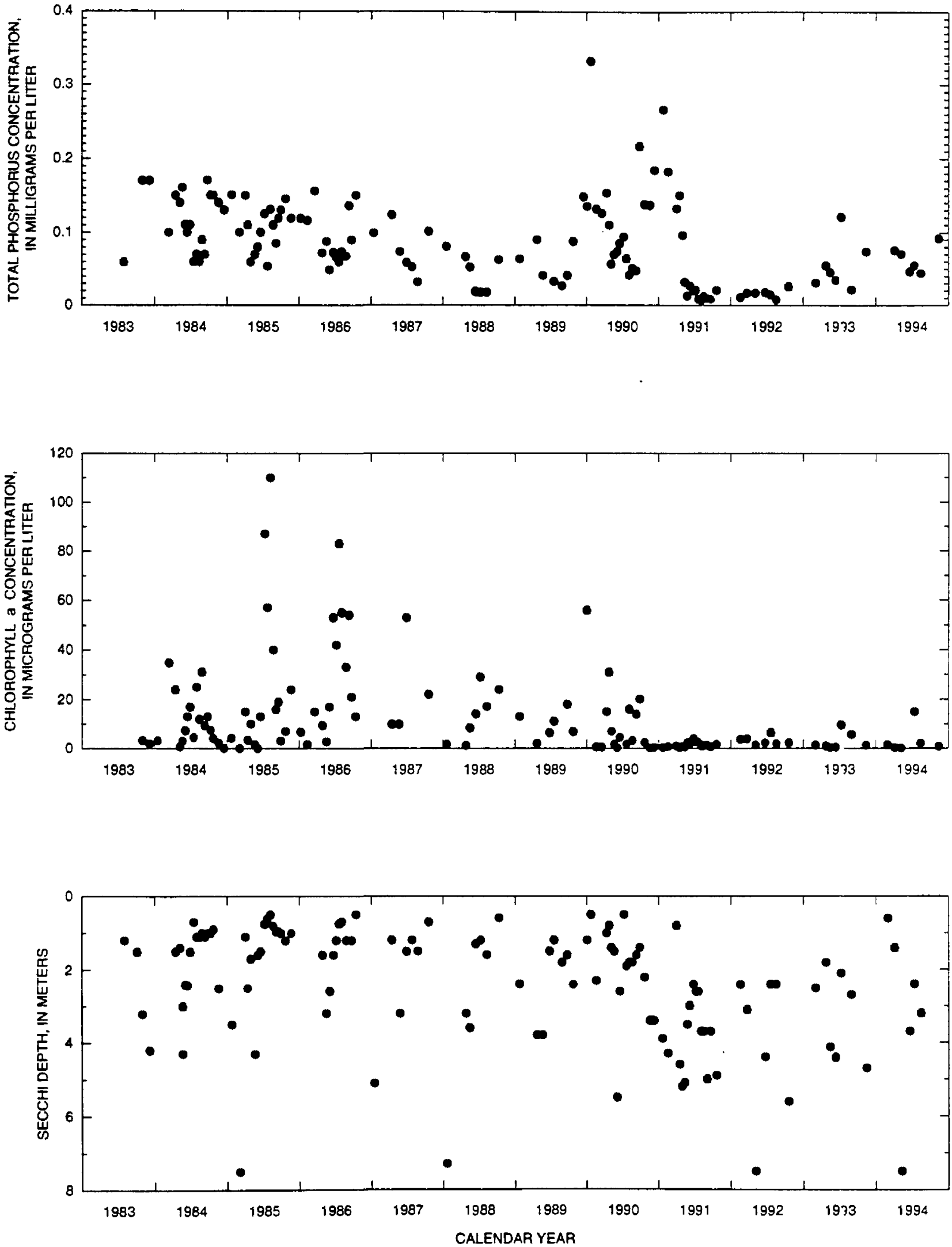
	Nov. 15		Mar. 03			Apr. 07		May 10	
Depth of sample (ft)	1.5	52	1.5	48	52	1.5	52	1.5	52
Lake stage (ft)	5.09		4.99			4.76		5.06	
Specific conductance (µS/cm)	564	570	257	659	800	563	566	576	581
pH (units)	8.2	8.2	8.3	7.7	7.5	8.4	8.5	8.4	8.2
Water temperature (°C)	7.0	7.0	0.0	3.5	4.5	5.5	5.0	13.0	11.0
Color (Pt-Co. scale)	---	---	---	---	---	8	8	---	---
Turbidity (NTU)	---	---	---	---	---	0.20	0.70	---	---
Secchi-depth (meters)	4.7		0.6			1.4		7.5	
Dissolved oxygen	10.8	10.7	9.0	1.5	0.4	13.8	13.6	9.9	7.2
Hardness, as CaCO3	---	---	---	---	---	240	240	---	---
Calcium, dissolved (Ca)	---	---	---	---	---	44	44	---	---
Magnesium, dissolved (Mg)	---	---	---	---	---	31	31	---	---
Sodium, dissolved (Na)	---	---	---	---	---	22	22	---	---
Potassium, dissolved (K)	---	---	---	---	---	3	3	---	---
Alkalinity, as CaCO3	---	---	---	---	---	190	190	---	---
Sulfate, dissolved (SO4)	---	---	---	---	---	31	31	---	---
Chloride, dissolved (Cl)	---	---	---	---	---	54	54	---	---
Fluoride, dissolved (F)	---	---	---	---	---	0.1	0.1	---	---
Silica, dissolved (SiO2)	---	---	---	---	---	0.1	<0.1	---	---
Solids, dissolved, at 180°C	---	---	---	---	---	326	324	---	---
Nitrogen, amm. + org., total (as N)	---	---	---	---	---	0.80	0.60	---	---
Phosphorus, total (as P)	0.074	0.076	0.577	0.153	0.172	0.076	0.107	0.071	0.077
Phosphorus, ortho, dissolved (as P)	0.053	0.053	0.414	0.123	0.149	0.015	0.015	0.024	0.049
Iron, dissolved (Fe) µg/L	---	---	---	---	---	5	5	---	---
Manganese, dissolved (Mn) µg/L	---	---	---	---	---	1	<1	---	---
Chlorophyll a, phytoplankton (µg/L)	1.3	---	1.5	---	---	0.3	---	0.1	---



WATER-QUALITY DATA, JUNE 22 TO AUGUST 16, 1994
(Milligrams per liter unless otherwise indicated)

	June 22		July 15				Aug. 16			
Depth of sample (ft)	1.5	52	1.5	30	42	52	1.5	33	45	52
Lake stage (ft)	5.09		5.14				5.10			
Specific conductance (µS/cm)	574	594	558	567	604	613	557	562	618	632
pH (units)	8.5	7.4	8.5	8.3	7.6	7.5	8.4	8.3	7.6	7.5
Water temperature (°C)	26.5	13.0	23.5	22.5	14.5	13.0	22.0	21.0	14.0	13.0
Secchi-depth (meters)	3.7		2.4				3.2			
Dissolved oxygen	10.5	0.8	8.8	4.7	0.1	0.1	8.4	6.1	0.1	0.1
Phosphorus, total (as P)	0.047	0.325	0.055	0.083	0.330	0.528	0.045	0.051	0.463	0.693
Phosphorus, ortho, dissolved (as P)	0.008	0.262	0.005	0.055	0.304	0.283	0.021	0.026	0.409	0.621
Chlorophyll a, phytoplankton (µg/L)	---	---	15	---	---	---	2.1	---	---	---





Surface total phosphorus and chlorophyll a concentrations, and Secchi depths for Delavan Lake at Center near Delavan Lake, Wisconsin.

423659088354401 DELAVAN LAKE, AT NORTH END, NEAR LAKE LAWN, WI

LOCATION.--Lat 42°36'59", long 88°35'44", sec.22, T.2 N., R.16 E., Walworth County, Hydrologic Unit 07090001, 2.6 mi southeast of Delavan.

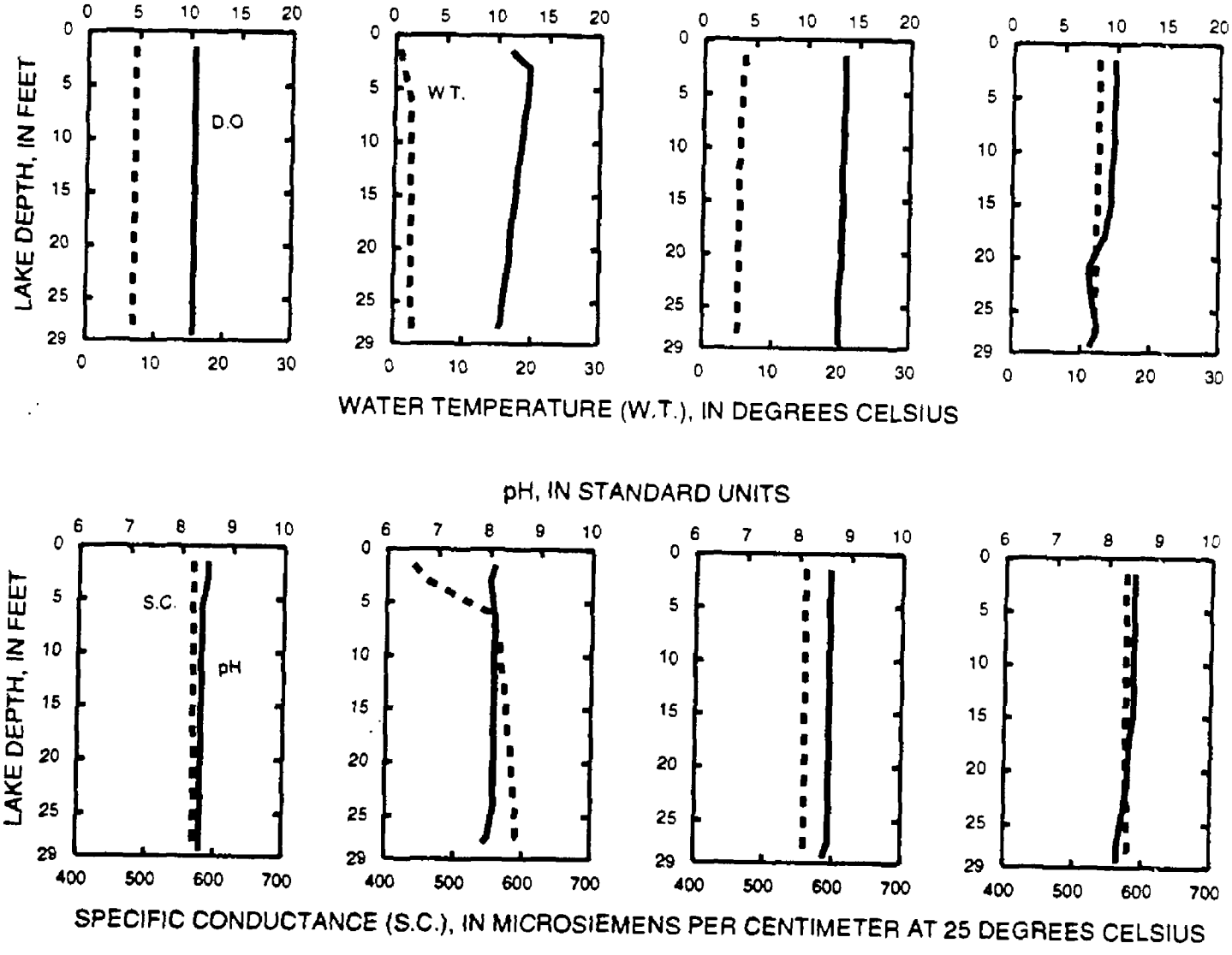
DRAINAGE AREA.--41.2 mi^2.

PERIOD OF RECORD.--October 1983 to current year.

REMARKS.--Lake ice-covered during March sampling.

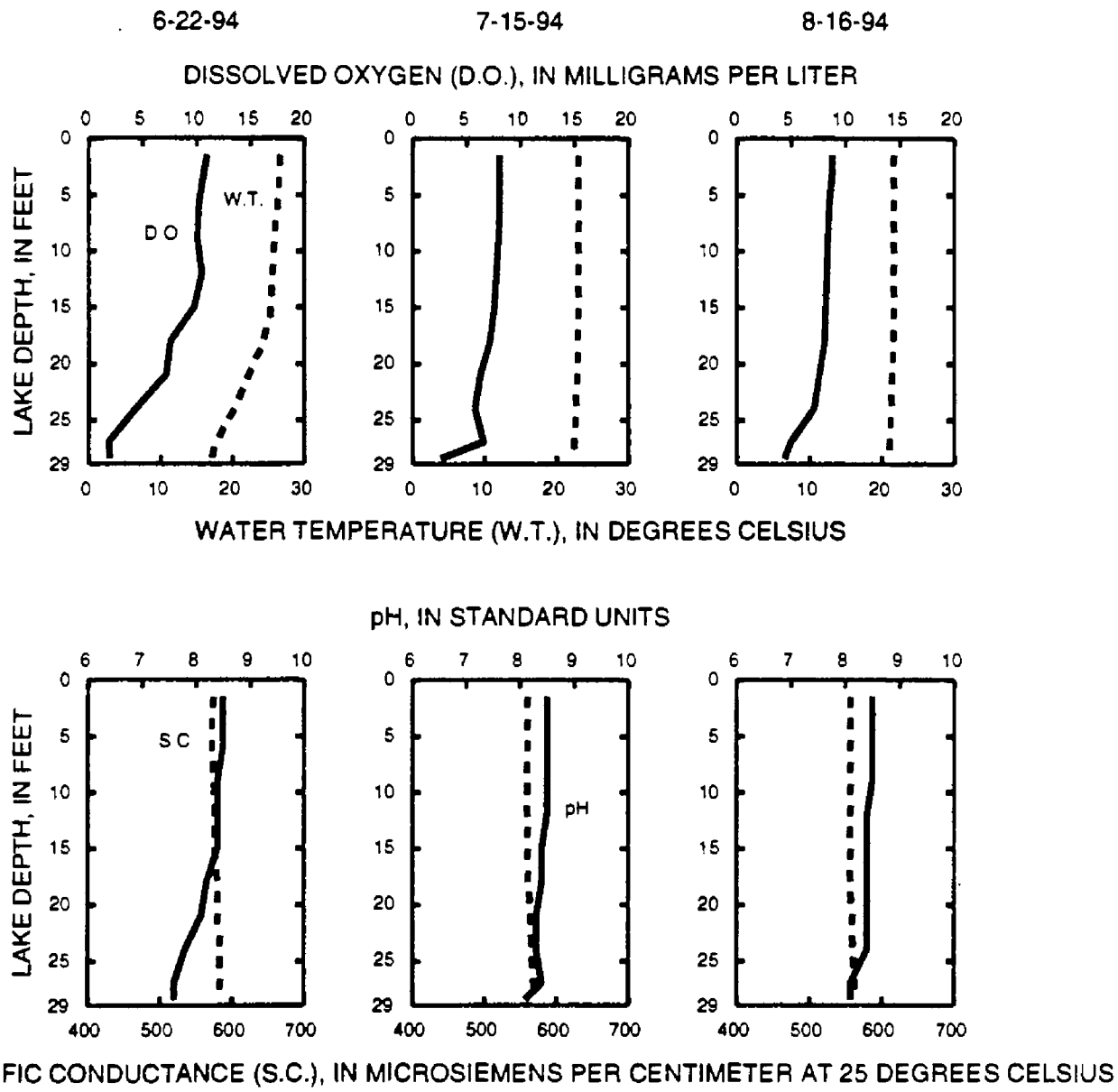
WATER-QUALITY DATA, NOVEMBER 15, 1993 TO MAY 10, 1994
(Milligrams per liter unless otherwise indicated)

	Nov. 15		Mar. 03		Apr. 07		May 10	
Depth of sample (ft)	1.5	29	1.5	28	1.5	29	1.5	29
Lake stage (ft)	5.09		4.99		4.76		5.06	
Specific conductance (µS/cm)	567	571	438	606	559	560	575	580
pH (units)	8.5	8.4	8.1	7.9	8.6	8.5	8.5	8.2
Water temperature (°C)	7.0	7.0	1.0	2.5	6.0	5.0	12.5	12.0
Color (Pt-Co. scale)	---	---	---	---	8	8	---	---
Turbidity (NTU)	---	---	---	---	0.50	0.70	---	---
Secchi-depth (meters)	5.0		0.4		1.8		7.5	
Dissolved oxygen	10.5	10.5	11.3	10.2	13.7	13.2	9.9	7.6
Hardness, as CaCO3	---	---	---	---	240	240	---	---
Calcium, dissolved (Ca)	---	---	---	---	43	43	---	---
Magnesium, dissolved (Mg)	---	---	---	---	31	31	---	---
Sodium, dissolved (Na)	---	---	---	---	23	23	---	---
Potassium, dissolved (K)	---	---	---	---	3	3	---	---
Alkalinity, as CaCO3	---	---	---	---	190	190	---	---
Sulfate, dissolved (SO4)	---	---	---	---	31	31	---	---
Chloride, dissolved (Cl)	---	---	---	---	54	54	---	---
Fluoride, dissolved (F)	---	---	---	---	0.1	0.2	---	---
Silica, dissolved (SiO2)	---	---	---	---	<0.1	<0.1	---	---
Solids, dissolved, at 180°C	---	---	---	---	306	309	---	---
Nitrogen, amm. + org., total (as N)	---	---	---	---	0.70	0.70	---	---
Phosphorus, total (as P)	0.072	0.077	0.337	0.084	0.056	0.066	0.044	0.056
Phosphorus, ortho, dissolved (as P)	0.057	0.057	0.228	0.059	0.013	0.013	0.024	0.030
Iron, dissolved (Fe) µg/L	---	---	---	---	3	6	---	---
Manganese, dissolved (Mn) µg/L	---	---	---	---	<1	<1	---	---
Chlorophyll a, phytoplankton (µg/L)	1.2	---	5.7	---	0.2	---	0.2	---



WATER-QUALITY DATA, JUNE 22 TO AUGUST 16, 1994
(Milligrams per liter unless otherwise indicated)

	June 22		July 15		Aug. 16	
Depth of sample (ft)	1.5	29	1.5	29	1.5	29
Lake stage (ft)	5.09		5.14		5.10	
Specific conductance (µS/cm)	574	586	560	574	557	564
pH (units)	8.5	7.6	8.5	8.1	8.5	8.1
Water temperature (°C)	26.5	17.0	23.0	22.0	21.5	21.0
Secchi-depth (meters)	3.4		3.2		2.9	
Dissolved oxygen	11.0	2.0	8.1	2.6	8.8	4.4
Phosphorus, total (as P)	0.043	0.116	0.050	0.097	0.052	0.070
Phosphorus, ortho, dissolved (as P)	<0.001	0.086	0.009	0.082	0.019	0.036
Chlorophyll a, phytoplankton (µg/L)	---	---	7.0	---	2.3	---



423526088380101 DELAVAN LAKE, AT SW END, NEAR DELAVAN LAKE, WI

LOCATION.--Lat 42°35'26", long 88°38'01", sec.32, T.2 N., R.16 E., Walworth County, Hydrologic Unit 07090001, 2.6 mi southeast of Delavan.

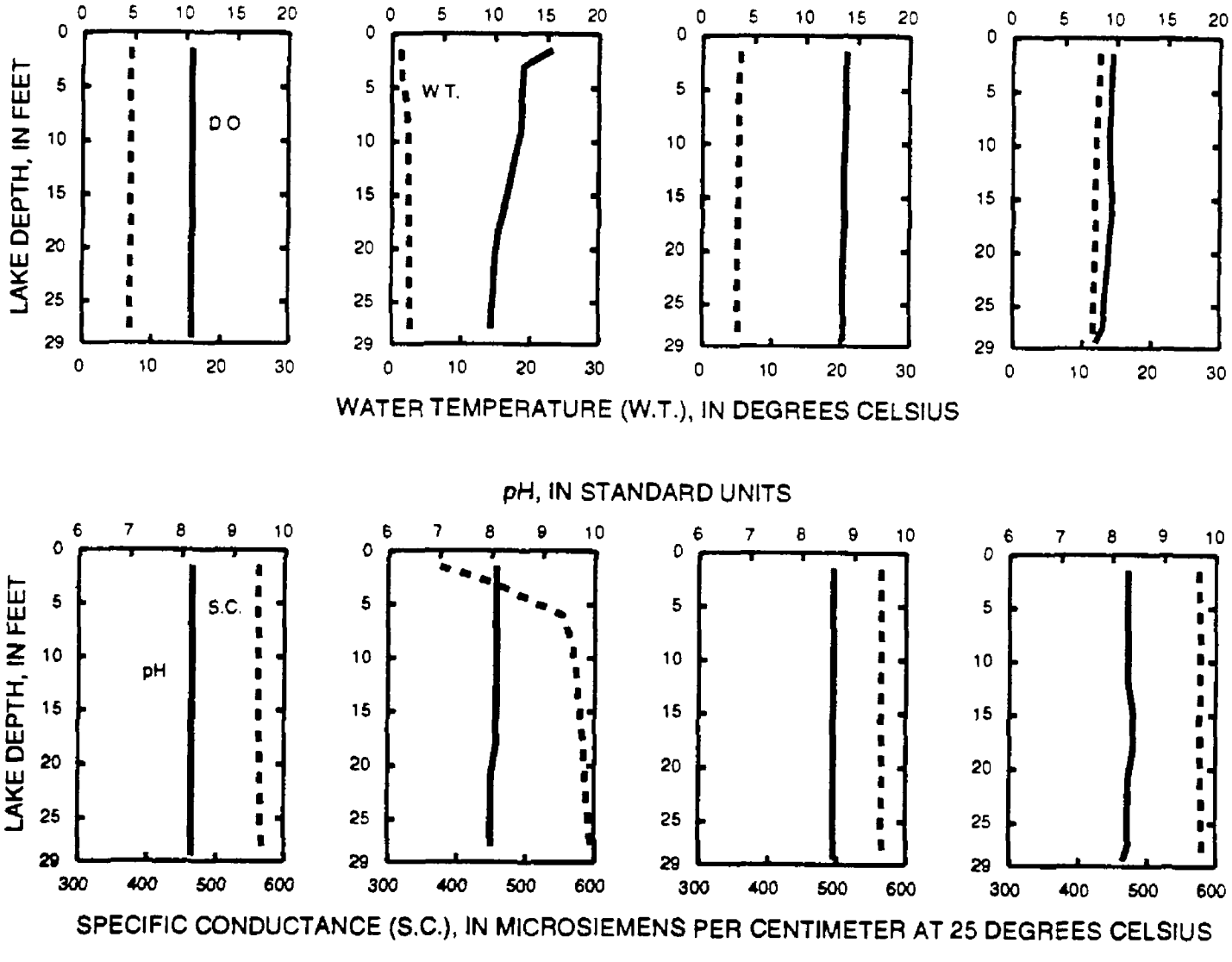
DRAINAGE AREA.--41.2 mi^2.

PERIOD OF RECORD.--October 1983 to current year.

REMARKS.--Lake ice-covered during March sampling.

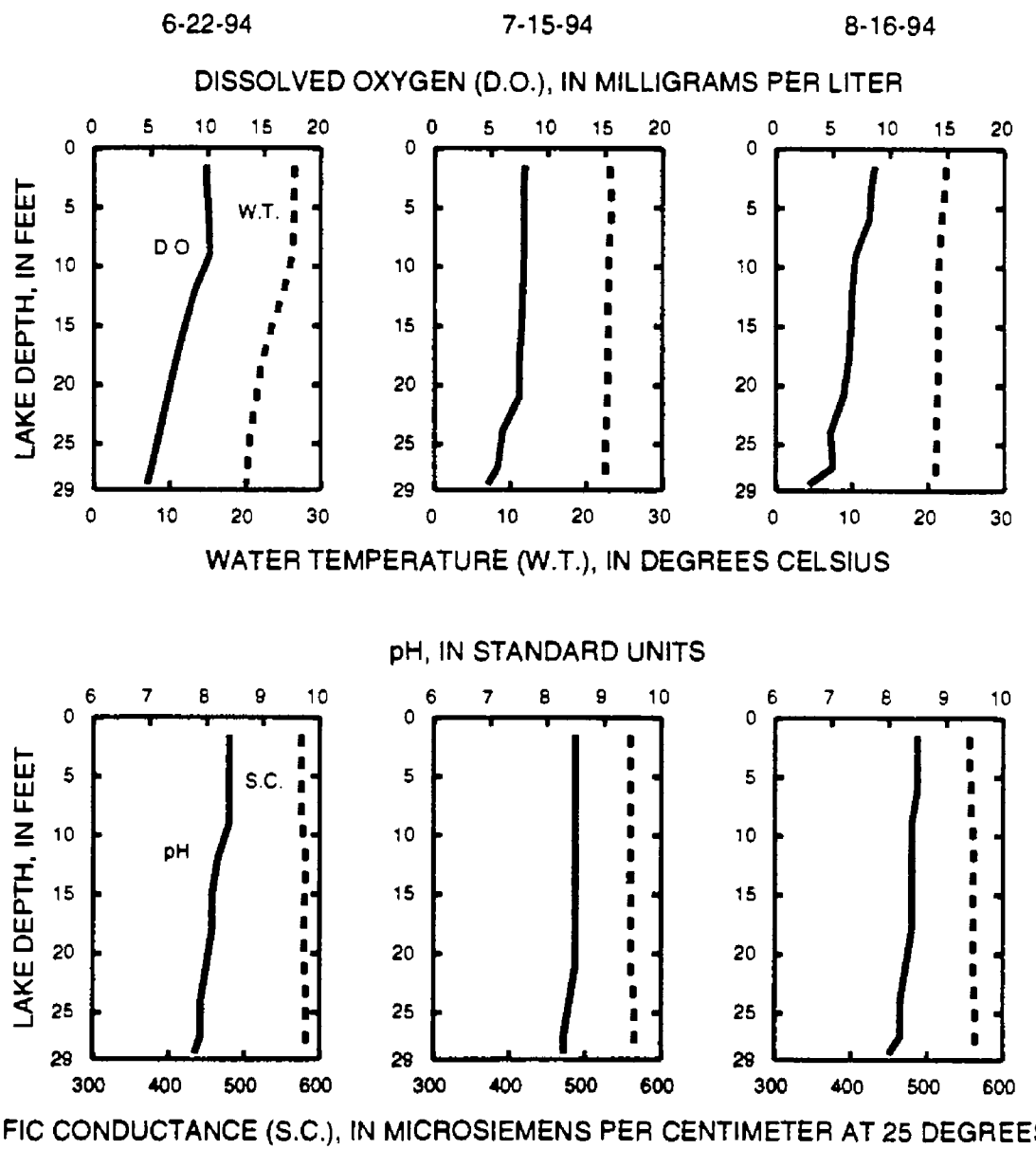
WATER-QUALITY DATA, NOVEMBER 15, 1993 TO MAY 10, 1994
(Milligrams per liter unless otherwise indicated)

	Nov. 15		Mar. 03		Apr. 07		May 10	
Depth of sample (ft)	1.5	29	1.5	28	1.5	29	1.5	29
Lake stage (ft)	5.09		4.99		4.76		5.06	
Specific conductance (µS/cm)	562	568	376	595	564	565	575	580
pH (units)	8.2	8.2	8.1	8.0	8.6	8.6	8.3	8.2
Water temperature (°C)	7.0	7.0	1.5	2.5	5.5	5.0	12.5	11.5
Color (Pt-Co. scale)	---	---	---	---	8	9	---	---
Turbidity (NTU)	---	---	---	---	0.80	0.50	---	---
Secchi-depth (meters)	4.4		0.4		1.6		6.8	
Dissolved oxygen	10.6	10.6	15.5	9.6	13.9	13.6	9.6	8.0
Hardness, as CaCO3	---	---	---	---	240	240	---	---
Calcium, dissolved (Ca)	---	---	---	---	43	44	---	---
Magnesium, dissolved (Mg)	---	---	---	---	31	31	---	---
Sodium, dissolved (Na)	---	---	---	---	23	22	---	---
Potassium, dissolved (K)	---	---	---	---	3	3	---	---
Alkalinity, as CaCO3	---	---	---	---	190	190	---	---
Sulfate, dissolved (SO4)	---	---	---	---	31	31	---	---
Chloride, dissolved (Cl)	---	---	---	---	55	53	---	---
Fluoride, dissolved (F)	---	---	---	---	0.1	0.1	---	---
Silica, dissolved (SiO2)	---	---	---	---	<0.1	<0.1	---	---
Solids, dissolved, at 180°C	---	---	---	---	323	331	---	---
Nitrogen, amm. + org., total (as N)	---	---	---	---	0.70	0.80	---	---
Phosphorus, total (as P)	0.073	0.071	0.258	0.092	0.069	0.069	0.050	0.057
Phosphorus, ortho, dissolved (as P)	0.056	0.052	0.349	0.069	0.013	0.014	0.026	0.034
Iron, dissolved (Fe) µg/L	---	---	---	---	4	5	---	---
Manganese, dissolved (Mn) µg/L	---	---	---	---	<1	<1	---	---
Chlorophyll a, phytoplankton (µg/L)	1.4	---	15	---	0.3	---	0.2	---



WATER-QUALITY DATA, JUNE 22 TO AUGUST 16, 1994
(Milligrams per liter unless otherwise indicated)

	June 22		July 15		Aug. 16	
Depth of sample (ft)	1.5	29	1.5	29	1.5	29
Lake stage (ft)	5.09		5.14		5.10	
Specific conductance (µS/cm)	575	583	559	568	555	566
pH (units)	8.4	7.8	8.5	8.3	8.5	8.0
Water temperature (°C)	26.5	20.0	23.0	22.5	22.5	21.0
Secchi-depth (meters)	4.8		3.0		3.4	
Dissolved oxygen	9.9	4.7	8.0	4.7	8.7	2.9
Phosphorus, total (as P)	0.033	0.062	0.045	0.054	0.056	0.062
Phosphorus, ortho, dissolved (as P)	0.003	0.049	0.008	0.029	0.022	0.035
Chlorophyll a, phytoplankton (µg/L)	---	---	4.8	---	1.4	---



425044088100300 DENOON LAKE AT WIND LAKE, WI

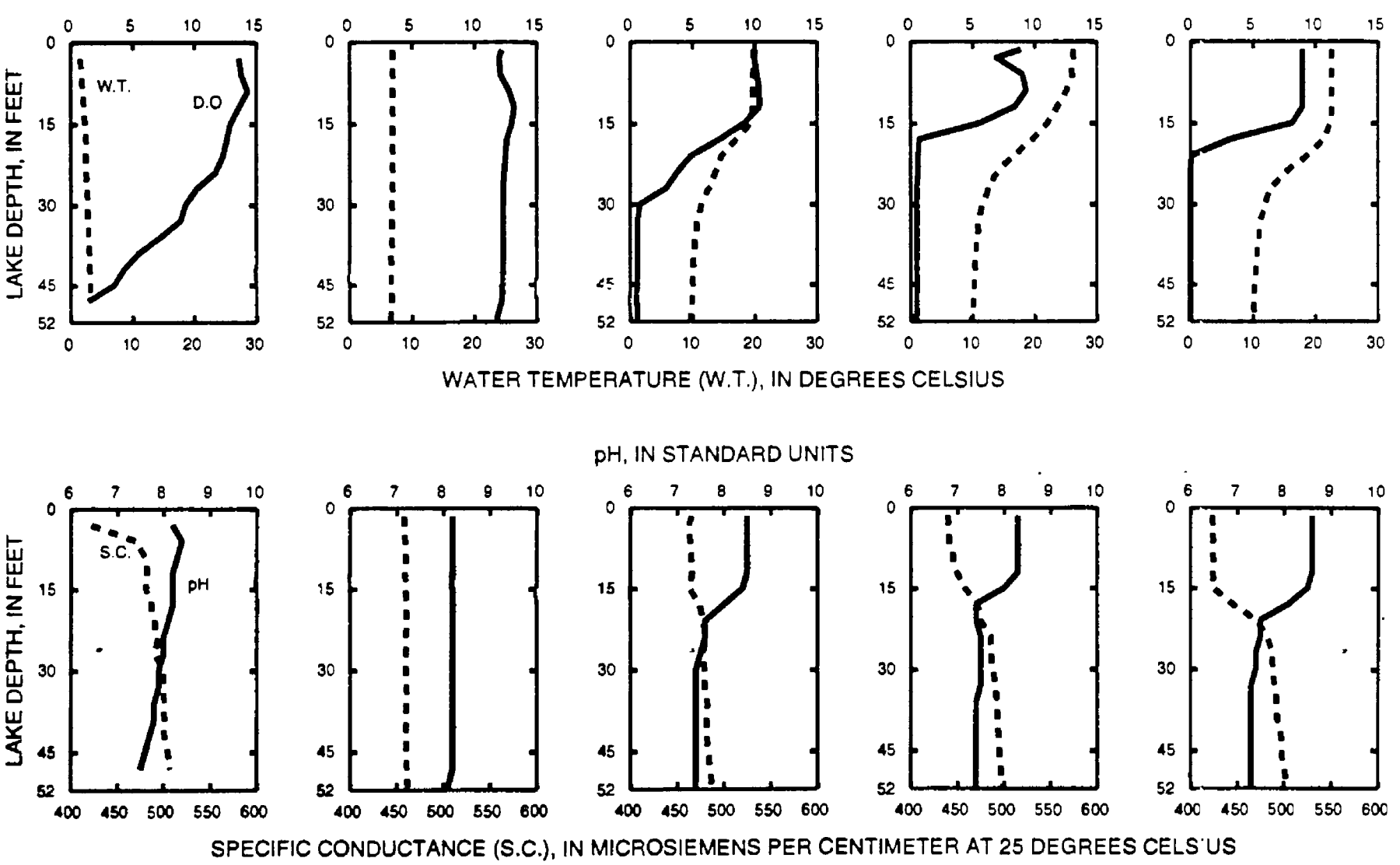
LOCATION.--Lat 42°50'44" long 88°10'03", in SW 1/4 SW 1/4 sec.32, T.5 N., R.20 E., Waukesha County, Hydrologic Unit 07120006, at Wind Lake.

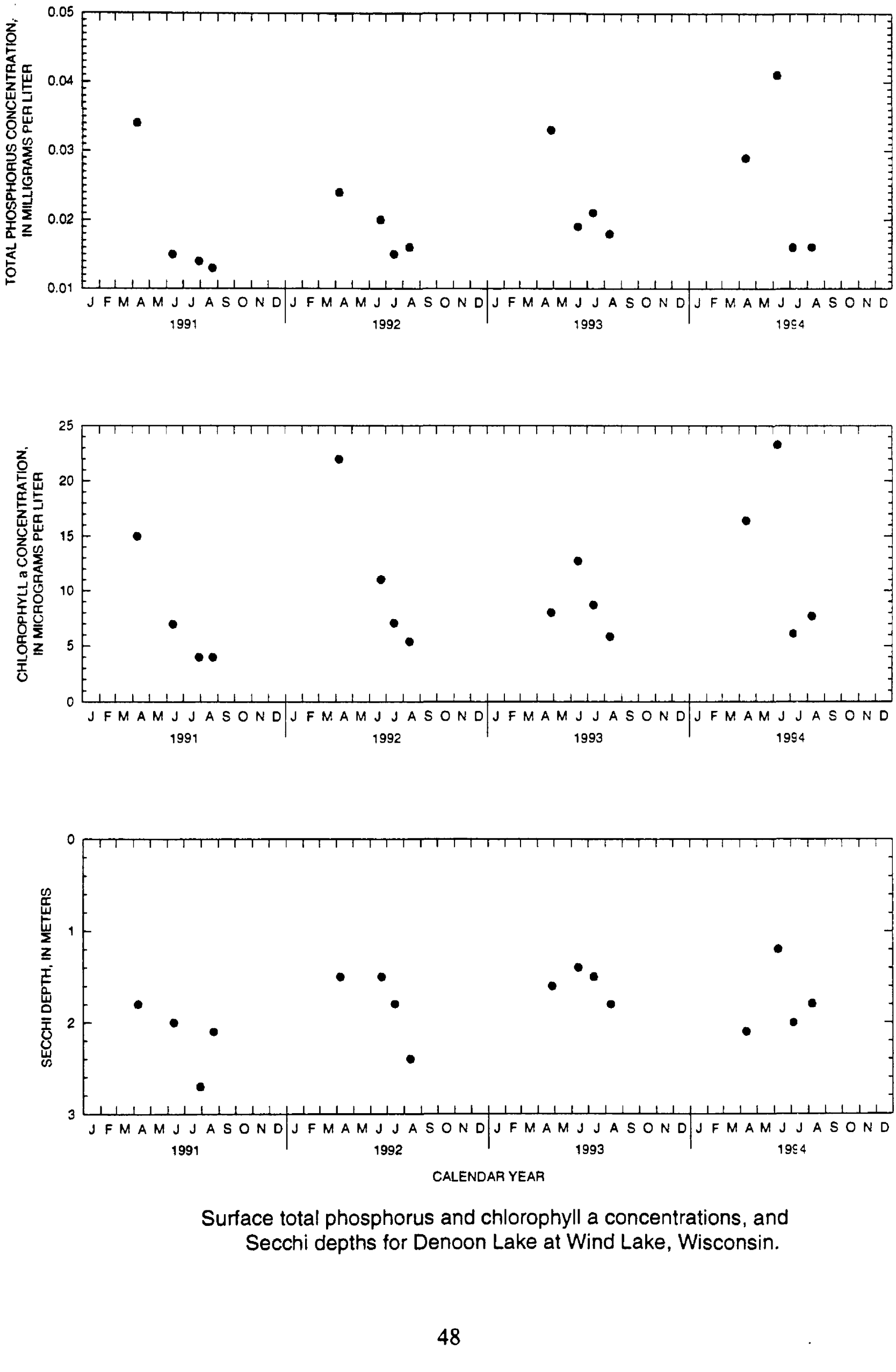
PERIOD OF RECORD.--February 1991 to current year.

REMARKS.--Lake sampled near center at deep hole. Lake ice-covered during February sampling. Water-quality analyses by Wisconsin State Laboratory of Hygiene.

WATER-QUALITY DATA, FEBRUARY 24 TO AUGUST 09, 1994
(Milligrams per liter unless otherwise indicated)

	Feb. 24		Apr. 13		June 09		July 07		Aug. 09	
Depth of sample (ft)	3.0	48	1.5	51	1.5	52	1.5	52	1.5	52
Lake stage (ft)	---		6.77		7.06		7.18		7.55	
Specific conductance (µS/cm)	422	507	458	462	466	488	441	499	423	503
pH (units)	8.2	7.5	8.2	8.1	8.5	7.4	8.3	7.4	8.6	7.3
Water temperature (°C)	1.5	3.0	7.0	6.5	20.0	9.5	26.0	10.0	22.5	10.0
Color (Pt-Co. scale)	---	---	15	15	---	---	---	---	---	---
Turbidity (NTU)	---	---	1.1	1.00	---	---	---	---	---	---
Secchi-depth (meters)	---		2.1		1.2		2.0		1.8	
Dissolved oxygen	13.6	1.4	12.2	11.8	10.1	0.6	8.9	0.5	9.0	0.0
Hardness, as CaCO3	---	---	210	210	---	---	---	---	---	---
Calcium, dissolved (Ca)	---	---	41	41	---	---	---	---	---	---
Magnesium, dissolved (Mg)	---	---	25	25	---	---	---	---	---	---
Sodium, dissolved (Na)	---	---	15	15	---	---	---	---	---	---
Potassium, dissolved (K)	---	---	3	3	---	---	---	---	---	---
Alkalinity, as CaCO3	---	---	170	170	---	---	---	---	---	---
Sulfate, dissolved (SO4)	---	---	30	30	---	---	---	---	---	---
Chloride, dissolved (Cl)	---	---	31	31	---	---	---	---	---	---
Fluoride, dissolved (F)	---	---	0.1	0.1	---	---	---	---	---	---
Silica, dissolved (SiO2)	---	---	0.9	1.1	---	---	---	---	---	---
Solids, dissolved, at 180°C	---	---	270	270	---	---	---	---	---	---
Nitrogen, NO2 + NO3, diss. (as N)	---	---	0.18	0.18	---	---	---	---	---	---
Nitrogen, ammonia, dissolved (as N)	---	---	0.06	0.10	---	---	---	---	---	---
Nitrogen, amm. + org., total (as N)	---	---	0.90	0.90	---	---	---	---	---	---
Nitrogen, total (as N)	---	---	1.1	1.1	---	---	---	---	---	---
Phosphorus, total (as P)	---	---	0.029	0.026	0.041	0.252	0.016	0.290	0.016	0.337
Phosphorus, ortho, dissolved (as P)	---	---	0.002	<0.002	---	---	---	---	---	---
Iron, dissolved (Fe) µg/L	---	---	<50	<50	---	---	---	---	---	---
Manganese, dissolved (Mn) µg/L	---	---	<40	<40	---	---	---	---	---	---
Chlorophyll a, phytoplankton (µg/L)	---	---	16	---	23	---	6.1	---	7.7	---





Surface total phosphorus and chlorophyll a concentrations, and Secchi depths for Denoon Lake at Wind Lake, Wisconsin.

05404500 DEVILS LAKE NEAR BARABOO, WI

LOCATION.--Lat 43°25'18", long 89°43'38", in SW 1/4 SE 1/4 sec.13, T.11 N., R.6 E., Sauk County, Hydrologic Unit 07070004, in Devils Lake State Park, 3.5 mi south of Baraboo.

DRAINAGE AREA.--4.79 mi^2. Area of Devils Lake, 361 acres.

PERIOD OF RECORD.--June 1922 to August 1930, June to August 1932, June 1934 to September 1981 (fragmentary). October 1981 to September 1984, data unpublished in district files. October 1984 to current year.

REVISED RECORDS.--WDR WI-78-1: Drainage area.

GAGE.--Water-stage recorder installed July 17, 1991. Datum of gage is 955.00 ft, above sea level.

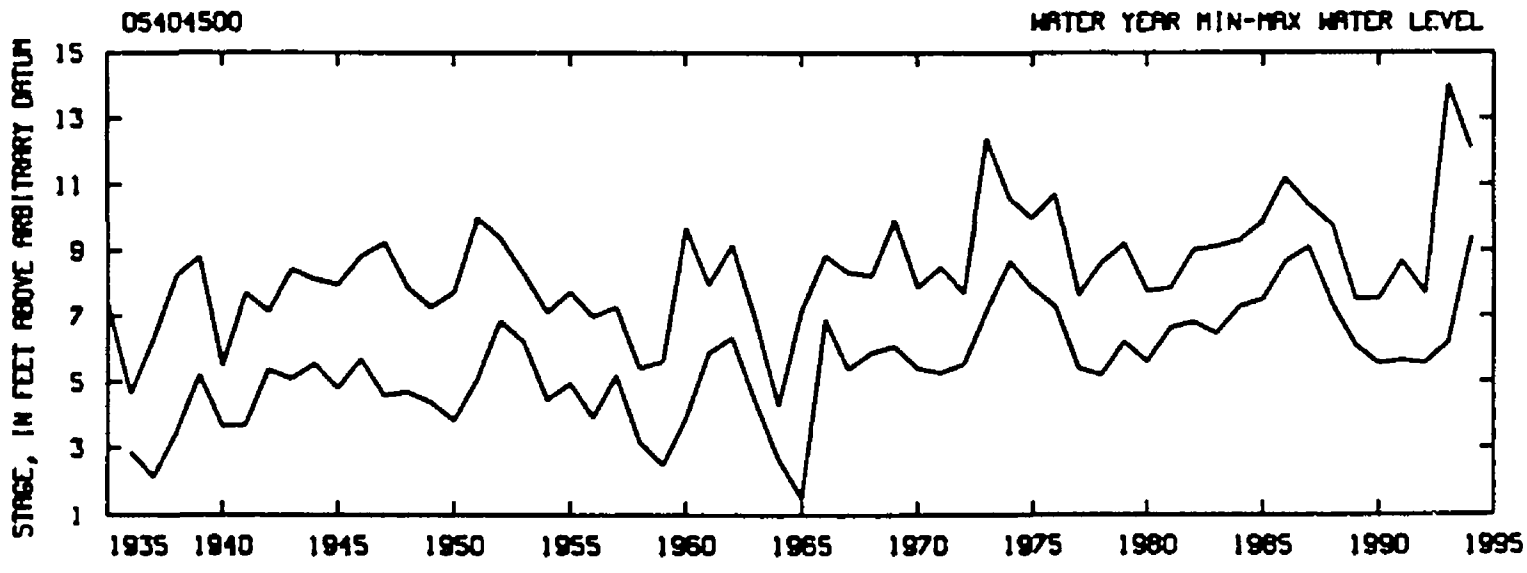
REMARKS.--Records good. Lake has no surface outlet. Nov. 29, 1993 to Mar. 28, 1994, water was pumped from lake at a rate of 3 ft^3/s and diverted into unnamed trib that is tributary to the Baraboo River.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height observed, 14.13 ft, July 18, 1993; minimum observed, 1.49 ft Feb. 8, 1965.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 12.22 ft, Oct. 1; minimum, 9.12 ft, Sept. 8.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12.15	11.55	11.19	10.34	---	9.61	9.69	9.99	9.74	9.98	9.77	9.29
2	12.11	11.53	11.16	10.32	---	9.61	9.69	9.99	9.71	9.96	9.75	9.26
3	12.09	11.51	11.14	10.32	---	9.61	9.69	10.00	9.68	9.93	9.72	9.25
4	12.06	11.49	11.11	10.33	---	9.60	9.69	10.00	9.66	10.03	9.70	9.23
5	12.03	11.47	11.08	---	---	9.58	9.70	9.99	9.64	10.09	9.67	9.21
6	12.03	11.45	11.06	---	---	9.56	9.70	9.99	9.62	10.09	9.63	9.19
7	12.01	11.43	11.04	---	---	9.56	9.70	9.99	9.61	10.09	9.60	9.17
8	12.00	11.41	11.01	---	---	9.55	9.70	10.00	9.59	10.11	9.57	9.15
9	12.00	11.39	10.98	---	---	9.55	9.69	9.98	9.57	10.10	9.54	9.15
10	11.97	11.37	10.95	---	---	9.55	9.69	9.98	9.55	10.08	9.57	9.21
11	11.95	11.35	10.92	---	---	9.55	9.68	9.99	9.53	10.06	9.60	9.20
12	11.92	11.34	10.89	---	---	9.54	9.70	9.99	9.50	10.05	9.59	9.18
13	11.89	11.36	10.86	---	---	9.49	9.75	9.98	9.51	10.03	9.57	9.16
14	11.87	11.35	10.83	---	---	9.48	9.76	9.97	9.53	10.02	9.54	9.25
15	11.86	11.35	---	---	---	9.46	9.80	9.96	9.52	10.01	9.52	9.27
16	11.88	11.34	---	---	---	9.45	9.80	9.95	9.50	10.00	9.50	9.30
17	11.86	11.32	---	---	---	9.45	9.81	9.93	9.47	9.98	9.48	9.27
18	11.84	11.31	---	---	9.48	9.44	9.81	9.92	9.46	9.96	9.50	9.25
19	11.83	11.29	---	---	9.48	9.41	9.80	9.90	9.53	9.95	9.52	9.23
20	11.81	11.27	---	---	9.58	9.40	9.80	9.89	9.51	9.97	9.52	9.21
21	11.80	11.26	---	---	9.59	9.45	9.80	9.88	9.49	9.96	9.49	9.19
22	11.78	11.24	---	---	9.59	9.51	9.80	9.86	9.46	9.97	9.48	9.19
23	11.76	11.23	10.58	---	9.61	9.57	9.80	9.86	9.47	9.95	9.47	9.21
24	11.74	11.21	10.56	---	9.61	9.61	9.79	9.87	9.50	9.93	9.44	9.21
25	11.72	11.22	10.52	---	9.61	9.63	9.87	9.86	9.51	9.92	9.43	9.21
26	11.70	11.27	10.50	---	9.61	9.64	9.94	9.86	9.92	9.88	9.43	9.25
27	11.68	11.26	10.47	---	9.61	9.66	9.94	9.84	9.93	9.85	9.42	9.24
28	11.65	11.25	10.44	---	9.61	9.67	9.93	9.82	9.95	9.83	9.38	9.22
29	11.62	11.23	10.41	---	---	9.67	9.94	9.80	10.00	9.81	9.35	9.20
30	11.60	11.22	10.39	---	---	9.68	9.96	9.79	10.00	9.79	9.33	9.18
31	11.57	---	10.36	---	---	9.69	---	9.76	---	9.77	9.31	---
MEAN	11.86	11.34	---	---	---	9.56	9.78	9.92	9.62	9.97	9.53	9.22
MAX	12.15	11.55	---	---	---	9.69	9.96	10.00	10.00	10.11	9.77	9.30
MIN	11.57	11.21	---	---	---	9.40	9.68	9.76	9.46	9.77	9.31	9.15



431643088243300 DRUID LAKE NEAR HARTFORD, WI

LOCATION.--Lat 43°16'43" long 88°24'33", in NW 1/4 NE 1/4 sec.6, T.9 N., R.18 E., Washington County, Hydrologic Unit 07090001, 3.2 mi southwest of Hartford.

LAKE-STAGE RECORDS

PERIOD OF RECORD.--June 1991 to current year.

GAGE.--Staff read by Bill Noennig at his residence. Elevation of lake is 969 ft above sea level, from topographic map.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height observed, 12.80 ft, Apr. 24, 25, 1993; minimum observed, 10.76 ft, Sept. 25, 1994.

EXTREMES FOR CURRENT YEAR.--Maximum gage height observed, 12.06 ft, July 9; minimum observed, 10.76 ft, Sept. 25.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	11.00	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	10.88
3	11.25	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	10.82	---	---	---
5	---	---	---	---	---	---	---	---	---	11.28	11.06	---
6	11.14	---	---	---	---	---	---	---	---	11.48	---	---
7	---	---	---	---	---	---	---	11.00	---	11.82	---	10.86
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	12.06	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	10.80	---	---	---
12	---	---	---	---	---	---	---	11.00	---	---	11.05	---
13	11.04	---	---	---	---	---	---	---	---	11.68	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	11.01	---	---	---	---
16	11.01	---	---	---	---	---	---	---	---	11.70	11.00	---
17	---	---	---	---	---	---	---	---	---	---	---	10.84
18	---	---	---	---	---	---	---	---	10.78	---	---	---
19	---	---	---	---	---	---	---	---	---	11.51	---	---
20	---	---	---	---	---	---	---	10.88	---	---	11.08	---
21	---	---	---	---	---	---	---	---	---	---	---	10.80
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	11.46	---	---
24	---	---	---	---	---	---	11.03	---	---	---	---	---
25	---	---	---	---	---	---	---	---	11.03	---	---	10.76
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	11.18	11.02	---
28	---	---	---	---	---	---	---	11.08	---	11.18	---	---
29	---	---	---	---	---	---	---	---	---	---	---	10.82
30	---	---	---	---	---	---	11.00	---	11.04	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---

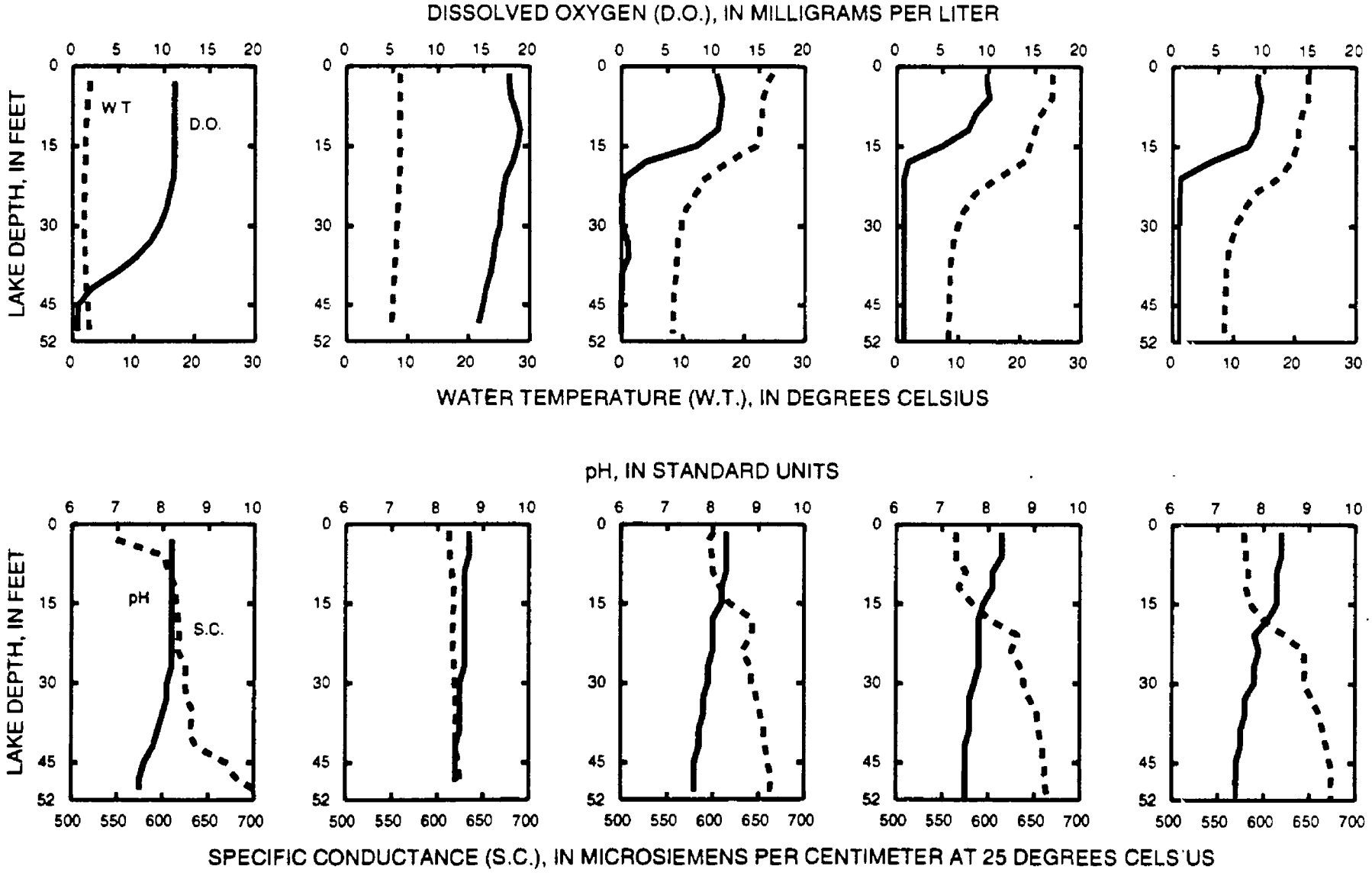
WATER-QUALITY RECORDS

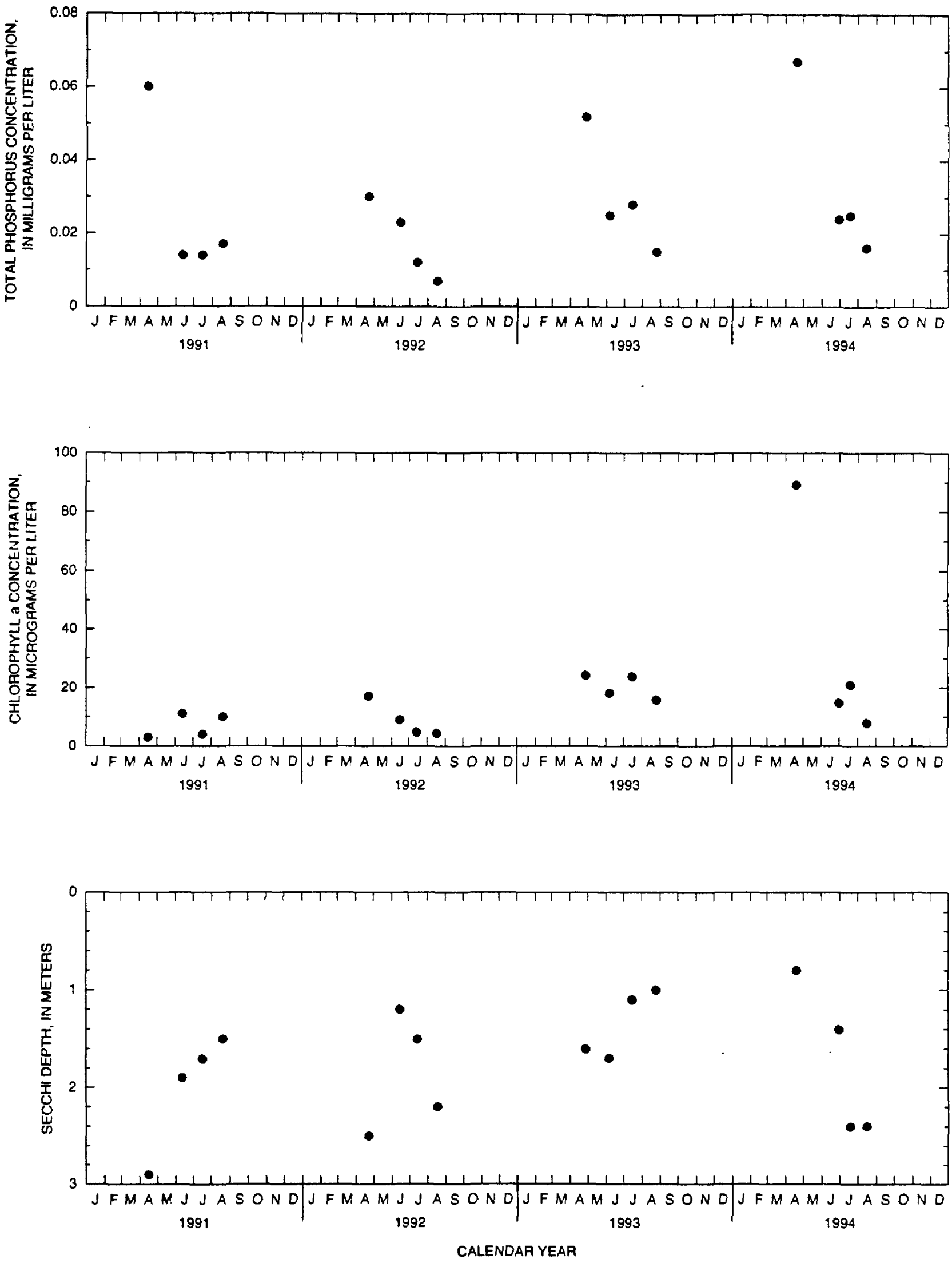
PERIOD OF RECORD.--February 1991 to current year.

REMARKS.--Lake sampled near center at deep hole. Lake ice-covered during March sampling. Water-quality analyses by Wisconsin State Laboratory of Hygiene.

WATER-QUALITY DATA, MARCH 02 TO AUGUST 16, 1994
(Milligrams per liter unless otherwise indicated)

	Mar. 02		Apr. 20		June 30		July 19		Aug. 16	
Depth of sample (ft)	3.0	50	1.5	48	1.5	50	1.5	52	1.5	51
Lake stage (ft)	---		---		11.04		11.51		11.00	
Specific conductance (µS/cm)	549	700	612	625	601	663	565	663	579	674
pH (units)	8.2	7.5	8.7	8.4	8.3	7.6	8.3	7.5	8.4	7.4
Water temperature (°C)	3.0	3.0	9.0	7.5	25.0	8.5	25.5	8.5	22.5	8.5
Color (Pt-Co. scale)	---	---	40	50	---	---	---	---	---	---
Turbidity (NTU)	---	---	1.4	2.2	---	---	---	---	---	---
Secchi-depth (meters)	---		0.8		1.4		2.4		2.4	
Dissolved oxygen	11.2	0.6	17.8	14.5	10.4	0.0	9.8	0.8	9.4	0.8
Hardness, as CaCO3	---	---	330	330	---	---	---	---	---	---
Calcium, dissolved (Ca)	---	---	72	72	---	---	---	---	---	---
Magnesium, dissolved (Mg)	---	---	37	37	---	---	---	---	---	---
Sodium, dissolved (Na)	---	---	9.6	9.6	---	---	---	---	---	---
Potassium, dissolved (K)	---	---	2	2	---	---	---	---	---	---
Alkalinity, as CaCO3	---	---	300	300	---	---	---	---	---	---
Sulfate, dissolved (SO4)	---	---	22	22	---	---	---	---	---	---
Chloride, dissolved (Cl)	---	---	24	24	---	---	---	---	---	---
Fluoride, dissolved (F)	---	---	0.1	0.1	---	---	---	---	---	---
Silica, dissolved (SiO2)	---	---	<0.2	<0.2	---	---	---	---	---	---
Solids, dissolved, at 180°C	---	---	402	408	---	---	---	---	---	---
Nitrogen, NO2 + NO3, diss. (as N)	---	---	0.63	0.70	---	---	---	---	---	---
Nitrogen, ammonia, dissolved (as N)	---	---	0.01	0.06	---	---	---	---	---	---
Nitrogen, amm. + org., total (as N)	---	---	1.2	1.1	---	---	---	---	---	---
Nitrogen, total (as N)	---	---	1.8	1.8	---	---	---	---	---	---
Phosphorus, total (as P)	---	---	0.067	0.071	0.024	0.380	0.025	0.480	0.016	0.615
Phosphorus, ortho, dissolved (as P)	---	---	0.002	0.002	---	---	---	---	---	---
Iron, dissolved (Fe) µg/L	---	---	<50	<50	---	---	---	---	---	---
Manganese, dissolved (Mn) µg/L	---	---	<40	<40	---	---	---	---	---	---
Chlorophyll a, phytoplankton (µg/L)	---	---	89	---	15	---	21	---	7.8	---





Surface total phosphorus and chlorophyll a concentrations, and Secchi depths for Druid Lake near Hartford, Wisconsin.

05544500 EAGLE LAKE NEAR KANSASVILLE, WI

LOCATION.--Lat 42°42'30", long 88°06'55", in NE 1/4 SW 1/4 sec.22, T.3 N., R.20 E., Racine County, Hydrologic Unit 07120006, 1.5 mi northwest of Kansasville.

DRAINAGE AREA.--6.1 mi^2.

PERIOD OF RECORD.--1936-64, 1975-77, 1979 (unpublished), and 1993-94 (framentary).

GAGE.--1936-79, nonrecording gage at different datum; 1993-94, assumed datum.

EXTREMES FOR PERIOD 1936-64, 1975-77, 1979.--Maximum gage height observed, 7.80 ft, July 1, 1942; minimum observed, 4.31 ft, Jan. 22, 1964.

EXTREMES FOR CURRENT PERIOD.--
FEBRUARY TO SEPTEMBER 1993: Maximum gage height observed, 12.25 ft, Apr. 22; minimum observed, 10.37 ft, Feb. 2.
1994 WATER YEAR: Maximum gage height observed, 11.70 ft, May 4; minimum observed, 10.60 ft, Sept. 21, 28.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	---	---	11.20
2	---	---	---	---	10.37	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	11.50	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	11.12
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	11.30	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	11.10
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	11.30	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	11.64	---	---
22	---	---	---	---	---	---	12.25	---	---	---	---	---
23	---	---	---	---	---	---	---	---	11.82	---	---	11.10
24	---	---	---	---	---	---	---	---	---	---	11.40	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	11.56	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	11.12
31	---	---	---	---	---	---	---	---	---	---	---	---

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	11.22	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	10.96	---	---	---	---	---	---	---	---	10.76	---
4	---	---	---	---	---	---	---	11.70	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	11.16	---	---	---	---	---	11.54	---	---	11.00	---	---
7	---	---	---	---	---	---	---	---	---	---	---	10.72
8	---	---	11.10	---	---	---	---	---	11.10	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	10.94	---	---	---	---	---	---	---	---	10.84	---
11	---	---	---	---	---	---	---	11.50	---	---	---	---
12	---	---	---	---	---	---	11.46	---	---	10.92	---	---
13	11.10	---	---	---	---	---	11.50	---	---	10.90	---	---
14	---	---	---	---	---	---	---	---	---	---	---	10.68
15	---	---	11.12	---	---	---	---	---	11.04	---	10.90	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	10.90	---	---	---	---	---	---	---	---	10.90	---
18	---	---	---	---	---	---	---	11.42	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	11.05	---	---	---	---	---	11.40	---	---	10.90	---	---
21	---	---	---	---	---	---	---	---	---	---	---	10.60
22	---	---	11.10	---	---	---	---	---	11.00	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	10.90	---	---	---	---	---	---	---	---	10.89	---
25	---	---	---	---	---	---	---	11.38	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	10.96	---	---	---	---	---	11.63	---	---	10.80	---	---
28	---	---	---	---	---	---	---	---	---	---	---	10.60
29	---	---	---	---	---	---	---	---	11.03	---	---	---
30	---	---	---	---	---	11.58	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	10.80	---

424207088072400 EAGLE LAKE NEAR KANSASVILLE, WI

LOCATION.--Lat 42°42'07", long 88°07'24", in SE 1/4 SW 1/4 sec.22, T.3 N., R.20 E., Racine County, Hydrologic Unit 07120006, 1.5 mi northwest of Kansasville.

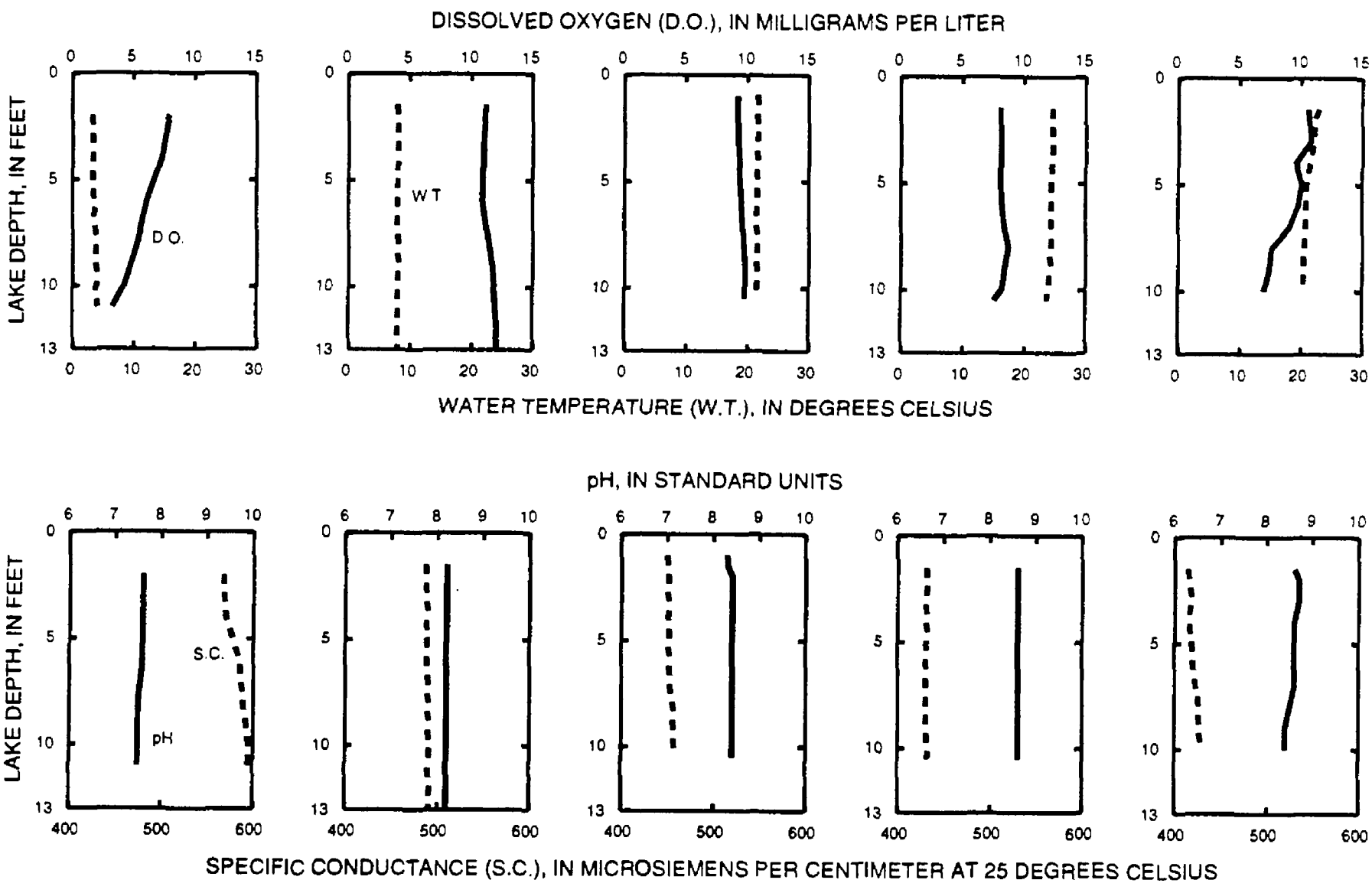
DRAINAGE AREA.--6.99 mi^2.

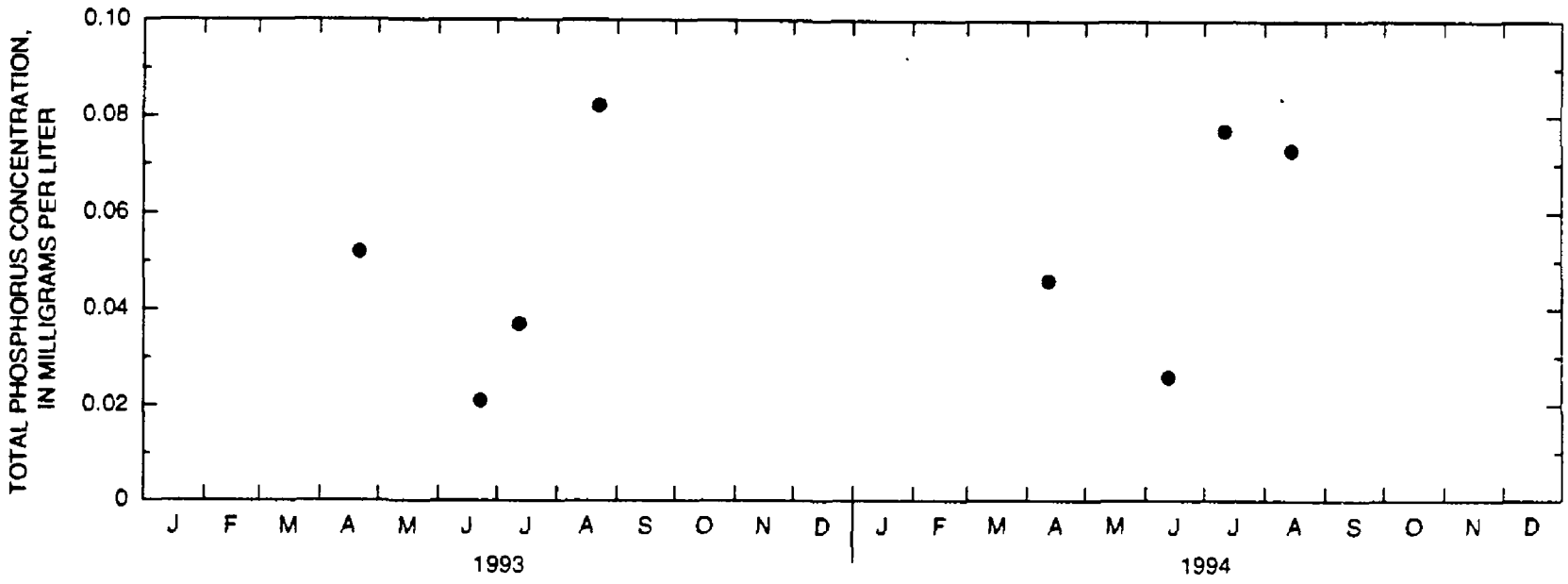
PERIOD OF RECORD.--February 1993 to current year.

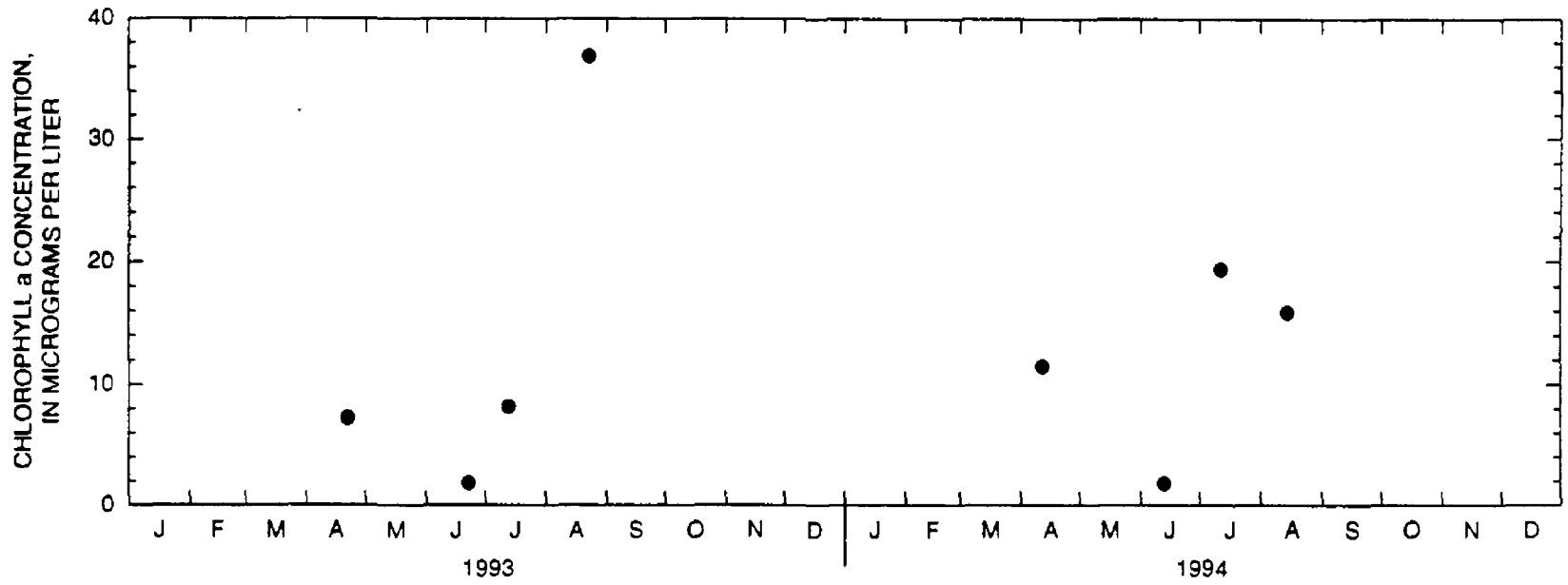
REMARKS.--Lake sampled near near center of lake at deep hole. Lake ice-covered during March sampling. Water-quality analyses by Wisconsin State Laboratory of Hygiene.

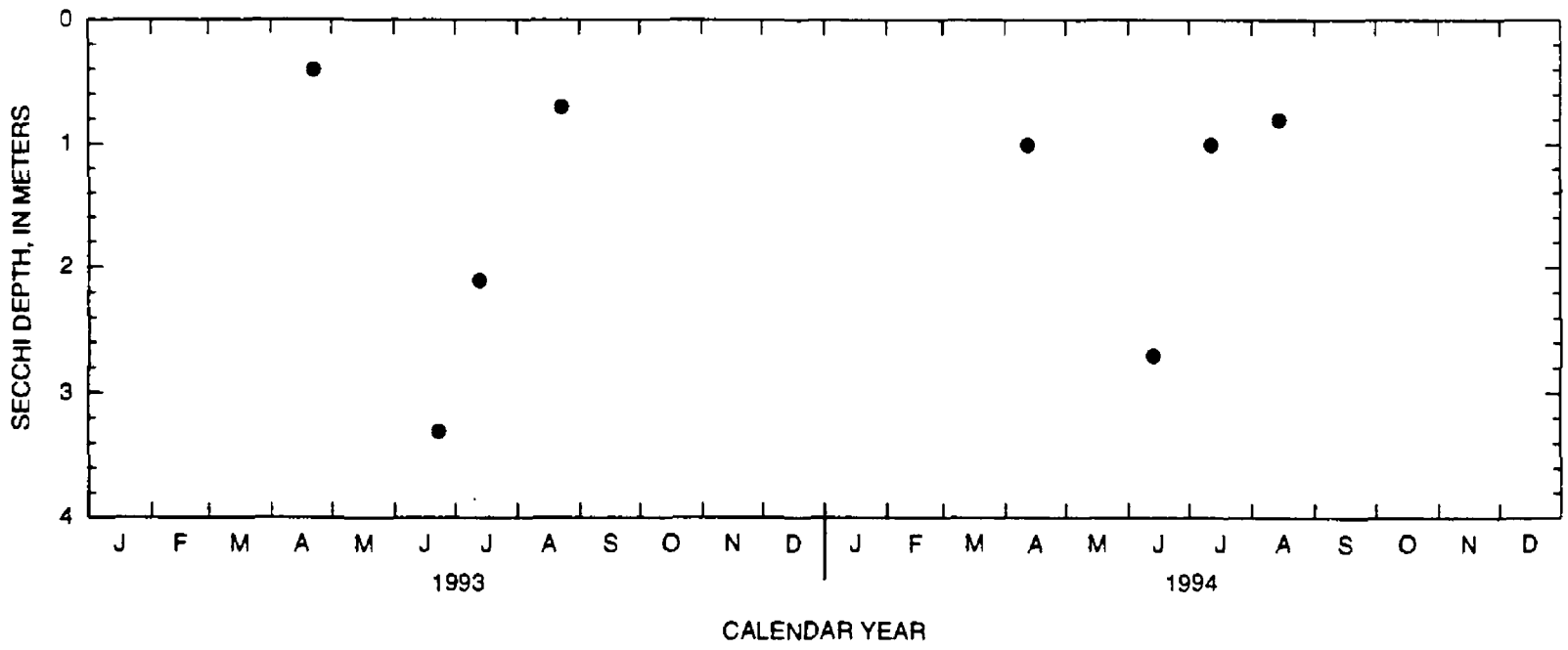
WATER-QUALITY DATA, MARCH 01 TO AUGUST 15, 1994
(Milligrams per liter unless otherwise indicated)

	Mar. 01		Apr. 12		June 13		July 12		Aug. 15	
Depth of sample (ft)	2.0	11	1.5	13	1.5	10	1.5	10	1.5	10
Lake stage (ft)	---		11.46		---		10.92		10.90	
Specific conductance (µS/cm)	567	595	487	491	450	459	431	432	414	429
pH (units)	7.6	7.5	8.2	8.2	8.3	8.4	8.6	8.6	8.6	8.4
Water temperature (°C)	3.5	4.0	8.0	8.0	22.0	21.5	24.5	24.0	23.0	23.0
Color (Pt-Co. scale)	---	---	20	20	---	---	---	---	---	---
Turbidity (NTU)	---	---	2.9	2.8	---	---	---	---	---	---
Secchi-depth (meters)	---		1.0		2.7		1.0		0.8	
Dissolved oxygen	7.9	3.3	11.2	12.0	9.2	9.8	8.1	7.6	10.6	7.0
Hardness, as CaCO3	---	---	220	220	---	---	---	---	---	---
Calcium, dissolved (Ca)	---	---	50	50	---	---	---	---	---	---
Magnesium, dissolved (Mg)	---	---	24	24	---	---	---	---	---	---
Sodium, dissolved (Na)	---	---	13	13	---	---	---	---	---	---
Potassium, dissolved (K)	---	---	3	3	---	---	---	---	---	---
Alkalinity, as CaCO3	---	---	170	170	---	---	---	---	---	---
Sulfate, dissolved (SO4)	---	---	41	41	---	---	---	---	---	---
Chloride, dissolved (Cl)	---	---	30	31	---	---	---	---	---	---
Fluoride, dissolved (F)	---	---	0.2	0.2	---	---	---	---	---	---
Silica, dissolved (SiO2)	---	---	2.0	2.0	---	---	---	---	---	---
Solids, dissolved, at 180°C	---	---	288	290	---	---	---	---	---	---
Nitrogen, NO2 + NO3, diss. (as N)	---	---	0.36	0.36	---	---	---	---	---	---
Nitrogen, ammonia, dissolved (as N)	---	---	0.00	0.01	---	---	---	---	---	---
Nitrogen, amm. + org., total (as N)	---	---	1.1	1.0	---	---	---	---	---	---
Nitrogen, total (as N)	---	---	1.5	1.4	---	---	---	---	---	---
Phosphorus, total (as P)	---	---	0.046	0.052	0.026	0.030	0.077	0.070	0.073	0.081
Phosphorus, ortho, dissolved (as P)	---	---	<0.002	<0.002	---	---	---	---	---	---
Iron, dissolved (Fe) µg/L	---	---	<50	<50	---	---	---	---	---	---
Manganese, dissolved (Mn) µg/L	---	---	<40	<40	---	---	---	---	---	---
Chlorophyll a, phytoplankton (µg/L)	---	---	12	---	1.8	---	19	---	16	---









Surface total phosphorus and chlorophyll a concentrations, and Secchi depths for Eagle Lake near Kansasville, Wisconsin.

425103088261500 EAGLE SPRING LAKE AT EAGLEVILLE, WI

LOCATION.--Lat 42°51'03" long 88°26'15", in SE 1/4 NW 1/4 sec.36, T.5 N., R.17 E., Waukesha County, Hydrologic Unit 07120006, at Eagleville.

