Water-Quality and Lake-Stage Data for Wisconsin Lakes, Water Year 1995

U.S. GEOLOGICAL SURVEY
Open-File Report 96-168

Prepared in cooperation with the
State of Wisconsin and local agencies

WATER-QUALITY AND LAKE-STAGE DATA FOR WISCONSIN LAKES, WATER YEAR 1995

By Wisconsin District Lake-Studies Team

U.S. GEOLOGICAL SURVEY
Open-File Report 96-168

A report by the Wisconsin District Lake-Studies Team–
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Prepared in cooperation with
THE STATE OF WISCONSIN AND OTHER AGENCIES

Madison, Wisconsin
1996

U.S. DEPARTMENT OF THE INTERIOR
BRUCE BABBITT, Secretary

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CONTENTS

CONTENTS--Continued

CONTENTS--Continued

FIGURE

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.

WATER-QUALITY AND LAKE-STAGE DATA FOR WISCONSIN LAKES, WATER YEAR 1995

By **Wisconsin District Lake-Studies Team**

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 1995 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, 1994 through September 30, 1995, is called "water year 1995."

The purpose of this report is to provide information about the physical and chemical 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 surface 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 another volume: "Water Resources Data-Wisconsin, 1995."

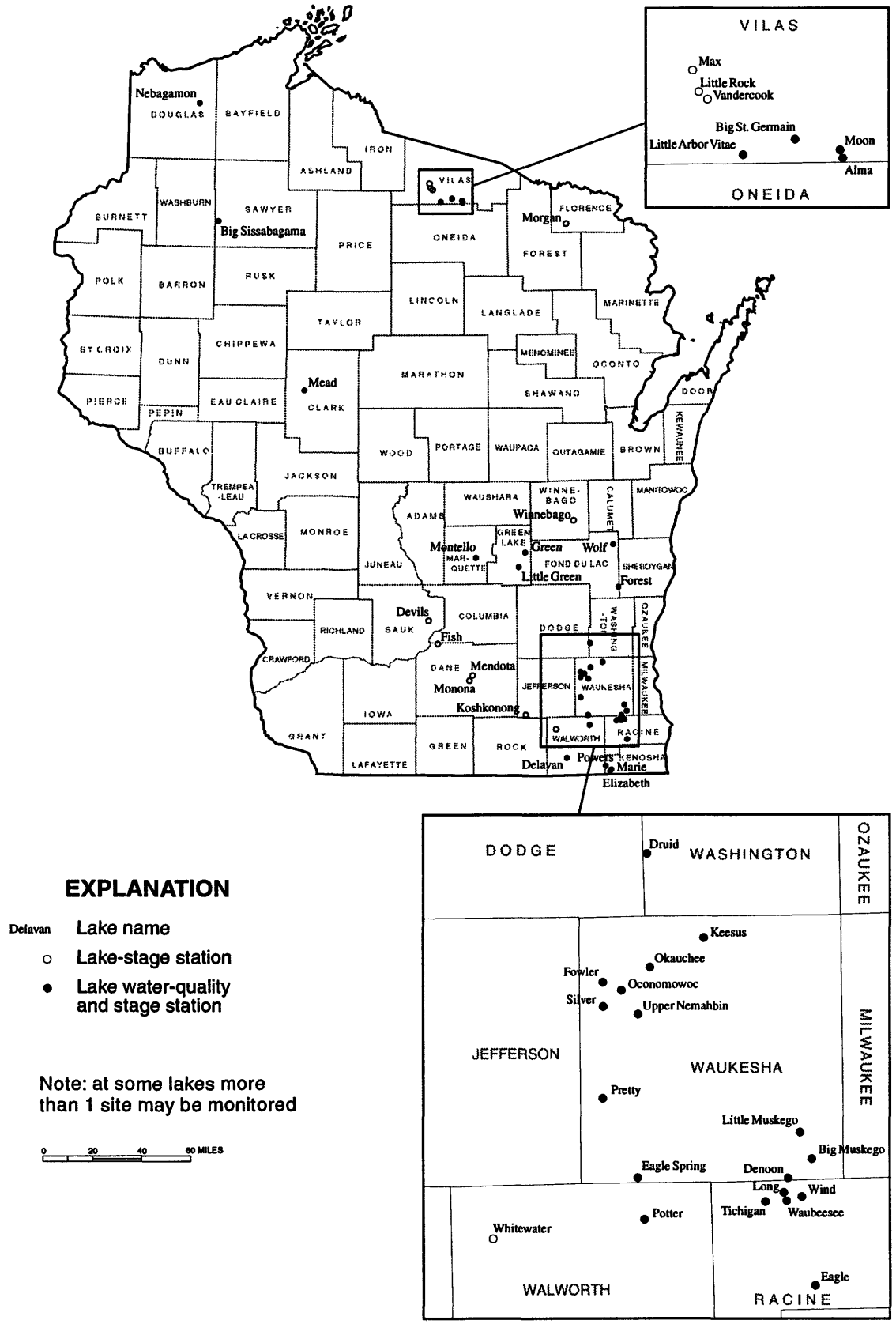

Figure 1. Location of lake water-quality and lake-stage stations in Wisconsin.

The USGS has done cooperative lake monitoring with local and other agencies since 1983. Cooperators in 1995 included:

Alma Lake - Moon 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
Little Arbor Vitae Lake Protection and Rehabilitation District
Little Green Lake Protection and Rehabilitation District
Little Muskego Lake Protection and Rehabilitation District
Montello Lake Inland Protection and Rehabilitation District
Okauchee Lake Management 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 Delavan
Town of Kansasville
Town of Mead
Town of Norway
Town of St. Germain
Town of Summit
Town of Waterford
Twin Lakes Protection and Rehabilitation District
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 1995 are listed in table 1. Discontinued lake-stage stations are not included in this table.

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 G.L. Goddard, J.J. Hanig, D.E. Housner, G.L. Kjornes, S.B. Marsh, D.L. Olson, R.J. Ostreng, J.G. Schuler, T.L. Seidel, P.A Stark, and W.J. Virnig. Additional assistance in preparation of the report was provided by S.Z. Jones, M.M. Greenwood, and S.H. Linder.

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
Balsam Lake near Birchwood	453907091345800	Mar. 1993-Aug. 1994
Balsam Lake, off Cedar Island, at Balsam Lake	452755092264600	Feb. 1991-Aug. 1994
Balsam Lake, off Little Narrows, near Balsam Lake	452858092265300	May 1991-Aug. 1994
Balsam Lake, off Rock Island, near Balsam Lake	452754092234300	May 1991-Aug. 1994
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
Big Muskego Lake, Research Base, near Muskego	425235088075300	May-June 1994
Booth Lake near East Troy	424800088254800	Feb. 1992-Aug. 1994
Fox Lake Deep Hole at Fox Lake	433458088560600	June 1991-Mar. 1993
Hemlock Lake near Mikana	453421091333700	Mar. 1993-Aug. 1994
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
Lake Noquebay near Crivitz	451511087550900	Feb. 1987-Aug. 1988, Apr. 1991-Aug. 1994
Lake Noquebay, East end, near Crivitz	451540087525700	Apr. 1991-Aug. 1994
Lamotte Lake near Shawano	445305088361200	Feb. 1990-Aug. 1992
Lauderdale Lakes		
at Lauderdale	424554088332700	Oct. 1993-Oct. 1994
Green near Lauderdale	424652088341500	Nov. 1993-Nov. 1994
Middle at Lauderdale	424621088335500	Nov. 1993-Nov. 1994
Mill at Lauderdale	424555088335700	Nov. 1993-Nov. 1994
Legend Lake (site 1) near Shawano	445342088312700	Feb. 1990-Feb. 1992
Little St. Germain near Eagle River	05390700	Oct. 1990-Sept. 1994
Little St. Germain, Northeast Bay, near St. Germain	455545089262500	Apr. 1991-Aug. 1994
Little St. Germain, South Bay, near St. Germain	455437089270800	Apr. 1991-Aug. 1994
Little St. Germain, West Bay, at St. Germain	455428089282400	Apr. 1991-Aug. 1994
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

Table 1. Discontinued lake stations

Station name	Site identification number	Period of record
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
Red Cedar Lake, Deep Hole, near Mikana	453725091345100	Mar. 1993-Aug. 1994
Red Cedar Lake, South end, near Mikana	453519091352500	Mar. 1993-Aug. 1994
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

In most lakes, samples were collected at two depths - near the surface and near the bottom. 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 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 °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 completely. 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 complete mixing. The difference in density caused by different water temperatures can prevent warm and cold water from 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 solids in the water. Because conductance is temperature related, reported values are normalized at 25°C and are termed specific conductance. 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 indicate differences in concentrations of dissolved solids.

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. 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 late 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. Carbon dioxide combines with the water molecule to form carbonic acid; therefore respiration causes a decrease in pH at night and photosynthesis causes an increase in pH in the day time. The result is a daily cycle of pH. 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 it is involved in many chemical reactions. Very low dissolved oxygen 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 thermal 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. During anoxic conditions, many aquatic organisms cannot survive, but many other species (primarily bacteria) actually function only in such conditions. Therefore, a shift from oxic to anoxic conditions produces a rapid and dramatic change in the biological community and chemical environment. Anoxia also can cause 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. High phosphorus concentrations can cause dense algal populations (blooms) and can therefore be a major cause of eutrophication in lakes. 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 these 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. During spring and fall turnover the phosphorus, which was released from the bottom sediments into the hypolimnion during anoxia, is mixed throughout the lake. The phosphorus is then available for algal growth. These phenomena are part of the internal-recycling processes of lakes.

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. Moderate populations of desirable algae are important in the food chain; however, excessive populations or algal 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 indicated by the Secchi depth.

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 surface total phosphorus and chlorophyll *a* concentrations, and Secchi depth for ice-free periods to calculate values for Trophic State Indexes. The WDNR has adopted the following TSI ranges to classify Wisconsin lakes: indexes of less than 40 define oligotrophic conditions, 40 to 50 define mesotrophic conditions, greater than 50 to 70 define eutrophic conditions, and greater than 70 define hyper-eutrophic 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):

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

$TSI_{chlorophyll\ a} = 34.82 + (17.41 (\log_{10} \text{chlorophyll } a \text{ concentration}))$

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

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

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 Douglas Pagel.

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

EXTREMES FOR CURRENT YEAR.--Maximum gage height observed, 10.91 ft, May 19, 29; minimum observed, 10.55 ft, Sept. 27.

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	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	10.69	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	10.87	---	---	10.77
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	10.73	---	---	10.61	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	10.71
9	---	---	---	---	---	---	---	---	---	10.67	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	10.81	---	---	---	---
12	---	---	---	---	---	---	---	---	10.83	---	---	---
13	---	---	---	---	---	---	---	---	10.82	---	10.77	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	10.71	10.87	---
17	---	---	---	---	10.72	---	---	---	10.74	---	---	10.63
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	10.91	---	10.72	---	---
20	---	---	---	---	---	---	---	---	---	---	10.83	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	10.73	10.71	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	10.76	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	10.85	10.55
28	---	---	---	---	---	---	---	---	---	10.73	---	---
29	---	---	---	---	---	---	---	10.91	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---

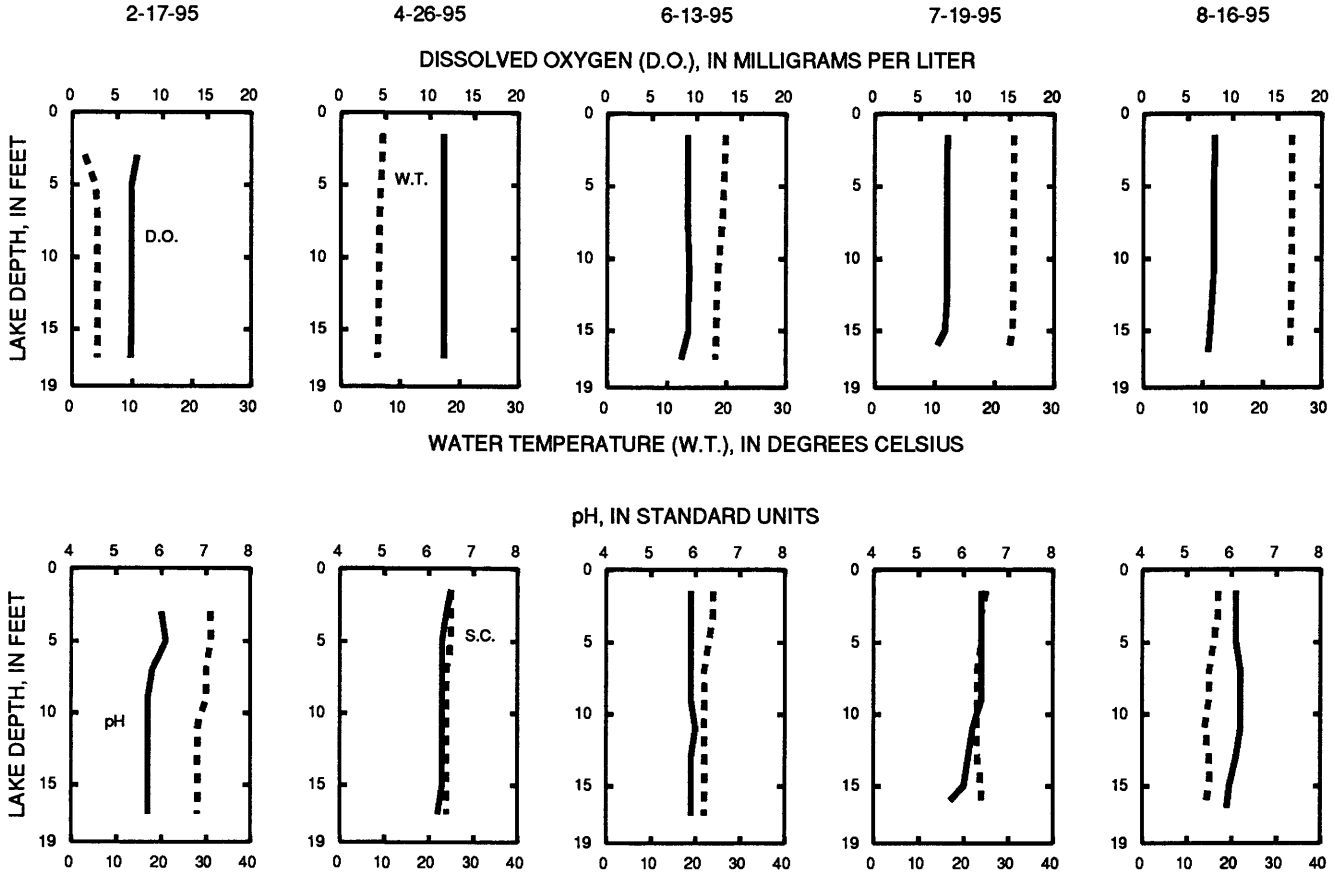
WATER-QUALITY RECORDS

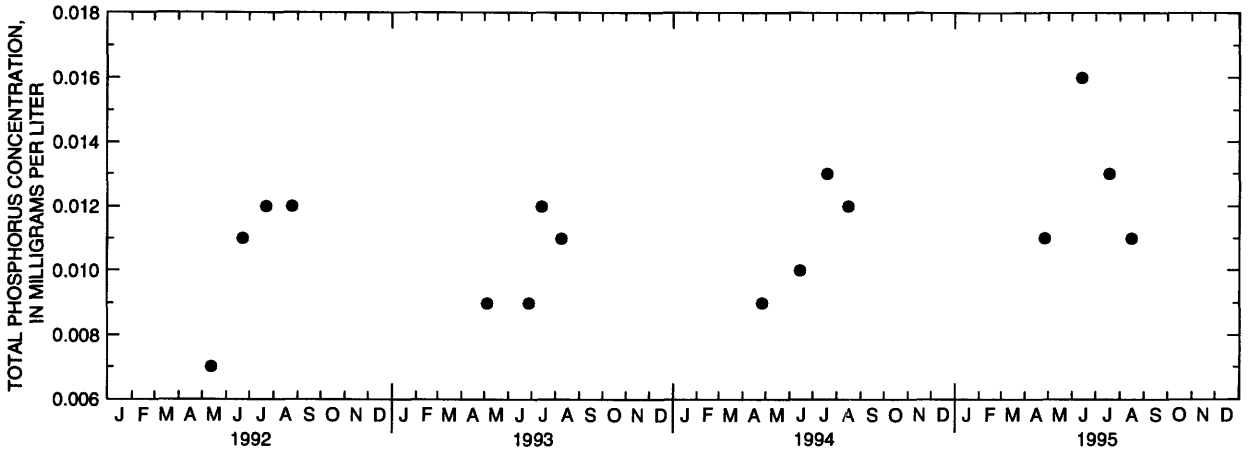
PERIOD OF RECORD.--October 1984 to September 1990 secchi depth only; February 1992 to current year.

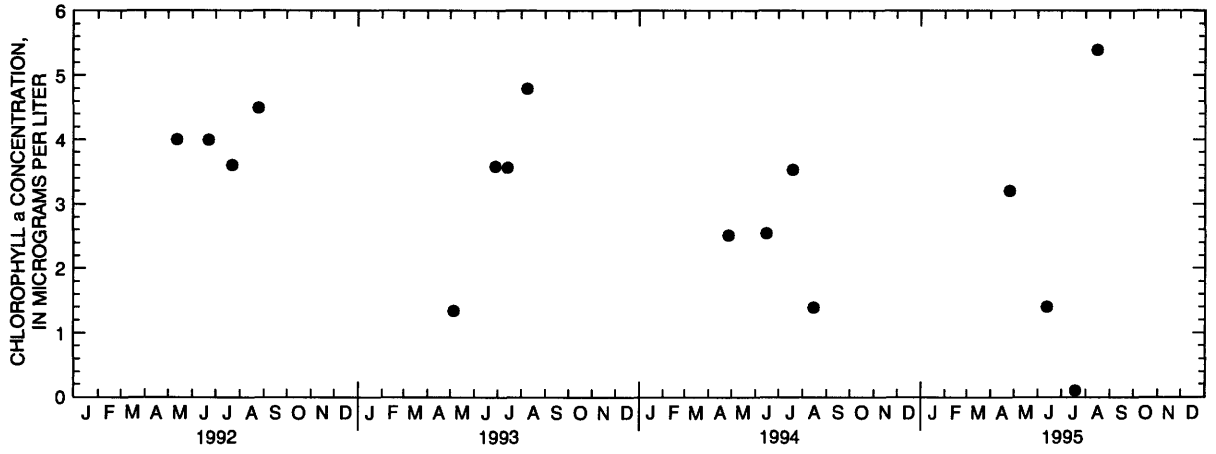
REMARKS.--Lake sampled near center of southern lobe of lake at the deep hole. Lake ice-covered during February measurements. Water-quality analyses done by Wisconsin State Laboratory of Hygiene.

WATER-QUALITY DATA, FEBRUARY 17 TO AUGUST 16, 1995
(Milligrams per liter unless otherwise indicated)

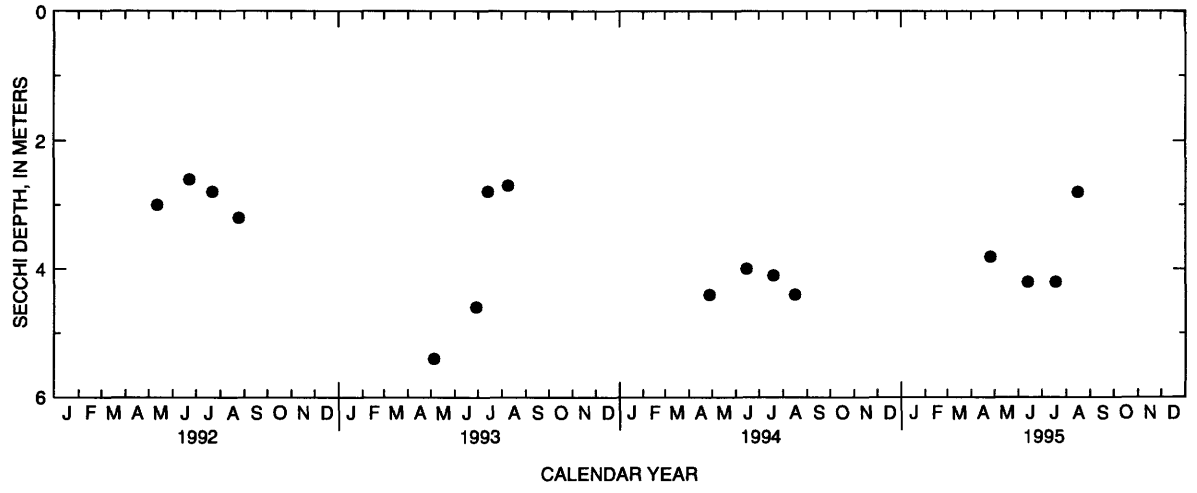
	Feb. 17		Apr. 26		June 13		July 19		Aug. 16	
Depth of sample (ft)	3.0	17	1.5	17	1.5	17	1.5	16	1.5	16
Lake stage (ft)	10.72		10.76		10.82		10.72		10.87	
Specific conductance (µS/cm)	31	28	25	24	24	22	25	24	17	14
pH (units)	6.0	5.7	6.5	6.2	5.9	5.9	6.4	5.7	6.1	5.9
Water temperature (°C)	2.0	4.0	7.0	6.0	20.0	18.0	23.0	22.5	25.0	24.5
Color (Pt-Co. scale)	---	---	5	10	---	---	---	---	---	---
Turbidity (NTU)	---	---	<0.50	0.50	---	---	---	---	---	---
Secchi-depth (meters)	---		3.8		4.2		4.2		2.8	
Dissolved oxygen	7.2	6.5	11.6	11.6	9.0	8.3	8.1	7.0	8.0	7.3
Hardness, as CaCO3	---	---	9	8	---	---	---	---	---	---
Calcium, dissolved (Ca)	---	---	2.4	2.0	---	---	---	---	---	---
Magnesium, dissolved (Mg)	---	---	0.7	0.7	---	---	---	---	---	---
Sodium, dissolved (Na)	---	---	0.7	0.7	---	---	---	---	---	---
Potassium, dissolved (K)	---	---	<0.3	0.3	---	---	---	---	---	---
Alkalinity, as CaCO3	---	---	6	6	---	---	---	---	---	---
Sulfate, dissolved (SO4)	---	---	4.0	5.0	---	---	---	---	---	---
Chloride, dissolved (Cl)	---	---	0.2	1.0	---	---	---	---	---	---
Fluoride, dissolved (F)	---	---	<0.1	<0.1	---	---	---	---	---	---
Silica, dissolved (SiO2)	---	---	<0.0	<0.0	---	---	---	---	---	---
Solids, dissolved, at 180°C	---	---	16	18	---	---	---	---	---	---
Nitrogen, NO2 + NO3, diss. (as N)	---	---	0.06	0.05	---	---	---	---	---	---
Nitrogen, ammonia, dissolved (as N)	---	---	0.03	<0.03	---	---	---	---	---	---
Nitrogen, organic, total (as N)	---	---	0.47	0.50	---	---	---	---	---	---
Nitrogen, amm. + org., total (as N)	---	---	0.50	0.50	---	---	---	---	---	---
Nitrogen, total (as N)	---	---	0.56	0.55	---	---	---	---	---	---
Phosphorus, total (as P)	---	---	0.011	0.012	0.016	0.011	0.013	0.012	0.011	0.010
Phosphorus, ortho, dissolved (as P)	---	---	<0.002	<0.002	---	---	---	---	---	---
Iron, dissolved (Fe) µg/L	---	---	20	10	---	---	---	---	---	---
Manganese, dissolved (Mn) µg/L	---	---	16	7	---	---	---	---	---	---
Chlorophyll a, phytoplankton (µg/L)	---	---	3.2	---	1.4	---	<0.1	---	5.4	---







Note: Above plot published in water year 1994 book was in error.



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

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

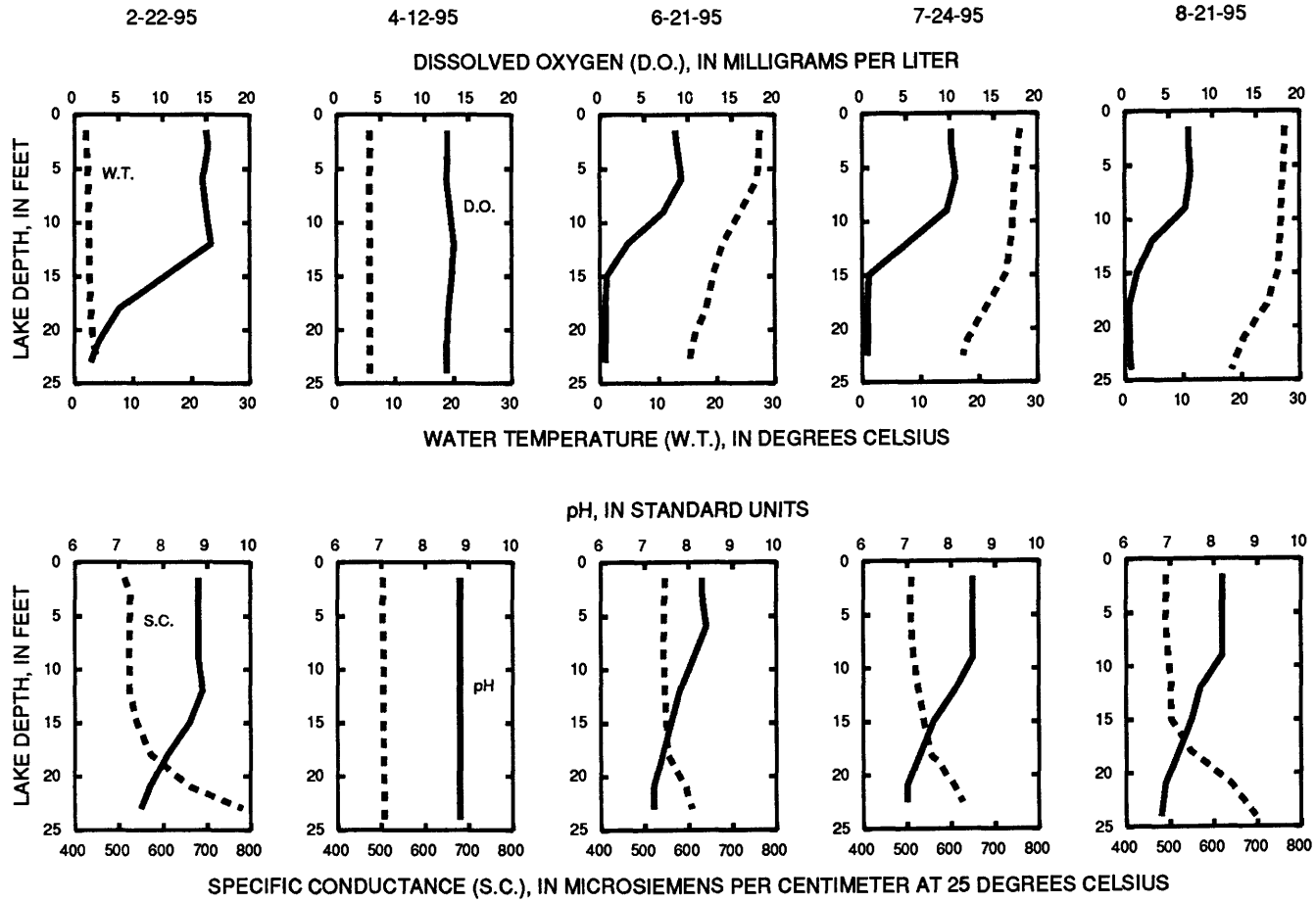
LOCATION.--Lat 42°53'44", long 88°07'01", in SW 1/4 NE 1/4 sec.15, T.5 N., R.20 E., Waukesha County, Hydrologic Unit 07120006, 1.3 mi southeast of Muskego.