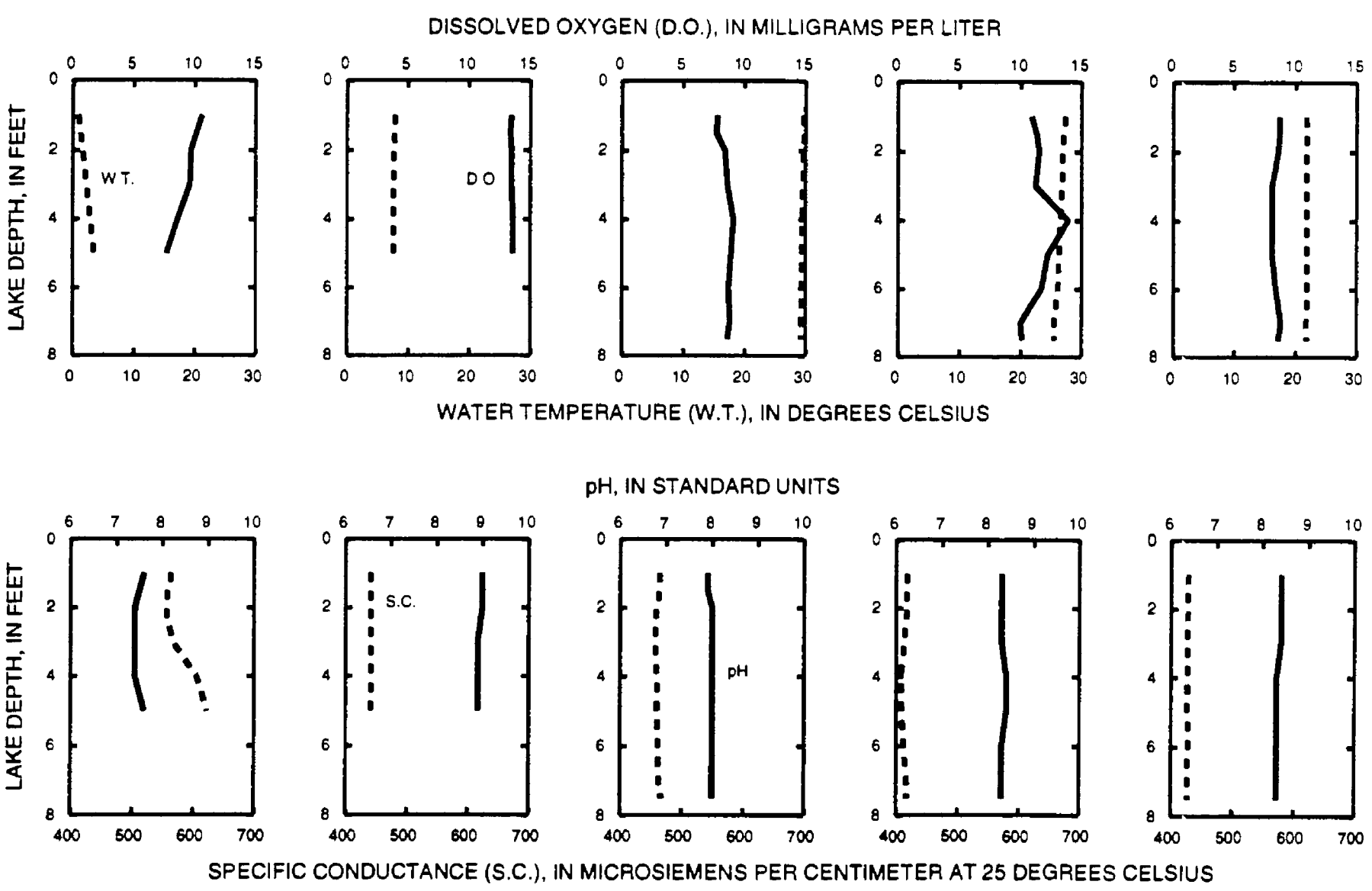
DRAINAGE AREA.--33.2 mi^2.

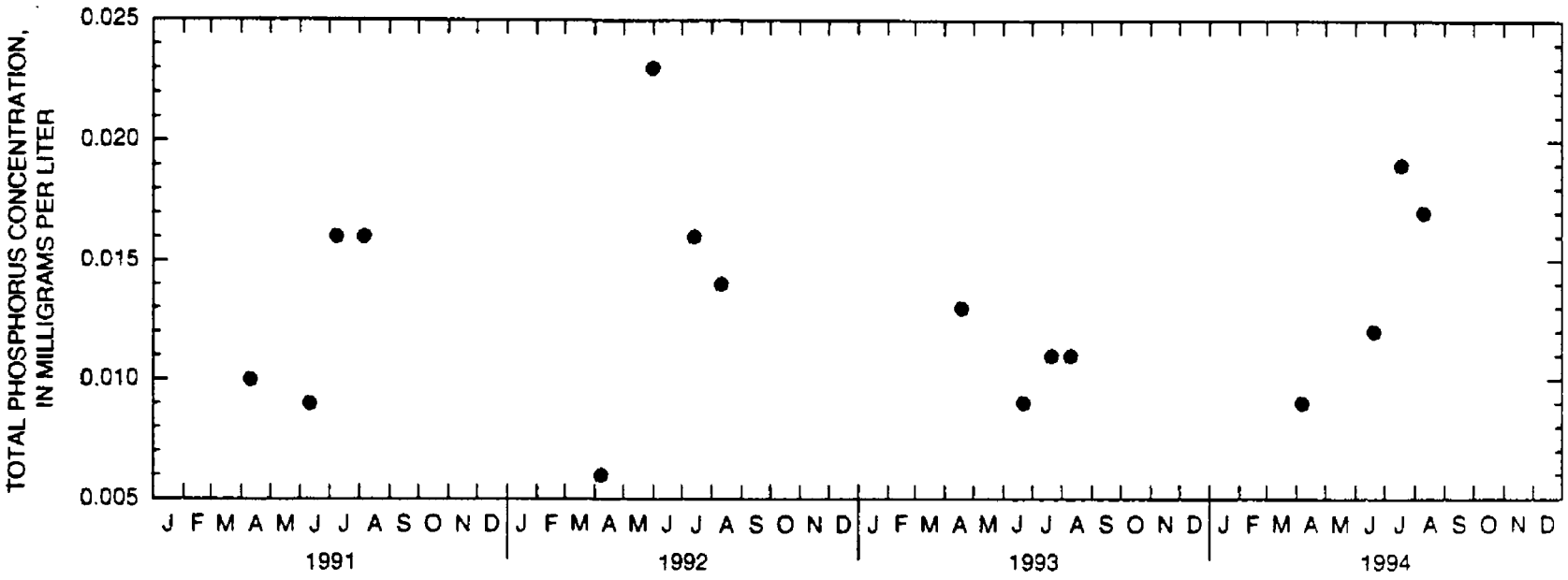
PERIOD OF RECORD.--April 1991 to current year.

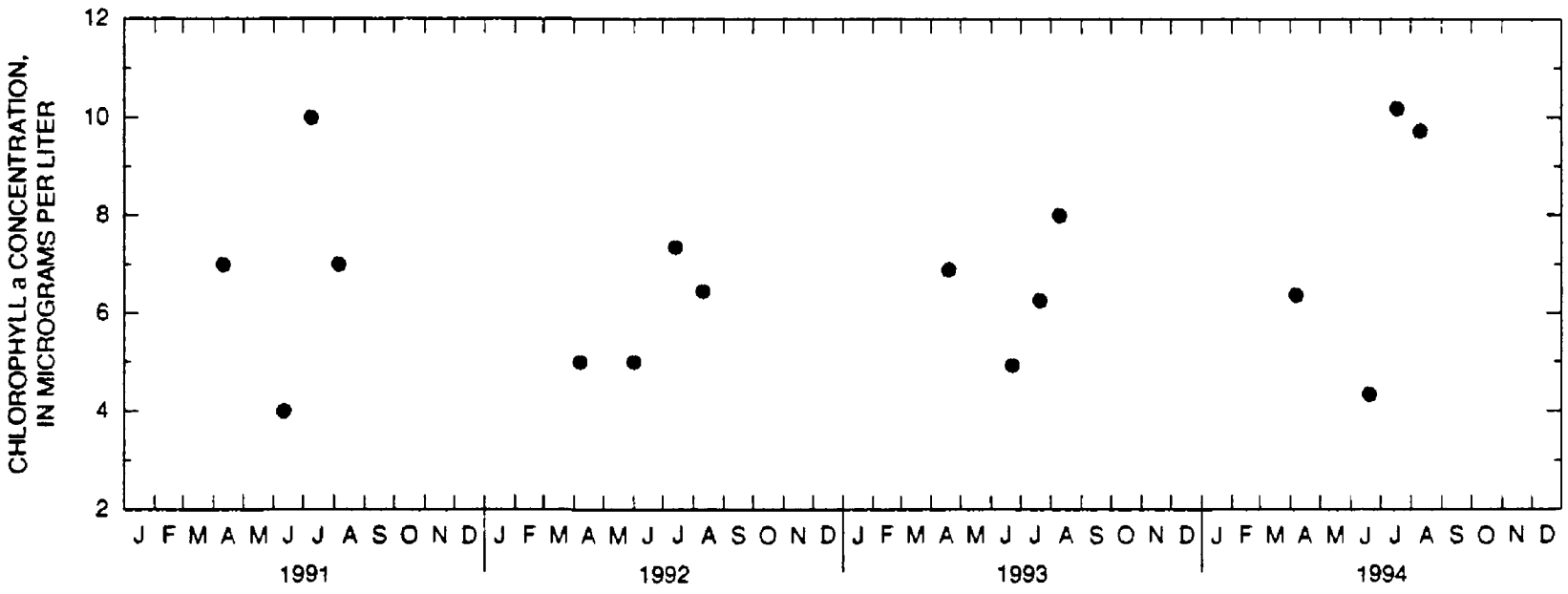
REMARKS.--Lake sampled near southeast end of lake at e lake depth of about 8 ft. Lake ice-covered during March sampling. Water-quality analyses by Wisconsin State Laboratory of Hygiene.

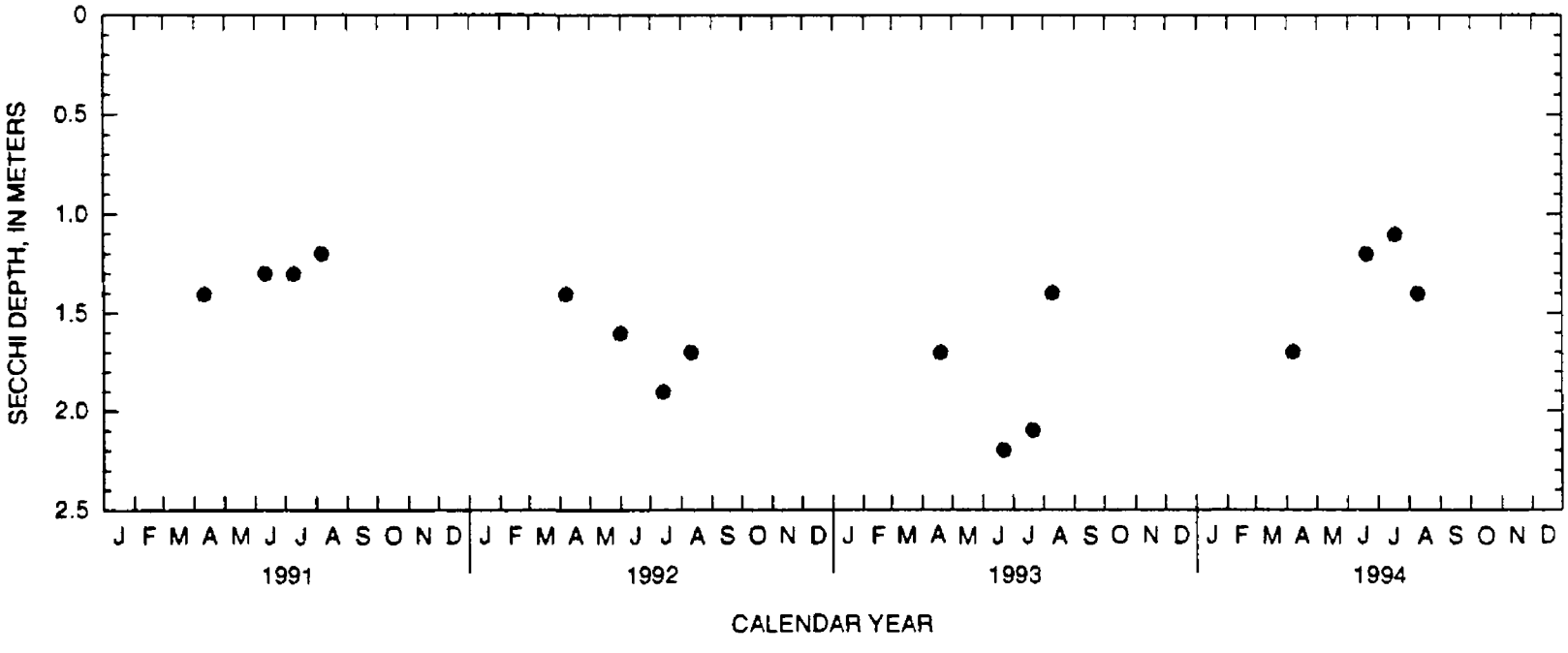
WATER-QUALITY DATA, MARCH 01 TO AUGUST 10, 1994
(Milligrams per liter unless otherwise indicated)

	Mar. 01		Apr. 07		June 20		July 18		Aug. 10	
Depth of sample (ft)	1.0	5.0	1.5	4.0	1.5	7.5	1.5	7.5	1.5	7.5
Lake stage (ft)	9.36		9.56		9.52		9.53		9.56	
Specific conductance (µS/cm)	565	623	442	442	465	467	419	417	428	427
pH (units)	7.6	7.6	9.0	8.9	7.9	8.0	8.3	8.3	8.4	8.3
Water temperature (°C)	1.0	3.5	8.0	7.5	29.5	29.5	27.5	25.5	22.0	22.0
Color (Pt-Co. scale)	---	---	10	10	---	---	---	---	---	---
Turbidity (NTU)	---	---	1.3	1.2	---	---	---	---	---	---
Secchi-depth (meters)	---		1.7		1.2		1.1		1.4	
Dissolved oxygen	10.6	7.7	13.4	13.6	7.8	8.6	10.9	10.1	8.7	8.6
Hardness, as CaCO3	---	---	230	230	---	---	---	---	---	---
Calcium, dissolved (Ca)	---	---	51	51	---	---	---	---	---	---
Magnesium, dissolved (Mg)	---	---	26	26	---	---	---	---	---	---
Sodium, dissolved (Na)	---	---	5.0	5.0	---	---	---	---	---	---
Potassium, dissolved (K)	---	---	1	1	---	---	---	---	---	---
Alkalinity, as CaCO3	---	---	210	210	---	---	---	---	---	---
Sulfate, dissolved (SO4)	---	---	15	15	---	---	---	---	---	---
Chloride, dissolved (Cl)	---	---	12	12	---	---	---	---	---	---
Fluoride, dissolved (F)	---	---	0.1	0.1	---	---	---	---	---	---
Silica, dissolved (SiO2)	---	---	5.0	4.9	---	---	---	---	---	---
Solids, dissolved, at 180°C	---	---	248	252	---	---	---	---	---	---
Nitrogen, NO2 + NO3, diss. (as N)	---	---	1.1	1.1	---	---	---	---	---	---
Nitrogen, ammonia, dissolved (as N)	---	---	<0.00	<0.00	---	---	---	---	---	---
Nitrogen, amm. + org., total (as N)	---	---	0.30	0.40	---	---	---	---	---	---
Nitrogen, total (as N)	---	---	1.4	1.5	---	---	---	---	---	---
Phosphorus, total (as P)	---	---	0.009	0.009	0.012	0.030	0.019	0.021	0.017	0.018
Phosphorus, ortho, dissolved (as P)	---	---	<0.002	<0.002	---	---	---	---	---	---
Iron, dissolved (Fe) µg/L	---	---	<50	<50	---	---	---	---	---	---
Manganese, dissolved (Mn) µg/L	---	---	<40	<40	---	---	---	---	---	---
Chlorophyll a, phytoplankton (µg/L)	---	---	6.4	---	4.3	---	10	---	9.7	---









Surface total phosphorus and chlorophyll a concentrations, and Secchi depths for Eagle Spring Lake at Eagleville, Wisconsin.

05406050 FISH LAKE NEAR SAUK CITY, WI

LOCATION.--Lat 43°17'02", long 89°39'15", in NE 1/4 SW 1/4 sec.3, T.9 N., R.7 E., Dane County, Hydrologic Unit 07070005, on south side of lake near Ganser's Tavern and Dance Hall, 0.4 mi southwest of Crystal Lake, and 3.1 mi east of Sauk City.

DRAINAGE AREA.--2.23 mi^2. Area of Fish Lake, 252 acres.

PERIOD OF RECORD.--November 1966 to September 1981, April 1985 to September 1987, April 1989 to October 22, 1990 (fragmentary); continuous record since Oct. 23, 1990.

REVISED RECORDS.--WDR WI-92-1: Drainage area. WDR WI-87-1: All published values for the 1987 water year are invalid. Two valid values for water years 1987 and 1988 are available: May 7, 1987, water surface 10.52 ft, and May 16, 1988, water surface 10.83 ft.

GAGE.--Water-stage recorder. Datum of gage is 848.07 ft above sea level. Prior to Oct. 23, 1990, nonrecording gage.

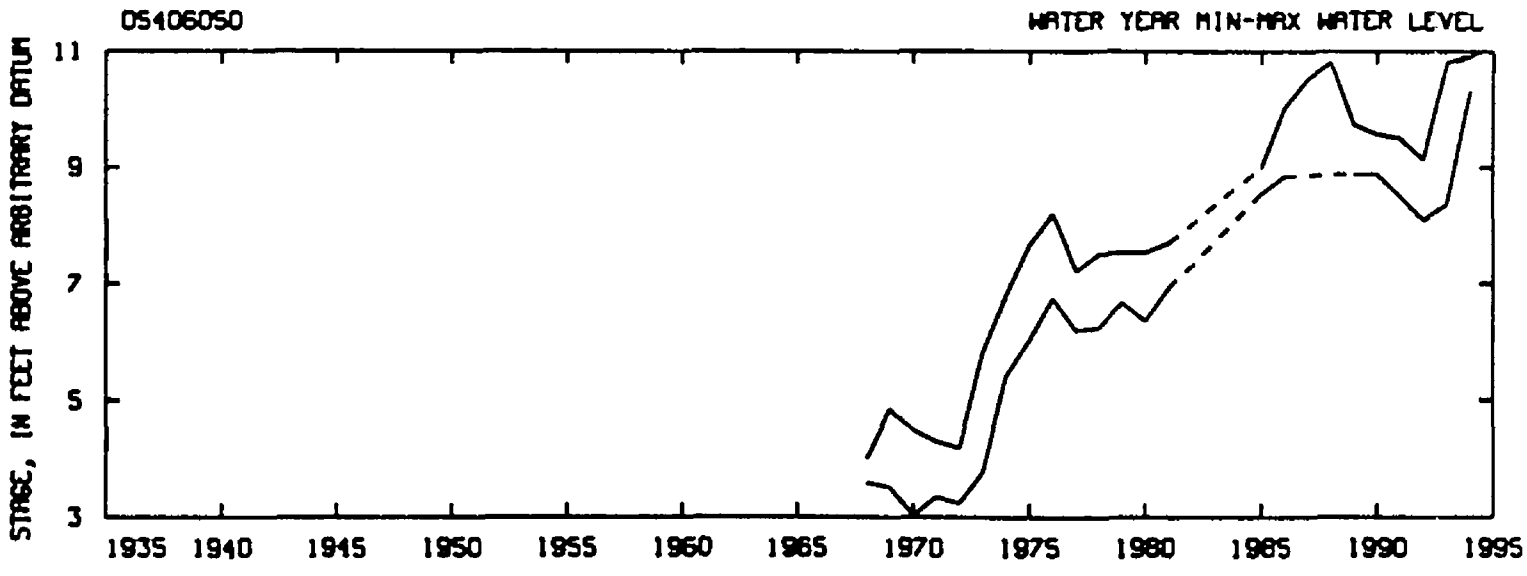
REMARKS.--Lake has no surface outlet.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height observed, 11.00 ft, Apr. 4, 1994; minimum observed, 3.02 ft, Aug. 29, 1970.

EXTREMES FOR CURRENT YEAR.--Maximum gage height observed, 11.00 ft, Apr. 4; minimum observed, 10.36 ft, June 22.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10.59	10.42	---	---	---	---	10.99	10.82	10.60	10.67	10.66	10.54
2	10.58	10.41	---	---	---	---	10.99	10.82	10.58	10.65	10.64	10.53
3	10.56	10.40	---	---	---	---	10.99	10.81	10.55	10.62	10.64	10.54
4	10.55	10.40	---	10.40	---	---	11.00	10.80	10.54	10.68	10.65	10.53
5	10.54	10.40	---	---	---	---	10.99	10.80	10.53	10.71	10.62	10.52
6	10.53	10.39	---	---	---	---	10.97	10.78	10.53	10.71	10.60	10.51
7	10.53	10.38	---	---	---	---	10.94	10.79	10.53	10.73	10.58	10.50
8	10.53	10.38	---	---	---	---	10.91	10.79	10.52	10.78	10.57	10.50
9	10.53	10.37	---	---	---	10.89	10.91	10.77	10.50	10.78	10.55	10.50
10	10.53	---	---	---	---	---	10.88	10.77	10.48	10.76	10.59	10.52
11	10.53	---	---	---	---	---	10.87	10.78	10.47	10.75	10.67	10.51
12	10.53	---	---	---	---	---	10.89	10.78	10.45	10.74	10.66	10.50
13	10.53	---	---	---	---	---	10.91	10.77	10.46	10.73	10.66	10.50
14	10.52	---	---	---	---	---	10.91	10.76	10.46	10.73	10.65	10.52
15	10.52	---	---	---	---	---	10.93	10.77	10.45	10.71	10.63	10.53
16	10.52	---	---	---	---	---	10.92	10.75	10.43	10.71	10.61	10.56
17	10.52	---	---	---	---	---	10.89	10.74	10.41	10.70	10.60	10.54
18	10.52	---	---	---	---	---	10.88	10.72	10.40	10.69	10.64	10.53
19	10.52	---	---	---	---	---	10.87	10.71	10.38	10.68	10.66	10.51
20	10.52	---	---	---	---	---	10.85	10.70	10.39	10.76	10.68	10.50
21	10.52	---	---	---	---	---	10.84	10.69	10.38	10.76	10.66	10.50
22	10.52	---	---	---	---	---	10.83	10.68	10.36	10.77	10.65	10.50
23	10.51	---	---	---	---	---	10.82	10.69	10.43	10.76	10.64	10.53
24	10.50	---	---	---	---	---	10.81	10.72	10.56	10.74	10.63	10.54
25	10.50	---	---	---	---	10.86	10.83	10.72	10.55	10.73	10.62	10.57
26	10.49	---	---	---	---	10.87	10.85	10.71	10.67	10.71	10.63	10.60
27	10.48	---	---	---	---	10.88	10.83	10.68	10.66	10.69	10.62	10.60
28	10.47	---	---	---	---	10.88	10.80	10.67	10.67	10.68	10.60	10.58
29	10.45	---	---	---	---	10.88	10.79	10.65	10.70	10.66	10.58	10.56
30	10.44	---	---	---	---	10.88	10.80	10.64	10.69	10.65	10.57	10.56
31	10.42	---	---	---	---	10.91	---	10.63	---	10.64	10.56	---
MEAN	10.52	---	---	---	---	---	10.89	10.74	10.51	10.71	10.62	10.53
MAX	10.59	---	---	---	---	---	11.00	10.82	10.70	10.78	10.68	10.60
MIN	10.42	---	---	---	---	---	10.79	10.63	10.36	10.62	10.55	10.50



433632088100200 FOREST LAKE NEAR DUNDEE, WI

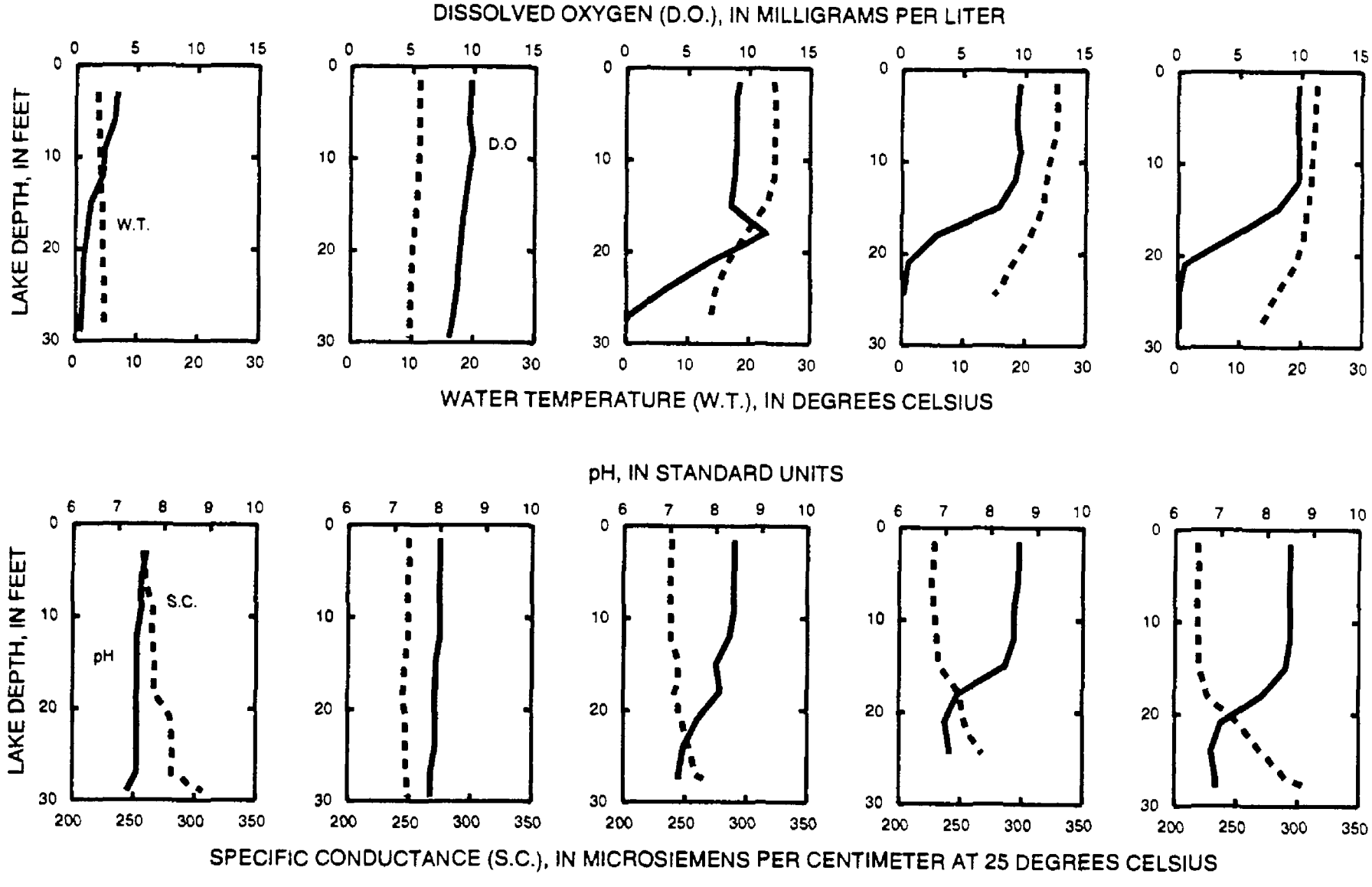
LOCATION.--Lat 43°36'32", long 88°10'02", in SW 1/4 NE 1/4 sec.12, T.13 N., R.19 E., Fond du Lac County, Hydrologic Unit 04040003, 3 mi south of Dundee.

PERIOD OF RECORD.--March to August 1994.

REMARKS.--Lake sampled at north end of lake at a depth of about 32 ft. Lake ice-covered during March sampling. Water-quality analyses by Wisconsin State Laboratory of Hygiene.

WATER-QUALITY DATA, MARCH 03 TO AUGUST 17, 1994
(Milligrams per liter unless otherwise indicated)

	Mar. 03		May 03		June 29		July 20		Aug. 17	
Depth of sample (ft)	3.0	29	1.5	29	1.5	27	1.5	24	1.5	28
Lake stage (ft)	---		9.39		8.85		8.86		8.90	
Specific conductance (µS/cm)	257	307	249	249	239	265	229	268	218	310
pH (units)	7.6	7.2	8.0	7.8	8.4	7.2	8.6	7.1	8.5	6.9
Water temperature (°C)	3.5	5.0	11.0	9.5	24.0	13.0	25.0	15.0	22.5	13.0
Color (Pt-Co. scale)	---	---	15	10	---	---	---	---	---	---
Turbidity (NTU)	---	---	0.60	0.30	---	---	---	---	---	---
Sacchi-depth (meters)	---		8.0		3.6		3.4		3.2	
Dissolved oxygen	3.4	0.4	9.8	8.1	9.2	0.0	9.6	0.1	9.8	0.1
Hardness, as CaCO3	---	---	130	130	---	---	---	---	---	---
Calcium, dissolved (Ca)	---	---	26	26	---	---	---	---	---	---
Magnesium, dissolved (Mg)	---	---	15	15	---	---	---	---	---	---
Sodium, dissolved (Na)	---	---	2.4	2.4	---	---	---	---	---	---
Potassium, dissolved (K)	---	---	0.8	0.8	---	---	---	---	---	---
Alkalinity, as CaCO3	---	---	120	120	---	---	---	---	---	---
Sulfate, dissolved (SO4)	---	---	4.0	5.0	---	---	---	---	---	---
Chloride, dissolved (Cl)	---	---	4.1	4.1	---	---	---	---	---	---
Fluoride, dissolved (F)	---	---	<0.0	0.0	---	---	---	---	---	---
Silica, dissolved (SiO2)	---	---	<0.2	<0.2	---	---	---	---	---	---
Solids, dissolved, at 180°C	---	---	138	138	---	---	---	---	---	---
Nitrogen, NO2 + NO3, diss. (as N)	---	---	0.01	0.02	---	---	---	---	---	---
Nitrogen, ammonia, dissolved (as N)	---	---	0.06	0.07	---	---	---	---	---	---
Nitrogen, amm. + org., total (as N)	---	---	0.60	0.50	---	---	---	---	---	---
Nitrogen, total (as N)	---	---	0.61	0.52	---	---	---	---	---	---
Phosphorus, total (as P)	---	---	0.012	0.016	0.013	0.100	0.020	0.048	0.014	0.433
Phosphorus, ortho, dissolved (as P)	---	---	0.003	0.004	---	---	---	---	---	---
Iron, dissolved (Fe) µg/L	---	---	<50	<50	---	---	---	---	---	---
Manganese, dissolved (Mn) µg/L	---	---	<40	<40	---	---	---	---	---	---
Chlorophyll a, phytoplankton (µg/L)	---	---	0.4	---	3.7	---	4.8	---	0.8	---



3-3-94 5-3-94 6-29-94 7-20-94 8-17-94

430653088294601 CENTER OF FOWLER LAKE AT OCONOMOWOC, WI

LOCATION.--Lat 43°06'53", long 88°29'46", in SE 1/4 NW 1/4 sec.33, T.8 N., R.17 E., Waukesha County, Hydrologic Unit 07090001, within City of Oconomowoc, at canter of Fowler Lake.

DRAINAGE AREA.--87.8 mi^2.

LAKE-STAGE RECORDS

PERIOD OF RECORD.--January to December 1984, October 1986 to current year.

GAGE.--Staff gage at outlet read by City of Oconomowoc Engineering Department.

REMARKS.--Flows regulated at upstream lakes.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height observed, 9.96 ft, July 7, 1993; minimum observed, 7.82 ft, Sept. 12, 1988.

EXTREMES FOR CURRENT YEAR.--Maximum gage height observed, 9.16 ft, July 14; minimum observed, 8.48 ft, Sept. 20.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	8.86	---	---	---	---	---	---	---	---	---
2	---	---	---	---	8.78	8.92	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	8.82	---	---	---	---	9.06	---	---	---	8.82	---
5	---	---	---	8.78	---	---	---	8.78	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	8.85	---	---	---	---	---	---	---	8.68	8.90	---	---
8	---	---	8.82	---	---	8.98	---	---	---	---	---	8.52
9	---	---	---	---	---	---	---	8.78	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	8.64	---
11	---	8.94	---	---	8.76	---	---	---	---	---	8.57	---
12	8.82	---	---	---	---	---	---	---	---	---	---	---
13	---	---	8.82	8.80	---	---	---	---	---	---	---	8.50
14	---	---	---	---	---	---	8.56	---	8.74	9.16	---	---
15	---	---	---	---	---	9.04	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	8.72	---	8.52	---
17	---	8.90	---	---	8.80	---	---	8.68	---	---	---	---
18	---	---	---	---	8.76	---	---	---	---	---	---	---
19	---	---	---	8.78	---	---	---	---	---	9.13	---	---
20	8.80	---	---	---	---	---	---	---	---	---	---	8.48
21	---	---	---	---	---	---	8.62	---	---	---	---	---
22	---	---	8.80	---	---	---	---	---	---	---	---	---
23	---	---	---	---	8.88	9.02	---	---	8.76	---	8.60	---
24	---	---	---	---	---	---	---	8.64	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	8.86	---	---	---	---	---
27	8.82	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	8.72	---	---	8.64	---	8.58
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	8.80	---	---	9.04	---	---	8.82	---	8.58	---
31	---	---	---	---	---	---	---	---	---	---	---	---

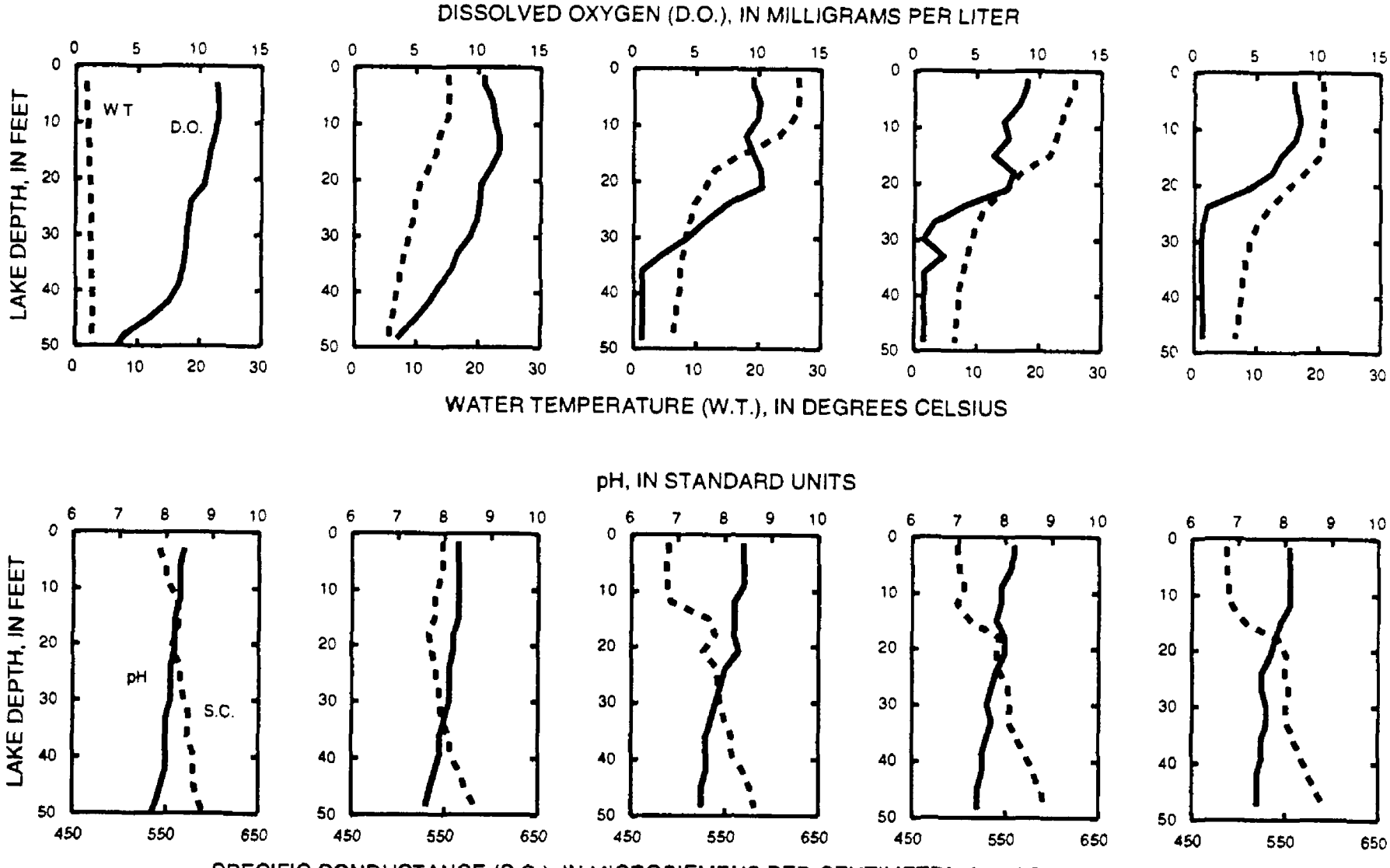
WATER-QUALITY RECORDS

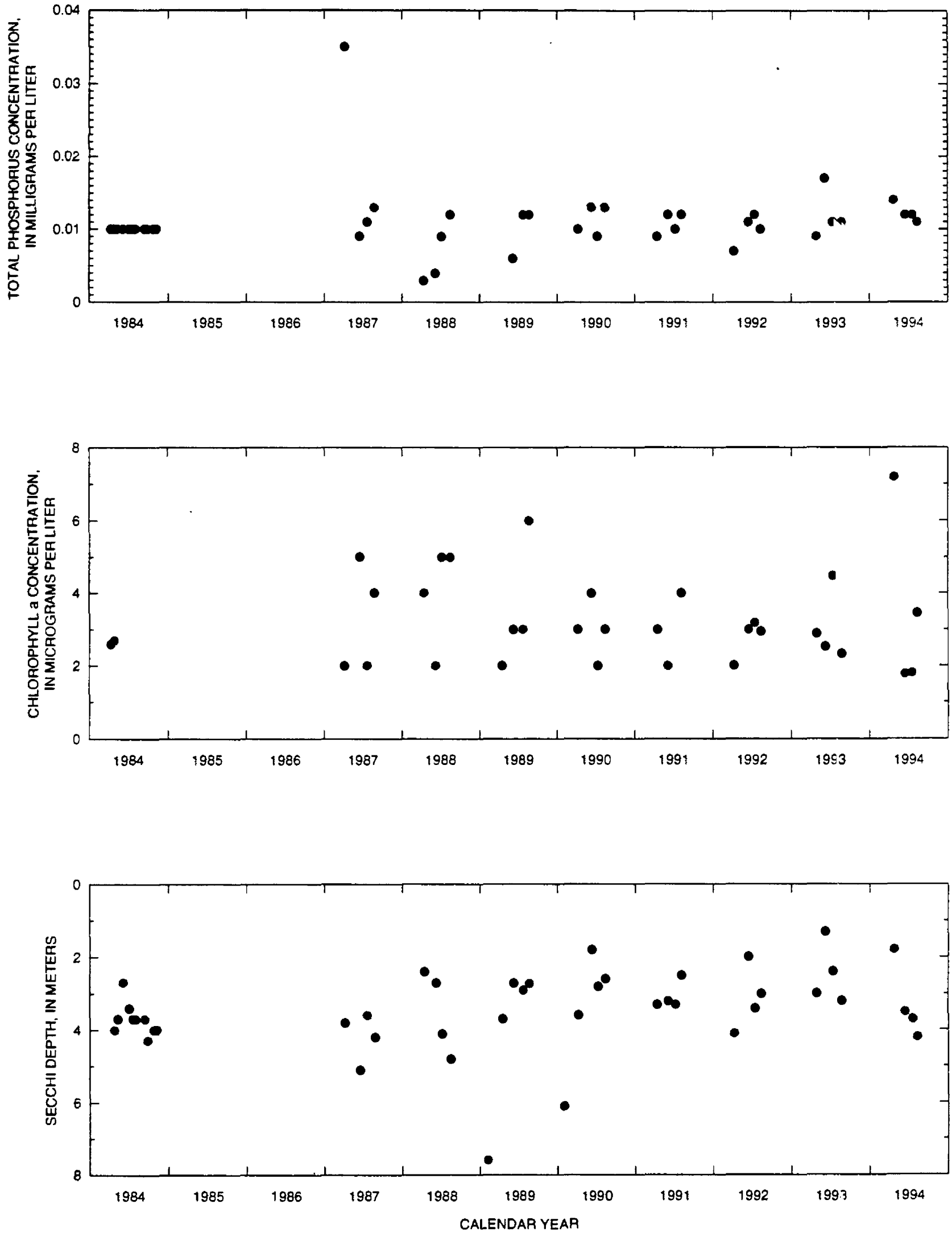
PERIOD OF RECORD.--January to December 1984 and February 1987 to current year.

REMARKS.--Lake sampled near center at a lake depth of about 52 ft. Lake ice-covered during February sampling. Water-quality analyses by Wisconsin State Laboratory of Hygiene.

WATER-QUALITY DATA, FEBRUARY 18 TO AUGUST 11, 1994
(Milligrams per liter unless otherwise indicated)

	Feb. 18		Apr. 26		June 16		July 19		Aug. 11	
Depth of sample (ft)	3.0	50	1.5	48	1.5	48	1.5	48	1.5	47
Lake stage (ft)	8.76		8.86		8.72		9.07		8.57	
Specific conductance (µS/cm)	543	591	548	583	490	582	499	593	488	591
pH (units)	8.4	7.7	8.3	7.6	8.4	7.5	8.2	7.4	8.1	7.4
Water temperature (°C)	2.0	3.0	15.0	5.5	26.5	6.5	25.5	6.5	20.5	6.5
Color (Pt-Co. scale)	---	---	15	15	---	---	---	---	---	---
Turbidity (NTU)	---	---	1.2	1.00	---	---	---	---	---	---
Secchi-depth (meters)	---		1.8		3.5		3.7		4.2	
Dissolved oxygen	11.4	3.4	10.5	3.5	9.6	0.7	9.1	0.8	8.1	0.7
Hardness, as CaCO3	---	---	270	270	---	---	---	---	---	---
Calcium, dissolved (Ca)	---	---	54	54	---	---	---	---	---	---
Magnesium, dissolved (Mg)	---	---	33	34	---	---	---	---	---	---
Sodium, dissolved (Na)	---	---	14	18	---	---	---	---	---	---
Potassium, dissolved (K)	---	---	2	2	---	---	---	---	---	---
Alkalinity, as CaCO3	---	---	230	230	---	---	---	---	---	---
Sulfate, dissolved (SO4)	---	---	26	27	---	---	---	---	---	---
Chloride, dissolved (Cl)	---	---	30	36	---	---	---	---	---	---
Fluoride, dissolved (F)	---	---	0.1	0.1	---	---	---	---	---	---
Silica, dissolved (SiO2)	---	---	4.0	6.0	---	---	---	---	---	---
Solids, dissolved, at 180°C	---	---	316	328	---	---	---	---	---	---
Nitrogen, NO2 + NO3, diss. (as N)	---	---	0.34	0.36	---	---	---	---	---	---
Nitrogen, ammonia, dissolved (as N)	---	---	0.01	0.13	---	---	---	---	---	---
Nitrogen, amm. + org., total (as N)	---	---	0.60	0.70	---	---	---	---	---	---
Nitrogen, total (as N)	---	---	0.94	1.1	---	---	---	---	---	---
Phosphorus, total (as P)	---	---	0.014	0.017	0.012	0.050	0.012	0.112	0.011	0.076
Phosphorus, ortho, dissolved (as P)	---	---	<0.002	<0.002	---	---	---	---	---	---
Iron, dissolved (Fe) µg/L	---	---	<50	<50	---	---	---	---	---	---
Manganese, dissolved (Mn) µg/L	---	---	<40	<40	---	---	---	---	---	---
Chlorophyll a, phytoplankton (µg/L)	---	---	7.2	---	1.8	---	1.8	---	3.4	---





Surface total phosphorus and chlorophyll a concentrations and Secchi depths for Center of Fowler Lake at Oconomowoc, Wisconsin.

434918088553601 GREEN LAKE AT COUNTY TRUNK HIGHWAY A NEAR GREEN LAKE, WI

LOCATION.--Lat 43°49'18", long 88°55'36" in NE 1/4 SE 1/4 SE 1/4 sec.27, T.16 N., R.13 E., Greer Lake County, Hydrologic Unit 04030201, on left bank at downstream side of County Trunk Highway A, 2.3 mi southeast of Green Lake.

DRAINAGE AREA.--103 mi^2.

PERIOD OF RECORD.--October 1993 to September 1994.

GAGE.--Water-stage recorder. Datum of gage is 790.00 ft above sea level.

REMARKS.--Lake level regulated by dam at outlet at Green Lake. Gage-height telemeter at station.

EXTREMES FOR CURRENT YEAR..--Maximum gage height, 6.76 ft, July 4; minimum, 5.58 ft, Feb. 18, 19.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.36	6.17	6.08	5.65	5.67	6.10	5.91	6.21	6.29	6.41	6.24	6.33
2	6.37	6.16	6.10	5.64	5.67	6.07	5.91	6.21	6.27	6.34	6.23	6.33
3	6.33	6.16	6.07	5.64	5.66	6.04	5.88	6.22	6.27	6.32	6.23	6.32
4	6.35	6.15	6.05	5.64	5.66	6.01	5.86	6.23	6.27	6.61	6.22	6.31
5	6.35	6.15	6.04	5.63	5.66	6.00	5.87	6.24	6.28	6.71	6.19	6.32
6	6.35	6.15	6.04	5.65	5.66	6.06	5.86	6.23	6.35	6.68	6.18	6.32
7	6.36	6.14	6.01	5.66	5.66	6.15	5.86	6.23	6.33	6.65	6.16	6.31
8	6.35	6.12	6.00	5.65	5.66	6.18	5.85	6.26	6.30	6.70	6.15	6.31
9	6.35	6.12	5.98	5.63	5.66	6.20	5.87	6.26	6.31	6.65	6.12	6.31
10	6.33	6.13	5.97	5.63	5.66	6.20	5.86	6.25	6.31	6.58	6.14	6.30
11	6.30	6.13	5.94	5.63	5.66	6.19	5.85	6.31	6.31	6.55	6.17	6.30
12	6.29	6.11	5.93	5.63	5.66	6.18	5.86	6.30	6.31	6.51	6.17	6.31
13	6.29	6.17	5.90	5.62	5.66	6.16	5.91	6.30	6.33	6.44	6.18	6.31
14	6.28	6.15	5.88	5.62	5.64	6.14	5.92	6.31	6.34	6.45	6.18	6.34
15	6.29	6.16	5.87	5.62	5.61	6.13	6.01	6.34	6.36	6.46	6.16	6.36
16	6.32	6.16	5.86	5.62	5.61	6.11	6.04	6.33	6.35	6.43	6.15	6.40
17	6.31	6.15	5.85	5.62	5.60	6.08	5.99	6.33	6.35	6.41	6.14	6.38
18	6.32	6.15	5.86	5.62	5.59	6.07	5.99	6.33	6.34	6.39	6.16	6.36
19	6.33	6.17	5.85	5.62	5.62	6.05	6.00	6.32	6.34	6.36	6.18	6.35
20	6.32	6.13	5.84	5.62	5.84	6.04	5.98	6.33	6.37	6.37	6.18	6.35
21	6.31	6.12	5.82	5.62	5.95	6.04	5.98	6.34	6.38	6.37	6.18	6.33
22	6.31	6.09	5.80	5.62	6.00	6.03	5.98	6.34	6.36	6.37	6.18	6.32
23	6.31	6.08	5.80	5.62	6.08	6.02	6.00	6.32	6.35	6.36	6.17	6.32
24	6.30	6.07	5.78	5.61	6.10	6.02	6.01	6.33	6.36	6.35	6.18	6.31
25	6.30	6.07	5.77	5.61	6.10	6.00	6.08	6.32	6.37	6.34	6.17	6.33
26	6.30	6.13	5.74	5.61	6.10	5.99	6.14	6.32	6.37	6.31	6.18	6.38
27	6.29	6.12	5.73	5.61	6.10	5.98	6.16	6.32	6.37	6.28	6.18	6.40
28	6.28	6.12	5.71	5.65	6.10	5.97	6.13	6.31	6.42	6.26	6.31	6.39
29	6.26	6.11	5.70	5.67	---	5.96	6.17	6.31	6.42	6.26	6.29	6.36
30	6.20	6.10	5.67	5.67	---	5.94	6.17	6.31	6.40	6.26	6.30	6.35
31	6.19	---	5.66	5.67	---	5.93	---	6.33	---	6.24	6.34	---
MEAN	6.31	6.13	5.88	5.63	5.77	6.07	5.97	6.29	6.34	6.43	6.19	6.34
MAX	6.37	6.17	6.10	5.67	6.10	6.20	6.17	6.34	6.42	6.71	6.34	6.40
MIN	6.19	6.07	5.66	5.61	5.59	5.93	5.85	6.21	6.27	6.24	6.12	6.30

453421091333700 HEMLOCK LAKE NEAR MIKANA, WI

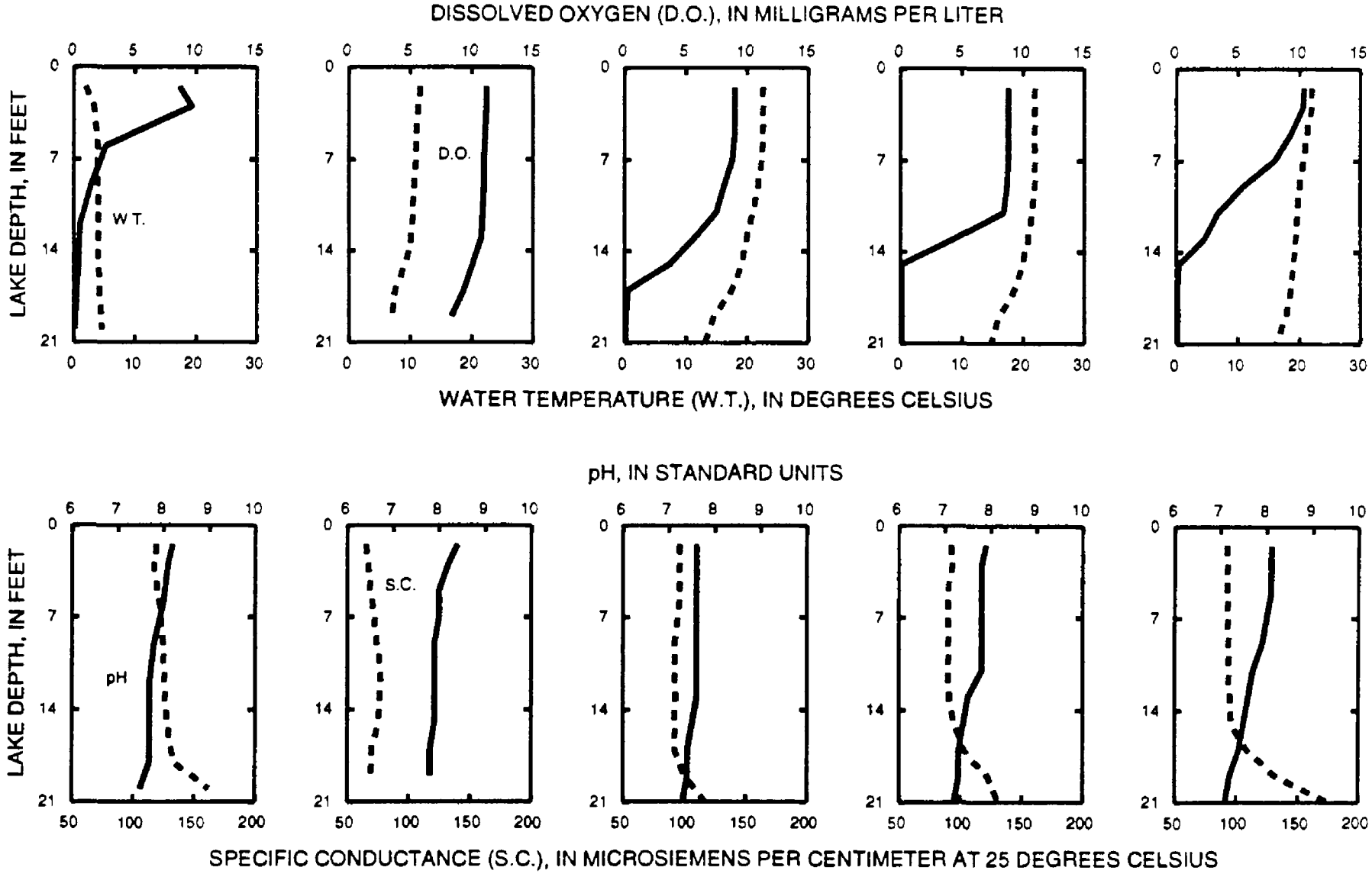
LOCATION.--Lat 45°34'21", long 91°33'37", in SE 1/4 SE 1/4 sec.26, T.36 N., R.10 W., Barron County, Hydrologic Unit 07050007, 2.5 mi southeast of Mikana.

PERIOD OF RECORD.--March 1993 to August 1994 (discontinued).

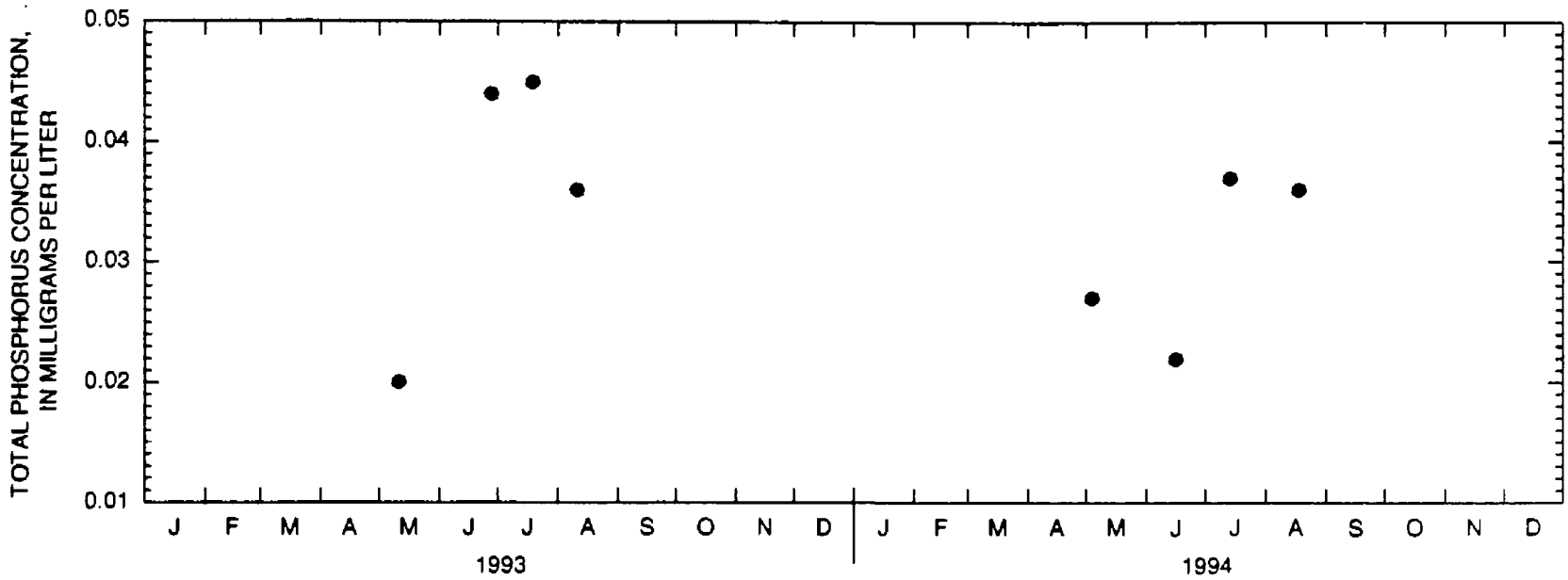
REMARKS.--Lake sampled at deep hole near center of lake. Lake ice-covered during March sampling. Water-quality analyses by Wisconsin State Laboratory of Hygiene.

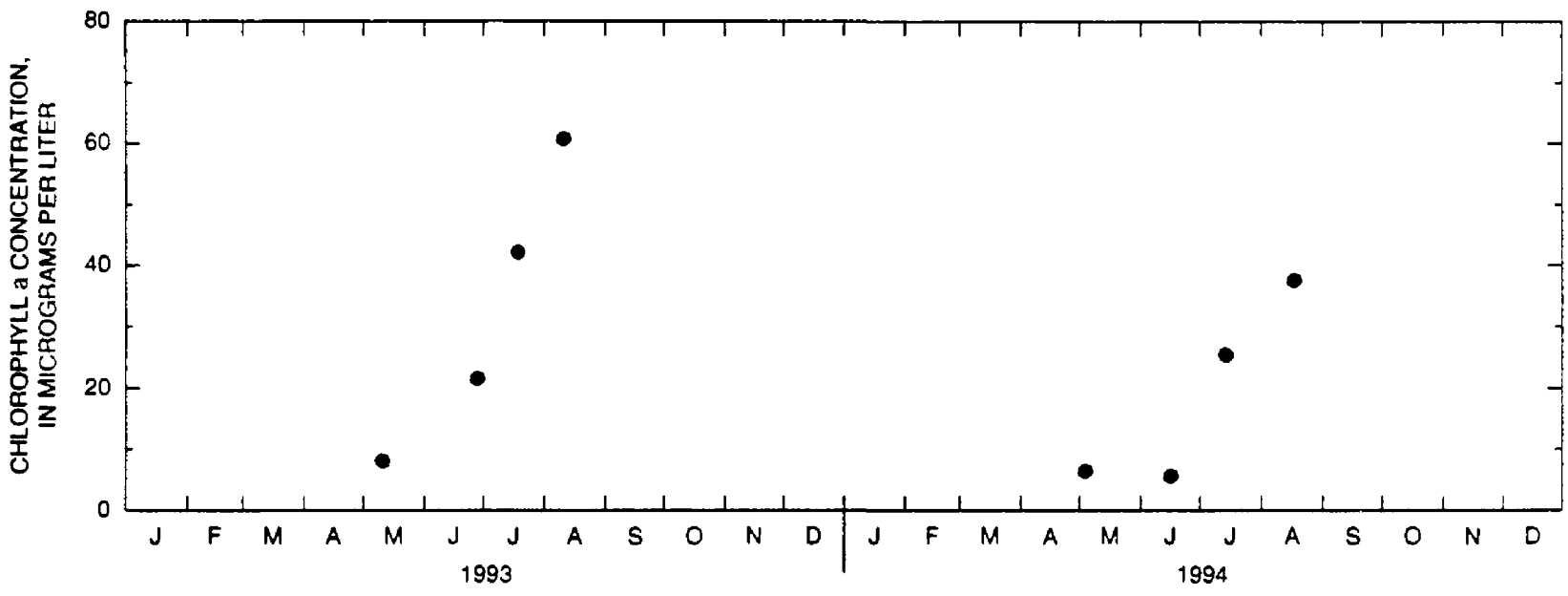
WATER-QUALITY DATA, MARCH 09 TO AUGUST 18, 1994
(Milligrams per liter unless otherwise indicated)

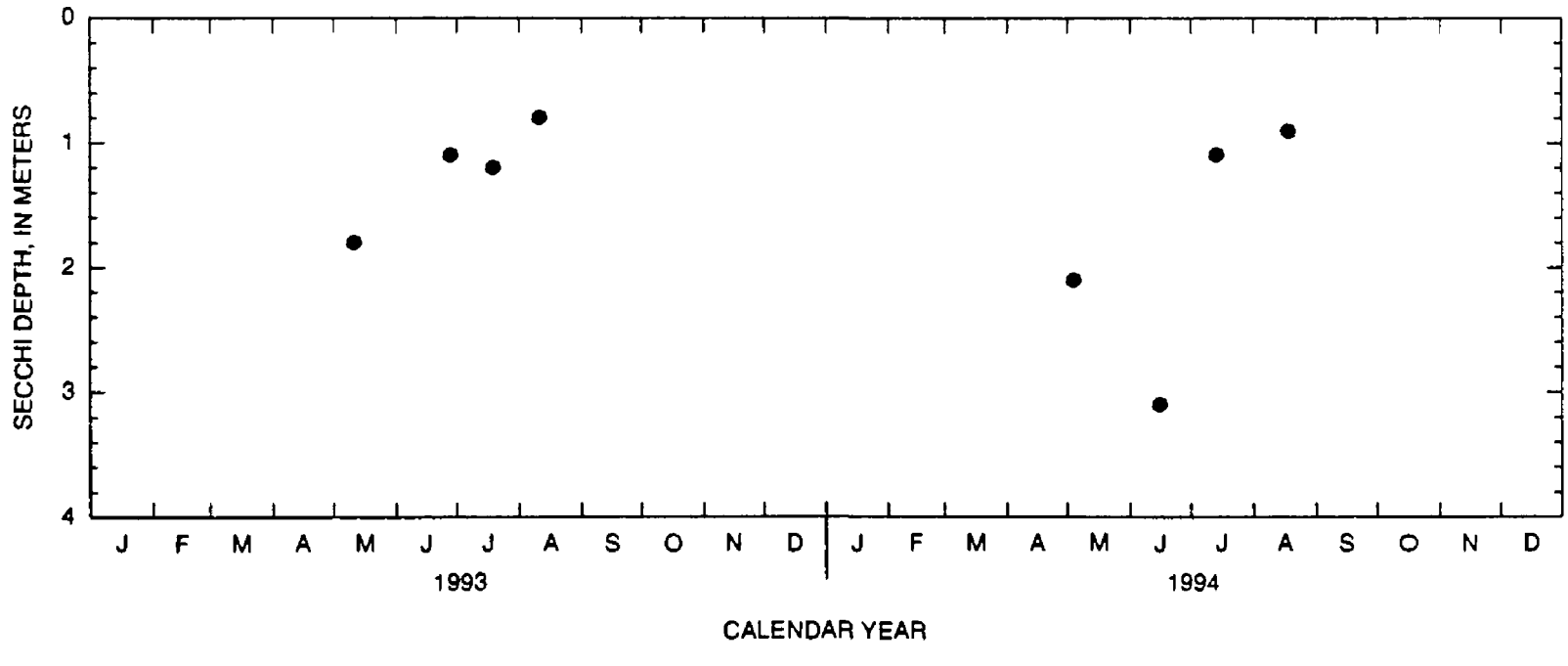
	Mar. 09		May 04		June 16		July 14		Aug. 18	
Depth of sample (ft)	1.5	20	1.5	19	1.5	19	1.5	21	1.5	21
Lake stage (ft)	10.72		10.66		10.40		10.50		10.50	
Specific conductance (µS/cm)	120	162	65	69	96	100	92	131	93	176
pH (units)	8.2	7.5	8.4	7.8	7.6	7.4	7.9	7.2	8.1	7.1
Water temperature (°C)	2.0	4.5	11.5	7.0	22.5	14.5	22.0	15.0	22.0	16.0
Color (Pt-Co. scale)	---	---	50	50	---	---	---	---	---	---
Turbidity (NTU)	---	---	1.5	2.6	---	---	---	---	---	---
Secchi-depth (meters)	---		2.1		3.1		1.1		0.9	
Dissolved oxygen	8.7	0.1	11.2	8.4	9.0	0.1	8.8	0.1	10.4	0.1
Hardness, as CaCO3	---	---	30	33	---	---	---	---	---	---
Calcium, dissolved (Ca)	---	---	7.0	8.2	---	---	---	---	---	---
Magnesium, dissolved (Mg)	---	---	3.0	3.0	---	---	---	---	---	---
Sodium, dissolved (Na)	---	---	2.0	2.0	---	---	---	---	---	---
Potassium, dissolved (K)	---	---	0.6	0.8	---	---	---	---	---	---
Alkalinity, as CaCO3	---	---	26	31	---	---	---	---	---	---
Sulfate, dissolved (SO4)	---	---	7.0	6.0	---	---	---	---	---	---
Chloride, dissolved (Cl)	---	---	0.9	0.9	---	---	---	---	---	---
Fluoride, dissolved (F)	---	---	<0.0	0.0	---	---	---	---	---	---
Silica, dissolved (SiO2)	---	---	8.1	9.9	---	---	---	---	---	---
Solids, dissolved, at 180°C	---	---	54	60	---	---	---	---	---	---
Nitrogen, NO2 + NO3, diss. (as N)	---	---	<0.01	0.01	---	---	---	---	---	---
Nitrogen, ammonia, dissolved (as N)	---	---	<0.00	0.02	---	---	---	---	---	---
Nitrogen, amm. + org., total (as N)	---	---	0.40	0.40	---	---	---	---	---	---
Nitrogen, total (as N)	---	---	0.40	0.41	---	---	---	---	---	---
Phosphorus, total (as P)	---	---	0.027	0.036	0.022	0.145	0.037	0.230	0.036	0.251
Phosphorus, ortho, dissolved (as P)	---	---	0.003	0.005	---	---	---	---	---	---
Iron, dissolved (Fe) µg/L	---	---	150	170	---	---	---	---	---	---
Manganese, dissolved (Mn) µg/L	---	---	<40	<40	---	---	---	---	---	---
Chlorophyll a, phytoplankton (µg/L)	---	---	6.4	---	5.7	---	25	---	38	---



3-9-94 5-4-94 6-16-94 7-14-94 8-18-94







Surface total phosphorus and chlorophyll a concentrations, and Secchi depths for Hemlock Lake near Mikana, Wisconsin.

430957088183400 LAKE KEESUS, EAST BAY, NEAR MERTON, WI

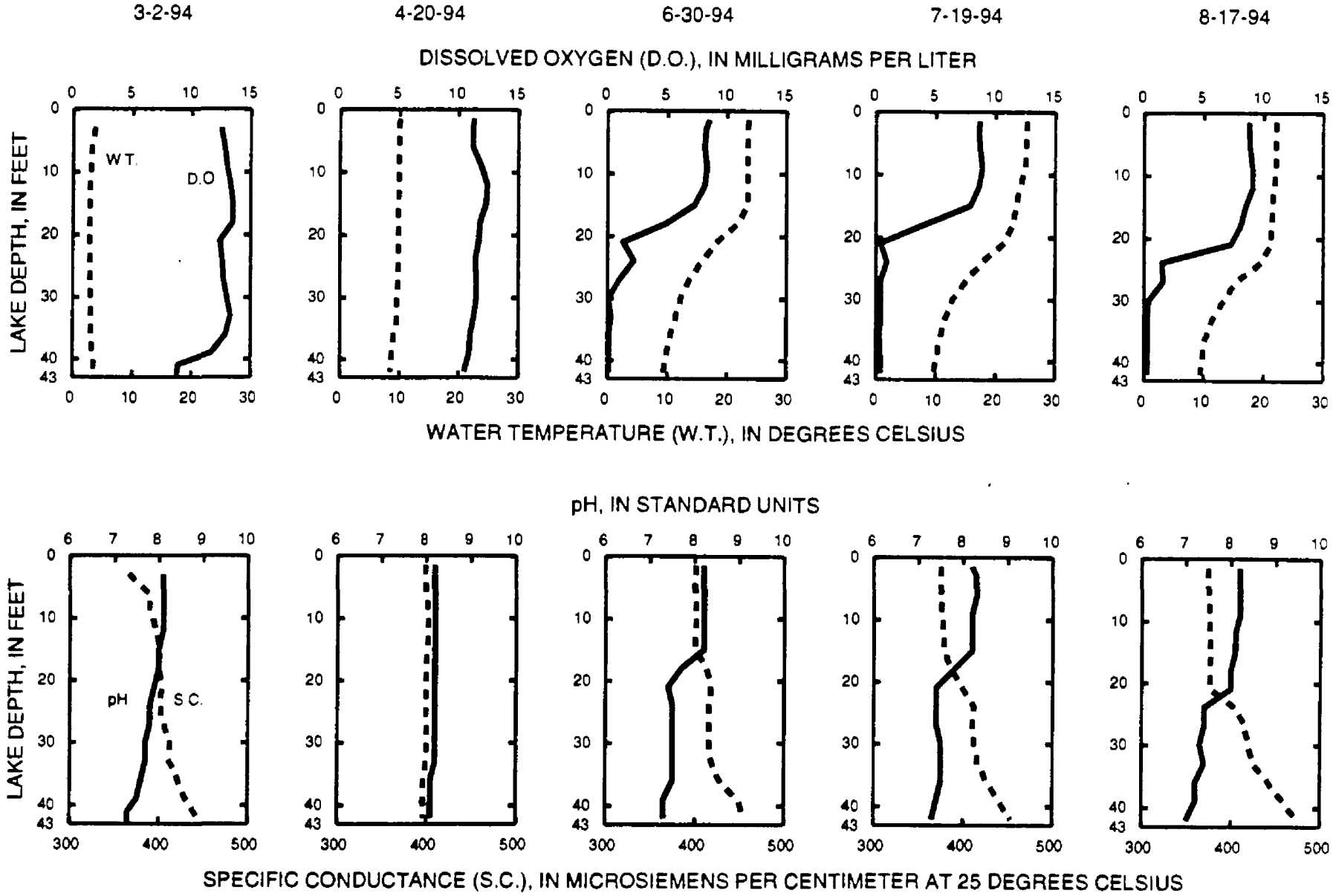
LOCATION.--Lat 43°09'57" long 88°18'34", in SW 1/4 SE 1/4 sec.12, T.8 N., R.18 E., Waukesha County, Hydrologic Unit 07090001, 1.2 mi north of Merton.

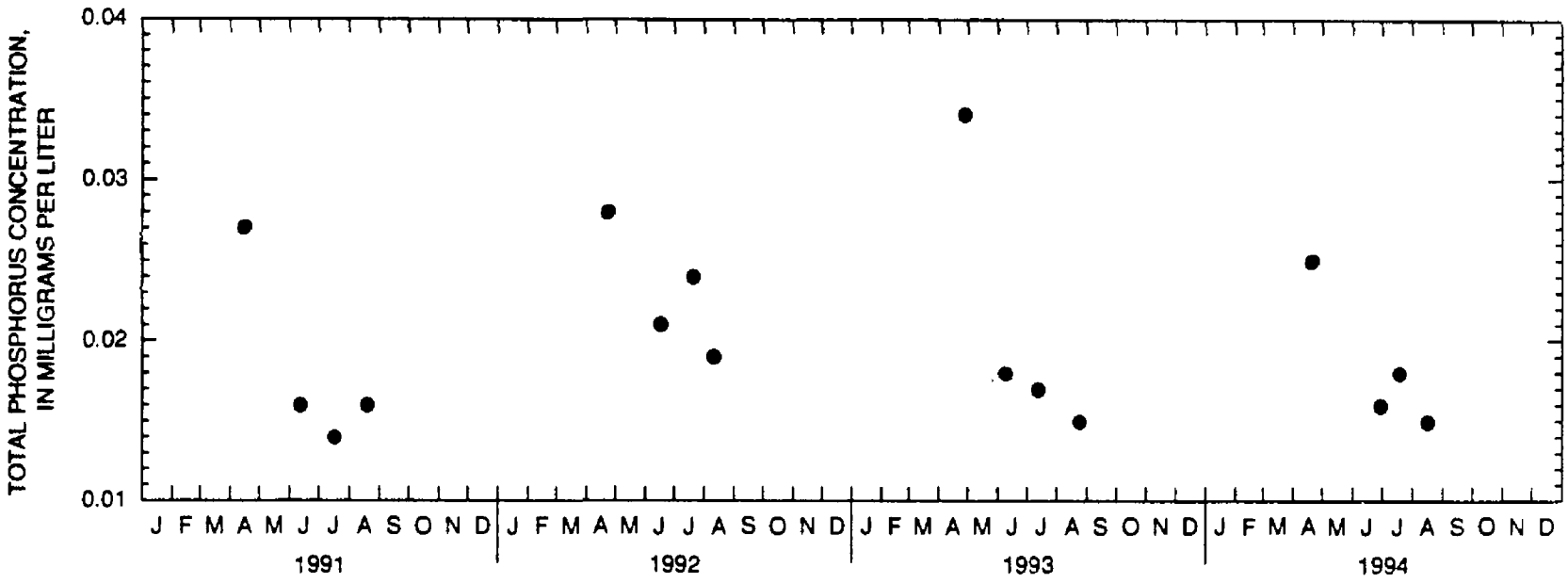
PERIOD OF RECORD.--April 1991 to current year.

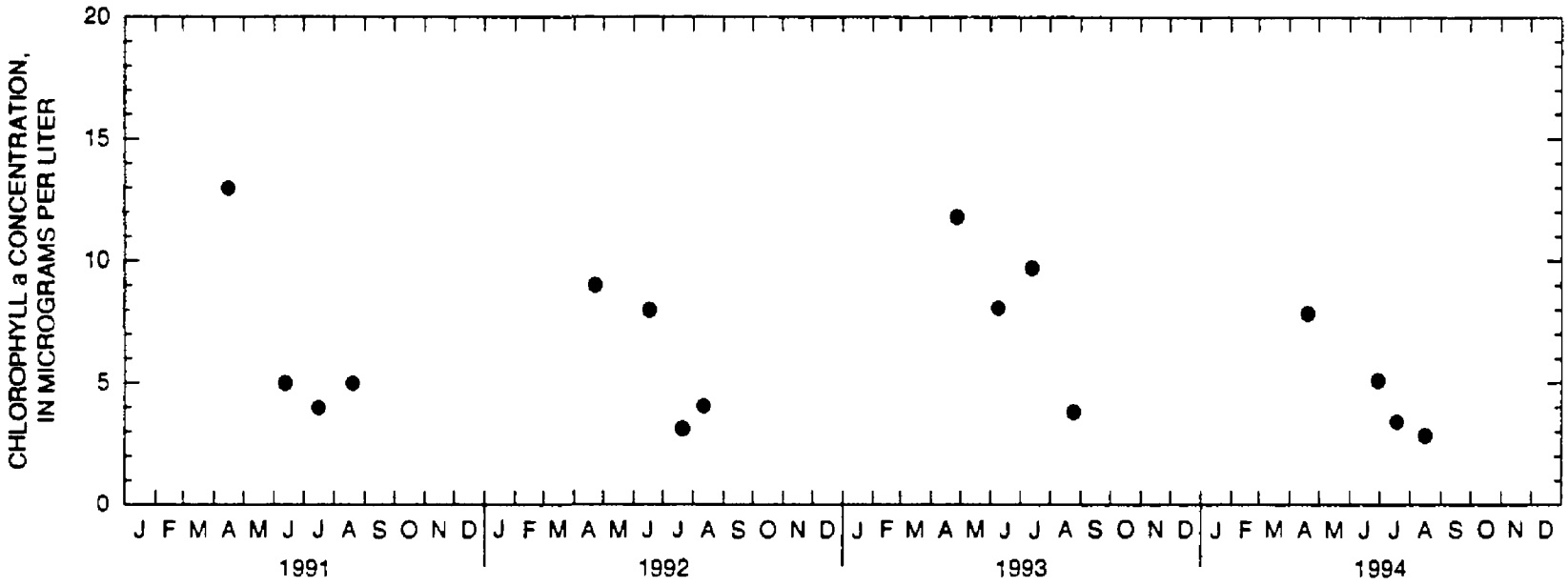
REMARKS.--Lake sampled in east bay at a lake depth of about 46 ft. Lake ice-covered during March sampling. Water-quality analyses by Wisconsin State Laboratory of Hygiene.

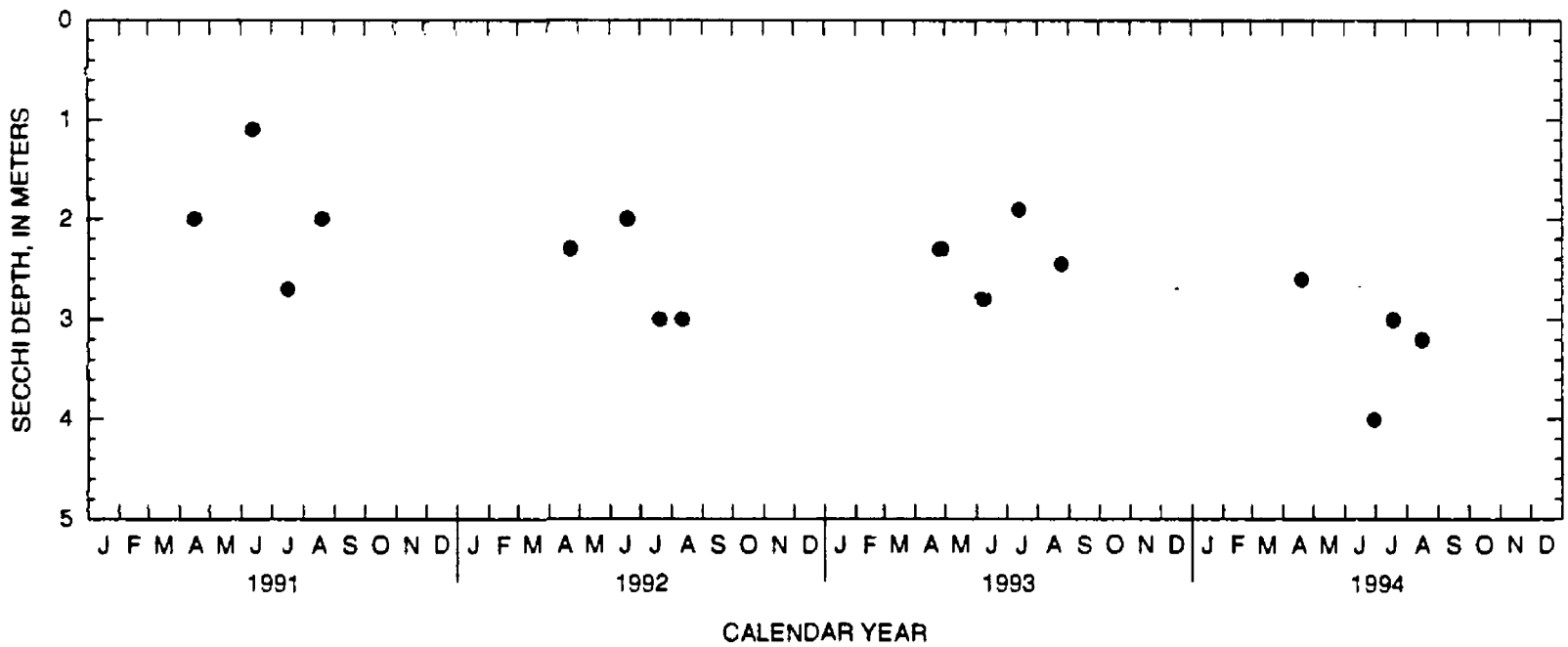
WATER-QUALITY DATA, MARCH 02 TO AUGUST 17, 1994
(Milligrams per liter unless otherwise indicated)

	Mar. 02		Apr. 20		June 30		July 19		Aug. 17	
Depth of sample (ft)	3.0	43	1.5	42	1.5	42	1.5	42	1.5	42
Lake stage (ft)	---		11.13		10.93		11.31		11.07	
Specific conductance (µS/cm)	366	445	399	397	401	457	375	453	374	476
pH (units)	8.1	7.3	8.2	8.1	8.2	7.3	8.2	7.3	8.2	7.0
Water temperature (°C)	3.5	3.5	10.0	8.5	23.5	9.5	25.0	9.5	22.0	9.5
Color (Pt-Co. scale)	---	---	15	15	---	---	---	---	---	---
Turbidity (NTU)	---	---	1.2	1.1	---	---	---	---	---	---
Secchi-depth (meters)	---		2.6		4.0		3.0		3.2	
Dissolved oxygen	12.5	8.8	11.3	10.5	8.5	0.1	8.7	0.4	8.8	0.3
Hardness, as CaCO3	---	---	200	190	---	---	---	---	---	---
Calcium, dissolved (Ca)	---	---	41	40	---	---	---	---	---	---
Magnesium, dissolved (Mg)	---	---	23	23	---	---	---	---	---	---
Sodium, dissolved (Na)	---	---	6.9	7.0	---	---	---	---	---	---
Potassium, dissolved (K)	---	---	2	2	---	---	---	---	---	---
Alkalinity, as CaCO3	---	---	180	180	---	---	---	---	---	---
Sulfate, dissolved (SO4)	---	---	12	12	---	---	---	---	---	---
Chloride, dissolved (Cl)	---	---	15	15	---	---	---	---	---	---
Fluoride, dissolved (F)	---	---	0.1	0.1	---	---	---	---	---	---
Silica, dissolved (SiO2)	---	---	<0.2	0.3	---	---	---	---	---	---
Solids, dissolved, at 180°C	---	---	238	236	---	---	---	---	---	---
Nitrogen, NO2 + NO3, diss. (as N)	---	---	0.09	0.08	---	---	---	---	---	---
Nitrogen, ammonia, dissolved (as N)	---	---	0.03	0.08	---	---	---	---	---	---
Nitrogen, amm. + org., total (as N)	---	---	0.60	0.70	---	---	---	---	---	---
Nitrogen, total (as N)	---	---	0.69	0.78	---	---	---	---	---	---
Phosphorus, total (as P)	---	---	0.025	0.025	0.016	0.650	0.018	0.690	0.015	0.736
Phosphorus, ortho, dissolved (as P)	---	---	<0.002	0.002	---	---	---	---	---	---
Iron, dissolved (Fe) µg/L	---	---	<50	<50	---	---	---	---	---	---
Manganese, dissolved (Mn) µg/L	---	---	<40	<40	---	---	---	---	---	---
Chlorophyll a, phytoplankton (µg/L)	---	---	7.9	---	5.1	---	3.4	---	2.9	---









Surface total phosphorus and chlorophyll a concentrations, and Secchi depths for Lake Keesus, East Bay, near Merton, Wisconsin.

431006088191000 LAKE KEESUS, NORTH BAY, NEAR MERTON, WI

LOCATION.--Lat 43°10'06" long 88°19'10", in NW 1/4 SW 1/4 sec.12, T.8 N., R.18 E., Waukesha County, Hydrologic Unit 07090001, 1.4 mi northwest of Merton.

LAKE-STAGE RECORDS

PERIOD OF RECORD.--April 1991 to currant year.

GAGE.--Staff read by Laura Milbrath. Elevation of lake is 957 ft above sea level, from topographic map.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height observed, 11.53 ft, Apr. 28, 1993; minimum observed, 10.50 ft, Sept. 3 and 9, 1991.

EXTREMES FOR CURRENT YEAR.--Maximum gage height observed, 11.44 ft, July 14; minimum observed, 10.80 ft, June 22.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	10.96	---	---	11.10
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	11.08	---	---
6	---	---	---	---	---	---	---	---	---	---	11.08	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	11.32	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	10.90	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	11.10	---
13	---	---	---	---	---	---	---	---	---	11.34	---	---
14	---	---	---	---	---	---	---	---	---	11.44	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	11.07	---
18	---	---	---	---	---	---	---	---	10.88	---	11.08	---
19	---	---	---	---	---	---	---	---	---	11.31	---	---
20	---	---	---	---	---	---	11.13	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	11.34	---	---
22	---	---	---	---	---	---	---	11.00	10.80	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	10.94	---	11.18	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	10.98	---	---	---
29	---	---	---	---	---	---	---	---	---	11.20	---	---
30	---	---	---	---	---	---	---	---	10.93	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---

WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 1991 to currant year.