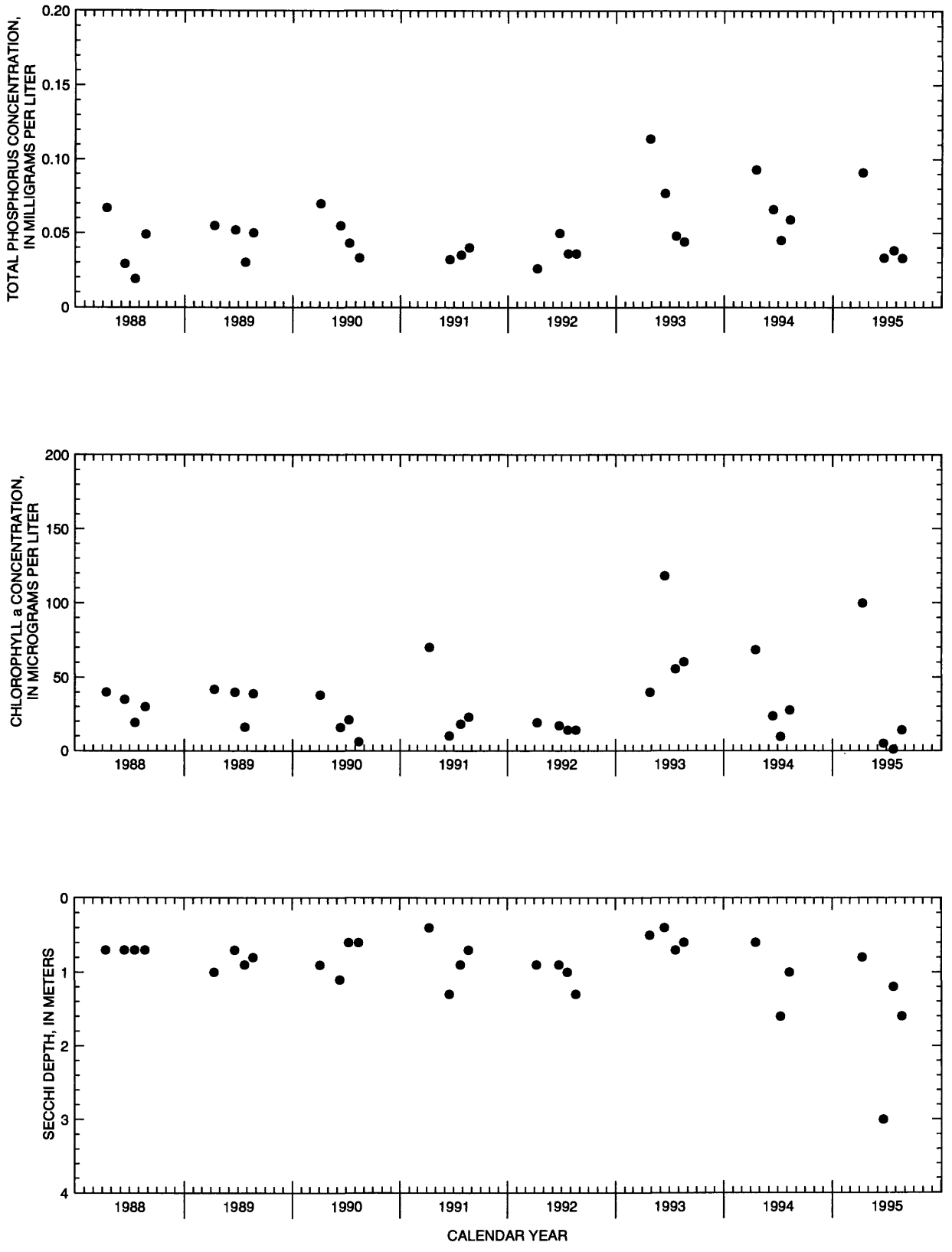
PERIOD OF RECORD.--February 1988 to current year.

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

WATER-QUALITY DATA, FEBRUARY 22 TO AUGUST 21, 1995
(Milligrams per liter unless otherwise indicated)

	Feb. 22		Apr. 12		June 21		July 24		Aug. 21	
Depth of sample (ft)	1.5	23	1.5	24	1.5	23	1.5	22	1.5	24
Lake stage (ft)	11.69		11.68		11.63		11.44		12.07	
Specific conductance (µS/cm)	513	781	504	507	545	607	511	627	491	696
pH (units)	8.8	7.5	8.8	8.8	8.3	7.2	8.5	7.0	8.2	6.8
Water temperature (°C)	2.0	4.0	5.5	5.5	27.5	15.5	27.0	17.5	27.5	18.5
Secchi-depth (meters)	---		0.8		3.0		1.2		1.6	
Dissolved oxygen	15.0	1.9	12.7	12.6	8.6	0.6	10.2	0.6	7.3	0.7
Phosphorus, total (as P)	---	---	0.091	0.092	0.033	0.422	0.038	0.442	0.033	0.598
Chlorophyll a, phytoplankton (µg/L)	---	---	100	---	4.7	---	0.8	---	14	---





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

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.

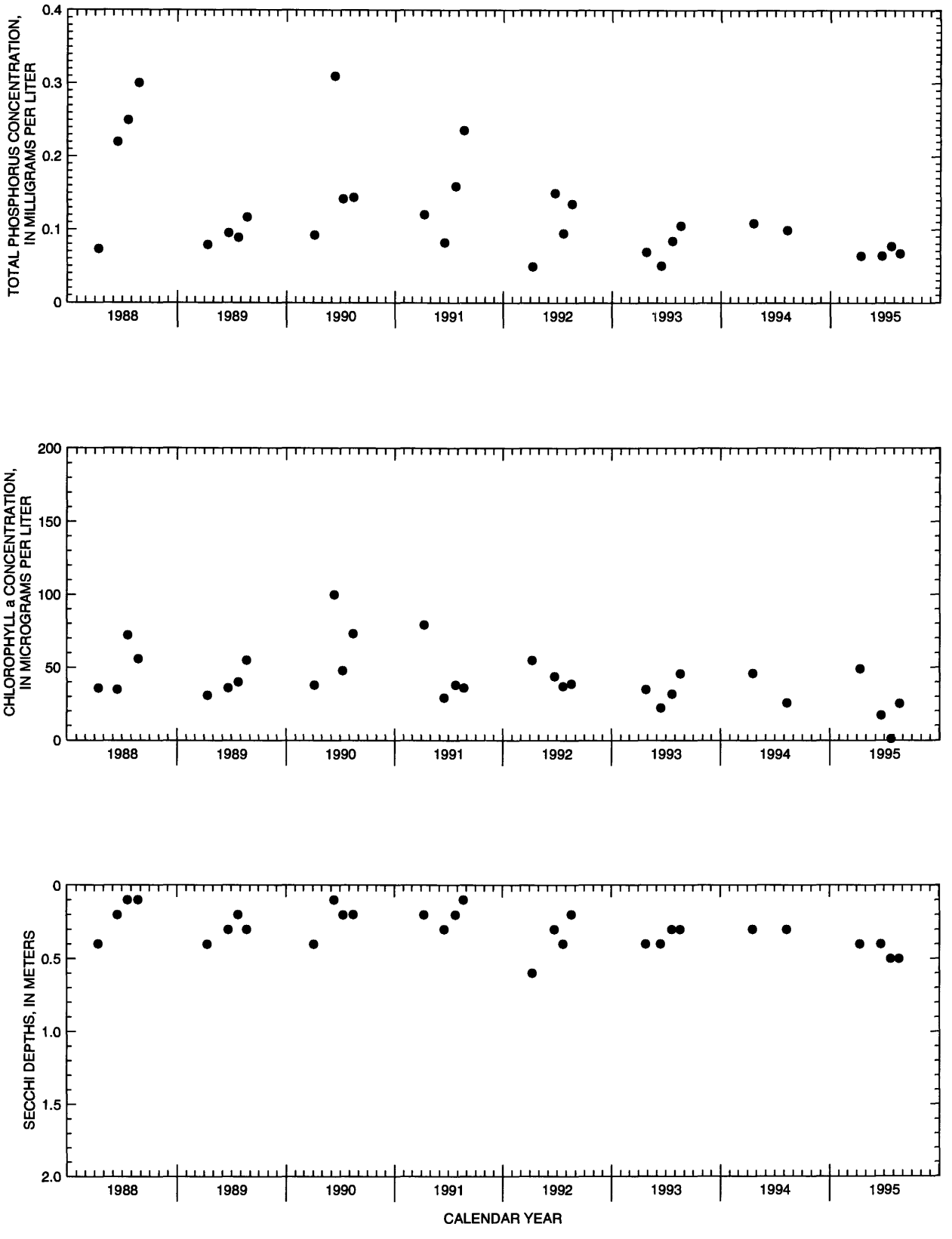
DRAINAGE AREA.--33.9 mi^2.

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 measurements. Water-quality analyses done by Wisconsin State Laboratory of Hygiene.

WATER-QUALITY DATA, FEBRUARY 22 TO AUGUST 21, 1995
(Milligrams per liter unless otherwise indicated)

	Feb. 22		Apr. 12	June 21		July 24		Aug. 21	
Depth of sample (ft)	0.5	2.5	0.5	0.5	3.0	0.5	2.0	0.5	3.5
Lake stage (ft)	11.69		11.68	11.63		11.44		12.07	
Specific conductance (µS/cm)	768	805	534	555	554	540	535	456	457
pH (units)	7.9	7.9	8.2	8.4	8.4	8.5	8.5	8.9	8.9
Water temperature (°C)	2.5	4.0	5.5	27.0	27.0	25.5	25.5	25.5	25.5
Color (Pt-Co. scale)	---	---	30	---	---	---	---	---	---
Turbidity (NTU)	---	---	12	---	---	---	---	---	---
Secchi-depth (meters)	---		0.4	0.4		0.5		0.5	
Dissolved oxygen	11.4	11.1	11.6	8.2	8.1	8.7	8.5	10.1	9.7
Hardness, as CaCO3	---	---	230	---	---	---	---	---	---
Calcium, dissolved (Ca)	---	---	46	---	---	---	---	---	---
Magnesium, dissolved (Mg)	---	---	28	---	---	---	---	---	---
Sodium, dissolved (Na)	---	---	25	---	---	---	---	---	---
Potassium, dissolved (K)	---	---	3	---	---	---	---	---	---
Alkalinity, as CaCO3	---	---	180	---	---	---	---	---	---
Sulfate, dissolved (SO4)	---	---	33	---	---	---	---	---	---
Chloride, dissolved (Cl)	---	---	52	---	---	---	---	---	---
Fluoride, dissolved (F)	---	---	0.2	---	---	---	---	---	---
Silica, dissolved (SiO2)	---	---	0.3	---	---	---	---	---	---
Solids, dissolved, at 180°C	---	---	328	---	---	---	---	---	---
Nitrogen, NO2 + NO3, diss. (as N)	---	---	0.08	---	---	---	---	---	---
Nitrogen, ammonia, dissolved (as N)	---	---	0.05	---	---	---	---	---	---
Nitrogen, organic, total (as N)	---	---	1.6	---	---	---	---	---	---
Nitrogen, amm. + org., total (as N)	---	---	1.6	---	---	---	---	---	---
Nitrogen, total (as N)	---	---	1.7	---	---	---	---	---	---
Phosphorus, total (as P)	---	---	0.064	0.064	0.085	0.077	0.072	0.067	0.058
Phosphorus, ortho, dissolved (as P)	---	---	0.003	<0.002	<0.002	0.003	<0.002	0.003	0.003
Iron, dissolved (Fe) µg/L	---	---	<10	---	---	---	---	---	---
Manganese, dissolved (Mn) µg/L	---	---	1	---	---	---	---	---	---
Chlorophyll a, phytoplankton (µg/L)	---	---	49	17	---	0.9	---	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.--Staff gage read by John Laughney with the City of Muskego, Department of Public Works. Datum of gage is 760 ft above sea level. December 1987 through 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. Prior to October 1993, published as 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, 12.07 ft, Aug. 21; minimum observed, 11.28 ft, Aug. 7.

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	---	---	---	---	---	---	---	11.70	---	---	---	---
2	---	---	---	11.78	---	---	---	---	---	---	---	---
3	11.66	---	---	---	---	---	11.80	---	---	11.40	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	11.78	---	---	---	---	---	11.60	---	---	11.80
6	---	---	---	---	11.70	11.66	---	---	---	---	---	---
7	---	11.80	---	---	---	---	---	---	---	---	11.28	---
8	---	---	---	---	---	---	---	11.88	---	---	---	---
9	---	---	---	11.76	---	---	---	---	---	---	---	---
10	11.66	---	---	---	---	---	11.78	---	---	11.32	---	---
11	---	---	---	---	---	---	---	---	---	---	---	11.60
12	---	---	11.76	---	---	---	11.68	---	11.60	---	---	---
13	---	---	---	---	11.70	11.68	---	---	---	---	---	---
14	---	11.75	---	---	---	---	---	---	---	---	11.90	---
15	---	---	---	---	---	---	---	11.90	---	---	---	---
16	---	---	---	11.76	---	---	---	---	---	---	---	---
17	11.68	---	---	---	---	---	11.84	---	---	11.40	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	11.72	---	---	---	---	---	11.58	---	---	---
20	---	---	---	---	11.65	11.70	---	---	---	---	---	---
21	---	11.70	---	---	---	---	---	---	11.63	---	12.07	---
22	---	---	---	---	11.69	---	---	11.68	---	---	---	---
23	---	---	---	11.90	---	---	---	---	---	---	---	---
24	11.60	---	---	---	---	---	11.88	---	---	11.44	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	11.76	---	---	---	---	---	11.55	---	---	---
27	---	---	---	---	11.63	11.78	---	---	---	---	---	---
28	---	11.72	---	---	---	---	---	---	---	---	12.00	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	11.78	---	---	---	11.68	---	---	---	---
31	11.70	---	---	---	---	---	---	---	---	11.34	---	---

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 1991 to current year. Lake stages for previous years were recorded by Wisconsin Valley Improvement Company.

GAGE.--Nonrecording 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, 10.80 ft, Aug. 14, 1995; minimum observed, 8.32 ft, Mar. 1, 2, 1993.

EXTREMES FOR CURRENT YEAR.--Maximum gage height observed, 10.80 ft, Aug. 14; minimum observed, 8.46 ft, Feb. 28, and Mar. 1, 3.

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	10.50	10.50	9.58	8.96	8.60	8.46	9.76	10.54	10.52	10.52	10.54	10.50
2	10.50	10.50	9.54	---	---	---	9.78	10.54	10.50	10.50	10.52	10.50
3	10.46	10.50	---	8.92	8.58	8.46	9.86	10.54	10.48	10.50	10.52	10.50
4	10.52	10.48	---	---	---	---	9.94	10.54	10.44	10.50	10.52	10.50
5	10.58	10.48	---	---	---	---	9.92	10.54	10.48	10.52	10.52	10.52
6	10.58	10.46	9.46	8.88	---	---	9.94	10.54	10.50	10.52	10.52	10.52
7	10.60	10.50	---	---	8.56	8.50	9.94	10.52	10.50	10.54	10.60	10.54
8	10.62	10.52	---	---	---	---	9.94	10.54	10.50	10.52	10.58	10.52
9	10.64	10.54	9.40	---	---	---	9.94	10.66	10.50	10.52	10.58	10.50
10	10.68	---	---	8.80	8.54	8.48	9.94	10.64	10.50	10.50	10.58	10.48
11	10.64	10.22	---	---	---	---	9.96	10.60	10.50	10.50	10.56	10.48
12	10.62	---	---	---	---	---	10.02	10.58	10.50	10.52	10.54	10.48
13	10.62	10.22	9.30	8.74	---	---	10.02	10.60	10.52	10.58	10.66	10.50
14	10.60	---	---	---	8.52	8.58	10.02	10.64	10.52	10.56	10.80	10.50
15	10.60	10.00	---	---	---	8.64	10.02	10.64	10.52	10.60	10.70	10.50
16	10.58	---	9.22	---	8.50	8.72	10.02	10.64	10.52	10.64	10.62	10.54
17	10.64	---	---	8.68	8.50	8.80	10.02	10.64	10.52	10.60	10.56	10.54
18	10.68	9.86	---	---	---	8.90	10.02	10.58	10.52	10.66	10.58	10.56
19	10.54	---	---	---	---	8.96	10.08	10.56	10.52	10.58	10.60	10.58
20	10.54	9.86	9.20	8.66	---	9.10	10.18	10.50	10.52	10.58	10.60	10.58
21	10.52	---	---	---	8.48	9.22	10.30	10.52	10.54	10.56	10.56	10.58
22	10.50	9.72	---	---	---	9.28	10.36	10.50	10.52	10.54	10.54	10.60
23	10.52	---	9.12	---	---	9.34	10.40	10.54	10.52	10.50	10.50	10.60
24	10.50	---	---	8.64	8.48	9.40	10.44	10.54	10.52	10.50	10.46	10.56
25	10.48	9.64	---	---	---	9.44	10.48	10.54	10.52	10.48	10.54	10.52
26	10.48	---	---	---	---	9.50	10.52	10.52	10.50	10.48	10.64	10.50
27	10.48	---	9.04	8.62	---	9.56	10.54	10.52	10.52	10.50	10.58	10.50
28	10.50	---	---	---	8.46	9.60	10.54	10.60	10.52	10.54	10.56	10.50
29	10.50	9.60	---	---	---	9.64	10.54	10.56	10.60	10.52	10.56	10.50
30	10.50	---	9.00	---	---	9.70	10.54	10.54	10.54	10.52	10.54	10.64
31	10.50	---	---	8.60	---	9.72	---	10.52	---	10.52	10.54	---

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, Hydrologic Unit 07070001, 2.5 mi northwest of St. Germain.

DRAINAGE AREA.--73.1 mi^2.

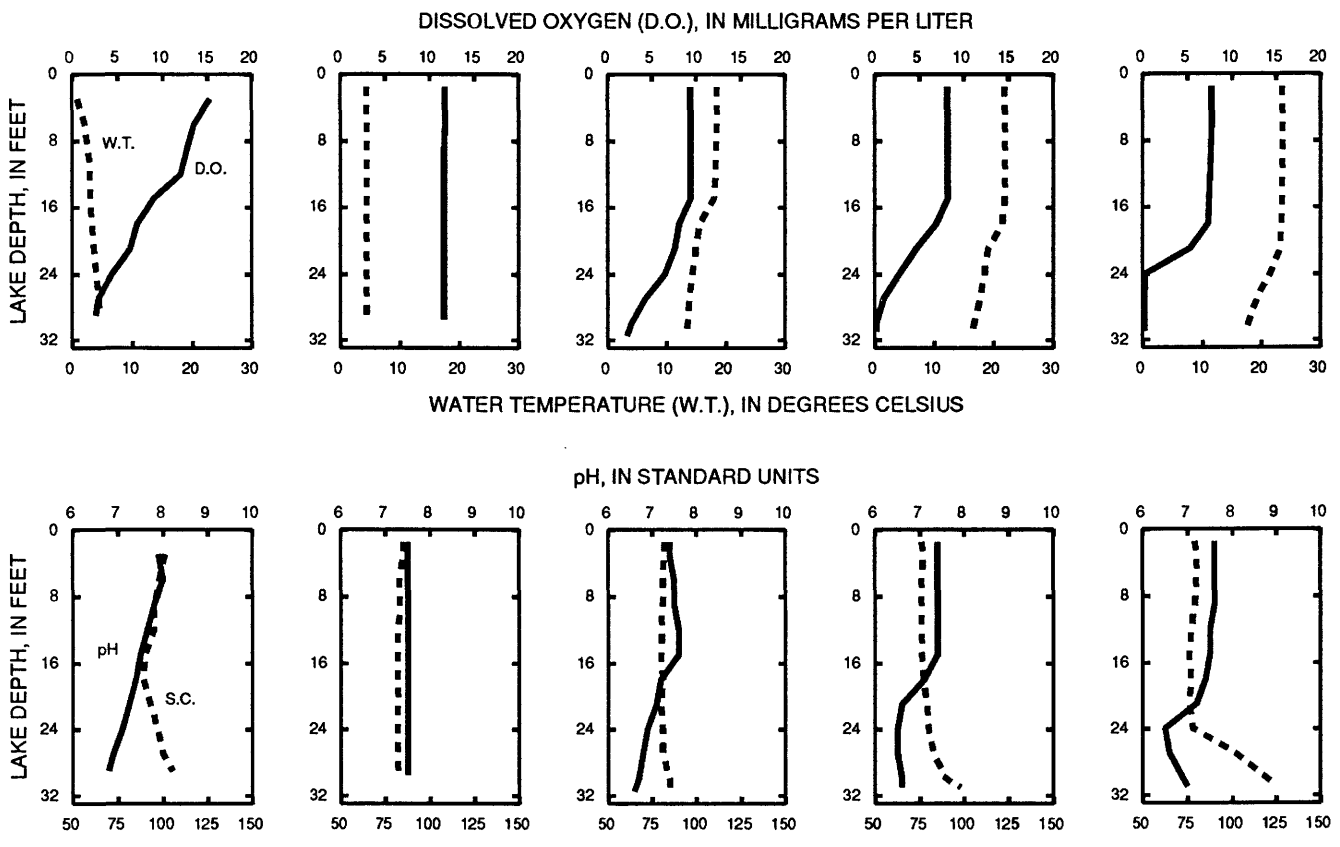
PERIOD OF RECORD.--February 1992 to current year.

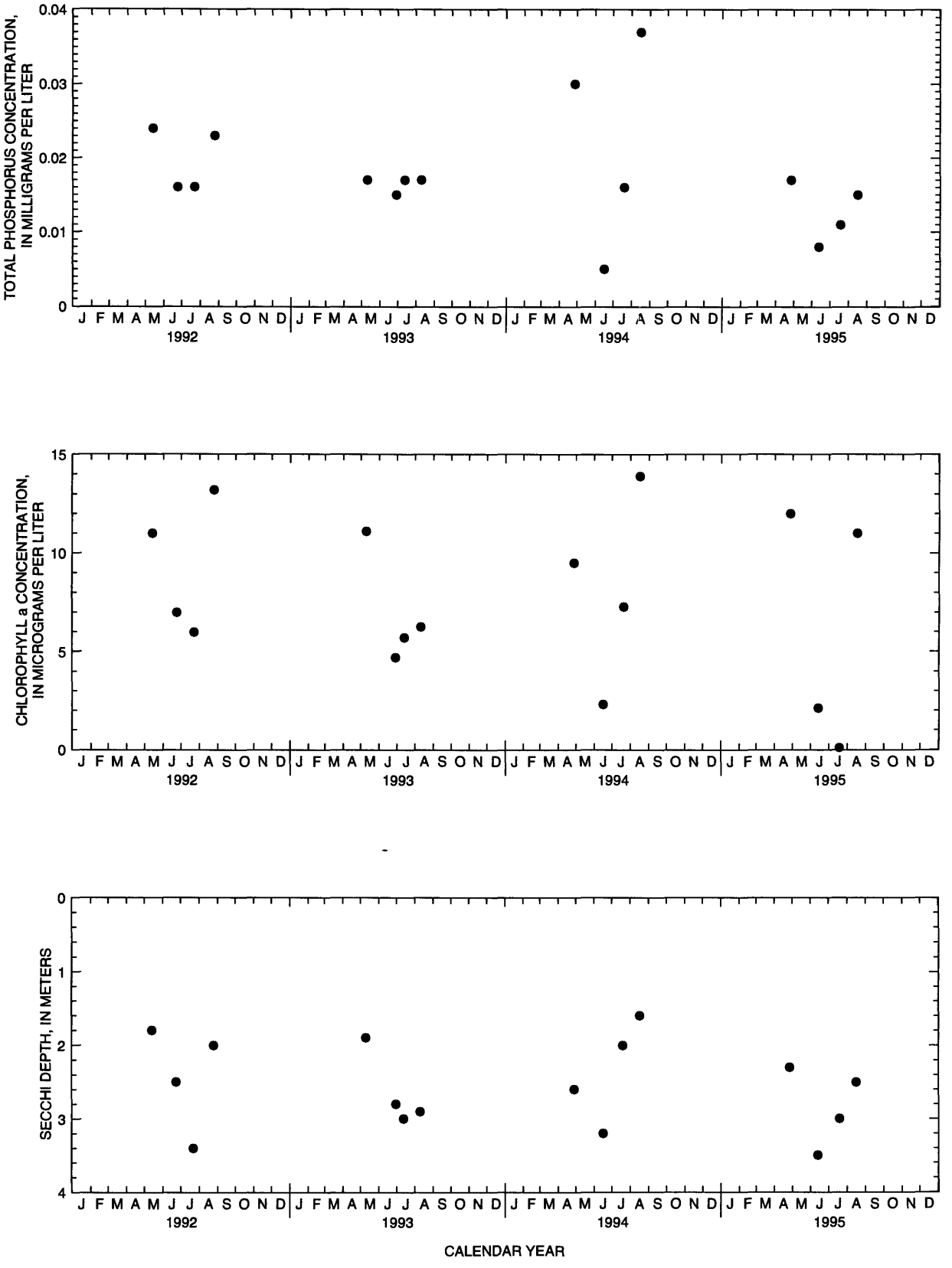
REMARKS.--Lake sampled near center of lake at the deep hole. Lake ice-covered during February measurements. Water-quality analyses done by Wisconsin State Laboratory of Hygiene.