REMARKS.--Lake sampled in north bay at a lake depth of about 30 ft. Water-quality analyses by Wisconsin State Laboratory of Hygiene.

WATER-QUALITY DATA, APRIL 20 TO AUGUST 17, 1994
(Milligrams per liter unless otherwise indicated)

	Apr. 20	June 30	July 19	Aug. 17
Depth of sample (ft)	1.5	1.5	1.5	1.5
Lake stage (ft)	11.13	10.93	11.31	11.07
Specific conductance (µS/cm)	399	402	376	376
pH (units)	8.2	8.4	8.4	8.3
Water temperature (°C)	9.5	23.5	25.0	22.0
Secchi-depth (meters)	2.8	4.0	3.1	3.2
Dissolved oxygen	11.7	7.7	8.8	8.9
Phosphorus, total (as P)	0.031	0.016	0.018	0.019
Chlorophyll a, phytoplankton (µg/L)	9.9	6.8	4.1	2.8

05427235 LAKE KOSHKONONG NEAR NEWVILLE, WI

LOCATION.--Lat 42°51'27", long 88°56'27", in NW 1/4 NE 1/4 sec.34, T.5 N., R.13 E., Jefferson County, Hydrologic Unit 07090001, 80 ft east of Pottawatomi Trail Bridge at Bingham Point Estates, and 4.5 mi northeast of Newville.

DRAINAGE AREA.--2,560 mi^2, at lake outlet. Area of Lake Koshkonong, 16.3 mi^2.

PERIOD OF RECORD.--July 1987 to current year.

GAGE.--Water-stage recorder. Datum of gage is 770.00 ft above sea level.

REMARKS.--No estimated daily gage heights. Records good. Lake level regulated by dam at Indianford. Gage-height telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 12.23 ft, Apr. 25, 1993; minimum, 5.40 ft, Dec. 26, 27, 1989.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 9.19 ft, Mar. 21; minimum, 5.69 ft, Jan. 18.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.68	6.46	6.67	6.12	5.93	8.36	8.55	6.57	6.20	6.84	6.31	5.99
2	7.67	6.43	6.72	6.06	5.93	8.32	8.48	6.56	6.18	6.86	6.22	6.04
3	7.66	6.42	6.75	6.01	5.94	8.29	8.38	6.57	6.16	6.85	6.20	6.08
4	7.64	6.41	6.78	5.96	6.01	8.25	8.28	6.57	6.16	6.87	6.34	6.11
5	7.59	6.43	6.79	5.91	6.02	8.21	8.22	6.58	6.17	6.93	6.28	6.15
6	7.54	6.38	6.82	5.90	6.03	8.23	8.09	6.56	6.22	6.89	6.24	6.20
7	7.52	6.31	6.76	5.87	6.03	8.34	8.00	6.56	6.20	6.89	6.20	6.14
8	7.47	6.30	6.74	5.84	6.05	8.51	7.90	6.55	6.15	6.95	6.19	6.12
9	7.42	6.29	6.71	5.82	6.06	8.67	7.87	6.55	6.14	7.01	6.14	6.11
10	7.32	6.28	6.73	5.83	6.07	8.81	7.79	6.49	6.16	7.03	6.16	6.14
11	7.25	6.28	6.65	5.82	6.07	8.90	7.67	6.52	6.18	7.08	6.29	6.13
12	7.20	6.26	6.60	5.82	6.08	8.95	7.57	6.45	6.19	7.14	6.33	6.11
13	7.13	6.32	6.57	5.81	6.10	8.99	7.53	6.39	6.23	7.14	6.52	6.10
14	7.07	6.35	6.56	5.81	6.09	9.03	7.48	6.33	6.23	7.21	6.61	6.09
15	7.01	6.37	6.55	5.80	6.08	9.07	7.49	6.35	6.24	7.24	6.61	6.08
16	6.95	6.38	6.53	5.80	6.07	9.10	7.49	6.27	6.23	7.25	6.57	6.11
17	6.89	6.42	6.53	5.80	6.07	9.12	7.41	6.20	6.22	7.26	6.50	6.12
18	6.82	6.41	6.55	5.73	6.07	9.14	7.37	6.16	6.22	7.24	6.46	6.11
19	6.77	6.50	6.55	5.73	6.12	9.15	7.36	6.11	6.21	7.20	6.52	6.12
20	6.73	6.45	6.57	5.74	6.53	9.16	7.27	6.07	6.24	7.20	6.54	6.14
21	6.75	6.45	6.57	5.75	7.02	9.18	7.20	6.06	6.23	7.16	6.53	6.14
22	6.67	6.46	6.56	5.75	7.49	9.17	7.12	6.05	6.21	7.12	6.49	6.13
23	6.65	6.47	6.53	5.75	7.85	9.14	7.00	6.04	6.22	7.07	6.44	6.17
24	6.64	6.45	6.48	5.74	8.09	9.11	6.94	6.05	6.32	7.01	6.37	6.20
25	6.62	6.43	6.43	5.77	8.28	9.06	6.89	6.05	6.35	6.95	6.32	6.22
26	6.62	6.50	6.39	5.80	8.35	8.99	6.81	6.07	6.48	6.85	6.28	6.24
27	6.60	6.53	6.34	5.86	8.35	8.95	6.73	6.04	6.58	6.76	6.19	6.21
28	6.58	6.58	6.31	5.90	8.38	8.87	6.59	6.09	6.68	6.66	6.16	6.18
29	6.58	6.63	6.28	5.92	---	8.79	6.60	6.14	6.80	6.56	6.07	6.12
30	6.54	6.65	6.24	5.93	---	8.70	6.56	6.18	6.82	6.46	6.01	6.08
31	6.50	---	6.18	5.93	---	8.62	---	6.23	---	6.36	6.03	---
MEAN	7.03	6.42	6.56	5.85	6.61	8.81	7.49	6.30	6.29	6.97	6.33	6.13
MAX	7.68	6.65	6.82	6.12	8.38	9.18	8.55	6.58	6.82	7.26	6.61	6.24
MIN	6.50	6.26	6.18	5.73	5.93	8.21	6.56	6.04	6.14	6.36	6.01	5.99

424554088332700 LAUDERDALE LAKES AT LAUDERDALE, WI

LOCATION.--Lat 42°45'54" long 88°33'27", in SE 1/4 NW 1/4 sec.36, T.4 N., R.16 E., Walworth County, Hydrologic Unit 07120006, at Lauderdale.

DRAINAGE AREA.--16.1 mi^2.

LAKE-STAGE RECORDS

PERIOD OF RECORD.--October 1993 to October 1994 (discontinued).

GAGE.--Water-stage recorder. Datum of gage is 879.57 ft above sea level.

REMARKS.--Estimated daily gage heights 1994 water year: Oct. 1-19, Jan. 7-13, Feb. 5, 10, 11, 16, 21, 27, Mar. 4, 9, 10, 15-20, 25, 30, 31, June 25-30, and July 9-20. Records good except estimated daily gage heights, which are fair.

EXTREMES FOR CURRENT PERIOD.--1994 water year: Maximum gage height observed, 5.45 ft, Dec. 6; minimum observed, 4.63 ft, Jan. 24. 1995 water year: Maximum gage height observed, 4.99 ft, Oct. 8, 9; minimum observed, 4.89 ft, Oct. 28.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.17	5.06	5.36	4.97	5.04	5.06	4.96	4.93	5.00	5.05	4.92	4.97
2	5.16	5.07	5.39	4.95	5.04	4.98	4.94	4.94	4.98	5.03	4.92	4.96
3	5.16	5.08	5.39	4.96	5.04	4.88	4.98	4.93	4.98	5.00	4.93	4.96
4	5.15	5.09	5.40	5.01	5.04	4.93	4.95	4.92	4.99	5.02	5.01	4.95
5	5.15	5.11	5.40	4.98	5.04	4.99	4.94	4.92	5.00	5.05	5.00	4.95
6	5.14	5.10	5.42	4.95	5.03	4.97	4.93	4.97	5.02	5.03	4.98	4.95
7	5.15	5.10	5.41	4.95	5.01	4.98	4.91	5.04	5.01	5.04	4.97	4.94
8	5.14	5.10	5.41	4.94	5.01	5.00	4.89	5.04	4.96	5.09	4.97	4.94
9	5.13	5.11	5.41	4.94	5.01	4.98	4.90	5.03	4.97	5.08	4.95	4.96
10	5.12	5.12	5.42	4.93	4.98	4.95	4.90	5.02	5.01	5.06	4.97	4.98
11	5.10	5.13	5.30	4.93	4.95	4.95	4.95	5.03	5.01	5.05	5.05	4.98
12	5.10	5.13	5.33	4.92	4.92	5.02	4.95	5.02	5.00	5.04	5.04	4.98
13	5.08	5.19	5.30	4.91	4.93	4.97	4.97	5.01	5.02	5.03	5.10	4.97
14	5.08	5.20	5.31	4.90	4.94	4.94	4.98	4.98	5.01	5.07	5.08	4.97
15	5.07	5.22	5.31	4.86	4.93	4.98	5.05	4.98	4.98	5.06	5.05	4.96
16	5.08	5.22	5.30	4.84	4.90	5.02	5.03	4.96	4.99	5.05	5.04	4.96
17	5.08	5.23	5.29	4.83	4.89	5.02	5.01	4.97	4.98	5.04	5.03	4.94
18	5.07	5.23	5.30	4.88	5.04	5.02	5.00	4.97	4.99	5.02	5.02	4.93
19	5.07	5.25	5.26	4.88	5.04	5.03	4.97	4.94	5.01	5.00	5.05	4.93
20	5.07	5.24	5.25	4.84	5.08	5.03	4.93	4.95	5.03	5.00	5.09	4.93
21	5.09	5.25	5.34	4.79	5.07	5.03	4.93	5.01	5.02	4.99	5.07	4.93
22	5.06	5.25	5.31	4.87	5.06	4.99	4.95	5.01	5.00	4.98	5.05	4.92
23	5.06	5.26	5.26	4.90	5.07	4.88	4.94	5.00	5.02	4.97	5.04	4.94
24	5.06	5.27	5.22	4.91	5.09	4.89	4.93	5.02	5.08	4.96	5.02	4.95
25	5.06	5.28	5.18	5.01	5.08	4.90	4.87	5.02	5.08	4.96	5.01	4.96
26	5.07	5.34	5.12	5.02	5.11	4.90	4.92	5.01	5.10	4.94	5.04	4.98
27	5.07	5.34	5.10	5.05	5.07	4.96	4.94	4.93	5.10	4.93	5.03	4.98
28	5.07	5.35	5.00	5.06	5.03	5.05	4.92	4.95	5.09	4.92	5.01	4.97
29	5.06	5.35	5.05	5.05	---	5.04	4.93	4.99	5.08	4.91	4.99	4.96
30	5.06	5.35	5.03	5.05	---	5.02	4.92	5.00	5.08	4.91	4.99	4.96
31	5.06	---	4.95	5.04	---	5.00	---	5.01	---	4.91	4.99	---
MEAN	5.10	5.20	5.27	4.94	5.02	4.98	4.95	4.98	5.02	5.01	5.01	4.96
MAX	5.17	5.35	5.42	5.06	5.11	5.06	5.05	5.04	5.10	5.09	5.10	4.98
MIN	5.06	5.06	4.95	4.79	4.89	4.88	4.87	4.92	4.96	4.91	4.92	4.92

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.96	---	---	---	---	---	---	---	---	---	---	---
2	4.95	---	---	---	---	---	---	---	---	---	---	---
3	4.94	---	---	---	---	---	---	---	---	---	---	---
4	4.95	---	---	---	---	---	---	---	---	---	---	---
5	4.95	---	---	---	---	---	---	---	---	---	---	---
6	4.94	---	---	---	---	---	---	---	---	---	---	---
7	4.95	---	---	---	---	---	---	---	---	---	---	---
8	4.97	---	---	---	---	---	---	---	---	---	---	---
9	4.98	---	---	---	---	---	---	---	---	---	---	---
10	4.96	---	---	---	---	---	---	---	---	---	---	---
11	4.95	---	---	---	---	---	---	---	---	---	---	---
12	4.95	---	---	---	---	---	---	---	---	---	---	---
13	4.95	---	---	---	---	---	---	---	---	---	---	---
14	4.94	---	---	---	---	---	---	---	---	---	---	---
15	4.94	---	---	---	---	---	---	---	---	---	---	---
16	4.94	---	---	---	---	---	---	---	---	---	---	---
17	4.95	---	---	---	---	---	---	---	---	---	---	---
18	4.95	---	---	---	---	---	---	---	---	---	---	---
19	4.96	---	---	---	---	---	---	---	---	---	---	---
20	4.95	---	---	---	---	---	---	---	---	---	---	---
21	4.95	---	---	---	---	---	---	---	---	---	---	---
22	4.95	---	---	---	---	---	---	---	---	---	---	---
23	4.96	---	---	---	---	---	---	---	---	---	---	---
24	4.94	---	---	---	---	---	---	---	---	---	---	---
25	4.93	---	---	---	---	---	---	---	---	---	---	---
26	4.92	---	---	---	---	---	---	---	---	---	---	---
27	4.92	---	---	---	---	---	---	---	---	---	---	---
28	4.91	---	---	---	---	---	---	---	---	---	---	---
29	4.91	---	---	---	---	---	---	---	---	---	---	---
30	4.91	---	---	---	---	---	---	---	---	---	---	---
31	4.92	---	---	---	---	---	---	---	---	---	---	---
MEAN	4.94	---	---	---	---	---	---	---	---	---	---	---
MAX	4.98	---	---	---	---	---	---	---	---	---	---	---
MIN	4.91	---	---	---	---	---	---	---	---	---	---	---

424652088341500 GREEN LAKE NEAR LAUDERDALE, WI

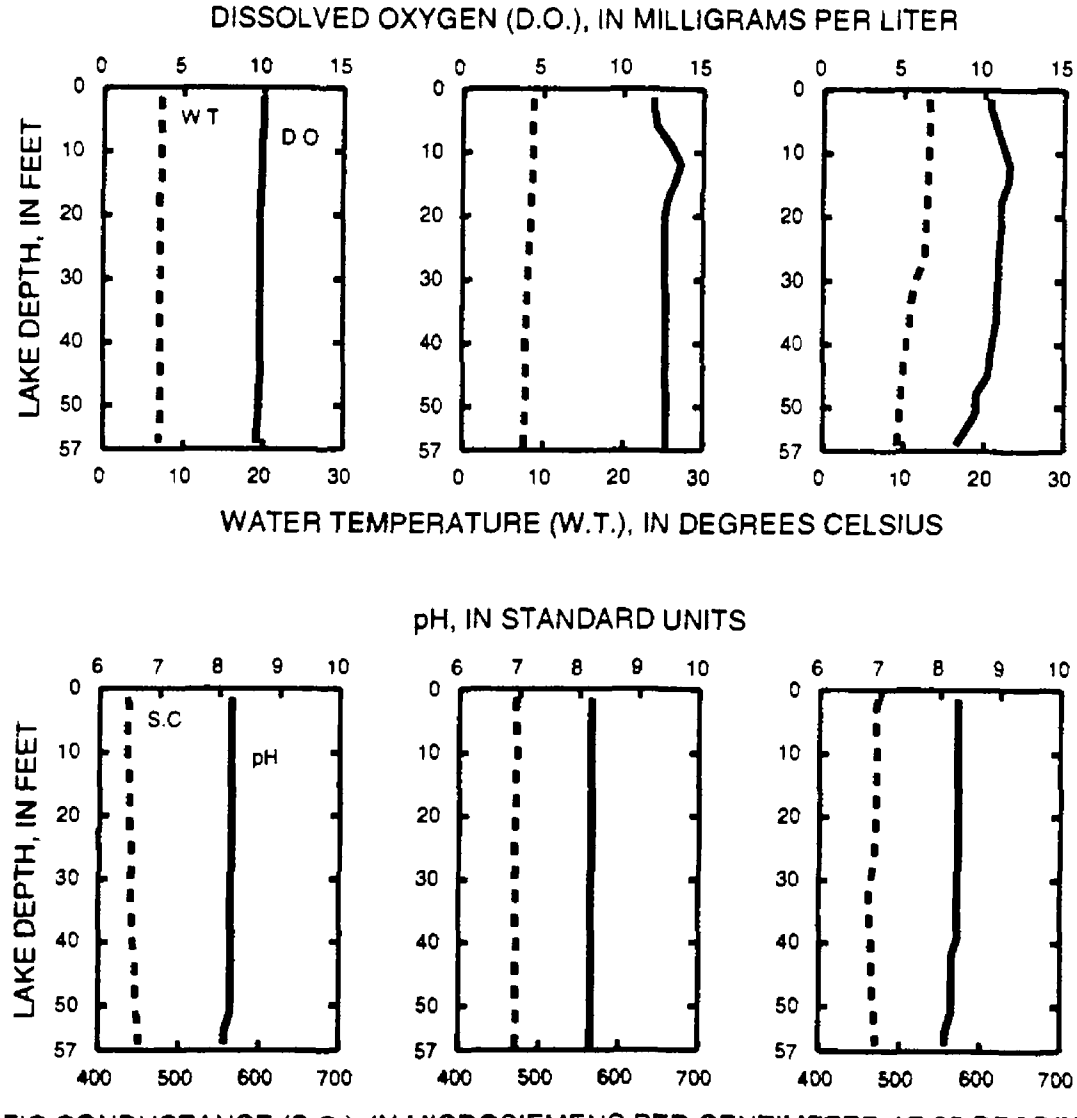
LOCATION.--Lat 42°46'52" long 88°34'15", in SW 1/4 NE 1/4 sec.26, T.4 N., R.16 E., Walworth County, Hydrologic Unit 07120006, 1.2 mi northwest of Lauderdale.

PERIOD OF RECORD.--November 1993 to November 1994 (discontinued).

REMARKS.--Lake sampled near center of lake at lake depth of about 57 ft. Water-quality analyses by Wisconsin State Laboratory of Hygiene.

WATER-QUALITY DATA, NOVEMBER 10, 1993 TO MAY 10, 1994
(Milligrams per liter unless otherwise indicated)

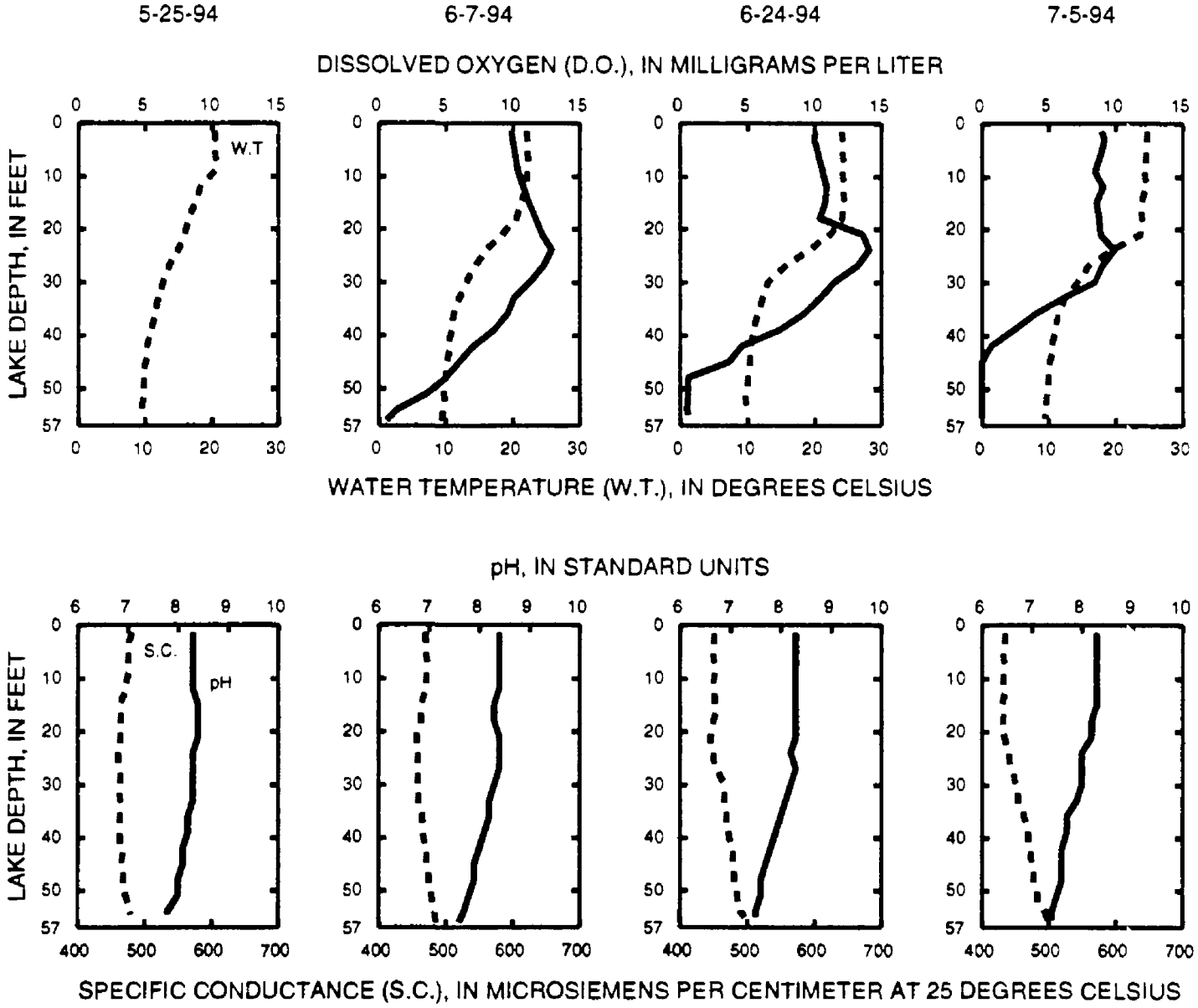
	Nov. 10		Apr. 18		May 10			
Depth of sample (ft)	1.5	56	1.5	56	1.5	27	30	56
Lake stage (ft)	5.12		5.01		5.02			
Specific conductance (µS/cm)	434	451	471	471	472	468	464	472
pH (units)	8.2	8.1	8.2	8.2	8.3	8.3	8.3	8.1
Water temperature (°C)	7.0	7.0	9.0	7.5	13.0	12.5	11.5	9.0
Color (Pt-Co. scale)	10	10	5	5	---	---	---	---
Turbidity (NTU)	1.4	1.3	0.50	0.60	---	---	---	---
Secchi-depth (meters)	3.6		5.4		6.3			
Dissolved oxygen	10.0	9.6	11.9	12.7	10.4	10.9	10.8	8.3
Hardness, as CaCO3	220	230	240	240	---	---	---	---
Calcium, dissolved (Ca)	37	38	40	40	---	---	---	---
Magnesium, dissolved (Mg)	32	33	33	33	---	---	---	---
Sodium, dissolved (Na)	6.1	6.2	6.2	6.2	---	---	---	---
Potassium, dissolved (K)	2	2	2	2	---	---	---	---
Alkalinity, as CaCO3	190	190	200	200	---	---	---	---
Sulfate, dissolved (SO4)	31	31	30	31	---	---	---	---
Chloride, dissolved (Cl)	17	17	16	17	---	---	---	---
Fluoride, dissolved (F)	0.1	0.1	0.1	0.1	---	---	---	---
Silica, dissolved (SiO2)	2.0	2.0	1.4	1.4	---	---	---	---
Solids, dissolved, at 180°C	250	246	278	274	---	---	---	---
Nitrogen, NO2 + NO3, diss. (as N)	0.11	0.12	0.28	0.29	---	---	---	---
Nitrogen, ammonia, dissolved (as N)	0.31	0.31	0.29	0.29	---	---	---	---
Nitrogen, amm. + org., total (as N)	0.80	0.80	0.70	0.70	---	---	---	---
Nitrogen, total (as N)	0.90	0.92	0.98	0.98	---	---	---	---
Phosphorus, total (as P)	0.012	0.013	0.005	0.008	0.004	0.006	0.008	<0.020
Phosphorus, ortho, dissolved (as P)	0.004	0.005	<0.002	<0.002	---	---	---	---
Iron, dissolved (Fe) µg/L	<50	<50	<50	<50	---	---	---	---
Manganese, dissolved (Mn) µg/L	<40	<40	<40	<40	---	---	---	---
Chlorophyll a, phytoplankton (µg/L)	5.6	---	0.8	---	1.2	---	---	---
	11-10-93		4-18-94		5-10-94			



WATER-QUALITY DATA, MAY 25 TO JULY 05, 1994
(Milligrams per liter unless otherwise indicated)

	May 25				June 07			
Depth of sample (ft)	1.5	9.0	27	54	1.5	15	36	56
Lake stage (ft)	5.02				5.01			
Specific conductance (µS/cm)	481	475	464	479	470	464	465	486
pH (units)	8.3	8.3	8.3	7.8	8.4	8.3	8.2	7.6
Water temperature (°C)	20.5	20.5	13.5	9.5	22.0	21.5	11.0	9.5
Secchi-depth (meters)	5.6				3.2			
Dissolved oxygen	9.8	---	---	---	9.9	11.2	9.6	0.6
Phosphorus, total (as P)	0.011	0.007	0.011	0.013	0.008	<0.020	<0.020	<0.020
Chlorophyll a, phytoplankton (µg/L)	1.7	---	---	---	3.3	---	---	---

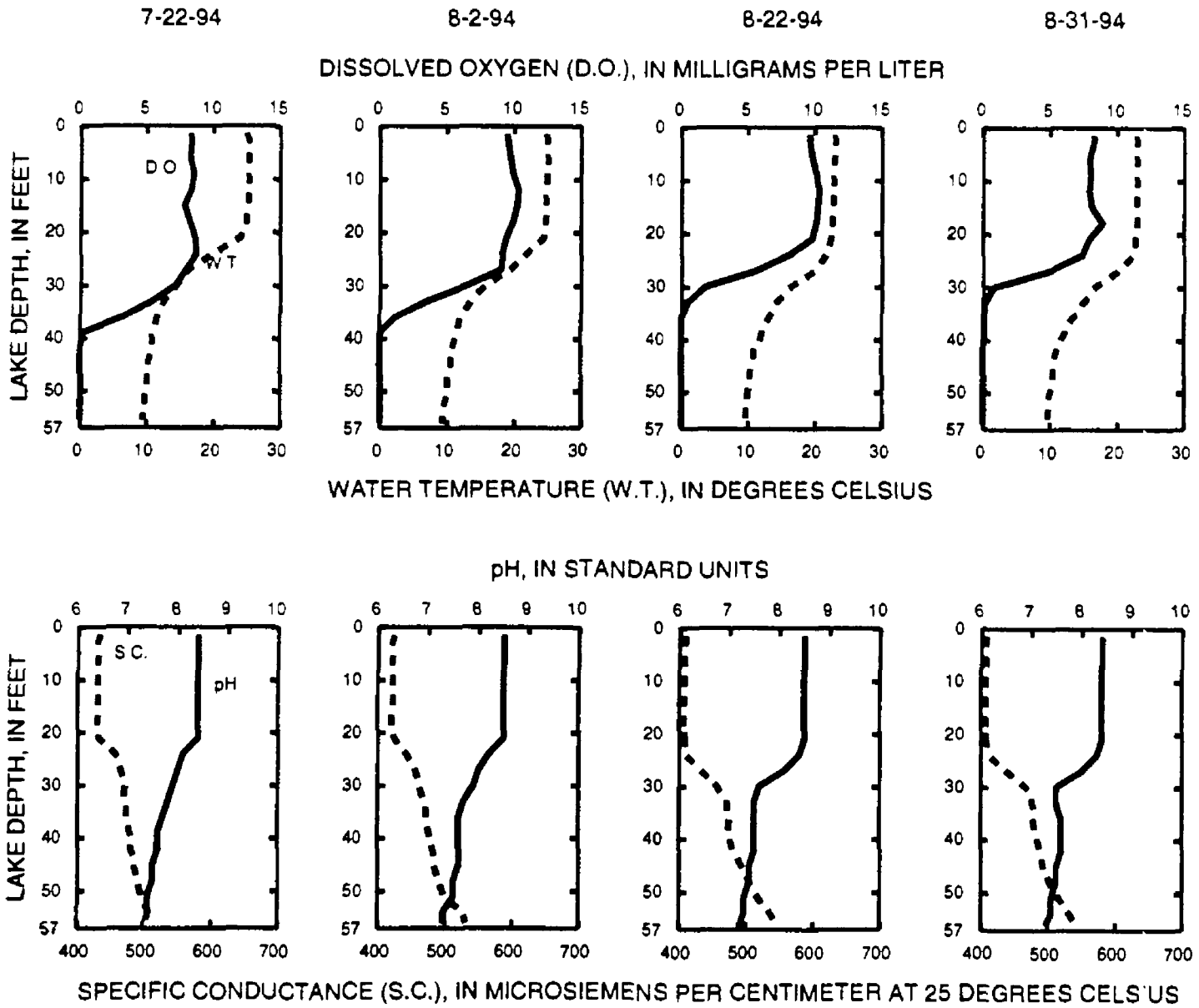
	June 24				July 05			
Depth of sample (ft)	1.5	18	30	55	1.5	21	36	55
Lake stage (ft)	5.09				5.10			
Specific conductance (µS/cm)	450	450	465	496	435	434	464	499
pH (units)	8.3	8.3	8.2	7.5	8.3	8.2	7.7	7.4
Water temperature (°C)	24.0	24.0	13.0	9.5	24.5	23.5	11.5	9.5
Secchi-depth (meters)	2.0				2.0			
Dissolved oxygen	10.1	10.4	11.5	0.6	9.0	8.9	4.0	0.0
Phosphorus, total (as P)	0.010	0.010	<0.020	0.030	0.010	0.011	<0.020	0.030
Chlorophyll a, phytoplankton (µg/L)	6.9	---	---	---	4.4	---	---	---



WATER-QUALITY DATA, JULY 22 TO AUGUST 31, 1994
(Milligrams per liter unless otherwise indicated)

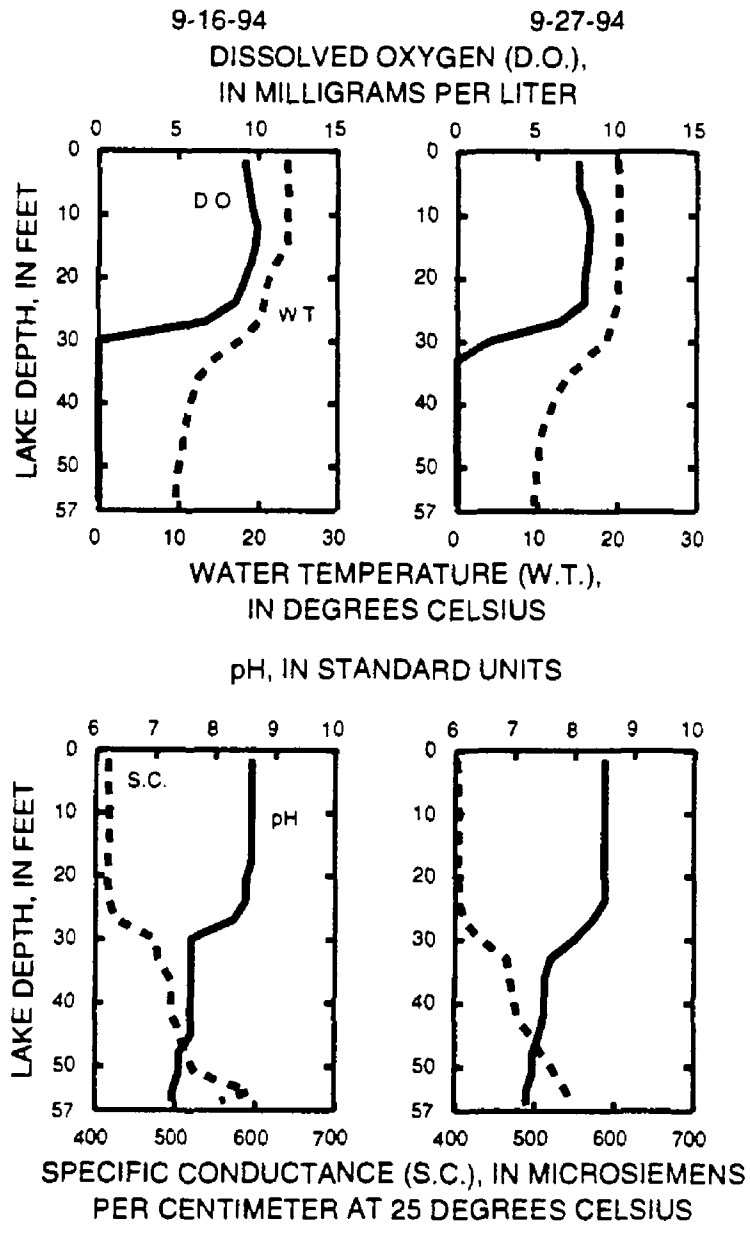
	July 22				Aug. 02			
Depth of sample (ft)	1.5	21	36	55	1.5	21	36	5[illegible]
Lake stage (ft)	4.98				4.92			
Specific conductance (µS/cm)	433	431	475	511	423	423	473	531
pH (units)	8.4	8.4	7.7	7.4	8.5	8.5	7.6	7.3
Water temperature (°C)	25.0	24.0	11.5	9.5	25.0	24.5	12.0	9.5
Secchi-depth (meters)	3.6				3.0			
Dissolved oxygen	8.3	8.6	3.2	0.4	9.5	9.4	1.1	0.0
Phosphorus, total (as P)	0.007	0.009	0.011	0.050	0.006	0.007	0.031	0.053
Chlorophyll a, phytoplankton (µg/L)	2.4	---	---	---	3.5	---	---	---

	Aug. 22				Aug. 31			
Depth of sample (ft)	1.5	21	42	56	1.5	24	42	56
Lake stage (ft)	5.05				4.99			
Specific conductance (µS/cm)	409	408	481	548	408	413	490	544
pH (units)	8.5	8.5	7.5	7.2	8.4	8.3	7.6	7.3
Water temperature (°C)	23.0	22.5	11.0	9.5	23.0	22.0	11.0	9.5
Secchi-depth (meters)	3.9				3.6			
Dissolved oxygen	9.6	9.8	0.0	0.0	8.3	7.4	0.0	0.0
Phosphorus, total (as P)	0.007	0.010	0.023	0.051	0.008	0.009	0.020	0.055
Chlorophyll a, phytoplankton (µg/L)	2.0	---	---	---	2.7	---	---	---



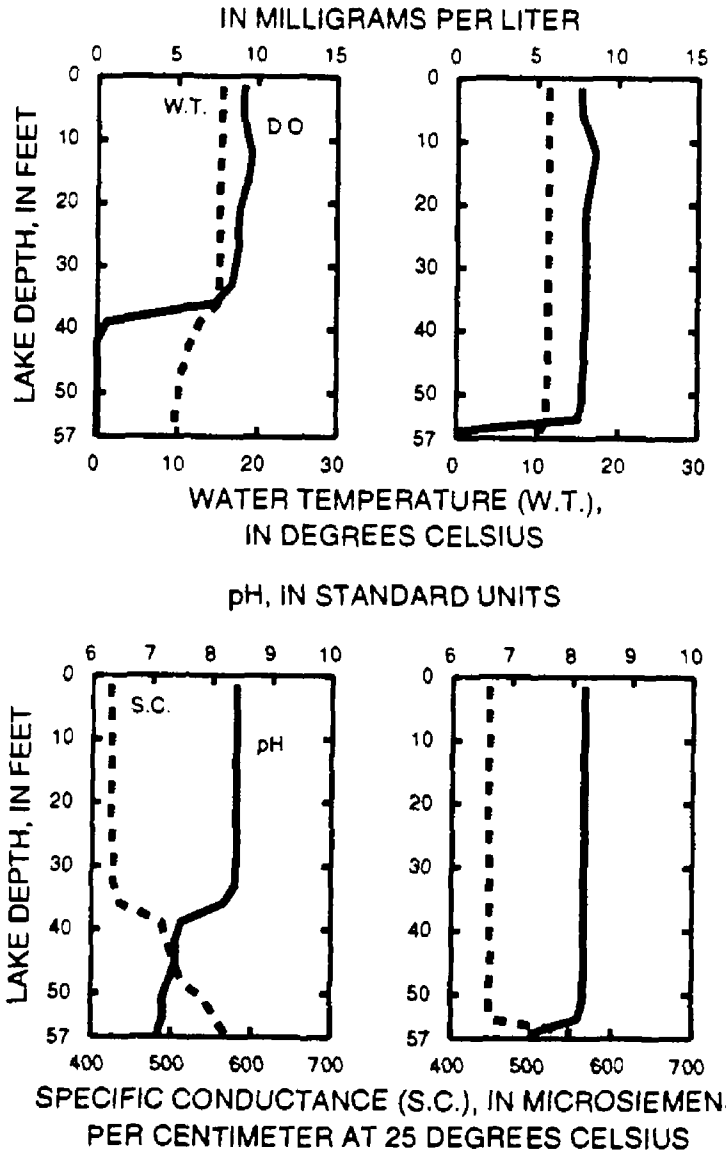
WATER-QUALITY DATA, SEPTEMBER 16-27, 1994
(Milligrams per liter unless otherwise indicated)

	Sep. 16				Sep. 27			
Depth of sample (ft)	1.5	15	36	55	1.5	27	45	56
Lake stage (ft)	4.96				4.98			
Specific conductance (μS/cm)	416	417	492	558	403	412	494	548
pH (units)	8.6	8.6	7.6	7.3	8.5	8.3	7.4	7.2
Water temperature (°C)	23.5	23.5	12.5	9.5	20.0	19.5	10.5	9.5
Secchi-depth (meters)	3.5				4.8			
Dissolved oxygen	9.2	9.8	0.0	0.0	7.6	6.4	0.0	0.0
Phosphorus, total (as P)	0.009	0.009	0.013	0.044	0.010	0.011	0.019	0.041
Chlorophyll a, phytoplankton (μg/L)	2.2	---	---	---	2.3	---	---	---



WATER-QUALITY DATA, OCTOBER 12 TO NOVEMBER 02, 1994
(Milligrams per liter unless otherwise indicated)

	Oct. 12				Nov. 02	
Depth of sample (ft)	1.5	36	48	57	1.5	56
Lake stage (ft)	4.94				4.92	
Specific conductance (µS/cm)	424	435	512	571	447	552
pH (units)	8.4	8.2	7.3	7.1	8.2	7.4
Water temperature (°C)	15.5	15.0	10.5	9.5	11.5	10.5
Color (Pt-Co. scale)	---	---	---	---	5	10
Turbidity (NTU)	---	---	---	---	0.70	15
Secchi-depth (meters)	4.0				3.9	
Dissolved oxygen	9.2	7.3	0.0	0.0	7.7	0.0
Hardness, as CaCO3	---	---	---	---	220	270
Calcium, dissolved (Ca)	---	---	---	---	34	50
Magnesium, dissolved (Mg)	---	---	---	---	34	35
Sodium, dissolved (Na)	---	---	---	---	6.4	6.2
Potassium, dissolved (K)	---	---	---	---	2	2
Alkalinity, as CaCO3	---	---	---	---	180	250
Sulfate, dissolved (SO4)	---	---	---	---	31	13
Chloride, dissolved (Cl)	---	---	---	---	24	21
Fluoride, dissolved (F)	---	---	---	---	0.1	0.1
Silica, dissolved (SiO2)	---	---	---	---	1.8	8.8
Solids, dissolved, at 180°C	---	---	---	---	254	300
Nitrogen, NO2 + NO3, diss. (as N)	---	---	---	---	0.03	<0.01
Nitrogen, ammonia, dissolved (as N)	---	---	---	---	0.31	2.8
Nitrogen, amm. + org., total (as N)	---	---	---	---	0.70	3.7
Nitrogen, total (as N)	---	---	---	---	0.73	3.7
Phosphorus, total (as P)	0.014	0.013	0.022	---	0.012	0.028
Phosphorus, ortho, dissolved (as P)	---	---	---	---	<0.002	<0.002
Iron, dissolved (Fe) µg/L	---	---	---	---	<10	30
Manganese, dissolved (Mn) µg/L	---	---	---	---	0.8	250
Chlorophyll a, phytoplankton (µg/L)	6.0	---	---	---	2.7	---



424621088335500 MIDDLE LAKE AT LAUDERDALE, WI

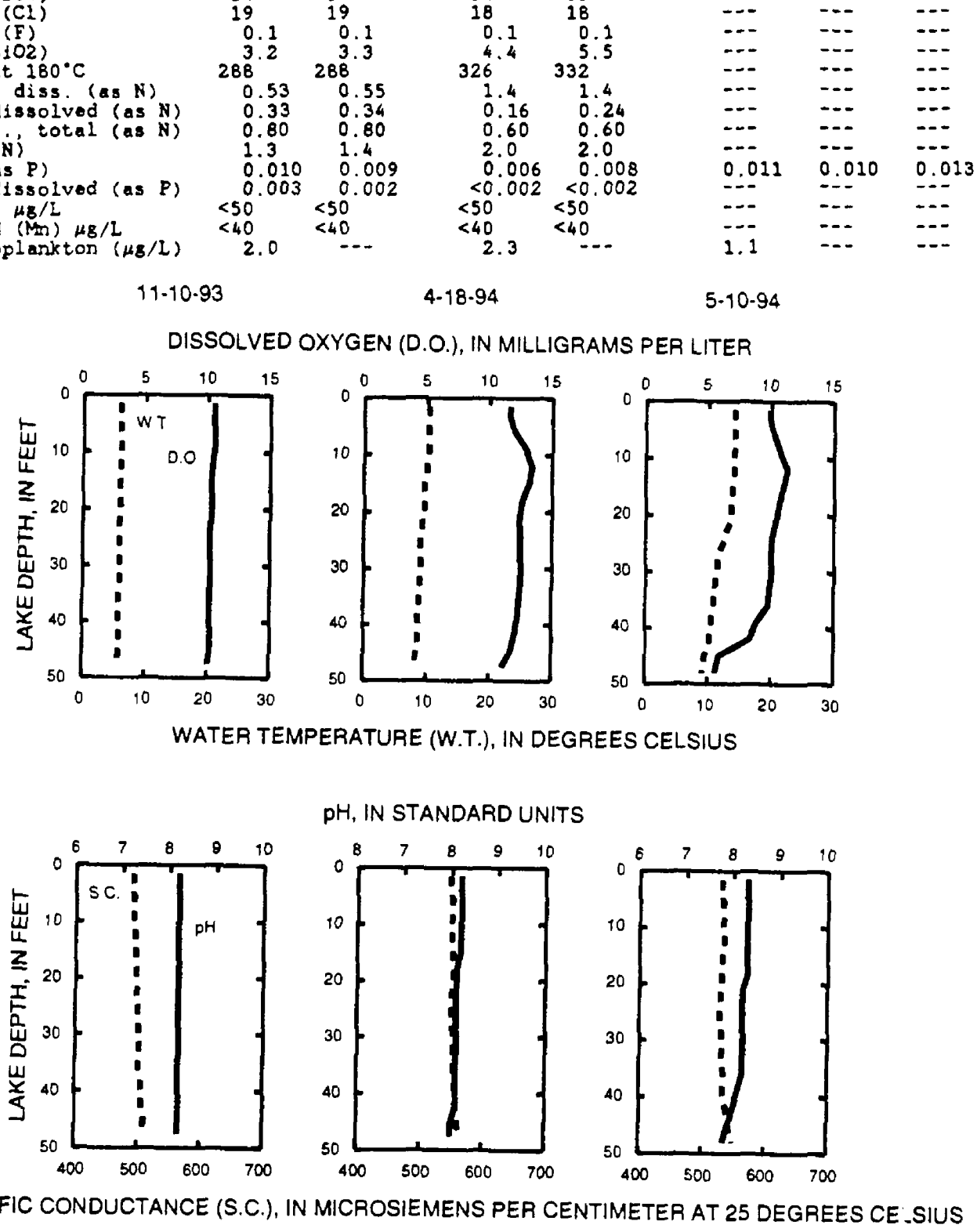
LOCATION.--Lat 42°46'21" long 88°33'55", in SE 1/4 SE 1/4 sec.26, T.4 N., R.16 E., Walworth County, Hydrologic Unit 07120006, at Lauderdale.

PERIOD OF RECORD.--November 1993 to November 1994 (discontinued).

REMARKS.--Lake sampled near east end of lake at lake depth of about 52 ft. Water-quality analyses by Wisconsin State Laboratory of Hygiene.

WATER-QUALITY DATA, NOVEMBER 10, 1993 TO MAY 10, 1994
(Milligrams per liter unless otherwise indicated)

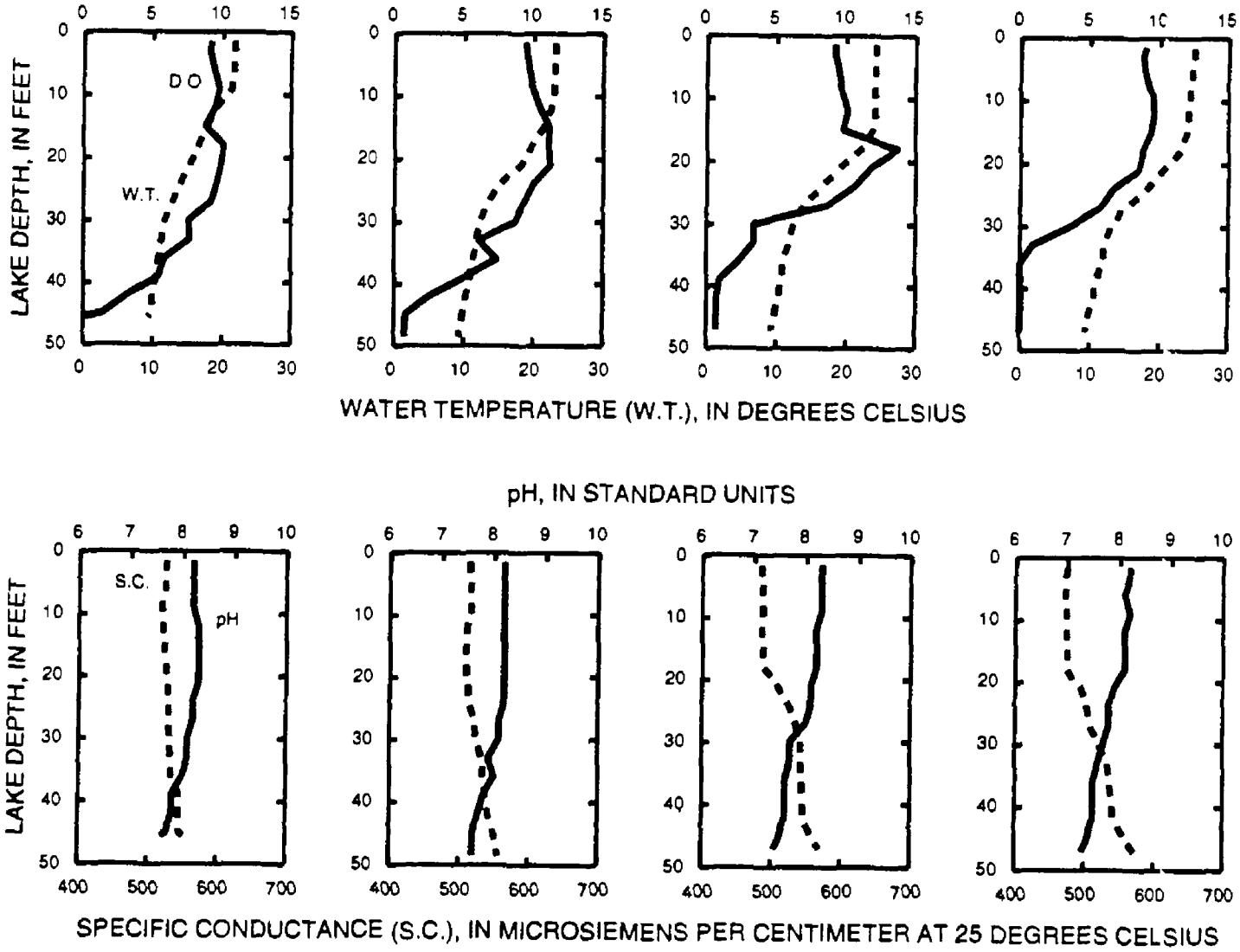
	Nov. 10		Apr. 18		May 10			
Depth of sample (ft)	1.5	47	1.5	47	1.5	21	30	48
Lake stage (ft)	5.12		5.01		5.02			
Specific conductance (µS/cm)	493	510	548	564	532	530	531	550
pH (units)	8.2	8.2	8.2	8.0	8.3	8.2	8.2	7.8
Water temperature (°C)	6.0	6.0	10.5	8.0	14.0	13.5	11.0	9.0
Color (Pt-Co. scale)	10	10	5	5	---	---	---	---
Turbidity (NTU)	1.2	0.60	0.70	0.80	---	---	---	---
Secchi-depth (meters)	4.4		3.4		6.4			
Dissolved oxygen	10.5	10.1	11.7	11.1	9.9	10.4	10.0	5.6
Hardness, as CaCO3	260	260	280	280	---	---	---	---
Calcium, dissolved (Ca)	48	48	55	57	---	---	---	---
Magnesium, dissolved (Mg)	35	35	34	34	---	---	---	---
Sodium, dissolved (Na)	6.7	6.8	6.6	6.5	---	---	---	---
Potassium, dissolved (K)	2	2	2	2	---	---	---	---
Alkalinity, as CaCO3	220	220	230	240	---	---	---	---
Sulfate, dissolved (SO4)	34	34	34	35	---	---	---	---
Chloride, dissolved (Cl)	19	19	18	18	---	---	---	---
Fluoride, dissolved (F)	0.1	0.1	0.1	0.1	---	---	---	---
Silica, dissolved (SiO2)	3.2	3.3	4.4	5.5	---	---	---	---
Solids, dissolved, at 180°C	288	288	326	332	---	---	---	---
Nitrogen, NO2 + NO3, diss. (as N)	0.53	0.55	1.4	1.4	---	---	---	---
Nitrogen, ammonia, dissolved (as N)	0.33	0.34	0.16	0.24	---	---	---	---
Nitrogen, amm. + org., total (as N)	0.80	0.80	0.60	0.60	---	---	---	---
Nitrogen, total (as N)	1.3	1.4	2.0	2.0	---	---	---	---
Phosphorus, total (as P)	0.010	0.009	0.006	0.008	0.011	0.010	0.013	0.030
Phosphorus, ortho, dissolved (as P)	0.003	0.002	<0.002	<0.002	---	---	---	---
Iron, dissolved (Fe) µg/L	<50	<50	<50	<50	---	---	---	---
Manganese, dissolved (Mn) µg/L	<40	<40	<40	<40	---	---	---	---
Chlorophyll a, phytoplankton (µg/L)	2.0	---	2.3	---	1.1	---	---	---



WATER-QUALITY DATA, MAY 25 TO JULY 05, 1994
(Milligrams per liter unless otherwise indicated)

	May 25				June 07			
Depth of sample (ft)	1.5	9.0	30	45	1.5	12	30	48
Lake stage (ft)	5.02				5.01			
Specific conductance (µS/cm)	526	519	531	552	515	512	524	557
pH (units)	8.2	8.2	8.1	7.6	8.2	8.2	8.1	7.6
Water temperature (°C)	22.0	21.5	12.0	9.5	23.0	22.5	12.5	9.5
Secchi-depth (meters)	4.0				2.6			
Dissolved oxygen	9.2	9.8	7.6	0.5	9.4	10.5	8.7	0.8
Phosphorus, total (as P)	0.016	0.011	0.011	0.014	0.009	0.011	<0.020	0.040
Chlorophyll a, phytoplankton (µg/L)	1.6	---	---	---	3.3	---	---	---

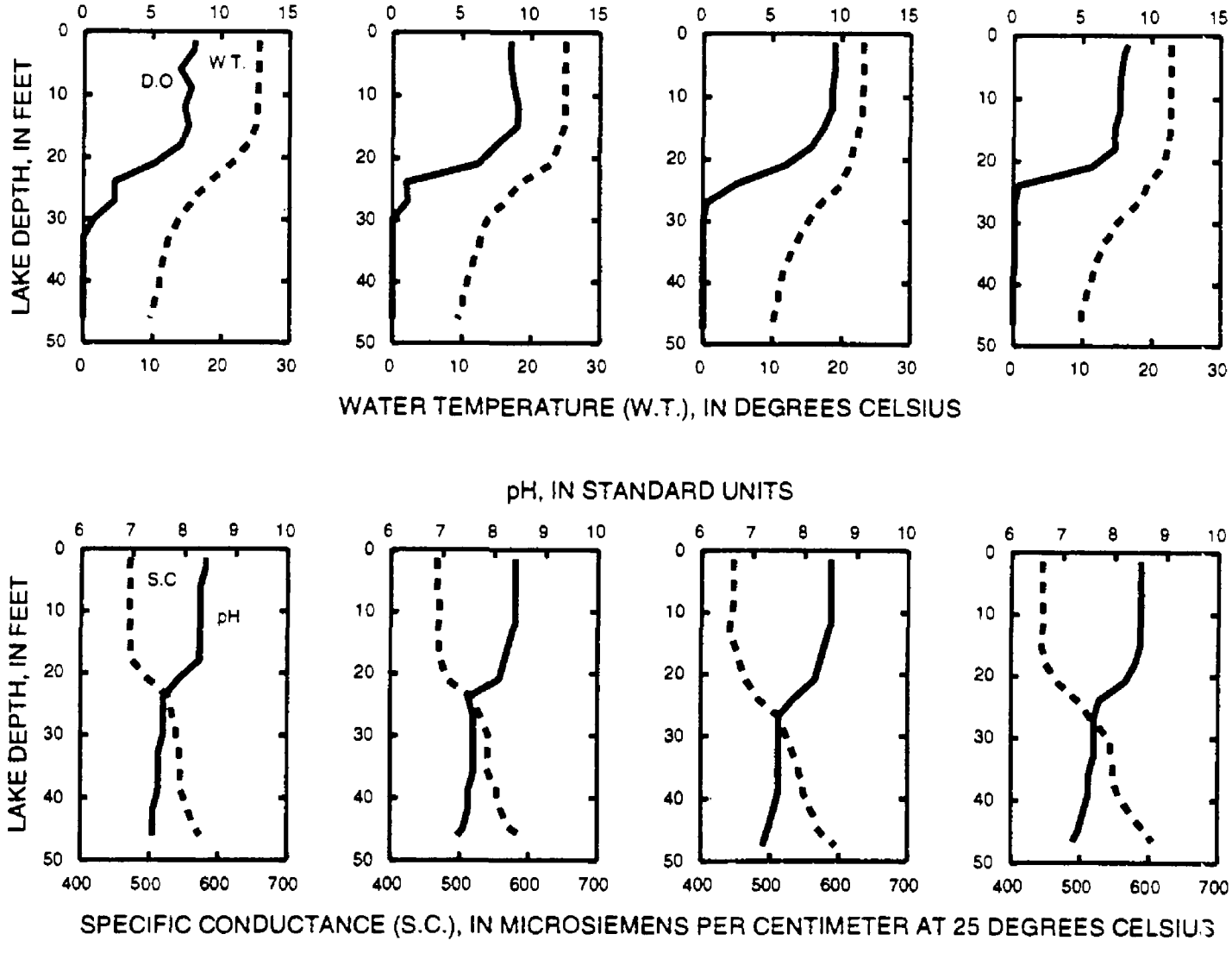
	June 24				July 05			
Depth of sample (ft)	1.5	15	30	47	1.5	15	33	47
Lake stage (ft)	5.09				5.10			
Specific conductance (µS/cm)	486	488	541	570	475	475	533	572
pH (units)	8.3	8.2	7.7	7.4	8.2	8.1	7.6	7.3
Water temperature (°C)	24.0	24.0	12.5	9.5	25.0	24.0	12.0	9.5
Secchi-depth (meters)	2.0				2.1			
Dissolved oxygen	9.2	9.8	4.0	0.7	9.0	9.4	0.9	0.7
Phosphorus, total (as P)	0.010	0.010	<0.020	0.040	0.010	0.011	<0.020	0.050
Chlorophyll a, phytoplankton (µg/L)	6.2	---	---	---	3.6	---	---	---



WATER-QUALITY DATA, JULY 22 TO AUGUST 31, 1994
(Milligrams per liter unless otherwise indicated)

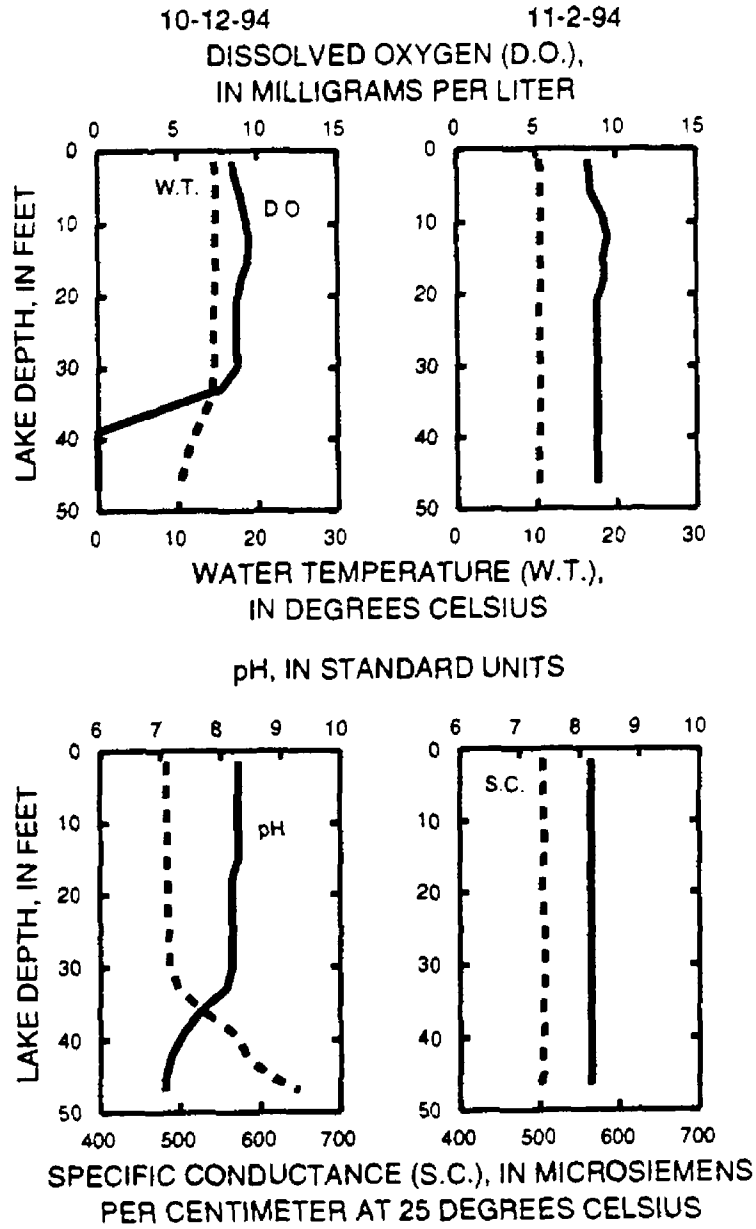
	July 22				Aug. 02			
Depth of sample (ft)	1.5	15	33	46	1.5	18	33	46
Lake stage (ft)	4.98				4.92			
Specific conductance (µS/cm)	472	472	544	573	467	473	541	592
pH (units)	8.4	8.3	7.5	7.4	8.4	8.2	7.6	7.3
Water temperature (°C)	25.5	25.0	12.5	9.5	25.0	24.0	13.0	9.5
Secchi-depth (meters)	2.4				2.8			
Dissolved oxygen	8.1	7.6	0.1	0.0	8.6	7.5	0.0	0.0
Phosphorus, total (as P)	0.011	0.010	0.019	0.041	0.008	0.007	0.013	0.048
Chlorophyll a, phytoplankton (µg/L)	3.5	---	---	---	3.6	---	---	---

	Aug. 22				Aug. 31			
Depth of sample (ft)	1.5	18	39	47	1.5	18	36	46
Lake stage (ft)	5.05				4.99			
Specific conductance (µS/cm)	447	455	548	595	446	449	547	605
pH (units)	8.5	8.3	7.5	7.2	8.5	8.4	7.5	7.2
Water temperature (°C)	23.0	22.0	11.5	10.0	23.0	22.5	12.0	10.0
Secchi-depth (meters)	2.3				2.9			
Dissolved oxygen	9.5	7.9	0.0	0.0	8.3	7.4	0.1	0.0
Phosphorus, total (as P)	0.009	0.009	0.028	0.044	0.009	0.010	0.024	0.045
Chlorophyll a, phytoplankton (µg/L)	3.1	---	---	---	3.3	---	---	---



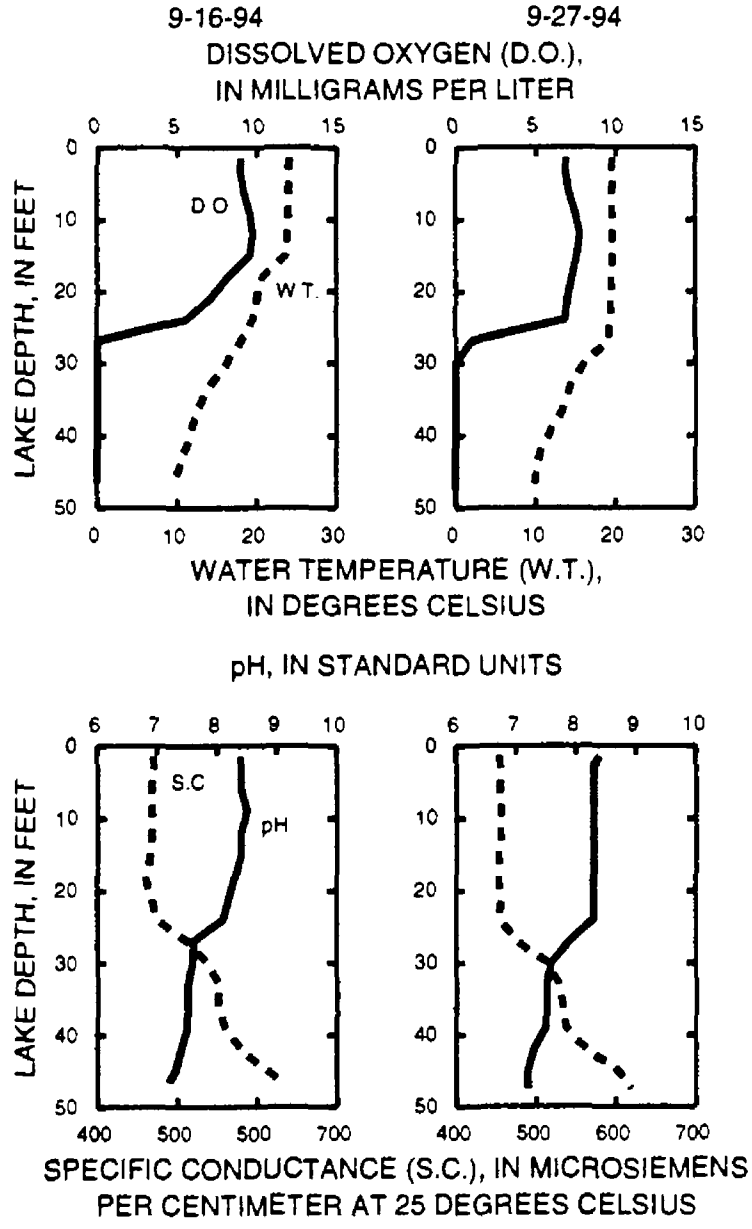
WATER-QUALITY DATA, OCTOBER 12 TO NOVEMBER 02, 1994
(Milligrams per liter unless otherwise indicated)

	Oct. 12				Nov. 02	
Depth of sample (ft)	1.5	33	45	47	1.5	46
Lake stage (ft)	4.94				4.92	
Specific conductance (µS/cm)	483	498	608	649	505	503
pH (units)	8.3	8.1	7.1	7.1	8.2	8.2
Water temperature (°C)	14.5	14.5	10.5	10.0	10.5	10.5
Color (Pt-Co. scale)	---	---	---	---	10	5
Turbidity (NTU)	---	---	---	---	0.70	1.00
Secchi-depth (meters)	4.5				4.3	
Dissolved oxygen	8.5	7.7	0.0	0.0	8.3	8.8
Hardness, as CaCO3	---	---	---	---	260	260
Calcium, dissolved (Ca)	---	---	---	---	44	43
Magnesium, dissolved (Mg)	---	---	---	---	37	36
Sodium, dissolved (Na)	---	---	---	---	7.0	6.9
Potassium, dissolved (K)	---	---	---	---	2	2
Alkalinity, as CaCO3	---	---	---	---	210	210
Sulfate, dissolved (SO4)	---	---	---	---	34	33
Chloride, dissolved (Cl)	---	---	---	---	20	20
Fluoride, dissolved (F)	---	---	---	---	0.1	0.1
Silica, dissolved (SiO2)	---	---	---	---	3.4	3.4
Solids, dissolved, at 180°C	---	---	---	---	280	278
Nitrogen, NO2 + NO3, diss. (as N)	---	---	---	---	0.28	0.25
Nitrogen, ammonia, dissolved (as N)	---	---	---	---	0.46	0.49
Nitrogen, amm. + org., total (as N)	---	---	---	---	1.0	1.0
Nitrogen, total (as N)	---	---	---	---	1.3	1.3
Phosphorus, total (as P)	0.008	0.009	0.022	0.087	0.011	0.012
Phosphorus, ortho, dissolved (as P)	---	---	---	---	<0.002	<0.002
Iron, dissolved (Fe) µg/L	---	---	---	---	<10	<10
Manganese, dissolved (Mn) µg/L	---	---	---	---	0.6	<0.4
Chlorophyll a, phytoplankton (µg/L)	3.0	---	---	---	1.8	---



WATER-QUALITY DATA, SEPTEMBER 16-27, 1994
(Milligrams per liter unless otherwise indicated)

	Sep. 16				Sep. 27			
Depth of sample (ft)	1.5	15	36	46	1.5	27	42	47
Lake stage (ft)	4.96				4.98			
Specific conductance (µS/cm)	471	466	551	634	455	475	562	619
pH (units)	8.4	8.4	7.5	7.2	8.4	7.9	7.3	7.2
Water temperature (°C)	24.0	23.5	12.5	10.0	19.5	19.0	10.5	10.0
Secchi-depth (meters)	2.9				3.4			
Dissolved oxygen	9.0	9.6	0.0	0.0	6.9	1.0	0.0	0.0
Phosphorus, total (as P)	0.009	0.008	0.016	0.035	0.010	0.029	0.023	0.035
Chlorophyll a, phytoplankton (µg/L)	3.3	---	---	---	3.5	---	---	---



424555088335700 MILL LAKE AT LAUDERDALE, WI

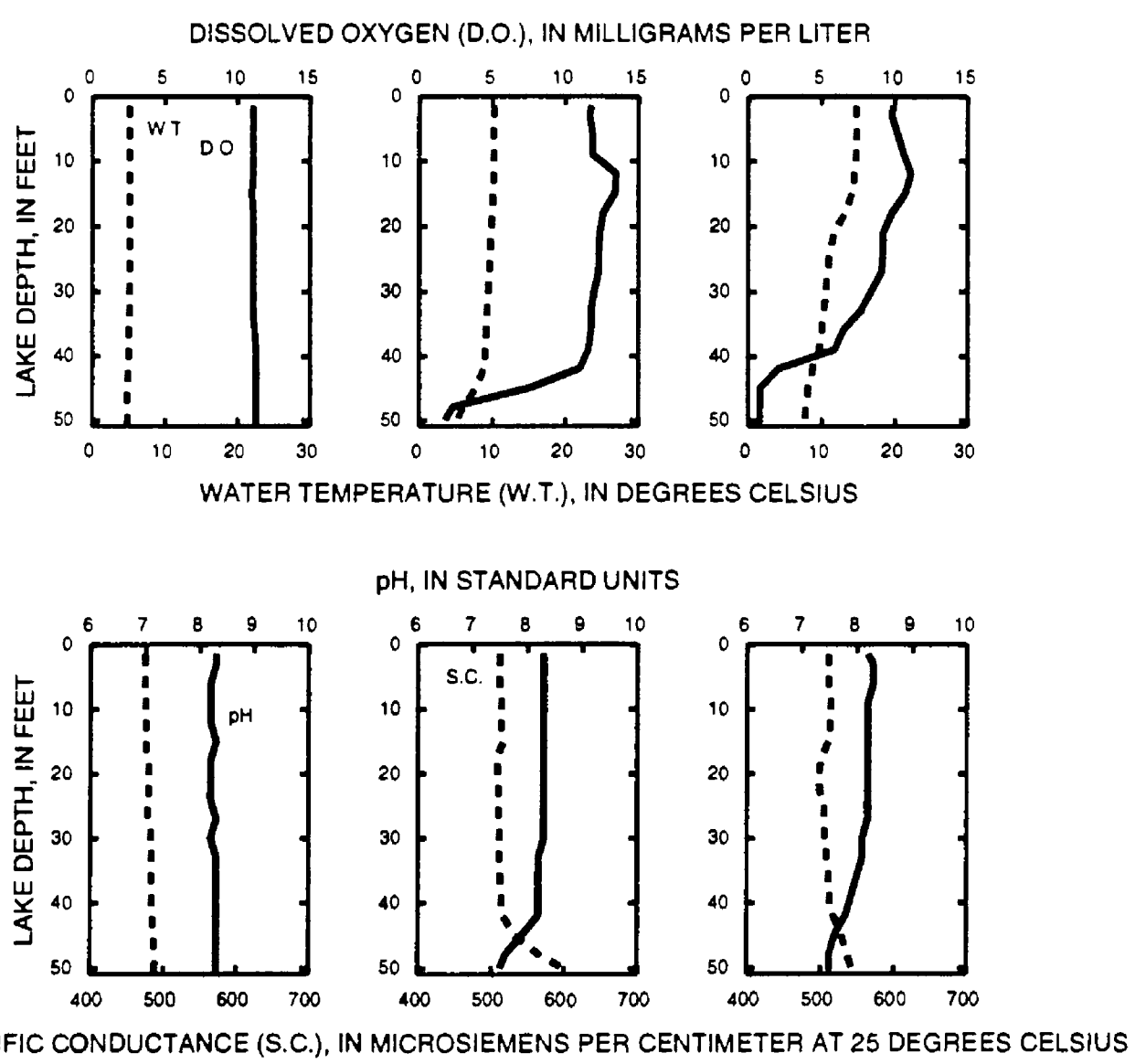
LOCATION.--Lat 42°45'55" long 88°33'57", in SE 1/4 NE 1/4 sec.35, T.4 N., R.16 E., Walworth County, Hydrologic Unit 07120006, at Lauderdale.

PERIOD OF RECORD.--November 1993 to November 1994 (discontinued).

REMARKS.--Lake sampled near center of lake at lake depth of about 52 ft. Water-quality analyses by Wisconsin State Laboratory of Hygiene.