WATER-QUALITY DATA, FEBRUARY 16 TO AUGUST 17, 1995
(Milligrams per liter unless otherwise indicated)

	Feb. 16		Apr. 27		June 13		July 19		Aug. 17	
Depth of sample (ft)	3.0	29	1.5	29	1.5	31	1.5	31	1.5	31
Lake stage (ft)	8.50		10.55		10.52		10.58		10.62	
Specific conductance (µS/cm)	101	105	85	82	82	85	76	98	79	123
pH (units)	7.9	6.8	7.5	7.5	7.4	6.6	7.4	6.6	7.6	7.0
Water temperature (°C)	1.0	4.5	4.5	4.5	18.5	13.5	22.0	16.5	23.5	17.5
Color (Pt-Co. scale)	---	--	10	10	---	---	---	---	---	---
Turbidity (NTU)	---	---	1.3	1.4	---	---	---	---	---	---
Secchi-depth (meters)	---		2.3		3.5		3.0		2.5	
Dissolved oxygen	15.3	2.6	11.7	11.6	9.4	2.2	8.2	0.2	7.7	0.2
Hardness, as CaCO3	---	---	38	41	---	---	---	---	---	---
Calcium, dissolved (Ca)	---	---	10	11	---	---	---	---	---	---
Magnesium, dissolved (Mg)	---	---	3.1	3.2	---	---	---	---	---	---
Sodium, dissolved (Na)	---	---	2.7	2.3	---	---	---	---	---	---
Potassium, dissolved (K)	---	---	0.4	0.5	---	---	---	---	---	---
Alkalinity, as CaCO3	---	---	35	35	---	---	---	---	---	---
Sulfate, dissolved (SO4)	---	---	6.0	5.0	---	---	---	---	---	---
Chloride, dissolved (Cl)	---	---	3.2	2.8	---	---	---	---	---	---
Fluoride, dissolved (F)	---	---	<0.1	<0.1	---	---	---	---	---	---
Silica, dissolved (SiO2)	---	---	14	8.5	---	---	---	---	---	---
Solids, dissolved, at 180°C	---	---	62	62	---	---	---	---	---	---
Nitrogen, NO2 + NO3, diss. (as N)	---	---	0.01	0.02	---	---	---	---	---	---
Nitrogen, ammonia, dissolved (as N)	---	---	<0.03	<0.03	---	---	---	---	---	---
Nitrogen, organic, total (as N)	---	---	0.40	0.20	---	---	---	---	---	---
Nitrogen, amm. + org., total (as N)	---	---	0.40	0.20	---	---	---	---	---	---
Nitrogen, total (as N)	---	---	0.41	0.22	---	---	---	---	---	---
Phosphorus, total (as P)	---	---	E0.017	0.015	0.008	0.030	0.011	0.024	0.015	0.257
Phosphorus, ortho, dissolved (as P)	---	---	0.011	0.002	---	---	---	---	---	---
Iron, dissolved (Fe) µg/L	---	---	50	40	---	---	---	---	---	---
Manganese, dissolved (Mn) µg/L	---	---	100	96	---	---	---	---	---	---
Chlorophyll a, phytoplankton (µg/L)	---	---	12	---	2.1	---	0.1	---	11	---

E Estimated





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 near lake outlet read by Richard Roehrich and Max Stauffer.

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, 5.99 ft, Aug. 28; minimum observed, 5.47 ft, Mar. 14.

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	5.74	5.64	5.56	---	---	---	5.53	5.68	5.79	5.56	5.60	5.91
2	5.71	5.62	5.55	---	---	---	5.54	5.67	5.82	5.56	5.59	5.89
3	5.69	5.60	5.55	---	---	---	5.56	5.66	5.78	5.55	5.58	5.86
4	5.69	5.59	5.54	---	---	---	5.55	5.65	5.78	5.53	5.57	5.85
5	5.68	5.58	5.54	---	---	---	5.57	5.64	5.77	5.53	5.57	5.84
6	5.66	5.56	5.53	---	---	---	5.61	5.63	5.77	5.55	5.59	5.83
7	5.66	5.55	5.55	---	---	---	5.61	5.62	5.78	5.54	5.68	5.81
8	5.67	5.54	5.56	---	---	---	5.62	5.63	5.78	5.54	5.69	5.78
9	5.70	5.54	5.58	---	---	---	5.63	5.69	5.77	5.53	5.68	5.76
10	5.71	5.54	5.60	---	---	---	5.64	5.69	5.79	5.53	5.67	5.74
11	5.69	5.53	5.60	---	---	---	5.64	5.69	5.78	5.53	5.76	5.73
12	5.69	5.53	5.61	---	---	---	5.66	5.68	5.77	5.58	5.76	5.72
13	5.69	5.52	---	---	---	---	5.69	5.70	5.77	5.57	5.86	5.70
14	5.68	5.51	---	---	---	5.47	5.69	5.77	5.75	5.57	5.87	5.70
15	5.66	5.51	---	---	---	---	5.70	5.76	5.74	5.63	5.86	5.71
16	5.66	5.50	---	---	---	---	5.69	5.78	5.73	5.62	5.84	5.71
17	5.68	5.50	---	---	---	---	5.68	5.76	5.73	5.65	5.83	5.71
18	5.72	5.49	---	---	---	---	5.73	5.75	5.71	5.63	5.82	5.70
19	5.74	5.49	---	---	---	---	5.77	5.75	5.68	5.64	5.79	5.69
20	5.73	5.49	---	---	---	---	5.78	---	5.69	5.62	5.81	5.68
21	5.72	5.49	---	---	---	---	5.77	5.69	5.67	5.62	5.79	5.67
22	5.73	5.49	---	---	---	---	5.77	5.70	5.66	5.69	5.78	5.66
23	5.79	5.49	---	---	---	---	5.76	5.70	5.65	5.69	5.77	5.65
24	5.77	5.49	---	---	---	---	5.76	5.69	5.64	5.69	5.89	5.64
25	5.74	5.49	---	---	---	---	5.75	5.69	5.62	5.67	5.88	5.63
26	5.72	5.49	---	---	---	---	5.75	5.68	5.61	5.66	5.94	5.62
27	5.71	5.49	---	---	---	---	5.72	5.69	5.64	5.69	5.94	5.59
28	5.69	5.51	---	---	---	---	5.72	5.81	5.63	5.67	5.99	5.57
29	5.67	5.54	---	---	---	---	5.70	5.81	5.62	5.64	5.98	5.55
30	5.65	5.57	---	---	---	---	---	5.80	5.59	5.62	5.95	5.65
31	5.64	---	---	---	---	---	---	5.79	---	5.62	5.93	---

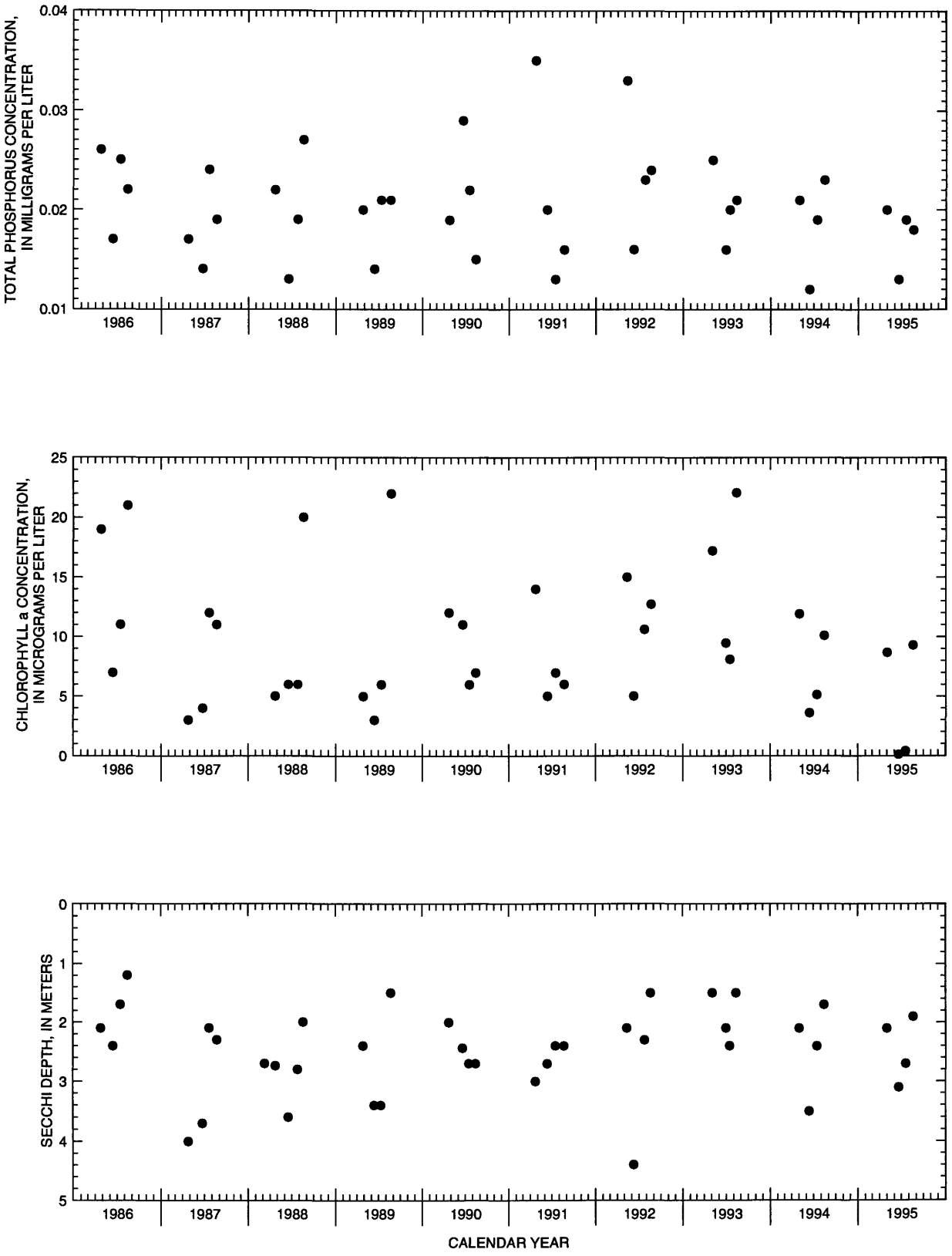
WATER-QUALITY RECORDS

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

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

WATER-QUALITY DATA, MARCH 14 TO AUGUST 18, 1995
(Milligrams per liter unless otherwise indicated)

	Mar. 14		May 01		June 19		July 18		Aug. 18	
Depth of sample (ft)	1.5	45	1.5	48	1.5	48	1.5	43	1.5	48
Lake stage (ft)	5.47		5.68		5.68		5.63		5.82	
Specific conductance (µS/cm)	46	109	80	80	72	120	73	104	72	119
pH (units)	10.0	7.2	7.7	7.5	7.4	7.2	7.9	7.3	7.7	7.1
Water temperature (°C)	1.5	5.0	8.5	6.5	27.5	10.0	23.0	13.0	24.5	12.5
Color (Pt-Co. scale)	---	---	20	25	---	---	---	---	---	---
Turbidity (NTU)	---	---	1.5	3.0	---	---	---	---	---	---
Secchi-depth (meters)	---		2.1		3.1		2.7		1.9	
Dissolved oxygen	11.6	0.1	11.9	9.5	8.7	0.1	8.7	0.1	8.0	0.1
Hardness, as CaCO3	---	---	34	34	---	---	---	---	---	---
Calcium, dissolved (Ca)	---	---	8.9	8.9	---	---	---	---	---	---
Magnesium, dissolved (Mg)	---	---	2.8	2.8	---	---	---	---	---	---
Sodium, dissolved (Na)	---	---	1.6	1.6	---	---	---	---	---	---
Potassium, dissolved (K)	---	---	0.9	0.7	---	---	---	---	---	---
Alkalinity, as CaCO3	---	---	33	33	---	---	---	---	---	---
Sulfate, dissolved (SO4)	---	---	4.0	5.0	---	---	---	---	---	---
Chloride, dissolved (Cl)	---	---	1.1	1.2	---	---	---	---	---	---
Fluoride, dissolved (F)	---	---	<0.1	<0.1	---	---	---	---	---	---
Silica, dissolved (SiO2)	---	---	4.2	4.7	---	---	---	---	---	---
Solids, dissolved, at 180°C	---	---	58	60	---	---	---	---	---	---
Nitrogen, NO2 + NO3, diss. (as N)	---	---	0.02	<0.01	---	---	---	---	---	---
Nitrogen, ammonia, dissolved (as N)	---	---	<0.03	<0.03	---	---	---	---	---	---
Nitrogen, organic, total (as N)	---	---	0.60	0.50	---	---	---	---	---	---
Nitrogen, amm. + org., total (as N)	---	---	0.60	0.50	---	---	---	---	---	---
Nitrogen, total (as N)	---	---	0.61	0.50	---	---	---	---	---	---
Phosphorus, total (as P)	---	---	0.020	0.034	0.013	0.132	0.019	0.115	0.018	0.252
Phosphorus, ortho, dissolved (as P)	---	---	0.007	0.004	---	---	---	---	---	---
Iron, dissolved (Fe) µg/L	---	---	290	410	---	---	---	---	---	---
Manganese, dissolved (Mn) µg/L	---	---	120	190	---	---	---	---	---	---
Chlorophyll a, phytoplankton (µg/L)	---	---	8.7	---	<0.1	---	0.4	---	9.3	---



Surface total phosphorus and chlorophyll a concentrations, and Secchi depths for Big Sissabagama Lake near Stone Lake, 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. Area of Delavan Lake, 2,072 acres.

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.--No estimated daily gage heights. Records good. Lake was ice covered from Jan. 10 to Mar. 19. Lake levels controlled by Delavan Lake Sanitary District. Prior to Mar. 20, 1995, lake levels were 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, 5.22 ft, Apr. 27; minimum, 4.74 ft, Sept. 16.

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	4.98	4.86	5.04	5.03	4.99	5.00	5.00	5.14	5.01	4.96	4.95	4.94
2	4.96	4.86	5.05	5.01	5.00	4.99	4.99	5.13	5.00	4.94	4.94	4.92
3	4.95	4.86	5.05	5.00	5.01	4.99	4.98	5.12	5.00	4.91	4.95	4.89
4	4.94	4.89	5.06	4.98	5.01	4.99	4.96	5.09	4.99	4.91	4.96	4.88
5	4.93	4.94	5.07	4.98	5.00	5.00	4.94	5.06	4.99	4.94	4.96	4.87
6	4.93	5.05	5.09	4.98	5.00	4.99	4.95	5.04	4.99	4.93	4.96	4.86
7	4.92	5.06	5.16	4.98	5.00	5.00	4.95	5.02	5.02	4.91	4.98	4.85
8	4.94	5.06	5.16	4.99	4.99	5.00	4.99	5.04	5.06	4.90	5.02	4.83
9	4.96	5.08	5.17	4.98	4.99	4.99	4.99	5.10	5.05	4.92	5.03	4.82
10	4.95	5.08	5.16	5.00	4.99	4.99	4.99	5.18	5.05	4.93	5.12	4.80
11	4.94	5.08	5.15	4.99	4.99	4.99	5.03	5.17	5.03	4.92	5.11	4.79
12	4.94	5.08	5.14	4.99	4.98	5.01	5.09	5.13	5.01	4.92	5.05	4.78
13	4.93	5.08	5.14	4.99	4.98	5.03	5.11	5.12	5.00	4.91	5.00	4.77
14	4.93	5.12	5.14	5.08	4.98	5.04	5.11	5.11	5.00	4.91	4.95	4.76
15	4.93	5.11	5.13	5.15	4.98	5.04	5.08	5.05	5.00	4.90	4.95	4.75
16	4.92	5.11	5.13	5.18	4.98	5.05	5.07	5.00	4.99	4.90	4.99	4.75
17	4.93	5.11	5.13	5.19	4.98	5.05	5.07	4.99	4.99	4.88	5.15	4.79
18	4.93	5.10	5.12	5.19	4.99	5.04	5.09	4.97	4.98	4.85	5.16	4.77
19	4.93	5.09	5.10	5.19	4.98	5.03	5.13	4.96	4.98	4.82	5.10	4.77
20	4.93	5.09	5.10	5.20	4.99	5.04	5.12	4.96	4.98	4.83	5.07	4.79
21	4.92	5.10	5.11	5.18	5.00	5.03	5.11	4.94	4.97	4.83	5.05	4.79
22	4.92	5.02	5.11	5.17	5.01	5.03	5.09	4.94	4.97	4.82	5.02	4.80
23	4.91	5.00	5.11	5.15	5.02	5.01	5.06	4.95	4.96	4.85	4.98	4.79
24	4.89	5.00	5.09	5.12	5.02	4.99	5.04	4.99	4.95	4.86	4.95	4.78
25	4.87	5.00	5.08	5.09	5.02	4.98	5.03	4.99	4.93	4.86	4.94	4.78
26	4.87	4.99	5.07	5.06	5.00	4.98	5.04	4.98	4.94	4.86	4.93	4.77
27	4.86	5.02	5.06	5.03	5.00	5.00	5.19	4.99	4.99	4.87	4.91	4.77
28	4.85	5.03	5.06	5.02	5.00	5.04	5.19	5.05	5.01	4.91	4.94	4.77
29	4.83	5.03	5.04	5.01	---	5.05	5.18	5.02	4.99	4.90	4.97	4.77
30	4.83	5.04	5.03	4.99	---	5.04	5.17	5.02	4.98	4.90	4.97	4.76
31	4.85	---	5.03	4.99	---	5.02	---	5.01	---	4.89	4.96	---
MEAN	4.92	5.03	5.10	5.06	5.00	5.01	5.06	5.04	4.99	4.89	5.00	4.81
MAX	4.98	5.12	5.17	5.20	5.02	5.05	5.19	5.18	5.06	4.96	5.16	4.94
MIN	4.83	4.86	5.03	4.98	4.98	4.98	4.94	4.94	4.93	4.82	4.91	4.75

423556088365001 DELAVAN LAKE AT CENTER NEAR DELAVAN LAKE, WI

LOCATION.--Lat 42°35'56", long 88°36'50", in SE 1/4 SW 1/4, sec.28, T.2 N., R.16 E., Walworth County, Hydrologic Unit 07090001, 2.6 mi southeast of Delavan.

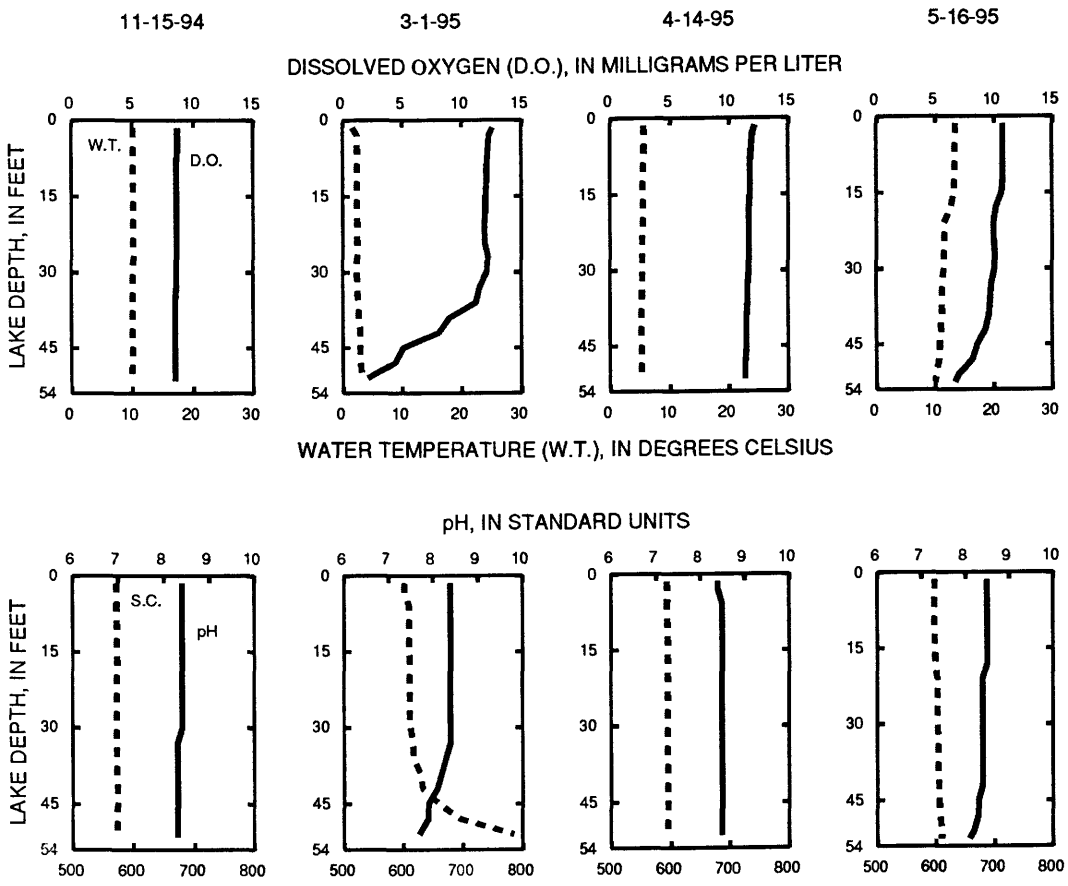
DRAINAGE AREA.--41.4 mi^2, of which 2.3 mi^2 is non-contributing.

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

REMARKS.--Lake ice-covered during March measurements. Water-quality analyses done by the U.S. Geological Survey National Water Quality Laboratory.

WATER-QUALITY DATA, NOVEMBER 15, 1994 TO MAY 16, 1995
(Milligrams per liter unless otherwise indicated)

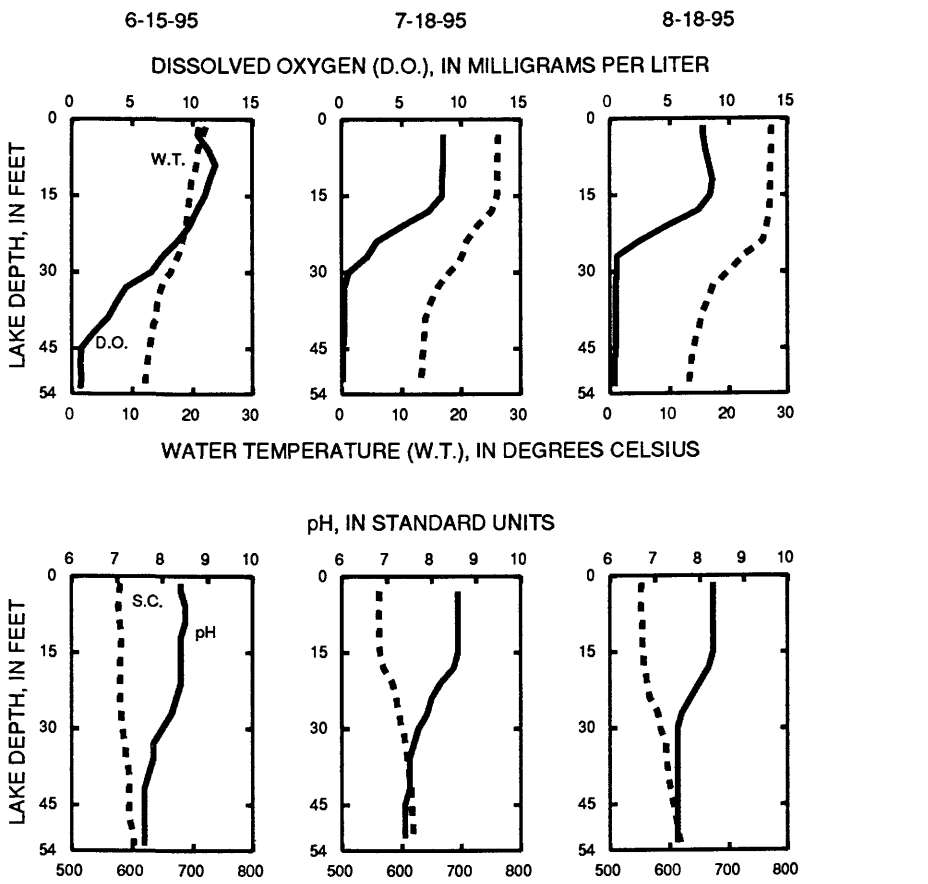
	Nov. 15		Mar. 01		Apr. 14		May 16	
Depth of sample (ft)	1.5	52	1.5	51	1.5	52	1.5	53
Lake stage (ft)	5.11		5.00		5.11		5.00	
Specific conductance (µS/cm)	573	574	602	785	593	595	598	610
pH (units)	8.4	8.3	8.4	7.7	8.4	8.5	8.5	8.1
Water temperature (°C)	10.0	10.0	1.5	3.5	5.5	5.0	13.5	10.0
Color (Pt-Co. scale)	---	---	---	---	9	9	---	---
Turbidity (NTU)	---	---	---	---	0.50	0.50	---	---
Secchi-depth (meters)	5.6		7.6		3.8		5.2	
Dissolved oxygen	8.7	8.5	12.6	2.1	12.2	11.4	10.8	6.7
Hardness, as CaCO3	---	---	---	---	250	250	---	---
Calcium, dissolved (Ca)	---	---	---	---	45	45	---	---
Magnesium, dissolved (Mg)	---	---	---	---	33	33	---	---
Sodium, dissolved (Na)	---	---	---	---	24	25	---	---
Potassium, dissolved (K)	---	---	---	---	3	3	---	---
Alkalinity, as CaCO3	---	---	---	---	200	200	---	---
Sulfate, dissolved (SO4)	---	---	---	---	31	30	---	---
Chloride, dissolved (Cl)	---	---	---	---	58	59	56	---
Fluoride, dissolved (F)	---	---	---	---	0.1	0.1	---	---
Silica, dissolved (SiO2)	---	---	---	---	<0.1	<0.1	---	---
Solids, dissolved, at 180°C	---	---	---	---	331	338	---	---
Nitrogen, NO2 + NO3, diss. (as N)	0.12	---	0.30	---	---	---	0.25	---
Nitrogen, ammonia, dissolved (as N)	0.17	---	<0.01	---	---	---	---	---
Nitrogen, organic, total (as N)	0.53	---	0.80	---	---	---	1.4	---
Nitrogen, amm. + org., total (as N)	0.70	---	0.80	---	0.70	0.60	1.4	---
Nitrogen, total (as N)	0.82	---	1.1	---	---	---	1.7	---
Phosphorus, total (as P)	0.092	0.091	0.090	0.140	0.049	0.049	0.130	0.087
Phosphorus, ortho, dissolved (as P)	0.070	0.063	0.044	0.110	0.036	0.038	0.025	0.067
Iron, dissolved (Fe) µg/L	---	---	---	---	<3	<3	---	---
Manganese, dissolved (Mn) µg/L	---	---	---	---	<1	1	---	---
Chlorophyll a, phytoplankton (µg/L)	0.8	---	0.2	---	0.8	---	0.4	---