WATER-QUALITY DATA, NOVEMBER 10, 1993 TO MAY 10, 1994
(Milligrams per liter unless otherwise indicated)

	Nov. 10		Apr. 18		May 10			
Depth of sample (ft)	1.5	51	1.5	50	1.5	15	24	50
Lake stage (ft)	5.12		5.01		5.02			
Specific conductance (µS/cm)	475	489	512	599	512	510	502	545
pH (units)	8.3	8.3	8.3	7.5	8.2	8.2	8.2	7.5
Water temperature (°C)	5.0	5.0	10.5	5.0	15.0	14.0	11.0	7.5
Color (Pt-Co. scale)	10	10	5	10	---	---	---	---
Turbidity (NTU)	0.80	0.90	0.70	2.1	---	---	---	---
Secchi-depth (meters)	4.0		2.6		5.1			
Dissolved oxygen	11.1	11.3	11.8	1.8	9.9	10.7	9.2	0.8
Hardness, as CaCO3	250	250	250	300	---	---	---	---
Calcium, dissolved (Ca)	44	44	47	56	---	---	---	---
Magnesium, dissolved (Mg)	34	34	32	38	---	---	---	---
Sodium, dissolved (Na)	7.5	7.5	7.3	8.5	---	---	---	---
Potassium, dissolved (K)	2	2	2	2	---	---	---	---
Alkalinity, as CaCO3	210	210	220	260	---	---	---	---
Sulfate, dissolved (SO4)	31	31	30	33	---	---	---	---
Chloride, dissolved (Cl)	20	20	19	22	---	---	---	---
Fluoride, dissolved (F)	0.1	0.1	0.1	0.1	---	---	---	---
Silica, dissolved (SiO2)	3.6	3.5	1.7	5.7	---	---	---	---
Solids, dissolved, at 180°C	276	272	306	346	---	---	---	---
Nitrogen, NO2 + NO3, diss. (as N)	0.22	0.22	0.62	0.02	---	---	---	---
Nitrogen, ammonia, dissolved (as N)	0.28	0.28	0.09	1.1	---	---	---	---
Nitrogen, amm. + org., total (as N)	0.80	0.80	0.60	<0.20	---	---	---	---
Nitrogen, total (as N)	1.0	1.0	1.2	---	---	---	---	---
Phosphorus, total (as P)	0.011	0.010	0.009	0.046	0.006	0.016	0.033	0.090
Phosphorus, ortho, dissolved (as P)	0.003	0.002	<0.002	<0.002	---	---	---	---
Iron, dissolved (Fe) µg/L	<50	<50	<50	<50	---	---	---	---
Manganese, dissolved (Mn) µg/L	<40	<40	<40	210	---	---	---	---
Chlorophyll a, phytoplankton (µg/L)	1.9	---	4.6	---	1.2	---	---	---



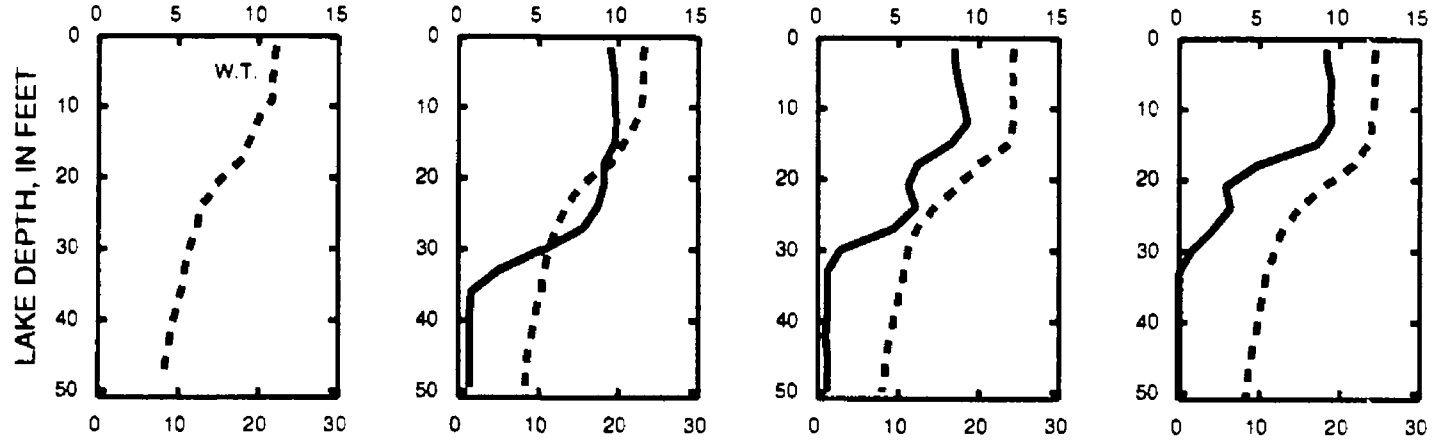
WATER-QUALITY DATA, MAY 25 TO JULY 05, 1994
(Milligrams per liter unless otherwise indicated)

	May 25				June 07			
Depth of sample (ft)	1.5	9.0	24	47	1.5	12	30	49
Lake stage (ft)	5.02				5.01			
Specific conductance (µS/cm)	503	505	498	538	494	493	503	547
pH (units)	8.3	8.3	8.3	7.4	8.2	8.1	7.9	7.4
Water temperature (°C)	22.0	22.0	13.0	8.0	23.0	22.5	11.5	8.0
Secchi-depth (meters)	2.9				2.6			
Dissolved oxygen	---	---	---	---	9.5	9.9	5.4	0.7
Phosphorus, total (as P)	0.013	0.013	0.014	0.043	0.012	<0.020	<0.020	0.060
Chlorophyll a, phytoplankton (µg/L)	2.3	---	---	---	3.4	---	---	---

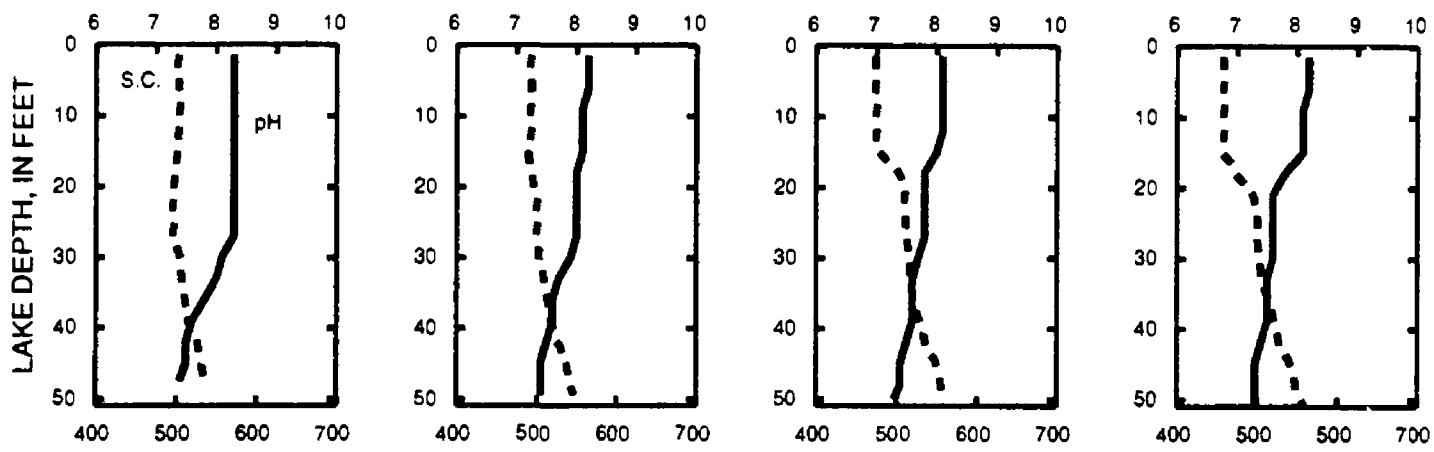
	June 24				July 05			
Depth of sample (ft)	1.5	15	30	50	1.5	15	33	51
Lake stage (ft)	5.09				5.10			
Specific conductance (µS/cm)	474	478	517	562	458	459	505	559
pH (units)	8.1	8.0	7.7	7.3	8.2	8.1	7.5	7.3
Water temperature (°C)	24.0	24.0	11.0	8.0	24.5	23.5	11.0	8.5
Secchi-depth (meters)	1.6				2.1			
Dissolved oxygen	8.5	8.3	1.4	0.6	9.2	8.6	0.0	0.0
Phosphorus, total (as P)	0.014	0.015	0.020	0.100	0.016	0.017	0.019	0.139
Chlorophyll a, phytoplankton (µg/L)	5.6	---	---	---	7.1	---	---	---

5-25-94 6-7-94 6-24-94 7-5-94

DISSOLVED OXYGEN (D.O.), IN MILLIGRAMS PER LITER



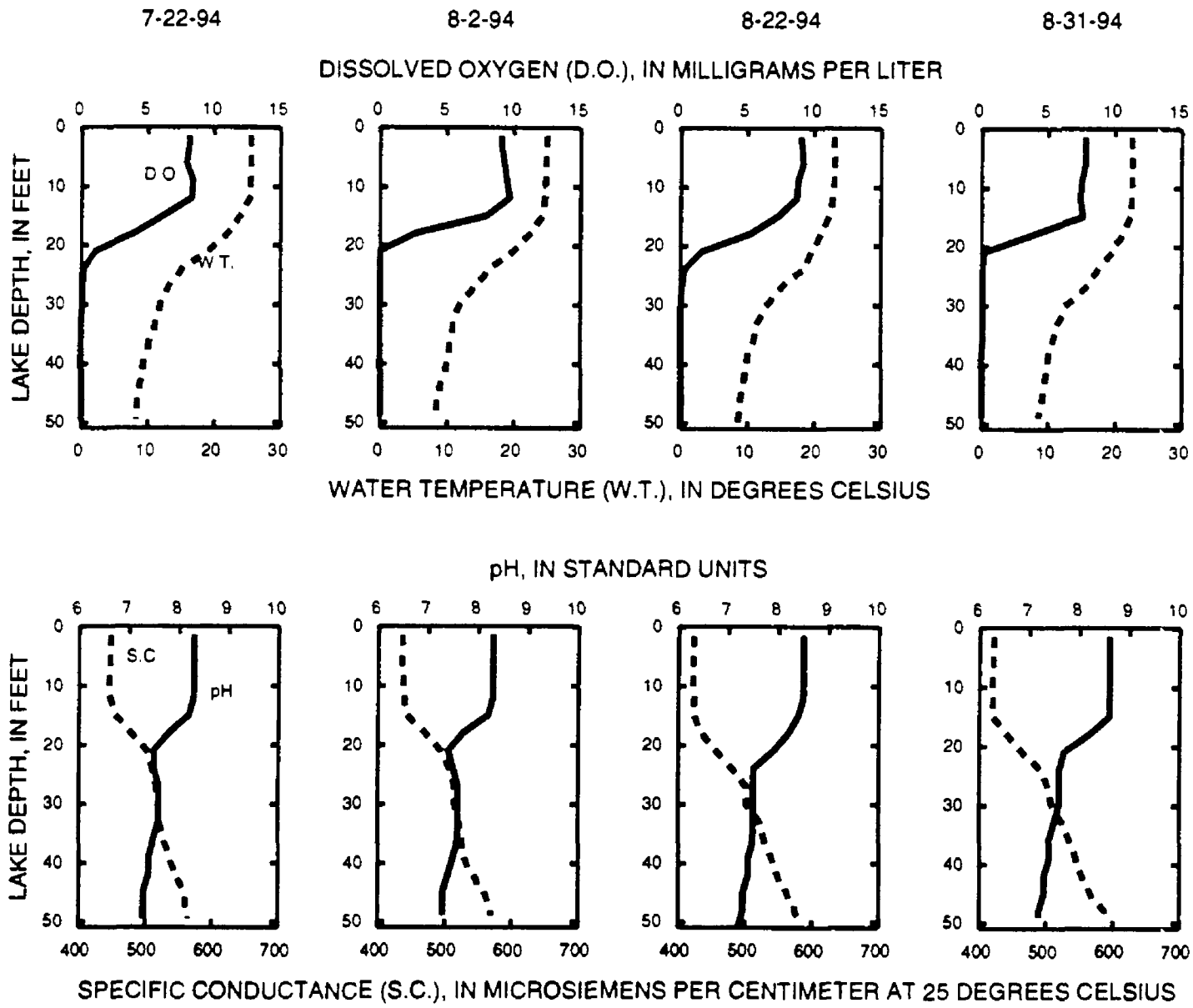
pH, IN STANDARD UNITS



WATER-QUALITY DATA, JULY 22 TO AUGUST 31, 1994
(Milligrams per liter unless otherwise indicated)

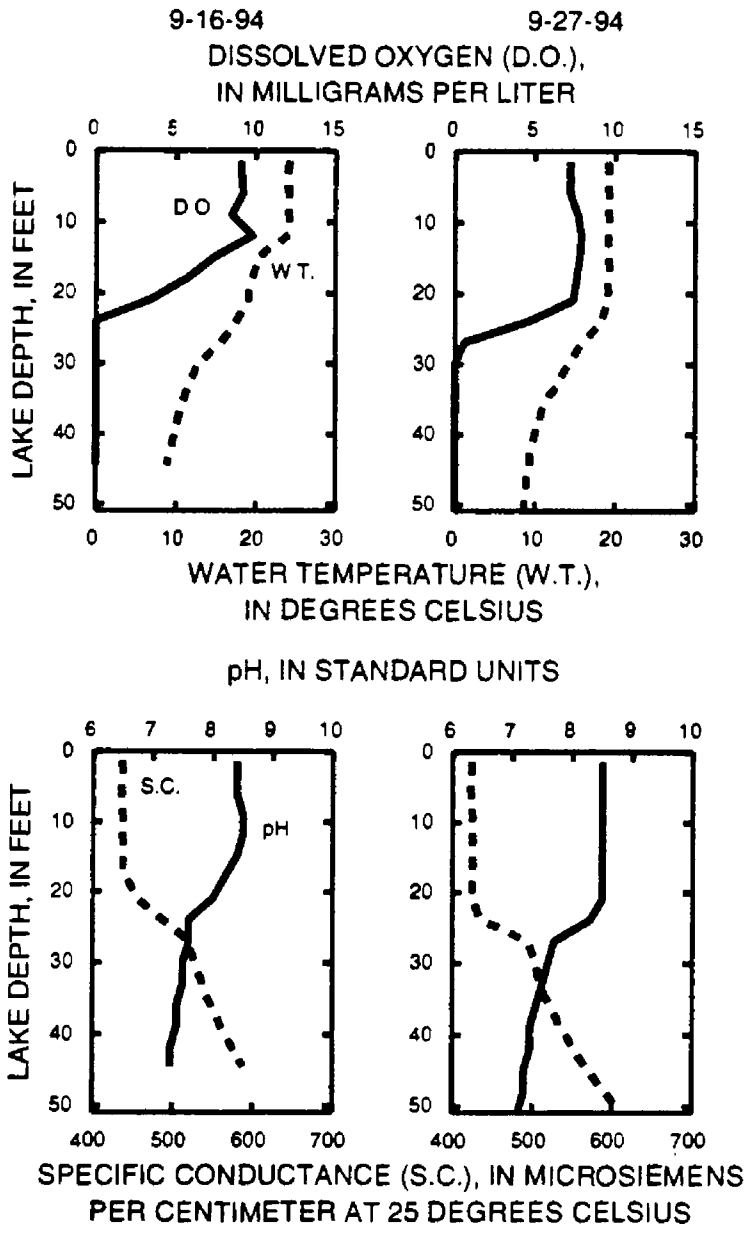
	July 22				Aug. 02			
Depth of sample (ft)	1.5	12	30	49	1.5	15	33	49
Lake stage (ft)	4.98				4.92			
Specific conductance (µS/cm)	447	447	519	565	437	443	521	570
pH (units)	8.3	8.3	7.6	7.3	8.3	8.2	7.6	7.3
Water temperature (°C)	25.5	25.5	12.0	8.5	25.0	24.5	11.0	8.5
Secchi-depth (meters)	1.7				1.8			
Dissolved oxygen	8.1	8.3	0.1	0.0	9.1	8.0	0.6	0.7
Phosphorus, total (as P)	0.013	0.016	0.025	0.078	0.011	0.016	0.034	0.058
Chlorophyll a, phytoplankton (µg/L)	6.3	---	---	---	8.0	---	---	---

	Aug. 22				Aug. 31			
Depth of sample (ft)	1.5	12	39	51	1.5	18	33	49
Lake stage (ft)	5.05				4.99			
Specific conductance (µS/cm)	423	423	539	582	422	441	525	588
pH (units)	8.5	8.5	7.4	7.2	8.6	8.2	7.5	7.2
Water temperature (°C)	23.0	23.0	10.0	8.5	22.5	21.0	11.5	8.5
Secchi-depth (meters)	1.8				2.0			
Dissolved oxygen	9.0	8.7	0.0	0.0	7.8	3.9	0.1	0.0
Phosphorus, total (as P)	0.014	0.015	0.030	0.043	0.013	0.040	0.012	0.030
Chlorophyll a, phytoplankton (µg/L)	7.7	---	---	---	7.7	---	---	---



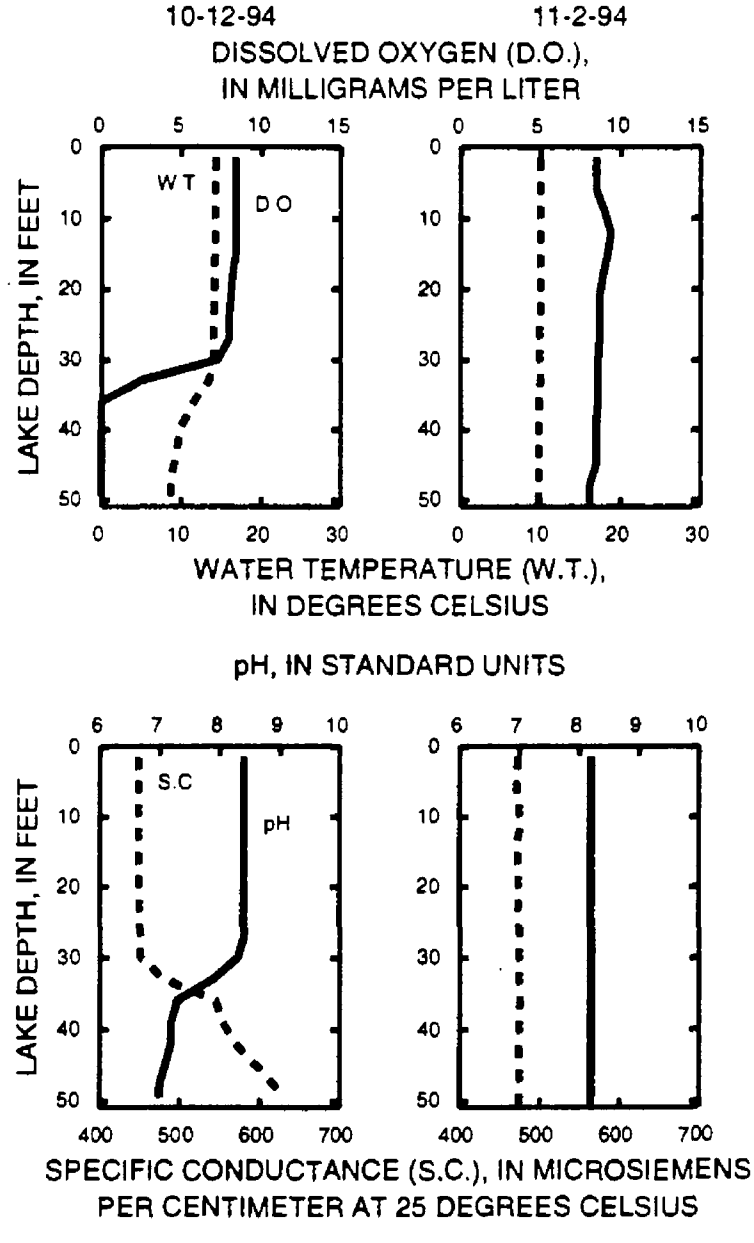
WATER-QUALITY DATA, SEPTEMBER 16-27, 1994
(Milligrams per liter unless otherwise indicated)

	Sep. 16				Sep. 27			
Depth of sample (ft)	1.5	12	33	44	1.5	21	39	51
Lake stage (ft)	4.96				4.98			
Specific conductance (µS/cm)	436	437	537	588	424	425	537	611
pH (units)	8.4	8.5	7.5	7.3	8.5	8.5	7.3	7.1
Water temperature (°C)	24.0	24.0	11.5	9.0	19.0	19.0	10.0	8.5
Secchi-depth (meters)	2.0				2.4			
Dissolved oxygen	9.1	9.8	0.0	0.0	7.2	7.4	0.0	0.0
Phosphorus, total (as P)	0.013	0.015	0.029	0.031	0.014	0.014	0.027	0.046
Chlorophyll a, phytoplankton (µg/L)	4.2	---	---	---	6.1	---	---	---



WATER-QUALITY DATA, OCTOBER 12 TO NOVEMBER, 1994
(Milligrams per liter unless otherwise indicated)

	Oct. 12				Nov. 02	
Depth of sample (ft)	1.5	33	42	49	1.5	50
Lake stage (ft)		4.94				4.92
Specific conductance (µS/cm)	448	480	570	630	473	475
pH (units)	8.4	7.9	7.2	7.0	8.2	8.2
Water temperature (°C)	14.5	13.5	9.5	8.5	10.0	10.0
Color (Pt-Co. scale)	---	---	---	---	10	10
Turbidity (NTU)	---	---	---	---	1.1	1.4
Secchi-depth (meters)		3.6				3.7
Dissolved oxygen	8.4	2.5	0.0	0.0	8.5	8.1
Hardness, as CaCO3	---	---	---	---	240	240
Calcium, dissolved (Ca)	---	---	---	---	37	37
Magnesium, dissolved (Mg)	---	---	---	---	36	36
Sodium, dissolved (Na)	---	---	---	---	7.6	7.5
Potassium, dissolved (K)	---	---	---	---	2	2
Alkalinity, as CaCO3	---	---	---	---	190	190
Sulfate, dissolved (SO4)	---	---	---	---	31	32
Chloride, dissolved (Cl)	---	---	---	---	20	20
Fluoride, dissolved (F)	---	---	---	---	0.1	0.1
Silica, dissolved (SiO2)	---	---	---	---	3.0	3.0
Solids, dissolved, at 180°C	---	---	---	---	266	266
Nitrogen, NO2 + NO3, diss. (as N)	---	---	---	---	0.06	0.05
Nitrogen, ammonia, dissolved (as N)	---	---	---	---	0.42	0.38
Nitrogen, amm. + org., total (as N)	---	---	---	---	0.90	0.90
Nitrogen, total (as N)	---	---	---	---	0.96	0.95
Phosphorus, total (as P)	0.011	0.020	0.026	0.053	0.012	0.012
Phosphorus, ortho, dissolved (as P)	---	---	---	---	<0.002	<0.002
Iron, dissolved (Fe) µg/L	---	---	---	---	<10	<10
Manganese, dissolved (Mn) µg/L	---	---	---	---	1	<0.4
Chlorophyll a, phytoplankton (µg/L)	5.3	---	---	---	2.7	---



455446089370300 LITTLE ARBOR VITAE LAKE NEAR WOODRUFF, WI

LOCATION.--Lat 45°54'46", long 89°37'03", in SW 1/4 SE 1/4 sec.28, T.40 N., R.7 E., Vilas County, Hydrologic Unit 07070001, 4 mi northeast of Woodruff.

LAKE-STAGE RECORDS

PERIOD OF RECORD.--February 1991 to current year.

GAGE.--Nonrecording gage. Staff read by Glyn A. Roberts. Elevation of lake is 1,603 ft above sea level, from topographic map.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height observed, 8.00 ft, Sept. 16, 1994; minimum observed, 7.72 ft, Feb. 28 and June 12, 1991.

EXTREMES FOR CURRENT YEAR.--Maximum gage height observed, 8.00 ft, Sept. 16; minimum observed, 7.74 ft, Sept. 21, 26.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	7.84	---	7.86	---	---	---	---	---	7.82	---
2	---	---	---	---	---	7.78	---	---	---	---	---	---
3	---	---	---	7.84	---	---	7.84	---	7.80	7.78	7.82	7.78
4	---	7.84	---	---	---	---	---	7.82	---	---	---	---
5	7.84	---	---	---	---	---	---	---	---	---	---	---
6	---	---	7.84	---	7.86	7.78	---	---	---	---	7.84	---
7	---	---	---	---	---	---	7.82	---	7.80	---	---	---
8	---	---	---	7.84	---	---	---	---	---	7.78	---	---
9	---	---	7.84	---	7.86	---	---	---	---	---	7.86	---
10	---	7.86	---	---	---	7.78	---	7.78	---	---	7.84	7.76
11	7.84	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	7.86	---	7.82	---	---	---
13	7.82	---	7.86	---	7.84	7.80	---	---	---	---	7.78	---
14	---	7.86	---	7.86	7.84	7.82	---	---	---	7.81	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	7.86	---	7.84	---	---	7.80	7.82	---	7.78	8.00
17	---	---	---	---	---	---	7.86	---	7.80	---	7.76	---
18	---	---	---	---	7.82	---	---	---	---	---	---	---
19	---	---	---	7.86	---	7.84	---	---	---	---	---	---
20	7.82	---	---	---	7.82	---	---	7.80	---	7.86	---	---
21	---	7.84	---	---	---	---	7.84	---	---	---	---	7.74
22	---	---	7.86	---	---	---	---	---	---	---	---	---
23	7.84	---	---	---	---	7.88	7.82	---	7.82	---	7.78	---
24	---	---	---	---	7.80	---	7.84	7.82	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	7.80	---
26	---	---	---	7.86	---	---	---	7.80	---	7.82	---	7.74
27	---	7.84	---	---	---	7.86	---	---	---	7.82	---	---
28	---	---	7.86	---	7.78	---	7.83	---	---	---	---	---
29	7.84	---	---	---	---	---	---	---	7.78	---	7.84	---
30	---	7.84	---	---	---	---	7.84	---	---	---	---	7.76
31	7.84	---	---	---	---	7.84	---	7.80	---	---	---	---

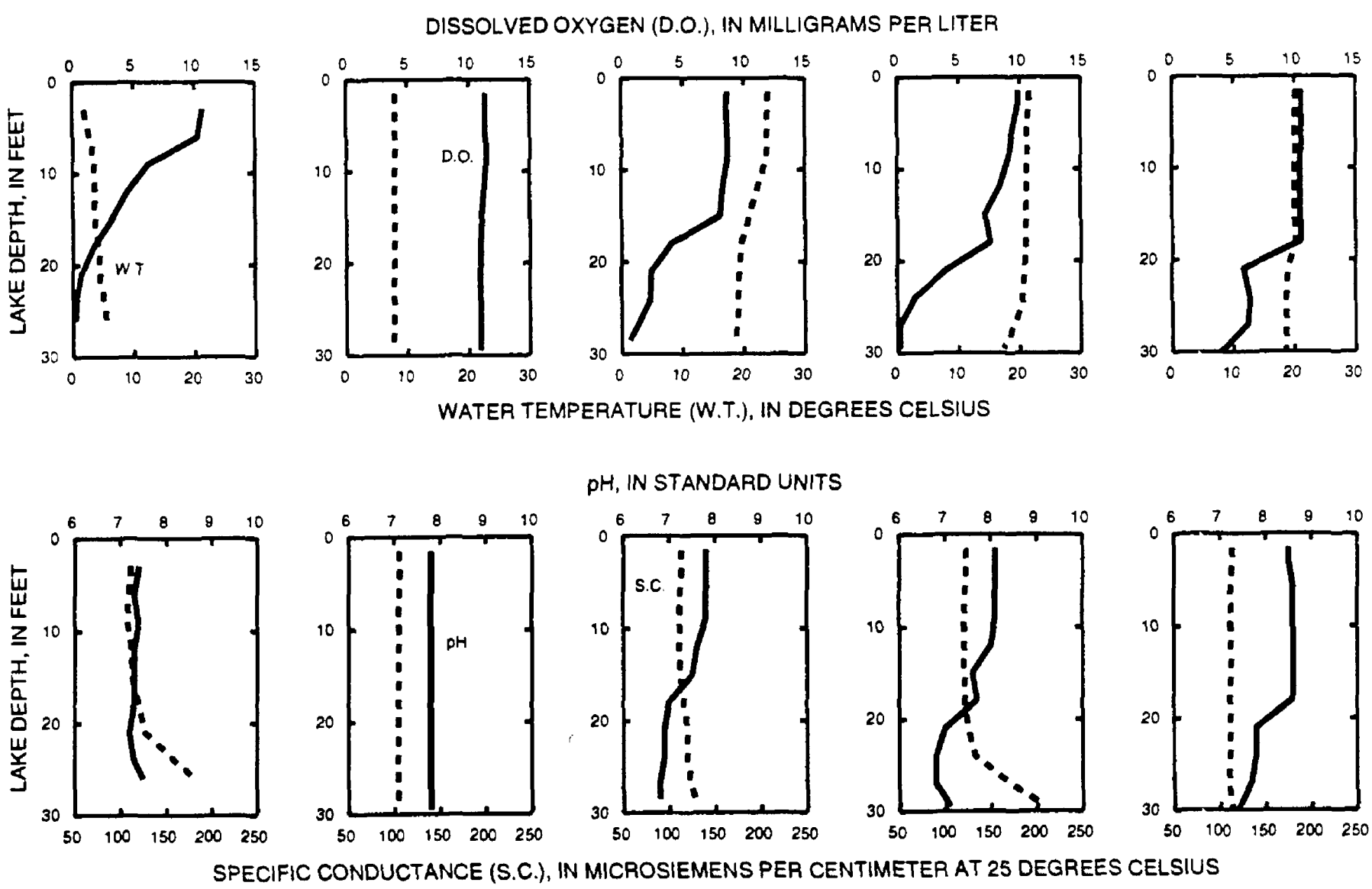
WATER-QUALITY RECORDS

PERIOD OF RECORD.--February 1991 to current year.

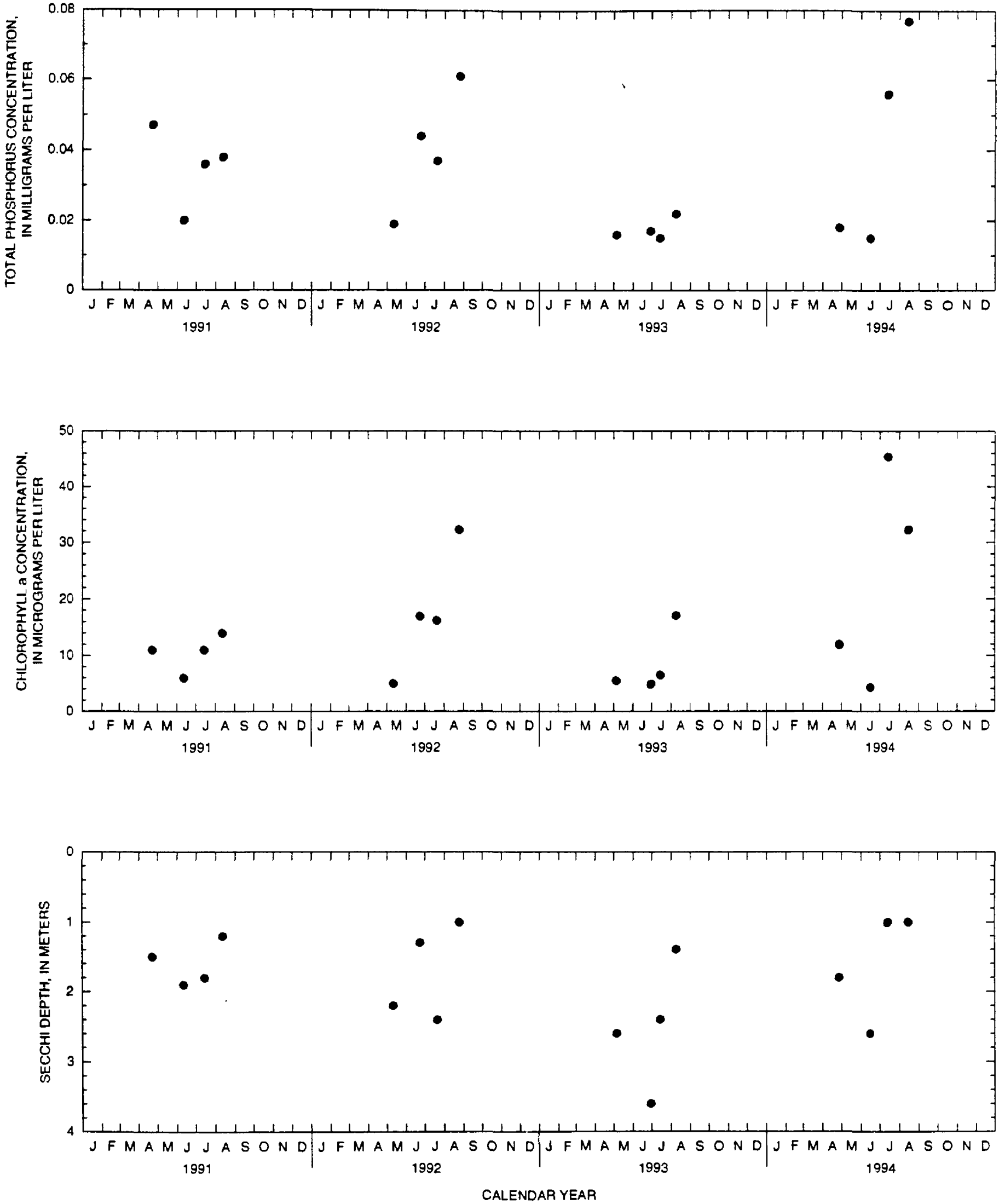
REMARKS.--Lake sampled at deep hole in lake at a lake depth of about 32 ft. Lake ice-covered during February sampling. Water-quality analyses by Wisconsin State Laboratory of Hygiene.

WATER-QUALITY DATA, FEBRUARY 24 TO AUGUST 16, 1994
(Milligrams per liter unless otherwise indicated)

	Feb. 24		Apr. 28		June 17		July 14		Aug. 16	
Depth of sample (ft)	3.0	26	1.5	29	1.5	28	1.5	29	1.5	30
Lake stage (ft)	7.80		7.83		7.80		7.81		7.78	
Specific conductance (µS/cm)	111	183	106	105	113	128	123	208	113	114
pH (units)	7.4	7.5	7.8	7.8	7.8	6.8	8.1	7.1	8.5	7.4
Water temperature (°C)	2.0	5.5	8.0	8.0	24.0	18.5	21.5	17.5	20.0	18.5
Color (Pt-Co. scale)	---	---	5	5	---	---	---	---	---	---
Turbidity (NTU)	---	---	1.6	2.2	---	---	---	---	---	---
Secchi-depth (meters)	---		1.8		2.6		1.0		1.0	
Dissolved oxygen	10.7	0.2	11.4	11.0	8.7	0.7	9.9	0.2	10.6	4.0
Hardness, as CaCO3	---	---	54	55	---	---	---	---	---	---
Calcium, dissolved (Ca)	---	---	15	15	---	---	---	---	---	---
Magnesium, dissolved (Mg)	---	---	4.1	4.2	---	---	---	---	---	---
Sodium, dissolved (Na)	---	---	2.6	2.7	---	---	---	---	---	---
Potassium, dissolved (K)	---	---	0.9	0.8	---	---	---	---	---	---
Alkalinity, as CaCO3	---	---	54	54	---	---	---	---	---	---
Sulfate, dissolved (SO4)	---	---	3.0	4.0	---	---	---	---	---	---
Chloride, dissolved (Cl)	---	---	2.0	2.0	---	---	---	---	---	---
Fluoride, dissolved (F)	---	---	0.1	0.1	---	---	---	---	---	---
Silica, dissolved (SiO2)	---	---	7.6	7.7	---	---	---	---	---	---
Solids, dissolved, at 180°C	---	---	74	72	---	---	---	---	---	---
Nitrogen, NO2 + NO3, diss. (as N)	---	---	<0.01	<0.01	---	---	---	---	---	---
Nitrogen, ammonia, dissolved (as N)	---	---	0.01	0.01	---	---	---	---	---	---
Nitrogen, amm. + org., total (as N)	---	---	0.30	0.40	---	---	---	---	---	---
Nitrogen, total (as N)	---	---	0.30	0.40	---	---	---	---	---	---
Phosphorus, total (as P)	---	---	0.018	0.034	0.015	0.059	0.056	0.100	0.077	0.123
Phosphorus, ortho, dissolved (as P)	---	---	<0.002	<0.002	---	---	---	---	---	---
Iron, dissolved (Fe) µg/L	---	---	<50	<50	---	---	---	---	---	---
Manganese, dissolved (Mn) µg/L	---	---	86	92	---	---	---	---	---	---
Chlorophyll a, phytoplankton (µg/L)	---	---	12	---	4.3	---	45	---	32	---



2-24-94 4-28-94 6-17-94 7-14-94 8-16-94



Surface total phosphorus and chlorophyll a concentrations, and Secchi depths for Little Arbor Vitae Lake near Woodruff, Wisconsin.

434412088590700 LITTLE GREEN LAKE, AT CENTER, NEAR MARKESAN, WI

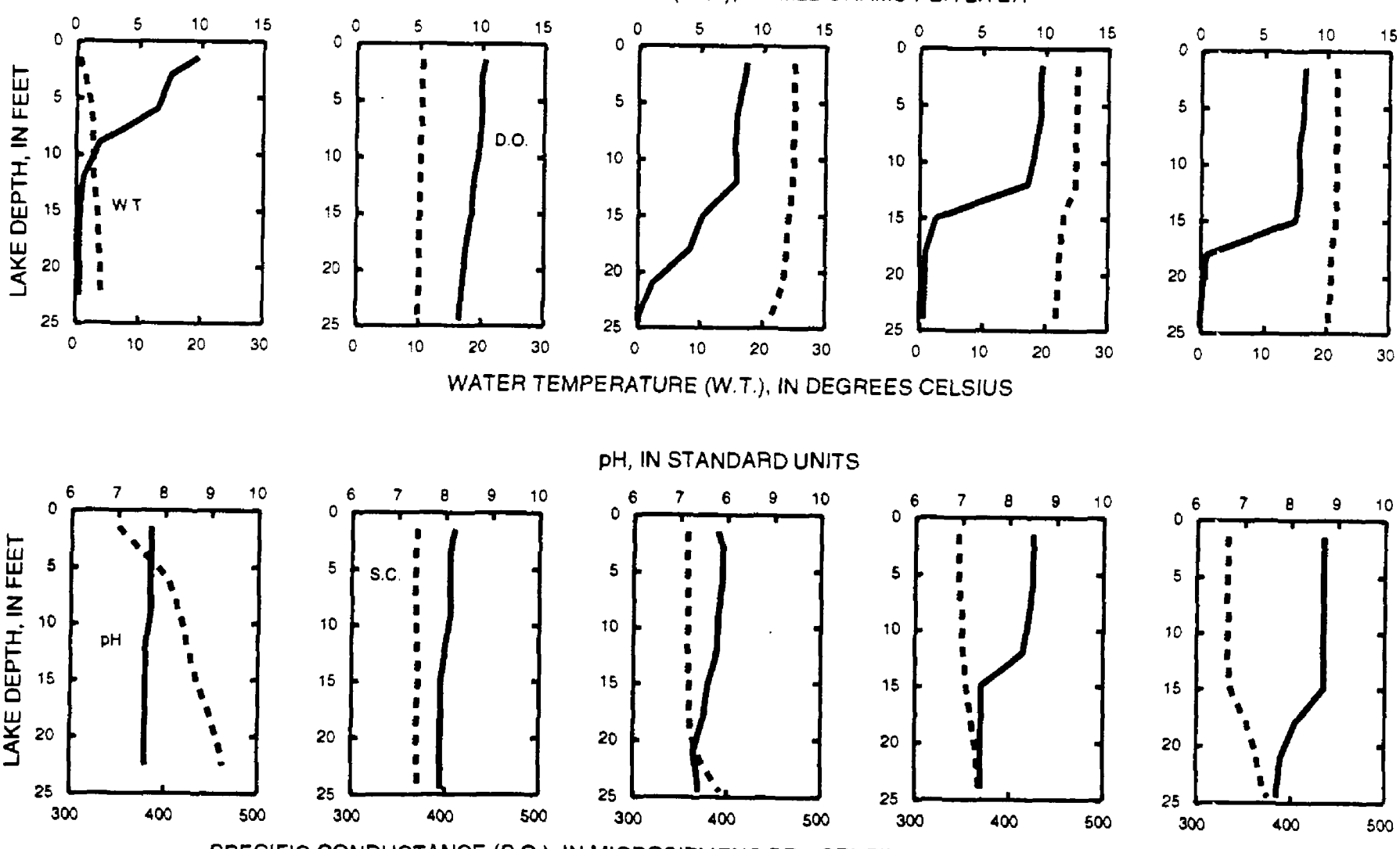
LOCATION--Lat 43°44'12", long 88°59'07", in SW 1/4 SW 1/4 sec.29, T.15 N., R.13 E., Green Lake County, Hydrologic Unit 04030201, 2 mi north of Markesan.

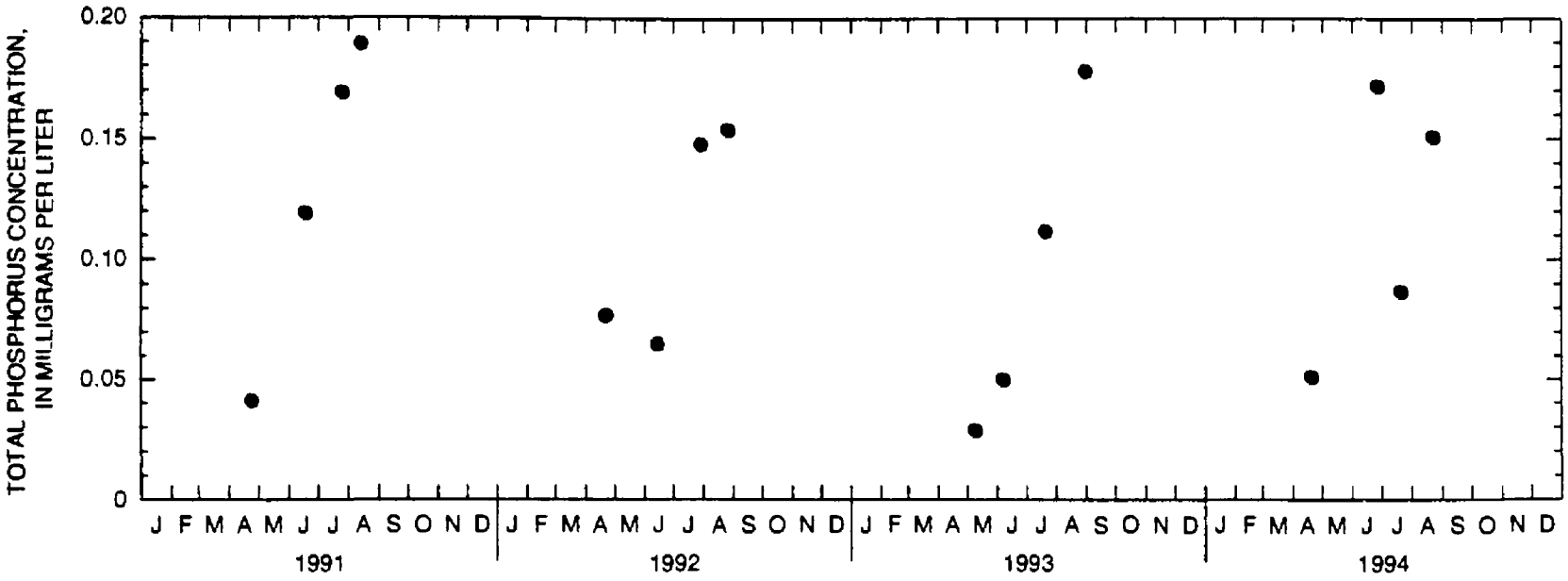
PERIOD OF RECORD.--February 1991 to current year.

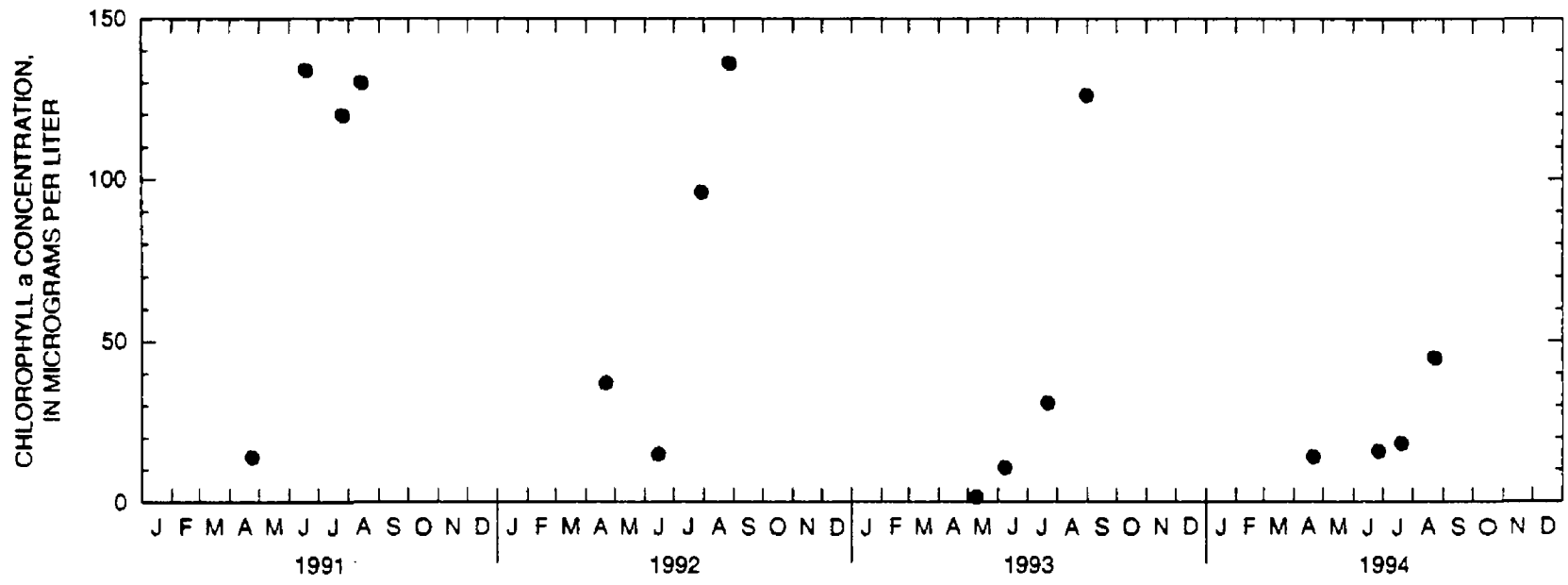
REMARKS.--Lake sampled near center at a lake depth of about 27 ft. Lake ice-covered during March sampling. Water-quality analyses by Wisconsin State Laboratory of Hygiene.

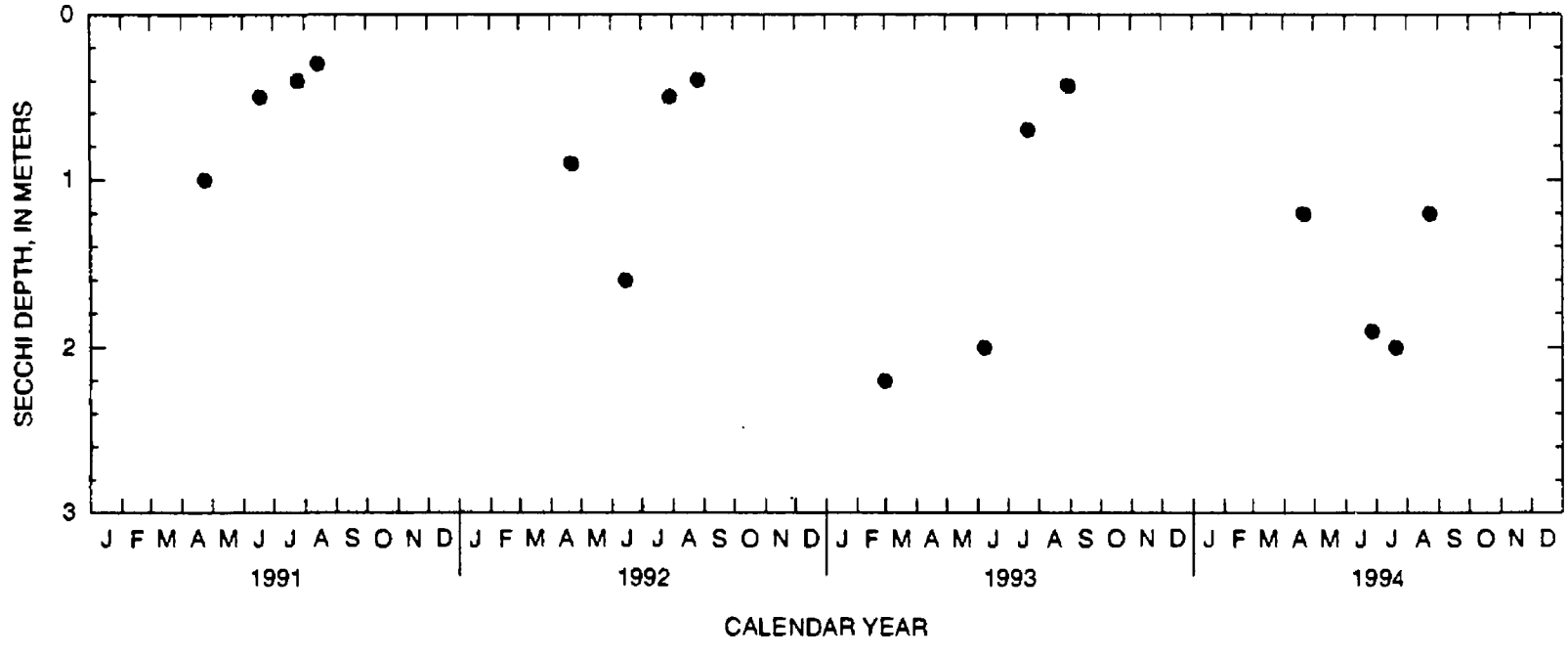
WATER-QUALITY DATA, MARCH 01 TO AUGUST 23, 1994
(Milligrams per liter unless otherwise indicated)

	Mar. 01		Apr. 21		June 27		July 21		Aug. 23	
Depth of sample (ft)	1.5	23	1.5	24	1.5	24	1.5	24	1.5	24
Lake stage (ft)	6.41		6.45		6.02		6.23		6.09	
Specific conductance (µS/cm)	350	463	370	370	357	393	345	368	332	376
pH (units)	7.7	7.6	8.2	7.9	7.8	7.4	8.5	7.4	8.7	7.7
Water temperature (°C)	0.5	4.0	10.5	10.0	25.0	21.0	25.0	22.0	21.5	20.5
Color (Pt-Co. scale)	---	---	15	15	---	---	---	---	---	---
Turbidity (NTU)	---	---	1.4	1.8	---	---	---	---	---	---
Secchi-depth (meters)	2.2		1.2		1.9		2.0		1.2	
Dissolved oxygen	9.8	0.3	10.3	8.3	8.7	0.1	9.7	0.4	8.3	0.0
Hardness, as CaCO3	---	---	180	180	---	---	---	---	---	---
Calcium, dissolved (Ca)	---	---	36	37	---	---	---	---	---	---
Magnesium, dissolved (Mg)	---	---	21	22	---	---	---	---	---	---
Sodium, dissolved (Na)	---	---	6.7	6.7	---	---	---	---	---	---
Potassium, dissolved (K)	---	---	4	4	---	---	---	---	---	---
Alkalinity, as CaCO3	---	---	160	160	---	---	---	---	---	---
Sulfate, dissolved (SO4)	---	---	12	13	---	---	---	---	---	---
Chloride, dissolved (Cl)	---	---	15	15	---	---	---	---	---	---
Fluoride, dissolved (F)	---	---	0.1	0.1	---	---	---	---	---	---
Silica, dissolved (SiO2)	---	---	2.2	2.3	---	---	---	---	---	---
Solids, dissolved, at 180°C	---	---	222	224	---	---	---	---	---	---
Nitrogen, NO2 + NO3, diss. (as N)	---	---	0.04	0.08	---	---	---	---	---	---
Nitrogen, ammonia, dissolved (as N)	---	---	0.01	0.02	---	---	---	---	---	---
Nitrogen, amm. + org., total (as N)	---	---	0.70	0.70	---	---	---	---	---	---
Nitrogen, total (as N)	---	---	0.74	0.78	---	---	---	---	---	---
Phosphorus, total (as P)	---	---	0.051	0.052	0.172	0.640	0.087	0.234	0.151	0.716
Phosphorus, ortho, dissolved (as P)	---	---	<0.002	0.002	---	---	---	---	---	---
Iron, dissolved (Fe) µg/L	---	---	<50	<50	---	---	---	---	---	---
Manganese, dissolved (Mn) µg/L	---	---	<40	<40	---	---	---	---	---	---
Chlorophyll a, phytoplankton(µg/L)	---	---	14	---	16	---	18	---	45	---









Surface total phosphorus and chlorophyll a concentrations, and Secchi depths for Little Green Lake near Markesan, Wisconsin.

425425088083500 LITTLE MUSKEGO LAKE AT MUSKEGO, WI

LOCATION.--Lat 42°54'25", long 88°08'35", in SE 1/4 NW 1/4 sec.9, T.5 N., R.20 E., Waukesha County, Hydrologic Unit 07120006, at Muskego.

DRAINAGE AREA.--11.6 mi^2.

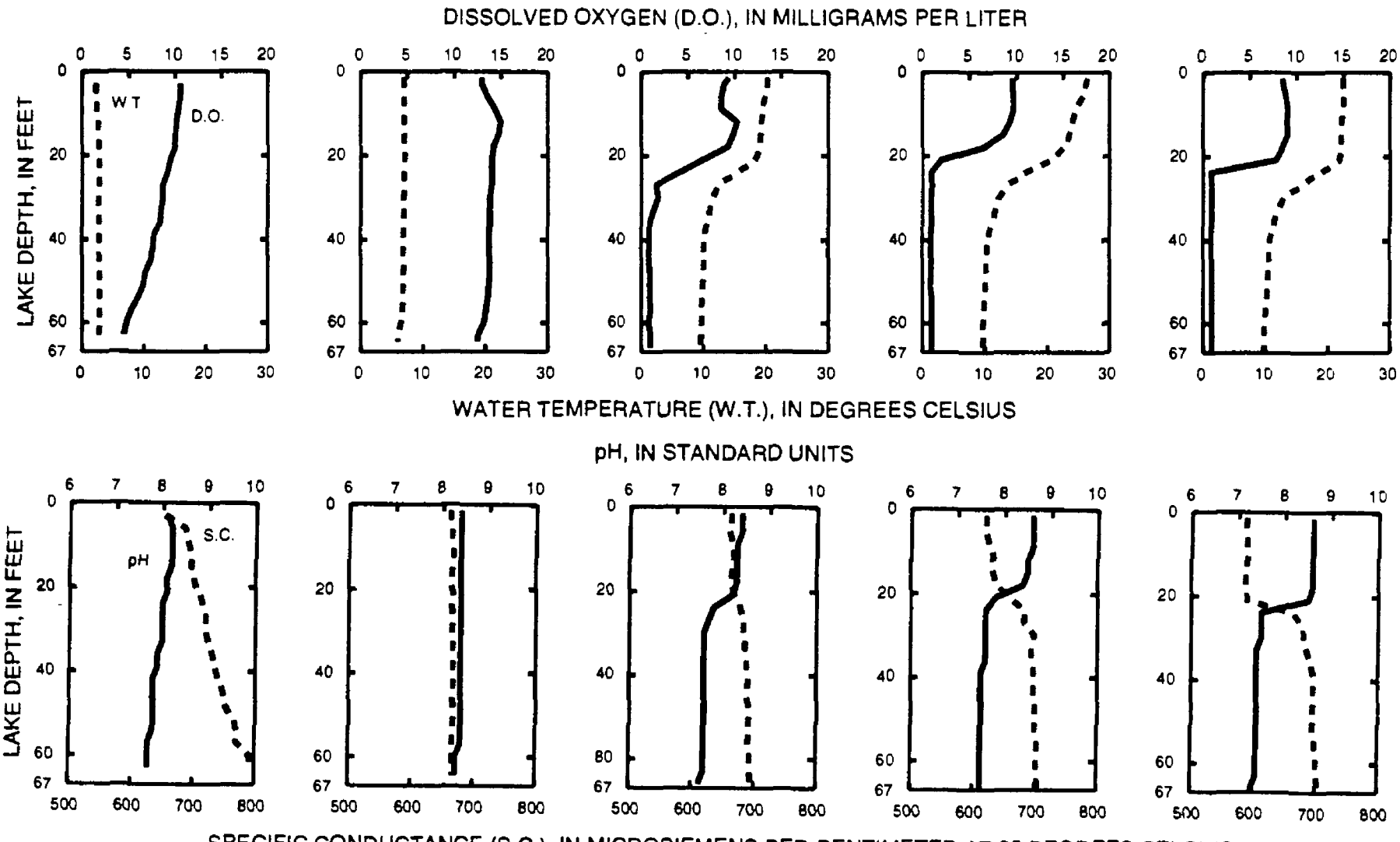
PERIOD OF RECORD.--October 1986 to current year.

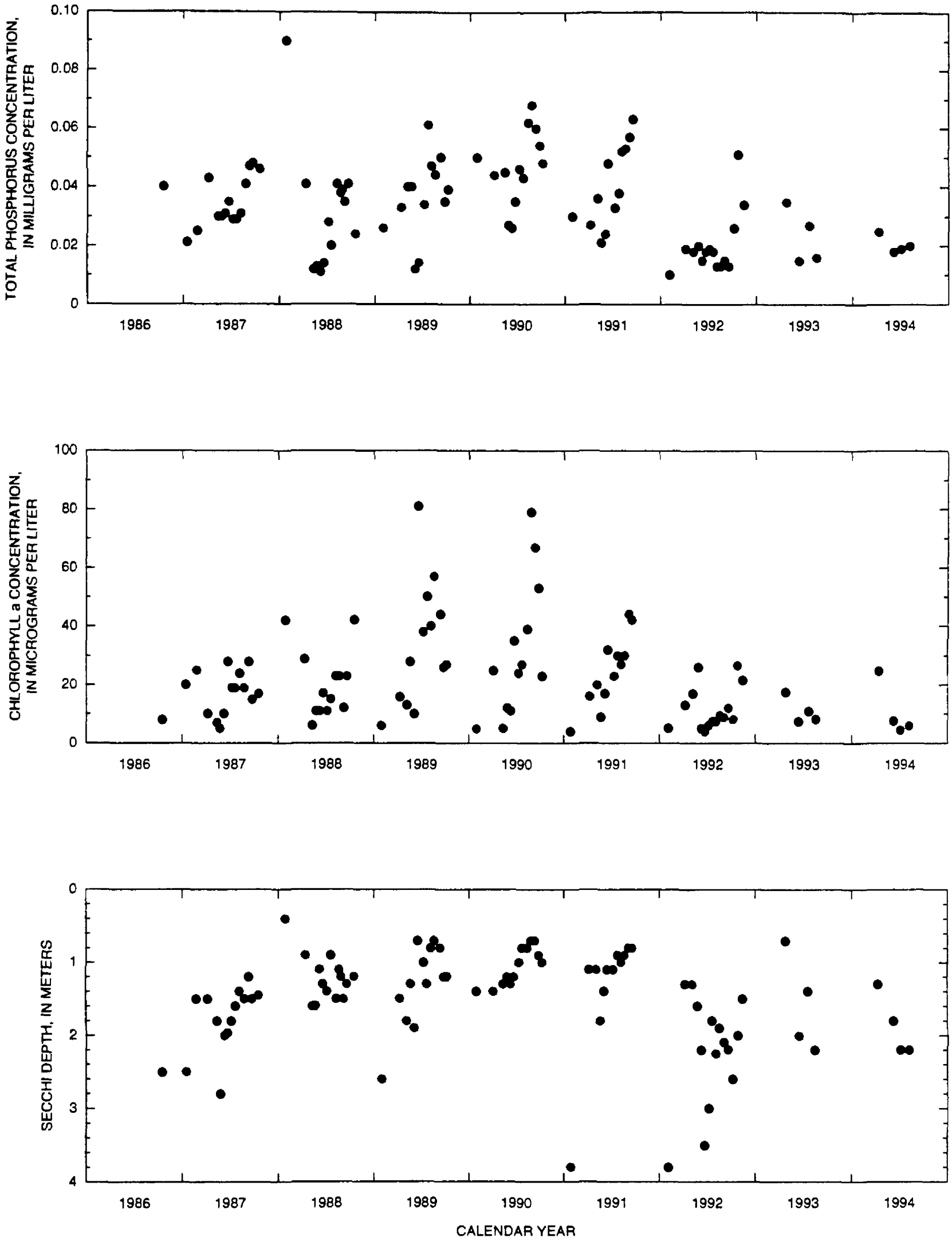
REVISIONS.--The labels for dissolved oxygen and water temperature for the plot of 2-24-87 are reversed. Dissolved oxygen is the solid line and water temperature is the dashed line.

REMARKS.--Lake sampled about 1,000 ft north-northwest of dam outlet at an approximate lake depth of 65 ft. An aeration system operated from April to November 1987-91; the system has been shut off since 1992. During the years the system was operating ths lake's physical and chemical measurements may have been disrupted. Water-quality analyses by Wisconsin State Laboratory of Hygiene. Lake ice-covered during February sampling. Published previously as station number 425450088083500.

WATER-QUALITY DATA, FEBRUARY 25 TO AUGUST 09, 1994
(Milligrams per liter unless otherwise indicated)

	Feb. 25		Apr. 13		June 09		July 07		Aug. 09	
Depth of sample (ft)	3.0	63	1.5	64	1.5	66	1.5	66	1.5	66
Lake stage (ft)	---		98.74		98.67		98.92		98.88	
Specific conductance (µS/cm)	653	793	661	667	662	695	619	705	587	705
pH (units)	8.1	7.7	8.4	8.3	8.4	7.5	8.6	7.5	8.6	7.3
Water temperature (°C)	2.5	3.0	7.0	6.0	20.5	9.5	26.5	9.5	22.5	10.0
Color (Pt-Co. scale)	---	---	15	15	---	---	---	---	---	---
Turbidity (NTU)	---	---	1.8	1.8	---	---	---	---	---	---
Secchi-depth (meters)	---		1.3		1.8		2.2		2.2	
Dissolved oxygen	10.6	4.5	13.0	12.5	9.4	1.0	9.6	1.0	8.5	0.9
Hardness, as CaCO3	---	---	260	260	---	---	---	---	---	---
Calcium, dissolved (Ca)	---	---	52	52	---	---	---	---	---	---
Magnesium, dissolved (Mg)	---	---	31	31	---	---	---	---	---	---
Sodium, dissolved (Na)	---	---	41	40	---	---	---	---	---	---
Potassium, dissolved (K)	---	---	2	2	---	---	---	---	---	---
Alkalinity, as CaCO3	---	---	210	210	---	---	---	---	---	---
Sulfate, dissolved (SO4)	---	---	32	32	---	---	---	---	---	---
Chloride, dissolved (Cl)	---	---	75	75	---	---	---	---	---	---
Fluoride, dissolved (F)	---	---	0.1	0.1	---	---	---	---	---	---
Silica, dissolved (SiO2)	---	---	1.4	1.7	---	---	---	---	---	---
Solids, dissolved, at 180°C	---	---	376	378	---	---	---	---	---	---
Nitrogen, NO2 + NO3, diss. (as N)	---	---	0.16	0.18	---	---	---	---	---	---
Nitrogen, ammonia, dissolved (as N)	---	---	0.02	0.05	---	---	---	---	---	---
Nitrogen, amm. + org., total (as N)	---	---	1.1	0.60	---	---	---	---	---	---
Nitrogen, total (as N)	---	---	1.3	0.78	---	---	---	---	---	---
Phosphorus, total (as P)	---	---	0.025	0.020	0.018	0.129	0.019	0.160	0.020	0.220
Phosphorus, ortho, dissolved (as P)	---	---	0.002	<0.002	---	---	---	---	---	---
Iron, dissolved (Fe) µg/L	---	---	<50	<50	---	---	---	---	---	---
Manganese, dissolved (Mn) µg/L	---	---	<40	<40	---	---	---	---	---	---
Chlorophyll a, phytoplankton (µg/L)	---	---	25	---	7.5	---	4.4	---	5.9	---
	2-25-94		4-13-94		6-9-94		7-7-94		8-9-94	





Surface total phosphorus and chlorophyll a concentrations, and Secchi depths for Little Muskego Lake at Muskego, Wisconsin.

455946089415702 LITTLE ROCK LAKE NEAR WOODRUFF, WI

LOCATION.--Lat 45°59'46", long 89°41'57", in NW 1/4 NW 1/4 sec.36, T.41 N., R.6 E., Vilas County, Hydrologic Unit 07070001, 7 mi north of Woodruff, 800 ft west of U.S. Highway 51, and 200 ft southeast of boat landing.

DRAINAGE AREA.--0.22 mi^2. Area of lake, 0.07 mi^2.

PERIOD OF RECORD.--October 1983 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,600.00 ft above sea level.

REMARKS.--Records good. Lake does not have surface inlet or outlet.

EXTREMES FOR PERIOD OF RECORD.--Maximum observed gage height, 28.10 ft, Apr. 7-9, 1986; minimum observed gage height, 25.06 ft, Aug. 8, 1990.

EXTREMES FOR CURRENT YEAR.--Maximum observed gage height, 26.88 ft, Sept. 26; minimum observed gage height, 26.36 ft, Sept. 12

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26.80	26.73	26.78	26.74	---	26.67	26.69	26.82	26.69	26.60	26.64	26.48
2	26.78	26.72	26.78	26.73	---	26.67	26.69	26.81	26.67	26.58	26.64	26.47
3	26.77	26.72	26.78	26.72	---	26.67	26.68	26.81	26.65	26.56	26.64	26.45
4	26.79	26.72	26.78	26.72	---	26.67	26.68	26.80	26.64	26.55	26.64	26.44
5	26.77	26.76	26.78	26.73	---	26.66	26.69	26.82	26.64	26.58	26.62	26.43
6	26.77	26.77	26.78	26.74	---	26.66	26.68	26.81	26.66	26.61	26.59	26.42
7	26.77	26.76	26.77	26.74	---	26.65	26.68	26.81	26.66	26.62	26.57	26.40
8	26.77	26.76	26.77	26.75	---	26.64	26.68	26.79	26.63	26.63	26.64	26.40
9	26.79	26.75	26.77	26.75	---	26.64	26.68	26.79	26.62	26.65	26.63	26.39
10	26.79	26.75	26.77	26.75	---	26.64	26.68	26.78	26.61	26.64	26.62	26.37
11	26.78	26.74	26.76	26.75	---	26.63	26.68	26.77	26.62	26.63	26.61	26.37
12	26.77	26.74	26.75	26.75	---	26.63	26.68	26.76	26.63	26.61	26.60	26.36
13	26.76	26.77	26.76	26.74	---	26.63	26.69	26.75	26.67	26.59	26.58	26.47
14	26.75	26.78	26.76	---	---	26.63	26.69	26.75	26.68	26.58	26.55	26.56
15	26.75	26.79	26.76	---	---	26.62	26.72	26.77	26.68	26.57	26.54	26.71
16	26.75	26.79	26.76	---	26.68	26.62	26.75	26.76	26.67	26.59	26.53	26.81
17	26.75	26.79	26.76	---	26.68	26.61	26.76	26.75	26.69	26.66	26.52	26.81
18	26.75	26.79	26.76	---	26.68	26.61	26.75	26.74	26.73	26.66	26.51	26.80
19	26.75	26.78	26.76	---	26.69	26.61	26.75	26.72	26.72	26.68	26.51	26.79
20	26.75	26.78	26.76	---	26.70	26.61	26.73	26.71	26.71	26.72	26.53	26.78
21	26.79	26.78	26.76	---	26.69	26.61	26.73	26.70	26.69	26.72	26.53	26.78
22	26.79	26.78	26.76	---	26.69	26.62	26.72	26.69	26.67	26.72	26.52	26.83
23	26.78	26.77	26.75	---	26.69	26.62	26.71	26.66	26.66	26.71	26.50	26.85
24	26.78	26.76	26.74	---	26.69	26.66	26.72	26.65	26.66	26.69	26.49	26.86
25	26.77	26.76	26.74	---	26.68	26.66	26.73	26.64	26.64	26.68	26.48	26.86
26	26.76	26.77	26.72	---	26.68	26.66	26.78	26.63	26.62	26.68	26.48	26.88
27	26.76	26.78	26.72	---	26.68	26.67	26.82	26.61	26.60	26.68	26.48	26.87
28	26.75	26.78	26.72	---	26.68	26.67	26.81	26.60	26.63	26.67	26.48	26.87
29	26.74	26.78	26.73	---	---	26.69	26.82	26.60	26.63	26.66	26.47	26.86
30	26.74	26.78	26.73	---	---	26.69	26.83	26.63	26.62	26.65	26.47	26.86
31	26.74	---	26.72	---	---	26.69	---	26.71	---	26.64	26.49	---
MEAN	26.77	26.76	26.76	---	---	26.65	26.72	26.73	26.66	26.64	26.55	26.64
MAX	26.80	26.79	26.78	---	---	26.69	26.83	26.82	26.73	26.72	26.64	26.88
MIN	26.74	26.72	26.72	---	---	26.61	26.68	26.60	26.60	26.55	26.47	26.36

05390700 LITTLE ST. GERMAIN LAKE NEAR EAGLE RIVER, WI

LOCATION (REVISED).--Lat 45°53'55", long 89°27'10", in SW 1/4 SE 1/4 sec.35, T.40 N., R.8 E., Vilas County, Hydrologic Unit 07070001, 9.6 mi west of Eagle River.

DRAINAGE AREA.--19.0 mi^2.

PERIOD OF RECORD.--October 1990 to current year.

GAGE.--Staff gage mounted on the dam wall at lake outlet. Datum of gage is 1,600 ft, above sea level.

REMARKS.--Lake level controlled at the dam outlet.

COOPERATION.--Gage readings furnished by Wisconsin Valley Improvement Company.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height observed, 13.90 ft, Sept. 14, 1993; minimum observed, 12.00 ft, Jan. 3 and Feb. 3, 1992.

EXTREMES FOR CURRENT YEAR.--Maximum gage height observed, 13.84 ft, Sept. 15; minimum observed, 12.08 ft, Jan. 22.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13.72	13.38	13.08	12.58	12.42	12.28	12.60	13.14	13.32	13.48	13.70	13.60
2	13.74	13.32	---	---	---	---	12.62	13.16	13.36	13.46	13.68	13.58
3	13.72	---	---	---	12.42	---	12.62	13.14	13.36	13.46	13.66	13.58
4	13.76	---	13.04	12.50	12.40	12.26	12.62	13.14	13.34	13.44	13.66	13.56
5	13.76	13.24	---	---	---	---	12.64	13.20	13.34	13.48	13.66	13.56
6	13.72	---	---	---	---	---	12.64	13.22	13.36	13.60	13.64	13.58
7	13.72	---	13.00	12.40	---	---	12.66	13.20	13.38	13.60	13.64	13.58
8	13.74	---	---	---	12.38	12.22	12.66	13.20	13.38	13.60	13.68	13.56
9	13.80	13.36	---	---	---	12.26	12.70	13.22	13.38	13.72	13.68	13.54
10	13.76	---	12.92	---	---	12.28	12.70	13.20	13.36	13.72	13.66	13.52
11	13.74	---	---	12.32	12.40	12.28	12.70	13.20	13.38	13.72	13.64	13.52
12	13.72	13.32	---	---	---	12.30	12.72	13.22	13.40	13.74	13.62	13.52
13	13.70	---	---	---	---	12.30	12.78	13.22	13.48	13.74	13.60	13.58
14	13.70	---	12.86	12.28	---	12.32	12.76	13.22	13.50	13.74	13.60	13.70
15	13.70	---	---	---	12.36	12.34	12.82	13.28	13.50	13.72	13.60	13.84
16	13.78	13.40	---	---	---	12.36	12.90	13.28	13.48	13.72	13.58	13.82
17	13.76	---	12.80	---	---	12.36	12.92	13.28	13.48	13.76	13.58	13.78
18	13.76	---	---	12.20	12.30	12.38	12.92	13.26	13.56	13.74	13.60	13.74
19	13.76	13.32	---	---	---	12.38	12.90	13.26	13.54	13.76	13.60	13.74
20	13.72	---	---	---	---	12.38	12.92	13.26	13.54	13.82	13.62	13.74
21	13.72	---	12.74	12.10	---	12.40	12.92	13.26	13.54	13.76	13.60	13.76
22	13.70	---	---	12.08	12.32	12.40	12.94	13.26	13.52	13.74	13.60	13.80
23	13.68	13.26	---	---	12.34	12.42	12.96	13.26	13.52	13.72	13.58	13.80
24	13.62	---	12.68	---	---	12.48	12.96	13.26	13.52	13.70	13.58	13.78
25	13.60	---	---	12.30	12.30	12.48	13.00	13.26	13.52	13.70	13.58	13.74
26	13.56	13.20	---	---	---	12.48	13.02	13.18	13.52	13.70	13.58	13.76
27	13.54	---	---	---	---	12.50	13.10	13.26	13.50	13.70	13.58	13.70
28	13.48	---	12.62	12.40	---	12.50	13.12	13.26	13.48	13.70	13.58	13.72
29	13.46	---	---	---	---	12.58	13.14	13.24	13.52	13.68	13.58	13.72
30	13.40	13.10	---	---	---	12.58	13.14	13.30	13.50	13.68	13.60	13.72
31	13.38	---	12.58	---	---	12.60	---	13.34	---	13.68	13.62	---
MEAN	13.67	---	---	---	---	---	12.84	13.23	13.45	13.67	13.62	13.67
MAX	13.80	---	---	---	---	---	13.14	13.34	13.56	13.82	13.70	13.84
MIN	13.38	---	---	---	---	---	12.60	13.14	13.32	13.44	13.58	13.52

455545089262500 LITTLE ST. GERMAIN LAKE, NORTHEAST BAY, NEAR ST. GERMAIN, WI

LOCATION.--Lat 45°55'45", long 89°26'25", in SW 1/4 SE 1/4 sec.24, T.40 N., R.8 E., Vilas County, Hydrologic Unit 07070001, near St. Germain.

PERIOD OF RECORD.--April 1991 to current year.

REMARKS.--Lake sampled in northeast bay at a lake depth of about 12 ft. Water-quality analyses by Wisconsin State Laboratory of Hygiene.

WATER-QUALITY DATA, MAY 03 TO AUGUST 17, 1994
(Milligrams per leter unless otherwise indicated)

	May 03	June 16	July 19	Aug. 17
Depth of sample (ft)	1.5	1.5	1.5	1.5
Lake stage (ft)	13.12	13.48	13.77	13.58
Specific conductance (µS/cm)	70	69	77	80
pH (units)	8.1	8.1	8.7	8.7
Water temperature (°C)	9.0	23.5	22.5	21.5
Secchi-depth (meters)	1.6	1.3	0.8	0.9
Dissolved oxygen	12.2	8.6	10.5	11.0
Phosphorus, total (as P)	0.033	0.032	0.056	0.058
Chlorophyll a, phytoplankton (µg/L)	11	19	59	28

455437089270800 LITTLE ST. GERMAIN LAKE, SOUTH BAY, NEAR ST. GERMAIN, WI

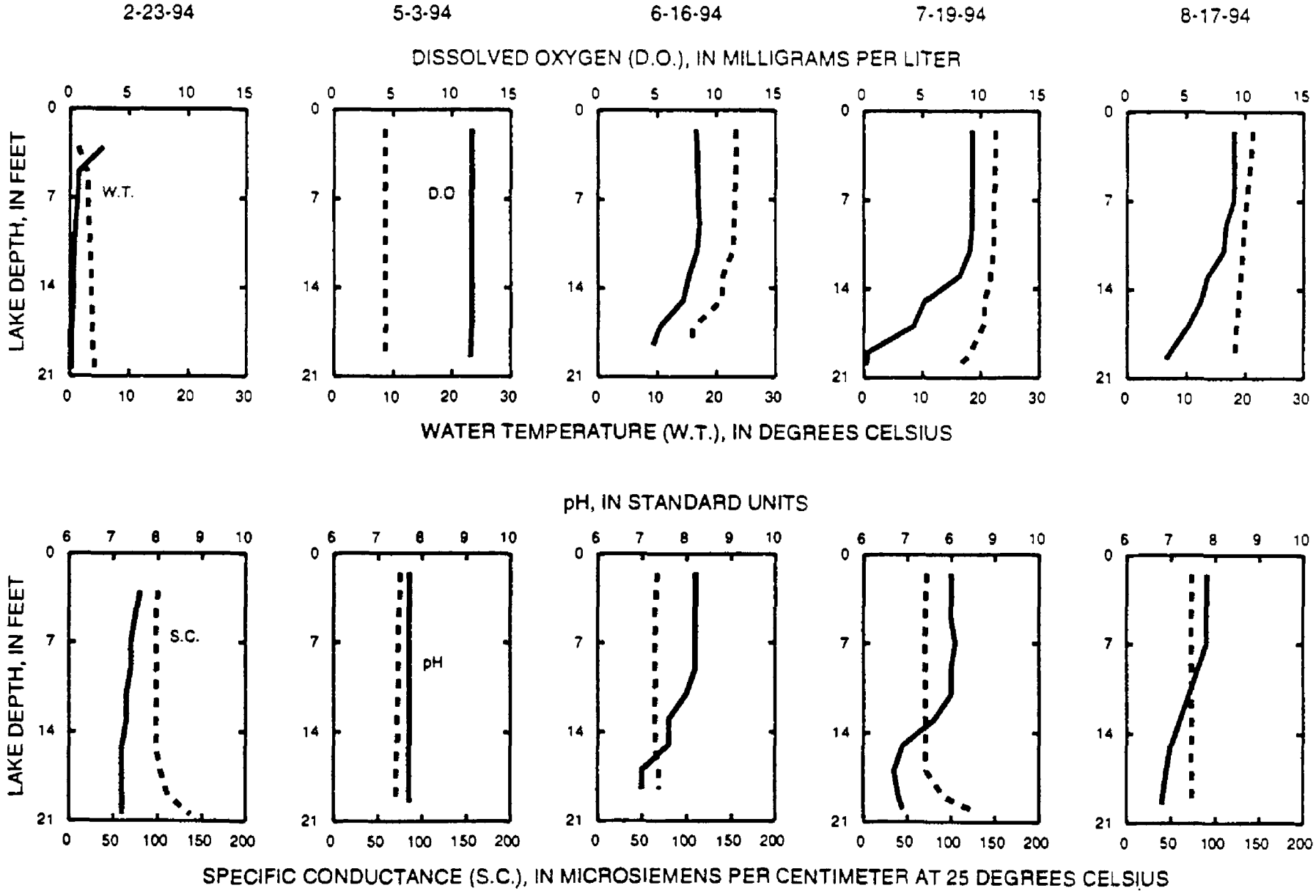
LOCATION.--Lat 45°54'37", long 89°27'08", in NW 1/4 NE 1/4 sec.35, T.40 N., R.8 E., Vilas County, Hydrologic Unit 07070001, 1.7 mi east of St. Germain.

PERIOD OF RECORD.--April 1991 to current year.

REMARKS.--Lake sampled in south bay at a lake depth of about 22 ft. Lake ice-covered during February sampling. Water-quality analyses by Wisconsin State Laboratory of Hygiene.

WATER-QUALITY DATA, FEBRUARY 23 TO AUGUST 17, 1994
(Milligrams per liter unless otherwise indicated)

	Feb. 23		May 03		June 16		July 19		Aug. 17	
Depth of sample (ft)	3.0	21	1.5	19	1.5	18	1.5	20	1.5	19
Lake stage (ft)	12.34		13.12		13.48		13.77		13.58	
Specific conductance (µS/cm)	100	137	75	71	67	69	72	122	73	74
pH (units)	7.6	7.2	7.7	7.7	8.2	7.0	8.0	6.9	7.8	6.8
Water temperature (°C)	1.5	4.5	8.5	8.5	23.5	15.5	22.5	16.5	21.5	18.5
Color (Pt-Co. scale)	---	---	20	20	---	---	---	---	---	---
Turbidity (NTU)	---	---	2.1	2.0	---	---	---	---	---	---
Secchi-depth (meters)	---		1.6		2.2		2.1		1.8	
Dissolved oxygen	2.8	0.2	11.7	11.6	8.3	4.7	9.3	0.2	9.1	3.3
Hardness, as CaCO3	---	---	37	36	---	---	---	---	---	---
Calcium, dissolved (Ca)	---	---	9.6	9.5	---	---	---	---	---	---
Magnesium, dissolved (Mg)	---	---	3.1	3.0	---	---	---	---	---	---
Sodium, dissolved (Na)	---	---	2.0	2.0	---	---	---	---	---	---
Potassium, dissolved (K)	---	---	0.6	0.6	---	---	---	---	---	---
Alkalinity, as CaCO3	---	---	37	37	---	---	---	---	---	---
Sulfate, dissolved (SO4)	---	---	3.0	3.0	---	---	---	---	---	---
Chloride, dissolved (Cl)	---	---	1.5	1.6	---	---	---	---	---	---
Fluoride, dissolved (F)	---	---	0.0	0.0	---	---	---	---	---	---
Silica, dissolved (SiO2)	---	---	9.2	9.2	---	---	---	---	---	---
Solids, dissolved, at 180°C	---	---	54	56	---	---	---	---	---	---
Nitrogen, NO2 + NO3, diss. (as N)	---	---	<0.01	<0.01	---	---	---	---	---	---
Nitrogen, ammonia, dissolved (as N)	---	---	0.01	0.01	---	---	---	---	---	---
Nitrogen, amm. + org., total (as N)	---	---	0.40	0.40	---	---	---	---	---	---
Nitrogen, total (as N)	---	---	0.40	0.40	---	---	---	---	---	---
Phosphorus, total (as P)	---	---	0.025	0.025	0.018	0.023	0.025	0.129	0.027	0.029
Phosphorus, ortho, dissolved (as P)	---	---	0.002	<0.002	---	---	---	---	---	---
Iron, dissolved (Fe) µg/L	---	---	200	190	---	---	---	---	---	---
Manganese, dissolved (Mn) µg/L	---	---	<40	<40	---	---	---	---	---	---
Chlorophyll a, phytoplankton (µg/L)	---	---	9.6	---	9.5	---	13	---	5.6	---



455428089282400 LITTLE ST. GERMAIN LAKE, WEST BAY, AT ST. GERMAIN, WI

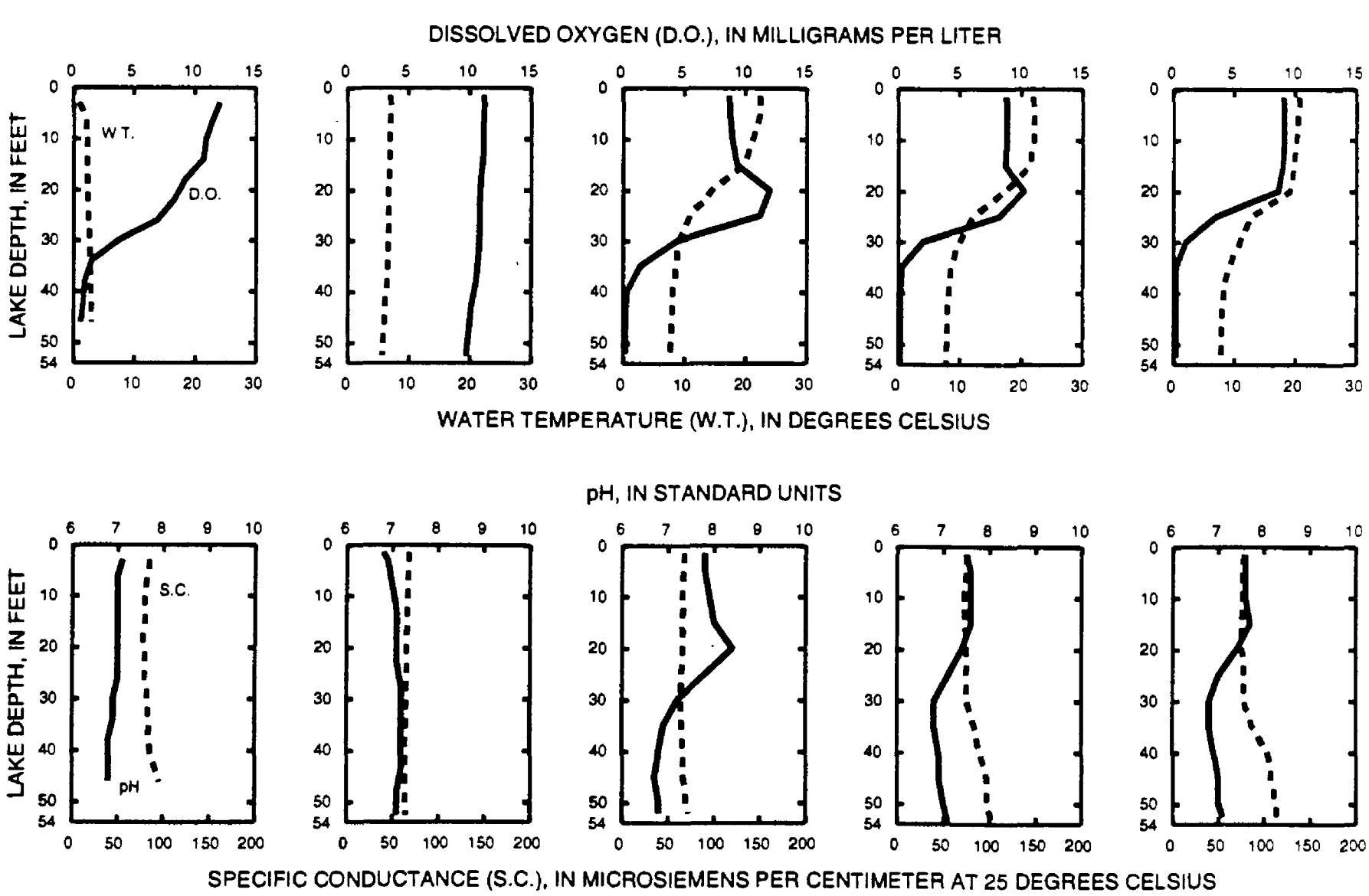
LOCATION.--Lat 45°54'28", long 89°28'24", in SW 1/4 NE 1/4 sec.34, T.40 N., R.8 E., Vilas County, Hydrologic Unit 07070001, at St. Germain.

PERIOD OF RECORD.--April 1991 to current year.

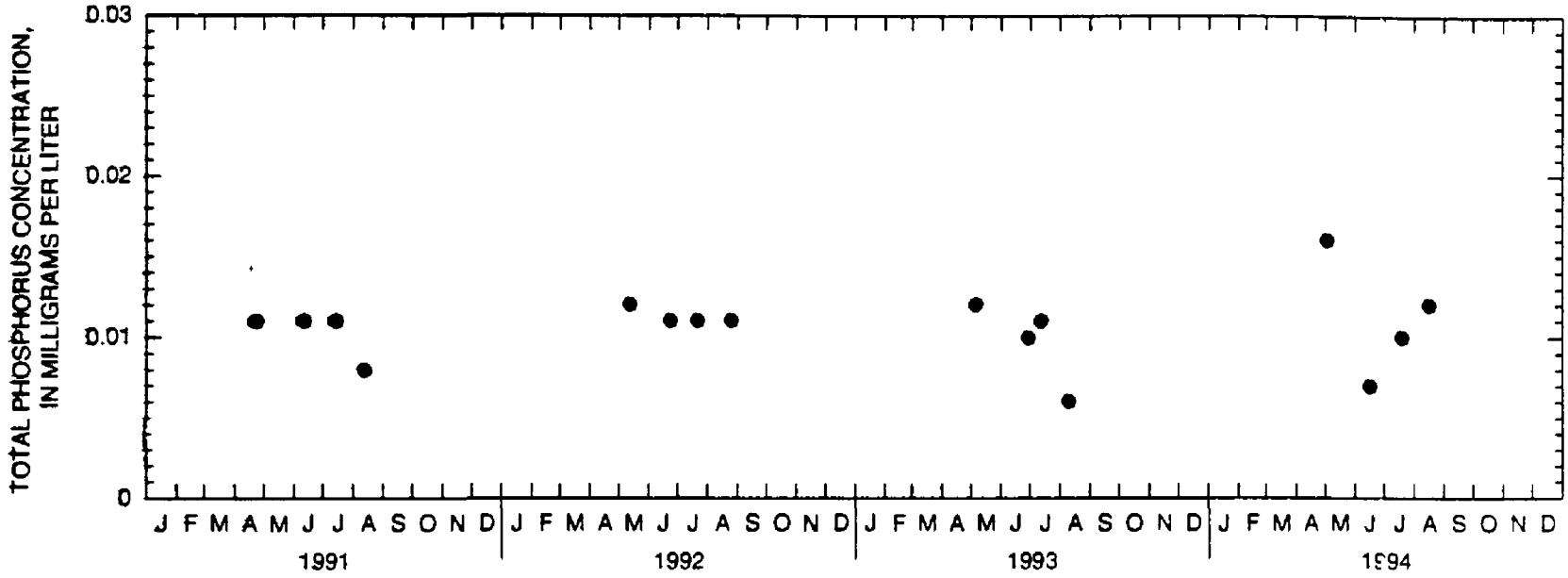
REMARKS.--Lake sampled in west bay at a lake depth of about 53 ft. Lake ice-covered during February sampling. Water-quality analyses by Wisconsin State Laboratory of Hygiene.