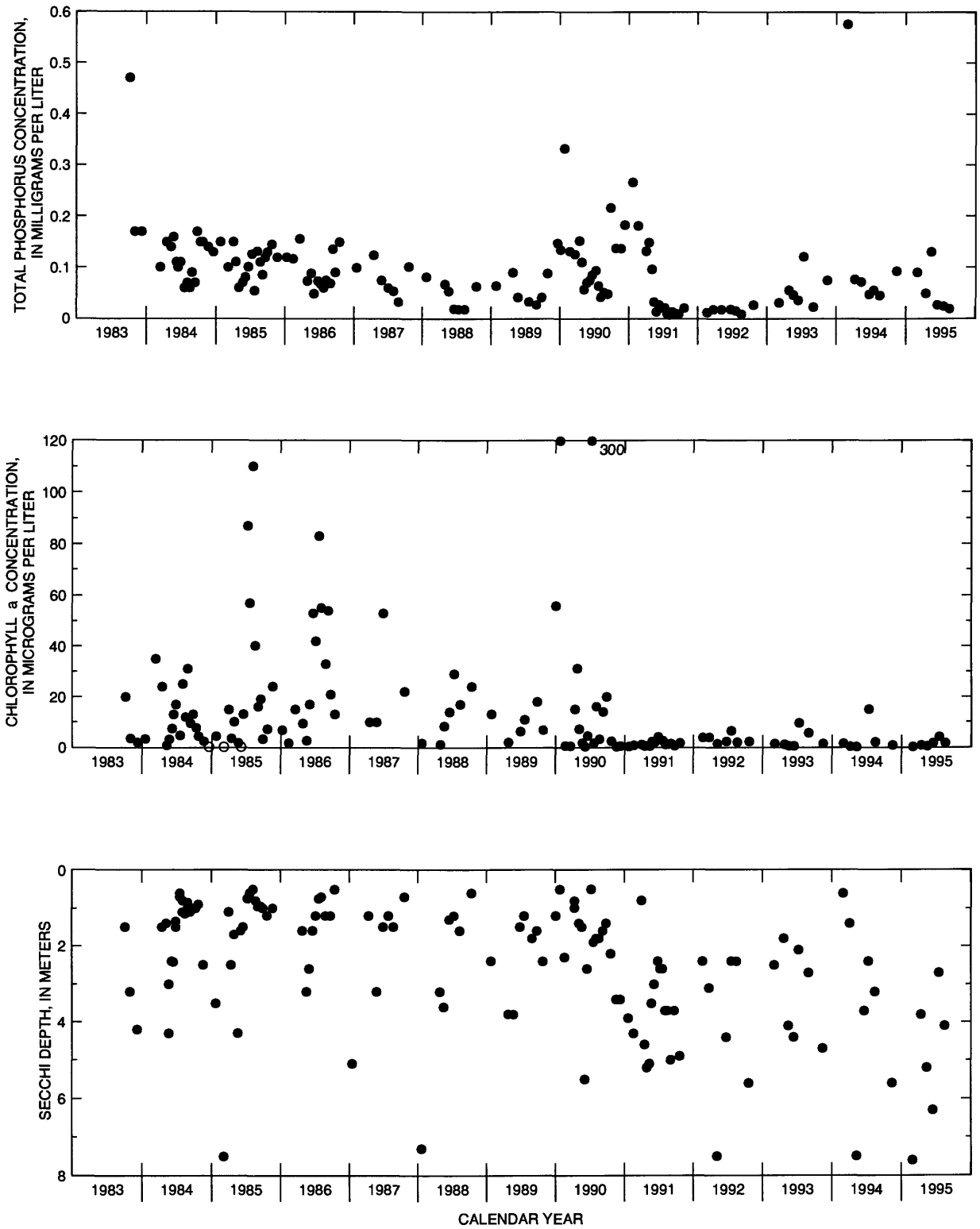


WATER-QUALITY DATA, JUNE 15 TO AUGUST 18, 1995
(Milligrams per liter unless otherwise indicated)

	June 15		July 18			
Depth of sample (ft)	1.5	53	1.5	27	42	52
Lake stage (ft)	5.00		4.85			
Specific conductance (µS/cm)	580	603	562	594	616	619
pH (units)	8.4	7.6	8.6	7.9	7.5	7.4
Water temperature (°C)	22.0	12.0	26.5	20.0	14.0	13.5
Secchi-depth (meters)	6.3		2.7			
Dissolved oxygen	10.5	0.7	8.5	2.1	0.2	0.1
Chloride, dissolved (Cl)	60	57	58	---	---	58
Nitrogen, NO2 + NO3, diss. (as N)	0.01	---	<0.01	---	---	---
Nitrogen, organic, total (as N)	1.0	---	0.50	---	---	---
Nitrogen, amm. + org., total (as N)	1.0	---	0.50	---	---	---
Nitrogen, total (as N)	1.0	---	0.50	---	---	---
Phosphorus, total (as P)	0.026	0.300	0.024	0.100	0.310	0.370
Phosphorus, ortho, dissolved (as P)	<0.001	0.270	<0.001	0.076	0.340	0.390
Chlorophyll a, phytoplankton (µg/L)	1.6	---	4.1	---	---	---

	Aug. 18							
Depth of sample (ft)	1.5	15	21	30	39	45	51	53
Lake stage (ft)	5.16							
Specific conductance (µS/cm)	553	555	562	584	597	606	615	618
pH (units)	8.3	8.3	8.0	7.5	7.5	7.5	7.5	7.5
Water temperature (°C)	27.0	27.0	26.5	20.0	15.5	14.0	13.5	13.0
Secchi-depth (meters)	4.1							
Dissolved oxygen	7.8	8.4	4.8	0.6	0.5	0.5	0.4	0.4
Chloride, dissolved (Cl)	56	---	---	---	---	---	---	56
Nitrogen, NO2 + NO3, diss. (as N)	<0.01	---	---	---	---	---	---	---
Nitrogen, organic, total (as N)	0.60	---	---	---	---	---	---	---
Nitrogen, amm. + org., total (as N)	0.60	---	---	---	---	---	---	---
Nitrogen, total (as N)	0.60	---	---	---	---	---	---	---
Phosphorus, total (as P)	0.019	0.020	0.021	0.110	0.310	0.400	0.480	0.530
Phosphorus, ortho, dissolved (as P)	<0.001	---	<0.001	---	---	0.330	---	0.490
Chlorophyll a, phytoplankton (µg/L)	1.6	---	---	---	---	---	---	---





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

(Circles indicate laboratory detection limit for selected analyses. Actual concentrations for these particular analyses are less than the plotted circles.)

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

LOCATION.--Lat 42°36'59", long 88°35'44", in NW 1/4 SW 1/4, sec.22, T.2 N., R.16 E., Walworth County, Hydrologic Unit 07090001, 2.6 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.

REMARKS.--Lake ice-covered during March measurements. Water-quality analyses done by the U.S. Geological Survey National Water Quality Laboratory.

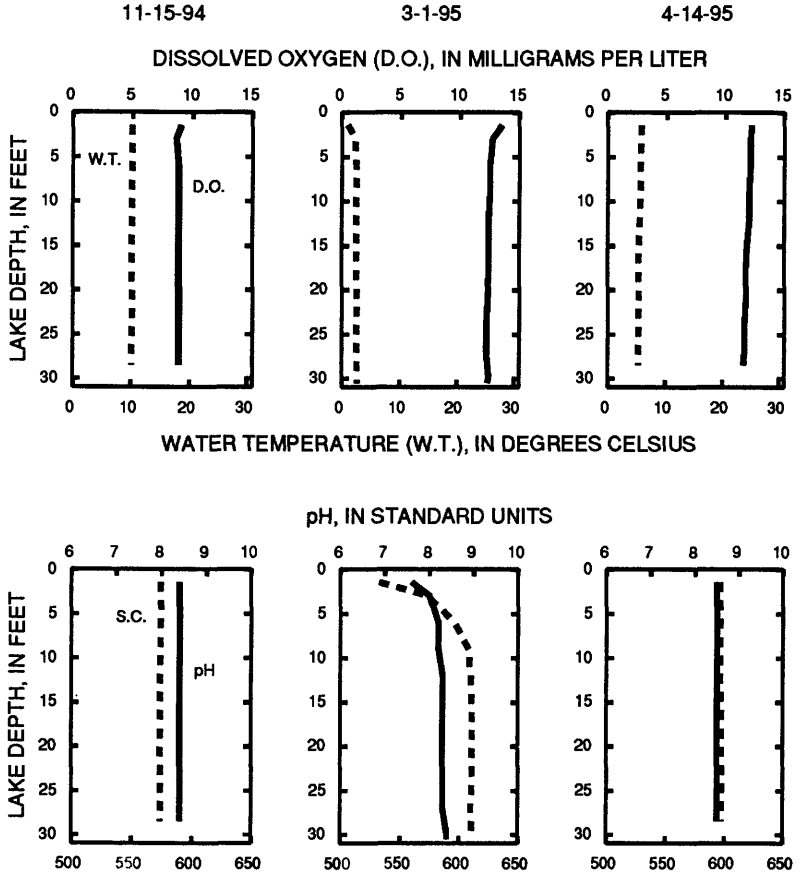
WATER-QUALITY DATA, NOVEMBER 15, 1994 TO AUGUST 18, 1995

(Milligrams per liter unless otherwise indicated)

	Nov. 15		Mar. 01		Apr. 14	
Depth of sample (ft)	1.5	29	1.5	31	1.5	29
Lake stage (ft)	5.11		5.00		5.11	
Specific conductance (µS/cm)	574	574	533	609	596	597
pH (units)	8.4	8.4	7.6	8.4	8.5	8.5
Water temperature (°C)	10.0	10.0	1.0	2.5	6.0	5.5
Color (Pt-Co. scale)	---	---	---	---	8	9
Turbidity (NTU)	---	---	---	---	0.40	0.50
Secchi-depth (meters)	4.4		7.5		3.5	
Dissolved oxygen	9.0	8.8	13.5	12.3	12.2	11.5
Hardness, as CaCO3	---	---	---	---	250	250
Calcium, dissolved (Ca)	---	---	---	---	45	45
Magnesium, dissolved (Mg)	---	---	---	---	33	33
Sodium, dissolved (Na)	---	---	---	---	25	25
Potassium, dissolved (K)	---	---	---	---	3	3
Alkalinity, as CaCO3	---	---	---	---	200	200
Sulfate, dissolved (SO4)	---	---	---	---	31	31
Chloride, dissolved (Cl)	---	---	---	---	58	58
Fluoride, dissolved (F)	---	---	---	---	0.1	0.1
Silica, dissolved (SiO2)	---	---	---	---	<0.1	<0.1
Solids, dissolved, at 180°C	---	---	---	---	336	325
Nitrogen, NO2 + NO3, diss. (as N)	0.13	---	0.31	---	---	---
Nitrogen, ammonia, dissolved (as N)	0.13	---	<0.01	---	---	---
Nitrogen, organic, total (as N)	0.57	---	0.70	---	---	---
Nitrogen, amm. + org., total (as N)	0.70	---	0.70	---	0.50	0.50
Nitrogen, total (as N)	0.83	---	1.0	---	---	---
Phosphorus, total (as P)	0.086	0.087	0.096	0.098	0.047	0.049
Phosphorus, ortho, dissolved (as P)	0.062	0.060	0.019	0.062	0.037	0.036
Iron, dissolved (Fe) µg/L	---	---	---	---	<3	5
Manganese, dissolved (Mn) µg/L	---	---	---	---	<1	<1
Chlorophyll a, phytoplankton (µg/L)	1.6	---	0.3	---	0.9	---

Additional secchi-depth (meters):

May 16 .....5.5
June 15 .....6.5
July 18 .....2.6
Aug. 18 .....3.2



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

LOCATION.--Lat 42°35'26", long 88°38'01", in SE 1/4 NW 1/4, sec.32, T.2 N., R.16 E., Walworth County, Hydrologic Unit 07090001, 2.6 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.

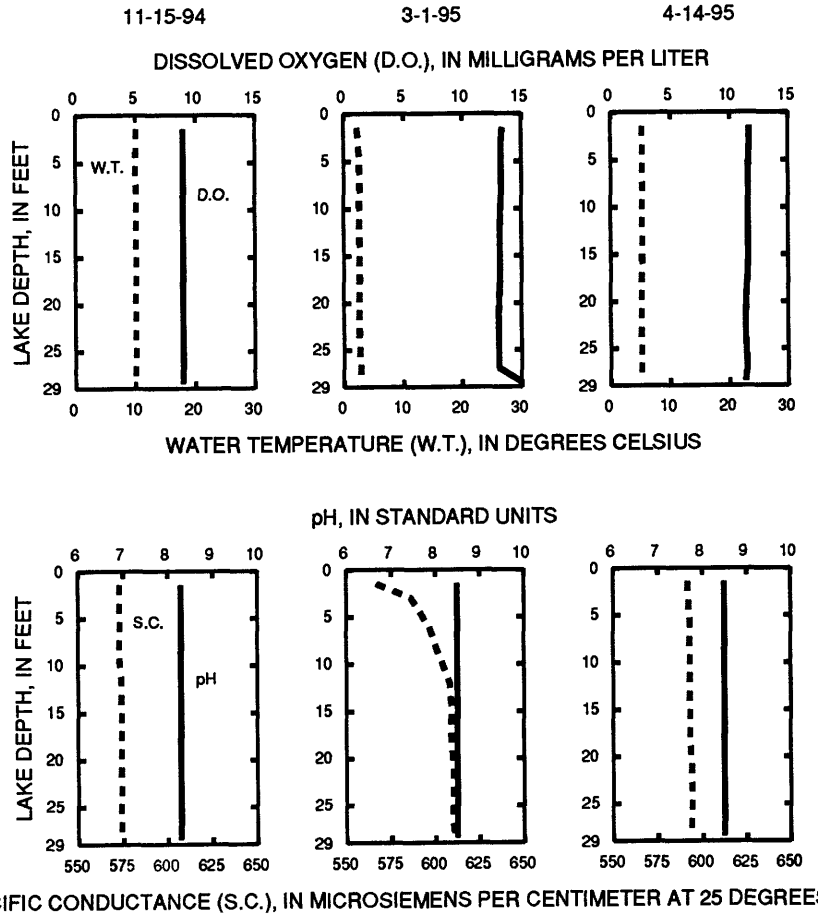
REMARKS.--Lake ice-covered during March measurements. Water-quality analyses done by the U.S. Geological Survey National Water Quality Laboratory.

WATER-QUALITY DATA, NOVEMBER 15 1994 TO AUGUST 18, 1995
(Milligrams per liter unless otherwise indicated)

	Nov. 15		Mar. 01		Apr. 14	
Depth of sample (ft)	1.5	29	1.5	29	1.5	29
Lake stage (ft)	5.11		5.00		5.11	
Specific conductance (µS/cm)	573	574	567	611	592	594
pH (units)	8.3	8.3	8.5	8.5	8.5	8.5
Water temperature (°C)	10.0	10.0	2.0	3.0	5.5	5.0
Color (Pt-Co. scale)	---	---	---	---	8	9
Turbidity (NTU)	---	---	---	---	0.50	0.70
Secchi-depth (meters)	5.3		4.9		3.8	
Dissolved oxygen	9.0	9.0	13.4	15.0	11.7	11.4
Hardness, as CaCO3	---	---	---	---	250	250
Calcium, dissolved (Ca)	---	---	---	---	45	45
Magnesium, dissolved (Mg)	---	---	---	---	33	33
Sodium, dissolved (Na)	---	---	---	---	24	24
Potassium, dissolved (K)	---	---	---	---	3	3
Alkalinity, as CaCO3	---	---	---	---	190	190
Sulfate, dissolved (SO4)	---	---	---	---	31	31
Chloride, dissolved (Cl)	---	---	---	---	57	58
Fluoride, dissolved (F)	---	---	---	---	0.1	0.1
Silica, dissolved (SiO2)	---	---	---	---	<0.1	<0.1
Solids, dissolved, at 180°C	---	---	---	---	328	335
Nitrogen, NO2 + NO3, diss. (as N)	0.12	---	0.28	---	---	---
Nitrogen, ammonia, dissolved (as N)	0.16	---	0.01	---	---	---
Nitrogen, organic, total (as N)	0.54	---	0.69	---	---	---
Nitrogen, amm. + org., total (as N)	0.70	---	0.70	---	0.60	0.70
Nitrogen, total (as N)	0.82	---	0.98	---	---	---
Phosphorus, total (as P)	0.095	0.094	0.084	0.090	0.050	0.052
Phosphorus, ortho, dissolved (as P)	0.067	0.056	0.053	0.047	0.018	0.034
Iron, dissolved (Fe) µg/L	---	---	---	---	4	<3
Manganese, dissolved (Mn) µg/L	---	---	---	---	1	<1
Chlorophyll a, phytoplankton (µg/L)	0.5	---	0.3	---	0.9	---

Additional secchi-depth (meters):

May 16..... 5.5 July 18 ..... 2.9
June 15..... 7.4 Aug. 18 ..... 3.8



425044088100300 DENOON LAKE AT WIND LAKE, WI

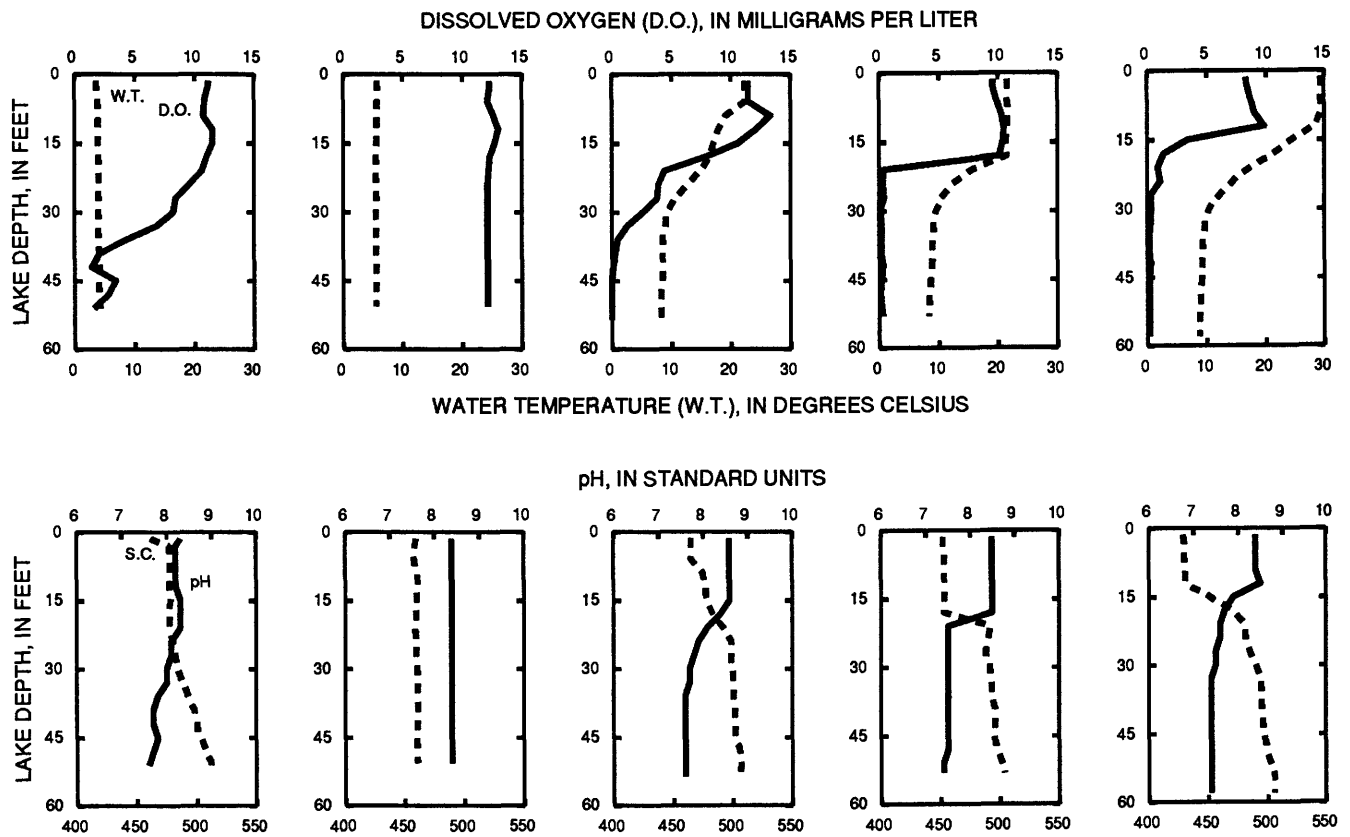
LOCATION.--Lat 42°50'44", long 88°10'03", in SW 1/4 SW 1/4 sec.32, T.5 N., R.20 E., Waukesha County, Hydrologic Unit 07120006, at Wind Lake.

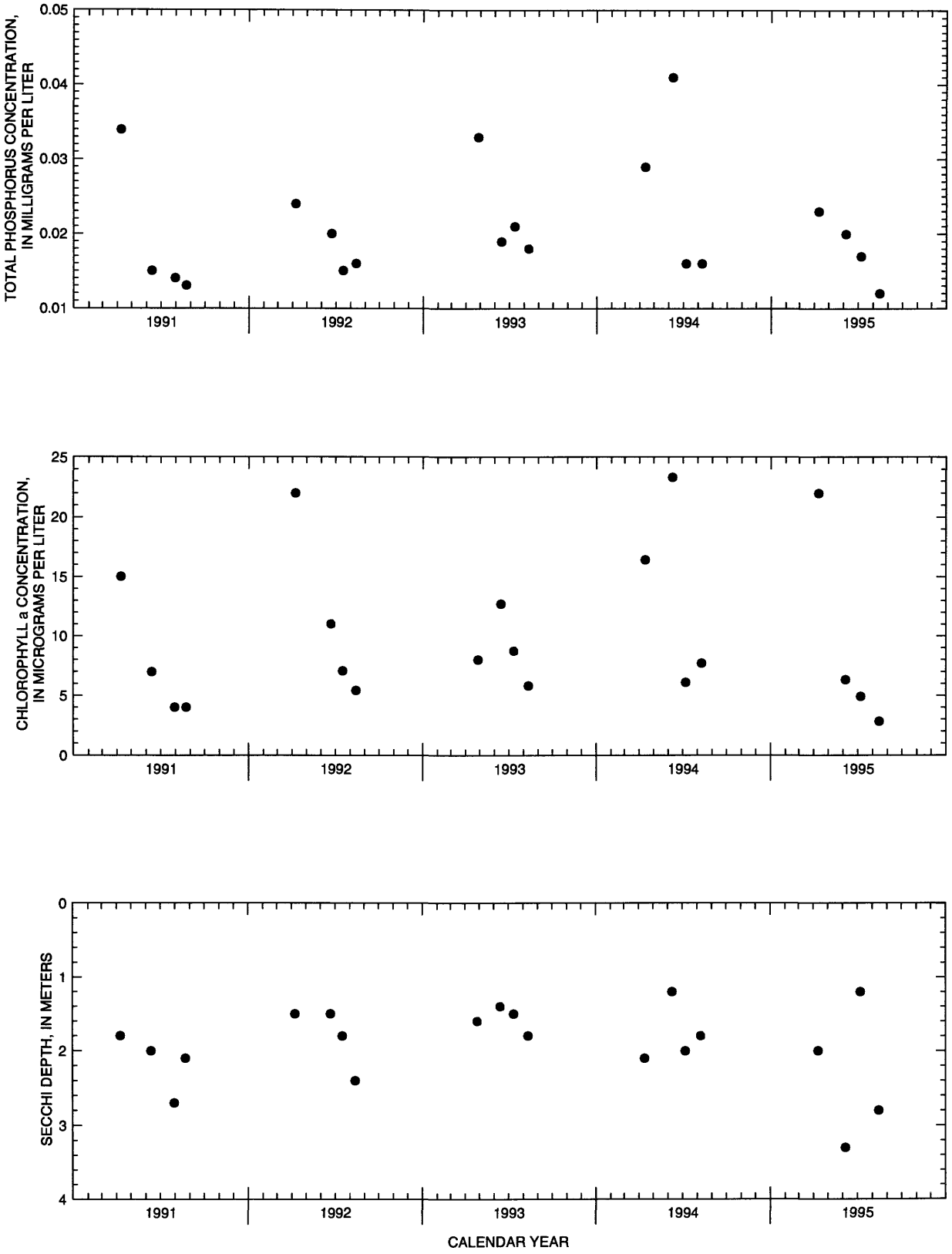
PERIOD OF RECORD.--February 1991 to current year.