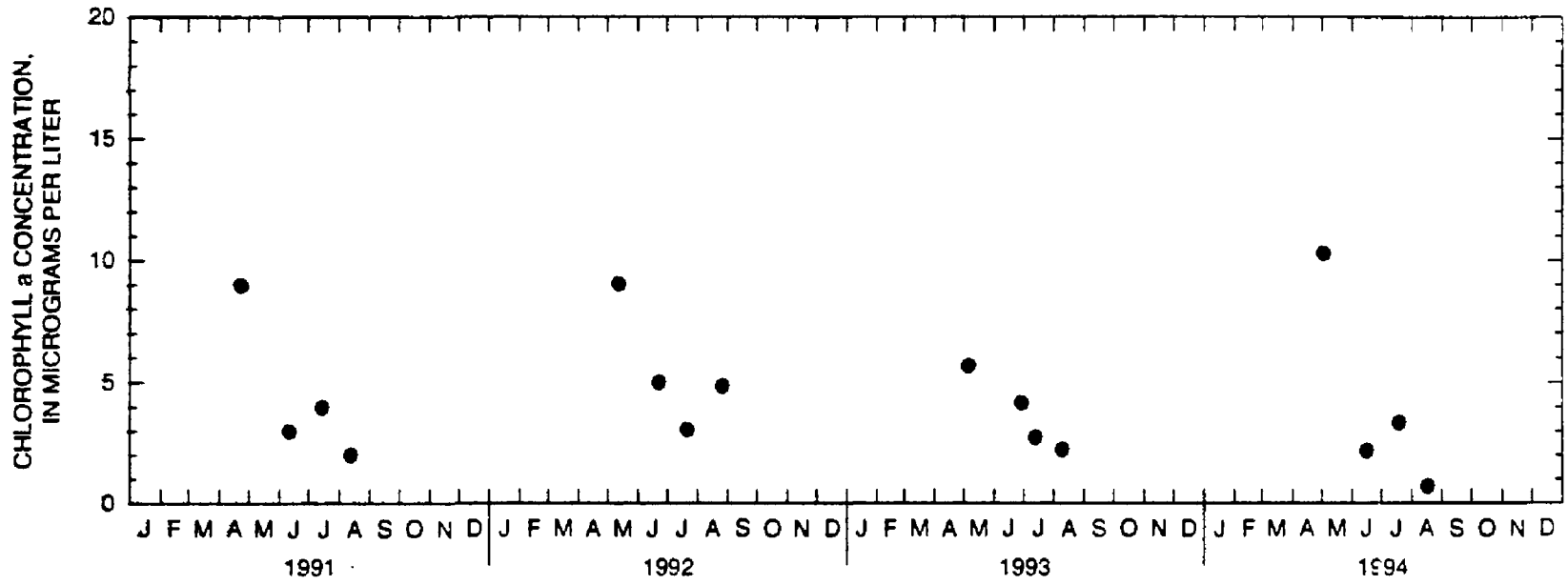
WATER-QUALITY DATA, FEBRUARY 23 TO AUGUST 17, 1994
(Milligrams per liter unless otherwise indicated)

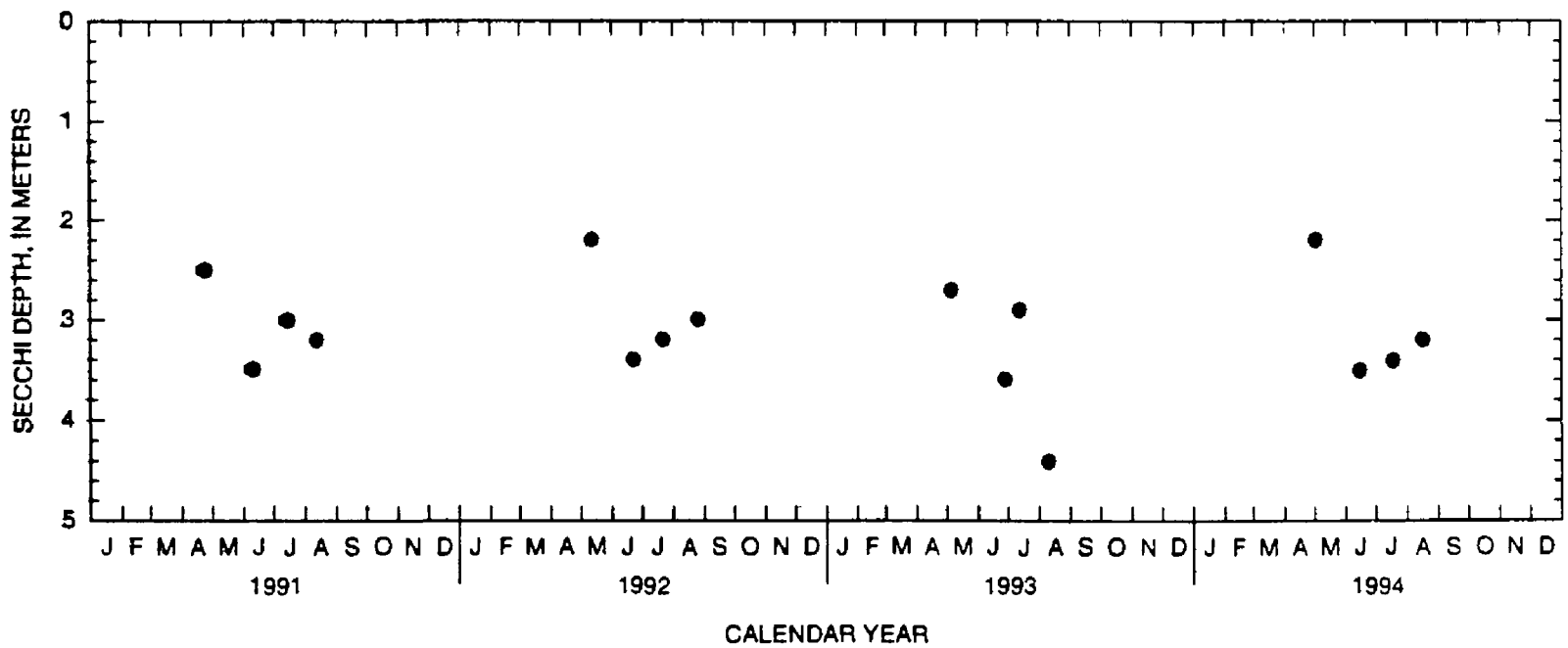
	Feb. 23		May 03		June 16		July 19		Aug. 17	
Depth of sample (ft)	3.0	46	1.5	52	1.5	52	1.5	53	1.5	52
Lake stage (ft)	12.34		13.12		13.48		13.77		13.58	
Specific conductance (µS/cm)	85	96	68	65	68	72	76	102	78	114
pH (units)	7.1	6.8	6.8	7.1	7.8	6.8	7.5	7.1	7.6	7.1
Water temperature (°C)	1.0	3.0	7.0	5.5	22.5	7.5	22.0	8.0	21.0	8.0
Color (Pt-Co. scale)	---	---	15	15	---	---	---	---	---	---
Turbidity (NTU)	---	---	1.00	0.90	---	---	---	---	---	---
Secchi-depth (meters)	---		2.2		3.5		3.4		3.2	
Dissolved oxygen	12.0	0.6	11.2	9.7	8.7	0.2	8.8	0.2	9.1	0.2
Hardness, as CaCO3	---	---	32	32	---	---	---	---	---	---
Calcium, dissolved (Ca)	---	---	8.3	8.3	---	---	---	---	---	---
Magnesium, dissolved (Mg)	---	---	2.8	2.8	---	---	---	---	---	---
Sodium, dissolved (Na)	---	---	2.2	2.2	---	---	---	---	---	---
Potassium, dissolved (K)	---	---	0.4	0.6	---	---	---	---	---	---
Alkalinity, as CaCO3	---	---	33	35	---	---	---	---	---	---
Sulfate, dissolved (SO4)	---	---	3.0	3.0	---	---	---	---	---	---
Chloride, dissolved (Cl)	---	---	2.0	2.0	---	---	---	---	---	---
Fluoride, dissolved (F)	---	---	0.1	0.0	---	---	---	---	---	---
Silica, dissolved (SiO2)	---	---	8.7	8.8	---	---	---	---	---	---
Solids, dissolved, at 180°C	---	---	54	60	---	---	---	---	---	---
Nitrogen, NO2 + NO3, diss. (as N)	---	---	0.04	0.04	---	---	---	---	---	---
Nitrogen, ammonia, dissolved (as N)	---	---	0.03	0.04	---	---	---	---	---	---
Nitrogen, amm. + org., total (as N)	---	---	0.30	0.30	---	---	---	---	---	---
Nitrogen, total (as N)	---	---	0.34	0.34	---	---	---	---	---	---
Phosphorus, total (as P)	---	---	0.016	0.015	0.007	0.030	0.010	0.190	0.012	0.556
Phosphorus, ortho, dissolved (as P)	---	---	<0.002	<0.002	---	---	---	---	---	---
Iron, dissolved (Fe) µg/L	---	---	<50	60	---	---	---	---	---	---
Manganese, dissolved (Mn) µg/L	---	---	<40	<40	---	---	---	---	---	---
Chlorophyll a, phytoplankton (µg/L)	---	---	10	---	2.2	---	3.4	---	0.7	---



2-23-94 5-3-94 6-16-94 7-19-94 8-17-94







Surface total phosphorus and chlorophyll a concentrations, and Secchi depths for Little St. Germain Lake, West Bay, at St. Germain, Wisconsin.

424937088103400 LONG (KEE NONG GO-MONG) LAKE AT WIND LAKE, WI

LOCATION.--Lat 42°49'37", long 88°10'34", in NW 1/4 NE 1/4 sec.7, T.4 N., R.20 E., Racine County, Hydrologic Unit 07120006, at Wind Lake.

DRAINAGE AREA.--4.29 mi^2.

LAKE-STAGE RECORDS

PERIOD OF RECORD.--February 1988 to September 1989, February 1991 to current year.

GAGE.--Staff gage at lake outlet read by Marilyn Starck. Datum of gage is 771.62 ft above sea level.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height observed, 6.70 ft, June 14, 1993; minimum observed, less than 3.92 ft, Sept. 6, 1988.

EXTREMES FOR CURRENT YEAR.--Maximum gage height observed, 5.92 ft, May 1; minimum observed, 5.01 ft, July 30.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.82	5.68	---	---	---	---	---	5.92	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	5.14	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	5.78	---	---	---	---	5.68	---	---	---	---	5.21	5.67
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	5.86	---	---	---	---
9	5.78	---	---	---	---	---	---	---	---	---	5.17	---
10	---	---	---	---	---	---	---	---	---	5.24	---	---
11	---	---	---	---	---	---	---	---	---	5.22	---	---
12	---	---	---	---	---	---	---	---	---	5.19	---	5.65
13	---	---	---	---	---	---	---	---	---	---	5.43	---
14	---	---	---	---	---	---	5.62	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	5.78	---	---	---	---	---	---	5.84	---	---	---	---
17	---	---	---	---	---	5.64	---	---	---	5.17	---	---
18	---	---	---	---	---	---	---	---	---	---	---	5.59
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	5.20	---	5.59	---
21	---	---	---	---	---	---	---	---	---	5.15	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	5.74	---	---	---	5.91	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	5.55
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	5.62	---	---	---	---	---	---
28	---	---	---	---	---	---	---	5.72	---	---	---	5.59
29	5.70	---	---	---	---	---	---	---	---	---	5.63	---
30	---	---	---	---	---	---	---	---	---	5.01	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---

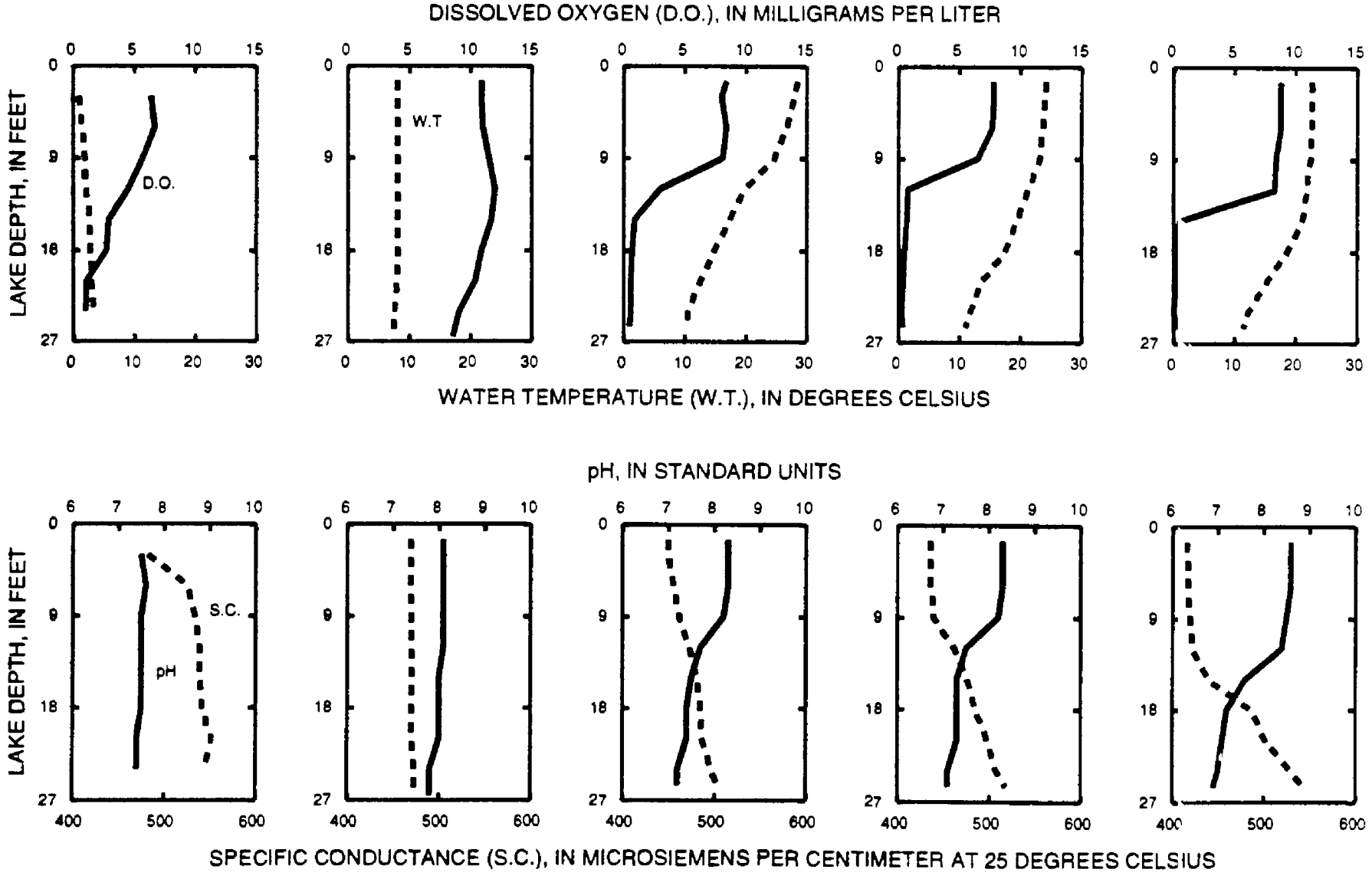
WATER-QUALITY RECORDS

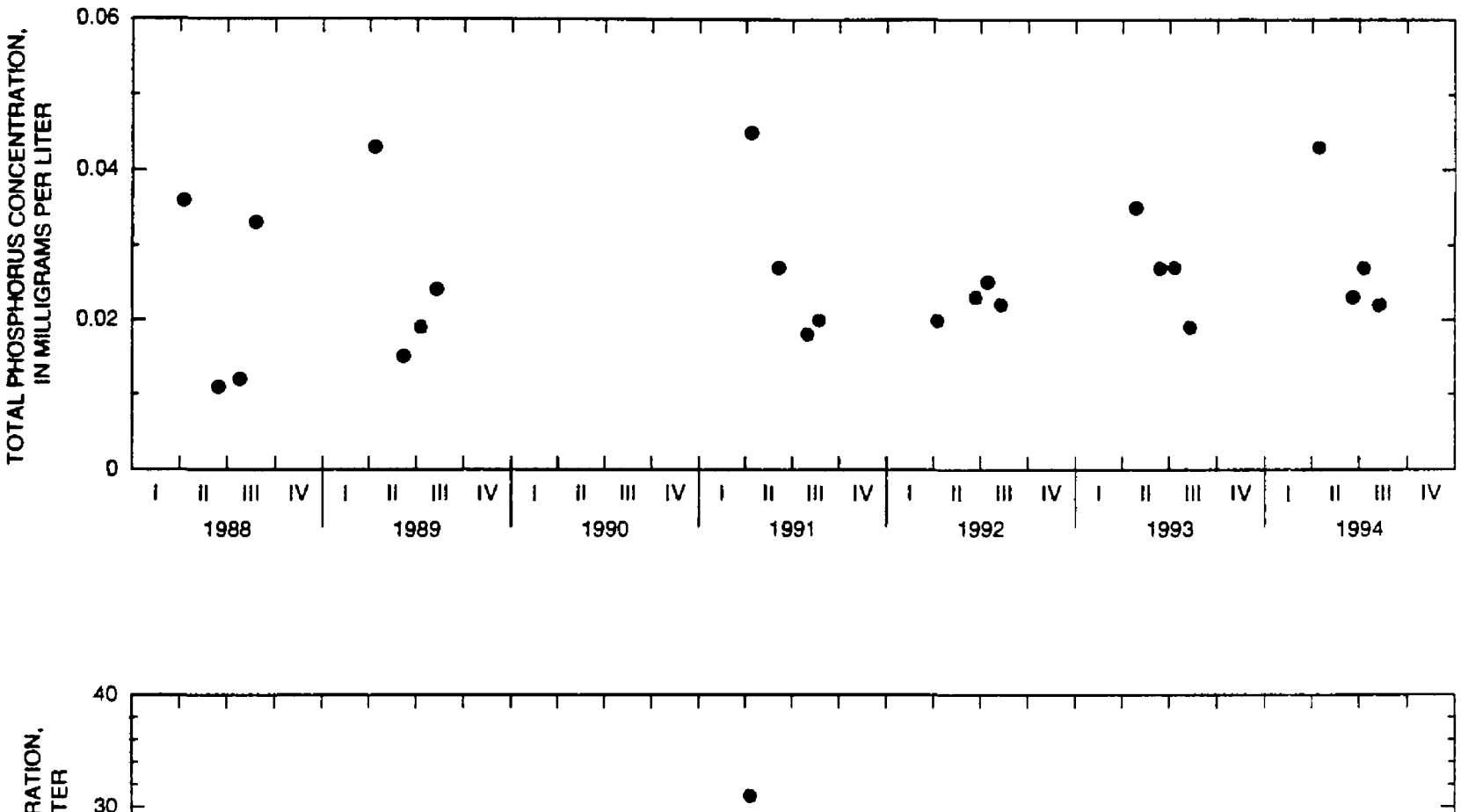
PERIOD OF RECORD.--February 1988 to August 1989, February 1991 to current year.

REMARKS.--Lake sampled in southwest end of lake at an approximate lake depth of about 28 ft. Lake ice-covered during February sampling. Water-quality analyses by Wisconsin State Laboratory of Hygiene.

WATER-QUALITY DATA, FEBRUARY 24 TO AUGUST 09, 1994
(Milligrams per liter unless otherwise indicated)

	Feb. 24		Apr. 14		June 20		July 11		Aug. 09	
Depth of sample (ft)	3.0	24	1.5	26	1.5	25	1.5	25	1.5	25
Lake stage (ft)	5.91		5.62		5.20		5.22		5.17	
Specific conductance (µS/cm)	482	545	469	473	450	504	436	518	416	545
pH (units)	7.5	7.4	8.1	7.8	8.3	7.2	8.3	7.1	8.6	6.9
Water temperature (°C)	1.0	3.5	8.0	7.5	28.5	10.0	24.0	11.0	22.5	11.5
Color (Pt-Co. scale)	---	---	50	50	---	---	---	---	---	---
Turbidity (NTU)	---	---	2.1	2.4	---	---	---	---	---	---
Secchi-depth (meters)	---		1.2		1.9		1.8		1.9	
Dissolved oxygen	6.4	1.0	10.9	8.6	8.4	0.5	7.8	0.4	8.8	0.4
Hardness, as CaCO3	---	---	230	230	---	---	---	---	---	---
Calcium, dissolved (Ca)	---	---	50	50	---	---	---	---	---	---
Magnesium, dissolved (Mg)	---	---	25	25	---	---	---	---	---	---
Sodium, dissolved (Na)	---	---	11	11	---	---	---	---	---	---
Potassium, dissolved (K)	---	---	---	3	---	---	---	---	---	---
Alkalinity, as CaCO3	---	---	190	190	---	---	---	---	---	---
Sulfate, dissolved (SO4)	---	---	23	22	---	---	---	---	---	---
Chloride, dissolved (Cl)	---	---	23	23	---	---	---	---	---	---
Fluoride, dissolved (F)	---	---	0.1	0.2	---	---	---	---	---	---
Silica, dissolved (SiO2)	---	---	1.1	1.5	---	---	---	---	---	---
Solids, dissolved, at 180°C	---	---	288	288	---	---	---	---	---	---
Nitrogen, NO2 + NO3, diss. (as N)	---	---	0.04	0.05	---	---	---	---	---	---
Nitrogen, ammonia, dissolved (as N)	---	---	0.03	0.13	---	---	---	---	---	---
Nitrogen, amm. + org., total (as N)	---	---	1.1	1.4	---	---	---	---	---	---
Nitrogen, total (as N)	---	---	1.1	1.4	---	---	---	---	---	---
Phosphorus, total (as P)	---	---	0.043	0.047	0.023	0.300	0.027	0.390	0.022	0.596
Phosphorus, ortho, dissolved (as P)	---	---	0.006	0.005	---	---	---	---	---	---
Iron, dissolved (Fe) µg/L	---	---	<50	<50	---	---	---	---	---	---
Manganese, dissolved (Mn) µg/L	---	---	<40	73	---	---	---	---	---	---
Chlorophyll a, phytoplankton (µg/L)	---	---	23	---	6.0	---	14	---	8.4	---





Surface total phosphorus and chlorophyll a concentrations, and Secchi depths for Long (Kee Nong Go-Mong) Lake at Wind Lake, Wisconsin.

460128089423501 MAX LAKE NEAR WOODRUFF, WI

LOCATION.--Lat 46°01'28", long 89°42'35", in NW 1/4 NE 1/4 sec.23, T.41 N., R.6 E., Vilas County, Hydrologic Unit 07070001, 8.5 mi north of Woodruff, 1,500 ft west of U.S. Highway 51.

DRAINAGE AREA.--Unknown. Area of lake, 0.036 mi^2.

PERIOD OF RECORD.--Unpublished intermittent data from March 1988 to September 1989; intermittent segments of daily data since July 1990.

GAGE.--Staff gage and water-stage recorder. Datum of gages is about 1,613 ft above sea level.

REMARKS.--Records good. Lake does not have surface inlet or outlet.

EXTREMES FOR PERIOD OF RECORD.--Maximum observed gage height, 6.25 ft, May 18, 1992; minimum observed gage height, 3.97 ft, Nov. 16, 1989.

EXTREMES FOR CURRENT YEAR.--Maximum observed gage height, 5.81 ft, Sept. 26-30; minimum observed gage height, 5.24 ft, Sept. 11.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.69	5.66	5.70	---	---	5.46	5.43	5.52	5.48	---	5.67	5.39
2	5.67	5.65	5.71	---	---	5.45	5.42	5.51	5.47	---	5.66	5.36
3	5.66	5.65	5.71	---	---	5.44	5.42	5.51	5.45	---	5.67	5.35
4	5.67	5.66	5.70	---	---	5.43	5.41	5.50	5.44	---	5.67	5.33
5	5.66	5.71	5.69	---	---	5.43	5.42	5.51	5.45	---	5.64	5.32
6	5.65	5.71	5.69	5.61	---	5.43	5.41	5.51	5.48	---	5.61	5.31
7	5.65	5.70	5.69	---	---	5.41	5.40	5.51	5.47	---	5.59	5.29
8	5.67	5.70	5.69	---	---	5.42	5.40	5.51	5.45	---	5.62	5.27
9	5.69	5.70	5.69	---	---	5.41	5.40	5.50	5.44	---	5.59	5.27
10	5.68	5.69	5.68	---	---	5.40	5.40	5.49	5.44	---	5.58	5.26
11	5.67	5.70	5.67	---	---	5.40	5.40	5.49	5.46	5.64	5.56	5.24
12	5.65	5.70	5.67	---	---	5.40	5.40	5.49	5.47	5.63	5.55	5.25
13	5.65	5.74	5.67	---	---	5.40	5.40	5.48	5.52	5.61	5.54	5.33
14	5.64	5.75	5.67	---	---	5.40	5.41	5.48	5.52	5.61	5.52	5.38
15	5.64	5.76	5.67	---	5.49	5.39	5.43	5.50	---	5.60	5.50	5.56
16	5.64	5.76	5.66	---	---	5.37	5.47	5.50	---	5.62	5.49	5.70
17	5.64	5.75	5.66	---	---	5.36	5.46	5.49	---	5.68	5.48	5.70
18	5.64	5.75	5.66	---	---	5.35	5.46	---	---	5.67	5.48	5.69
19	5.64	5.75	5.65	---	---	5.35	5.45	---	---	5.69	5.48	5.68
20	5.65	5.75	5.65	---	5.50	5.35	5.45	---	---	5.72	5.48	5.67
21	5.69	5.74	5.65	---	5.48	5.36	5.44	5.46	---	5.73	5.46	5.69
22	5.68	5.74	5.65	---	5.48	5.36	5.43	5.45	5.58	5.75	5.45	5.76
23	5.68	5.74	5.64	---	5.48	5.36	5.42	5.44	5.58	5.73	5.44	5.77
24	5.68	5.71	5.65	---	5.48	5.40	5.42	5.42	5.58	5.72	5.42	5.77
25	5.67	5.70	5.64	---	5.48	5.41	5.43	5.43	5.56	5.71	5.41	5.78
26	5.67	5.71	---	---	5.48	5.41	5.48	5.42	5.55	5.71	5.40	5.81
27	5.67	5.72	---	---	5.48	5.41	5.51	5.40	5.54	5.70	5.40	5.81
28	5.66	5.72	---	---	5.47	5.42	5.51	5.39	5.57	5.69	5.40	5.81
29	5.67	5.71	---	---	---	5.43	5.51	5.39	---	5.68	5.37	5.81
30	5.67	5.71	---	---	---	5.43	5.52	5.43	---	5.67	5.39	5.81
31	5.66	---	---	---	---	5.43	---	5.50	---	5.67	5.40	---
MEAN	5.66	5.71	---	---	---	5.40	5.44	---	---	---	5.51	5.54
MAX	5.69	5.76	---	---	---	5.46	5.52	---	---	---	5.67	5.81
MIN	5.64	5.65	---	---	---	5.35	5.40	---	---	---	5.37	5.24

444720090445000 MEAD LAKE, EAST BAY, NEAR WILLARD, WI

LOCATION.--Lat 44°47'20", long 90°44'50", in SW 1/4 SE 1/4 sec.28, T.27 N., R.3 W., Clark County, Hydrologic Unit 07050006, 4.1 mi northwest of Willard.

PERIOD OF RECORD.--April 1991 to current year.

REMARKS.--Lake sampled in east bay. Water-quality analyses by Wisconsin State Laboratory of Hygiene.

WATER-QUALITY DATA, APRIL 18 TO AUGUST 22, 1994
(Milligrams per liter unless otherwise indicated)

	Apr. 18	June 14	July 15	Aug. 22
Depth of sample (ft)	1.5	1.5	1.5	1.5
Lake stage (ft)	2.06	1.65	1.62	1.56
Specific conductance (µS/cm)	97	124	112	136
pH (units)	7.1	8.8	6.9	9.6
Water temperature (°C)	10.5	24.0	23.0	23.0
Secchi-depth (meters)	0.7	0.6	0.8	0.4
Dissolved oxygen	10.0	10.4	6.2	17.0
Phosphorus, total (as P)	0.117	0.120	0.147	0.204
Chlorophyll a, phytoplankton (µg/L)	5.5	51	25	130

444733090460100 MEAD LAKE, WEST BAY, NEAR WILLARD, WI

LOCATION.--Lat 44°47'33", long 90°46'01", in NW 1/4 SE 1/4 sec.29, T.27 N., R.3 W., Clark County, Hydrologic Unit 07050006, 4.7 mi northwest of Willard.

DRAINAGE AREA.--99.9 mi^2.

LAKE-STAGE RECORDS

PERIOD OF RECORD.--February 1991 to current year.

GAGE.--Nonrecording gage. Staff mounted to the wingwall of the dam. Staff read by Margaret Stamer. Elevation of lake is 1,037 ft above sea level, from topographic map.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height observed, 3.28 ft, June 20, 1993; minimum observed, 0.98 ft, July 16 and Aug. 26, 1993.

EXTREMES FOR CURRENT YEAR.--Maximum gage height observed, 2.58 ft, Apr. 13; minimum observed, 1.46 ft, Aug. 8.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	1.76	---	---	---	---	---	1.98	1.58	---	---	---
2	---	---	---	---	---	---	---	---	---	---	1.56	---
3	1.78	---	---	---	---	---	1.88	---	1.60	---	---	1.54
4	---	1.78	---	---	---	---	---	1.88	---	1.48	---	---
5	---	---	---	---	---	---	---	---	---	---	1.52	---
6	1.70	---	---	---	---	---	1.92	1.88	1.76	---	---	1.58
7	---	---	---	---	---	---	---	---	---	---	---	---
8	1.88	1.86	---	---	---	---	---	---	1.68	2.10	1.46	---
9	---	---	---	---	---	---	---	1.84	---	---	---	1.54
10	---	---	---	---	---	---	1.88	---	---	---	---	---
11	1.92	1.84	---	---	---	---	---	---	1.62	1.78	1.60	---
12	---	---	---	---	---	---	---	1.82	---	---	---	1.54
13	---	---	---	---	---	---	2.58	---	---	---	---	---
14	1.78	2.28	---	---	---	---	---	---	1.65	---	1.60	---
15	---	---	---	---	1.64	---	2.08	1.78	---	1.62	---	1.56
16	---	1.98	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	1.60	---	1.54	---
18	---	---	---	---	---	---	2.06	1.74	---	1.64	---	1.68
19	1.90	---	---	---	---	---	---	---	1.56	---	---	---
20	---	---	---	---	---	---	---	---	---	---	1.52	---
21	---	---	---	---	---	---	1.92	1.68	1.54	1.66	---	1.62
22	1.94	1.78	---	---	---	---	---	---	---	---	1.56	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	1.88	---	---	---	---	---	---	1.64	1.48	1.64	---	1.68
25	---	1.76	---	---	---	---	2.08	---	---	---	1.54	---
26	---	---	---	---	---	---	---	1.60	1.52	---	---	---
27	1.80	---	---	---	---	---	1.88	---	---	1.62	---	1.68
28	---	---	---	---	---	---	---	---	1.52	---	1.48	---
29	1.76	---	---	---	---	---	---	1.58	---	---	---	---
30	---	---	---	---	---	---	---	---	1.56	1.58	---	---
31	---	---	---	---	---	1.88	---	---	---	---	1.62	---

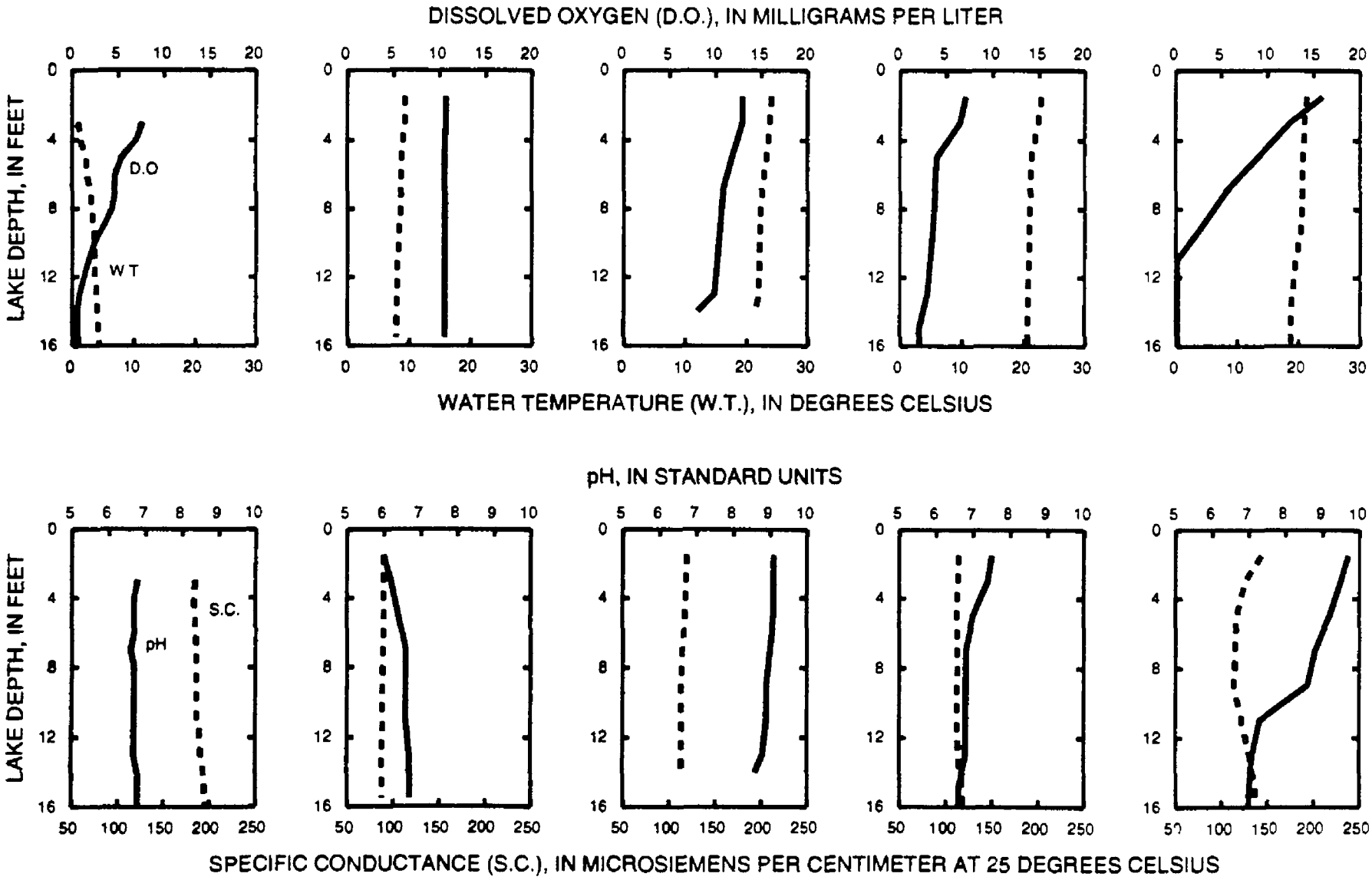
WATER-QUALITY RECORDS

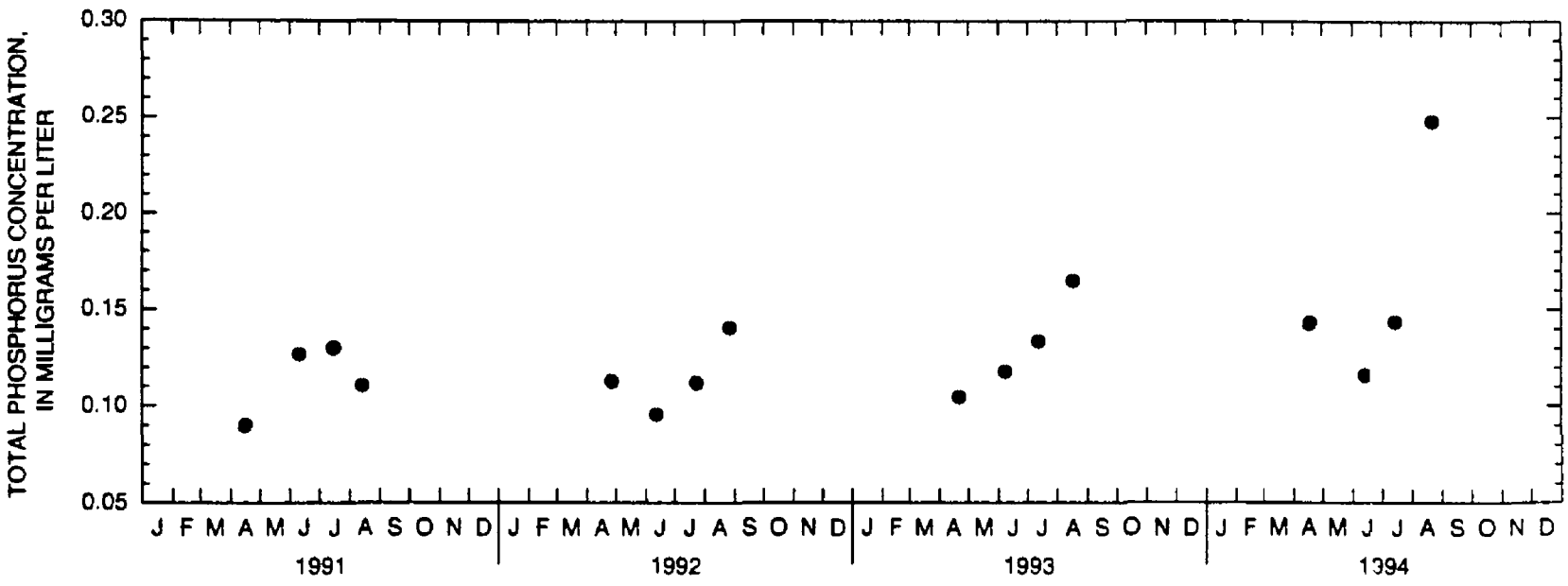
PERIOD OF RECORD.--February 1991 to current year.

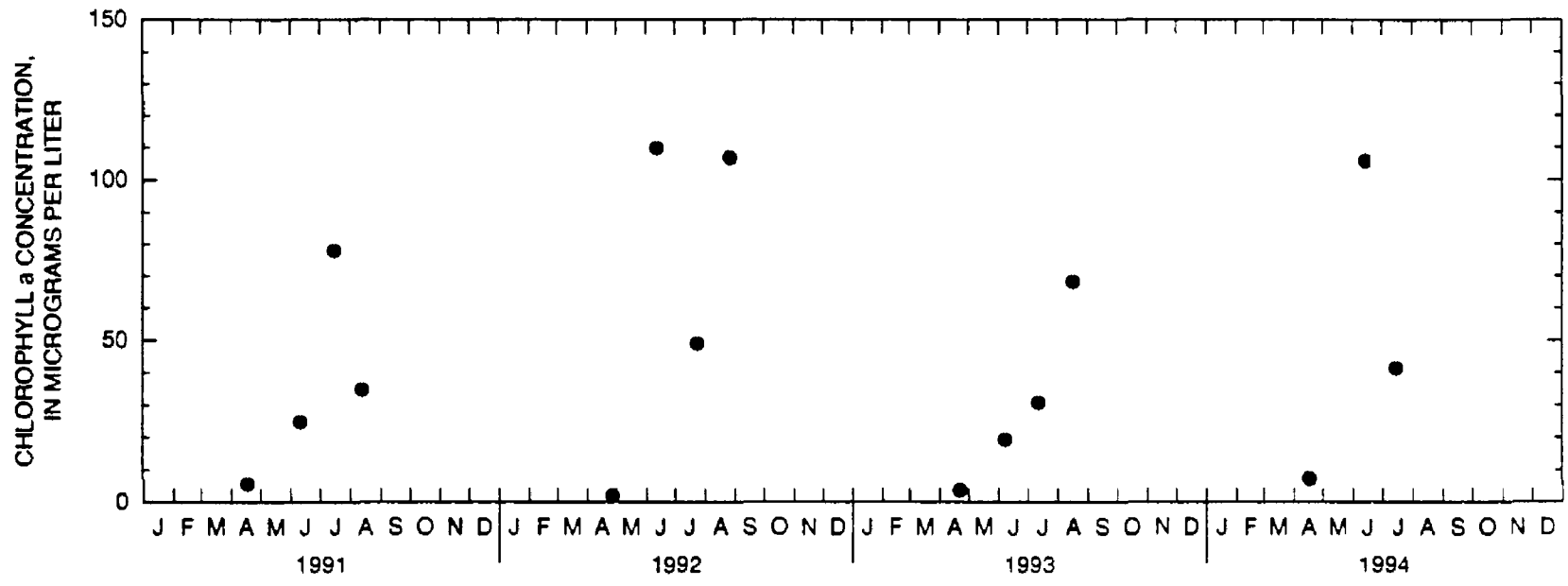
REMARKS.--Lake sampled in west bay at a lake depth of about 18 ft. Lake ice-covered during February sampling. Water-quality analyses by Wisconsin State Laboratory of Hygiene.

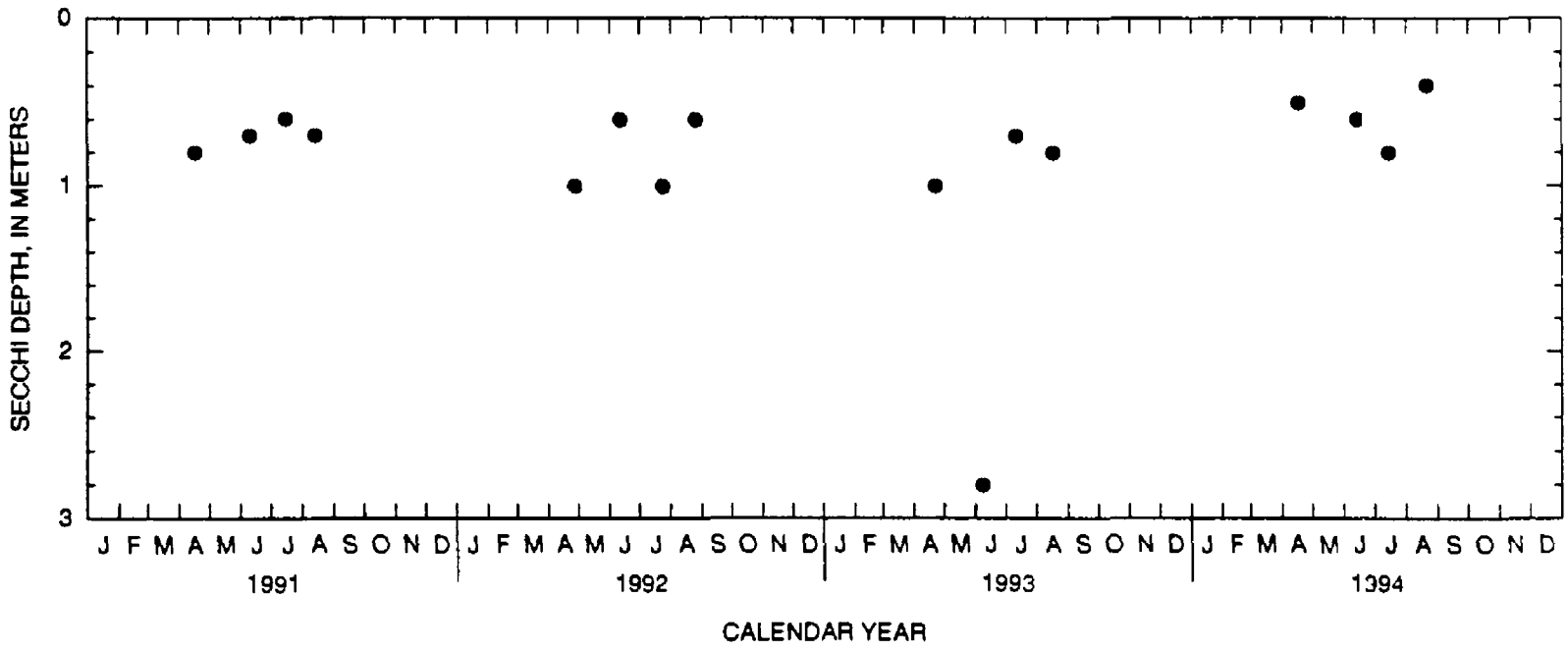
WATER-QUALITY DATA, FEBRUARY 15 TO AUGUST 22, 1994
(Milligrams per liter unless otherwise indicated)

	Feb. 15		Apr. 18		June 14		July 15		Aug. 22	
Depth of sample (ft)	3.0	16	1.5	15	1.5	14	1.5	16	1.5	16
Lake stage (ft)	1.64		2.06		1.65		1.62		1.56	
Specific conductance (µS/cm)	185	196	90	88	120	114	115	118	144	137
pH (units)	6.8	6.8	6.0	6.7	9.1	8.6	7.5	6.6	9.7	7.0
Water temperature (°C)	1.0	4.5	9.5	8.0	24.0	21.5	23.0	20.5	21.5	19.0
Color (Pt-Co. scale)	---	---	55	55	---	---	---	---	---	---
Turbidity (NTU)	---	---	16	15	---	---	---	---	---	---
Secchi-depth (meters)	---		0.5		0.6		0.8		0.4	
Dissolved oxygen	7.7	0.6	10.7	10.6	12.9	8.1	7.1	2.1	16.0	0.2
Hardness, as CaCO3	---	---	37	36	---	---	---	---	---	---
Calcium, dissolved (Ca)	---	---	8.6	8.3	---	---	---	---	---	---
Magnesium, dissolved (Mg)	---	---	3.7	3.7	---	---	---	---	---	---
Sodium, dissolved (Na)	---	---	3.8	3.6	---	---	---	---	---	---
Potassium, dissolved (K)	---	---	5	5	---	---	---	---	---	---
Alkalinity, as CaCO3	---	---	27	27	---	---	---	---	---	---
Sulfate, dissolved (SO4)	---	---	9.0	9.0	---	---	---	---	---	---
Chloride, dissolved (Cl)	---	---	9.1	8.9	---	---	---	---	---	---
Fluoride, dissolved (F)	---	---	0.0	0.0	---	---	---	---	---	---
Silica, dissolved (SiO2)	---	---	5.7	5.7	---	---	---	---	---	---
Solids, dissolved, at 180°C	---	---	88	86	---	---	---	---	---	---
Nitrogen, NO2 + NO3, diss. (as N)	---	---	0.51	0.52	---	---	---	---	---	---
Nitrogen, ammonia, dissolved (as N)	---	---	0.14	0.14	---	---	---	---	---	---
Nitrogen, amm. + org., total (as N)	---	---	0.90	1.1	---	---	---	---	---	---
Nitrogen, total (as N)	---	---	1.4	1.6	---	---	---	---	---	---
Phosphorus, total (as P)	---	---	0.143	0.141	0.116	0.124	0.144	0.156	0.248	0.668
Phosphorus, ortho, dissolved (as P)	---	---	0.029	0.029	---	---	---	---	---	---
Iron, dissolved (Fe) µg/L	---	---	310	310	---	---	---	---	---	---
Manganese, dissolved (Mn) µg/L	---	---	<40	<40	---	---	---	---	---	---
Chlorophyll a, phytoplankton (µg/L)	---	---	7.4	---	110	---	42	---	290	---
	2-15-94		4-18-94		6-14-94		7-15-94		8-22-94	









Surface total phosphorus and chlorophyll a concentrations, and Secchi depths for Mead Lake, West Bay near Willard, Wisconsin.

05428000 LAKE MENDOTA AT MADISON, WI

LOCATION.--Lat 43°05'42", long 89°22'12", in SE 1/4 sec.12, T.7 N., R.9 E., Dane County, Hydrologic Unit 07090001, in city boat house at dam at outlet, in Madison.

DRAINAGE AREA.--233 mi^2. Area of Lake Mendota, 15.2 mi^2.

PERIOD OF RECORD.--December 1902 to May 1903, January 1916 to current year (incomplete).

REVISED RECORDS.--WDR WI-73-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 840.00 ft above sea level, or 5.60 ft below City of Madison datum. Prior to Oct. 1, 1979, at datum 7.82 ft higher; prior to Nov. 15, 1971, nonrecording gage at same site and datum.

REMARKS.--Estimated daily gage heights: Oct. 1-7, Feb. 23-27, and Apr. 8-18. Records good except estimated daily gage heights, which are fair. Lake level regulated by concrete dam with two 12-foot gates and 20-foot lock at outlet. Gage-height telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height observed, 12.20 ft, July 14-15, 1993; minimum observed, 8.02 ft, Feb. 24 to Mar. 10, 1920, current datum.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 10.68 ft, Sept. 26; minimum, 9.32 ft, Nov. 25.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10.57	9.59	9.53	9.58	9.66	10.55	9.83	9.84	9.73	10.33	10.04	10.26
2	10.50	9.56	9.55	9.59	9.66	10.51	9.82	9.84	9.71	10.32	10.01	10.25
3	10.44	9.55	9.56	9.60	9.65	10.47	9.78	9.83	9.69	10.29	10.04	10.25
4	10.42	9.54	9.56	9.59	9.65	10.42	9.75	9.83	9.68	10.35	10.12	10.24
5	10.38	9.55	9.57	9.60	9.65	10.40	9.76	9.83	9.67	10.46	10.09	10.24
6	10.35	9.52	9.60	9.63	9.65	10.46	9.74	9.81	9.70	10.47	10.05	10.25
7	10.33	9.48	9.58	9.62	9.65	10.55	9.74	9.82	9.71	10.49	10.03	10.24
8	10.32	9.47	9.59	9.62	9.66	10.61	9.71	9.82	9.69	10.54	10.02	10.24
9	10.32	9.46	9.60	9.62	9.67	10.64	9.72	9.81	9.69	10.52	10.00	10.24
10	10.28	9.45	9.63	9.62	9.66	10.62	9.73	9.79	9.68	10.50	10.04	10.35
11	10.24	9.44	9.61	9.62	9.66	10.58	9.74	9.80	9.68	10.48	10.17	10.37
12	10.21	9.42	9.59	9.62	9.67	10.54	9.75	9.80	9.68	10.47	10.19	10.37
13	10.18	9.44	9.59	9.62	9.69	10.50	9.76	9.78	9.71	10.44	10.23	10.37
14	10.15	9.45	9.60	9.61	9.68	10.46	9.77	9.79	9.71	10.44	10.23	10.46
15	10.13	9.47	9.61	9.60	9.67	10.41	9.78	9.82	9.73	10.41	10.21	10.50
16	10.12	9.45	9.61	9.62	9.66	10.36	9.79	9.82	9.74	10.37	10.21	10.60
17	10.09	9.46	9.62	9.62	9.65	10.32	9.80	9.79	9.72	10.35	10.20	10.60
18	10.06	9.43	9.64	9.62	9.63	10.27	9.82	9.79	9.74	10.31	10.24	10.58
19	10.04	9.46	9.64	9.62	9.66	10.22	9.83	9.79	9.83	10.28	10.26	10.57
20	10.03	9.41	9.65	9.61	9.96	10.18	9.81	9.76	9.87	10.31	10.29	10.56
21	10.04	9.39	9.64	9.61	10.29	10.16	9.80	9.74	9.87	10.29	10.28	10.53
22	9.99	9.38	9.64	9.61	10.36	10.13	9.79	9.60	9.86	10.26	10.28	10.53
23	9.97	9.39	9.65	9.61	10.40	10.09	9.77	9.66	9.91	10.26	10.26	10.57
24	9.94	9.40	9.64	9.60	10.44	10.06	9.71	9.81	10.09	10.23	10.27	10.58
25	9.92	9.40	9.64	9.61	10.48	10.02	9.80	9.81	10.11	10.23	10.27	10.60
26	9.90	9.49	9.61	9.61	10.52	9.99	9.82	9.81	10.20	10.20	10.27	10.63
27	9.85	9.50	9.60	9.64	10.55	9.99	9.81	9.78	10.25	10.17	10.27	10.61
28	9.79	9.53	9.59	9.66	10.58	9.96	9.78	9.78	10.30	10.14	10.28	10.58
29	9.75	9.53	9.58	9.67	---	9.93	9.79	9.76	10.34	10.11	10.25	10.53
30	9.69	9.52	9.58	9.67	---	9.90	9.80	9.75	10.33	10.09	10.25	10.49
31	9.64	---	9.58	9.66	---	9.86	---	9.76	---	10.05	10.27	---
MEAN	10.12	9.47	9.60	9.62	9.90	10.30	9.78	9.79	9.85	10.33	10.18	10.44
MAX	10.57	9.59	9.65	9.67	10.58	10.64	9.83	9.84	10.34	10.54	10.29	10.63
MIN	9.64	9.38	9.53	9.58	9.63	9.86	9.71	9.60	9.67	10.05	10.00	10.24

05429000 LAKE MONONA AT MADISON, WI

LOCATION.--Lat 43°03'48", long 89°23'49", in SW 1/4 sec.23, T.7 N., R.9 E., Dane County, Hydrologic Unit 07090001, in Brittingham Park, in Madison.

DRAINAGE AREA.--279 mi^2. Area of Lake Monona, 5.3 mi^2.

PERIOD OF RECORD.--September 1915 to current year (fragmentary) in reports of the Geological Survey. For 1856 to March 1917 in reports of Wisconsin Railroad Commission, volume 19.

REVISED RECORDS.--WSP 1338: Lake area. WDR WI-73-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 840.00 ft above sea level, or 5.60 ft below City of Madison datum. Prior to Oct. 1, 1979, datum 3.61 ft higher; prior to Nov. 15, 1971, nonrecording gage at same site and datum.

REMARKS.--Estimated daily gage heights: Feb. 26-28 and Mar. 2-4, 10. Records good except estimated daily gage heights, which are fair. Lake level regulated by concrete dam with four 12-foot stop-log sections and 12-foot lock at outlet of Lake Waubesa. Gage-height telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height observed, 7.27 ft, July 28, 1929; minimum observed, 3.22 ft, Jan. 20, 1965, current datum.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 6.07 ft, Oct. 1; minimum, 4.25 ft, Dec. 29 to Jan. 2.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.04	5.23	4.55	4.26	4.33	5.37	5.54	5.15	4.88	5.34	5.45	5.44
2	5.99	5.18	4.53	4.26	4.33	5.40	5.50	5.17	4.88	5.31	5.44	5.42
3	5.95	5.13	4.50	4.27	4.33	5.43	5.46	5.18	4.86	5.28	5.46	5.41
4	5.93	5.10	4.48	4.26	4.32	5.47	5.43	5.18	4.86	5.33	5.59	5.39
5	5.90	5.05	4.47	4.27	4.32	5.53	5.36	5.16	4.88	5.38	5.59	5.37
6	5.89	4.99	4.44	4.30	4.32	5.61	5.28	5.16	4.91	5.38	5.59	5.34
7	5.88	4.96	4.42	4.30	4.31	5.69	5.21	5.18	4.90	5.38	5.58	5.32
8	5.86	4.94	4.41	4.29	4.31	5.73	5.16	5.18	4.88	5.41	5.57	5.30
9	5.82	4.91	4.40	4.29	4.33	5.73	5.10	5.17	4.85	5.39	5.53	5.31
10	5.77	4.88	4.36	4.29	4.33	5.76	5.04	5.16	4.84	5.38	5.56	5.53
11	5.73	4.87	4.34	4.29	4.33	5.77	5.00	5.15	4.83	5.37	5.73	5.54
12	5.68	4.87	4.35	4.28	4.33	5.77	5.00	5.15	4.83	5.37	5.73	5.52
13	5.64	4.88	4.34	4.28	4.35	5.78	4.99	5.14	4.86	5.37	5.76	5.50
14	5.61	4.87	4.34	4.28	4.35	5.78	4.96	5.12	4.88	5.38	5.74	5.62
15	5.59	4.87	4.33	4.28	4.35	5.79	4.97	5.08	4.89	5.41	5.72	5.64
16	5.56	4.85	4.33	4.29	4.38	5.79	4.93	5.04	4.88	5.44	5.71	5.68
17	5.52	4.84	4.34	4.30	4.42	5.79	4.94	5.01	4.88	5.48	5.69	5.66
18	5.49	4.82	4.34	4.30	4.45	5.79	4.97	4.97	4.89	5.51	5.70	5.64
19	5.47	4.79	4.33	4.30	4.57	5.79	4.98	4.93	4.99	5.54	5.70	5.63
20	5.44	4.76	4.32	4.30	4.92	5.79	4.99	4.91	4.99	5.61	5.69	5.60
21	5.39	4.75	4.32	4.30	5.11	5.82	5.00	4.89	4.98	5.62	5.66	5.58
22	5.36	4.74	4.32	4.30	5.18	5.84	5.02	4.89	4.97	5.63	5.64	5.56
23	5.33	4.69	4.31	4.30	5.23	5.85	5.02	4.90	5.06	5.61	5.62	5.58
24	5.30	4.66	4.29	4.30	5.24	5.84	5.03	4.93	5.25	5.58	5.59	5.59
25	5.29	4.65	4.28	4.29	5.27	5.83	5.07	4.93	5.25	5.56	5.57	5.58
26	5.28	4.68	4.28	4.30	5.31	5.81	5.09	4.93	5.36	5.52	5.56	5.59
27	5.28	4.67	4.27	4.33	5.35	5.79	5.09	4.92	5.37	5.49	5.54	5.64
28	5.28	4.63	4.27	4.33	5.37	5.74	5.11	4.90	5.36	5.48	5.51	5.64
29	5.26	4.60	4.26	4.34	---	5.69	5.06	4.90	5.38	5.47	5.47	5.66
30	5.25	4.57	4.25	4.34	---	5.65	5.10	4.91	5.36	5.46	5.48	5.67
31	5.24	---	4.25	4.34	---	5.59	---	4.89	---	5.45	5.47	---
MEAN	5.58	4.85	4.36	4.30	4.63	5.71	5.11	5.04	5.00	5.45	5.60	5.53
MAX	6.04	5.23	4.55	4.34	5.37	5.85	5.54	5.18	5.38	5.63	5.76	5.68
MIN	5.24	4.57	4.25	4.26	4.31	5.37	4.93	4.89	4.83	5.28	5.44	5.30

455504089260500 MOON LAKE NEAR ST. GERMAIN, WI

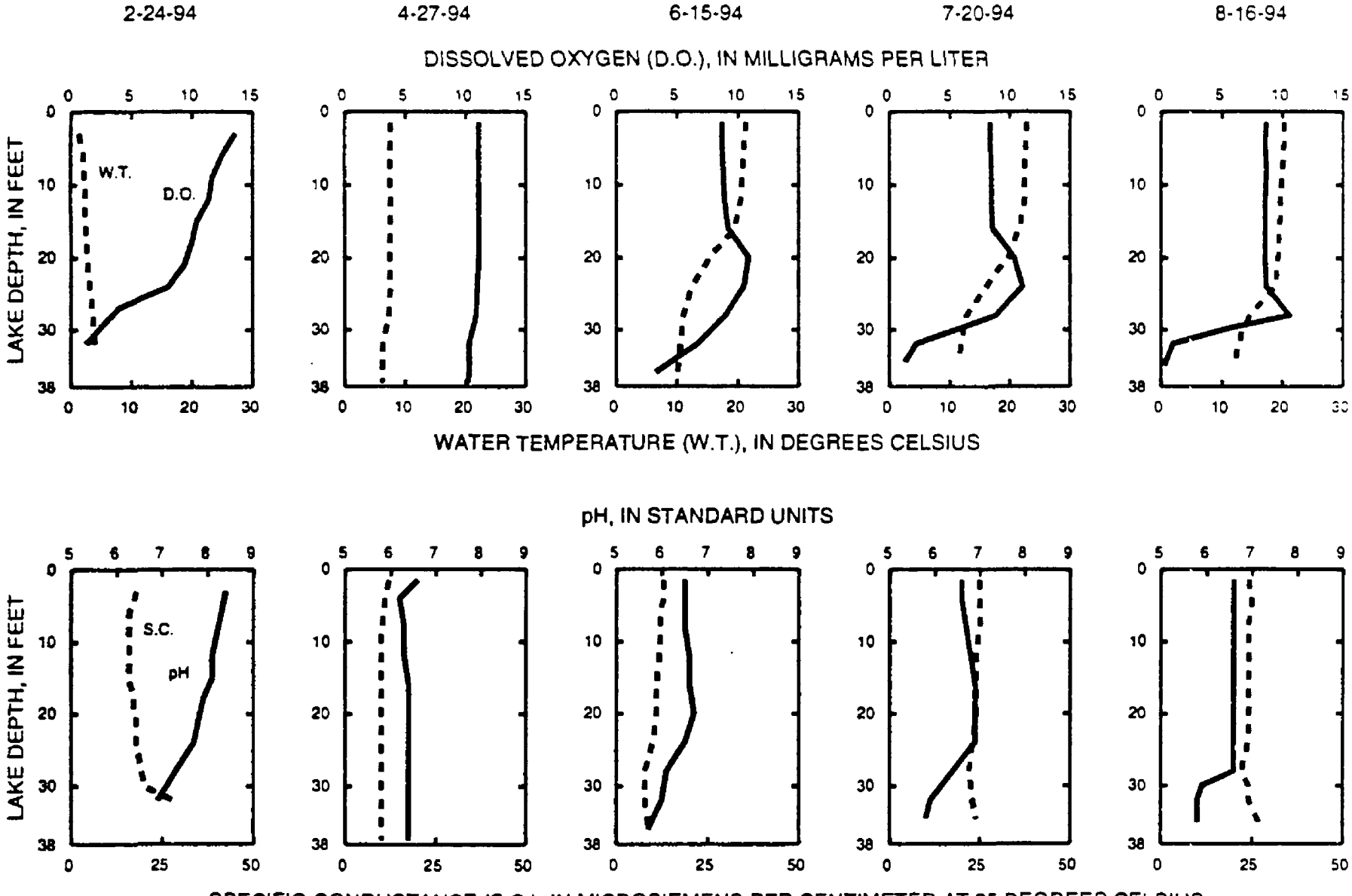
LOCATION.--Lat 45°55'04", long 89°26'05", in SE 1/4 SE 1/4 sec.25, T.40 N., R.8 E., Vilas County, Hydrologic Unit 07070001, 2.9 mi northeast of St. Germain.

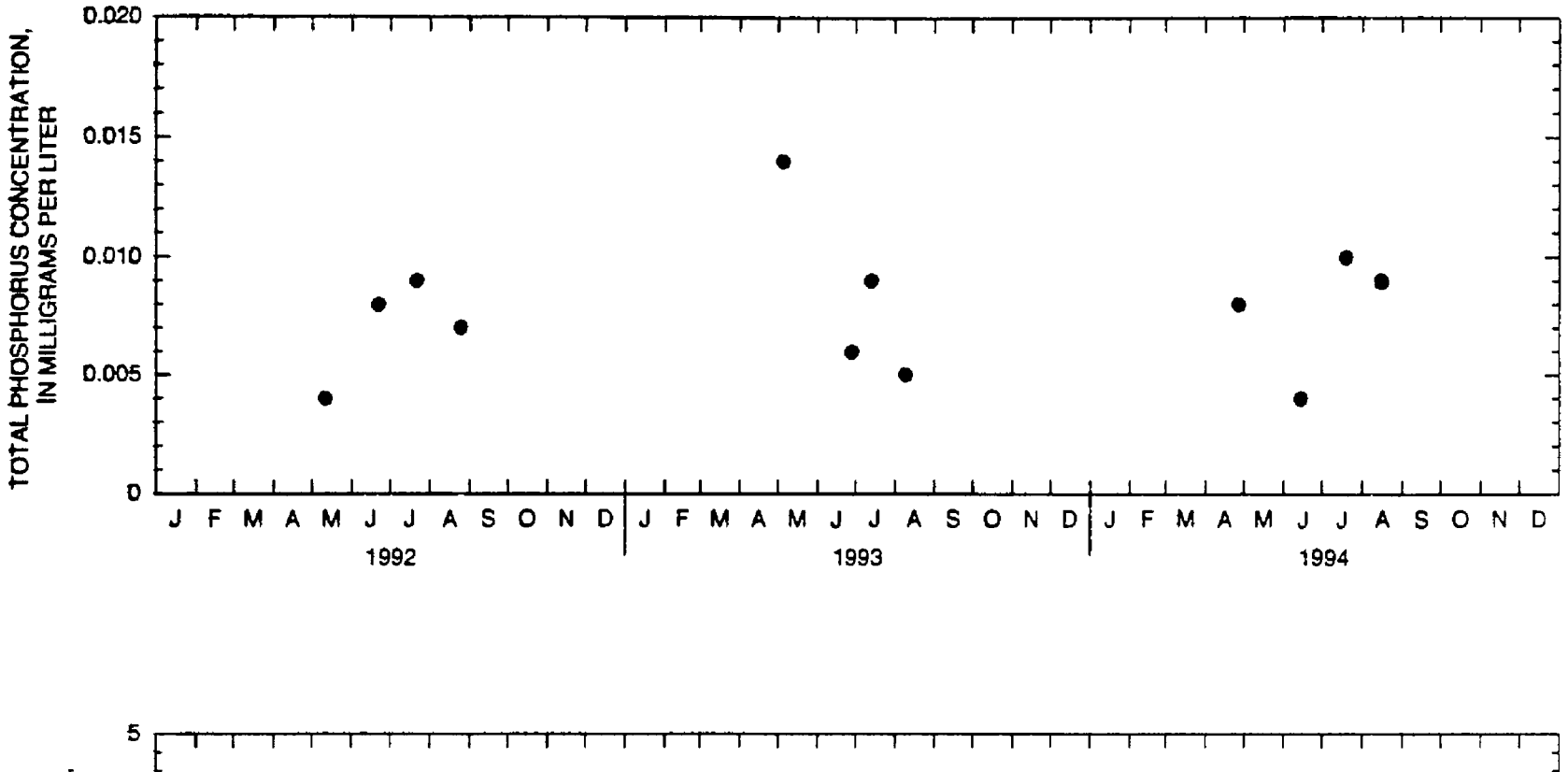
PERIOD OF RECORD.--May 1985 to September 1988 and October 1989 to September 1990, Secchi depth only; February 1992 to current year.

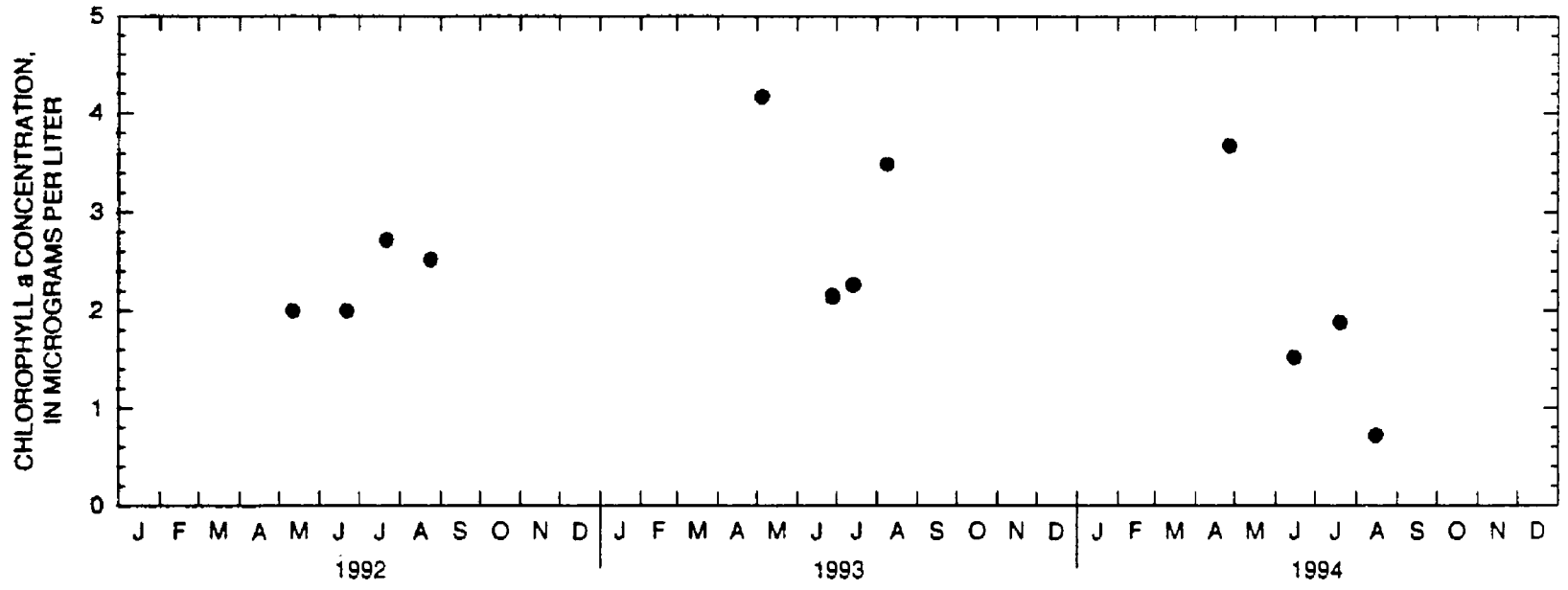
REMARKS.--The stage of Moon Lake is the same as Alma Lake; lake stages read at Alma Lake. Lake sampled near center of lake at depth of about 38 ft. Lake ice-covered during February sampling. Water-quality analyses by Wisconsin State Laboratory of Hygiene.

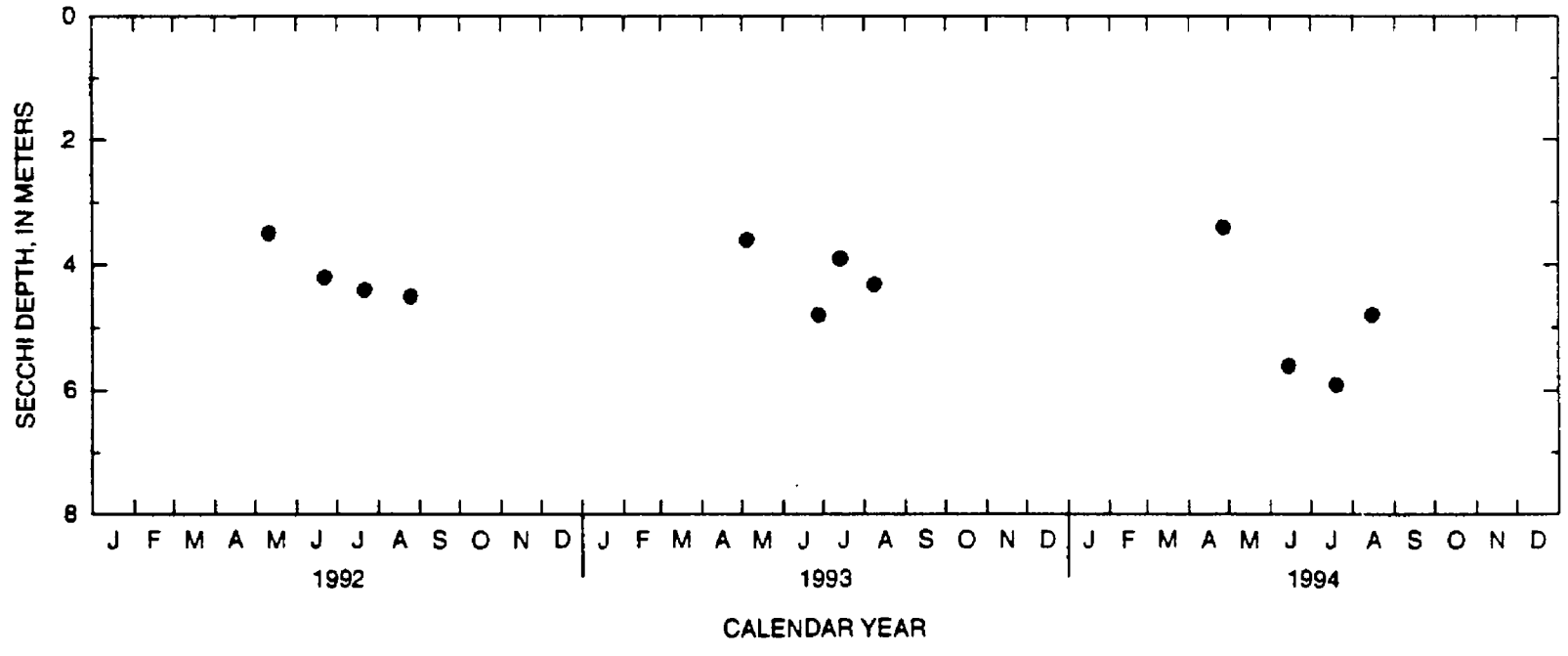
WATER-QUALITY DATA, FEBRUARY 24 TO AUGUST 16, 1994
(Milligrams per liter unless otherwise indicated)

	Feb. 24		Apr. 27		June 15		July 20		Aug. 16	
Depth of sample (ft)	3.0	32	1.5	37	1.5	36	1.5	34	1.5	35
Lake stage (ft)	11.17		11.15		11.01		11.01		10.71	
Specific conductance (µS/cm)	18	28	12	10	13	9	25	24	24	27
pH (units)	8.4	6.9	6.6	6.4	6.5	5.7	6.6	5.8	6.6	5.8
Water temperature (°C)	1.5	4.0	7.5	6.0	21.5	10.0	23.0	11.5	20.5	12.0
Color (Pt-Co. scale)	---	---	10	10	---	---	---	---	---	---
Turbidity (NTU)	---	---	0.60	0.70	---	---	---	---	---	---
Secchi-depth (meters)	---		3.4		5.6		5.9		4.8	
Dissolved oxygen	13.6	1.3	11.1	10.2	8.7	3.3	8.4	1.3	8.7	0.3
Calcium, dissolved (Ca)	---	---	2.0	2.0	---	---	---	---	---	---
Magnesium, dissolved (Mg)	---	---	<1.0	<1.0	---	---	---	---	---	---
Sodium, dissolved (Na)	---	---	<1.0	<1.0	---	---	---	---	---	---
Potassium, dissolved (K)	---	---	0.4	0.4	---	---	---	---	---	---
Alkalinity, as CaCO3	---	---	10	7	---	---	---	---	---	---
Sulfate, dissolved (SO4)	---	---	3.0	3.0	---	---	---	---	---	---
Chloride, dissolved (Cl)	---	---	<0.1	0.1	---	---	---	---	---	---
Fluoride, dissolved (F)	---	---	0.0	0.0	---	---	---	---	---	---
Silica, dissolved (SiO2)	---	---	<0.2	<0.2	---	---	---	---	---	---
Solids, dissolved, at 180°C	---	---	14	14	---	---	---	---	---	---
Nitrogen, NO2 + NO3, diss. (as N)	---	---	0.02	0.02	---	---	---	---	---	---
Nitrogen, ammonia, dissolved (as N)	---	---	<0.00	0.02	---	---	---	---	---	---
Nitrogen, amm. + org., total (as N)	---	---	0.30	0.30	---	---	---	---	---	---
Nitrogen, total (as N)	---	---	0.32	0.32	---	---	---	---	---	---
Phosphorus, total (as P)	---	---	0.008	0.012	0.004	0.044	0.010	0.030	0.009	0.051
Phosphorus, ortho, dissolved (as P)	---	---	<0.002	<0.002	---	---	---	---	---	---
Iron, dissolved (Fe) µg/L	---	---	<50	<50	---	---	---	---	---	---
Manganese, dissolved (Mn) µg/L	---	---	<40	<40	---	---	---	---	---	---
Chlorophyll a, phytoplankton (µg/L)	---	---	3.7	---	1.5	---	1.9	---	0.7	---









Surface total phosphorus and chlorophyll a concentrations, and Secchi depths for Moon Lake near St. Germain, Wisconsin.

454622088324801 MORGAN LAKE NEAR FENCE, WI

LOCATION.--Lat 45°46'22", long 88°32'48", in NE 1/4 NW 1/4 SW 1/4 sec.18, T.38 N., R.16 E., Florence County, Hydrologic Unit 04030108, at southwest end of lake on dirt road off Forest Service Road 2161, 6 mi west northwest of Fence.

DRAINAGE AREA.--Not determined. Area of lake, 44 acres.

PERIOD OF RECORD.--October 1987 to current year.

GAGE.--Water-stage recorder. Datum of gage is approximately 1,400.00 ft above sea level.

REMARKS.--Records good. Lake does not have surface inlet or outlet.

EXTREMES FOR PERIOD OF RECORD.--Maximum observed gage height, 66.36 ft, June 21-22, 1993; minimum observed gage height, 63.61 ft, Oct. 19, 1989.

EXTREMES FOR CURRENT YEAR.--Maximum observed gage height, 65.99 ft, Nov. 14-15, Nov. 26 to Dec. 3, and Dec. 6-8; minimum observed gage height, 65.59 ft, July 4.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	65.95	65.90	65.99	65.94	65.91	65.89	65.87	65.87	65.82	65.65	65.77	---
2	65.94	65.90	65.99	65.93	65.90	65.89	65.87	65.86	65.80	65.63	65.75	---
3	65.93	65.90	65.99	65.92	65.90	65.89	65.87	65.86	65.79	65.61	---	---
4	65.93	65.91	65.98	65.92	65.90	65.88	65.86	65.85	65.77	65.59	---	---
5	65.91	65.96	65.98	65.95	65.89	65.88	65.86	65.85	65.75	65.61	---	---
6	65.91	65.96	65.99	65.96	65.89	65.88	65.85	65.85	65.77	65.68	---	---
7	65.91	65.96	65.99	65.96	65.88	65.88	65.84	65.85	65.75	65.69	---	---
8	65.90	65.96	65.99	65.96	65.88	65.86	65.84	65.84	65.73	65.73	---	---
9	65.90	65.95	65.98	65.96	65.89	65.86	65.82	65.82	65.73	65.79	---	---
10	65.90	65.95	65.98	65.96	65.89	65.87	65.82	65.81	65.71	65.77	---	---
11	65.89	65.94	65.97	65.96	65.89	65.86	65.82	65.81	65.71	65.75	---	---
12	65.88	65.94	65.98	65.96	65.88	65.86	65.82	65.81	65.72	65.74	---	---
13	65.87	65.97	65.98	65.96	65.88	65.86	65.83	65.81	65.79	65.71	---	65.63
14	65.87	65.99	65.98	65.95	65.88	65.86	65.84	65.80	65.81	65.70	---	65.64
15	65.87	65.99	65.97	65.94	65.88	65.85	65.87	65.80	65.81	65.69	---	65.75
16	65.90	65.98	65.97	65.94	65.88	65.85	65.88	65.80	65.80	65.69	---	65.77
17	65.90	65.98	65.96	65.94	65.87	65.84	65.87	65.79	65.79	65.72	---	65.75
18	65.89	65.98	65.96	e65.94	65.87	65.84	65.87	65.78	65.79	65.72	---	65.73
19	65.91	65.98	65.96	e65.94	65.89	65.84	65.86	65.77	65.78	65.73	---	65.71
20	65.91	65.97	65.96	65.94	65.88	65.85	65.86	65.76	65.77	65.77	---	65.71
21	65.96	65.97	65.94	65.94	65.88	65.86	65.85	65.75	65.75	65.77	---	65.70
22	65.96	65.97	65.94	65.94	65.88	65.86	65.83	65.74	65.73	65.80	---	65.70
23	65.96	65.96	65.94	65.94	65.88	65.85	65.82	65.73	65.71	65.81	---	65.71
24	65.96	65.96	65.93	65.93	65.89	65.87	65.83	65.72	65.70	65.82	---	---
25	65.95	65.96	65.93	65.93	65.89	65.88	65.83	65.71	65.69	65.80	---	---
26	65.94	65.99	65.96	65.92	65.89	65.88	65.87	65.70	65.71	65.81	---	---
27	65.94	65.99	65.96	65.92	65.90	65.88	65.88	65.69	65.69	65.79	---	---
28	65.93	65.99	65.96	65.92	65.89	65.88	65.88	65.68	65.68	65.77	---	---
29	65.92	65.99	65.96	65.93	---	65.87	65.87	65.69	65.68	65.76	---	---
30	65.91	65.99	65.95	65.91	---	65.87	65.87	65.71	65.66	65.76	---	---
31	65.90	---	65.95	65.91	---	65.88	---	65.84	---	65.77	---	---
MEAN	65.92	65.96	65.97	65.94	65.89	65.87	65.85	65.79	65.75	65.73	---	---
MAX	65.96	65.99	65.99	65.96	65.91	65.89	65.88	65.87	65.82	65.82	---	---
MIN	65.87	65.90	65.93	65.91	65.87	65.84	65.82	65.68	65.66	65.59	---	---

e Estimated

462928091413500 LAKE NEBAGAMON, SOUTHEAST BAY AT DEEP HOLE, AT LAKE NEBAGAMON, WI

LOCATION.--Lat 46°29'28", long 91°41'35", in SW 1/4 SW 1/4 sec.1, T.46 N., R.11 W., Douglas County, Hydrologic Unit 04010301, at Lake Nebagamon.

DRAINAGE AREA.--40.9 mi^2.

LAKE-STAGE RECORDS

PERIOD OF RECORD.--March 1992 to current year.

GAGE.--Non-recording staff gage. Staff gage read by Edward Girzi; gage is located near observer's residence.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height observed, 89.88 ft, Apr. 23, 1992; minimum observed, 86.46 ft, Aug. 21, 1994.

EXTREMES FOR CURRENT YEAR.--Maximum gage height observed, 88.48 ft, May 1; minimum observed, 86.46 ft, Aug. 21.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	88.48	---	86.72	86.50	---
2	---	---	---	---	---	---	---	---	87.15	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	88.29	87.06	---	86.58	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	86.63	---	88.11	86.97	86.71	---	---
9	---	---	---	---	---	---	---	---	---	---	---	86.50
10	---	---	---	---	---	---	87.04	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	86.85	---	86.52	---
13	---	---	---	---	---	---	---	---	86.79	86.59	---	---
14	---	---	---	---	---	---	---	87.61	---	86.57	---	---
15	---	---	---	---	---	---	---	---	86.77	---	---	86.75
16	---	---	---	---	---	---	---	---	---	---	86.49	---
17	---	---	---	---	---	---	87.52	---	86.85	---	---	---
18	---	---	---	---	---	---	---	---	---	---	86.47	---
19	---	---	---	---	---	---	---	---	---	---	---	86.88
20	---	---	---	---	---	---	---	87.57	---	---	---	---
21	---	---	---	---	---	---	---	---	---	86.59	86.46	---
22	---	---	---	---	---	---	---	87.48	86.89	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	87.03
24	---	---	---	---	---	---	87.65	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	86.53	---
27	---	---	---	---	---	---	---	87.19	---	---	---	---
28	---	---	---	---	---	---	---	87.19	---	---	---	---
29	---	---	---	---	---	---	---	---	---	86.56	---	---
30	---	---	---	---	---	---	---	---	---	---	---	87.02
31	---	---	---	---	---	---	---	---	---	---	86.58	---

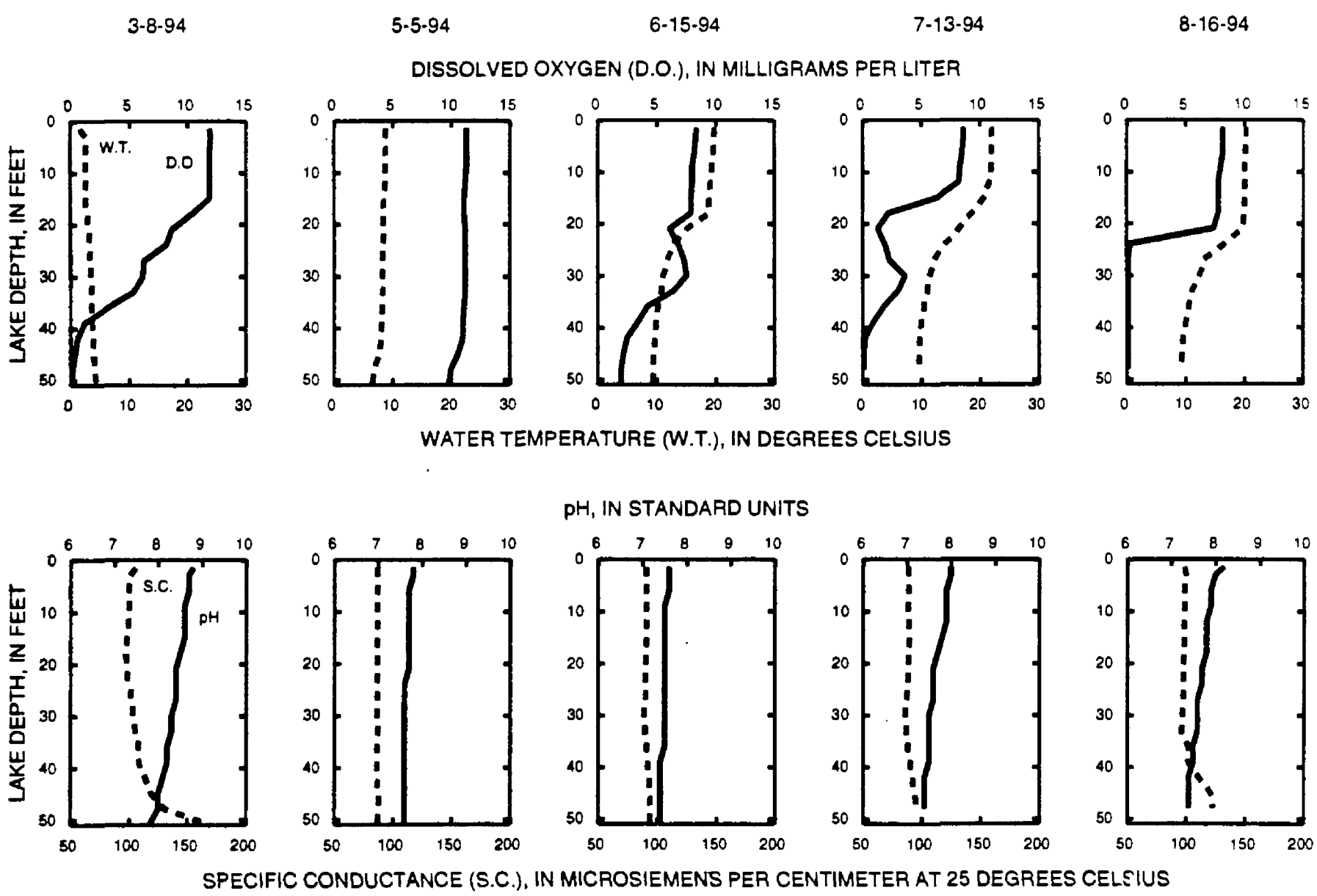
WATER-QUALITY RECORDS

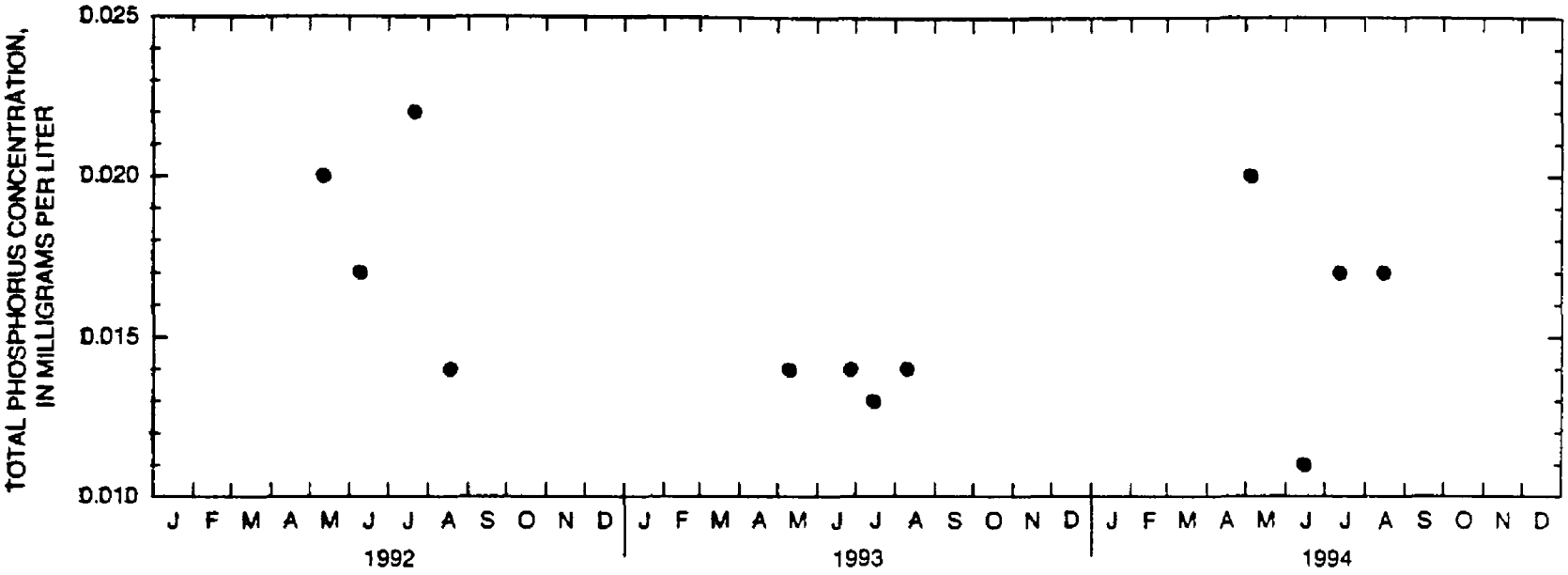
PERIOD OF RECORD.--March 1992 to current year.