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

WATER-QUALITY DATA, FEBRUARY 22 TO AUGUST 14, 1995
(Milligrams per liter unless otherwise indicated)

	Feb. 22		Apr. 11		June 06		July 07		Aug. 14	
Depth of sample (ft)	1.5	51	1.5	50	1.5	53	1.5	53	1.5	58
Lake stage (ft)	---		---		7.81		7.37		7.61	
Specific conductance (µS/cm)	462	512	460	461	465	506	452	504	429	506
pH (units)	8.3	7.6	8.4	8.4	8.6	7.6	8.5	7.4	8.4	7.4
Water temperature (°C)	3.5	4.0	6.0	5.5	22.5	8.0	21.5	8.5	29.5	9.0
Color (Pt-Co. scale)	---	---	15	15	---	---	---	---	---	---
Turbidity (NTU)	---	---	2.1	2.0	---	---	---	---	---	---
Secchi-depth (meters)	---		2.0		3.3		1.2		2.8	
Dissolved oxygen	11.2	1.6	12.3	12.1	11.5	0.0	9.6	0.3	8.3	0.2
Hardness, as CaCO3	---	---	210	210	---	---	---	---	---	---
Calcium, dissolved (Ca)	---	---	39	39	---	---	---	---	---	---
Magnesium, dissolved (Mg)	---	---	27	27	---	---	---	---	---	---
Sodium, dissolved (Na)	---	---	15	15	---	---	---	---	---	---
Potassium, dissolved (K)	---	---	3	3	---	---	---	---	---	---
Alkalinity, as CaCO3	---	---	170	170	---	---	---	---	---	---
Sulfate, dissolved (SO4)	---	---	32	32	---	---	---	---	---	---
Chloride, dissolved (Cl)	---	---	34	34	---	---	---	---	---	---
Fluoride, dissolved (F)	---	---	0.2	0.2	---	---	---	---	---	---
Silica, dissolved (SiO2)	---	---	0.1	0.1	---	---	---	---	---	---
Solids, dissolved, at 180°C	---	---	274	274	---	---	---	---	---	---
Nitrogen, NO2 + NO3, diss. (as N)	---	---	0.18	0.18	---	---	---	---	---	---
Nitrogen, ammonia, dissolved (as N)	---	---	<0.03	<0.03	---	---	---	---	---	---
Nitrogen, organic, total (as N)	---	---	0.90	0.80	---	---	---	---	---	---
Nitrogen, amm. + org., total (as N)	---	---	0.90	0.80	---	---	---	---	---	---
Nitrogen, total (as N)	---	---	1.1	0.98	---	---	---	---	---	---
Phosphorus, total (as P)	---	---	0.023	0.024	0.020	0.186	0.017	0.257	0.012	0.228
Phosphorus, ortho, dissolved (as P)	---	---	0.002	0.002	---	---	---	---	---	---
Iron, dissolved (Fe) µg/L	---	---	<10	<10	---	---	---	---	---	---
Manganese, dissolved (Mn) µg/L	---	---	<0.4	<0.4	---	---	---	---	---	---
Chlorophyll a, phytoplankton (µg/L)	---	---	22	---	6.3	---	4.9	---	2.8	---





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.

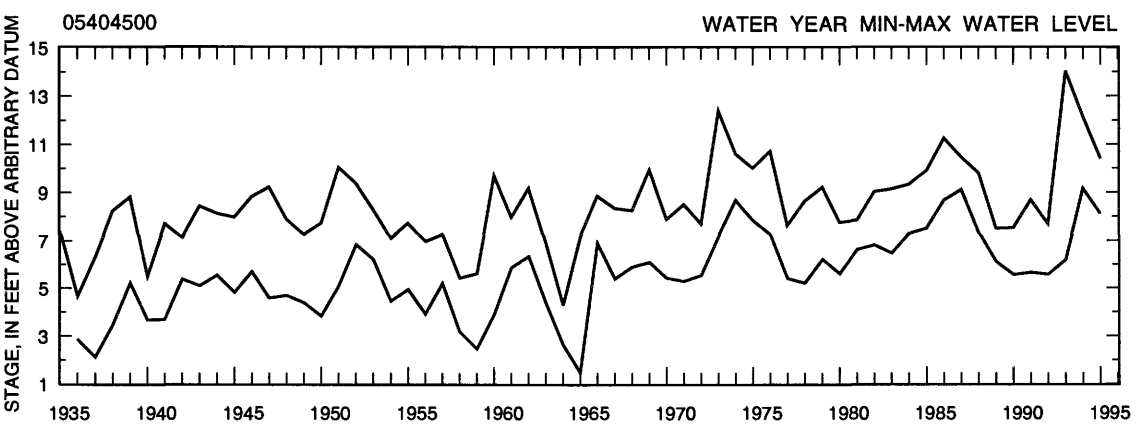
EXTREMES FOR PERIOD OF RECORD.--Maximum gage height observed, 14.13 ft, July 18, 1993; minimum observed, 1.49 ft Feb. 8, 1965.

EXTREMES FOR CURRENT YEAR.--Maximum recorded gage height, 10.41 ft, May 31; minimum recorded, 8.11 ft, Feb. 25, 26, and Mar. 2, 3.

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	9.16	8.63	8.43	8.27	8.19	8.12	8.74	9.64	10.40	9.91	9.47	---
2	9.14	8.62	8.41	8.26	8.19	8.12	8.75	9.64	10.39	9.87	9.44	---
3	9.12	8.60	8.40	8.24	8.18	8.12	8.74	9.64	10.38	9.84	9.43	---
4	9.10	8.60	8.40	8.23	8.18	8.13	8.74	9.64	10.37	9.81	9.45	---
5	9.08	8.59	8.40	8.22	8.18	8.13	8.73	9.64	10.36	9.85	9.48	---
6	9.07	8.59	8.41	8.21	8.18	8.13	8.72	9.63	10.33	9.84	9.46	---
7	9.06	8.59	8.43	8.21	8.18	8.13	8.72	9.63	10.34	9.81	9.45	---
8	9.04	8.56	8.42	8.21	8.18	8.13	8.76	9.67	10.35	9.79	9.43	8.81
9	9.02	8.55	8.41	8.21	8.18	8.14	8.80	9.75	10.32	9.77	9.41	8.79
10	9.00	8.54	8.40	8.21	8.18	8.14	8.84	9.81	10.30	9.76	9.39	8.76
11	8.98	8.53	8.38	8.21	8.18	8.14	8.91	9.86	10.28	9.74	9.37	8.74
12	8.96	8.51	8.37	8.20	8.18	8.14	9.04	9.88	10.25	9.72	9.35	8.71
13	8.93	8.51	8.36	8.20	8.18	8.13	9.10	9.92	10.23	9.71	9.34	8.69
14	8.92	8.53	8.35	8.19	8.18	8.15	9.13	9.99	10.21	9.69	9.37	8.66
15	8.91	8.51	8.35	8.19	8.18	8.19	9.15	10.00	10.19	9.68	9.36	8.64
16	8.90	8.51	8.35	8.19	8.18	8.22	9.16	10.03	10.16	9.70	9.34	8.60
17	8.89	8.50	8.36	8.19	8.18	8.24	9.19	10.14	10.13	9.66	9.33	8.57
18	8.89	8.48	8.35	8.18	8.18	8.26	9.27	10.15	10.11	9.63	9.31	8.54
19	8.89	8.45	8.34	8.19	8.18	8.28	9.35	10.17	10.09	9.61	9.34	8.56
20	8.87	8.45	8.34	8.22	8.17	8.38	9.38	10.17	10.06	9.67	9.32	8.58
21	8.86	8.48	8.33	8.22	8.16	8.46	9.43	10.16	10.04	9.65	9.30	8.56
22	8.84	8.47	8.33	8.23	8.16	8.48	9.47	10.15	10.01	9.62	9.28	8.53
23	8.83	8.45	8.32	8.23	8.14	8.50	9.50	10.16	9.98	9.60	9.25	8.50
24	8.80	8.44	8.31	8.23	8.13	8.51	9.51	10.15	9.95	9.59	9.22	8.47
25	8.78	8.43	8.31	8.23	8.12	8.51	9.53	10.14	9.94	9.57	9.19	8.46
26	8.76	8.41	8.31	8.23	8.11	8.52	9.54	10.13	9.97	9.56	---	8.44
27	8.74	8.43	8.30	8.23	8.12	8.59	9.60	10.15	10.01	9.54	---	8.42
28	8.72	8.46	8.29	8.23	8.12	8.65	9.62	10.33	10.00	9.51	---	8.41
29	8.69	8.44	8.29	8.23	---	8.69	9.63	10.38	9.99	9.49	---	8.40
30	8.67	8.43	8.28	8.23	---	8.71	9.65	10.39	9.96	9.47	---	8.39
31	8.66	---	8.27	8.22	---	8.72	---	10.40	---	9.45	---	---
MEAN	8.91	8.51	8.35	8.22	8.17	8.31	9.16	9.99	10.17	9.68	---	---
MAX	9.16	8.63	8.43	8.27	8.19	8.72	9.65	10.40	10.40	9.91	---	---
MIN	8.66	8.41	8.27	8.18	8.11	8.12	8.72	9.63	9.94	9.45	---	---



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 gage read by Bill Noennig at his residence.

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, 11.59 ft, Aug. 20; minimum observed, 10.78 ft, Oct. 7 and 15.

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	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	11.15	---	---	10.93	11.37
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	10.89	---	---	---
5	---	---	---	---	---	---	---	11.05	---	11.03	10.89	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	10.78	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	11.13	---	---
9	---	---	---	---	---	---	---	---	---	---	11.19	---
10	---	---	---	---	---	---	---	---	10.89	---	11.24	11.01
11	---	---	---	---	---	---	---	11.29	---	---	---	---
12	---	---	---	---	---	---	---	---	10.88	11.11	---	---
13	---	---	---	---	---	---	---	---	10.89	---	11.17	---
14	---	---	---	---	---	---	---	---	---	---	---	10.97
15	10.78	---	---	---	---	---	---	11.19	---	11.09	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	10.89	11.08	---	---
18	---	---	---	---	---	---	---	11.15	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	11.59	---
21	---	---	---	---	---	---	---	11.01	---	---	---	---
22	---	---	---	---	---	---	---	---	10.89	10.99	11.53	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	11.16	---	---	11.04	---	---
25	---	---	---	---	---	---	---	---	---	---	---	10.89
26	---	---	---	---	---	---	---	---	---	---	11.24	---
27	---	---	---	---	---	---	---	---	10.94	---	---	---
28	---	---	---	---	---	---	---	10.95	10.97	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---

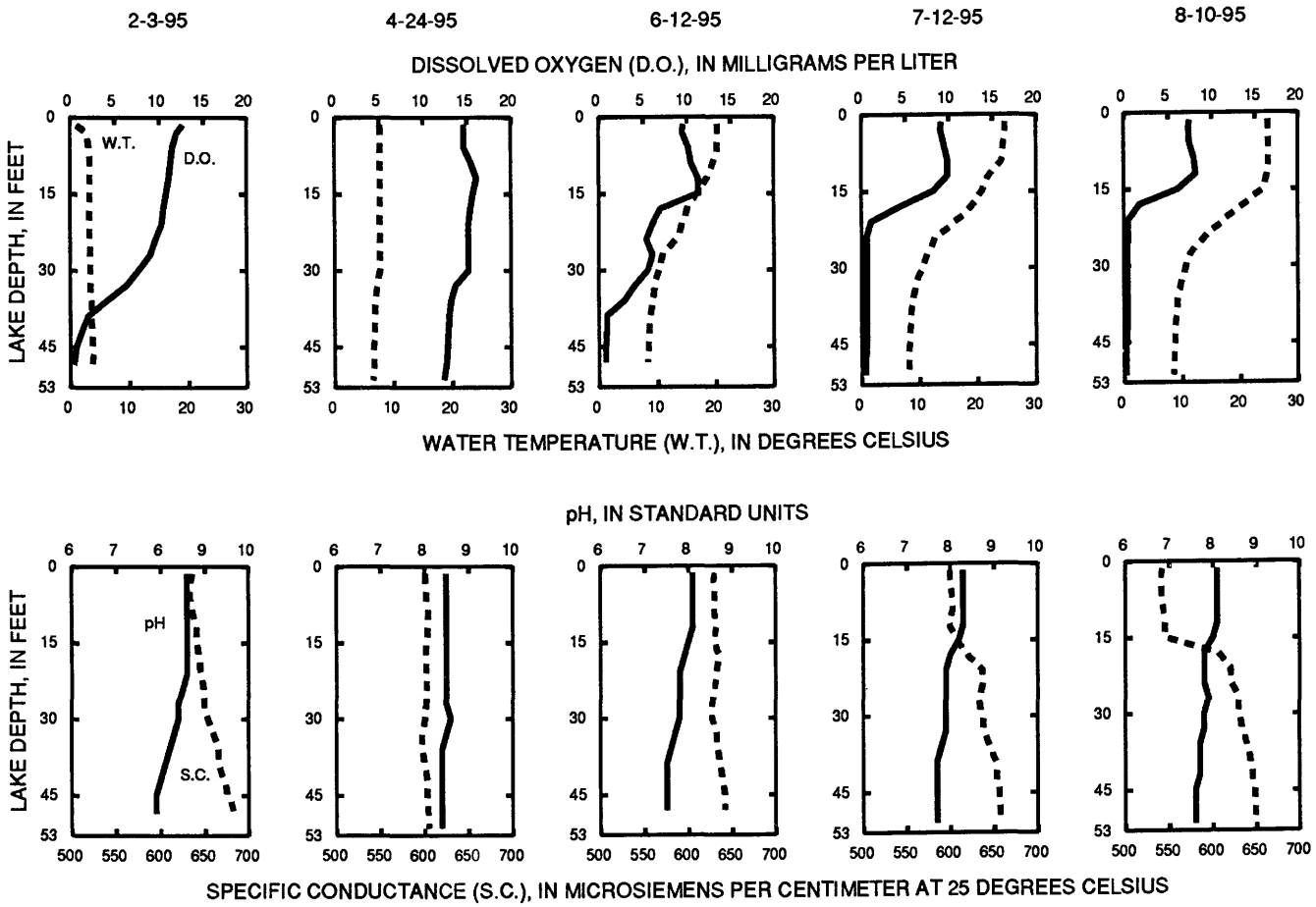
WATER-QUALITY RECORDS

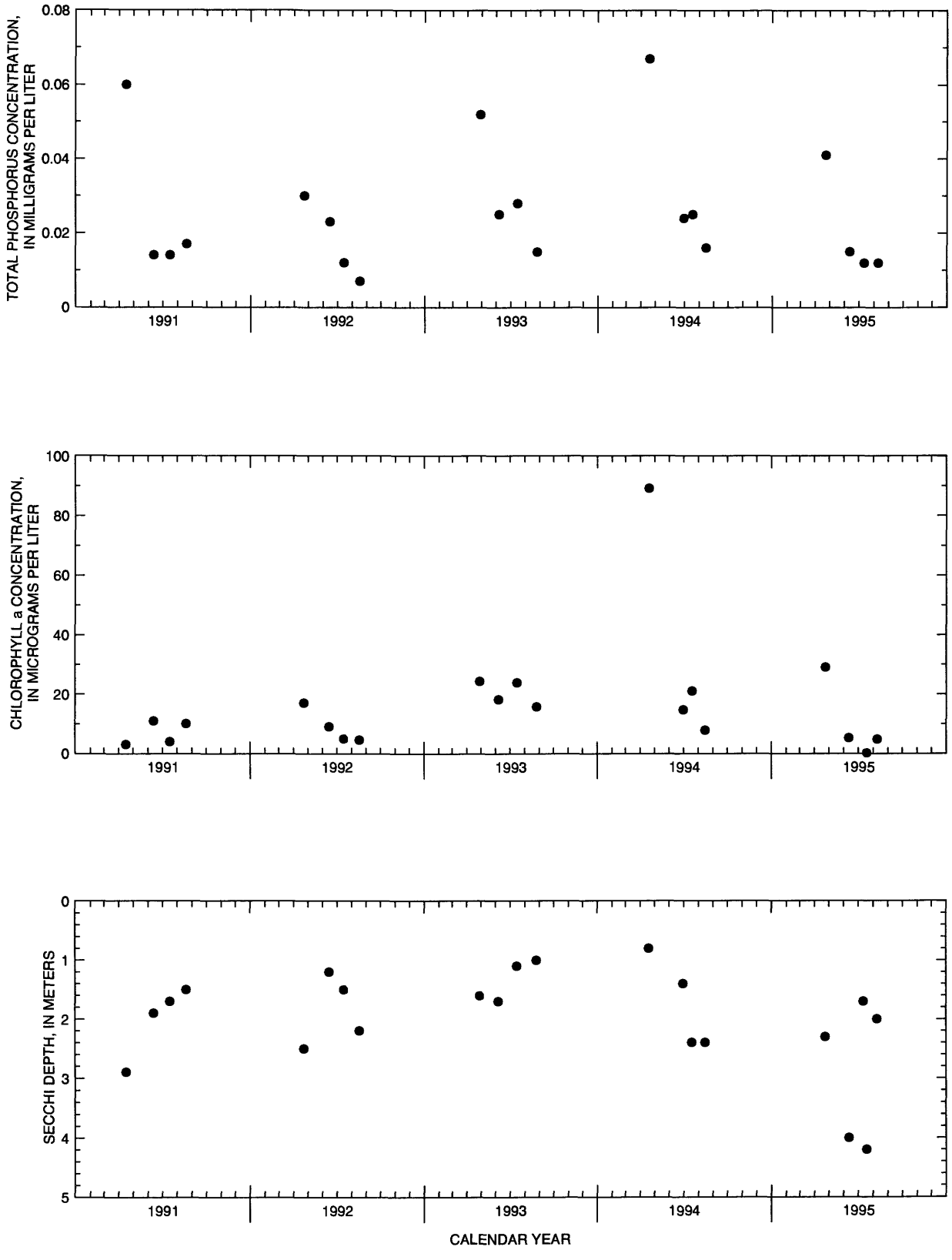
PERIOD OF RECORD.--February 1991 to current year.

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

WATER-QUALITY DATA, FEBRUARY 03 TO AUGUST 10, 1995
(Milligrams per liter unless otherwise indicated)

	Feb. 03		Apr. 24		June 12		July 12		July 19	Aug. 10	
Depth of sample (ft)	1.5	49	1.5	51	1.5	48	1.5	51	1.5	1.5	51
Lake stage (ft)	---		11.16		10.88		11.11		---	11.24	
Specific conductance (µS/cm)	636	684	601	605	630	642	600	658	589	542	649
pH (units)	8.6	7.9	8.5	8.4	8.1	7.5	8.3	7.7	8.2	8.1	7.6
Water temperature (°C)	1.0	4.0	7.5	6.5	20.5	8.5	24.5	8.0	25.0	24.5	8.5
Color (Pt-Co. scale)	---	---	25	25	---	---	---	---	---	---	---
Turbidity (NTU)	---	---	0.90	1.4	---	---	---	---	---	---	---
Secchi-depth (meters)	---		2.3		4.0		1.7		4.2	2.0	
Dissolved oxygen	12.7	0.4	14.7	12.4	9.6	0.8	9.2	0.5	7.8	7.5	0.3
Hardness, as CaCO3	---	---	330	340	---	---	---	---	---	---	---
Calcium, dissolved (Ca)	---	---	71	72	---	---	---	---	---	---	---
Magnesium, dissolved (Mg)	---	---	38	38	---	---	---	---	---	---	---
Sodium, dissolved (Na)	---	---	9.5	9.6	---	---	---	---	---	---	---
Potassium, dissolved (K)	---	---	2	2	---	---	---	---	---	---	---
Alkalinity, as CaCO3	---	---	280	280	---	---	---	---	---	---	---
Sulfate, dissolved (SO4)	---	---	23	22	---	---	---	---	---	---	---
Chloride, dissolved (Cl)	---	---	25	25	---	---	---	---	---	---	---
Fluoride, dissolved (F)	---	---	<0.1	0.1	---	---	---	---	---	---	---
Silica, dissolved (SiO2)	---	---	0.7	0.9	---	---	---	---	---	---	---
Solids, dissolved, at 180°C	---	---	372	376	---	---	---	---	---	---	---
Nitrogen, NO2 + NO3, diss. (as N)	---	---	0.81	0.78	---	---	---	---	---	---	---
Nitrogen, ammonia, dissolved (as N)	---	---	0.10	0.15	---	---	---	---	---	---	---
Nitrogen, organic, total (as N)	---	---	1.0	0.75	---	---	---	---	---	---	---
Nitrogen, amm. + org., total (as N	---	---	1.1	0.90	---	---	---	---	---	---	---
Nitrogen, total (as N)	---	---	1.9	1.7	---	---	---	---	---	---	---
Phosphorus, total (as P)	---	---	0.041	0.015	0.015	0.092	0.012	0.18	---	0.012	0.196
Phosphorus, ortho, dissolved (as P)	---	---	<0.002	0.002	---	---	---	---	---	---	---
Iron, dissolved (Fe) µg/L	---	---	<10	<10	---	---	---	---	---	---	---
Manganese, dissolved (Mn) µg/L	---	---	4	22	---	---	---	---	---	---	---
Chlorophyll a, phytoplankton (µg/L)	---	---	29	---	5.2	---	---	---	0.1	4.8	---





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 SE 1/4 NE 1/4 (corrected), 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, and February 1993 to current year (intermittent). Unpublished intermittent records from October 1940 to July 1979.

GAGE.--1936-79, nonrecording gage at different datum; 1993-95, assumed datum, staff located at residence of observer, Virginia Jochimsen.

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 PERIOD 1993-95.--Maximum gage height observer, 12.25 ft, Apr. 22, 1993; minimum observer, 10.37 ft, Feb. 2, 1993.

EXTREMES FOR CURRENT YEAR.--Maximum gage height observed, 11.82 ft, Apr. 19; minimum observed, 10.48 ft, Nov. 2.

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	---	---	---	---	---	---	---	---	11.64	---	---	---
2	---	10.48	10.69	---	---	---	---	---	---	---	11.09	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	10.59	---	---	---	---	---	---	---	---	11.19	---	---
6	---	---	---	---	---	---	---	---	---	---	---	11.59
7	---	---	---	---	---	---	---	---	11.59	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	10.53	---	---	---	---	---	---	---	---	11.29	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	10.53	---	---	---	---	---	---	---	---	11.17	---	---
13	---	---	---	---	---	---	---	---	---	---	---	11.44
14	---	---	---	---	---	---	---	---	11.57	11.08	---	---
15	---	---	---	---	---	---	---	---	---	---	11.28	---
16	---	10.59	---	---	---	---	---	---	---	---	11.57	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	10.49	---	---	---	---	---	11.82	---	---	11.12	---	---
20	---	---	---	---	---	---	---	---	11.39	---	---	11.37
21	---	---	---	---	---	---	---	---	11.39	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	10.63	---	---	---	---	---	---	---	---	11.63	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	10.49	---	---	---	---	---	---	---	---	11.09	---	---
27	---	---	---	---	---	---	---	---	---	---	---	11.29
28	---	---	---	---	---	---	---	---	11.23	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	10.69	---	---	---	---	---	---	---	---	11.69	---
31	---	---	---	---	---	---	---	---	---	---	---	---

424207088072400 EAGLE LAKE, AT DEEP HOLE, 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.

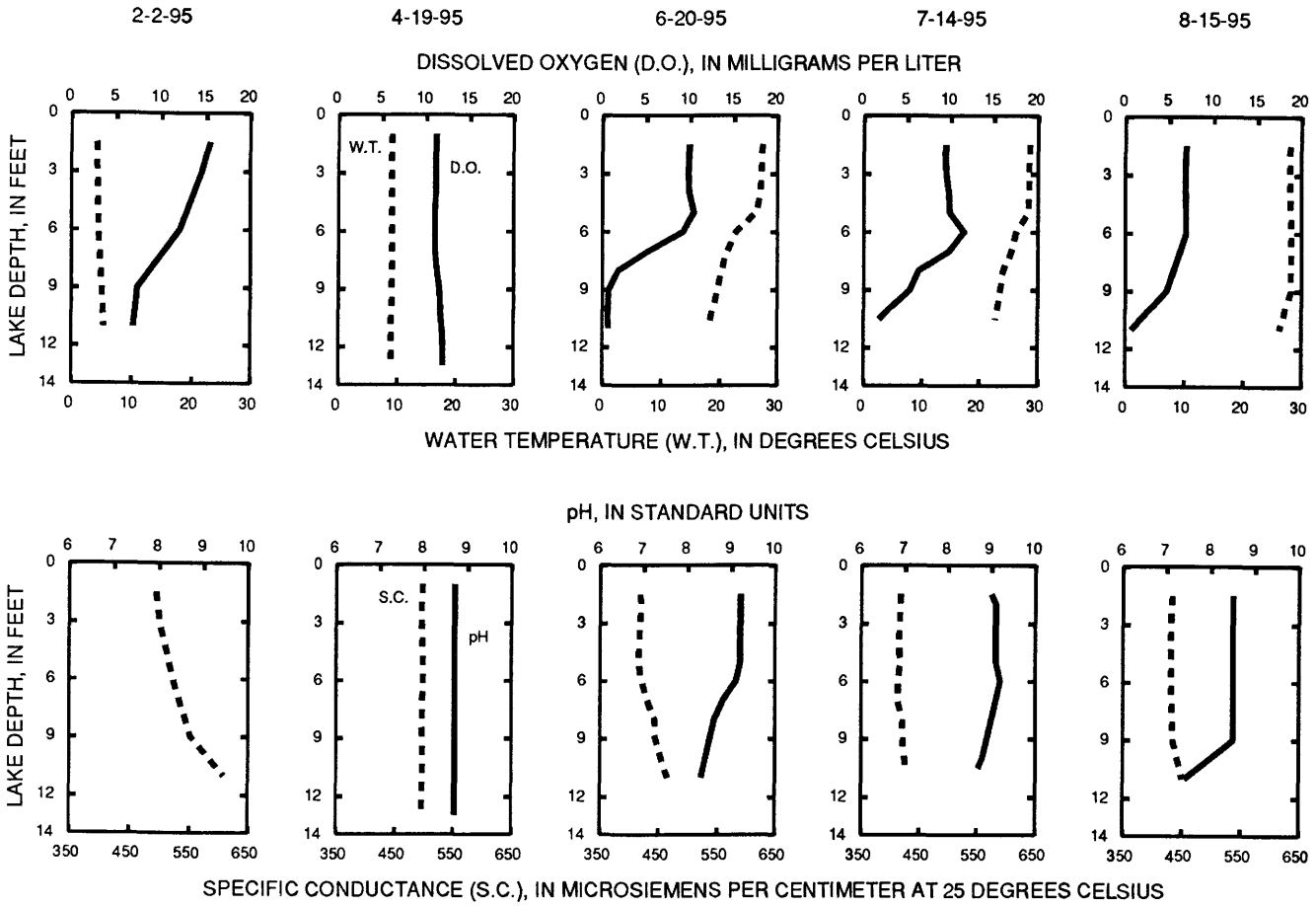
DRAINAGE AREA.--6.99 mi^2.

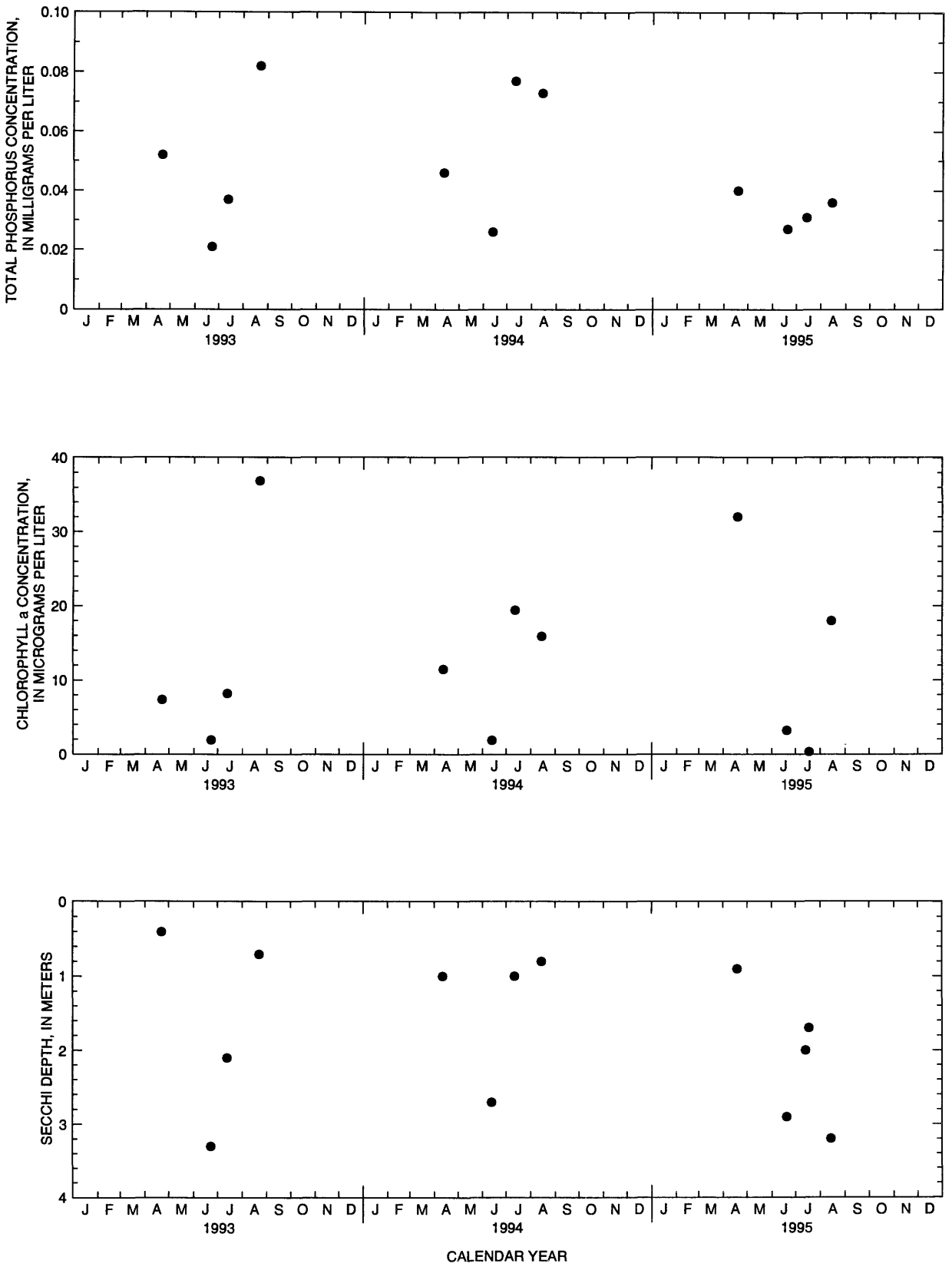
PERIOD OF RECORD.--February 1993 to current year.

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

WATER-QUALITY DATA, FEBRUARY 02 TO AUGUST, 15, 1995
(Milligrams per liter unless otherwise indicated)

	Feb. 02		Apr. 19		June 20		July 14		July 18	Aug. 15	
Depth of sample (ft)	1.5	11	1.5	12	1.5	11	1.5	10	1.5	1.5	11
Lake stage (ft)	---		11.82		11.39		11.08		---	11.28	
Specific conductance (µS/cm)	495	608	497	497	418	465	417	427	416	433	450
pH (units)	---	---	8.7	8.7	9.2	8	9.0	8.7	9.0	8.5	7.4
Water temperature (°C)	4.0	5.5	9.0	9.0	27.5	18	28.5	23.0	26.5	28.0	26.5
Color (Pt-Co. scale)	---	---	15	20	---	---	---	---	---	---	---
Turbidity (NTU)	---	---	4.1	3.6	---	---	---	---	---	---	---
Secchi-depth (meters)	---		0.9		2.9		2.0		1.7	3.2	
Dissolved oxygen	15.4	6.9	11.1	11.9	9.9	0.7	9.4	1.8	7.1	6.9	0.7
Hardness, as CaCO3	---	---	230	230	---	---	---	---	---	---	---
Calcium, dissolved (Ca)	---	---	45	45	---	---	---	---	---	---	---
Magnesium, dissolved (Mg)	---	---	29	29	---	---	---	---	---	---	---
Sodium, dissolved (Na)	---	---	16	16	---	---	---	---	---	---	---
Potassium, dissolved (K)	---	---	3	3	---	---	---	---	---	---	---
Alkalinity, as CaCO3	---	---	150	150	---	---	---	---	---	---	---
Sulfate, dissolved (SO4)	---	---	53	53	---	---	---	---	---	---	---
Chloride, dissolved (Cl)	---	---	40	39	---	---	---	---	---	---	---
Fluoride, dissolved (F)	---	---	0.2	0.2	---	---	---	---	---	---	---
Silica, dissolved (SiO2)	---	---	0.6	0.6	---	---	---	---	---	---	---
Solids, dissolved, at 180°C	---	---	306	306	---	---	---	---	---	---	---
Nitrogen, NO2 + NO3, diss. (as N)	---	---	0.26	0.21	---	---	---	---	---	---	---
Nitrogen, ammonia, dissolved (as N)	---	---	<0.03	<0.03	---	---	---	---	---	---	---
Nitrogen, organic, total (as N)	---	---	1.2	1.2	---	---	---	---	---	---	---
Nitrogen, amm. + org., total (as N)	---	---	1.2	1.2	---	---	---	---	---	---	---
Nitrogen, total (as N)	---	---	1.5	1.4	---	---	---	---	---	---	---
Phosphorus, total (as P)	---	---	0.040	0.037	0.027	0.084	0.031	0.070	---	0.036	0.060
Phosphorus, ortho, dissolved (as P)	---	---	0.003	0.00	---	---	---	---	---	---	---
Iron, dissolved (Fe) µg/L	---	---	<10	<10	---	---	---	---	---	---	---
Manganese, dissolved (Mn) µg/L	---	---	<0.4	<0.4	---	---	---	---	---	---	---
Chlorophyll a, phytoplankton (µg/L)	---	---	32	---	3.2	---	---	---	0.3	18	---





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 at a lake depth of about 8 ft. Lake ice-covered during February measurements. Water-quality analyses done by Wisconsin State Laboratory of Hygiene. Lake-stage readings from 1991 to 1993 (except 2/4/93 and 4/19/93) were previously reported 1 ft too high.

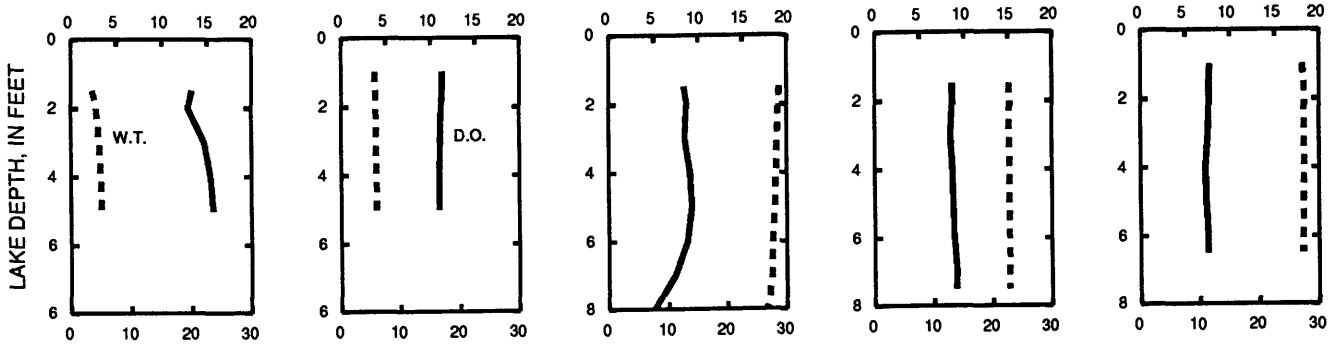
WATER-QUALITY DATA, FEBRUARY 21 TO AUGUST 17, 1995

(Milligrams per liter unless otherwise indicated)

	Feb. 21		Apr. 04		June 19		July 06		Aug. 17	
Depth of sample (ft)	1.5	5.0	1.5	4.0	1.5	8.0	1.5	7.5	1.5	6.5
Lake stage (ft)	9.65		9.49		9.51		9.49		9.45	
Specific conductance (µS/cm)	598	656	452	451	468	473	465	465	434	436
pH (units)	7.7	7.7	8.6	8.6	8.0	7.7	8.3	8.2	8.1	8.1
Water temperature (°C)	3.5	5.0	5.5	6.0	28.5	26.5	22.5	23.0	27.0	27.5
Color (Pt-Co. scale)	---	---	<5	<5	---	---	---	---	---	---
Turbidity (NTU)	---	---	15	15	---	---	---	---	---	---
Secchi-depth (meters)	---		1.7		1.4		0.9		1.0	
Dissolved oxygen	13.3	15.7	11.3	11.0	8.4	5.1	8.7	9.1	7.8	7.6
Hardness, as CaCO3	---	---	240	240	---	---	---	---	---	---
Calcium, dissolved (Ca)	---	---	50	49	---	---	---	---	---	---
Magnesium, dissolved (Mg)	---	---	28	28	---	---	---	---	---	---
Sodium, dissolved (Na)	---	---	5.0	4.9	---	---	---	---	---	---
Potassium, dissolved (K)	---	---	1	1	---	---	---	---	---	---
Alkalinity, as CaCO3	---	---	210	210	---	---	---	---	---	---
Sulfate, dissolved (SO4)	---	---	17	20	---	---	---	---	---	---
Chloride, dissolved (Cl)	---	---	13	13	---	---	---	---	---	---
Fluoride, dissolved (F)	---	---	0.1	0.1	---	---	---	---	---	---
Silica, dissolved (SiO2)	---	---	5.4	5.3	---	---	---	---	---	---
Solids, dissolved, at 180°C	---	---	258	256	---	---	---	---	---	---
Nitrogen, NO2 + NO3, diss. (as N)	---	---	0.75	0.76	---	---	---	---	---	---
Nitrogen, ammonia, dissolved (as N)	---	---	<0.03	<0.03	---	---	---	---	---	---
Nitrogen, organic, total (as N)	---	---	0.50	0.40	---	---	---	---	---	---
Nitrogen, amm. + org., total (as N)	---	---	0.50	0.40	---	---	---	---	---	---
Nitrogen, total (as N)	---	---	1.3	1.2	---	---	---	---	---	---
Phosphorus, total (as P)	---	---	0.011	0.014	0.015	0.034	0.019	0.032	0.015	0.013
Phosphorus, ortho, dissolved (as P)	---	---	<0.002	0.002	---	---	---	---	---	---
Iron, dissolved (Fe) µg/L	---	---	<10	<10	---	---	---	---	---	---
Manganese, dissolved (Mn) µg/L	---	---	0.5	0.5	---	---	---	---	---	---
Chlorophyll a, phytoplankton (µg/L)	---	---	5.1	---	4.5	---	5.0	---	13	---

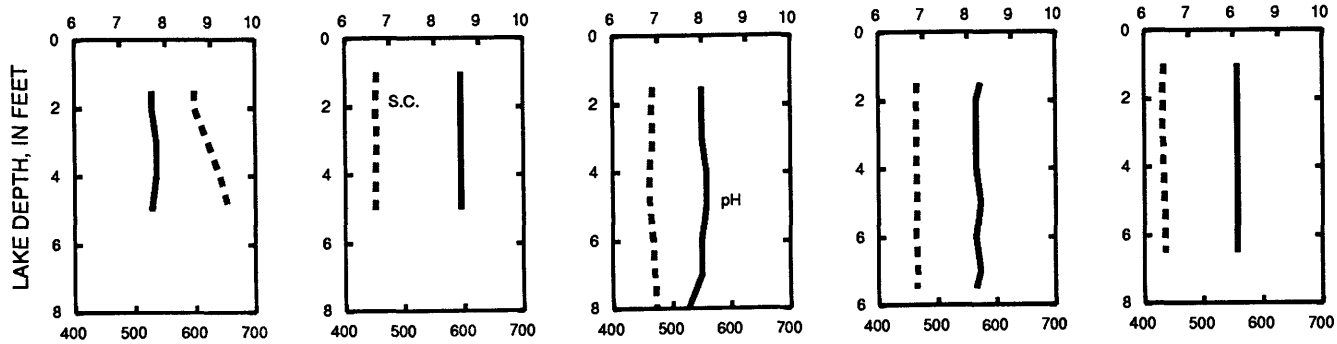
2-21-95 4-4-95 6-19-95 7-6-95 8-17-95

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

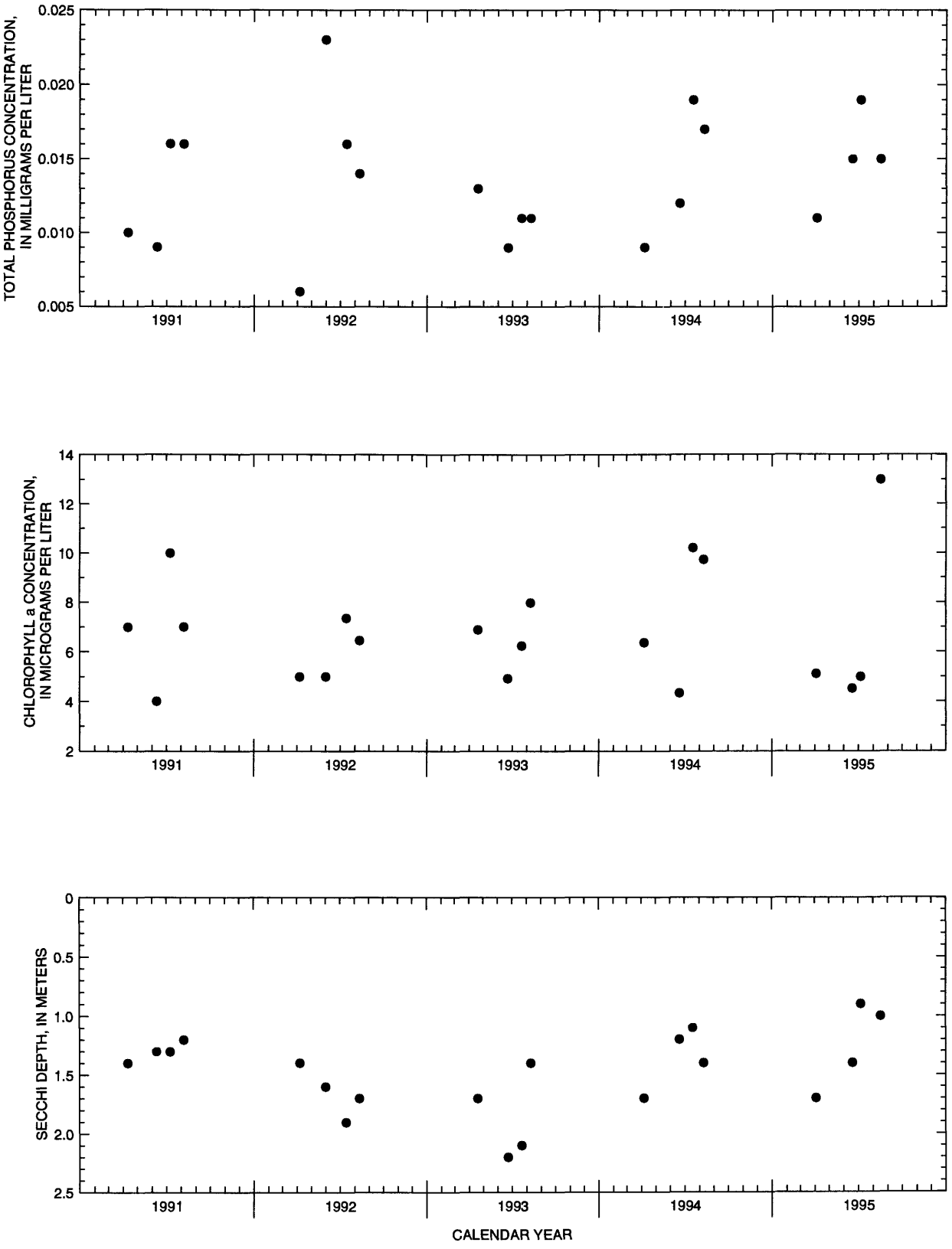


WATER TEMPERATURE (W.T.), IN DEGREES CELSIUS

pH, IN STANDARD UNITS



SPECIFIC CONDUCTANCE (S.C.), IN MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS



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

423051088155300 ELIZABETH LAKE NEAR TWIN LAKES, WI

LOCATION.--Lat 42°30'51", long 88°15'53", in NW 1/4 SW 1/4 sec.28, T.1 N., R.19 E., Kenosha County, Hydrologic Unit 07120006, near Twin Lakes.

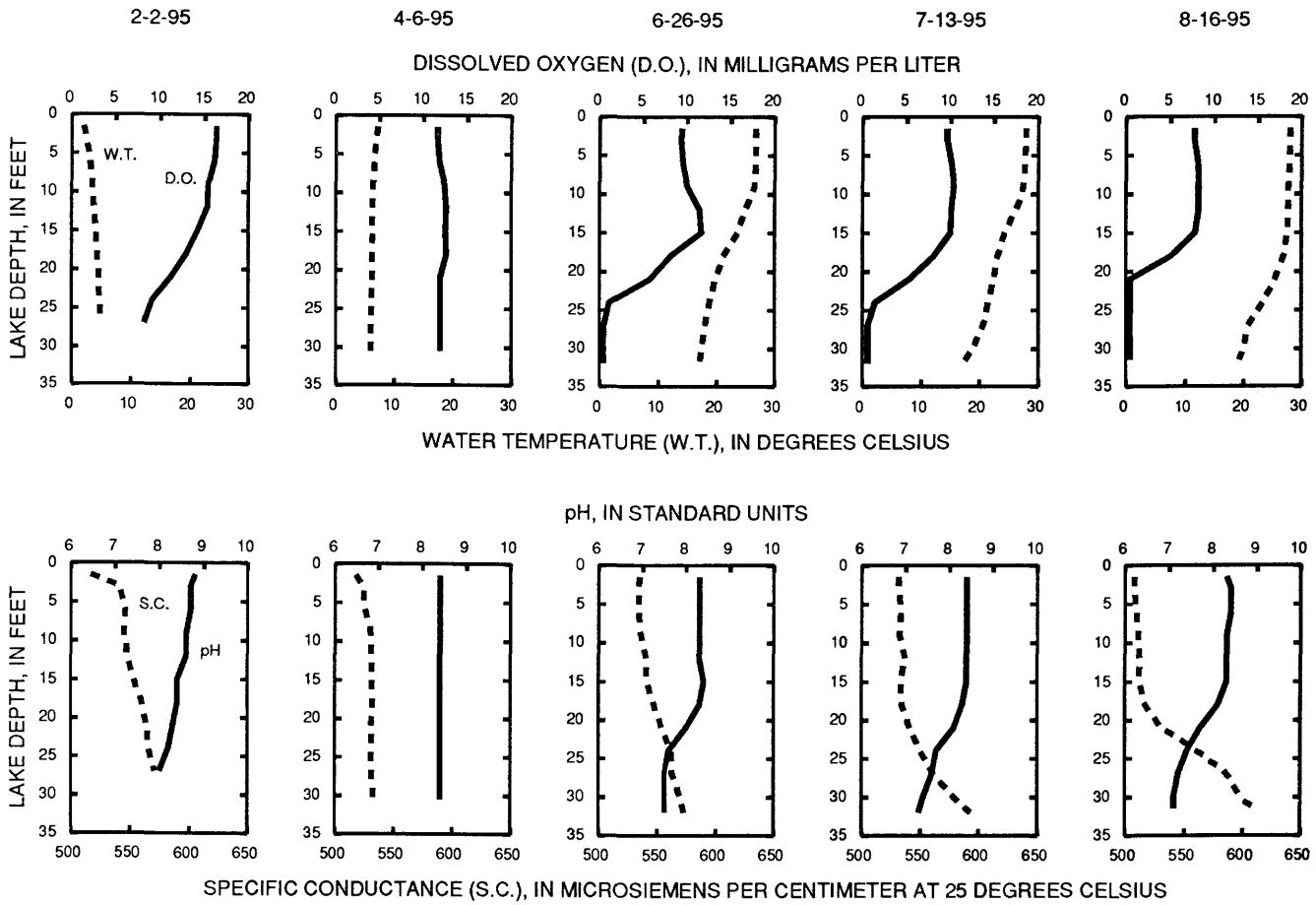
PERIOD OF RECORD.--February to August 1995.

REMARKS.--Lake sampled at the deepest point near north side of lake. Lake was ice-covered during February measurements. Water-quality analyses done by Wisconsin State Laboratory of Hygiene.

WATER-QUALITY DATA, FEBRUARY 02 TO AUGUST 16, 1995

(Milligrams per liter unless otherwise indicated)

	Feb. 02		Apr. 06		June 26		July 13		July 18	Aug. 16	
	1.5	27	1.5	30	1.5	32	1.5	32	1.5	1.5	31
Lake stage (ft)	---		---		11.19		11.16		---	11.19	
Specific conductance (µS/cm)	517	571	518	533	535	573	531	593	524	508	610
pH (units)	8.8	8.0	8.4	8.4	8.3	7.5	8.4	7.3	8.4	8.3	7.1
Water temperature (°C)	2.0	5.0	7.5	6.0	26.5	17.0	28.0	17.5	27.0	28.0	19.5
Color (Pt-Co. scale)	---	---	5	5	---	---	---	---	---	---	---
Turbidity (NTU)	---	---	2.0	2.5	---	---	---	---	---	---	---
Secchi-depth (meters)	---		1.7		3.0		3.1		2.8	2.3	
Dissolved oxygen	16.3	8.2	11.6	11.9	9.4	0.5	9.6	0.6	8.3	7.7	0.5
Hardness, as CaCO3	---	---	240	240	---	---	---	---	---	---	---
Calcium, dissolved (Ca)	---	---	36	37	---	---	---	---	---	---	---
Magnesium, dissolved (Mg)	---	---	36	36	---	---	---	---	---	---	---
Sodium, dissolved (Na)	---	---	19	19	---	---	---	---	---	---	---
Potassium, dissolved (K)	---	---	2	2	---	---	---	---	---	---	---
Alkalinity, as CaCO3	---	---	180	180	---	---	---	---	---	---	---
Sulfate, dissolved (SO4)	---	---	36	36	---	---	---	---	---	---	---
Chloride, dissolved (Cl)	---	---	45	45	---	---	---	---	---	---	---
Fluoride, dissolved (F)	---	---	0.1	0.1	---	---	---	---	---	---	---
Silica, dissolved (SiO2)	---	---	0.6	0.6	---	---	---	---	---	---	---
Solids, dissolved, at 180°C	---	---	302	306	---	---	---	---	---	---	---
Nitrogen, NO2 + NO3, diss. (as N)	---	---	0.11	0.12	---	---	---	---	---	---	---
Nitrogen, ammonia, dissolved (as N)	---	---	0.06	0.05	---	---	---	---	---	---	---
Nitrogen, organic, total (as N)	---	---	0.74	0.75	---	---	---	---	---	---	---
Nitrogen, amm. + org., total (as N)	---	---	0.80	0.80	---	---	---	---	---	---	---
Nitrogen, total (as N)	---	---	0.91	0.92	---	---	---	---	---	---	---
Phosphorus, total (as P)	---	---	0.016	0.027	0.010	0.044	0.009	0.067	---	0.010	0.080
Phosphorus, ortho, dissolved (as P)	---	---	0.002	0.002	---	---	---	---	---	---	---
Iron, dissolved (Fe) µg/L	---	---	<10	<10	---	---	---	---	---	---	---
Manganese, dissolved (Mn) µg/L	---	---	<0.4	<0.4	---	---	---	---	---	---	---
Chlorophyll a, phytoplankton (µg/L)	---	---	5.8	---	2.2	---	---	---	0.3	5.3	---



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 May 1987, May 1988, April 1989 to October 11, 1990 (fragmentary); continuous record from Oct. 23, 1990 to current year.

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.