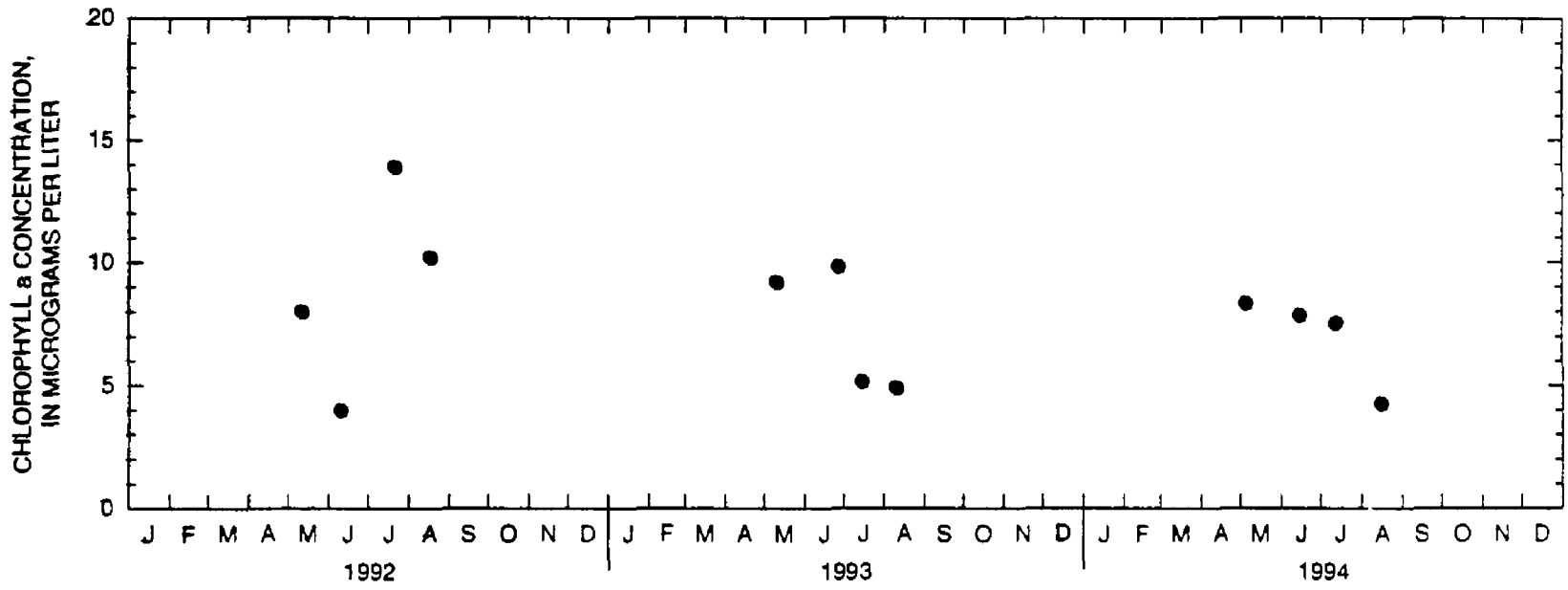
REMARKS.--Lake sampled in southeast bay at a depth of about 52 ft. Lake ice-covered during March sampling. Water-quality analyses by Wisconsin State Laboratory of Hygiene.

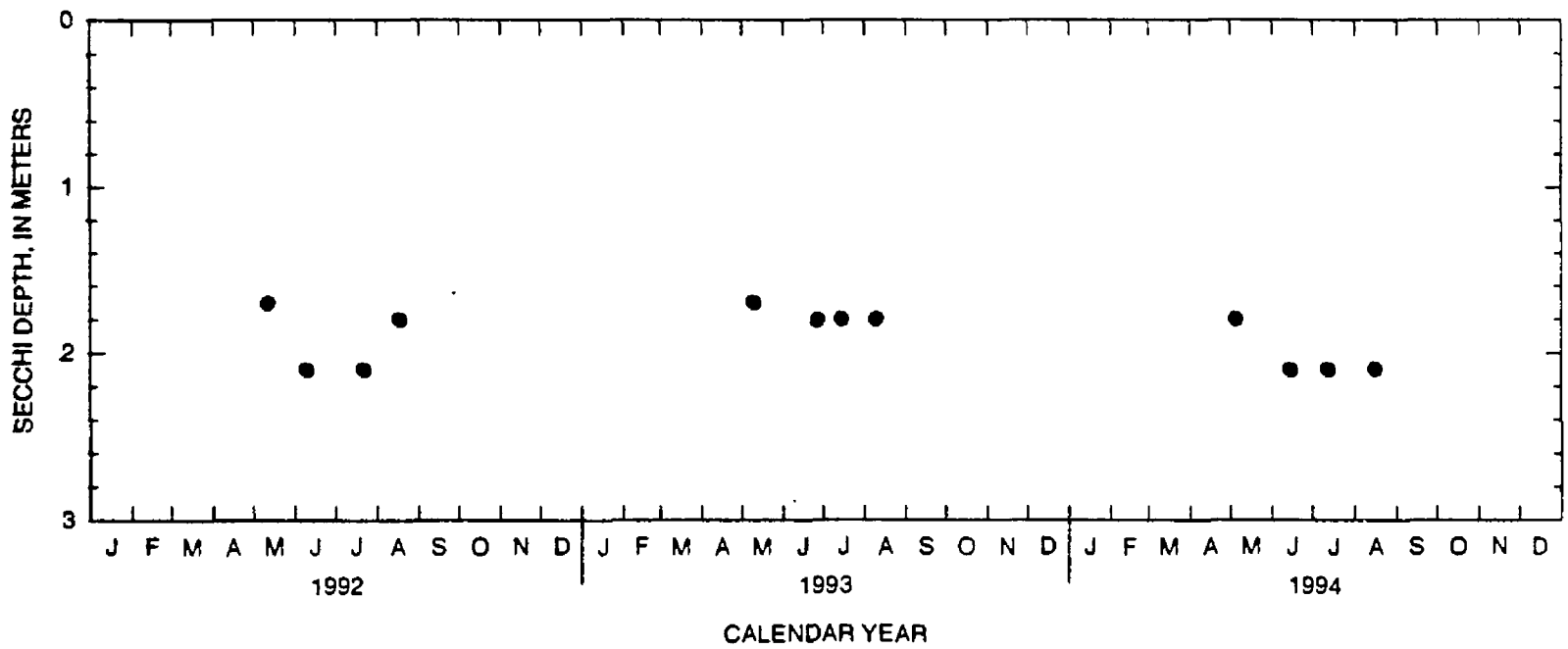
WATER-QUALITY DATA, MARCH 08 TO AUGUST 16, 1994
(Milligrams per liter unless otherwise indicated)

	Mar. 08		May 05		June 15		July 13		Aug. 16	
Depth of sample (ft)	1.5	51	1.5	51	1.5	51	1.5	48	1.5	48
Lake stage (ft)	86.63		88.29		86.77		86.59		86.49	
Specific conductance (µS/cm)	105	170	87	87	91	94	89	97	99	123
pH (units)	8.8	7.8	7.8	7.6	7.6	7.4	8.0	7.4	8.2	7.4
Water temperature (°C)	1.5	4.5	9.0	6.5	20.0	9.5	22.0	9.5	20.5	9.5
Color (Pt-Co. scale)	---	---	50	50	---	---	---	---	---	---
Turbidity (NTU)	---	---	1.3	2.6	---	---	---	---	---	---
Secchi-depth (meters)	---		1.8		2.1		2.1		2.1	
Dissolved oxygen	11.9	0.1	11.3	9.8	8.4	2.0	8.6	0.1	8.2	0.1
Hardness, as CaCO3	---	---	46	46	---	---	---	---	---	---
Calcium, dissolved (Ca)	---	---	12	12	---	---	---	---	---	---
Magnesium, dissolved (Mg)	---	---	4.0	4.0	---	---	---	---	---	---
Sodium, dissolved (Na)	---	---	3.0	3.0	---	---	---	---	---	---
Potassium, dissolved (K)	---	---	0.7	0.8	---	---	---	---	---	---
Alkalinity, as CaCO3	---	---	41	42	---	---	---	---	---	---
Sulfate, dissolved (SO4)	---	---	6.0	6.0	---	---	---	---	---	---
Chloride, dissolved (Cl)	---	---	2.6	2.5	---	---	---	---	---	---
Fluoride, dissolved (F)	---	---	<0.0	0.0	---	---	---	---	---	---
Silica, dissolved (SiO2)	---	---	9.6	10	---	---	---	---	---	---
Solids, dissolved, at 180°C	---	---	74	78	---	---	---	---	---	---
Nitrogen, NO2 + NO3, diss. (as N)	---	---	0.05	0.08	---	---	---	---	---	---
Nitrogen, ammonia, dissolved (as N)	---	---	0.01	0.06	---	---	---	---	---	---
Nitrogen, amm. + org., total (as N)	---	---	0.60	0.50	---	---	---	---	---	---
Nitrogen, total (as N)	---	---	0.64	0.58	---	---	---	---	---	---
Phosphorus, total (as P)	---	---	<0.020	0.020	0.011	0.048	0.017	0.020	0.017	0.052
Phosphorus, ortho, dissolved (as P)	---	---	<0.002	0.011	---	---	---	---	---	---
Iron, dissolved (Fe) µg/L	---	---	90	150	---	---	---	---	---	---
Manganese, dissolved (Mn) µg/L	---	---	86	200	---	---	---	---	---	---
Chlorophyll a, phytoplankton(µg/L)	---	---	8.3	---	7.9	---	7.6	---	4.3	---









Surface total phosphorus and chlorophyll a concentrations, and Secchi depths for Lake Nebagamon, Southeast Bay at Deep Hole, at Lake Nebagamon, Wisconsin.

463034091425300 LAKE NEBAGAMON, WEST BAY, AT LAKE NEBAGAMON, WI

LOCATION.--Lat 46°30'34", long 91°42'53", in NE 1/4 SW 1/4 sec.35, T.46 N., R.11 W., Douglas County, Hydrologic Unit 04010301, at Lake Nebagamon.

PERIOD OF RECORD.--May 1992 to current year.

REMARKS.--Lake sampled in west bay at a depth of about 20 ft. Water-quality analyses by Wisconsin State Laboratory of Hygiene.

WATER-QUALITY DATA, MAY 05 TO AUGUST 16, 1994
(Milligrams per liter unless otherwise indicated)

	May 05	June 15	July 13	Aug. 16
Depth of sample (ft)	1.5	1.5	1.5	1.5
Lake stage (ft)	88.29	86.77	86.59	86.49
Specific conductance (µS/cm)	83	95	90	101
pH (units)	8.1	7.6	7.5	8.4
Water temperature (°C)	8.5	21.5	21.5	20.5
Secchi-depth (meters)	1.5	2.0	2.1	1.8
Dissolved oxygen	11.5	8.6	8.5	8.4
Phosphorus, total (as P)	0.013	0.014	0.015	0.019
Chlorophyll a, phytoplankton (µg/L)	6.9	5.7	5.8	7.0

463050091412300 LAKE NEBAGAMON, NORTHEAST BAY, AT LAKE NEBAGAMON, WI

LOCATION.--Lat 46°30'50", long 91°41'23", in NE 1/4 NW 1/4 sec.36, T.47 N., R.11 W., Douglas County, Hydrologic Unit 04010301, at Lake Nebagamon.

PERIOD OF RECORD.--May 1992 to current year.

REMARKS.--Lake sampled in northeast bay. Water-quality analyses by Wisconsin State Laboratory of Hygiene.

WATER-QUALITY DATA, MAY 05 TO AUGUST 16, 1994
(Milligrams per liter unless otherwise indicated)

	May 05	June 15	July 13	Aug. 16
Depth of sample (ft)	1.5	1.5	1.5	1.5
Lake stage (ft)	88.29	86.77	86.59	86.49
Specific conductance (µS/cm)	86	95	90	100
pH (units)	8.0	7.8	7.6	8.2
Water temperature (°C)	9.0	22.0	21.5	21.5
Secchi-depth (meters)	1.5	2.1	2.1	1.8
Dissolved oxygen	11.8	8.7	8.5	8.8
Phosphorus, total (as P)	0.013	0.015	0.016	0.018
Chlorophyll a, phytoplankton (µg/L)	9.8	6.7	6.5	7.9

451511087550900 LAKE NOQUEBAY NEAR CRIVITZ, WI

LOCATION.--Lat 45°15'11", long 87°55'09", in SE 1/4 SE 1/4 sec.7, T.32 N., R.21 E., Marinette County, Hydrologic Unit 04030105, near Crivitz.

DRAINAGE AREA.--132 mi^2.

LAKE-STAGE RECORDS

PERIOD OF RECORD.--February to September 1987, April 1991 to current year.

GAGE.--Staff gage read by Rev. Donald Burkart.

REMARKS.--Lake levels controlled at outlet. Lake levels are drawn down about 1.5 ft from October through April.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height observed, 3.17 ft, June 26, 1993; minimum observed, 0.05 ft, Feb. 21, 1994.

EXTREMES FOR CURRENT YEAR.--Maximum gage-height observed, 2.57 ft, Oct. 23 and Apr. 23; minimum observed, 0.05 ft, Feb. 21.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	.35	---	---	---	---	---	---	---	---
2	2.25	---	---	---	---	---	.72	---	---	2.18	---	---
3	---	---	---	---	---	---	---	---	---	---	---	2.18
4	---	---	.66	---	---	---	---	---	2.20	---	---	---
5	---	---	---	---	---	.06	---	---	---	---	---	---
6	---	1.18	---	---	---	---	---	---	---	---	2.18	---
7	---	---	---	---	---	---	---	2.28	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	2.02	---	---	---	---	---	1.20	---	---	2.22	---	---
10	---	---	---	---	---	---	---	---	---	---	---	2.14
11	---	---	.60	---	---	---	---	---	2.08	---	---	---
12	---	---	---	---	---	.08	---	---	---	---	---	---
13	---	1.00	---	---	---	---	---	---	---	---	2.06	---
14	---	---	---	---	---	---	---	2.42	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	2.30	---	---	---	---	---	1.94	---	---	2.18	---	---
17	---	---	---	---	---	---	---	---	---	---	---	2.52
18	---	---	.54	---	---	---	---	---	2.10	---	2.09	---
19	---	---	---	---	.06	.12	---	---	---	---	---	---
20	---	.88	---	---	---	---	2.45	---	---	---	2.16	---
21	---	---	---	---	.05	---	---	2.20	---	2.46	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	2.57	---	---	---	---	---	2.57	---	---	2.41	---	---
24	---	---	---	---	---	---	---	---	---	---	---	2.36
25	---	---	.46	---	---	---	---	---	2.06	---	---	---
26	---	---	---	---	---	.46	---	---	---	---	---	---
27	---	.78	---	---	---	---	---	---	---	---	2.12	---
28	---	---	---	---	---	---	---	2.28	2.10	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	1.68	---	---	---	---	---	2.40	---	---	2.28	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---

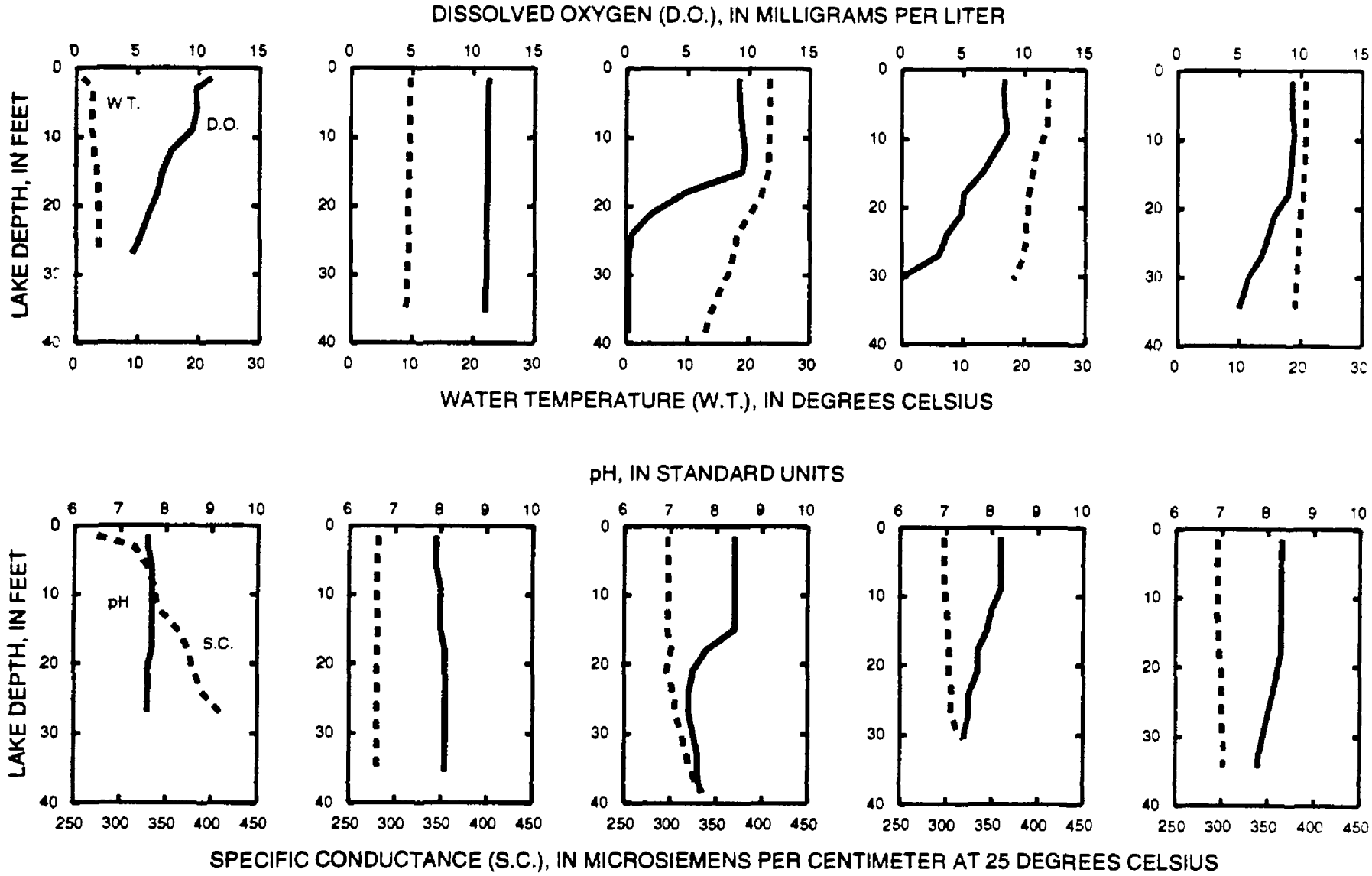
WATER-QUALITY RECORDS

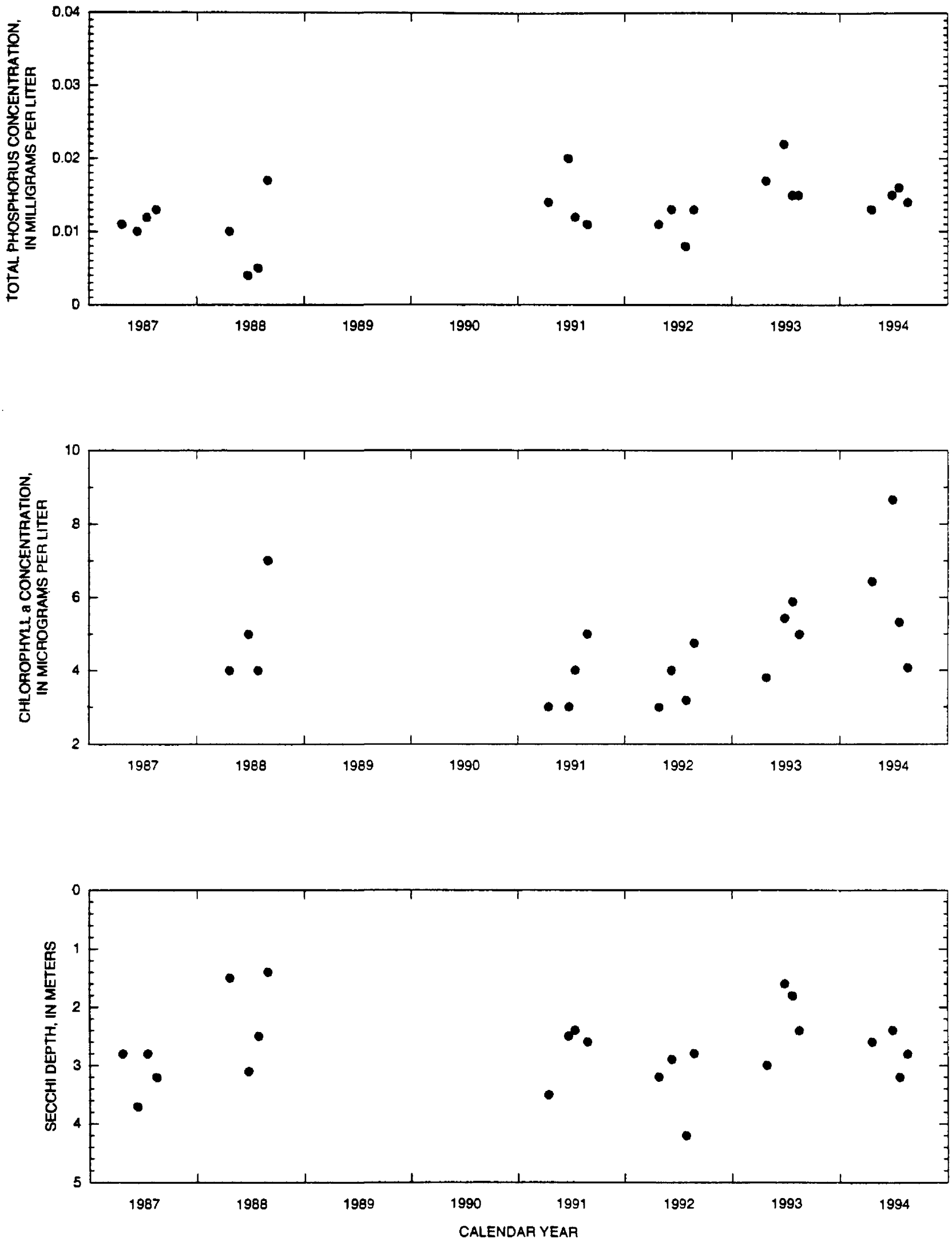
PERIOD OF RECORD.--February 1987 to August 1988, April 1991 to current year.

REMARKS.--Lake sampled at a lake depth of approximately 31 ft approximately 4,000 ft northeast of dam outlet. Lake ice-covered during February sampling. Water-quality analyses by Wisconsin State Laboratory of Hygiene.

WATER-QUALITY DATA, FEBRUARY 21 TO AUGUST 18, 1994
(Milligrams per liter unless otherwise indicated)

	Feb. 21		Apr. 20		June 28		July 21		Aug. 18	
Depth of sample (ft)	1.5	27	1.5	35	1.5	38	1.5	30	1.5	34
Lake stage (ft)	0.05		2.45		2.10		2.46		2.09	
Specific conductance (µS/cm)	275	409	282	281	297	335	298	319	295	302
pH (units)	7.6	7.6	7.9	8.1	8.4	7.7	8.2	7.4	8.3	7.8
Water temperature (°C)	1.0	3.5	9.5	9.0	23.5	13.0	24.0	18.0	21.0	19.0
Color (Pt-Co. scale)	---	---	30	30	---	---	---	---	---	---
Turbidity (NTU)	---	---	1.00	0.90	---	---	---	---	---	---
Secchi-depth (meters)	---		2.6		2.4		3.2		2.8	
Dissolved oxygen	11.1	4.6	11.3	11.0	9.2	0.2	8.4	0.2	9.3	5.0
Hardness, as CaCO3	---	---	150	150	---	---	---	---	---	---
Calcium, dissolved (Ca)	---	---	36	35	---	---	---	---	---	---
Magnesium, dissolved (Mg)	---	---	15	15	---	---	---	---	---	---
Sodium, dissolved (Na)	---	---	2.1	2.1	---	---	---	---	---	---
Potassium, dissolved (K)	---	---	1	1	---	---	---	---	---	---
Alkalinity, as CaCO3	---	---	140	140	---	---	---	---	---	---
Sulfate, dissolved (SO4)	---	---	7.0	9.0	---	---	---	---	---	---
Chloride, dissolved (Cl)	---	---	2.6	3.8	---	---	---	---	---	---
Fluoride, dissolved (F)	---	---	0.0	0.0	---	---	---	---	---	---
Silica, dissolved (SiO2)	---	---	5.7	6.2	---	---	---	---	---	---
Solids, dissolved, at 180°C	---	---	180	180	---	---	---	---	---	---
Nitrogen, NO2 + NO3, diss. (as N)	---	---	0.04	0.05	---	---	---	---	---	---
Nitrogen, ammonia, dissolved (as N)	---	---	<0.00	0.01	---	---	---	---	---	---
Nitrogen, amm. + org., total (as N)	---	---	0.30	0.40	---	---	---	---	---	---
Nitrogen, total (as N)	---	---	0.34	0.45	---	---	---	---	---	---
Phosphorus, total (as P)	---	---	0.013	0.012	0.015	0.220	0.016	0.048	0.014	0.032
Phosphorus, ortho, dissolved (as P)	---	---	<0.002	0.002	---	---	---	---	---	---
Iron, dissolved (Fe) µg/L	---	---	<50	<50	---	---	---	---	---	---
Manganese, dissolved (Mn) µg/L	---	---	<40	<40	---	---	---	---	---	---
Chlorophyll a, phytoplankton(µg/L)	---	---	6.4	---	8.7	---	5.3	---	4.1	---





Surface total phosphorus and chlorophyll a concentrations, and Secchi depths for Lake Noquebay near Crivitz, Wisconsin.

451540087525700 LAKE NOQUEBAY, EAST END, NEAR CRIVITZ, WI

LOCATION.--Lat 45°15'40", long 87°52'57", in SE 1/4 NE 1/4 sec.9, T.32 N., R.21 E., Marinette County, Hydrologic Unit 04030105, 5.9 mi northeast of Crivitz.

PERIOD OF RECORD.--April 1991 to current year.

REMARKS.--Lake sampled in east bay. Water-quality analyses by Wisconsin State Laboratory of Hygiene.

WATER-QUALITY DATA, APRIL 20 TO AUGUST 18, 1994
(Milligrams per liter unless otherwise indicated)

	Apr. 20	June 28	July 21	Aug. 18
Depth of sample (ft)	1.5	1.5	1.5	1.5
Lake stage (ft)	2.45	2.10	2.46	2.09
Specific conductance (µS/cm)	279	288	286	283
pH (units)	8.3	8.4	8.3	8.4
Water temperature (°C)	10.0	24.0	24.5	21.0
Secchi-depth (meters)	2.0	2.6	2.9	2.8
Dissolved oxygen	11.7	8.3	8.3	9.2
Phosphorus, total (as P)	0.015	0.014	0.016	0.014
Chlorophyll a, phytoplankton (µg/L)	4.6	6.0	3.8	3.1

430551088273500 OCONOMOWOC LAKE NO. 1 (CENTER) AT OCONOMOWOC, WI

LOCATION.--Lat 43°05'51", long 88°27'35", in NW 1/4 SE 1/4 sec.2, T.7 N., R.17 E., Waukesha County, Hydrologic Unit 07090001, at Oconomowoc.

LAKE-STAGE RECORDS

PERIOD OF RECORD.--April to current year.

GAGE.--Staff gage at outlet read by Martha Ibach. Datum of gage is 854.08 ft above sea level.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height observed, 9.28 ft, Oct. 5, 1986; minimum observed, 6.84 ft, Feb. 5, 1991.

EXTREMES FOR CURRENT YEAR.--Maximum gage height observed, 8.16 ft, Sept. 26; minimum observed, 6.98 ft, Feb. 18.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	8.10	---	---
5	---	---	---	---	---	---	---	---	---	---	8.14	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	8.00	---	---
14	---	---	---	---	---	---	---	---	8.14	---	---	---
15	---	---	---	---	---	---	---	---	8.14	8.08	8.00	---
16	---	---	---	---	---	---	---	---	---	---	7.99	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	6.98	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	7.98
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	7.98	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	8.16
27	---	---	---	---	---	---	7.98	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	8.00	---
29	---	---	---	---	---	---	---	---	---	8.00	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---

430551088273500 OCONOMOWOC LAKE NO. 1 (CENTER) AT OCONOMOWOC, WI

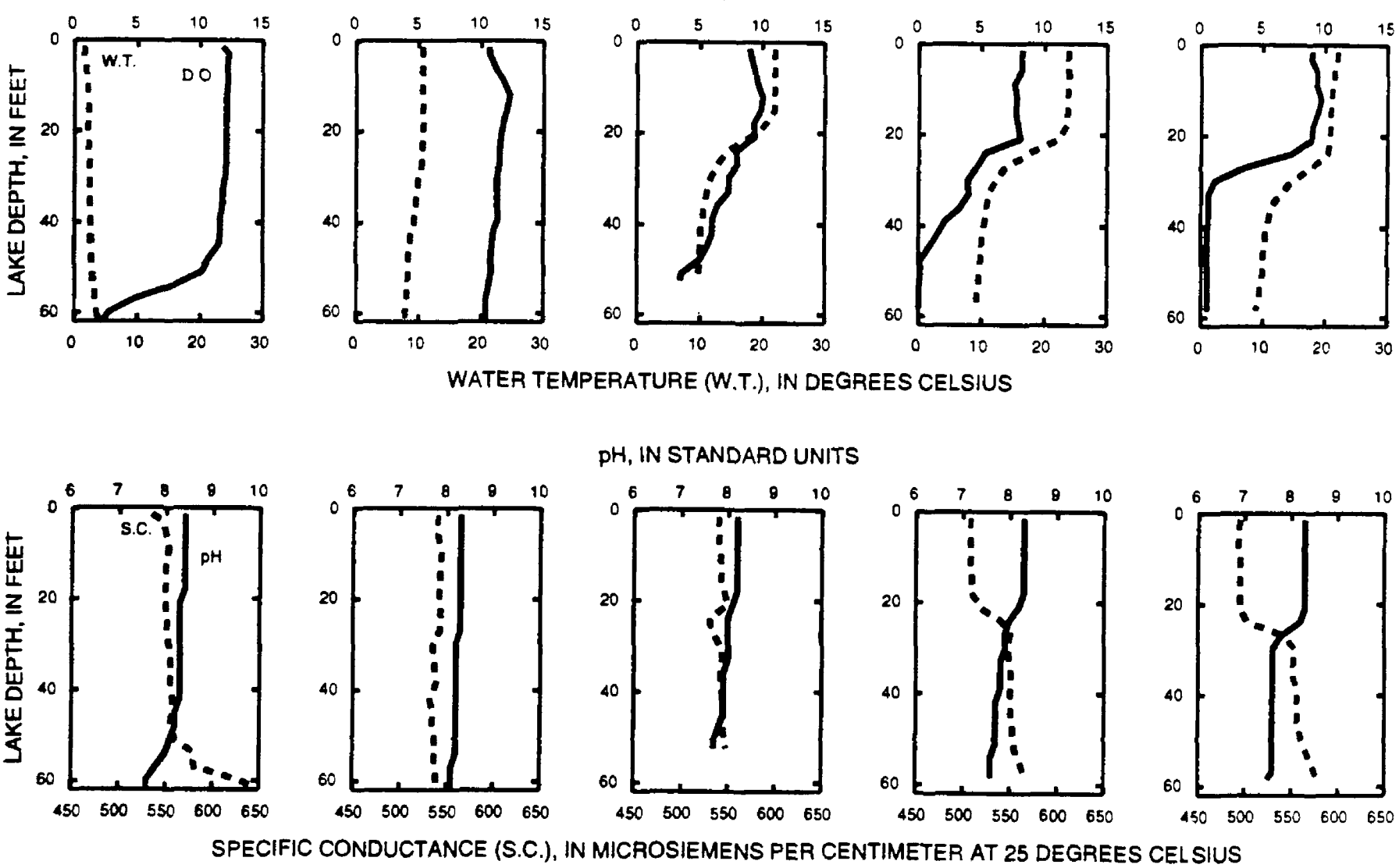
WATER-QUALITY RECORDS

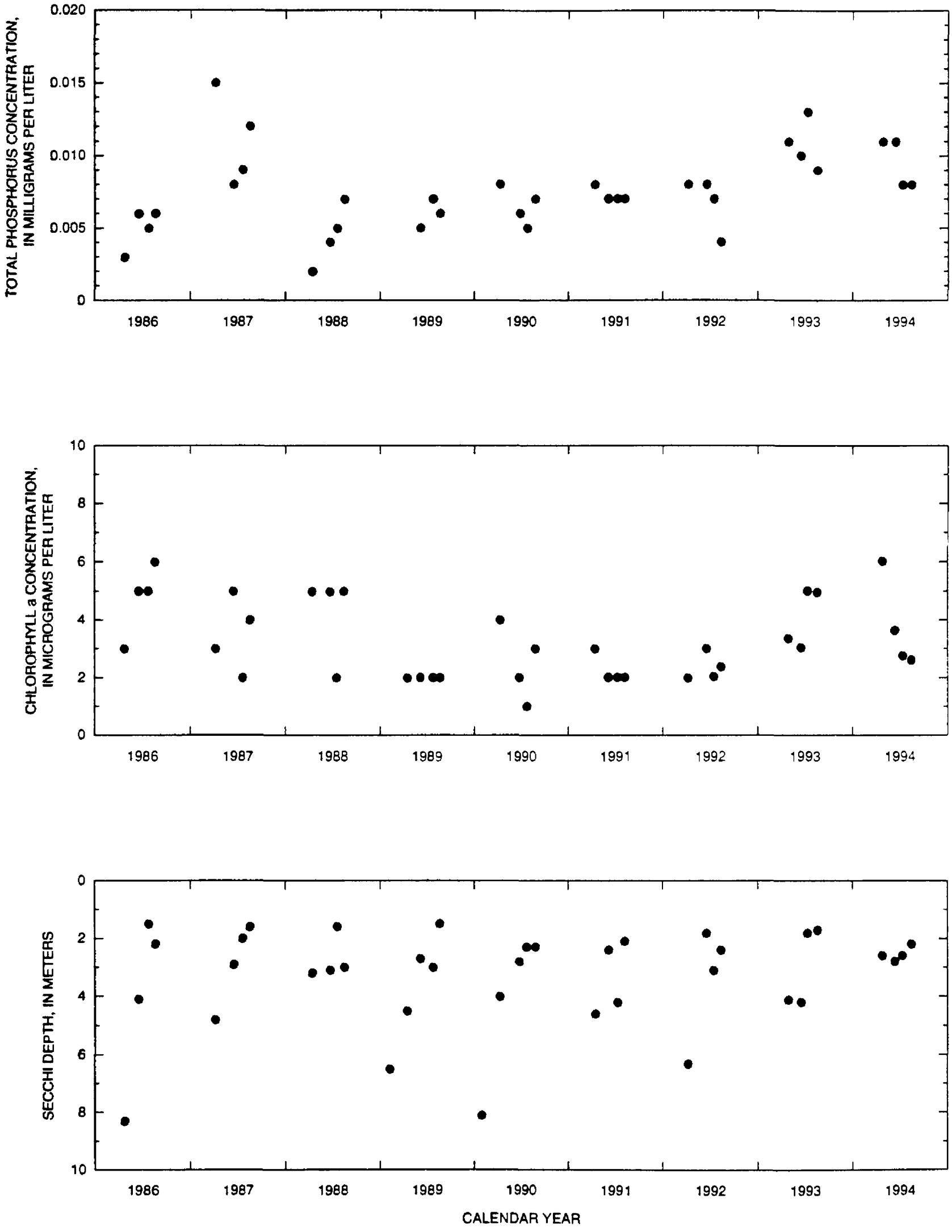
PERIOD OF RECORD.--March 1986 to current year.

REMARKS.--Lake sampled near center at a lake depth of about 65 ft. Lake ice-covered during February sampling. Water-quality analyses by Wisconsin State Laboratory of Hygiene.

WATER-QUALITY DATA, FEBRUARY 18 TO AUGUST 16, 1994
(Milligrams per liter unless otherwise indicated)

	Feb. 18		Apr. 27		June 14		July 13		Aug. 16	
Depth of sample (ft)	1.5	62	1.5	61	1.5	52	1.5	58	1.5	58
Lake stage (ft)	6.98		7.98		8.14		8.00		7.99	
Specific conductance (µS/cm)	535	650	541	541	540	548	508	569	495	584
pH (units)	8.4	7.6	8.3	8.1	8.2	7.7	8.3	7.6	8.3	7.5
Water temperature (°C)	1.5	4.0	10.5	8.0	22.0	9.5	24.0	9.0	22.0	9.0
Color (Pt-Co. scale)	---	---	15	5	---	---	---	---	---	---
Turbidity (NTU)	---	---	0.80	<0.50	---	---	---	---	---	---
Secchi-depth (meters)	---		2.6		2.8		2.6		2.2	
Dissolved oxygen	11.8	2.2	10.7	10.4	9.0	3.4	8.3	0.0	9.0	0.5
Hardness, as CaCO3	---	---	270	270	---	---	---	---	---	---
Calcium, dissolved (Ca)	---	---	53	54	---	---	---	---	---	---
Magnesium, dissolved (Mg)	---	---	33	33	---	---	---	---	---	---
Sodium, dissolved (Na)	---	---	13	13	---	---	---	---	---	---
Potassium, dissolved (K)	---	---	2	3	---	---	---	---	---	---
Alkalinity, as CaCO3	---	---	230	190	---	---	---	---	---	---
Sulfate, dissolved (SO4)	---	---	28	27	---	---	---	---	---	---
Chloride, dissolved (Cl)	---	---	29	29	---	---	---	---	---	---
Fluoride, dissolved (F)	---	---	0.1	0.1	---	---	---	---	---	---
Silica, dissolved (SiO2)	---	---	5.2	5.3	---	---	---	---	---	---
Solids, dissolved, at 180°C	---	---	308	312	---	---	---	---	---	---
Nitrogen, NO2 + NO3, diss. (as N)	---	---	0.39	0.41	---	---	---	---	---	---
Nitrogen, ammonia, dissolved (as N)	---	---	0.02	0.02	---	---	---	---	---	---
Nitrogen, amm. + org., total (as N)	---	---	0.50	0.60	---	---	---	---	---	---
Nitrogen, total (as N)	---	---	0.89	1.0	---	---	---	---	---	---
Phosphorus, total (as P)	---	---	0.011	0.013	0.011	<0.020	0.008	0.040	0.008	0.038
Phosphorus, ortho, dissolved (as P)	---	---	0.004	0.004	---	---	---	---	---	---
Iron, dissolved (Fe) µg/L	---	---	<50	<50	---	---	---	---	---	---
Manganese, dissolved (Mn) µg/L	---	---	<40	<40	---	---	---	---	---	---
Chlorophyll a, phytoplankton (µg/L)	---	---	6.0	---	3.6	---	2.8	---	2.6	---





Surface total phosphorus and chlorophyll a concentrations, and Secchi depths for Oconomowoc Lake, No. 1 (Center) at Oconomowoc, Wisconsin.

430609088262200 OCONOMOWOC LAKE NO. 2 (OFF HEWITT POINT) AT OCONOMOWOC, WI

WATER-QUALITY RECORDS

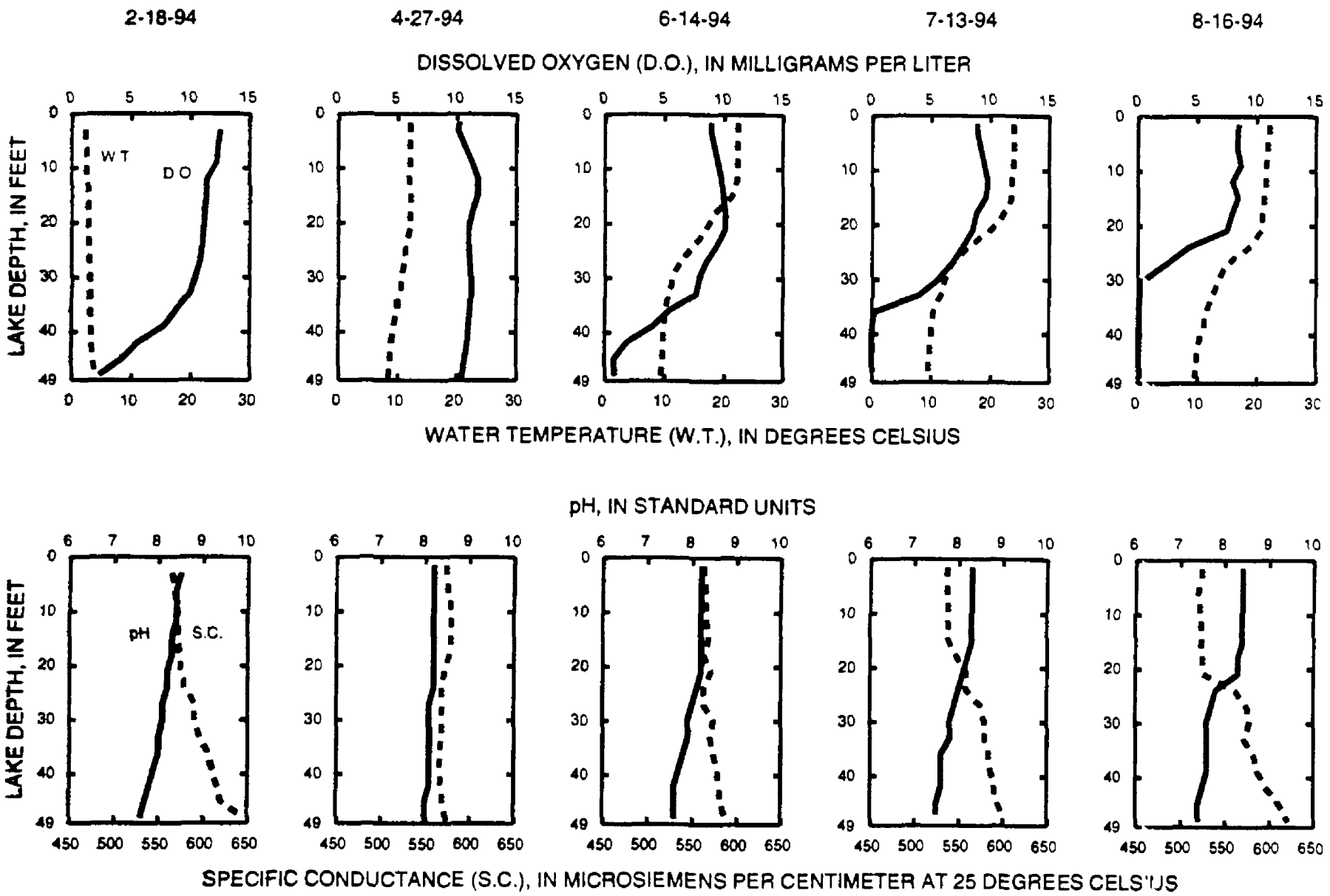
LOCATION.--Lat 43°06'09", long 88°26'22", in NW 1/4 NW 1/4 sec.1, T.7 N., R.17 E., Waukesha County, Hydrologic Unit 07090001, at Oconomowoc.

PERIOD OF RECORD.--March 1986 to current year.

REMARKS.--Sampling site is located in northeast bay near Hewitt Point at a lake depth of about 50 ft. Lake ice-covered during February sampling. Water-quality analyses by Wisconsin State Laboratory of Hygiene.

WATER-QUALITY DATA, FEBRUARY 18 TO AUGUST 16, 1994
(Milligrams per liter unless otherwise indicated)

	Feb. 18		Apr. 27		June 14		July 13		Aug. 16	
Depth of sample (ft)	3.0	48	1.5	48	1.5	48	1.5	47	1.5	49
Lake stage (ft)	6.98		7.98		8.14		8.00		7.99	
Specific conductance (µS/cm)	565	645	573	574	563	587	537	600	524	621
pH (units)	8.5	7.6	8.2	8.0	8.2	7.6	8.3	7.5	8.4	7.4
Water temperature (°C)	2.5	4.0	12.0	8.5	22.5	9.5	24.0	9.5	22.0	9.5
Secchi-depth (meters)	---		5.0		1.8		3.1		3.0	
Dissolved oxygen	12.5	2.3	10.2	10.4	8.9	0.8	8.9	0.0	8.5	0.1
Phosphorus, total (as P)	---	---	0.006	0.006	0.006	0.035	0.040	<0.020	0.006	0.051
Chlorophyll a, phytoplankton (µg/L)	---	---	0.9	---	2.6	---	2.6	---	2.4	---



430723088252100 OKAUCHEE LAKE AT OKAUCHEE, WI

LOCATION.--Lat 43°07'23", long 88°25'21", in NE 1/4 NE 1/4, sec.36, T.8 N., R.17 E., Waukesha County, Hydrologic Unit 07090001, at Okauchee.

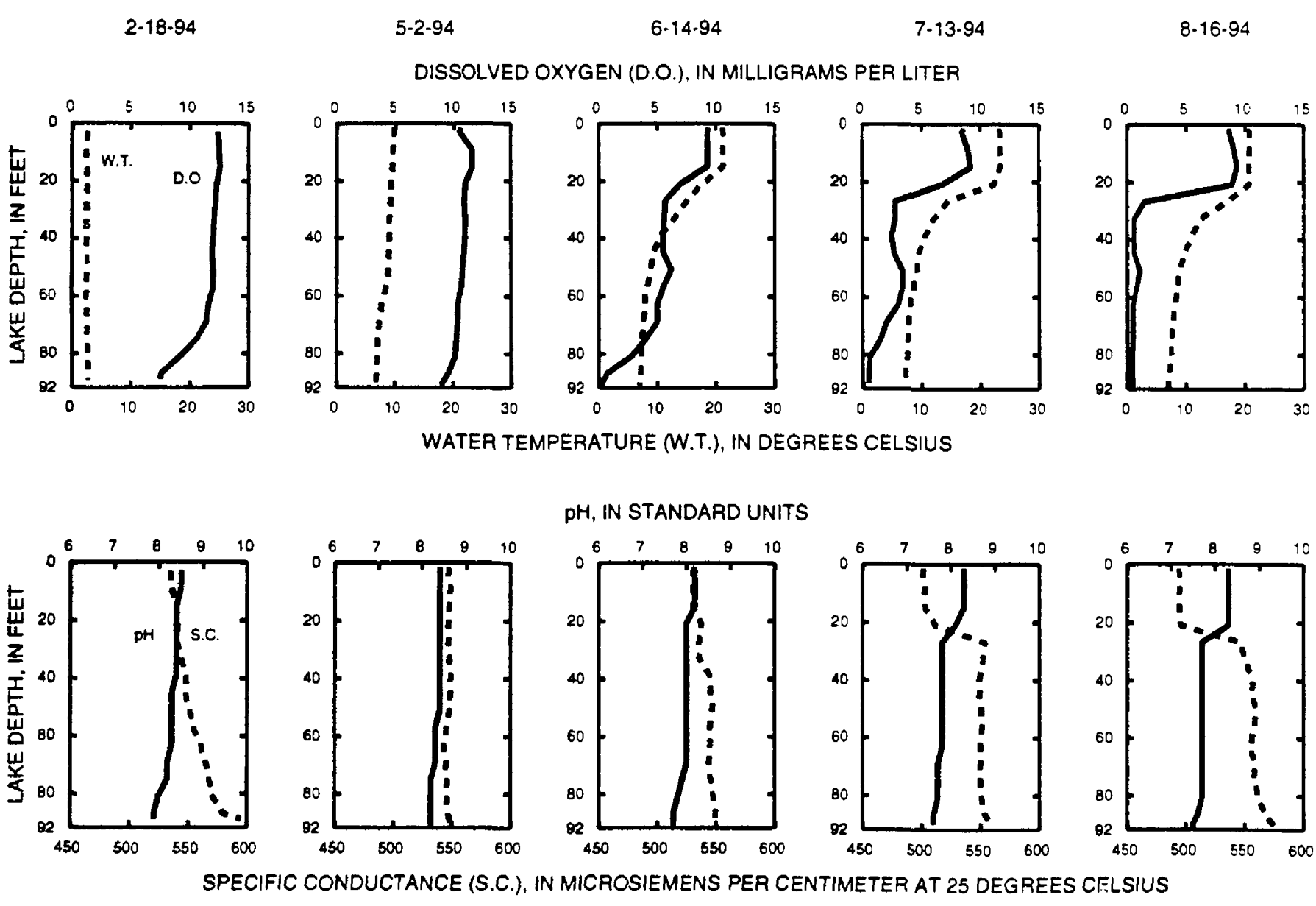
DRAINAGE AREA.--80.7 mi^2.

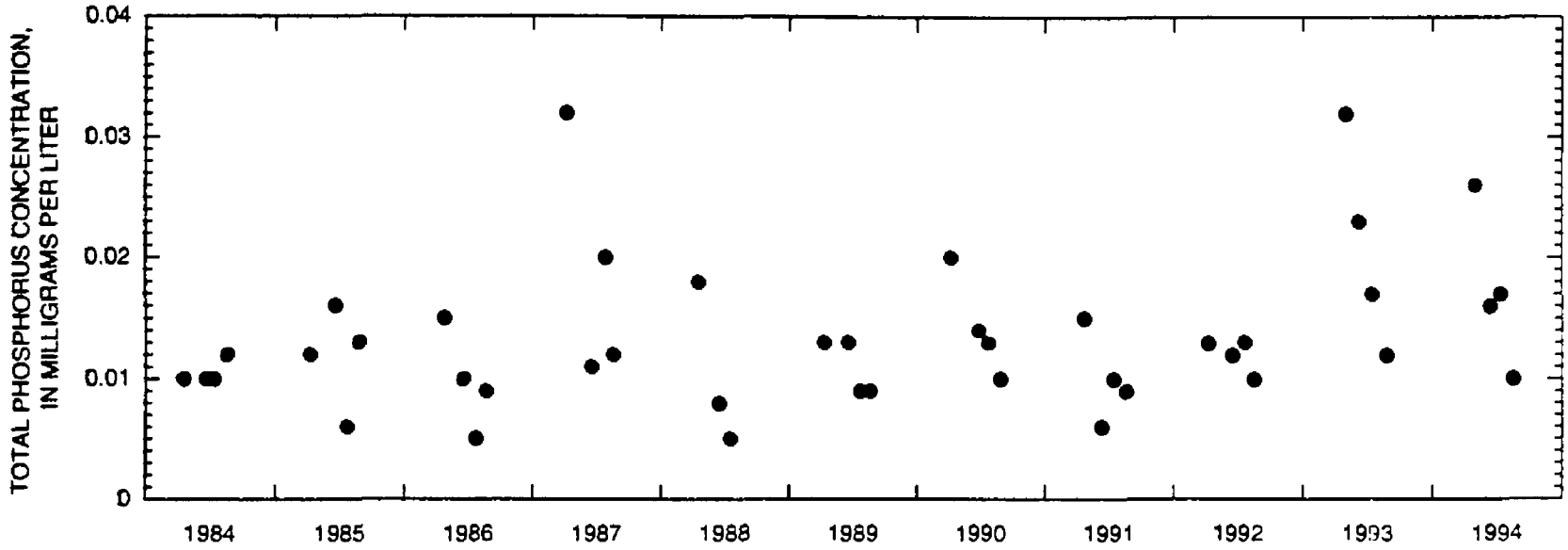
PERIOD OF RECORD.--February 1984 to current year.

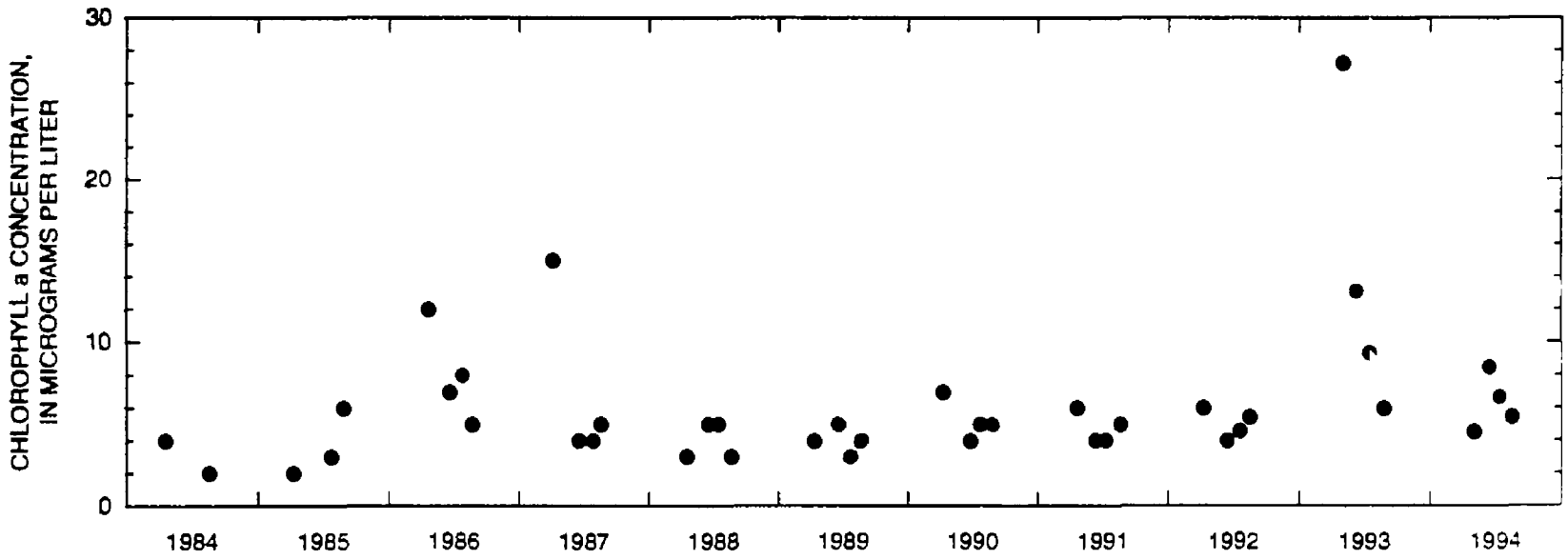
REMARKS.--A detailed water quality management plan has been developed for Okauchee Lake by Southeastern Wisconsin Regional Planning Commission; previous water-quality data are available in this report. Lake sampled near center at a lake depth of about 92 feet. Lake ice-covered during February sampling. Water-quality analyses by Wisconsin State Laboratory of Hygiene.

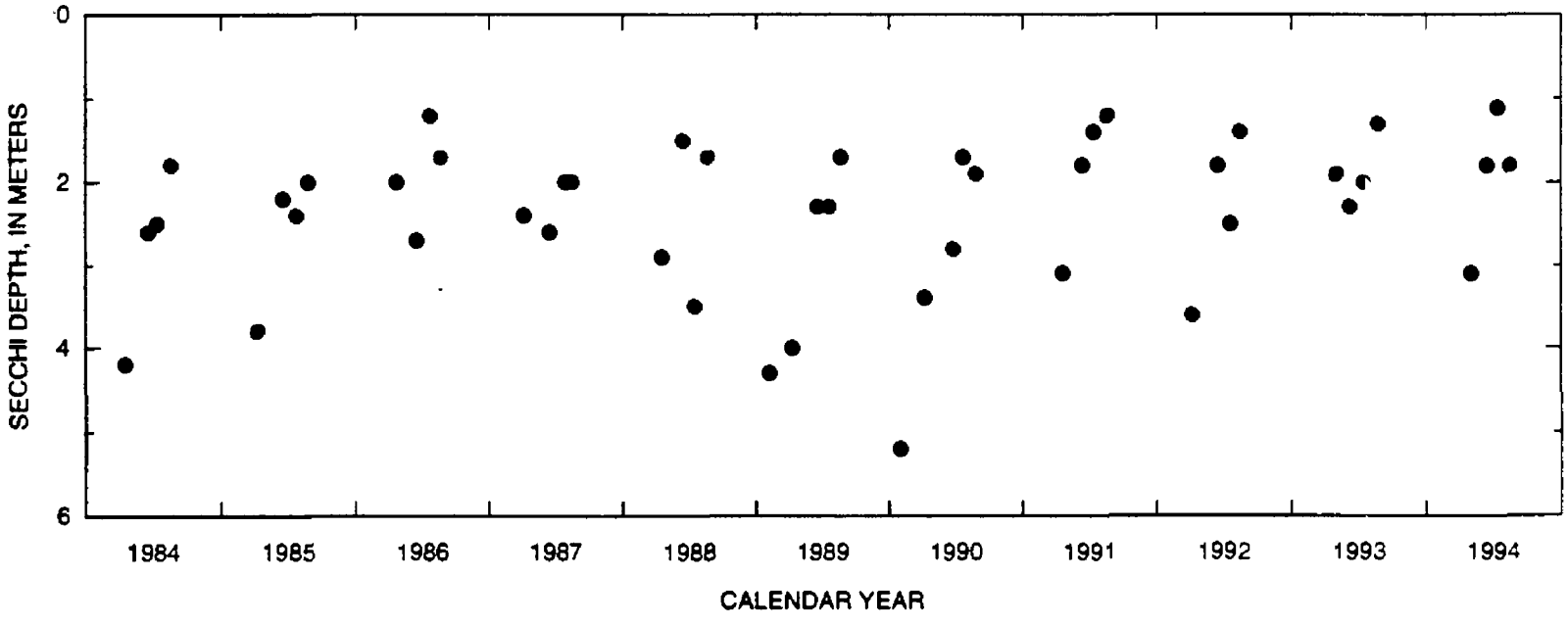
WATER-QUALITY DATA, FEBRUARY 18 TO AUGUST 16, 1994
(Milligrams per liter unless otherwise indicated)

	Feb. 18		May 02		June 14		July 13		Aug. 16	
Depth of sample (ft)	3.0	89	1.5	91	1.5	91	1.5	90	1.5	91
Lake stage (ft)	4.07		4.59		4.79		5.00		4.69	
Specific conductance (µS/cm)	535	595	548	549	532	551	502	560	494	575
pH (units)	8.5	7.9	8.4	8.2	8.2	7.7	8.3	7.6	8.3	7.5
Water temperature (°C)	2.5	3.0	10.0	6.5	21.0	7.0	23.5	7.0	21.0	7.0
Color (Pt-Co. scale)	---	---	20	30	---	---	---	---	---	---
Turbidity (NTU)	---	---	0.90	1.00	---	---	---	---	---	---
Secchi-depth (meters)	---		3.1		1.8		1.1		1.8	
Dissolved oxygen	12.4	7.5	10.6	9.0	9.4	0.2	8.6	0.5	8.7	0.4
Hardness, as CaCO3	---	---	280	280	---	---	---	---	---	---
Calcium, dissolved (Ca)	---	---	57	57	---	---	---	---	---	---
Magnesium, dissolved (Mg)	---	---	33	33	---	---	---	---	---	---
Sodium, dissolved (Na)	---	---	11	11	---	---	---	---	---	---
Potassium, dissolved (K)	---	---	2	2	---	---	---	---	---	---
Alkalinity, as CaCO3	---	---	240	240	---	---	---	---	---	---
Sulfate, dissolved (SO4)	---	---	25	25	---	---	---	---	---	---
Chloride, dissolved (Cl)	---	---	26	26	---	---	---	---	---	---
Fluoride, dissolved (F)	---	---	0.1	0.1	---	---	---	---	---	---
Silica, dissolved (SiO2)	---	---	3.8	5.6	---	---	---	---	---	---
Solids, dissolved, at 180°C	---	---	322	320	---	---	---	---	---	---
Nitrogen, NO2 + NO3, diss. (as N)	---	---	0.42	0.38	---	---	---	---	---	---
Nitrogen, ammonia, dissolved (as N)	---	---	0.05	0.18	---	---	---	---	---	---
Nitrogen, amm. + org., total (as N)	---	---	0.60	0.70	---	---	---	---	---	---
Nitrogen, total (as N)	---	---	1.0	1.1	---	---	---	---	---	---
Phosphorus, total (as P)	---	---	0.026	0.024	0.016	0.040	0.017	0.060	0.010	0.110
Phosphorus, ortho, dissolved (as P)	---	---	<0.002	0.002	---	---	---	---	---	---
Iron, dissolved (Fe) µg/L	---	---	<50	<50	---	---	---	---	---	---
Manganese, dissolved (Mn) µg/L	---	---	<40	<40	---	---	---	---	---	---
Chlorophyll a, phytoplankton (µg/L)	---	---	4.6	---	8.5	---	6.7	---	5.5	---









Surface total phosphorus and chlorophyll a concentrations, and Secchi depths for Okauchee Lake at Okauchee, Wisconsin.

430759088244200 OKAUCHEE LAKE, NO. 1, NEAR OKAUCHEE, WI

LOCATION.--Lat 43°07'59", long 88°24'42", in NE 1/4 NW 1/4 sec.30, T.8 N., R.18 E., Waukesha County, Hydrologic Unit 07090001, near Okauchee.

PERIOD OF RECORD.--April 1986 to current year.

REMARKS.--Sampling site is located in Crane's Nest Bay, in the northeast part of the lake, at a depth of 10 ft. Water-quality analyses by Wisconsin State Laboratory of Hygiene.

WATER-QUALITY DATA, MAY 02 TO AUGUST 16, 1994
(Milligrams per liter unless otherwise indicated)

	May 02	June 14	July 13	Aug. 16
Depth of sample (ft)	1.5	1.5	1.5	1.5
Lake stage (ft)	4.59	4.79	5.00	4.69
Specific conductance (µS/cm)	552	544	572	503
pH (units)	8.4	8.3	8.3	8.7
Water temperature (°C)	10.0	22.5	23.5	21.5
Secchi-depth (meters)	2.4	1.4	1.6	1.3
Dissolved oxygen	10.8	9.1	7.8	12.5
Phosphorus, total (as P)	0.023	0.021	0.026	0.022
Chlorophyll a, phytoplankton (µg/L)	3.8	4.9	7.9	10

430645088264500 OKAUCHEE LAKE, NO. 2, AT OKAUCHEE, WI

LOCATION.--Lat 43°06'45", long 88°26'45", in NE 1/4 NE 1/4 sec.35, T.8 N., R.17 E., Waukesha County, Hydrologic Unit 07090001, at Okauchee.

PERIOD OF RECORD.--April 1986 to current year.

REMARKS.--Sampling site is located in Lower Okauchee Lake, at a depth of 10 ft. Water-quality analyses by Wisconsin State Laboratory of Hygiene.

WATER-QUALITY DATA, MAY 02 TO AUGUST 16, 1994
(Milligrams per liter unless otherwise indicated)

	May 02	June 14	July 13	Aug. 16
Depth of sample (ft)	1.5	1.5	1.5	1.5
Lake stage (ft)	4.59	4.79	5.00	4.69
Specific conductance (µS/cm)	543	499	481	461
pH (units)	8.4	8.3	8.4	8.6
Water temperature (°C)	10.0	24.5	24.0	21.5
Secchi-depth (meters)	1.8	1.9	1.2	2.0
Dissolved oxygen	11.0	9.0	10.4	10.4
Phosphorus, total (as P)	0.019	0.019	0.016	0.015
Chlorophyll a, phytoplankton (µg/L)	9.2	3.8	6.3	4.5

430642088252400 OKAUCHEE LAKE, NO. 3, AT OKAUCHEE, WI

LOCATION.--Lat 43°06'42", long 88°25'24", in NE 1/4 NE 1/4 sec.36, T.8 N., R.17 E., Waukesha County, Hydrologic Unit 07090001, at Okauchee.

PERIOD OF RECORD.--April 1986 to current year.

REMARKS.--Sampling site is located in Ice House Bay, in the south bay of Okauchee Lake, at e depth of 10 ft. Water-quality analyses by Wisconsin State Laboratory of Hygiene.

WATER-QUALITY DATA, MAY 02 TO AUGUST 16, 1994
(Milligrams per liter unless otherwise indicated)

	May 02	June 14	July 13	Aug. 16
Depth of sample (ft)	1.5	1.5	1.5	1.5
Lake stage (ft)	4.59	4.79	5.00	4.69
Specific conductance (µS/cm)	552	523	484	461
pH (units)	8.4	8.3	8.4	8.6
Water temperature (°C)	10.0	23.0	23.5	21.5
Secchi-depth (meters)	2.3	1.4	1.3	1.8
Dissolved oxygen	10.8	9.5	9.5	10.2
Phosphorus, total (as P)	0.019	0.019	0.017	0.017
Chlorophyll a, phytoplankton (µg/L)	3.3	8.4	7.1	5.5

430757088261700 OKAUCHEE LAKE, NO. 4, AT OKAUCHEE, WI

LOCATION.--Lat 43°07'57", long 88°26'17", in NW 1/4 NW 1/4 sec.25, T.8 N., R.17 E., Waukesha County, Hydrologic Unit 07090001, at Okauchee.

PERIOD OF RECORD.--June 1986 to current year.

REMARKS.--Sampling site is located near Crazyman's Island, in the northwest bay of Okauchee Lake, at a depth of 10 ft. Water-quality analyses by Wisconsin State Laboratory of Hygiene.

WATER-QUALITY DATA, MAY 02 TO AUGUST 16, 1994
(Milligrams per liter unless otherwise indicated)

	May 02	June 14	July 13	Aug. 16
Depth of sample (ft)	1.5	1.5	1.5	1.5
Lake stage (ft)	4.59	4.79	5.00	4.69
Specific conductance (µS/cm)	553	534	500	481
pH (units)	8.4	8.3	8.3	8.5
Water temperature (°C)	10.0	22.5	23.0	21.0
Secchi-depth (meters)	2.8	1.6	0.8	1.2
Dissolved oxygen	10.7	7.6	8.3	9.6
Phosphorus, total (as P)	0.018	0.015	0.018	0.014
Chlorophyll a, phytoplankton (µg/L)	3.2	5.4	6.8	4.9

424905088204000 POTTER LAKE NEAR MUKWONAGO, WI

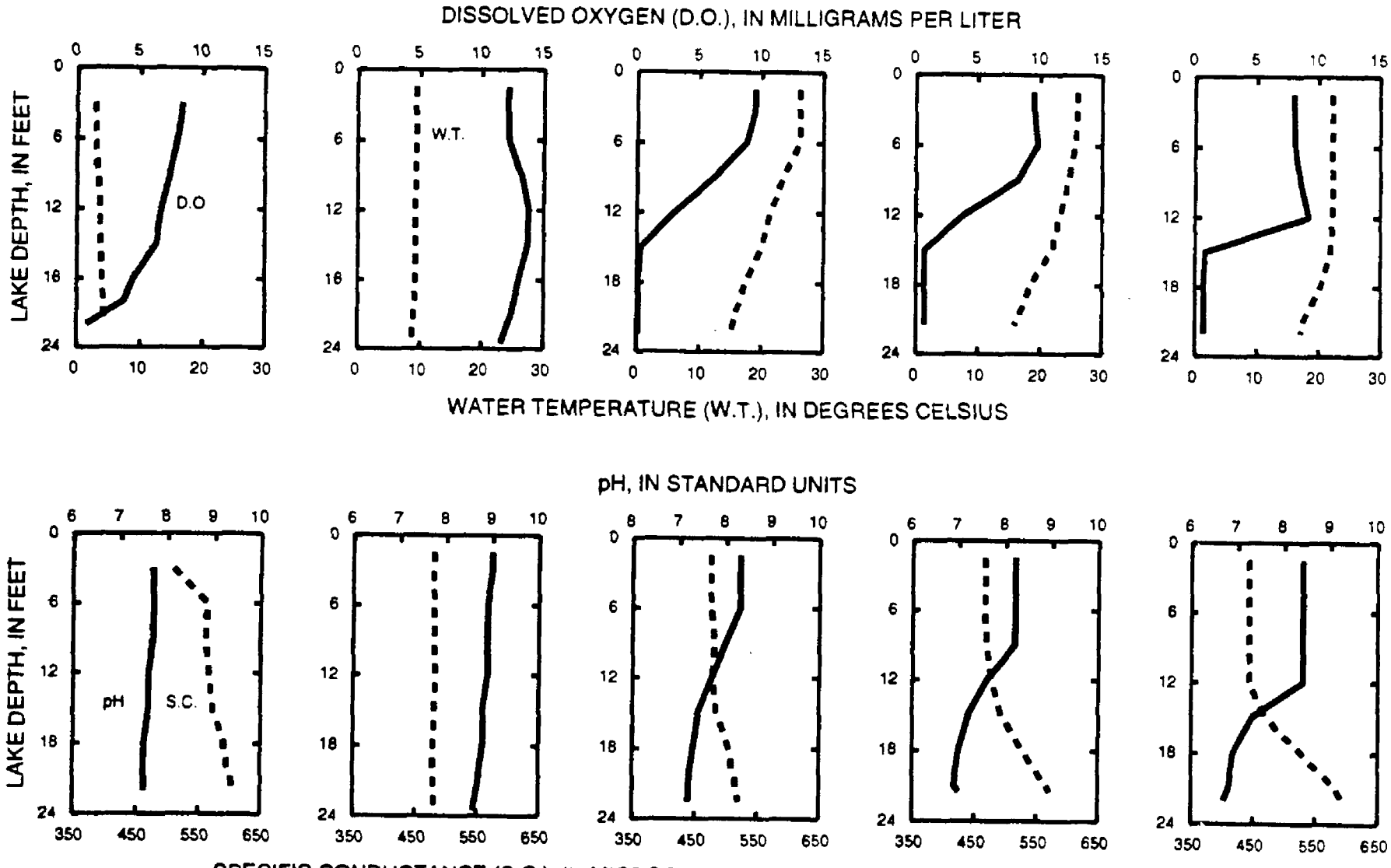
LOCATION.--Lat 42°49'05", long 88°20'40", in NW 1/4 SW 1/4 sec.11, T.4 N., R.18 E., Walworth County, Hydrologic Unit 07120006, 3.3 mi south of Mukwonago.

PERIOD OF RECORD.--February 1993 to current year.

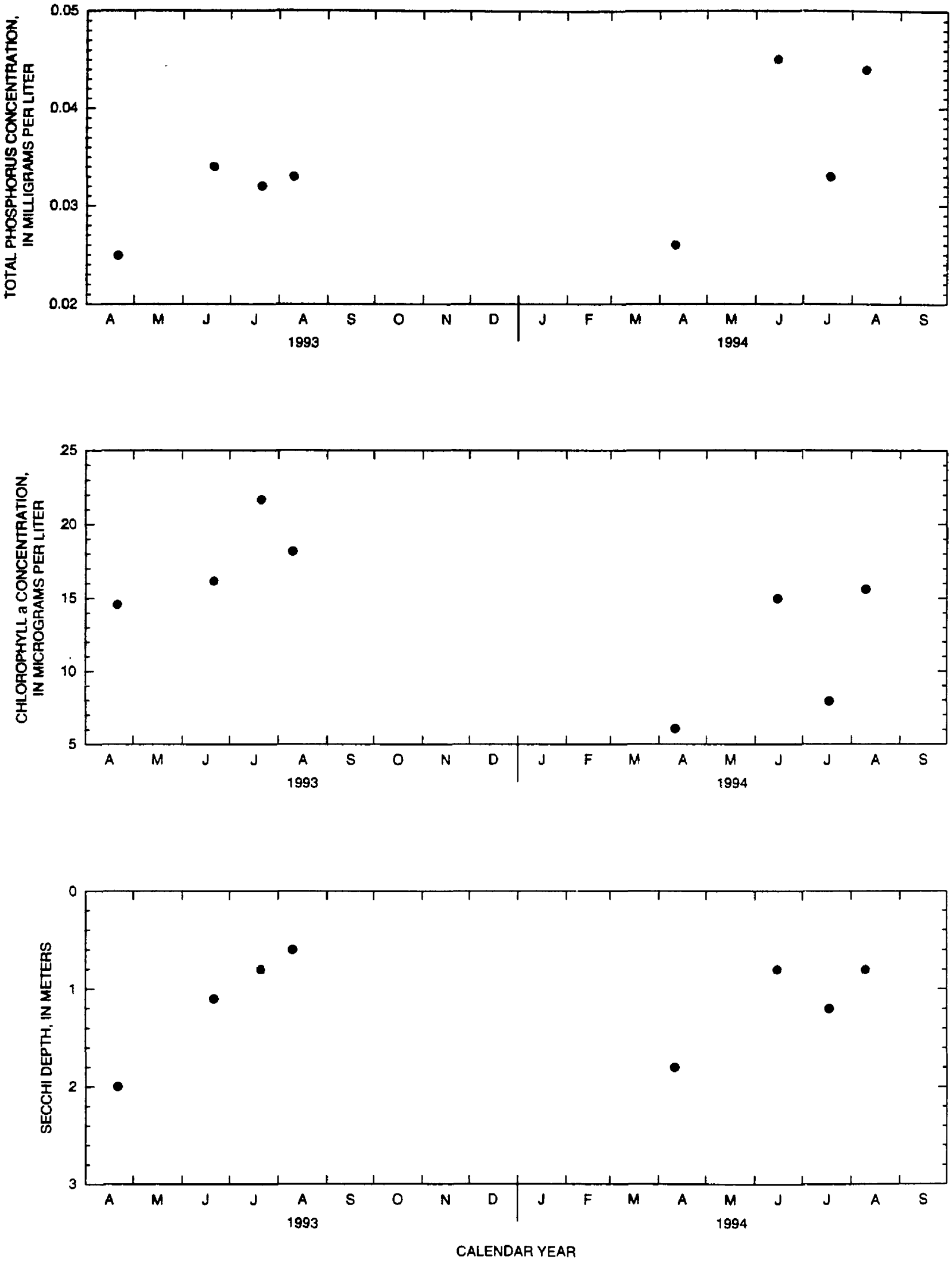
REMARKS.--Lake sampled at deep hole. Lake ice-covered during February sampling. Water-quality analyses by Wisconsin State Laboratory of Hygiene.

WATER-QUALITY DATA, FEBRUARY 28 TO AUGUST 10, 1994
(Milligrams per liter unless otherwise indicated)

	Feb. 28		Apr. 11		June 15		July 18		Aug. 10	
Depth of sample (ft)	3.0	22	1.5	23	1.5	22	1.5	21	1.5	22
Lake stage (ft)	---		7.36		7.03		6.84		6.82	
Specific conductance (µS/cm)	510	606	481	482	476	520	467	571	443	593
pH (units)	7.7	7.5	9.0	8.6	8.3	7.2	8.2	7.0	8.4	6.7
Water temperature (°C)	3.0	4.5	9.5	8.5	26.0	15.0	26.0	16.0	22.5	17.0
Color (Pt-Co. scale)	---	---	15	15	---	---	---	---	---	---
Turbidity (NTU)	---	---	1.4	1.3	---	---	---	---	---	---
Secchi-depth (meters)	---		1.8		0.8		1.2		0.8	
Dissolved oxygen	8.4	0.8	12.2	11.6	9.5	0.1	9.5	0.7	8.0	0.7
Hardness, as CaCO3	---	---	200	200	---	---	---	---	---	---
Calcium, dissolved (Ca)	---	---	41	41	---	---	---	---	---	---
Magnesium, dissolved (Mg)	---	---	24	24	---	---	---	---	---	---
Sodium, dissolved (Na)	---	---	21	21	---	---	---	---	---	---
Potassium, dissolved (K)	---	---	3	3	---	---	---	---	---	---
Alkalinity, as CaCO3	---	---	180	180	---	---	---	---	---	---
Sulfate, dissolved (SO4)	---	---	10	10	---	---	---	---	---	---
Chloride, dissolved (Cl)	---	---	45	45	---	---	---	---	---	---
Fluoride, dissolved (F)	---	---	0.1	0.1	---	---	---	---	---	---
Silica, dissolved (SiO2)	---	---	1.7	1.9	---	---	---	---	---	---
Solids, dissolved, at 180°C	---	---	272	272	---	---	---	---	---	---
Nitrogen, NO2 + NO3, diss. (as N)	---	---	0.02	0.03	---	---	---	---	---	---
Nitrogen, ammonia, dissolved (as N)	---	---	0.01	0.05	---	---	---	---	---	---
Nitrogen, amm. + org., total (as N)	---	---	0.70	0.70	---	---	---	---	---	---
Nitrogen, total (as N)	---	---	0.72	0.73	---	---	---	---	---	---
Phosphorus, total (as P)	---	---	0.026	0.026	0.045	0.090	0.033	0.089	0.044	0.128
Phosphorus, ortho, dissolved (as P)	---	---	0.009	0.009	---	---	---	---	---	---
Iron, dissolved (Fe) µg/L	---	---	<50	<50	---	---	---	---	---	---
Manganese, dissolved (Mn) µg/L	---	---	<40	<40	---	---	---	---	---	---
Chlorophyll a, phytoplankton (µg/L)	---	---	6.1	---	15	---	7.9	---	16	---



2-28-94 4-11-94 6-15-94 7-18-94 8-10-94



Surface total phosphorus and chlorophyll a concentrations, and Secchi depths for Potter Lake near Mukwonago, Wisconsin.

423246088175800 POWERS LAKE AT POWERS LAKE, WI

LOCATION.--Lat 42°32'46", long 88°17'58", in NW 1/4 SE 1/4 sec.13, T.1 N., R.18 E., Walworth County, Hydrologic Unit 07120006, at Powers Lake.