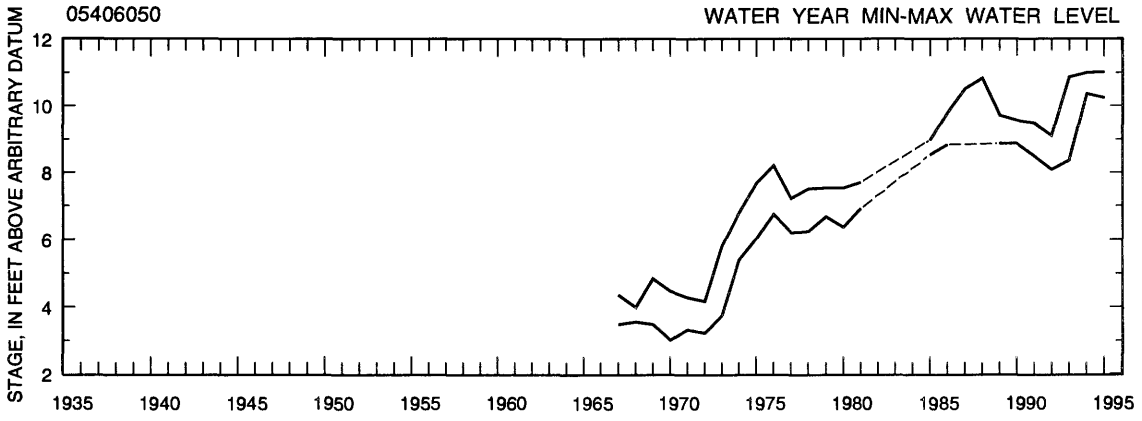
EXTREMES FOR PERIOD OF RECORD.--Maximum gage height observed, 11.05 ft, June 7, 1995; minimum observed, 3.02 ft, Aug. 29, 1970.

EXTREMES FOR CURRENT YEAR.--Maximum gage height observed, 11.05 ft, June 7; minimum observed, 10.24 ft, Nov. 26, 27.

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	10.56	10.33	10.28	---	---	---	---	10.82	10.99	10.72	10.69	10.63
2	10.54	10.32	10.28	---	---	---	---	10.81	10.99	10.70	10.68	10.61
3	10.52	10.32	10.28	---	---	---	---	10.81	10.98	10.68	10.67	10.59
4	10.52	10.32	10.27	---	---	---	---	10.80	10.97	10.67	10.67	10.58
5	10.51	10.33	10.28	---	---	---	---	10.81	10.96	10.76	10.68	10.57
6	10.51	10.34	10.29	---	---	---	---	10.80	10.96	10.74	10.67	10.56
7	10.51	10.31	10.33	---	---	---	10.55	10.79	11.00	10.73	10.66	10.55
8	10.51	10.31	10.30	---	---	---	10.60	10.82	11.02	10.72	10.66	10.52
9	10.50	10.31	10.31	---	---	---	10.63	10.86	10.99	10.72	10.65	10.50
10	10.48	10.30	---	10.38	---	---	10.63	10.91	10.98	10.71	10.64	10.48
11	10.47	10.29	---	---	---	---	10.67	10.92	10.96	10.71	10.64	10.47
12	10.46	10.28	---	---	---	---	10.69	10.92	10.95	10.70	10.62	10.46
13	10.46	10.29	---	---	---	---	10.69	10.92	10.93	10.69	10.61	10.45
14	10.46	10.33	---	---	---	---	10.69	10.93	10.92	10.68	10.62	10.43
15	10.45	10.30	---	---	---	---	10.68	10.92	10.92	10.68	10.61	10.41
16	10.45	10.30	---	---	---	---	10.68	10.91	10.90	10.73	10.61	10.40
17	10.45	10.30	---	---	---	---	10.70	10.91	10.89	10.71	10.65	10.38
18	10.46	10.30	---	---	---	---	10.74	10.90	10.88	10.68	10.64	10.37
19	10.46	10.26	---	---	---	---	10.75	10.89	10.87	10.67	10.70	10.39
20	10.44	10.26	---	---	---	10.50	10.75	10.88	10.85	10.69	10.71	10.42
21	10.43	10.32	---	---	---	---	10.77	10.86	10.84	10.68	10.70	10.41
22	10.44	10.29	---	---	---	---	10.78	10.84	10.82	10.68	10.68	10.39
23	10.44	10.27	---	---	---	---	10.77	10.85	10.80	10.71	10.67	10.37
24	10.42	10.26	---	---	10.39	---	10.78	10.85	10.78	10.70	10.65	10.37
25	10.40	10.26	---	10.43	---	---	10.79	10.83	10.76	10.70	10.63	10.36
26	10.39	10.24	---	---	---	---	10.79	10.82	10.77	10.71	10.62	10.35
27	10.38	10.28	---	---	---	---	10.84	10.84	10.79	10.70	10.61	10.34
28	10.37	10.33	---	---	---	---	10.84	11.01	10.79	10.68	10.62	10.33
29	10.35	10.31	---	---	---	---	10.84	11.02	10.78	10.67	10.66	10.33
30	10.34	10.28	10.36	---	---	---	10.83	11.01	10.75	10.65	10.67	10.32
31	10.34	---	---	---	---	---	---	11.00	---	10.65	10.65	---
MEAN	10.45	10.30	---	---	---	---	---	10.88	10.89	10.70	10.65	10.44
MAX	10.56	10.34	---	---	---	---	---	11.02	11.02	10.76	10.71	10.63
MIN	10.34	10.24	---	---	---	---	---	10.79	10.75	10.65	10.61	10.32



433632088100200 FOREST LAKE NEAR DUNDEE, WI

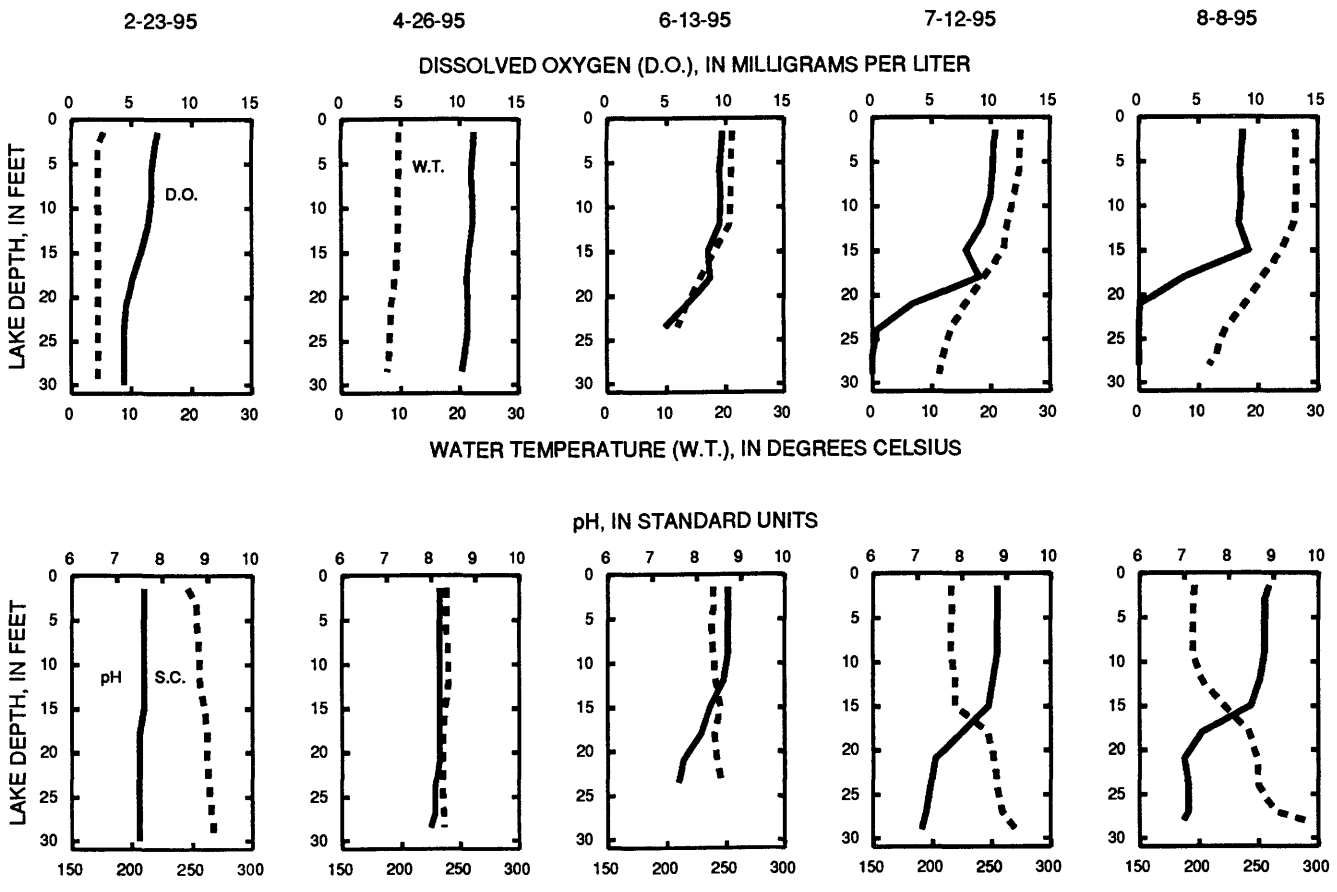
LOCATION.--Lat 43°36'32", long 88°10'02", in SW 1/4 NE 1/4 sec.12, T.13 N., R.19 E., Fond du Lac County, Hydrologic Unit 04040003, 3 mi south of Dundee.

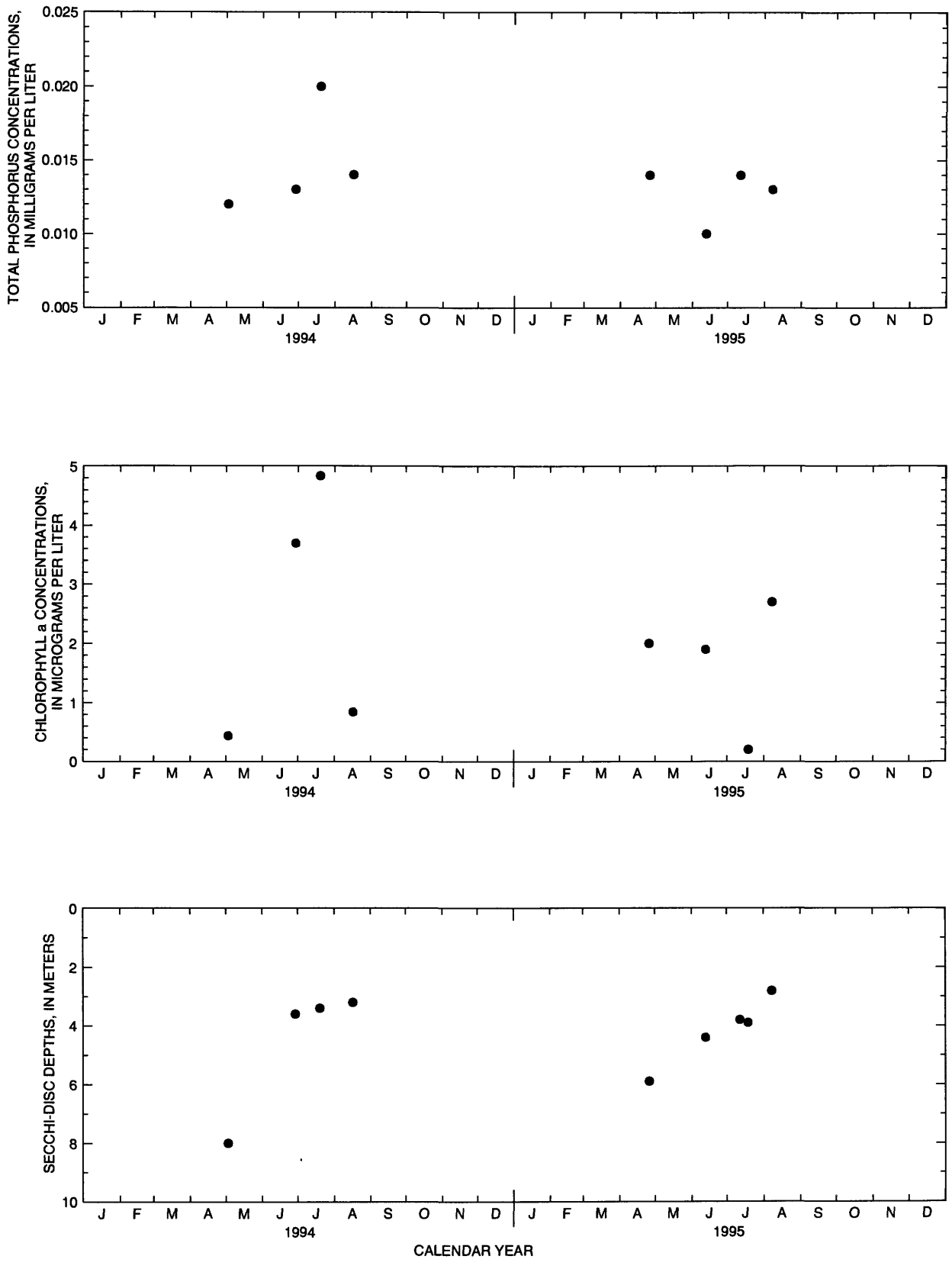
PERIOD OF RECORD.--March 1994 to current year.

REMARKS.--Lake sampled at north end at the deep hole. Lake ice-covered during February measurements. Water-quality analyses done by Wisconsin State Laboratory of Hygiene.

WATER-QUALITY DATA, FEBRUARY 23 TO AUGUST 08, 1995
(Milligrams per liter unless otherwise indicated)

	Feb. 23		Apr. 26		June 13		July 12		July 19	Aug. 08	
Depth of sample (ft)	1.5	30	1.5	28	1.5	23	1.5	29	1.5	1.5	29
Lake stage (ft)	8.55		8.70		8.55		8.10		---	7.98	
Specific conductance (µS/cm)	246	268	238	236	239	246	216	270	208	196	288
pH (units)	7.6	7.5	8.2	8.0	8.7	7.6	8.8	7.1	8.8	8.9	7.0
Water temperature (°C)	5.5	4.5	9.5	7.5	21.0	12.0	25.0	11.5	26.0	26.0	12.0
Color (Pt-Co. scale)	---	---	15	10	---	---	---	---	---	---	---
Turbidity (NTU)	---	---	<0.50	0.60	---	---	---	---	---	---	---
Secchi-depth (meters)	---		5.9		4.4		3.8		3.9	2.8	
Dissolved oxygen	7.2	4.4	11.2	10.2	9.7	4.9	10.4	0.0	9.3	8.7	0.0
Hardness, as CaCO3	---	---	130	130	---	---	---	---	---	---	---
Calcium, dissolved (Ca)	---	---	27	27	---	---	---	---	---	---	---
Magnesium, dissolved (Mg)	---	---	15	15	---	---	---	---	---	---	---
Sodium, dissolved (Na)	---	---	2.5	2.5	---	---	---	---	---	---	---
Potassium, dissolved (K)	---	---	0.7	0.8	---	---	---	---	---	---	---
Alkalinity, as CaCO3	---	---	120	120	---	---	---	---	---	---	---
Sulfate, dissolved (SO4)	---	---	4.0	4.0	---	---	---	---	---	---	---
Chloride, dissolved (Cl)	---	---	---	4.2	---	---	---	---	---	---	---
Fluoride, dissolved (F)	---	---	<0.1	<0.1	---	---	---	---	---	---	---
Silica, dissolved (SiO2)	---	---	<0.0	<0.0	---	---	---	---	---	---	---
Solids, dissolved, at 180°C	---	---	136	134	---	---	---	---	---	---	---
Nitrogen, NO2 + NO3, diss. (as N)	---	---	0.11	0.13	---	---	---	---	---	---	---
Nitrogen, ammonia, dissolved (as N)	---	---	<0.03	0.04	---	---	---	---	---	---	---
Nitrogen, organic, total (as N)	---	---	0.60	0.66	---	---	---	---	---	---	---
Nitrogen, amm. + org., total (as N)	---	---	0.60	0.70	---	---	---	---	---	---	---
Nitrogen, total (as N)	---	---	0.71	0.83	---	---	---	---	---	---	---
Phosphorus, total (as P)	---	---	0.014	0.020	0.010	0.082	0.014	0.247	---	0.013	0.190
Phosphorus, ortho, dissolved (as P)	---	---	<0.002	<0.002	---	---	---	---	---	---	---
Iron, dissolved (Fe) µg/L	---	---	<10	<10	---	---	---	---	---	---	---
Manganese, dissolved (Mn) µg/L	---	---	<0.4	0.4	---	---	---	---	---	---	---
Chlorophyll a, phytoplankton (µg/L)	---	---	2.0	---	1.9	---	---	---	0.2	2.7	---





Surface total phosphorus and chlorophyll a concentrations, and Secchi depths for Forest Lake near Dundee, Wisconsin.

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 center 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 James E. Lamp from the Department of Public Works, City of Oconomowoc.

REMARKS.--Flows regulated at upstream lakes.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height observed, 9.96 ft, July 7, 1993; minimum observed, 7.72 ft, July 12, 1995.

EXTREMES FOR CURRENT YEAR.--Maximum gage height observed, 9.10 ft, Aug. 10; minimum observed, 7.72 ft, July 12.

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	---	---	8.86	---	---	---	---	---	---	---	---	---
2	---	---	---	---	8.86	8.66	---	---	---	---	---	---
3	---	8.58	---	8.78	8.87	---	---	8.96	---	---	8.00	---
4	---	---	---	---	---	---	8.82	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	8.84	---	---	---	---	---	8.86	---	---	---
7	8.66	---	---	---	---	---	---	---	---	---	---	8.40
8	---	---	---	---	8.88	---	---	---	8.67	---	---	---
9	---	---	---	---	---	8.54	---	---	---	---	9.10	---
10	---	8.88	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	8.98	---	7.73	---	---
12	---	---	8.86	8.80	---	---	8.70	---	---	7.72	---	8.50
13	8.72	---	---	---	---	---	---	---	8.74	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	8.80	8.66	---	---	---	---	---	---
16	---	8.92	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	9.02	---	---	8.96	---
18	---	---	---	8.80	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	8.68	---	---	---	---	---	8.88	---	---	7.82	---	8.62
21	---	---	8.82	---	---	---	---	---	---	---	8.94	---
22	---	---	---	---	---	---	---	---	8.56	---	8.90	---
23	---	---	---	---	8.72	8.68	---	9.00	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	8.84	---	---	8.90	---	---	---	---	---
27	---	---	---	---	---	---	---	---	8.46	7.88	---	---
28	8.60	---	---	---	---	---	---	---	---	---	---	8.70
29	---	---	---	---	---	8.76	---	---	---	---	8.70	---
30	---	8.88	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	8.94	---	---	---	---

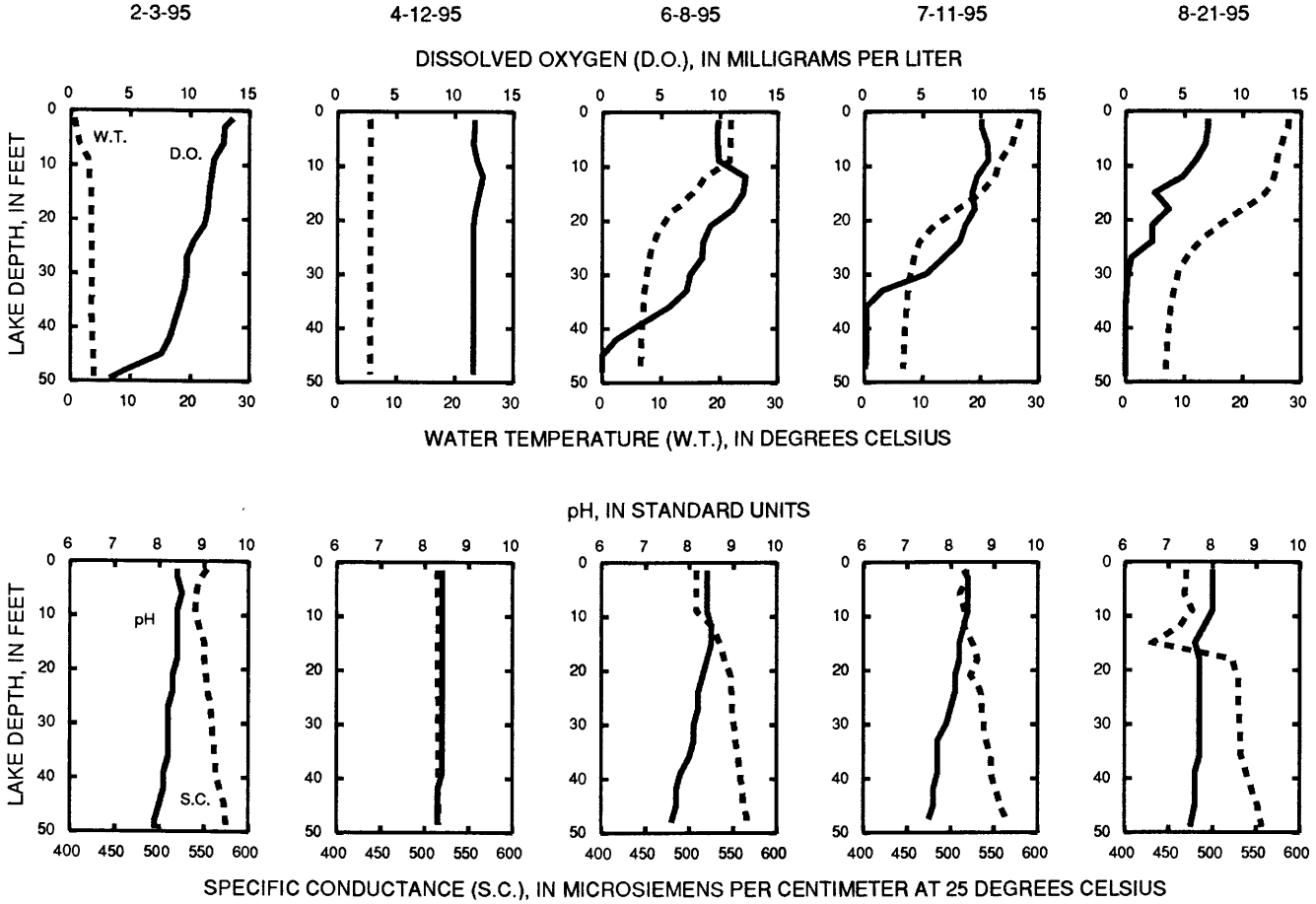
WATER-QUALITY RECORDS

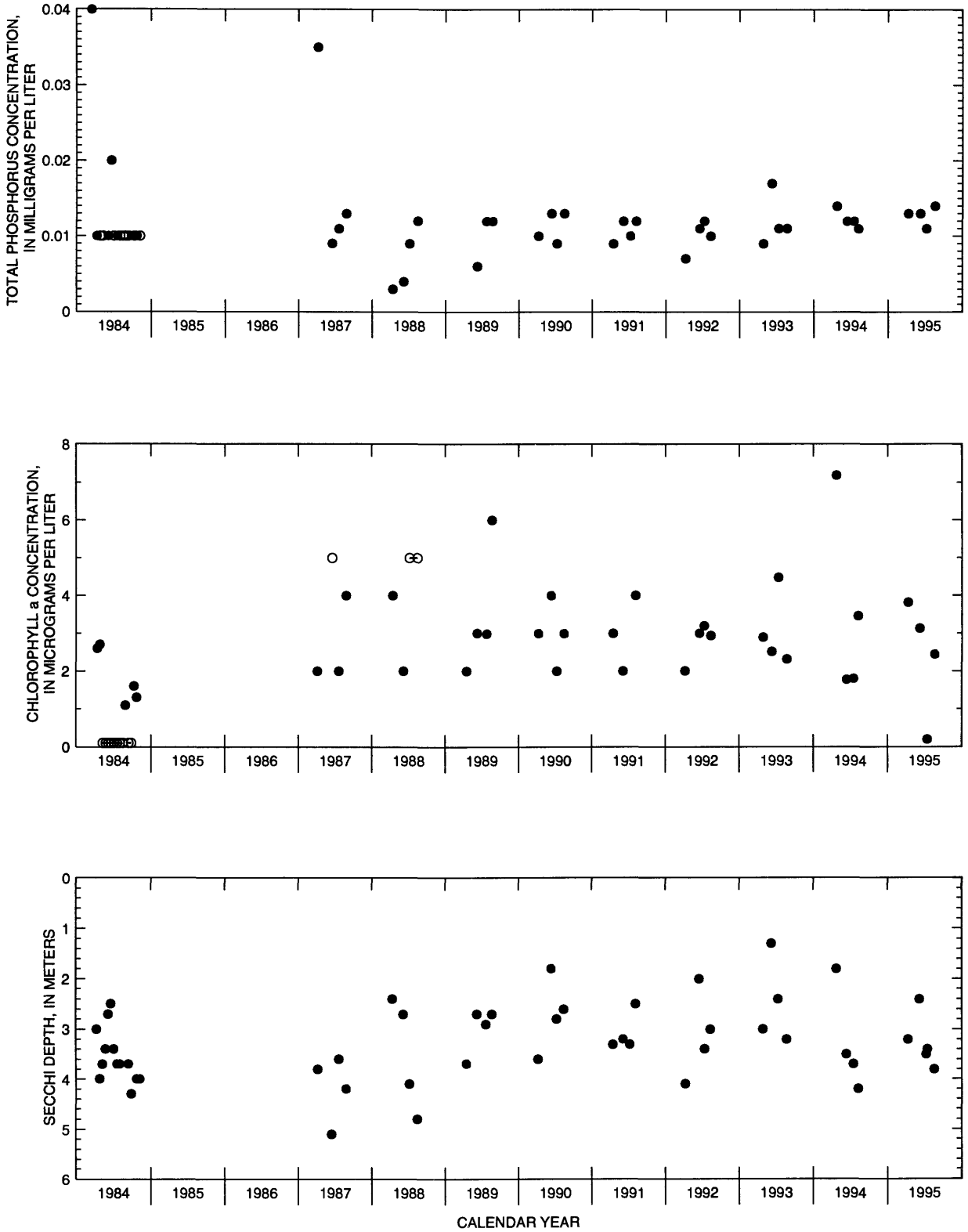
PERIOD OF RECORD.--January to December 1984 and February 1987 to current year.