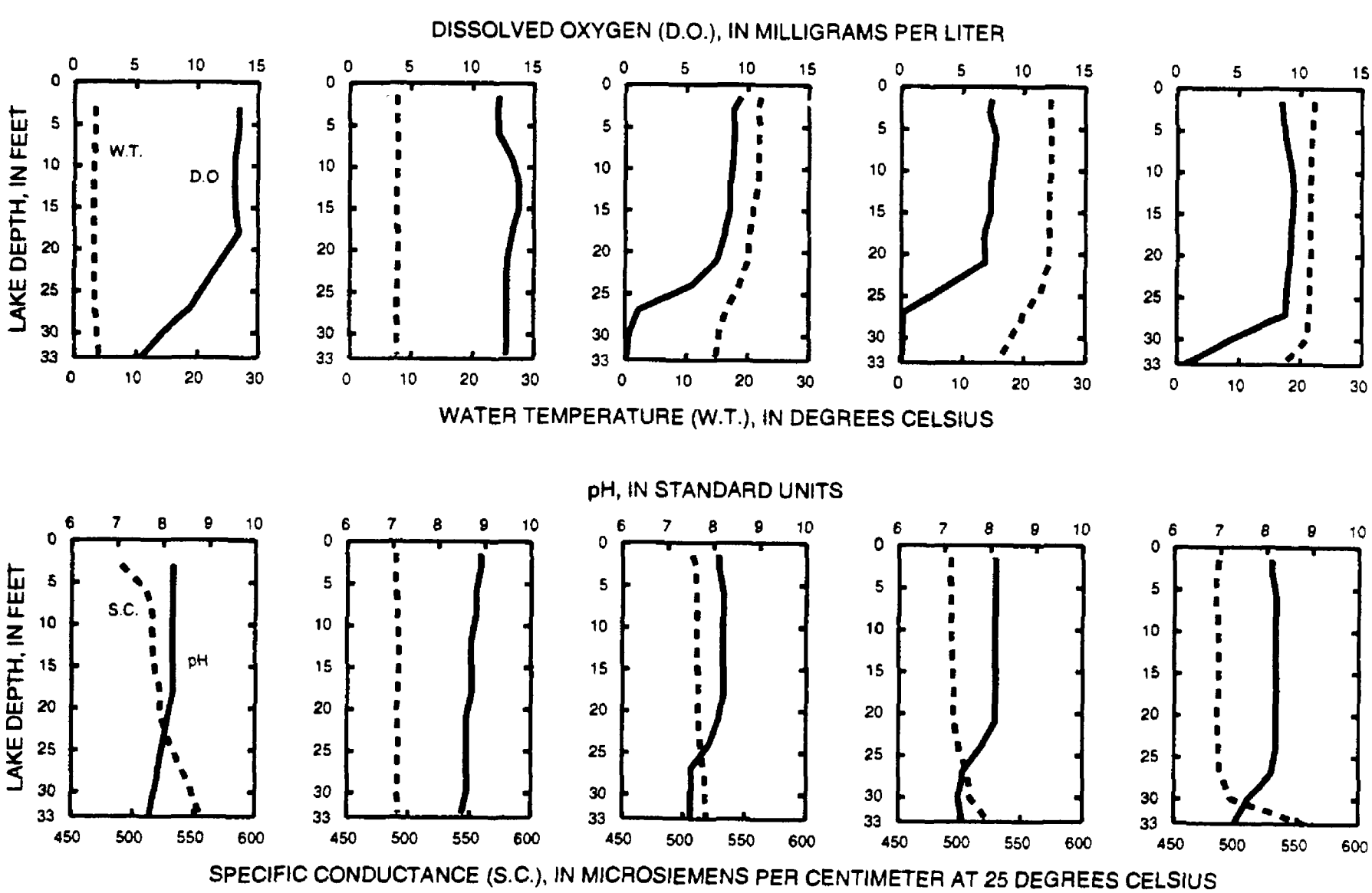
DRAINAGE AREA.--3.42 mi^2.

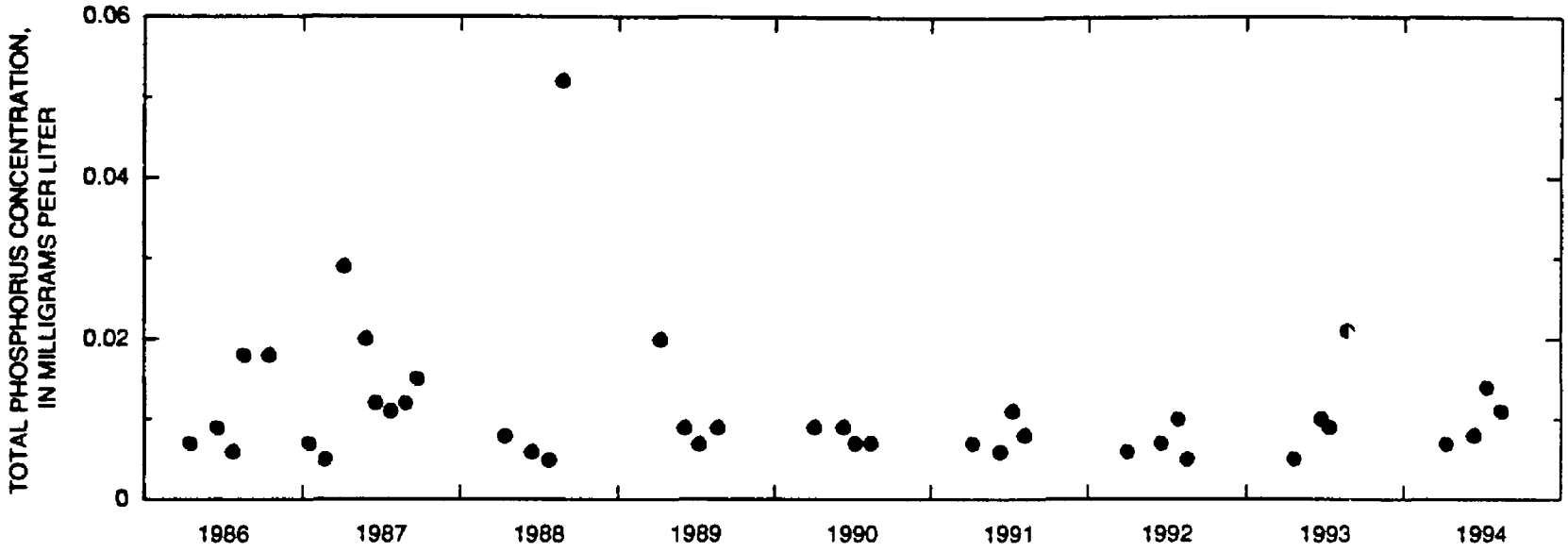
PERIOD OF RECORD.--March 1986 to current year.

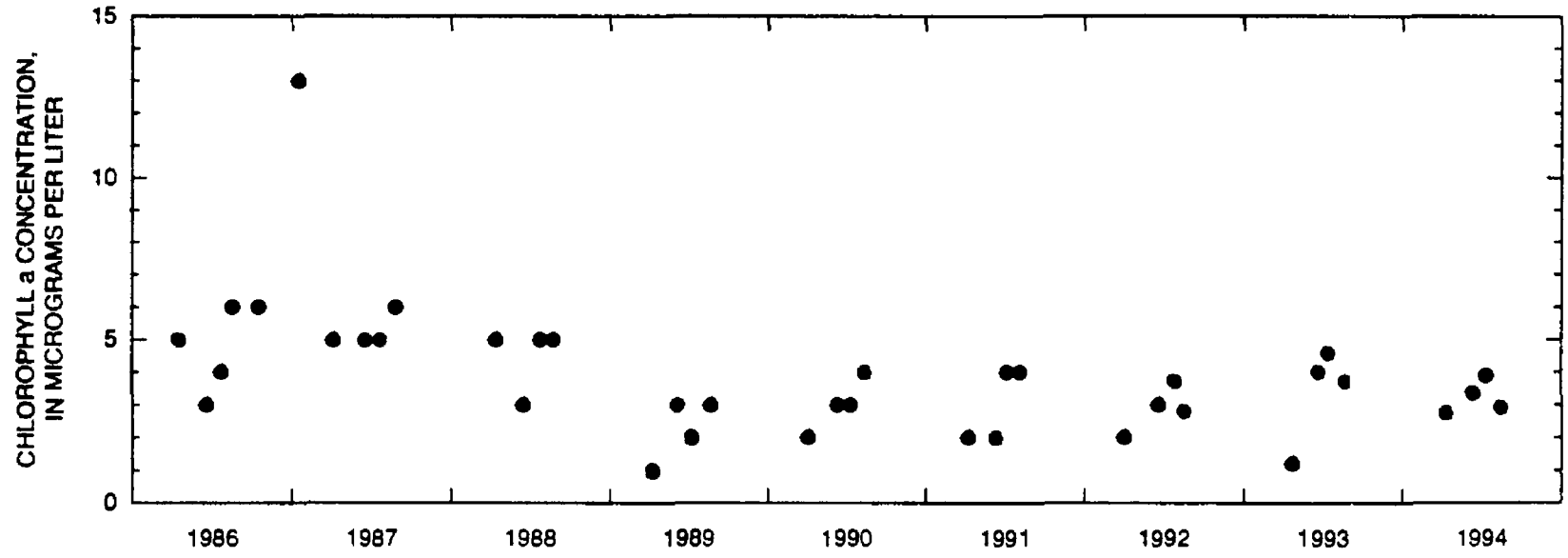
REMARKS.--Lake sampled near center at a lake depth of about 32 ft. Lake ice-covered during February sampling. Water-quality analyses by Wisconsin State Laboratory of Hygiene.

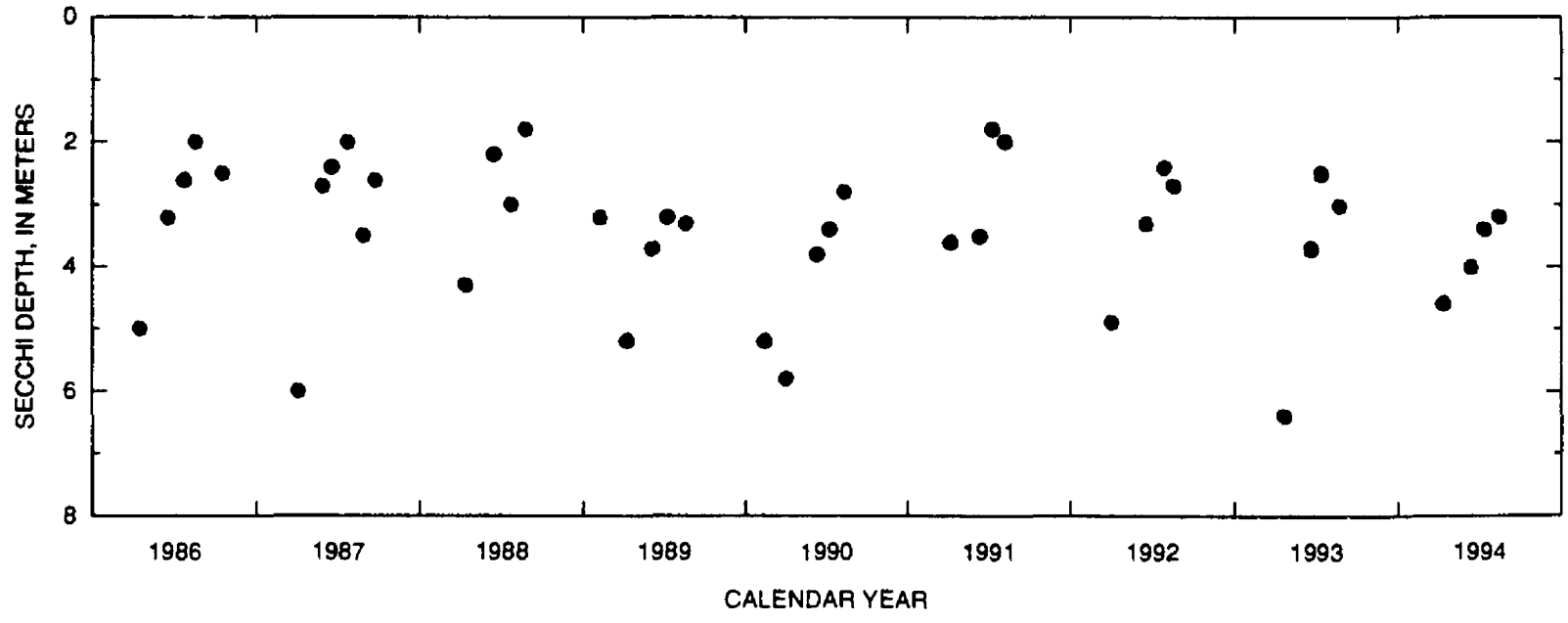
WATER-QUALITY DATA, FEBRUARY 24 TO AUGUST 15, 1994
(Milligrams per liter unless otherwise indicated)

	Feb. 24		Apr. 11		June 13		July 12		Aug. 15	
Depth of sample (ft)	3.0	33	1.5	32	1.5	33	1.5	33	1.5	33
Lake stage (ft)	10.72		10.42		9.80		10.00		9.93	
Specific conductance (µS/cm)	490	556	490	492	507	519	492	524	486	556
pH (units)	8.2	7.7	8.9	8.5	8.1	7.5	8.1	7.4	8.1	7.3
Water temperature (°C)	3.5	4.0	8.0	7.5	22.0	14.5	24.5	15.5	22.5	17.0
Color (Pt-Co. scale)	---	---	10	10	---	---	---	---	---	---
Turbidity (NTU)	---	---	<0.50	0.50	---	---	---	---	---	---
Secchi-depth (meters)	---		4.6		4.0		3.4		3.2	
Dissolved oxygen	13.5	5.4	12.2	12.7	9.5	0.1	7.4	0.0	8.5	0.7
Hardness, as CaCO3	---	---	230	230	---	---	---	---	---	---
Calcium, dissolved (Ca)	---	---	42	42	---	---	---	---	---	---
Magnesium, dissolved (Mg)	---	---	30	31	---	---	---	---	---	---
Sodium, dissolved (Na)	---	---	14	14	---	---	---	---	---	---
Potassium, dissolved (K)	---	---	2	2	---	---	---	---	---	---
Alkalinity, as CaCO3	---	---	190	190	---	---	---	---	---	---
Sulfate, dissolved (SO4)	---	---	33	34	---	---	---	---	---	---
Chloride, dissolved (Cl)	---	---	31	30	---	---	---	---	---	---
Fluoride, dissolved (F)	---	---	0.1	0.1	---	---	---	---	---	---
Silica, dissolved (SiO2)	---	---	7.3	7.2	---	---	---	---	---	---
Solids, dissolved, at 180°C	---	---	286	280	---	---	---	---	---	---
Nitrogen, NO2 + NO3, diss. (as N)	---	---	0.08	0.08	---	---	---	---	---	---
Nitrogen, ammonia, dissolved (as N)	---	---	<0.00	<0.00	---	---	---	---	---	---
Nitrogen, amm. + org., total (as N)	---	---	0.50	0.40	---	---	---	---	---	---
Nitrogen, total (as N)	---	---	0.58	0.48	---	---	---	---	---	---
Phosphorus, total (as P)	---	---	0.007	0.008	0.008	<0.020	0.014	0.040	0.011	0.061
Phosphorus, ortho, dissolved (as P)	---	---	<0.002	<0.002	---	---	---	---	---	---
Iron, dissolved (Fe) µg/L	---	---	<50	<50	---	---	---	---	---	---
Manganese, dissolved (Mn) µg/L	---	---	<40	<40	---	---	---	---	---	---
Chlorophyll a, phytoplankton (µg/L)	---	---	2.7	---	3.3	---	3.9	---	2.9	---









Surface total phosphorus and chlorophyll a concentrations, and Secchi depths for Powers Lake at Powers Lake, Wisconsin.

425722088295000 PRETTY LAKE, AT DEEP HOLE, NEAR DOUSMAN, WI

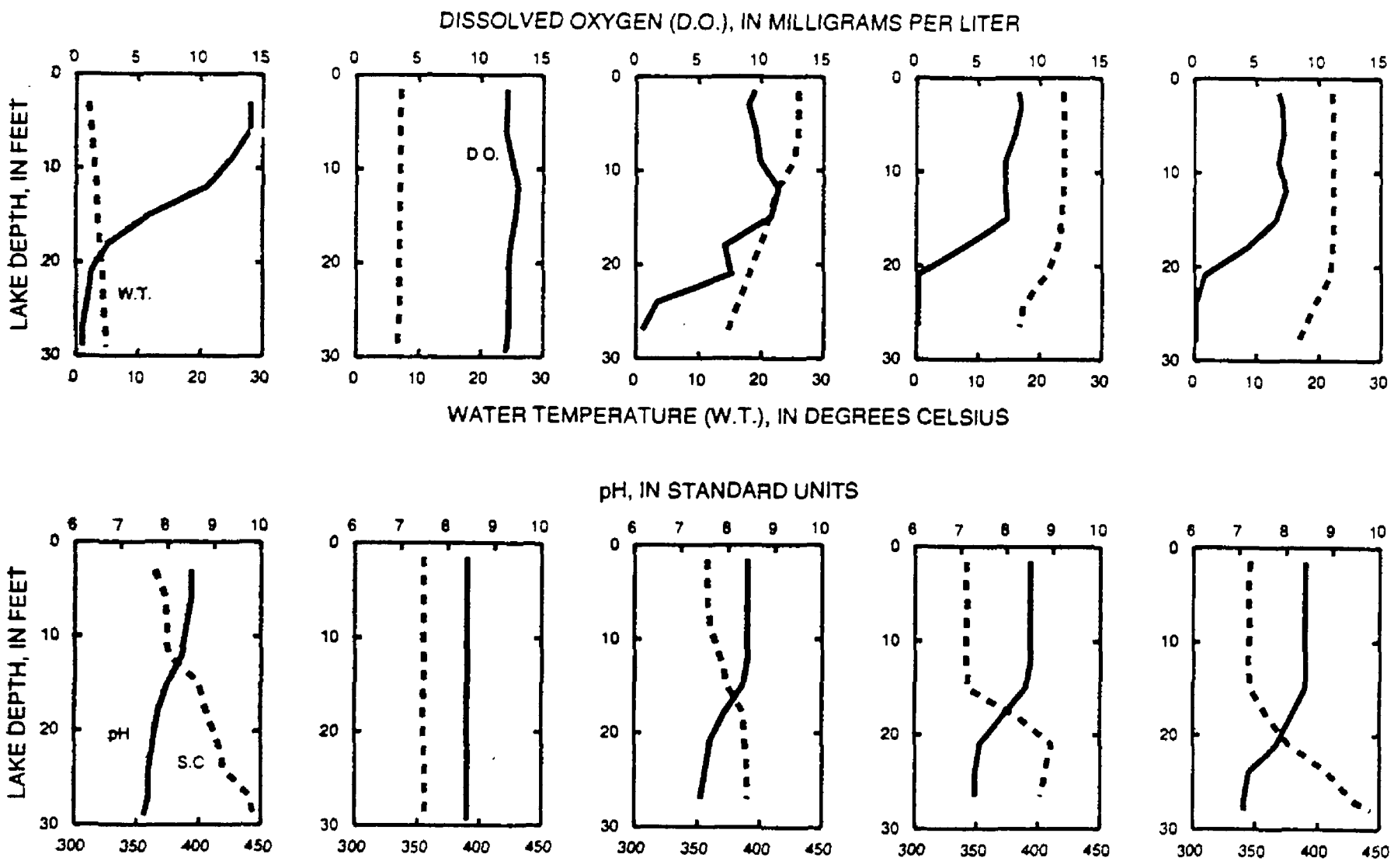
LOCATION.--Lat 42°57'22" long 88°29'50", in NE 1/4 NW 1/4 sec.28, T.6 N., R.17 E., Waukesha County, Hydrologic Unit 07090001, 4.1 mi south of Dousman.

PERIOD OF RECORD.--February 1993 to current year.

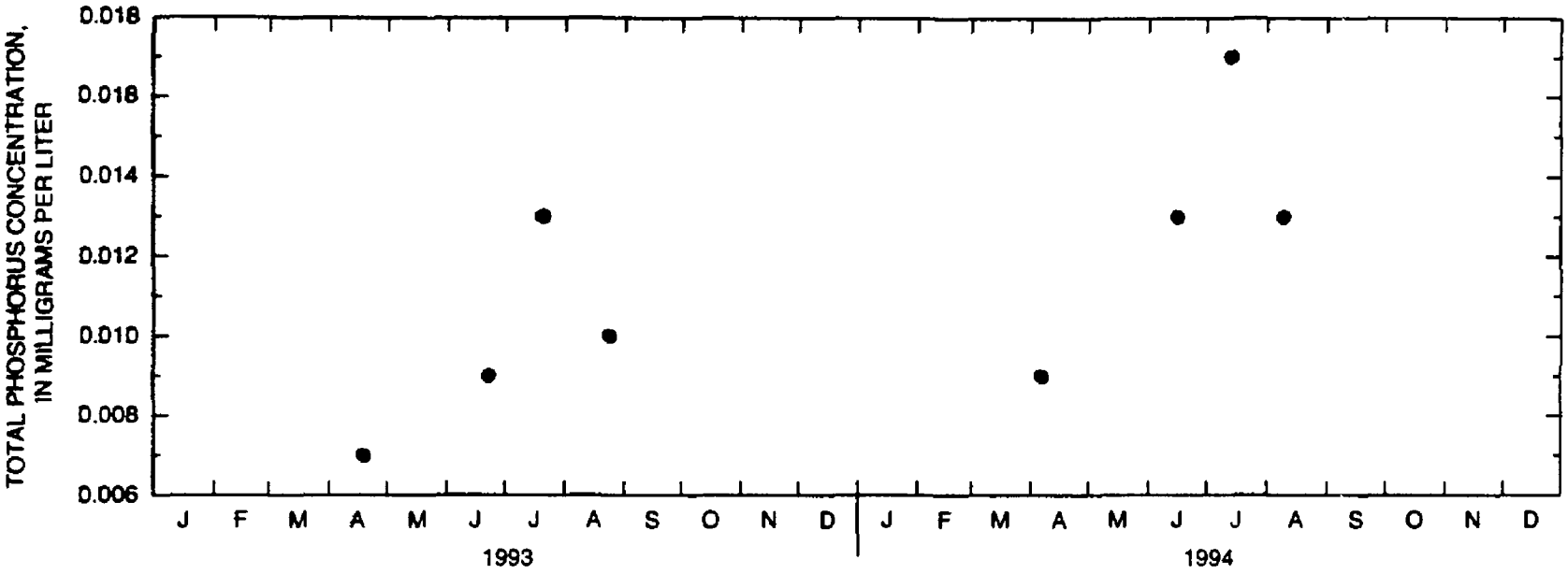
REMARKS.--Lake sampled at deep hole at northeast end of lake. Lake ice-covered during March sampling. Water-quality analyses by Wisconsin State Laboratory of Hygiene.

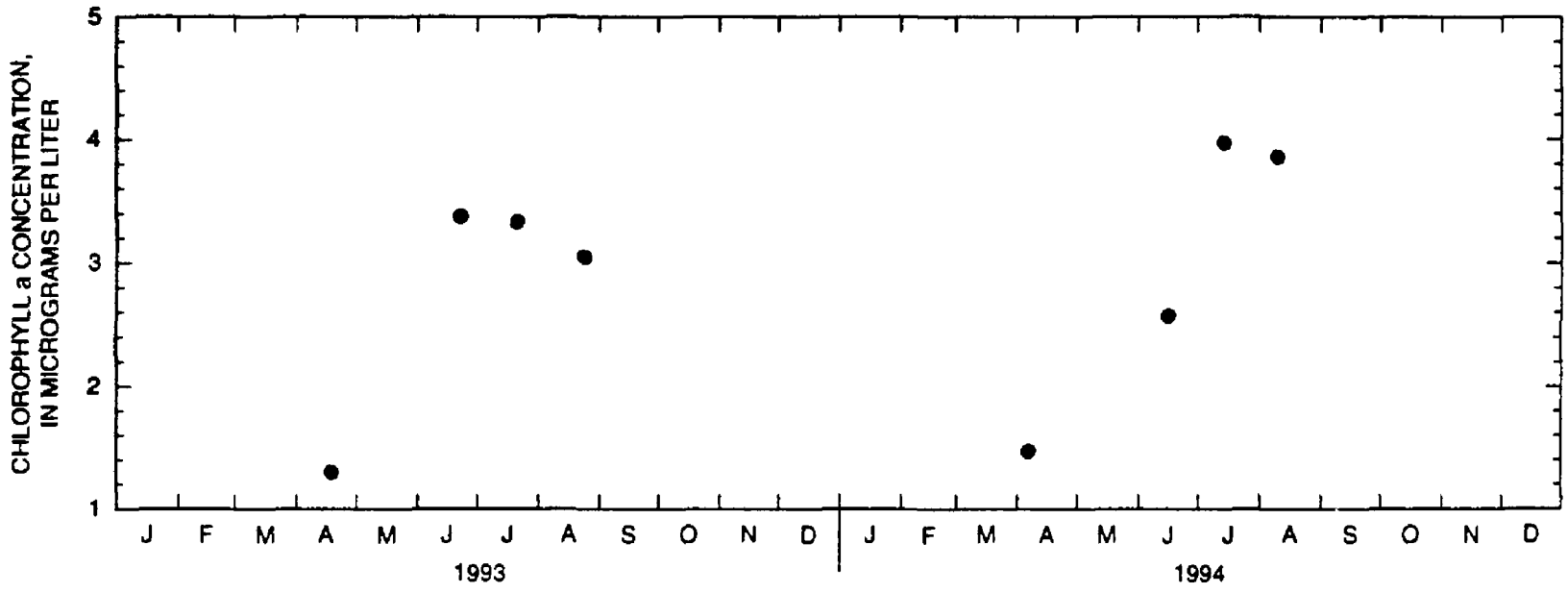
WATER-QUALITY DATA, MARCH 01 TO AUGUST 10, 1994
(Milligrams per liter unless otherwise indicated)

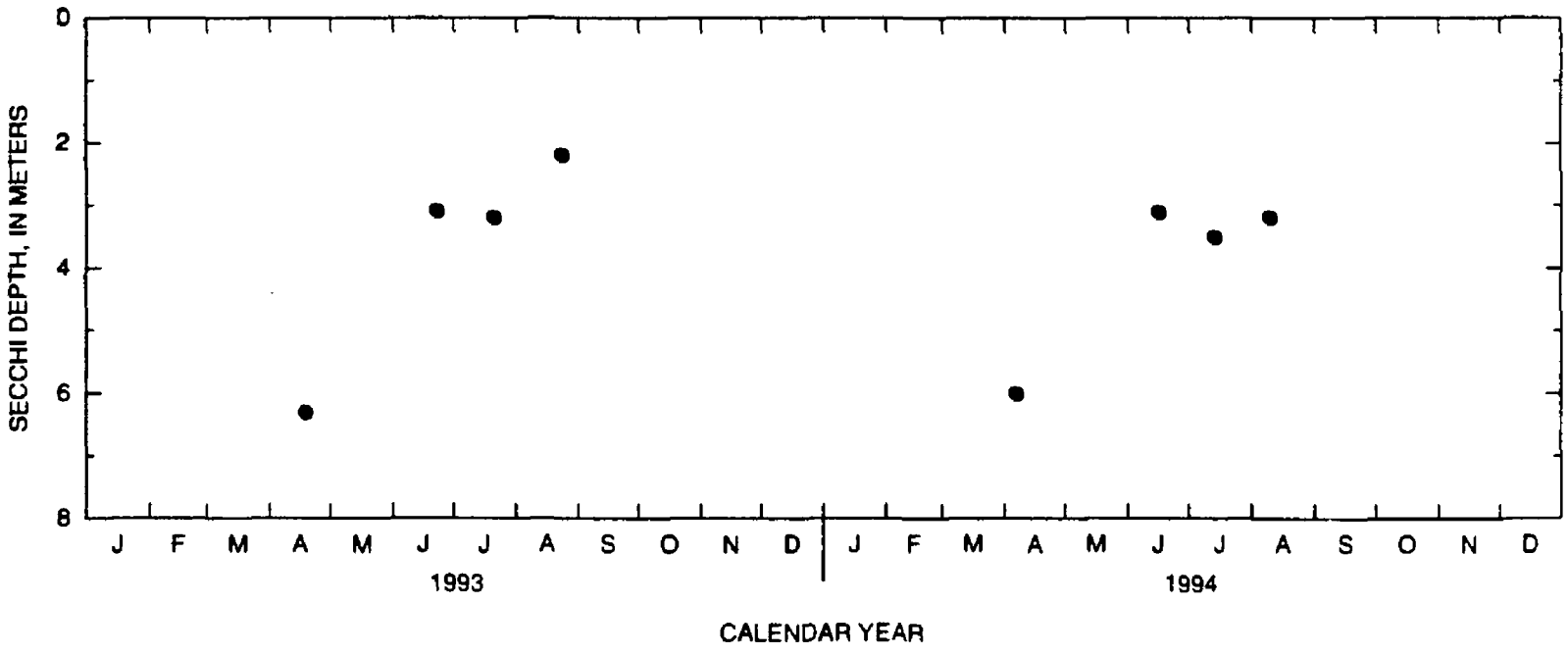
	Mar. 01		Apr. 07		June 16		July 14		Aug. 10	
Depth of sample (ft)	3.0	29	1.5	29	1.5	27	1.5	26	1.5	28
Lake stage (ft)	---		864.90		865.22		865.72		865.44	
Specific conductance (µS/cm)	365	444	355	356	358	390	342	402	346	443
pH (units)	8.5	7.5	8.4	8.4	8.4	7.4	8.5	7.3	8.4	7.1
Water temperature (°C)	2.0	5.0	7.0	6.5	26.0	14.5	24.0	16.5	22.0	16.5
Color (Pt-Co. scale)	---	---	10	5	---	---	---	---	---	---
Turbidity (NTU)	---	---	0.50	0.60	---	---	---	---	---	---
Secchi-depth (meters)	---		6.0		3.1		3.5		3.2	
Dissolved oxygen	14.0	0.5	12.1	12.0	9.5	0.5	8.3	0.1	6.8	0.1
Hardness, as CaCO3	---	---	170	170	---	---	---	---	---	---
Calcium, dissolved (Ca)	---	---	29	29	---	---	---	---	---	---
Magnesium, dissolved (Mg)	---	---	24	24	---	---	---	---	---	---
Sodium, dissolved (Na)	---	---	8.6	8.7	---	---	---	---	---	---
Potassium, dissolved (K)	---	---	2	2	---	---	---	---	---	---
Alkalinity, as CaCO3	---	---	150	150	---	---	---	---	---	---
Sulfate, dissolved (SO4)	---	---	16	16	---	---	---	---	---	---
Chloride, dissolved (Cl)	---	---	15	15	---	---	---	---	---	---
Fluoride, dissolved (F)	---	---	0.1	0.1	---	---	---	---	---	---
Silica, dissolved (SiO2)	---	---	0.3	0.3	---	---	---	---	---	---
Solids, dissolved, at 180°C	---	---	196	196	---	---	---	---	---	---
Nitrogen, NO2 + NO3, diss. (as N)	---	---	0.07	0.08	---	---	---	---	---	---
Nitrogen, ammonia, dissolved (as N)	---	---	0.07	0.07	---	---	---	---	---	---
Nitrogen, amm. + org., total (as N)	---	---	0.70	0.50	---	---	---	---	---	---
Nitrogen, total (as N)	---	---	0.77	0.58	---	---	---	---	---	---
Phosphorus, total (as P)	---	---	0.009	0.008	0.013	0.020	0.017	0.030	0.013	<0.020
Phosphorus, ortho, dissolved (as P)	---	---	<0.002	<0.002	---	---	---	---	---	---
Iron, dissolved (Fe) µg/L	---	---	<50	<50	---	---	---	---	---	---
Manganese, dissolved (Mn) µg/L	---	---	<40	<40	---	---	---	---	---	---
Chlorophyll a, phytoplankton(µg/L)	---	---	1.5	---	2.6	---	4.0	---	3.9	---



3-1-94 4-7-94 6-16-94 7-14-94 8-10-94







Surface total phosphorus and chlorophyll a concentrations, and Secchi depths for Pretty Lake, at Deep Hole, near Dousman, Wisconsin.

453725091345100 RED CEDAR LAKE, DEEP HOLE, NEAR MIKANA, WI

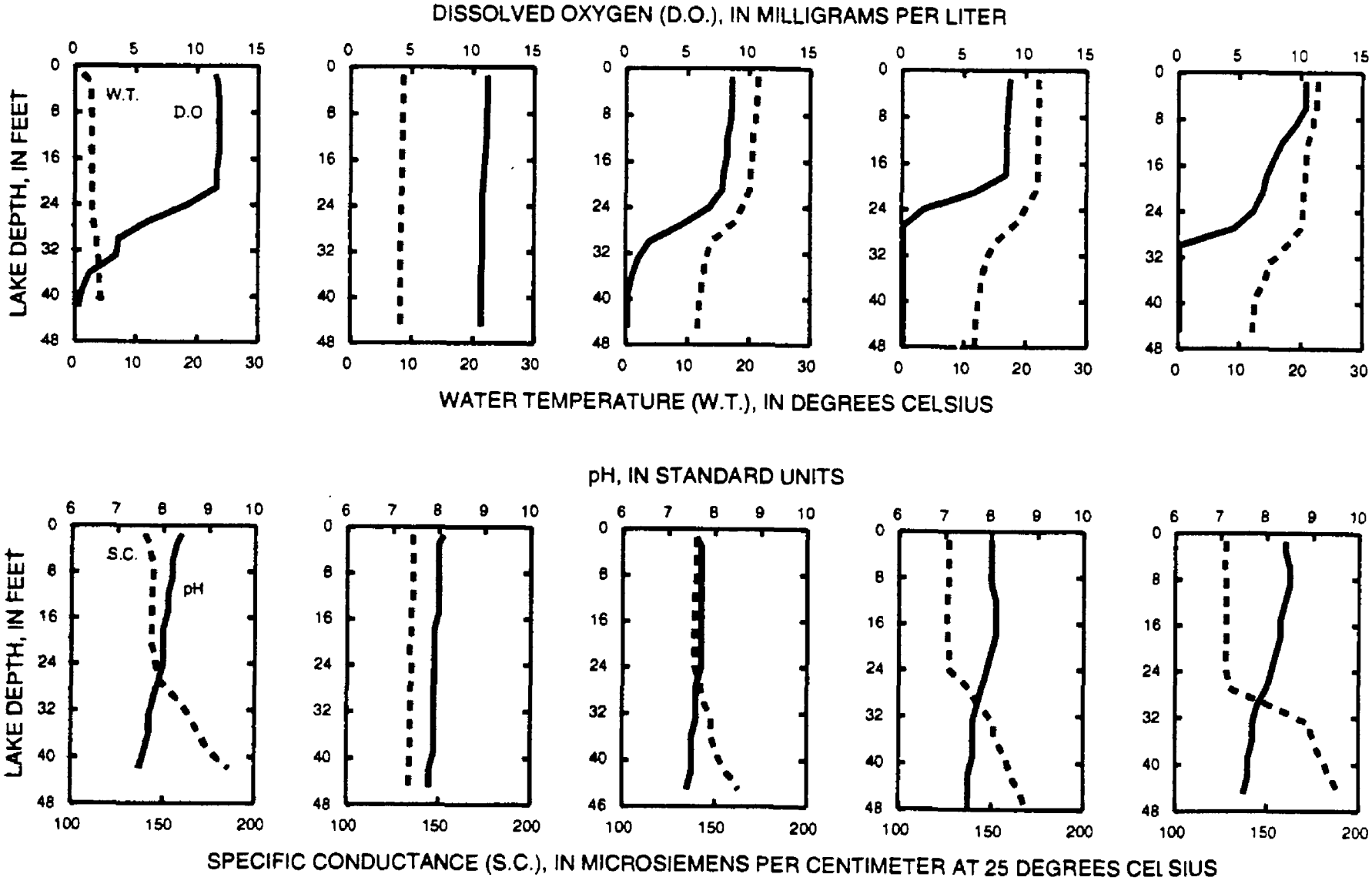
LOCATION.--Lat 45°37'25", long 91°34'51", in NW 1/4 NW 1/4 sec.11, T.36 N., R.10 W., Barron County, Hydrologic Unit 07050007, 2.4 mi northeast of Mikana.

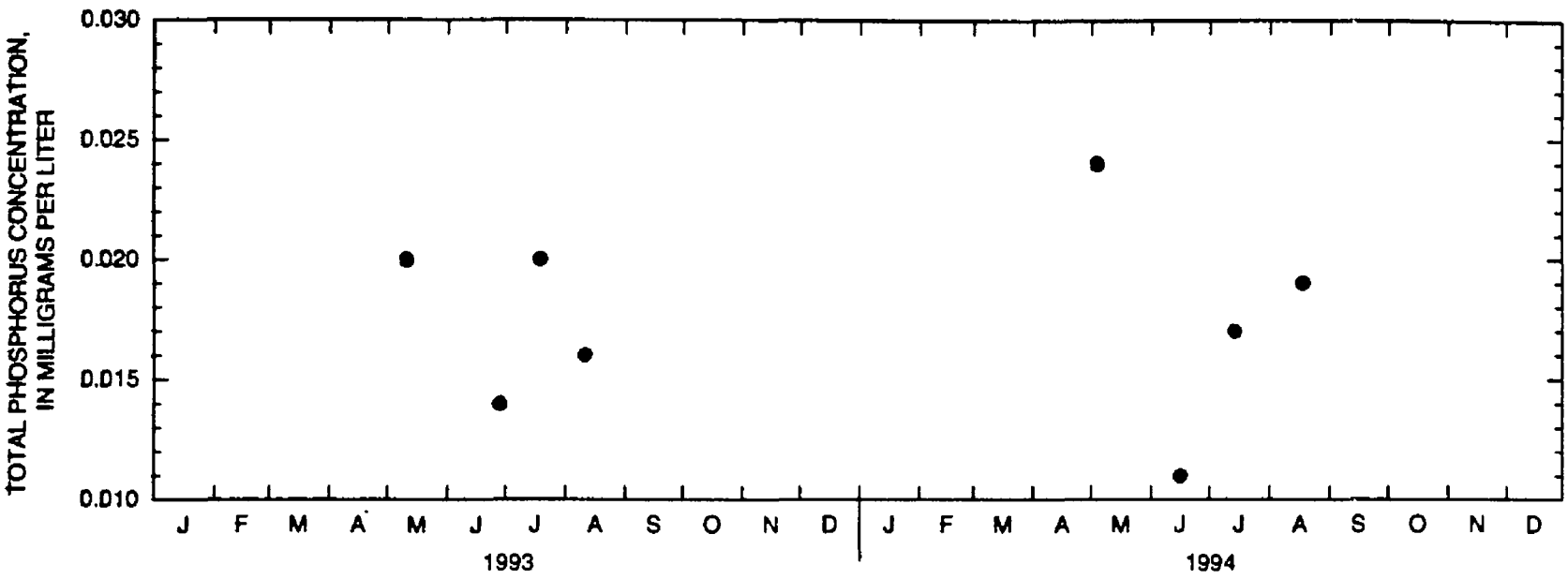
PERIOD OF RECORD.--March 1993 to August 1994 (discontinued).

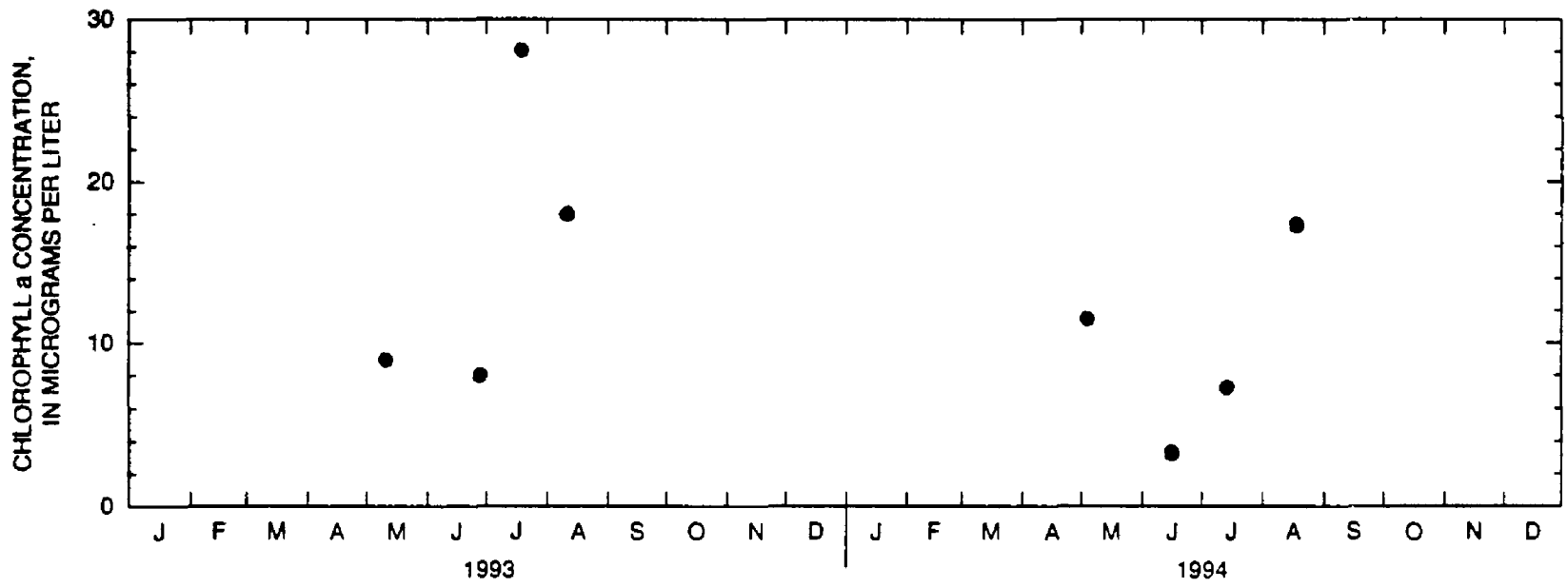
REMARKS.--Lake sampled in northern part of lake at deep hole. Lake ice-covered during March sampling. Water-quality analyses by Wisconsin State Laboratory of Hygiene.

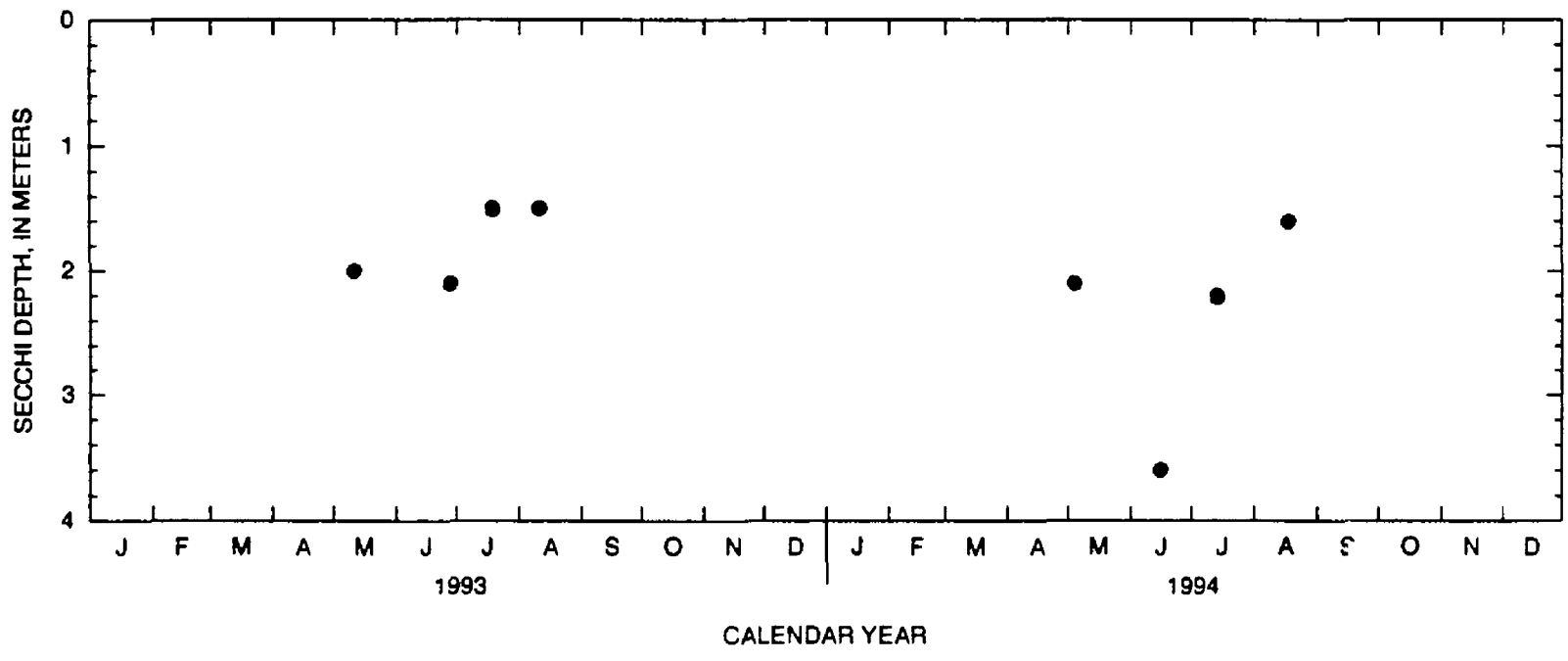
WATER-QUALITY DATA, MARCH 09 TO AUGUST 18, 1994
(Milligrams per liter unless otherwise indicated)

	Mar. 09		May 04		June 16		July 14		Aug. 18	
Depth of sample (ft)	1.5	42	1.5	45	1.5	45	1.5	48	1.5	45
Lake stage (ft)	10.72		10.66		10.40		10.50		10.50	
Specific conductance (µS/cm)	140	186	136	134	140	163	127	168	128	190
pH (units)	8.4	7.5	8.1	7.8	7.6	7.4	8.0	7.5	8.4	7.5
Water temperature (°C)	1.5	4.5	8.5	8.5	21.5	11.5	22.0	12.0	23.0	12.0
Color (Pt-Co. scale)	---	---	20	15	---	---	---	---	---	---
Turbidity (NTU)	---	---	1.9	2.0	---	---	---	---	---	---
Secchi-depth (meters)	---		2.1		3.6		2.2		1.6	
Dissolved oxygen	11.5	0.3	11.2	10.7	8.6	0.1	8.8	0.1	10.4	0.1
Hardness, as CaCO3	---	---	67	70	---	---	---	---	---	---
Calcium, dissolved (Ca)	---	---	17	18	---	---	---	---	---	---
Magnesium, dissolved (Mg)	---	---	6.0	6.0	---	---	---	---	---	---
Sodium, dissolved (Na)	---	---	3.0	3.0	---	---	---	---	---	---
Potassium, dissolved (K)	---	---	0.5	0.8	---	---	---	---	---	---
Alkalinity, as CaCO3	---	---	67	67	---	---	---	---	---	---
Sulfate, dissolved (SO4)	---	---	4.0	4.0	---	---	---	---	---	---
Chloride, dissolved (Cl)	---	---	2.0	2.1	---	---	---	---	---	---
Fluoride, dissolved (F)	---	---	0.0	0.0	---	---	---	---	---	---
Silica, dissolved (SiO2)	---	---	12	12	---	---	---	---	---	---
Solids, dissolved, at 180°C	---	---	90	90	---	---	---	---	---	---
Nitrogen, NO2 + NO3, diss. (as N)	---	---	0.01	0.06	---	---	---	---	---	---
Nitrogen, ammonia, dissolved (as N)	---	---	0.01	0.02	---	---	---	---	---	---
Nitrogen, amm. + org., total (as N)	---	---	0.50	0.50	---	---	---	---	---	---
Nitrogen, total (as N)	---	---	0.51	0.56	---	---	---	---	---	---
Phosphorus, total (as P)	---	---	0.024	0.026	0.011	0.250	0.017	0.350	0.019	0.770
Phosphorus, ortho, dissolved (as P)	---	---	<0.002	<0.002	---	---	---	---	---	---
Iron, dissolved (Fe) µg/L	---	---	<50	<50	---	---	---	---	---	---
Manganese, dissolved (Mn) µg/L	---	---	81	80	---	---	---	---	---	---
Chlorophyll a, phytoplankton(µg/L)	---	---	12	---	3.3	---	7.3	---	17	---
	3-9-94		5-4-94		6-16-94		7-14-94		8-18-94	









Surface total phosphorus and chlorophyll a concentrations, and Secchi depths for Red Cedar Lake, Deep Hole, near Mikana, Wiscorsin.

453519091352500 RED CEDAR LAKE, SOUTH END, AT MIKANA, WI

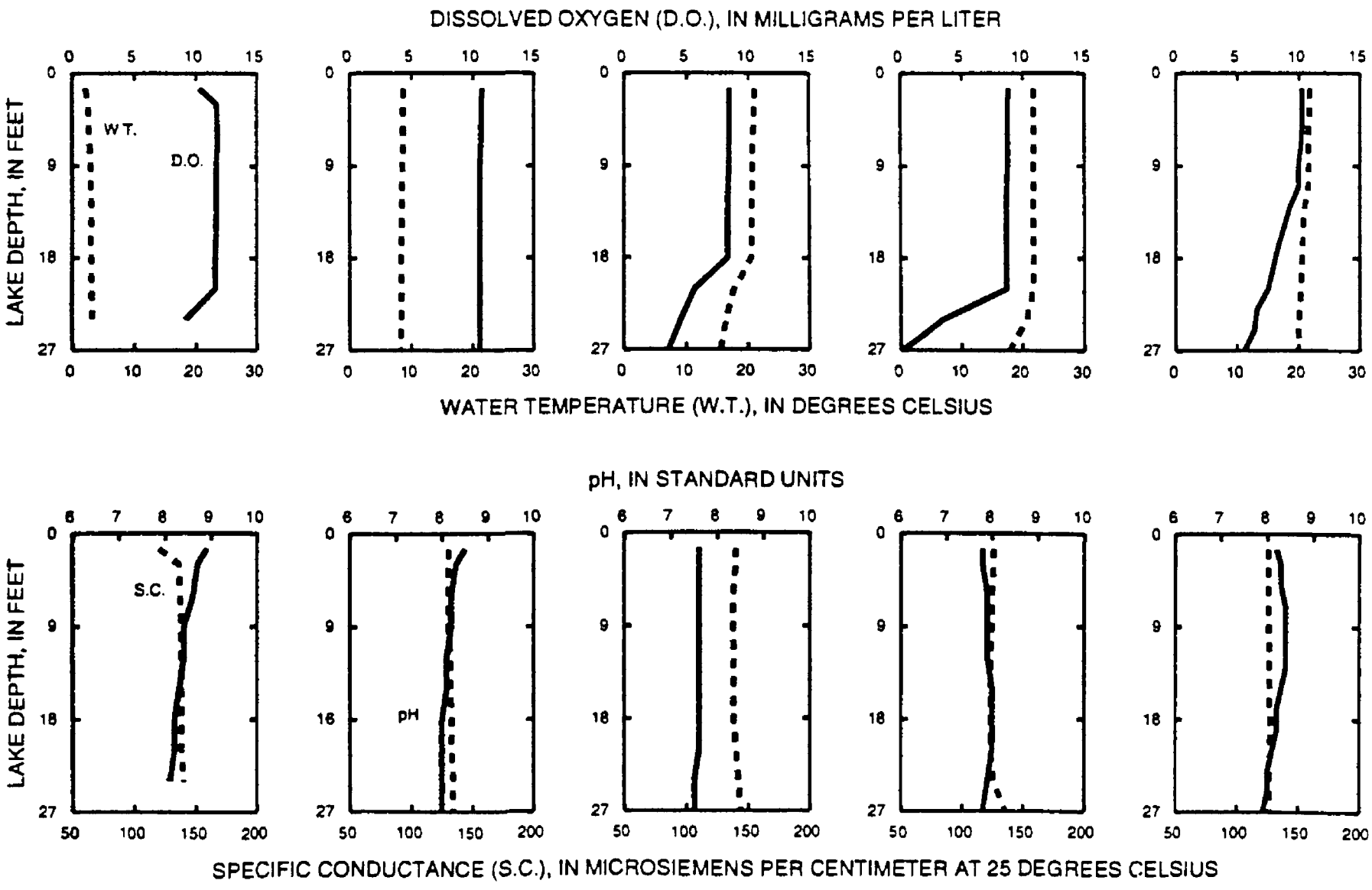
LOCATION.--Lat 45°35'19", long 91°35'25", in SW 1/4 NE 1/4 sec.22, T.36 N., R.10 W., Barron County, Hydrologic Unit 07050007, at Mikana.

PERIOD OF RECORD.--March 1993 to August 1994 (discontinued).

REMARKS.--Lake sampled 0.2 mi northwest of Honeymoon Island. Lake ice-covered during March sampling. Water-quality analyses by Wisconsin State Laboratory of Hygiene.

WATER-QUALITY DATA, MARCH 09 TO AUGUST 18, 1994
(Milligrams per liter unless otherwise indicated)

	Mar. 09		May 04		June 16		July 14		Aug. 18	
Depth of sample (ft)	1.5	24	1.5	27	1.5	27	1.5	27	1.5	27
Lake stage (ft)	10.72		10.66		10.40		10.50		10.50	
Specific conductance (µS/cm)	120	140	131	134	140	144	126	136	126	127
pH (units)	8.9	8.1	8.5	8.0	7.6	7.5	7.8	7.8	8.2	7.9
Water temperature (°C)	2.0	3.0	8.5	8.5	21.0	15.5	22.0	18.0	22.0	20.0
Color (Pt-Co. scale)	---	---	20	20	---	---	---	---	---	---
Turbidity (NTU)	---	---	1.8	1.9	---	---	---	---	---	---
Secchi-depth (meters)	---		1.8		3.6		2.0		1.5	
Dissolved oxygen	10.3	9.2	10.8	10.6	8.5	3.6	8.9	0.2	10.3	5.6
Hardness, as CaCO3	---	---	67	67	---	---	---	---	---	---
Calcium, dissolved (Ca)	---	---	17	17	---	---	---	---	---	---
Magnesium, dissolved (Mg)	---	---	6.0	6.0	---	---	---	---	---	---
Sodium, dissolved (Na)	---	---	3.0	3.0	---	---	---	---	---	---
Potassium, dissolved (K)	---	---	0.7	0.7	---	---	---	---	---	---
Alkalinity, as CaCO3	---	---	63	66	---	---	---	---	---	---
Sulfate, dissolved (SO4)	---	---	4.0	5.0	---	---	---	---	---	---
Chloride, dissolved (Cl)	---	---	1.9	2.0	---	---	---	---	---	---
Fluoride, dissolved (F)	---	---	0.0	0.0	---	---	---	---	---	---
Silica, dissolved (SiO2)	---	---	12	12	---	---	---	---	---	---
Solids, dissolved, at 180°C	---	---	86	92	---	---	---	---	---	---
Nitrogen, NO2 + NO3, diss. (as N)	---	---	<0.01	0.01	---	---	---	---	---	---
Nitrogen, ammonia, dissolved (as N)	---	---	0.03	0.02	---	---	---	---	---	---
Nitrogen, amm. + org., total (as N)	---	---	0.40	0.50	---	---	---	---	---	---
Nitrogen, total (as N)	---	---	0.40	0.51	---	---	---	---	---	---
Phosphorus, total (as P)	---	---	0.022	0.030	0.011	0.029	0.017	0.030	0.024	0.032
Phosphorus, ortho, dissolved (as P)	---	---	<0.002	<0.002	---	---	---	---	---	---
Iron, dissolved (Fe) µg/L	---	---	<50	<50	---	---	---	---	---	---
Manganese, dissolved (Mn) µg/L	---	---	57	64	---	---	---	---	---	---
Chlorophyll a, phytoplankton(µg/L)	---	---	10	---	3.4	---	9.6	---	23	---



3-9-94 5-4-94 6-16-94 7-14-94 8-18-94

430436088293300 SILVER LAKE NEAR OCONOMOWOC, WI

LOCATION.--Lat 43°04'36" long 88°29'33", in NE 1/4 NW 1/4 sec.16, T.7 N., R.17 E., Waukesha County, Hydrologic Unit 07090001, near Oconomowoc.

LAKE-STAGE RECORDS

PERIOD OF RECORD.--April 1993 to current year.

Gage.--Nonrecording gage read by Barbara Barquist.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height observed, 12.04 ft, Apr. 24, 1993; minimum observed, 10.44 ft, Sept. 24, 1994.

EXTREMES FOR CURRENT YEAR.--Maximum gage height observed, 11.53 ft, Oct. 2; minimum observed, 10.44 ft, Sept. 24.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	---	---	---
2	11.53	---	---	---	---	11.27	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	10.73	---	10.62
4	---	---	---	---	---	---	---	11.15	10.58	10.88	---	---
5	---	---	---	---	---	---	---	---	---	10.98	---	---
6	---	---	---	---	---	---	---	---	---	10.93	10.84	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	11.42	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	10.96	---	10.60
11	---	---	---	---	---	---	---	---	10.48	---	10.80	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	10.84	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	10.81	---
16	---	---	---	---	---	---	---	---	---	10.95	---	---
17	---	---	---	---	---	---	---	---	---	---	---	10.57
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	10.58	10.93	---	---
20	---	---	---	---	---	---	---	---	---	---	10.84	---
21	---	---	---	---	---	---	---	---	10.73	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	10.97	---	---
24	---	---	---	---	---	---	---	---	---	---	---	10.44
25	---	---	---	---	---	---	---	---	10.78	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	11.14	---	---	---	10.80	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	10.84	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---

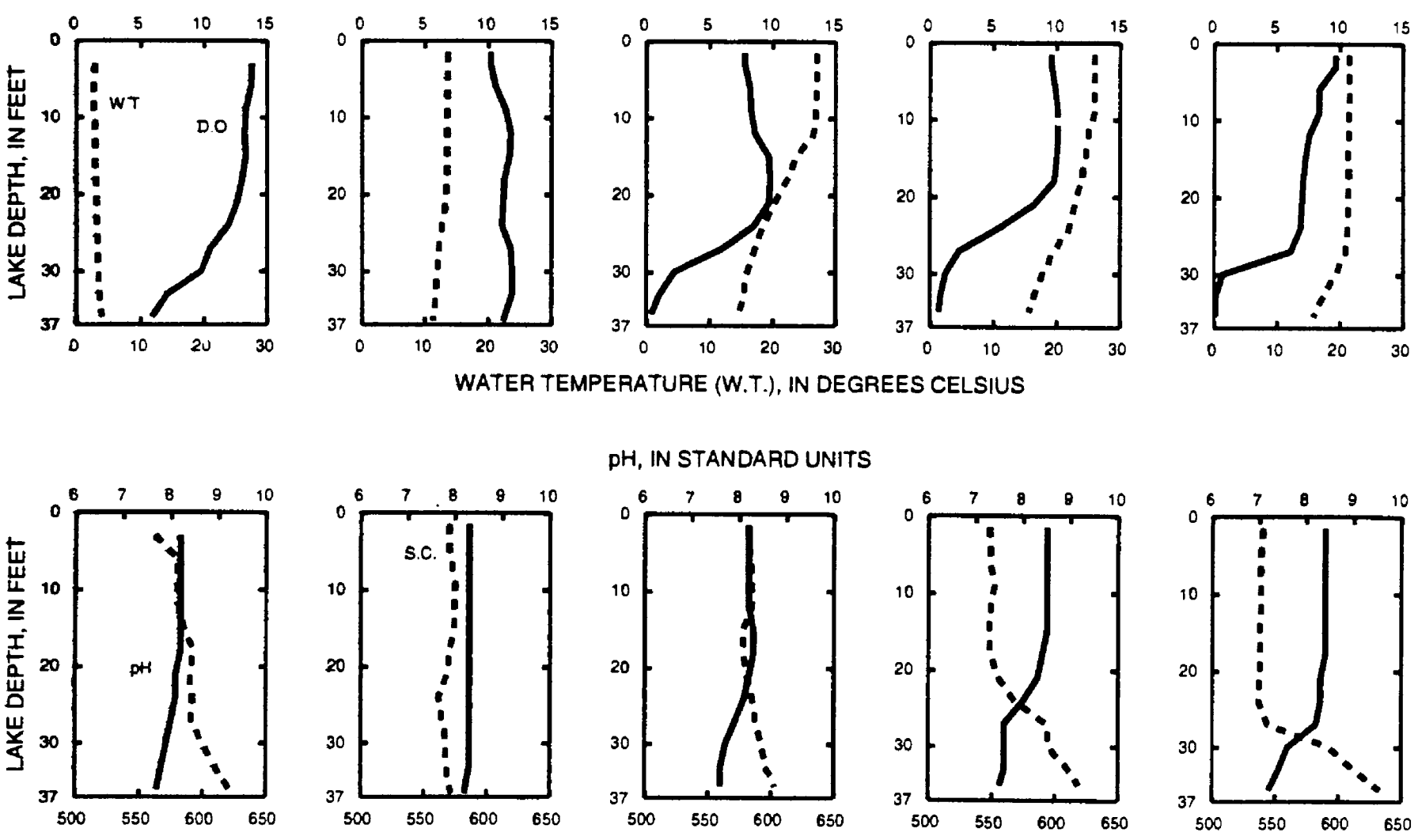
WATER-QUALITY RECORDS

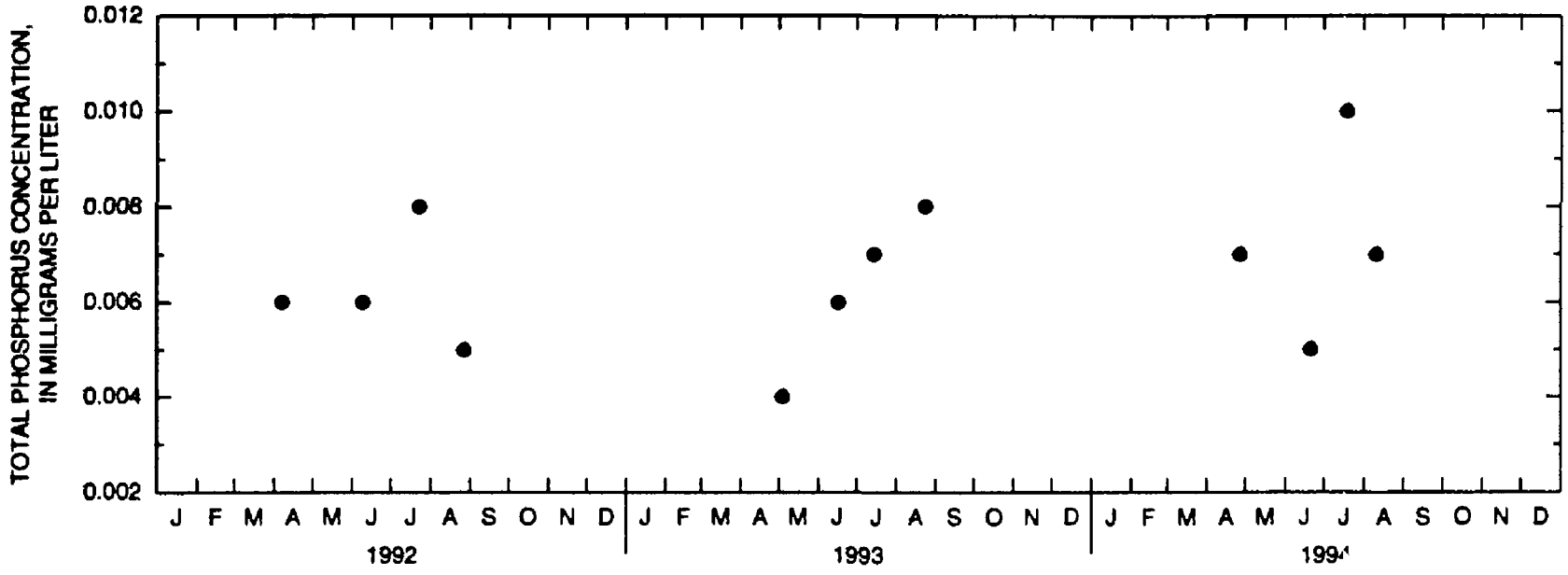
PERIOD OF RECORD.--April 1992 to current year.

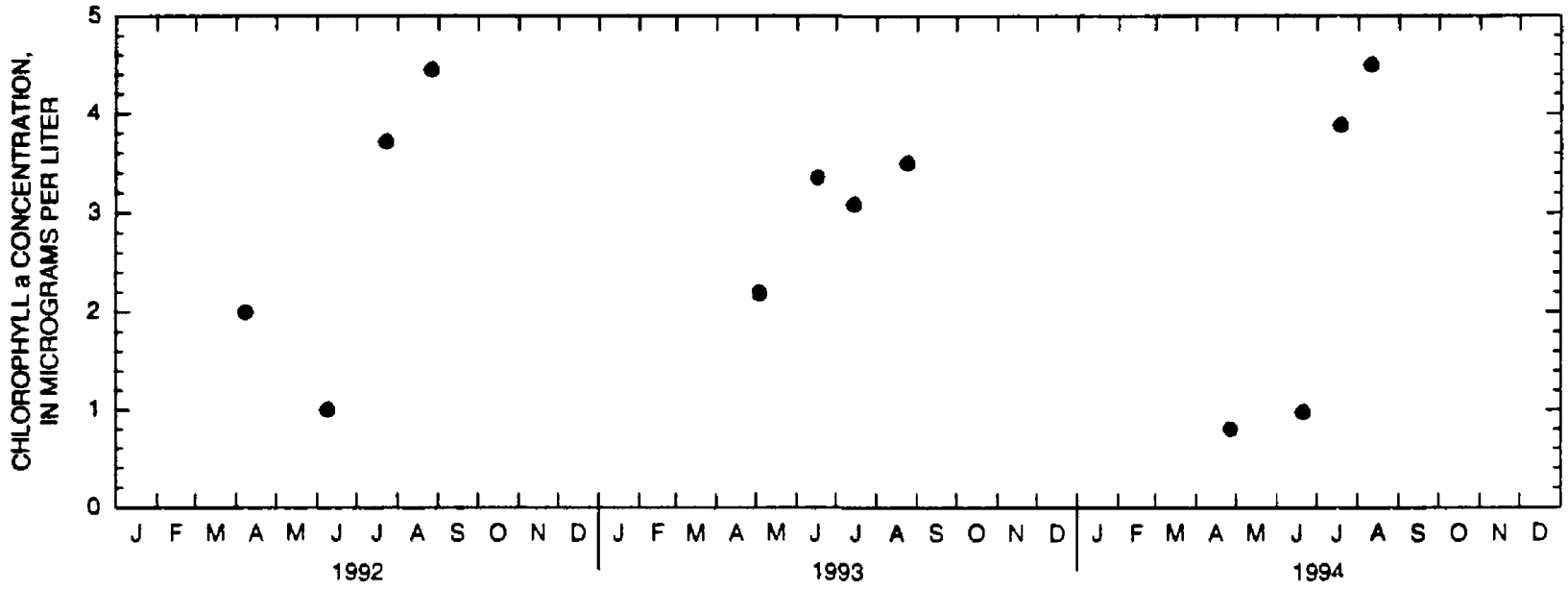
REMARKS.--Lake sampled near center of lake at a depth of about 40 ft. Lake ice-covered during March sampling. Water-quality analyses by Wisconsin State Laboratory of Hygiene.

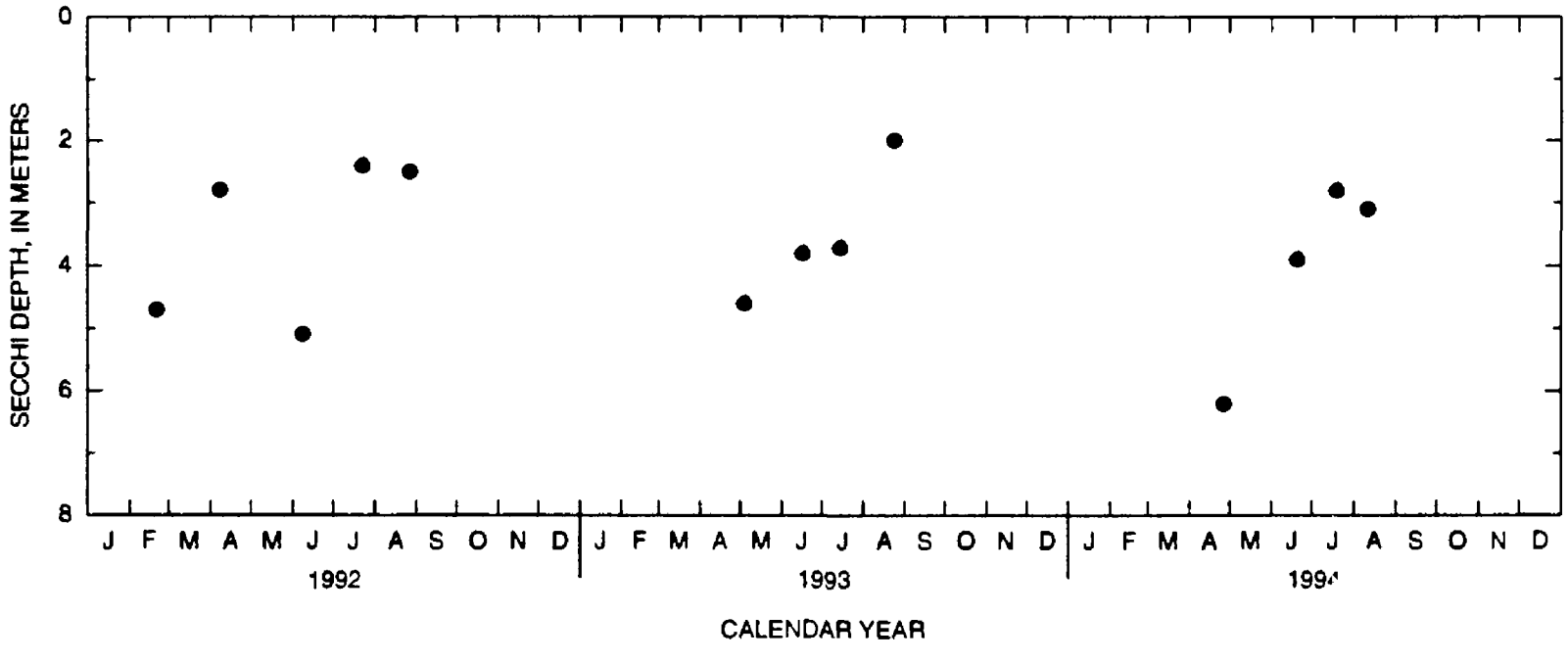
WATER-QUALITY DATA, MARCH 02 TO AUGUST 11, 1994
(Milligrams per liter unless otherwise indicated)

	Mar. 02		Apr. 27		June 21		July 19		Aug. 11	
Depth of sample (ft)	3.0	36	1.5	36	1.5	35	1.5	35	1.5	35
Lake stage (ft)	11.27		11.14		10.73		10.93		10.80	
Specific conductance (µS/cm)	562	621	571	572	582	603	548	619	540	633
pH (units)	8.2	7.7	8.3	8.2	8.2	7.6	8.5	7.5	8.4	7.2
Water temperature (°C)	3.0	4.0	13.5	11.5	27.0	14.5	26.0	15.5	21.5	16.0
Color (Pt-Co. scale)	---	---	5	15	---	---	---	---	---	---
Turbidity (NTU)	---	---	<0.50	1.00	---	---	---	---	---	---
Secchi-depth (meters)	---		6.2		3.9		2.8		3.1	
Dissolved oxygen	13.8	5.9	10.2	11.2	7.8	0.4	9.6	0.7	9.7	0.1
Hardness, as CaCO3	---	---	240	240	---	---	---	---	---	---
Calcium, dissolved (Ca)	---	---	40	40	---	---	---	---	---	---
Magnesium, dissolved (Mg)	---	---	33	34	---	---	---	---	---	---
Sodium, dissolved (Na)	---	---	26	26	---	---	---	---	---	---
Potassium, dissolved (K)	---	---	2	2	---	---	---	---	---	---
Alkalinity, as CaCO3	---	---	190	220	---	---	---	---	---	---
Sulfate, dissolved (SO4)	---	---	30	29	---	---	---	---	---	---
Chloride, dissolved (Cl)	---	---	56	56	---	---	---	---	---	---
Fluoride, dissolved (F)	---	---	0.1	0.1	---	---	---	---	---	---
Silica, dissolved (SiO2)	---	---	6.2	5.5	---	---	---	---	---	---
Solids, dissolved, at 180°C	---	---	314	312	---	---	---	---	---	---
Nitrogen, NO2 + NO3, diss. (as N)	---	---	0.33	0.41	---	---	---	---	---	---
Nitrogen, ammonia, dissolved (as N)	---	---	0.15	0.15	---	---	---	---	---	---
Nitrogen, amm. + org., total (as N)	---	---	0.70	0.70	---	---	---	---	---	---
Nitrogen, total (as N)	---	---	1.0	1.1	---	---	---	---	---	---
Phosphorus, total (as P)	---	---	0.007	0.004	0.005	<0.020	0.010	0.029	0.007	0.035
Phosphorus, ortho, dissolved (as P)	---	---	<0.002	<0.002	---	---	---	---	---	---
Iron, dissolved (Fe) µg/L	---	---	<50	<50	---	---	---	---	---	---
Manganese, dissolved (Mn) µg/L	---	---	<40	<40	---	---	---	---	---	---
Chlorophyll a, phytoplankton (µg/L)	---	---	0.8	---	1.0	---	3.9	---	4.5	---









Surface total phosphorus and chlorophyll a concentrations, and Secchi depths for Silver Lake near Oconomowoc, Wisconsin.

424854088123300 TICHIGAN LAKE NEAR WATERFORD, WI

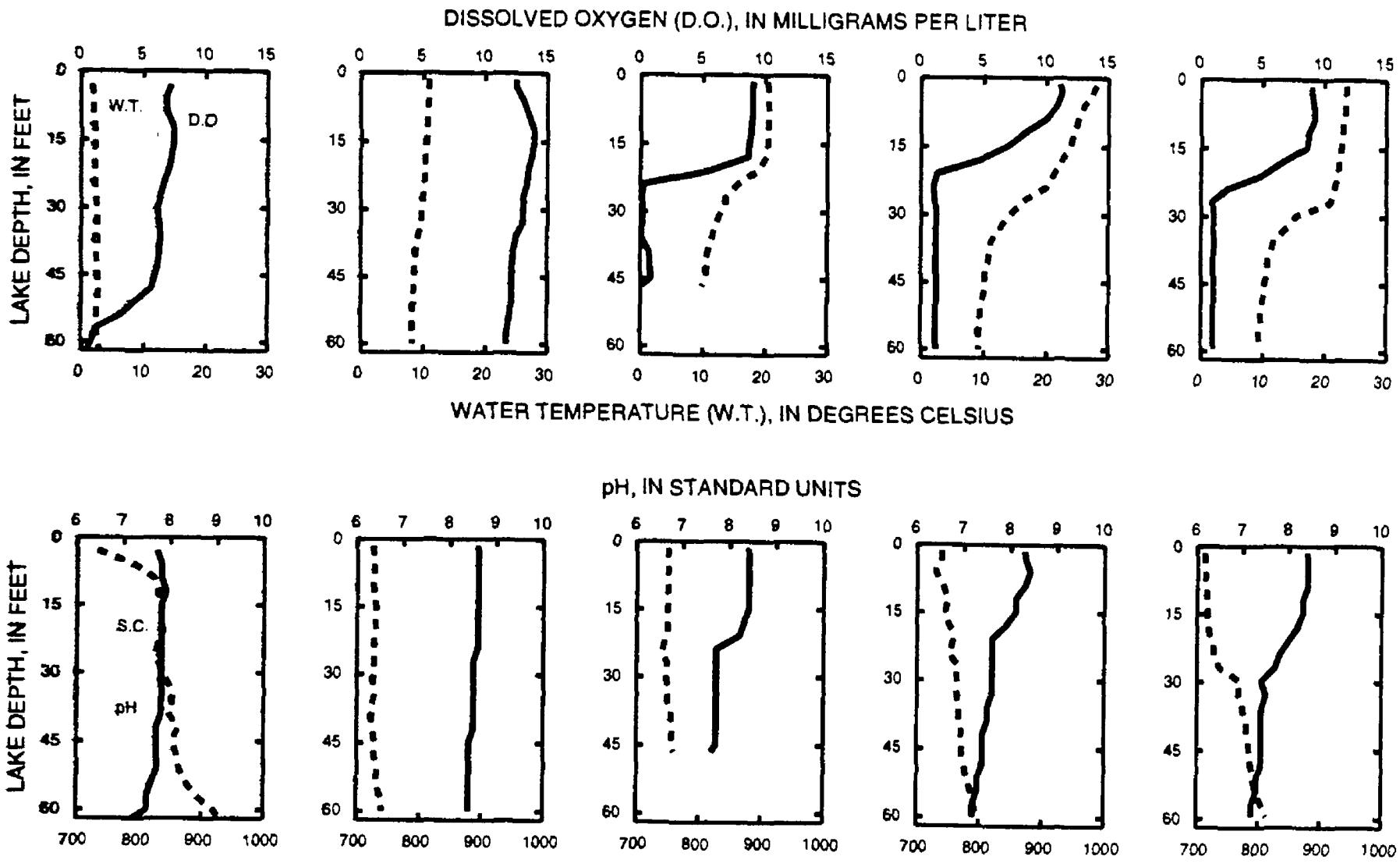
LOCATION.--Lat 42°48'54" long 88°12'33", in SE 1/4 SE 1/4 sec.11, T.4 N., R.19 E., Racine County, Hydrologic Unit 07120006, 3.5 mi north of Waterford.

PERIOD OF RECORD.--March to August 1994.

REMARKS.--Lake sampled near center at a lake depth of about 60 ft. Lake ice-covered during March sampling. Water-quality analyses by Wisconsin State Laboratory of Hygiene.

WATER-QUALITY DATA, MARCH 01 TO AUGUST 08, 1994
(Milligrams per liter unless otherwise indicated)

	Mar. 01		Apr. 19		June 08		July 06		Aug. 08	
Depth of sample (ft)	3.0	62	1.5	60	1.5	46	1.5	60	1.5	59
Lake stage (ft)	---		4.92		4.61		5.15		4.98	
Specific conductance (µS/cm)	732	930	726	741	752	760	740	795	712	814
pH (units)	7.7	7.2	8.6	8.4	8.4	7.6	8.3	7.2	8.4	7.2
Water temperature (°C)	2.0	3.0	11.0	8.5	20.5	10.0	28.0	9.0	23.5	9.0
Color (Pt-Co. scale)	---	---	20	15	---	---	---	---	---	---
Turbidity (NTU)	---	---	2.4	2.0	---	---	---	---	---	---
Secchi-depth (meters)	---		0.9		2.7		1.2		2.4	
Dissolved oxygen	7.2	0.5	12.5	11.7	9.1	0.1	11.1	1.2	9.0	1.0
Hardness, as CaCO3	---	---	280	280	---	---	---	---	---	---
Calcium, dissolved (Ca)	---	---	57	58	---	---	---	---	---	---
Magnesium, dissolved (Mg)	---	---	34	34	---	---	---	---	---	---
Sodium, dissolved (Na)	---	---	43	43	---	---	---	---	---	---
Potassium, dissolved (K)	---	---	3	3	---	---	---	---	---	---
Alkalinity, as CaCO3	---	---	240	240	---	---	---	---	---	---
Sulfate, dissolved (SO4)	---	---	38	37	---	---	---	---	---	---
Chloride, dissolved (Cl)	---	---	80	81	---	---	---	---	---	---
Fluoride, dissolved (F)	---	---	0.2	0.2	---	---	---	---	---	---
Silica, dissolved (SiO2)	---	---	<0.2	<0.2	---	---	---	---	---	---
Solids, dissolved, at 180°C	---	---	450	448	---	---	---	---	---	---
Nitrogen, NO2 + NO3, diss. (as N)	---	---	0.60	0.61	---	---	---	---	---	---
Nitrogen, ammonia, dissolved (as N)	---	---	0.03	0.18	---	---	---	---	---	---
Nitrogen, amm. + org., total (as N)	---	---	1.0	1.0	---	---	---	---	---	---
Nitrogen, total (as N)	---	---	1.6	1.6	---	---	---	---	---	---
Phosphorus, total (as P)	---	---	0.061	0.057	0.051	0.270	0.036	0.690	0.026	0.875
Phosphorus, ortho, dissolved (as P)	---	---	0.002	0.006	---	---	---	---	---	---
Iron, dissolved (Fe) µg/L	---	---	<50	<50	---	---	---	---	---	---
Manganese, dissolved (Mn) µg/L	---	---	<40	<40	---	---	---	---	---	---
Chlorophyll a, phytoplankton(µg/L)	---	---	35	---	8.0	---	11	---	9.6	---



430400088254900 UPPER NEMAHBIN LAKE, CENTER, NEAR DELAFIELD, WI

LOCATION.--Lat 43°04'00" long 88°25'49", in NW 1/4 SE 1/4 sec.13, T.7 N., R.17 E., Waukesha County, Hydrologic Unit 07090001, 1.4 mi west of Delafield.

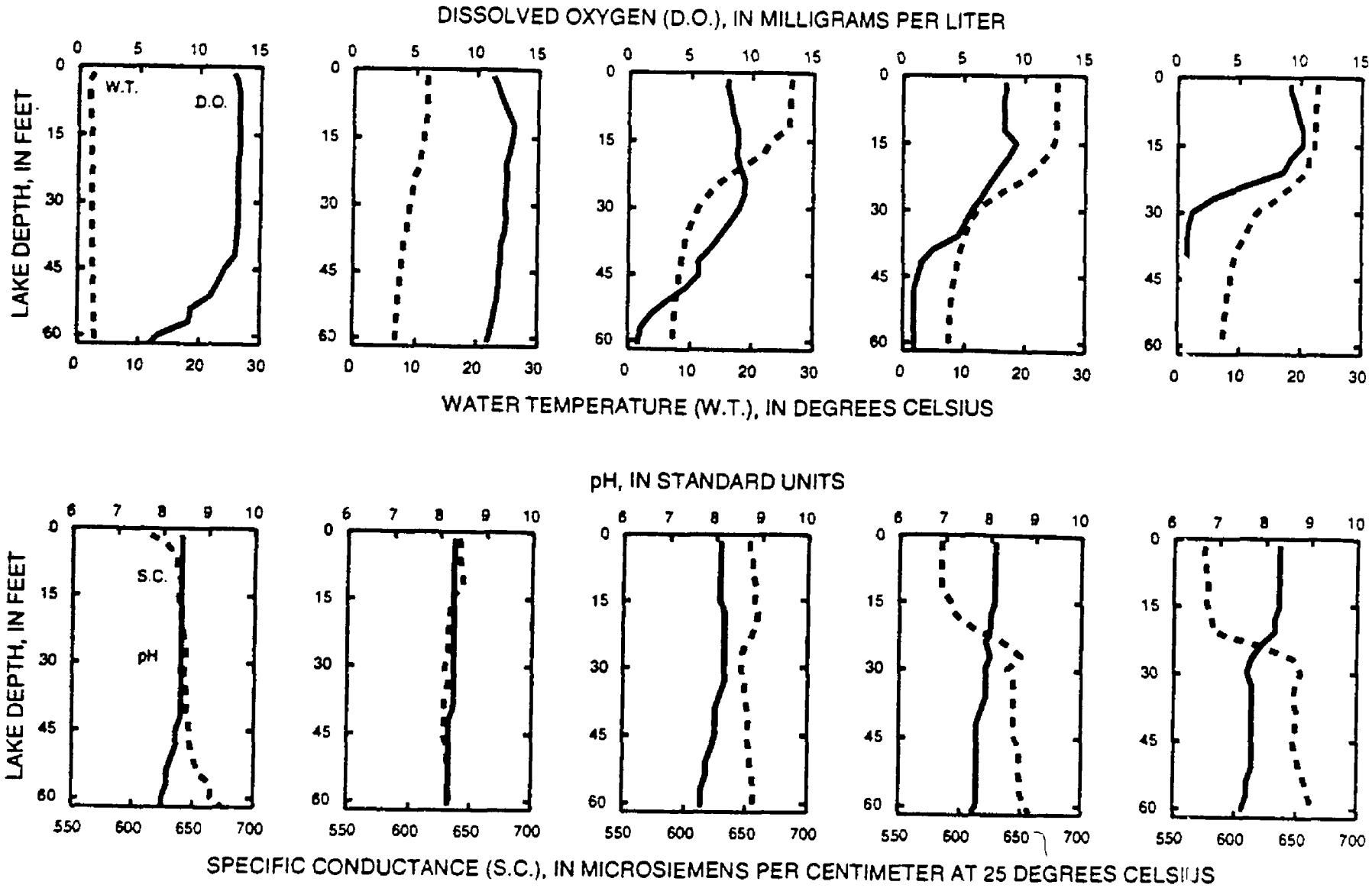
DRAINAGE AREA.--50.2 mi^2.

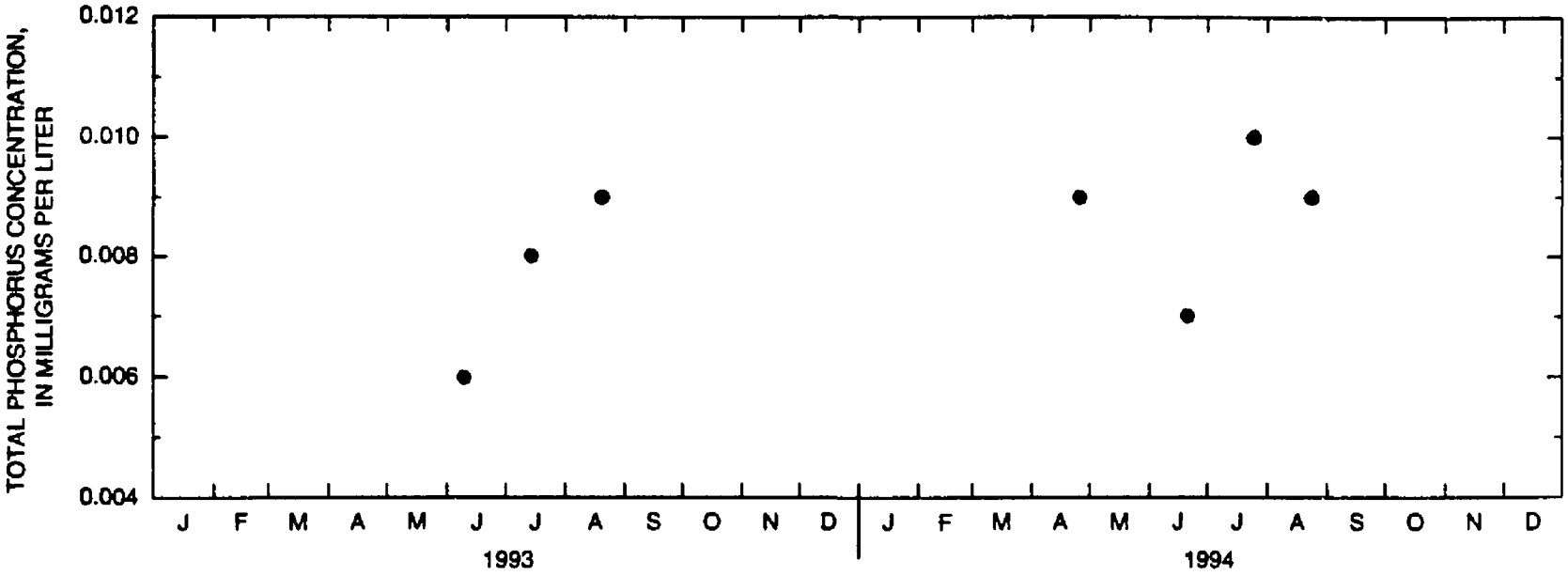
PERIOD OF RECORD.--June 1993 to current year.

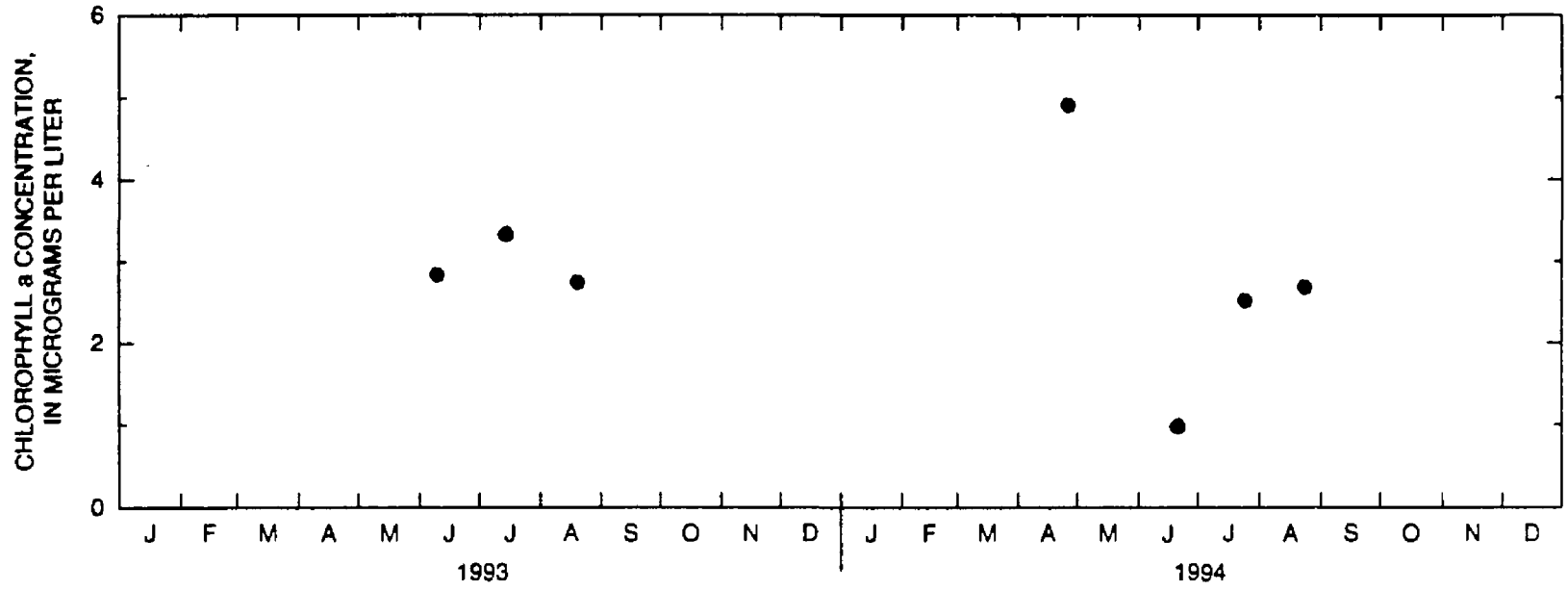
REMARKS.--Lake sampled at deep hole near center of lake at a depth of about 62 ft. Lake ice-covered during February sampling. Water-quality analyses by Wisconsin State Laboratory of Hygiene.

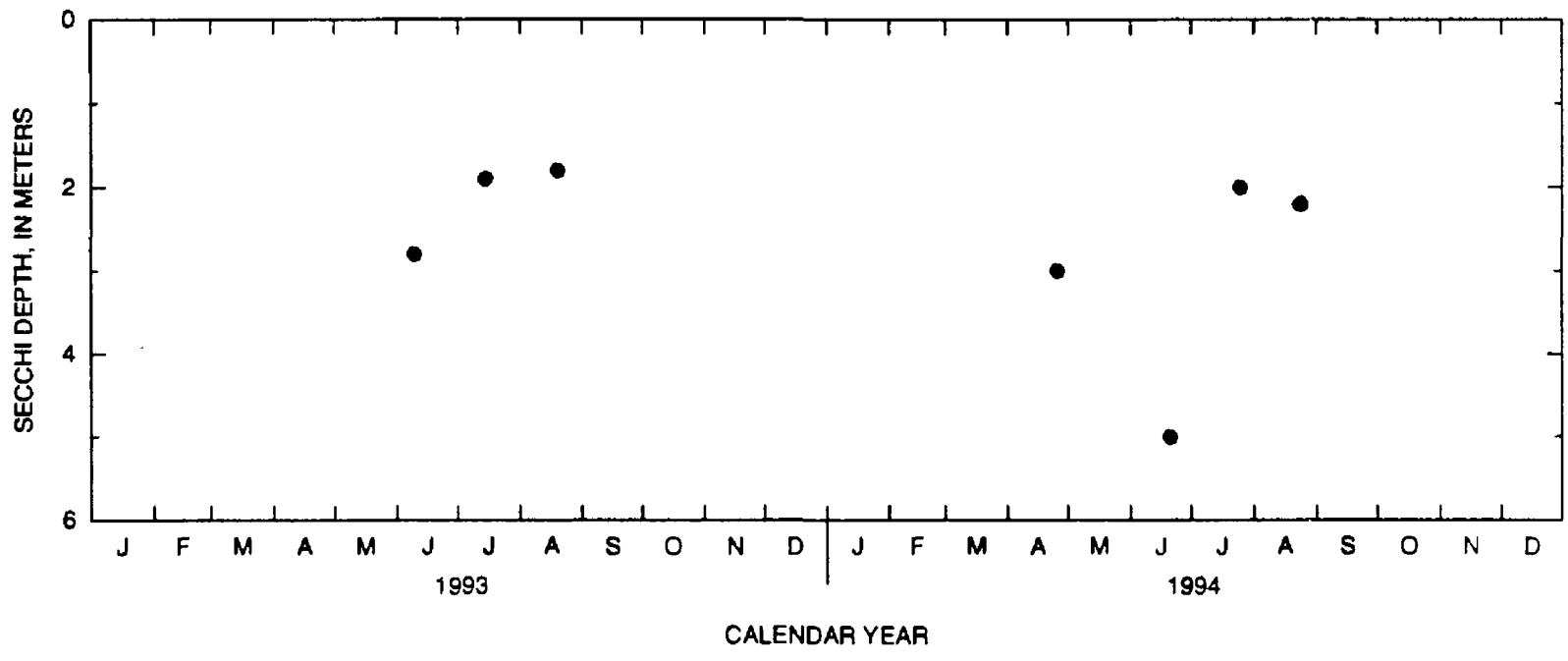
WATER-QUALITY DATA, FEBRUARY 18 TO AUGUST 24, 1994
(Milligrams per liter unless otherwise indicated)

	Feb. 18		Apr. 26		June 21		July 25		Aug. 24	
Depth of sample (ft)	1.5	62	1.5	61	1.5	61	1.5	61	1.5	60
Lake stage (ft)	---		---		2.47		3.10		2.76	
Specific conductance (µS/cm)	614	675	640	634	652	658	584	658	575	667
pH (units)	8.4	8.0	8.3	8.2	8.1	7.7	8.1	7.6	8.3	7.5
Water temperature (°C)	2.5	3.0	12.0	6.5	26.5	7.0	25.5	7.0	23.0	7.5
Color (Pt-Co. scale)	---	---	15	10	---	---	---	---	---	---
Turbidity (NTU)	---	---	0.90	0.90	---	---	---	---	---	---
Secchi-depth (meters)	---		3.0		5.0		2.0		2.2	
Dissolved oxygen	12.8	5.9	11.3	10.9	8.1	0.8	8.4	0.9	9.2	0.8
Hardness, as CaCO3	---	---	300	300	---	---	---	---	---	---
Calcium, dissolved (Ca)	---	---	60	60	---	---	---	---	---	---
Magnesium, dissolved (Mg)	---	---	37	37	---	---	---	---	---	---
Sodium, dissolved (Na)	---	---	22	22	---	---	---	---	---	---
Potassium, dissolved (K)	---	---	2	2	---	---	---	---	---	---
Alkalinity, as CaCO3	---	---	250	250	---	---	---	---	---	---
Sulfate, dissolved (SO4)	---	---	26	27	---	---	---	---	---	---
Chloride, dissolved (Cl)	---	---	47	47	---	---	---	---	---	---
Fluoride, dissolved (F)	---	---	0.1	0.1	---	---	---	---	---	---
Silica, dissolved (SiO2)	---	---	3.0	3.8	---	---	---	---	---	---
Solids, dissolved, at 180°C	---	---	362	362	---	---	---	---	---	---
Nitrogen, NO2 + NO3, diss. (as N)	---	---	0.90	0.77	---	---	---	---	---	---
Nitrogen, ammonia, dissolved (as N)	---	---	0.08	0.15	---	---	---	---	---	---
Nitrogen, amm. + org., total (as N)	---	---	0.60	0.60	---	---	---	---	---	---
Nitrogen, total (as N)	---	---	1.5	1.4	---	---	---	---	---	---
Phosphorus, total (as P)	---	---	0.009	0.012	0.007	0.030	0.010	0.040	0.009	0.047
Phosphorus, ortho, dissolved (as P)	---	---	<0.002	<0.002	---	---	---	---	---	---
Iron, dissolved (Fe) µg/L	---	---	<50	<50	---	---	---	---	---	---
Manganese, dissolved (Mn) µg/L	---	---	<40	<40	---	---	---	---	---	---
Chlorophyll a, phytoplankton (µg/L)	---	---	4.9	---	1.0	---	2.5	---	2.7	---









Surface total phosphorus and chlorophyll a concentrations, and Secchi depths for Upper Nemahbin Lake, Center, near Delafield, Wisconsin.

430339088254800 UPPER NEMAHBIN LAKE, SOUTH SITE, NEAR DELAFIELD, WI

LOCATION.--Lat 43°03'39" long 88°25'48", in NW 1/4 NE 1/4 sec.24, T.7 N., R.17 E., Waukesha County, Hydrologic Unit 07090001, 1.4 mi southwest of Delafield.

DRAINAGE AREA.--50.2 mi^2.

PERIOD OF RECORD.--June 1993 to current year.

REMARKS.--Lake sampled near south end at a lake depth of about 18 ft. Water-quality analyses by Wisconsin State Laboratory of Hygiene.

WATER-QUALITY DATA, APRIL 26 TO AUGUST 24, 1994
(Milligrams per liter unless otherwise indicated)

	Apr. 26	June 21	July 25	Aug. 24
Depth of sample (ft)	1.5	1.5	1.5	1.5
Lake stage (ft)	---	2.47	3.10	2.76
Specific conductance (µS/cm)	640	654	588	578
pH (units)	8.4	8.2	8.3	8.4
Water temperature (°C)	11.0	26.5	25.5	23.0
Secchi-depth (meters)	2.9	2.0	2.0	2.2
Dissolved oxygen	11.7	7.6	8.7	9.2
Phosphorus, total (as P)	0.009	0.010	0.011	0.011
Chlorophyll a, phytoplankton (µg/L)	5.5	2.3	3.0	2.7

430334088255400 UPPER NEMAHBIN LAKE, OUTLET, NEAR DELAFIELD, WI

LOCATION.--Lat 43°03'34" long 88°25'54", in NW 1/4 NE 1/4 sec.24, T.7 N., R.17 E., Waukesha County, Hydrologic Unit 07090001, 1.5 mi southwest of Delafield.

DRAINAGE AREA.--50.2 mi^2.

PERIOD OF RECORD.--June 1993 to current year.

REMARKS.--Lake sampled at lake outlet. Water-quality analyses by Wisconsin State Laboratory of Hygiene.

WATER-QUALITY DATA, APRIL 26 TO AUGUST 24, 1994
(Milligrams per liter unless otherwise indicated)

	Apr. 26	June 21	July 25	Aug. 24
Lake stage (ft)	---	2.47	3.10	2.76
Specific conductance (µS/cm)	621	652	590	572
pH (units)	8.4	8.2	8.1	8.2
Water temperature (°C)	12.5	26.5	25.5	23.0
Secchi-depth (meters)	---	---	---	---
Dissolved oxygen	11.5	8.5	8.5	9.4
Phosphorus, total (as P)	0.011	0.012	0.011	0.010

455909089405602 VANDERCOOK LAKE NEAR WOODRUFF, WI

LOCATION.--Lat 45°59'09", long 89°40'56", in SW 1/4 NE 1/4 SE 1/4 sec.36, T.41 N., R.6 E., Vilas County, Hydrologic Unit 07070001, at north end of lake on dirt road off County Trunk Highway M, 6.1 mi north of Woodruff.

DRAINAGE AREA.--1.11 mi^2. Area of lake, 0.17 mi^2.

PERIOD OF RECORD.--November 1980 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,600.00 ft above sea level.

REMARKS.--Records good except for periods of missing record. Lake does not have surface inlet or outlet.

EXTREMES FOR PERIOD OF RECORD.--Maximum observed gage height, 32.26 ft, Apr. 8-10, 1986; minimum observed gage height, 28.97 ft, Oct. 28, 1989.

EXTREMES FOR CURRENT YEAR.--Maximum observed gage height, 30.68 ft, Apr. 27, 29-30, and May 1; minimum observed gage height, 30.23 ft, Sept. 12.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30.57	30.52	30.58	30.59	30.57	30.55	30.58	30.68	30.55	---	---	---
2	30.56	30.52	30.58	30.59	30.58	30.57	30.56	30.67	30.52	---	30.57	---
3	30.55	30.51	30.58	30.58	30.57	30.57	30.56	30.67	30.49	---	---	---
4	30.56	30.52	30.58	30.59	30.57	30.56	30.57	30.66	30.49	---	---	---
5	30.55	30.57	30.58	30.58	30.57	30.56	30.57	30.67	30.48	---	---	---
6	30.55	30.56	30.58	30.59	30.57	30.56	30.56	30.66	30.49	---	---	---
7	30.54	30.55	30.58	30.60	30.56	30.55	30.56	30.65	30.49	---	---	---
8	30.55	30.55	30.58	30.61	30.55	30.55	30.55	30.66	30.46	---	---	---
9	30.57	30.55	30.58	30.61	30.57	30.54	30.55	30.65	30.45	---	---	---
10	30.56	30.54	30.58	30.61	30.56	30.54	30.55	30.62	30.44	---	---	---
11	30.56	30.55	30.58	30.61	30.57	30.54	30.54	30.64	30.45	---	---	---
12	30.54	30.55	30.58	30.61	30.58	30.53	30.54	30.61	30.48	---	---	e30.23
13	30.53	30.59	30.59	30.60	30.58	30.53	30.54	30.62	30.51	---	---	e30.35
14	30.53	30.59	30.59	30.59	30.58	30.53	30.55	30.62	30.55	---	---	e30.44
15	30.52	30.59	30.59	30.59	30.58	30.53	30.57	30.61	30.52	---	---	e30.54
16	30.53	30.59	30.59	30.59	30.58	30.52	30.60	30.60	30.50	---	---	e30.59
17	30.52	30.59	30.58	30.59	30.58	30.51	30.59	30.59	30.49	---	---	e30.59
18	30.52	30.58	30.58	30.58	30.58	30.51	30.59	30.58	---	---	---	e30.58
19	30.53	30.58	30.59	30.58	30.59	30.52	30.60	30.57	---	---	---	e30.55
20	30.53	30.57	30.59	30.58	30.59	30.52	30.57	30.56	---	---	---	30.54
21	30.57	30.57	30.59	30.59	30.58	30.52	30.56	30.56	---	---	---	30.53
22	30.56	30.56	30.59	30.59	30.57	30.51	30.55	30.54	30.50	---	---	30.56
23	30.56	30.55	30.58	30.59	30.57	30.51	30.57	30.52	---	---	30.38	30.58
24	30.56	30.56	30.58	30.59	30.57	30.55	30.57	30.52	---	---	---	30.58
25	30.55	30.55	30.58	30.59	30.56	30.56	30.57	30.52	---	---	---	30.60
26	30.54	30.57	30.58	30.59	30.56	30.55	30.63	30.51	---	---	---	30.63
27	30.54	30.58	30.58	30.59	30.55	30.56	30.68	30.49	---	---	---	30.62
28	30.53	30.58	30.57	30.59	30.55	30.56	30.66	30.47	---	---	---	30.62
29	30.53	30.58	30.58	30.59	---	30.58	30.68	30.48	30.50	---	---	30.61
30	30.52	30.57	30.58	30.58	---	30.58	30.68	30.51	---	---	---	30.61
31	30.52	---	30.58	30.58	---	30.58	---	30.59	---	---	---	---
MEAN	30.54	30.56	30.58	30.59	30.57	30.54	30.58	30.59	---	---	---	---
MAX	30.57	30.59	30.59	30.61	30.59	30.58	30.68	30.68	---	---	---	---
MIN	30.52	30.51	30.57	30.58	30.55	30.51	30.54	30.47	---	---	---	---

e Estimated

424857088101500 WAUBEESEE LAKE AT WIND LAKE, WI

LOCATION.--Lat 42°48'57", long 88°10'15", in SE 1/4 SE 1/4 sec.7, T.4 N., R.20 E., Racine County, Hydrologic Unit 07120006, at Wind Lake.

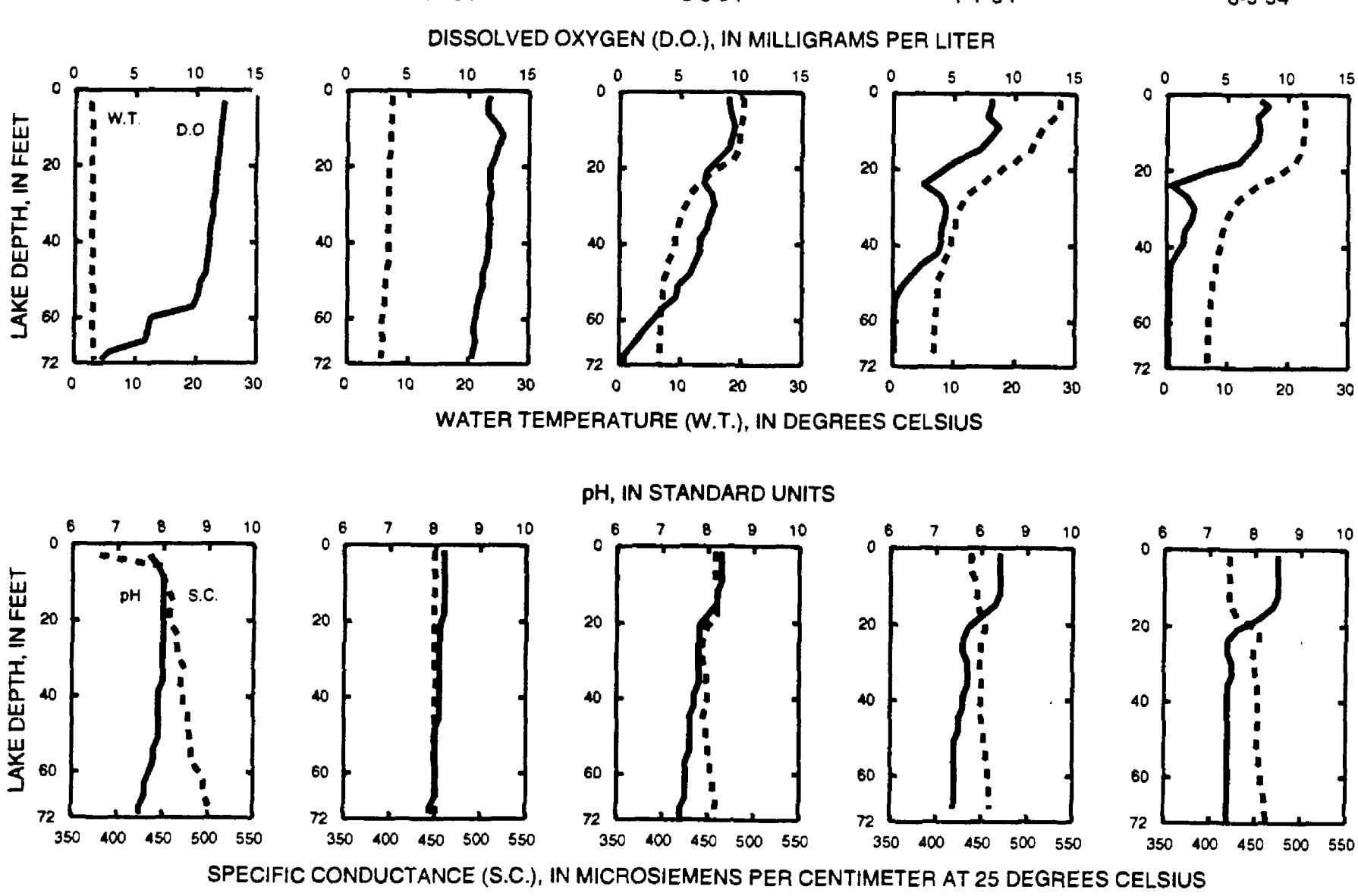
DRAINAGE AREA.--5.16 mi^2.

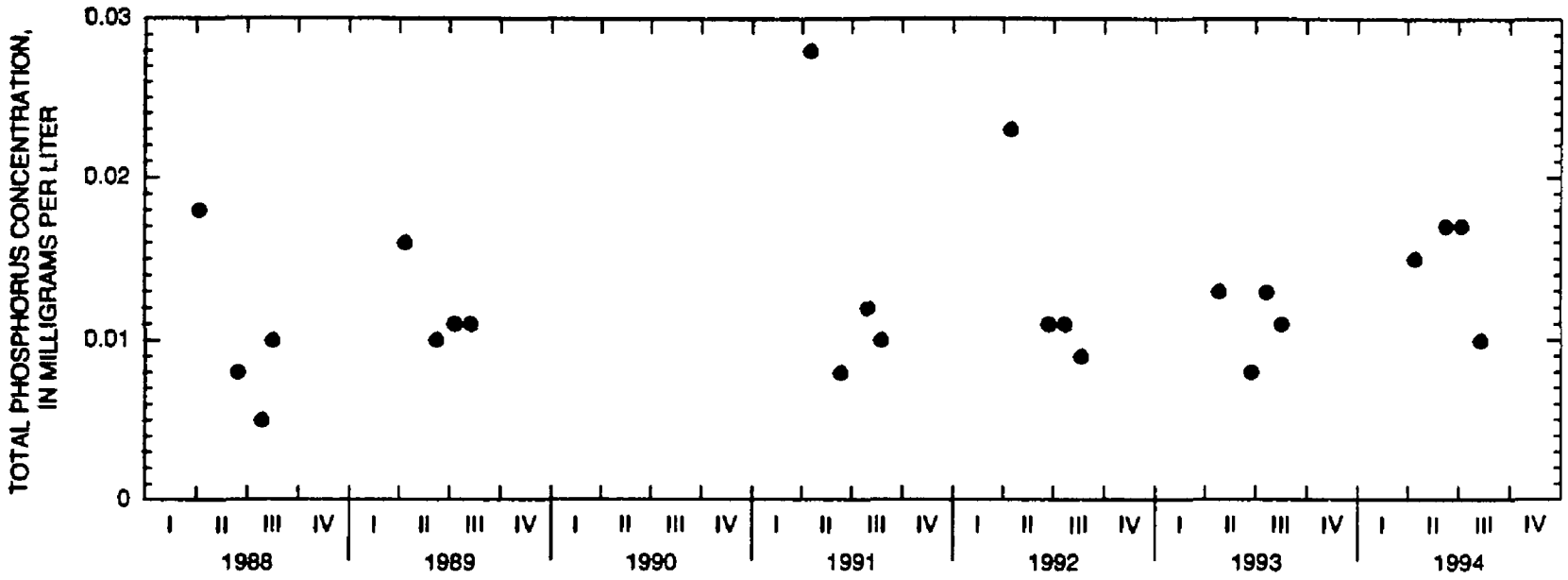
PERIOD OF RECORD.--February 1988 to August 1989, February 1991 to current year.

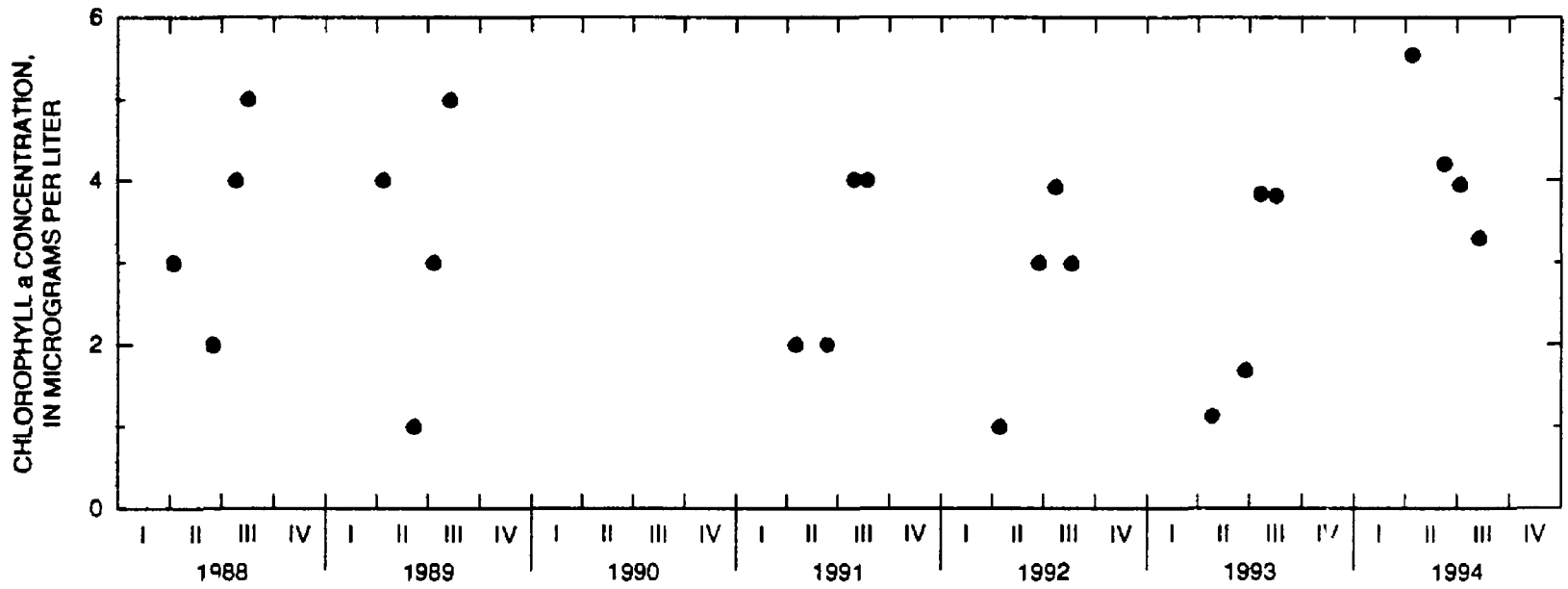
REMARKS.--Lake sampled near southwest end at a lake depth of about 70 ft. Lake ice-covered during February sampling. Water-quality analyses by Wisconsin State Laboratory of Hygiene.

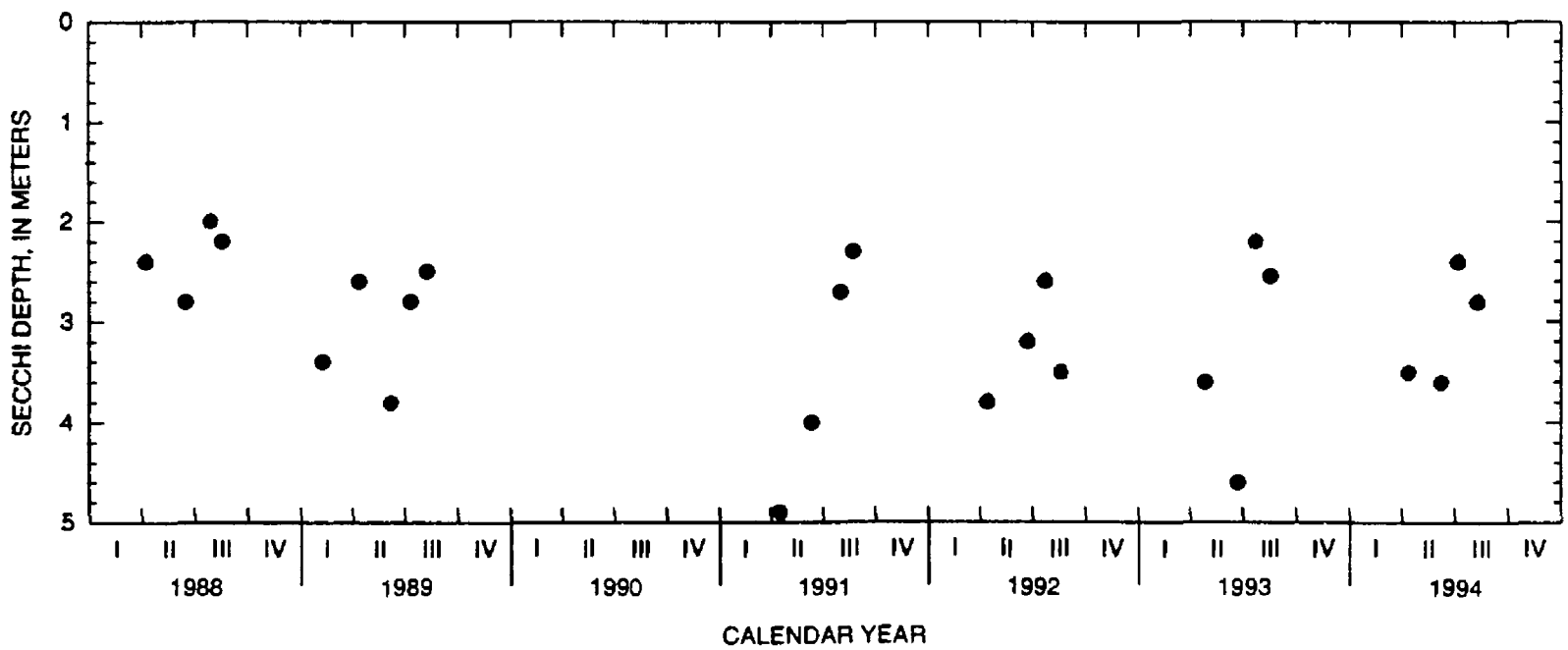
WATER-QUALITY DATA, FEBRUARY 24 TO AUGUST 09, 1994
(Milligrams per liter unless otherwise indicated)

	Feb. 24		Apr. 14		June 09		July 07		Aug. 09	
Depth of sample (ft)	3.0	71	1.5	70	1.5	71	1.5	68	1.5	71
Lake stage (ft)	5.26		4.99		4.90		4.77		4.60	
Specific conductance (µS/cm)	380	503	449	452	458	459	439	460	422	463
pH (units)	7.7	7.5	8.2	7.9	8.3	7.4	8.4	7.4	8.5	7.4
Water temperature (°C)	2.5	3.5	7.5	5.5	20.5	6.5	27.5	7.0	22.5	7.0
Color (Pt-Co. scale)	---	---	30	20	---	---	---	---	---	---
Turbidity (NTU)	---	---	1.00	1.00	---	---	---	---	---	---
Secchi-depth (meters)	---		3.5		3.6		2.4		2.8	
Dissolved oxygen	12.3	2.2	11.8	10.3	9.0	0.4	8.1	0.1	7.7	0.2
Hardness, as CaCO3	---	---	210	220	---	---	---	---	---	---
Calcium, dissolved (Ca)	---	---	44	45	---	---	---	---	---	---
Magnesium, dissolved (Mg)	---	---	25	25	---	---	---	---	---	---
Sodium, dissolved (Na)	---	---	12	12	---	---	---	---	---	---
Potassium, dissolved (K)	---	---	3	3	---	---	---	---	---	---
Alkalinity, as CaCO3	---	---	170	170	---	---	---	---	---	---
Sulfate, dissolved (SO4)	---	---	30	30	---	---	---	---	---	---
Chloride, dissolved (Cl)	---	---	24	24	---	---	---	---	---	---
Fluoride, dissolved (F)	---	---	0.1	0.2	---	---	---	---	---	---
Silica, dissolved (SiO2)	---	---	1.1	1.4	---	---	---	---	---	---
Solids, dissolved, at 180°C	---	---	272	268	---	---	---	---	---	---
Nitrogen, NO2 + NO3, diss. (as N)	---	---	0.15	0.17	---	---	---	---	---	---
Nitrogen, ammonia, dissolved (as N)	---	---	0.01	0.05	---	---	---	---	---	---
Nitrogen, amm. + org., total (as N)	---	---	0.90	0.80	---	---	---	---	---	---
Nitrogen, total (as N)	---	---	1.0	0.97	---	---	---	---	---	---
Phosphorus, total (as P)	---	---	0.015	0.014	0.017	0.142	0.017	0.080	0.010	0.093
Phosphorus, ortho, dissolved (as P)	---	---	0.004	0.001	---	---	---	---	---	---
Iron, dissolved (Fe) µg/L	---	---	<50	<50	---	---	---	---	---	---
Manganese, dissolved (Mn) µg/L	---	---	<40	<40	---	---	---	---	---	---
Chlorophyll a, phytoplankton (µg/L)	---	---	5.6	---	4.2	---	3.9	---	3.3	---









Surface total phosphorus and chlorophyll a concentrations, and Secchi depths for Waubeesee Lake at Wind Lake, Wisconsin.

424608088414800 WHITEWATER LAKE NEAR WHITEWATER, WI

LOCATION.--Lat 42°46'08", long 88°41'48", in NW 1/4 NW 1/4 sec.35, T.4 N., R.15 E., Walworth County, Hydrologic Unit 07090001, at outlet, 5.0 mi southeast of Whitewater and 10.0 mi north of Delavan.

DRAINAGE AREA.--10.9 mi^2, of which 8.5 mi^2 is non-contributing.

PERIOD OF RECORD.--November 1990 to current year.

GAGE.--Water-stage recorder. Datum of gage is 880.98 ft above sea level (Wisconsin Railroad Commission bench mark).

REMARKS.--No estimated daily gage heights. Records good except Oct. 1-26, Apr. 17 to May 20, June 1-22, and June 27 to July 14, which are fair. Point of zero flow of dam crest is 10.97 ft. Rainfall data published in Water Resources Data for 1991 for this station number are now stored under station number 424559088427300.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 11.32 ft, Feb. 25, 26, 1994; minimum daily gage height, 8.89 ft, Oct. 2, 3, 1991.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 11.32 ft, Feb. 25, 26; minimum daily gage height, 10.41 ft, July 13.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10.95	10.74	10.82	10.87	11.00	11.28	11.15	11.27	10.78	10.74	10.46	10.62
2	10.94	10.74	10.85	10.87	11.00	11.27	11.14	11.27	10.77	10.72	10.49	10.61
3	10.94	10.75	10.85	10.88	11.00	11.26	11.13	11.26	10.76	10.70	10.50	10.60
4	10.92	10.75	10.85	10.88	11.00	11.26	11.12	11.24	10.77	10.69	10.60	10.59
5	10.92	10.75	10.86	10.89	11.01	11.26	11.11	11.20	10.77	10.63	10.59	10.59
6	10.91	10.75	10.86	10.92	11.01	11.26	11.10	11.18	10.78	10.60	10.58	10.57
7	10.90	10.75	10.86	10.92	11.01	11.26	11.09	11.18	10.76	10.63	10.57	10.56
8	10.88	10.73	10.86	10.92	11.01	11.25	11.09	11.18	10.73	10.67	10.55	10.55
9	10.86	10.73	10.86	10.92	11.01	11.24	11.08	11.16	10.71	10.69	10.53	10.55
10	10.85	10.73	10.85	10.92	11.02	11.23	11.07	11.11	10.72	10.64	10.54	10.58
11	10.84	10.73	10.85	10.92	11.02	11.22	11.06	11.09	10.71	10.57	10.60	10.60
12	10.84	10.74	10.85	10.92	11.02	11.21	11.10	11.06	10.67	10.53	10.60	10.59
13	10.83	10.78	10.85	10.92	11.03	11.21	11.14	11.05	10.66	10.47	10.64	10.58
14	10.82	10.77	10.85	10.93	11.04	11.20	11.15	11.05	10.66	10.58	10.61	10.57
15	10.81	10.79	10.85	10.93	11.07	11.20	11.19	11.05	10.64	10.59	10.59	10.56
16	10.82	10.79	10.85	10.93	11.07	11.19	11.19	11.01	10.63	10.59	10.58	10.54
17	10.82	10.78	10.86	10.93	11.07	11.18	11.20	10.97	10.65	10.59	10.58	10.52
18	10.82	10.79	10.87	10.93	11.08	11.18	11.21	10.96	10.64	10.58	10.62	10.51
19	10.83	10.78	10.88	10.93	11.15	11.17	11.22	10.92	10.64	10.56	10.67	10.51
20	10.83	10.78	10.88	10.93	11.26	11.17	11.22	10.92	10.62	10.58	10.70	10.50
21	10.83	10.78	10.88	10.92	11.26	11.20	11.22	10.89	10.53	10.58	10.69	10.49
22	10.82	10.77	10.88	10.92	11.25	11.20	11.23	10.88	10.58	10.58	10.68	10.48
23	10.81	10.77	10.88	10.92	11.27	11.19	11.23	10.88	10.62	10.55	10.67	10.49
24	10.81	10.76	10.88	10.94	11.28	11.19	11.23	10.89	10.69	10.54	10.66	10.50
25	10.80	10.78	10.88	10.96	11.30	11.18	11.25	10.89	10.70	10.53	10.65	10.52
26	10.80	10.83	10.88	10.96	11.31	11.17	11.29	10.88	10.73	10.52	10.67	10.53
27	10.78	10.83	10.88	10.97	11.30	11.19	11.26	10.86	10.75	10.50	10.67	10.53
28	10.78	10.82	10.88	10.98	11.30	11.18	11.24	10.84	10.75	10.48	10.65	10.51
29	10.76	10.82	10.88	10.98	---	11.17	11.23	10.81	10.75	10.47	10.63	10.50
30	10.75	10.82	10.88	10.99	---	11.17	11.24	10.80	10.76	10.45	10.63	10.49
31	10.74	---	10.87	11.00	---	11.16	---	10.79	---	10.44	10.63	---
MEAN	10.84	10.77	10.86	10.93	11.11	11.21	11.17	11.02	10.70	10.58	10.61	10.54
MAX	10.95	10.83	10.88	11.00	11.31	11.28	11.29	11.27	10.78	10.74	10.70	10.62
MIN	10.74	10.73	10.82	10.87	11.00	11.16	11.06	10.79	10.53	10.44	10.46	10.48

424915088083900 WIND LAKE AT WIND LAKE, WI

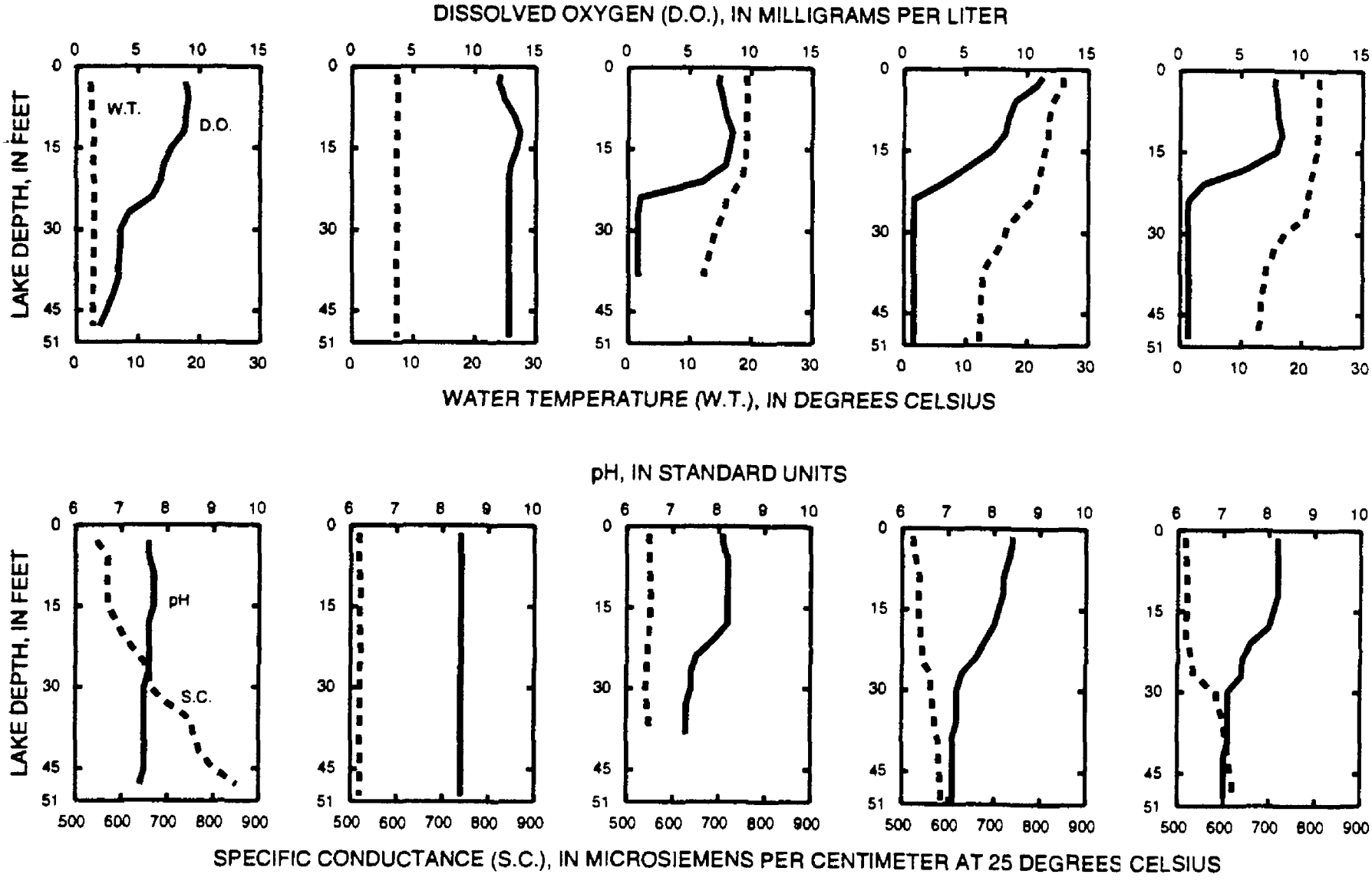
LOCATION.--Lat 42°49'15", long 88°08'39", in NW 1/4 SW 1/4 sec.9, T.4 N., R.20 E., Racine County, Hydrologic Unit 07120006, at Wind Lake.

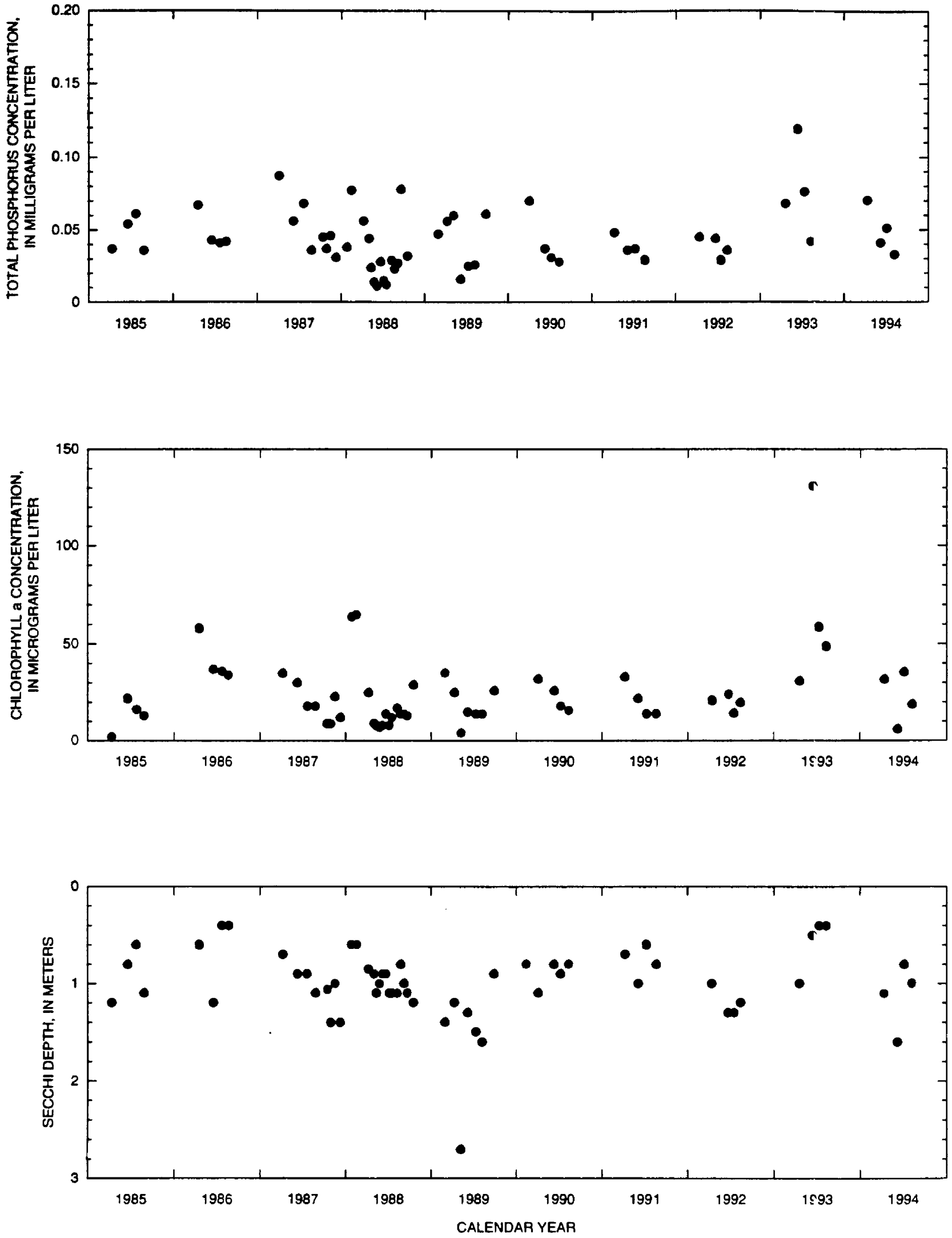
PERIOD OF RECORD.--February 1985 to current year.

REMARKS.--Lake sampled near center at a lake depth of about 50 feet. Lake ice-covered during February sampling. Water-quality analyses by Wisconsin State Laboratory of Hygiene.

WATER-QUALITY DATA, FEBRUARY 24 TO AUGUST 08, 1994
(Milligrams per liter unless otherwise indicated)

	Feb. 24		Apr. 13		June 08		July 06		Aug. 08	
Depth of sample (ft)	3.0	48	1.5	50	1.5	38	1.5	50	1.5	49
Lake stage (ft)	8.17		8.01		7.85		7.73		8.25	
Specific conductence (µS/cm)	547	850	519	520	549	553	525	584	517	622
pH (units)	7.6	7.4	8.4	8.4	8.1	7.3	8.4	7.1	8.2	7.0
Water temperature (°C)	2.5	2.5	7.5	7.5	19.5	12.0	26.0	12.5	23.0	13.0
Color (Pt-Co. scale)	---	---	30	30	---	---	---	---	---	---
Turbidity (NTU)	---	---	2.3	2.8	---	---	---	---	---	---
Secchi-depth (meters)	---		1.1		1.6		0.8		1.0	
Dissolved oxygen	8.9	1.9	12.1	12.8	7.5	0.8	11.3	0.8	7.9	0.7
Hardness, as CaCO3	---	---	210	220	---	---	---	---	---	---
Calcium, dissolved (Ca)	---	---	44	45	---	---	---	---	---	---
Magnesium, dissolved (Mg)	---	---	25	25	---	---	---	---	---	---
Sodium, dissolved (Na)	---	---	25	25	---	---	---	---	---	---
Potassium, dissolved (K)	---	---	3	3	---	---	---	---	---	---
Alkalinity, as CaCO3	---	---	170	170	---	---	---	---	---	---
Sulfate, dissolved (SO4)	---	---	30	30	---	---	---	---	---	---
Chloride, dissolved (Cl)	---	---	47	47	---	---	---	---	---	---
Fluoride, dissolved (F)	---	---	0.2	0.2	---	---	---	---	---	---
Silica, dissolved (SiO2)	---	---	<0.2	<0.2	---	---	---	---	---	---
Solids, dissolved, at 180°C	---	---	308	308	---	---	---	---	---	---
Nitrogen, NO2 + NO3, diss. (as N)	---	---	0.26	0.39	---	---	---	---	---	---
Nitrogen, ammonia, dissolved (as N)	---	---	0.14	0.13	---	---	---	---	---	---
Nitrogen, amm. + org., total (as N)	---	---	1.5	1.5	---	---	---	---	---	---
Nitrogen, total (as N)	---	---	1.8	1.9	---	---	---	---	---	---
Phosphorus, total (as P)	---	---	0.070	0.055	0.041	0.214	0.051	0.410	0.033	0.428
Phosphorus, ortho, dissolved (as P)	---	---	<0.002	<0.002	---	---	---	---	---	---
Iron, dissolved (Fe) µg/L	---	---	<50	<50	---	---	---	---	---	---
Manganese, dissolved (Mn) µg/L	---	---	<40	<40	---	---	---	---	---	---
Chlorophyll a, phytoplankton(µg/L)	---	---	32	---	5.9	---	36	---	19	---





Surface total phosphorus and chlorophyll a concentrations, and Secchi depths for Wind Lake at Wind Lake, Wisconsin.

424848088083100 WIND LAKE OUTLET AT WIND LAKE, WI

LOCATION.--Lat 42°48'48" long 88°08'31", in NE 1/4 NW 1/4 sec.16, T.4 N., R.20 E., Racine County, Hydrologic Unit 07120006, at Wind Lake.

DRAINAGE AREA.--39.6 mi^2.

PERIOD OF RECORD.--March 1985 to current year.

REVISED RECORDS.--WDR WI-91-1: 1988(m).

GAGE.--Water-stage recorder and concrete dam. Datum of gage is 760.30 ft above sea level. Prior to Oct. 2, 1987, nonrecording gage at same site and datum.

REMARKS.--Lake ice-covered Dec. 22 to Mar. 25. Records good. Lake level regulated by dam with two 10-foot gates at outlet. Previously published as Wind Lake at Wind Lake, Wis.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 8.61 ft, Sept. 1, 1989; minimum recorded, 6.27 ft, Jan. 7 and 10, 1991, but may have been lower during period Jan. 7-10, 1991.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 8.52 ft, Oct. 11; minimum recorded, 6.60 ft, Mar. 5, 6.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.69	7.73	7.49	7.06	7.81	7.47	7.49	8.26	7.95	7.77	8.18	8.23
2	7.81	7.71	7.47	7.07	7.83	7.11	7.59	8.27	7.93	7.76	8.18	8.19
3	7.92	7.72	7.43	7.10	7.88	6.84	7.69	8.27	7.90	7.74	8.19	8.18
4	8.03	7.72	7.39	7.12	7.91	6.71	7.75	8.26	7.88	7.71	8.32	8.19
5	8.13	7.73	7.34	7.14	7.93	6.64	7.82	8.25	7.87	7.72	8.36	8.19
6	8.22	7.73	7.33	7.20	7.94	6.63	7.87	8.25	7.88	7.74	8.34	8.20
7	8.31	7.71	7.33	7.23	7.97	6.79	7.88	8.27	7.87	7.85	8.30	8.20
8	8.39	7.71	7.33	7.24	8.02	7.00	7.89	8.26	7.84	7.90	8.25	8.20
9	8.46	7.71	7.32	7.26	8.05	7.16	7.89	8.22	7.81	7.94	8.25	8.19
10	8.49	7.71	7.34	7.28	8.07	7.31	7.90	8.20	7.80	7.98	8.27	8.19
11	8.42	7.71	7.32	7.31	8.08	7.43	7.91	8.17	7.80	7.99	8.36	8.19
12	8.25	7.71	7.32	7.33	8.12	7.54	7.96	8.19	7.78	8.03	8.36	8.19
13	8.22	7.74	7.31	7.35	8.18	7.65	8.00	8.18	7.80	8.05	8.41	8.18
14	8.20	7.77	7.30	7.36	8.19	7.75	8.03	8.16	7.81	8.10	8.35	8.18
15	8.20	7.82	7.30	7.38	8.21	7.85	8.03	8.14	7.78	8.14	8.27	8.18
16	8.21	7.82	7.29	7.40	8.23	7.87	8.02	8.13	7.77	8.16	8.17	8.18
17	8.21	7.84	7.27	7.44	8.24	7.78	8.05	8.11	7.77	8.20	8.16	8.18
18	8.20	7.85	7.27	7.45	8.25	7.67	8.06	8.11	7.76	8.22	8.22	8.15
19	8.20	7.86	7.25	7.47	8.28	7.53	8.07	8.10	7.74	8.23	8.27	8.14
20	8.20	7.87	7.23	7.48	8.28	7.40	8.07	8.09	7.75	8.25	8.25	8.13
21	8.18	7.87	7.22	7.50	8.30	7.38	8.07	8.08	7.75	8.26	8.20	8.09
22	8.18	7.88	7.20	7.51	8.26	7.33	8.07	8.07	7.73	8.28	8.17	8.07
23	8.21	7.90	7.18	7.53	8.25	7.28	8.05	8.07	7.74	8.28	8.13	8.07
24	8.25	7.92	7.15	7.55	8.15	7.19	8.06	8.06	7.83	8.28	8.15	8.07
25	8.29	7.86	7.13	7.56	8.22	7.17	8.09	8.05	7.81	8.28	8.17	8.08
26	8.32	7.82	7.10	7.58	8.14	7.11	8.13	8.04	7.83	8.28	8.22	8.09
27	8.30	7.75	7.07	7.64	8.14	7.08	8.16	8.03	7.83	8.28	8.24	8.11
28	8.13	7.69	7.04	7.70	7.83	7.09	8.19	8.00	7.81	8.25	8.25	8.11
29	8.03	7.63	7.02	7.73	---	7.19	8.20	7.98	7.80	8.20	8.24	8.11
30	7.93	7.56	7.03	7.76	---	7.30	8.23	7.97	7.78	8.18	8.24	8.11
31	7.82	---	7.05	7.78	---	7.40	---	7.96	---	8.18	8.26	---
MEAN	8.17	7.77	7.25	7.40	8.10	7.28	7.97	8.14	7.81	8.07	8.25	8.15
MAX	8.49	7.92	7.49	7.78	8.30	7.87	8.23	8.27	7.95	8.28	8.41	8.23
MIN	7.69	7.56	7.02	7.06	7.81	6.63	7.49	7.96	7.73	7.71	8.13	8.07

04082500 LAKE WINNEBAGO AT OSHKOSH, WI

LOCATION.--Lat 44°00'35", long 88°31'38", in NE 1/4 NE 1/4 sec.25, T.18 N., R.16 E., Winnebago County, Hydrologic Unit 04030203, at 905 Bay Shore Drive, 800 ft east of mouth of the upper Fox River.

DRAINAGE AREA.--5,880 mi^2, at lake outlet at Menasha Dam. Area of Lake Winnebago, 215 mi^2.

PERIOD OF RECORD.--October 1938 to current year in reports of Geological Survey. Records from 1882 to 1938 in files of Geological Survey and U.S. Army Corps of Engineers. A report on Fox River by U.S. Army Corps of Engineers, published as House Document No. 146, 67th Congress, 2nd session, contains semi-monthly records of inflow of Lake Winnebago for the period 1896-1917.

REVISED RECORD.--WDR WI-83-1: Drainage area.

GAGE.--Water-stage recorder. Nonrecording gage read once daily October 1938 to October 1978. Datum of gage is 745.05 ft above mean tide at New York City (levels by U.S. Army Corps of Engineers). Datum of Deuchman gage is 745.00 ft above mean tide at New York City.

REMARKS.--Records good. Lake elevations controlled by dams at Menasha and Neenah, which are operated in the interest of navigation. Crests of both dams are at elevation 746.73 ft. Present limits of regulation are from 21 1/4 in. above the crest of Menasha dam to crest during navigation season, plus additional 18 in. below crest during winter. Oshkosh staff gage gives true level of lake, while Deuchman gage readings are affected by loss of head in the channel between lake and dam. Data-collection platform at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height observed, 5.33 ft (Deuchman gage) Nov. 8, 1881; minimum observed, -2.00 ft (Deuchman gage) Nov. 28, 1891.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 3.33 ft, May 7; minimum, 1.30 ft, Feb. 18, 19.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.46	2.44	2.12	1.92	1.54	1.51	1.38	3.11	2.96	2.88	2.98	3.03
2	2.50	2.42	2.07	1.91	1.52	1.50	1.38	3.24	2.90	2.92	3.01	3.02
3	2.48	2.44	2.10	1.90	1.51	1.48	1.38	3.28	2.89	2.87	3.00	2.99
4	2.51	2.47	2.09	1.88	1.50	1.46	1.40	3.28	2.89	2.95	3.06	2.96
5	2.50	2.50	2.08	1.87	1.48	1.44	1.46	3.27	2.88	3.06	3.02	2.91
6	2.49	2.49	2.02	1.87	1.46	1.47	1.46	3.29	2.94	3.11	2.98	2.91
7	2.52	2.46	2.10	1.86	1.45	1.49	1.47	3.28	2.99	3.17	2.95	2.90
8	2.53	2.47	2.07	1.85	1.44	1.50	1.51	3.20	2.96	3.21	2.95	2.90
9	2.50	2.46	2.08	1.82	1.43	1.48	1.49	3.18	2.92	3.18	2.95	2.90
10	2.47	2.47	2.05	1.81	1.41	1.46	1.62	3.18	2.91	3.21	2.93	2.87
11	2.44	2.44	2.10	1.80	1.40	1.44	1.66	3.09	2.91	3.15	2.93	2.86
12	2.46	2.48	2.11	1.78	1.39	1.43	1.73	3.14	2.92	3.15	2.93	2.84
13	2.46	2.37	2.09	1.77	1.38	1.41	1.74	3.10	2.95	3.19	2.94	2.83
14	2.45	2.45	2.09	1.75	1.37	1.40	1.83	3.02	2.94	3.15	2.94	2.87
15	2.48	2.44	2.09	1.74	1.35	1.39	1.83	3.00	2.93	3.10	2.95	2.84
16	2.52	2.41	2.08	1.73	1.34	1.38	1.87	3.03	2.95	3.09	2.94	2.83
17	2.54	2.38	2.09	1.73	1.33	1.37	2.07	2.96	2.96	3.05	2.94	2.84
18	2.55	2.32	2.08	1.71	1.31	1.37	2.10	2.92	2.98	3.03	2.94	2.82
19	2.55	2.16	2.08	1.69	1.33	1.37	2.09	2.93	2.97	3.01	2.99	2.82
20	2.55	2.25	2.07	1.67	1.44	1.37	2.20	2.94	2.95	2.99	2.99	2.79
21	2.47	2.18	2.09	1.66	1.48	1.39	2.26	2.96	2.97	2.97	3.03	2.76
22	2.58	2.19	2.10	1.64	1.50	1.40	2.28	2.96	2.97	2.95	3.05	2.73
23	2.55	2.15	2.09	1.62	1.51	1.40	2.28	2.95	2.97	2.95	3.05	2.72
24	2.56	2.20	2.08	1.60	1.52	1.38	2.38	2.94	2.97	2.92	3.03	2.73
25	2.55	2.15	2.06	1.59	1.53	1.37	2.59	2.97	2.93	2.89	3.07	2.74
26	2.50	2.10	2.04	1.58	1.54	1.37	2.64	3.00	2.96	2.87	3.06	2.77
27	2.53	2.15	2.01	1.57	1.53	1.36	2.76	2.95	2.92	2.88	3.06	2.74
28	2.45	2.14	1.99	1.58	1.52	1.36	2.92	2.94	2.88	2.89	3.03	2.67
29	2.44	2.12	1.97	1.58	---	1.35	2.79	2.92	2.94	2.90	3.06	2.66
30	2.50	2.12	1.96	1.57	---	1.36	3.03	2.94	2.93	2.94	3.03	2.63
31	2.46	---	1.94	1.55	---	1.37	---	2.90	---	2.92	3.04	---
MEAN	2.50	2.33	2.06	1.73	1.45	1.41	1.99	3.06	2.94	3.02	2.99	2.83
MAX	2.58	2.50	2.12	1.92	1.54	1.51	3.03	3.29	2.99	3.21	3.07	3.03
MIN	2.44	2.10	1.94	1.55	1.31	1.35	1.38	2.90	2.88	2.87	2.93	2.63

04084255 LAKE WINNEBAGO NEAR STOCKBRIDGE, WI

LOCATION.--Lat 44°04'17", long 88°19'52", Stockbridge Indian Reservation, Calumet County, Hydrologic Unit 04030203, on east shore of Lake Winnebago, 300 ft south of County Highway E and 1.6 mi west of Stockbridge.

DRAINAGE AREA.--5,880 mi^2, at lake outlet at Menasha Dam. Area of Lake Winnebago, 215 mi^2.

PERIOD OF RECORD.--November 1982 to current year.

GAGE.--Water-stage recorder. Datum of gage is 745.05 ft above mean tide of New York City (levels by U. S. Army Corps of Engineers).

REMARKS.--Records good. Lake elevations controlled by dams at Menasha and Neenah, which are operated in the interest of navigation. Crests of both dams are at elevation 746.73 ft. Present limits of regulation are from 21 1/4 in. above the crest of Menasha dam to crest during navigation season, plus additional 18 in. below crest during winter. Data-collection platform at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height observed, 4.13 ft, July 9, 1993; minimum observed, 0.30 ft, Mar. 1, 1986.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 3.41 ft, July 8; minimum, 1.23 ft, Apr. 5.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.57	2.43	2.07	1.87	1.51	1.47	1.33	3.12	2.91	2.91	2.95	3.00
2	2.58	2.45	2.08	1.86	1.49	1.46	1.34	3.22	2.86	2.81	2.96	2.98
3	2.57	2.45	2.06	1.85	1.48	1.45	1.36	3.26	2.86	2.78	3.01	2.96
4	2.49	2.42	2.04	1.84	1.47	1.43	1.37	3.27	2.87	2.95	2.98	2.91
5	2.48	2.39	2.04	1.82	1.45	1.40	1.32	3.28	2.86	3.04	2.97	2.90
6	2.48	2.49	2.08	1.82	1.44	1.42	1.36	3.26	2.95	3.09	2.98	2.92
7	2.46	2.54	2.06	1.81	1.43	1.44	1.44	3.23	2.88	3.14	2.96	2.92
8	2.40	2.46	2.06	1.79	1.41	1.46	1.45	3.26	2.82	3.25	2.93	2.89
9	2.40	2.44	2.06	1.78	1.41	1.45	1.55	3.23	2.89	3.24	2.90	2.86
10	2.49	2.45	2.04	1.76	1.39	1.44	1.59	3.17	2.90	3.18	2.90	2.83
11	2.51	2.43	2.07	1.76	1.37	1.41	1.60	3.19	2.92	3.19	2.89	2.83
12	2.44	2.36	2.07	1.75	1.36	1.39	1.59	3.11	2.94	3.17	2.93	2.84
13	2.43	2.40	2.04	1.74	1.35	1.38	1.72	3.06	2.93	3.08	2.94	2.84
14	2.45	2.38	2.02	1.72	1.34	1.36	1.81	3.00	2.89	3.07	2.98	2.85
15	2.43	2.43	2.00	1.71	1.33	1.36	1.98	3.01	2.93	3.09	2.94	2.85
16	2.46	2.45	2.02	1.69	1.31	1.36	2.17	2.97	2.95	3.07	2.94	2.89
17	2.47	2.35	2.04	1.70	1.30	1.35	2.10	2.89	2.95	3.05	2.92	2.82
18	2.50	2.33	2.06	1.69	1.29	1.34	2.09	2.86	2.94	3.02	2.93	2.80
19	2.51	2.34	2.08	1.66	1.28	1.34	2.18	2.89	2.91	3.00	2.96	2.79
20	2.52	2.29	2.09	1.64	1.40	1.34	2.21	2.91	2.95	3.01	2.98	2.78
21	2.72	2.20	2.10	1.62	1.44	1.34	2.20	2.93	2.96	3.01	3.00	2.75
22	2.57	2.08	2.04	1.60	1.46	1.35	2.23	2.94	2.94	2.98	3.03	2.71
23	2.54	2.04	2.05	1.59	1.48	1.34	2.34	2.92	2.89	2.97	3.04	2.66
24	2.52	1.99	2.04	1.57	1.49	1.33	2.36	2.92	2.89	2.95	3.06	2.64
25	2.50	1.99	2.03	1.56	1.49	1.34	2.49	2.93	2.93	2.91	3.05	2.64
26	2.54	2.12	1.99	1.55	1.51	1.33	2.65	2.89	2.90	2.88	3.06	2.65
27	2.56	2.14	1.97	1.54	1.49	1.31	2.73	2.93	2.90	2.85	3.06	2.76
28	2.58	2.12	1.95	1.55	1.48	1.31	2.68	2.95	2.96	2.86	3.13	2.74
29	2.59	2.11	1.93	1.55	---	1.32	2.91	2.97	2.93	2.89	3.06	2.65
30	2.43	2.10	1.90	1.54	---	1.32	2.94	2.93	2.89	2.93	3.02	2.57
31	2.39	---	1.88	1.52	---	1.32	---	2.99	---	2.95	3.00	---
MEAN	2.50	2.31	2.03	1.69	1.42	1.38	1.97	3.05	2.91	3.01	2.98	2.81
MAX	2.72	2.54	2.10	1.87	1.51	1.47	2.94	3.28	2.96	3.25	3.13	3.00
MIN	2.39	1.99	1.88	1.52	1.28	1.31	1.32	2.86	2.82	2.78	2.89	2.57

435152088123100 WOLF LAKE NEAR MT. CALVARY, WI

LOCATION.--Lat 43°51'52", long 88°12'31", in SW 1/4 SE 1/4 sec.10, T.16 N., R.19 E., Fond du Lac County, Hydrologic Unit 04030101, 3.2 mi northeast of Mt. Calvary.

DRAINAGE AREA.--3.43 mi^2.

LAKE-STAGE RECORDS

PERIOD OF RECORD.--November 1983 to September 1986, November 1992 to current year.

GAGE.--Staff gage read at lake outlet.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height observed, 6.81 ft, Sept. 15, 1986; minimum observed, 4.42 ft, July 24, 1985.

EXTREMES FOR CURRENT YEAR.--Maximum gage height observed, 5.47 ft, Feb. 27; minimum observed, 4.72 ft, Oct. 31 and Dec. 31.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	4.85	---	---	---	---
2	5.31	---	---	---	---	---	4.89	---	---	---	---	---
3	---	---	---	---	---	---	---	4.95	---	5.05	---	4.93
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	5.01	---
15	---	---	---	---	---	---	---	5.14	---	5.18	---	4.89
16	---	---	---	---	---	---	4.85	---	5.14	---	---	---
17	---	---	---	---	---	---	---	---	---	---	5.06	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	5.21	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	5.47	---	---	---	---	---	---	---
28	---	4.81	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	5.12	5.01	---	---
30	---	---	---	4.81	---	---	---	5.22	---	---	---	---
31	4.72	---	4.72	---	---	---	---	---	---	---	---	---

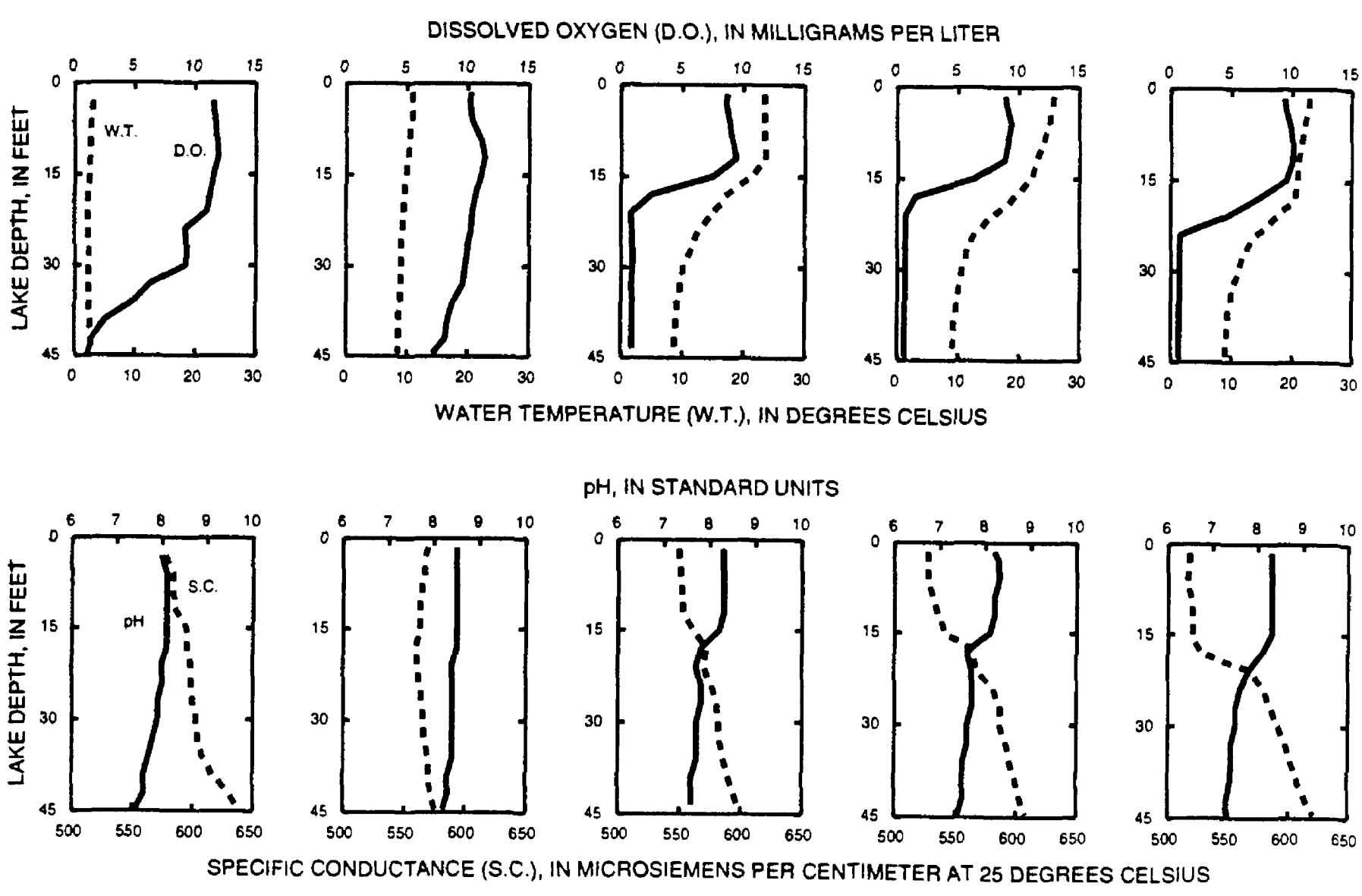
WATER-QUALITY RECORDS

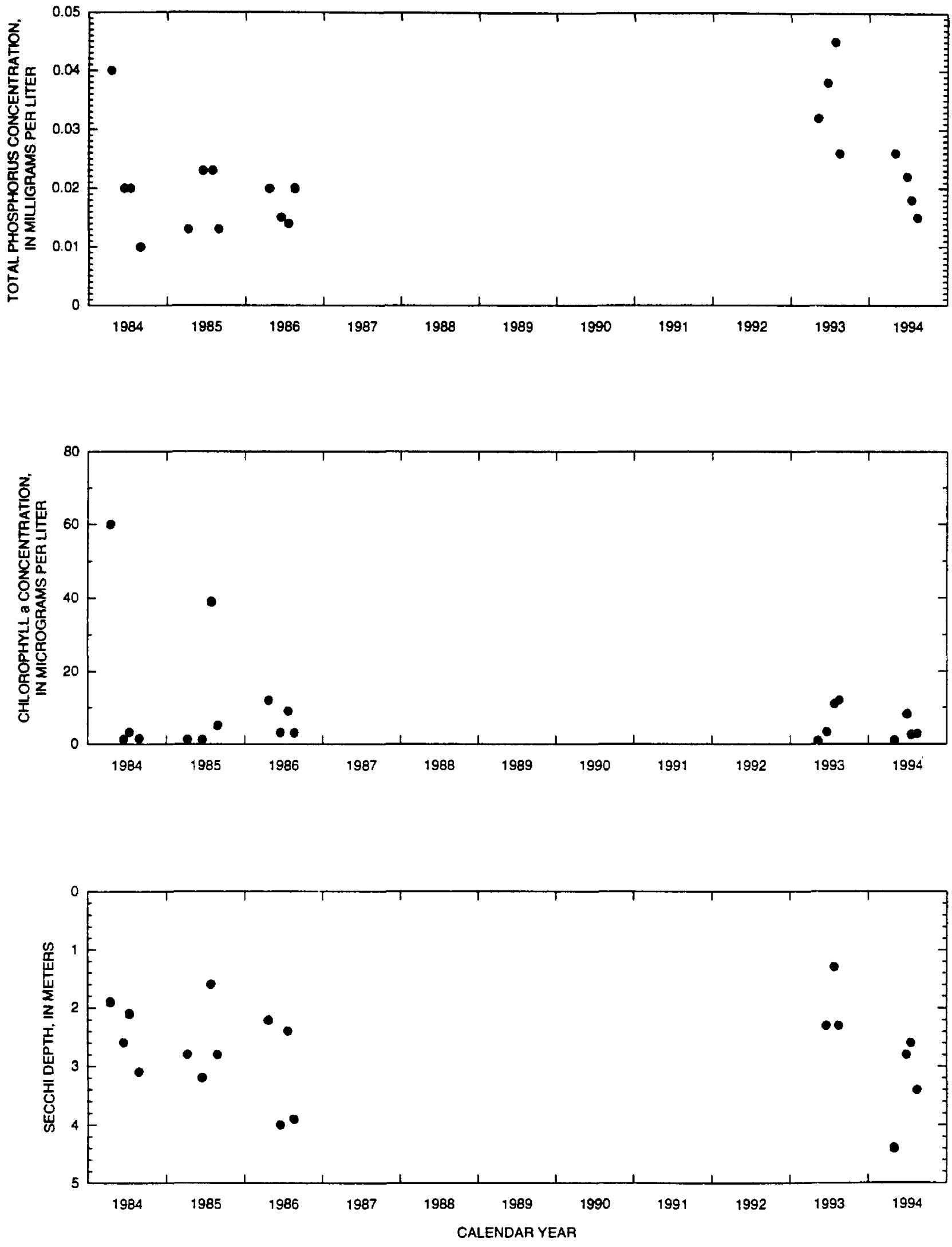
PERIOD OF RECORD.--February 1984 to September 1987, February 1993 to current year.

REMARKS.--Lake sampled near center at a depth of 47 ft. Lake ice-covered during March sampling. Water-quality analyses by Wisconsin State Laboratory of Hygiene.

WATER-QUALITY DATA, MARCH 03 TO AUGUST 17, 1994
(Milligrams per liter unless otherwise indicated)

	Mar. 03		May 03		June 29		July 20		Aug. 17	
Depth of sample (ft)	3.0	45	1.5	44	1.5	43	1.5	44	1.5	44
Lake stage (ft)	---		4.95		5.12		5.21		5.06	
Specific conductance (µS/cm)	578	640	570	576	550	597	528	608	518	621
pH (units)	8.0	7.4	8.5	8.2	8.3	7.6	8.2	7.4	8.3	7.3
Water temperature (°C)	3.0	3.0	11.0	8.5	23.5	8.5	26.0	9.0	23.0	9.0
Color (Pt-Co. scale)	---	---	30	30	---	---	---	---	---	---
Turbidity (NTU)	---	---	0.60	1.00	---	---	---	---	---	---
Secchi-depth (meters)	---		4.4		2.8		2.6		3.4	
Dissolved oxygen	11.5	1.1	10.3	7.2	8.7	0.9	8.9	0.6	9.4	0.7
Hardness, as CaCO3	---	---	290	300	---	---	---	---	---	---
Calcium, dissolved (Ca)	---	---	57	57	---	---	---	---	---	---
Magnesium, dissolved (Mg)	---	---	37	38	---	---	---	---	---	---
Sodium, dissolved (Na)	---	---	6.6	6.6	---	---	---	---	---	---
Potassium, dissolved (K)	---	---	4	4	---	---	---	---	---	---
Alkalinity, as CaCO3	---	---	240	240	---	---	---	---	---	---
Sulfate, dissolved (SO4)	---	---	29	29	---	---	---	---	---	---
Chloride, dissolved (Cl)	---	---	27	27	---	---	---	---	---	---
Fluoride, dissolved (F)	---	---	0.1	0.1	---	---	---	---	---	---
Silica, dissolved (SiO2)	---	---	0.6	1.3	---	---	---	---	---	---
Solids, dissolved, at 180°C	---	---	332	332	---	---	---	---	---	---
Nitrogen, NO2 + NO3, diss. (as N)	---	---	0.02	0.01	---	---	---	---	---	---
Nitrogen, ammonia, dissolved (as N)	---	---	0.16	0.38	---	---	---	---	---	---
Nitrogen, amm. + org., total (as N)	---	---	1.0	1.3	---	---	---	---	---	---
Nitrogen, total (as N)	---	---	1.0	1.3	---	---	---	---	---	---
Phosphorus, total (as P)	---	---	0.026	0.060	0.022	0.450	0.018	0.466	0.015	0.611
Phosphorus, ortho, dissolved (as P)	---	---	0.008	0.031	---	---	---	---	---	---
Iron, dissolved (Fe) µg/L	---	---	<50	<50	---	---	---	---	---	---
Manganese, dissolved (Mn) µg/L	---	---	<40	79	---	---	---	---	---	---
Chlorophyll a, phytoplankton (µg/L)	---	---	1.0	---	8.3	---	2.5	---	2.8	---





Surface total phosphorus and chlorophyll a concentrations, and Secchi depths for Wolf Lake near Mt. Calvary, Wisconsin.