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

WATER-QUALITY DATA, FEBRUARY 03 TO AUGUST 21, 1995
(Milligrams per liter unless otherwise indicated)

	Feb. 03		Apr. 12		June 08		July 11		July 17	Aug. 21	
Depth of sample (ft)	1.5	50	1.5	48	1.5	48	1.5	47	1.5	1.5	49
Lake stage (ft)	8.87		8.70		8.67		7.73		---	8.94	
Specific conductance (µS/cm)	553	577	515	516	507	567	518	565	501	469	557
pH (units)	8.4	7.9	8.4	8.3	8.4	7.6	8.3	7.5	8.3	8.0	7.5
Water temperature (°C)	0.5	4.0	5.5	5.5	22.0	6.5	27.0	6.5	28.0	28.0	7.0
Color (Pt-Co. scale)	---	---	25	25	---	---	---	---	---	---	---
Turbidity (NTU)	---	---	0.90	1.2	---	---	---	---	---	---	---
Secchi-depth (meters)	---		3.2		2.4		3.5		3.4	3.8	
Dissolved oxygen	13.6	3.3	11.7	11.6	9.9	0.0	10.1	0.1	8.3	7.0	0.0
Hardness, as CaCO3	---	---	250	250	---	---	---	---	---	---	---
Calcium, dissolved (Ca)	---	---	46	45	---	---	---	---	---	---	---
Magnesium, dissolved (Mg)	---	---	33	33	---	---	---	---	---	---	---
Sodium, dissolved (Na)	---	---	14	14	---	---	---	---	---	---	---
Potassium, dissolved (K)	---	---	2	2	---	---	---	---	---	---	---
Alkalinity, as CaCO3	---	---	210	210	---	---	---	---	---	---	---
Sulfate, dissolved (SO4)	---	---	27	27	---	---	---	---	---	---	---
Chloride, dissolved (Cl)	---	---	33	33	---	---	---	---	---	---	---
Fluoride, dissolved (F)	---	---	0.1	<0.1	---	---	---	---	---	---	---
Silica, dissolved (SiO2)	---	---	4.0	4.0	---	---	---	---	---	---	---
Solids, dissolved, at 180°C	---	---	306	306	---	---	---	---	---	---	---
Nitrogen, NO2 + NO3, diss. (as N)	---	---	0.17	0.17	---	---	---	---	---	---	---
Nitrogen, ammonia, dissolved (as N)	---	---	0.06	0.06	---	---	---	---	---	---	---
Nitrogen, organic, total (as N)	---	---	0.54	0.54	---	---	---	---	---	---	---
Nitrogen, amm. + org., total (as N)	---	---	0.60	0.60	---	---	---	---	---	---	---
Nitrogen, total (as N)	---	---	0.77	0.77	---	---	---	---	---	---	---
Phosphorus, total (as P)	---	---	0.013	0.013	0.013	0.060	0.011	0.129	---	0.014	0.147
Phosphorus, ortho, dissolved (as P)	---	---	0.002	0.002	---	---	---	---	---	---	---
Iron, dissolved (Fe) µg/L	---	---	<10	<10	---	---	---	---	---	---	---
Manganese, dissolved (Mn) µg/L	---	---	<0.4	<0.4	---	---	---	---	---	---	---
Chlorophyll a, phytoplankton (µg/L)	---	---	3.8	---	3.1	---	---	---	0.2	2.4	---





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

(Circles indicate laboratory detection limit for selected analyses. Actual concentrations for these particular analyses are less than the plotted circles.)

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., Green 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 current year.

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

REMARKS.--Estimated daily gage heights: July 11, 14-17. Records good except for September, which are fair. Lake level regulated by dam at outlet at Green Lake. Gage-height telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum recorded gage height, 6.76 ft, July 4, 1994, and Aug. 19-21, 1995; minimum recorded, 5.41 ft, Jan. 17, 1995.

EXTREMES FOR CURRENT YEAR.--Maximum recorded gage height, 6.76 ft, Aug. 19-21; minimum recorded, 5.41 ft, Jan.17.

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	6.42	5.94	5.71	5.54	5.51	5.54	6.42	6.37	6.49	6.28	6.31	6.59
2	6.43	5.91	5.69	5.53	5.51	5.54	6.44	6.37	6.48	6.24	6.31	6.57
3	6.41	5.90	5.69	5.51	5.51	5.54	6.48	6.38	6.47	6.22	6.35	6.54
4	6.41	5.90	5.68	5.49	5.51	5.54	6.47	6.38	6.48	6.21	6.40	6.51
5	6.41	5.90	5.69	5.47	5.51	5.56	6.45	6.38	6.47	6.24	6.41	6.49
6	6.40	5.94	5.69	5.46	5.51	5.57	6.47	6.38	6.46	6.32	6.40	6.47
7	6.40	5.93	5.69	5.46	5.51	5.63	6.47	6.37	6.53	6.28	6.41	6.42
8	6.40	5.92	5.68	5.46	5.51	5.63	6.50	6.38	6.49	6.25	6.43	6.38
9	6.39	5.91	5.68	5.44	5.51	5.64	6.49	6.46	6.48	6.24	6.44	6.36
10	6.35	5.90	5.67	5.43	5.51	5.64	6.52	6.54	6.49	6.21	---	6.33
11	6.33	5.90	5.65	5.43	5.52	5.65	6.56	6.56	6.49	6.21	---	6.30
12	6.31	5.89	5.63	5.43	5.52	5.72	6.61	6.55	6.49	6.22	---	6.28
13	6.28	5.90	5.62	5.44	5.52	5.79	6.59	6.53	6.49	6.23	---	6.28
14	6.27	5.95	5.60	5.45	5.51	5.83	6.56	6.57	6.49	6.24	6.62	6.26
15	6.25	5.90	5.60	5.45	5.50	5.88	6.52	6.55	6.48	6.25	6.60	6.24
16	6.24	5.87	5.60	5.44	5.50	5.91	6.50	6.53	6.47	6.26	6.65	6.24
17	6.26	5.86	5.61	5.45	5.50	5.94	6.49	6.52	6.47	6.27	6.71	6.22
18	6.28	5.89	5.60	5.45	5.50	5.96	6.51	6.49	6.47	6.29	6.71	6.22
19	6.30	5.80	5.59	5.46	5.50	5.99	6.53	6.48	6.45	6.27	6.73	6.22
20	6.27	5.78	5.58	5.49	5.51	6.07	6.49	6.48	6.44	6.26	6.75	6.23
21	6.23	5.85	5.57	5.50	5.51	6.14	6.47	6.46	6.41	6.26	6.75	6.22
22	6.22	5.82	5.58	5.51	5.51	6.14	6.45	6.45	6.38	6.25	6.74	6.22
23	6.23	5.76	5.57	5.51	5.52	6.16	6.42	6.47	6.34	6.28	6.73	6.20
24	6.18	5.74	5.57	5.51	5.52	6.18	6.41	6.46	6.33	6.27	6.67	6.19
25	6.13	5.73	5.56	5.50	5.53	6.19	6.39	6.46	6.34	6.28	6.65	6.18
26	6.09	5.68	5.56	5.50	5.53	6.20	6.36	6.44	6.31	6.26	6.64	6.18
27	6.06	5.69	5.55	5.50	5.53	6.26	6.38	6.42	6.33	6.26	6.61	6.18
28	6.04	5.82	5.55	5.50	5.54	6.33	6.37	6.55	6.33	6.33	6.64	6.17
29	6.01	5.75	5.53	5.50	---	6.36	6.37	6.55	6.35	6.32	---	6.17
30	5.99	5.72	5.53	5.50	---	6.39	6.37	6.52	6.34	6.32	---	6.16
31	5.96	---	5.53	5.51	---	6.41	---	6.50	---	6.32	---	---
MEAN	6.26	5.85	5.61	5.48	5.51	5.91	6.47	6.47	6.43	6.26	---	6.30
MAX	6.43	5.95	5.71	5.54	5.54	6.41	6.61	6.57	6.53	6.33	---	6.59
MIN	5.96	5.68	5.53	5.43	5.50	5.54	6.36	6.37	6.31	6.21	---	6.16

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.

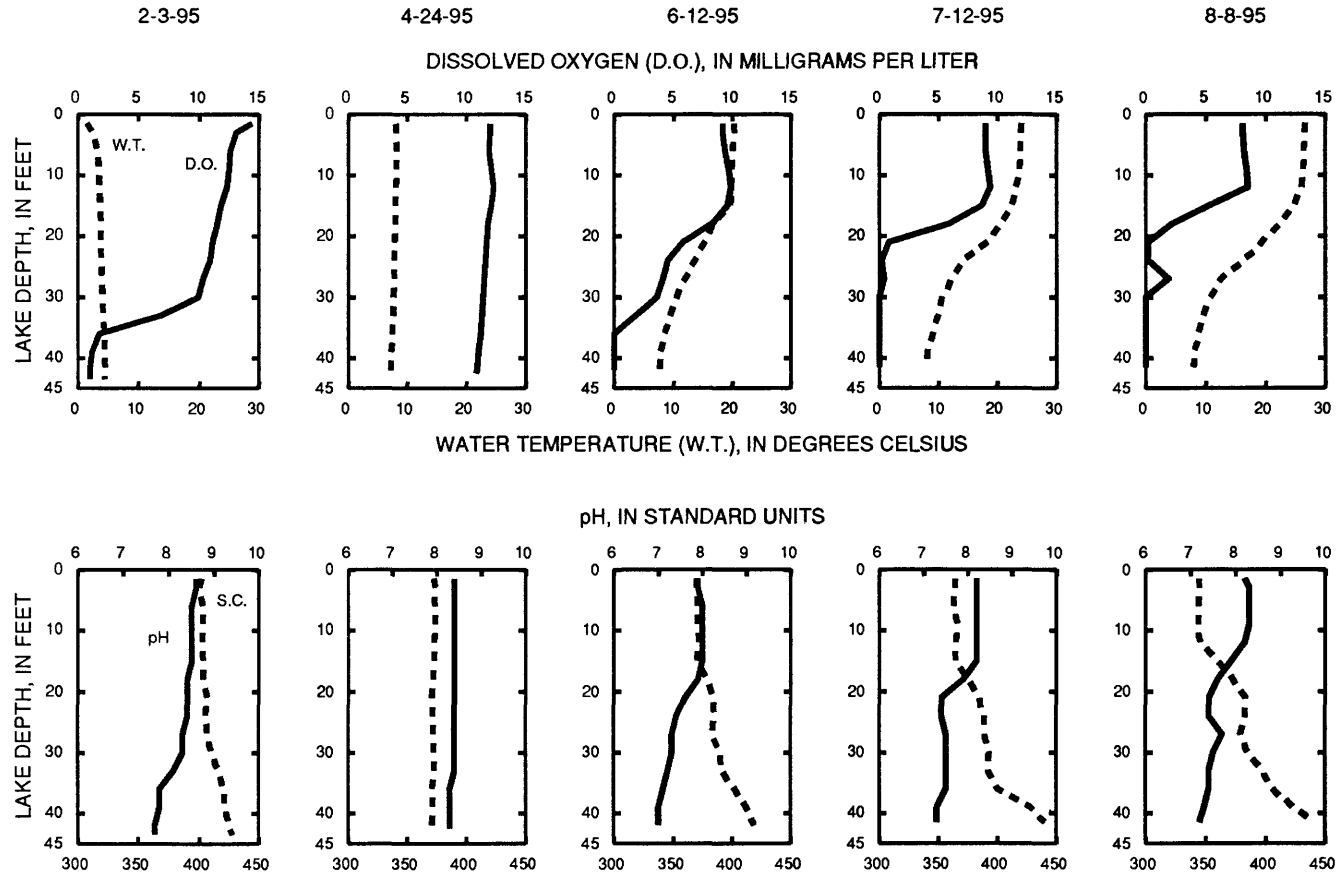
LAKE-STAGE GAGE.--Datum of gage is 947.09 ft above sea level.

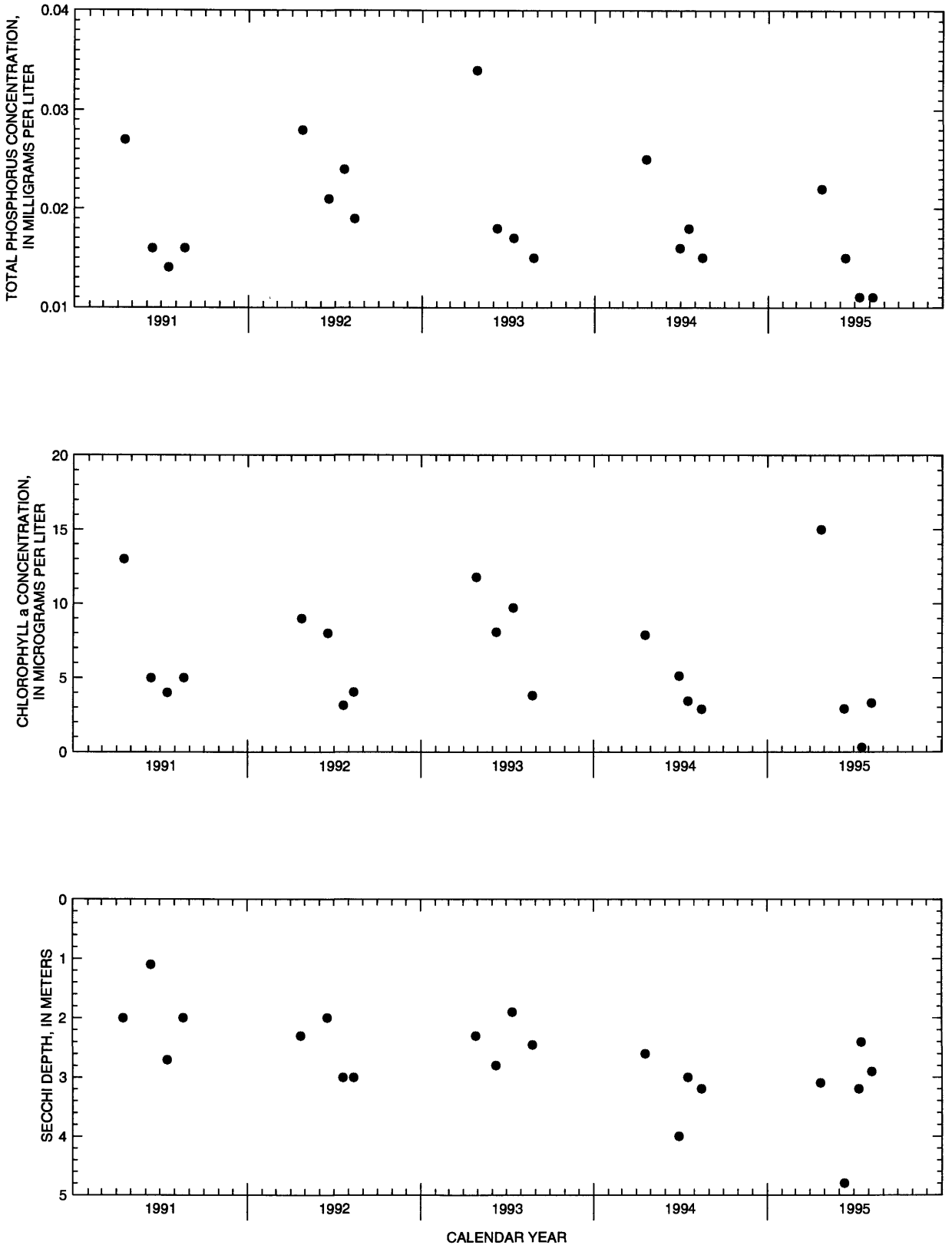
REMARKS.--Lake sampled in east bay at the deep hole. Lake ice-covered during February measurements. Water-quality analyses done by Wisconsin State Laboratory of Hygiene.

WATER-QUALITY DATA, FEBRUARY 03 TO AUGUST 08, 1995

(Milligrams per liter unless otherwise indicated)

	Feb. 03		Apr. 24		June 12		July 12		July 18	Aug. 08	
Depth of sample (ft)	3.0	44	1.5	42	1.5	42	1.5	41	1.5	1.5	41
Lake stage (ft)	---		11.09		11.02		10.72		---	10.63	
Specific conductance (µS/cm)	400	428	373	373	370	419	365	440	358	344	441
pH (units)	8.6	7.7	8.4	8.3	7.9	7.0	8.2	7.3	8.3	8.2	7.2
Water temperature (°C)	2.5	4.5	8.0	7.0	20.5	7.5	24.0	8.0	26.5	26.5	8.0
Color (Pt-Co. scale)	---	---	10	10	---	---	---	---	---	---	---
Turbidity (NTU)	---	---	1.5	1.6	---	---	---	---	---	---	---
Secchi-depth (meters)	---		3.1		4.8		3.2		2.4	2.9	
Dissolved oxygen	13.1	1.0	12.1	10.8	9.2	0.0	9.0	0.0	8.0	8.1	0.0
Hardness, as CaCO3	---	---	190	190	---	---	---	---	---	---	---
Calcium, dissolved (Ca)	---	---	39	39	---	---	---	---	---	---	---
Magnesium, dissolved (Mg)	---	---	23	23	---	---	---	---	---	---	---
Sodium, dissolved (Na)	---	---	7.0	7.0	---	---	---	---	---	---	---
Potassium, dissolved (K)	---	---	2	2	---	---	---	---	---	---	---
Alkalinity, as CaCO3	---	--	170	170	---	---	---	---	---	---	---
Sulfate, dissolved (SO4)	---	---	11	11	---	---	---	---	---	---	---
Chloride, dissolved (Cl)	---	---	16	17	---	---	---	---	---	---	---
Fluoride, dissolved (F)	---	---	<0.1	<0.1	---	---	---	---	---	---	---
Silica, dissolved (SiO2)	---	---	0.0	0.1	---	---	---	---	---	---	---
Solids, dissolved, at 180°C	---	---	220	222	---	---	---	---	---	---	---
Nitrogen, NO2 + NO3, diss. (as N)	---	---	0.02	0.02	---	---	---	---	---	---	---
Nitrogen, ammonia, dissolved (as N)	---	---	0.04	0.07	---	---	---	---	---	---	---
Nitrogen, organic, total (as N)	---	---	0.76	0.73	---	---	---	---	---	---	---
Nitrogen, amm. + org., total (as N)	---	---	0.80	0.80	---	---	---	---	---	---	---
Nitrogen, total (as N)	---	---	0.82	0.82	---	---	---	---	---	---	---
Phosphorus, total (as P)	---	---	0.022	0.023	0.015	0.473	0.011	0.569	---	0.011	0.534
Phosphorus, ortho, dissolved (as P)	---	---	<0.002	0.002	---	---	---	---	---	---	---
Iron, dissolved (Fe) µg/L	---	---	<10	<10	---	---	---	---	---	---	---
Manganese, dissolved (Mn) µg/L	---	---	0.9	4	---	---	---	---	---	---	---
Chlorophyll a, phytoplankton (µg/L)	---	---	15	---	2.9	---	---	---	0.3	3.3	---





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.

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

LAKE-STAGE GAGE.--Datum of gage is 947.09 ft above sea level.

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

WATER-QUALITY DATA, APRIL 24 TO AUGUST 08, 1995

(Milligrams per liter unless otherwise indicated)

	Apr. 24	June 12	July 12	July 18	Aug. 08
Depth of sample (ft)	1.5	1.5	1.5	1.5	1.5
Lake stage (ft)	11.09	11.02	10.72	---	10.63
Specific conductance (µS/cm)	372	370	368	358	345
pH (units)	8.5	8.1	8.5	8.4	8.4
Water temperature (°C)	8.5	20.0	24.0	26.5	27.0
Secchi-depth (meters)	3.1	1.5	2.9	2.4	3.1
Dissolved oxygen	12.3	9.3	9.2	8.3	8.2
Phosphorus, total (as P)	0.022	0.016	0.013	---	0.013
Chlorophyll a, phytoplankton (µg/L)	11	3.6	---	0.2	3.2

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 recorded gage height, 12.23 ft, Apr. 25, 1993; minimum recorded, 5.40 ft, Dec. 26, 27, 1989.

EXTREMES FOR CURRENT YEAR.--Maximum recorded gage height, 8.10 ft, Aug. 23; minimum recorded, 5.45 ft, Jan. 13, 14.

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	6.05	5.70	5.92	5.93	5.93	5.79	7.00	7.50	7.00	6.22	6.22	7.47
2	6.01	5.66	5.92	5.88	5.91	5.77	7.01	7.55	6.92	6.17	6.18	7.34
3	5.97	5.68	5.92	5.85	5.89	5.75	7.05	7.56	6.86	6.14	6.17	7.22
4	5.96	5.70	5.91	5.81	5.87	5.73	7.06	7.55	6.79	6.13	6.17	7.14
5	5.92	5.73	5.91	5.76	5.85	5.71	6.94	7.55	6.70	6.21	6.15	7.05
6	5.88	5.88	5.88	5.72	5.82	5.70	6.93	7.49	6.62	6.25	6.13	6.94
7	5.86	5.87	5.91	5.68	5.79	5.69	6.86	7.43	6.58	6.25	6.13	6.84
8	5.88	5.95	5.86	5.63	5.76	5.66	6.88	7.35	6.50	6.20	6.18	6.73
9	5.89	5.98	5.84	5.59	5.73	5.63	6.81	7.33	6.43	6.21	6.24	6.63
10	5.85	5.95	5.82	5.55	5.71	5.62	6.71	7.38	6.43	6.20	6.39	6.54
11	5.82	5.90	5.79	5.51	5.73	5.64	6.73	7.41	6.43	6.18	6.52	6.45
12	5.84	5.87	5.76	5.48	5.76	5.71	6.75	7.45	6.42	6.16	6.63	6.39
13	5.85	5.84	5.74	5.46	5.77	5.85	6.83	7.50	6.42	6.15	6.72	6.37
14	5.87	5.86	5.72	5.52	5.79	6.05	6.81	7.64	6.41	6.14	6.83	6.32
15	5.87	5.82	5.69	5.63	5.80	6.27	6.80	7.68	6.38	6.17	6.90	6.25
16	5.88	5.79	5.69	5.71	5.80	6.48	6.81	7.71	6.32	6.37	7.00	6.25
17	5.88	5.71	5.69	5.89	5.81	6.66	6.80	7.76	6.28	6.35	7.22	6.24
18	5.88	5.77	5.71	6.00	5.82	6.78	6.81	7.75	6.23	6.30	7.47	6.22
19	5.91	5.74	5.73	6.09	5.83	6.86	6.89	7.76	6.20	6.26	7.68	6.22
20	5.90	5.73	5.73	6.12	5.85	6.98	6.89	7.76	6.19	6.32	7.85	6.27
21	5.88	5.80	5.77	6.12	5.83	7.05	6.95	7.73	6.17	6.29	7.97	6.28
22	5.87	5.79	5.80	6.13	5.82	7.06	6.99	7.66	6.18	6.26	8.05	6.30
23	5.88	5.79	5.84	6.13	5.82	7.08	7.02	7.63	6.19	6.27	8.07	6.26
24	5.87	5.82	5.87	6.11	5.82	7.07	7.05	7.58	6.17	6.25	8.07	6.23
25	5.83	5.86	5.88	6.09	5.82	7.04	7.08	7.52	6.14	6.24	8.03	6.19
26	5.79	5.86	5.90	6.07	5.81	6.98	7.10	7.42	6.13	6.26	7.96	6.14
27	5.76	5.86	5.93	6.05	5.81	6.95	7.26	7.28	6.17	6.25	7.89	6.08
28	5.72	6.01	5.95	6.02	5.81	6.96	7.31	7.27	6.22	6.31	7.85	6.06
29	5.72	5.97	5.94	5.99	---	6.94	7.38	7.21	6.23	6.28	7.81	6.06
30	5.70	5.95	5.93	5.96	---	6.96	7.45	7.11	6.26	6.26	7.69	6.07
31	5.70	---	5.93	5.95	---	6.98	---	7.05	---	6.24	7.58	---
MEAN	5.86	5.83	5.83	5.85	5.81	6.37	6.97	7.50	6.40	6.24	7.09	6.48
MAX	6.05	6.01	5.95	6.13	5.93	7.08	7.45	7.76	7.00	6.37	8.07	7.47
MIN	5.70	5.66	5.69	5.46	5.71	5.62	6.71	7.05	6.13	6.13	6.13	6.06

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.--Staff gage read by Glyn A. Roberts.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height observed, 8.00 ft, Sept. 16, 1994; minimum observed, 7.72 ft, Feb. 28, June 12, 1991, and Oct. 13, 1994.

EXTREMES FOR CURRENT YEAR.--Maximum gage height observed, 7.98 ft, Aug. 14; minimum observed, 7.72 ft, Oct. 13.

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	---	---	---	---	---	---	---	---	---	---	---	---
2	7.76	---	---	---	---	---	---	---	---	---	7.84	7.82
3	7.74	7.82	---	---	7.82	---	7.84	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	7.82	---	---	7.80	---	7.86	7.88	---	---	---
6	---	---	---	7.80	---	---	---	---	---	7.82	---	---
7	7.74	---	---	---	---	---	7.82	---	7.88	---	7.90	---
8	---	7.80	---	---	---	---	---	---	---	---	---	7.82
9	---	---	7.82	---	7.82	---	---	7.90	---	---	7.84	---
10	7.74	---	---	---	---	7.80	---	---	---	7.82	---	---
11	---	7.78	---	---	---	---	---	---	---	---	---	---
12	---	---	---	7.80	---	---	---	---	7.80	---	---	---
13	7.72	---	---	---	---	---	7.86	---	---	---	---	7.80
14	---	---	7.82	---	---	---	---	---	7.80	7.80	7.98	---
15	---	---	---	---	7.82	---	---	---	7.80	---	---	---
16	---	7.80	---	---	7.81	7.82	---	7.92	---	---	---	---
17	7.78	---	---	7.80	---	---	---	---	---	---	7.87	7.76
18	---	---	---	---	---	---	---	---	---	---	---	---
19	7.86	---	7.82	---	---	---	7.88	---	7.80	---	---	---
20	---	---	---	---	---	7.84	---	---	---	7.87	---	---
21	---	---	---	---	---	---	---	---	---	7.85	7.80	---
22	---	7.80	---	---	7.82	---	---	---	---	---	---	---
23	---	---	7.82	7.82	---	---	7.84	7.86	---	---	---	---
24	---	---	---	---	---	7.84	---	---	---	---	---	7.76
25	---	---	---	---	---	---	---	---	---	---	---	---
26	7.84	---	---	---	---	---	---	---	7.79	---	---	---
27	---	7.82	7.80	---	---	---	7.83	---	---	---	7.86	---
28	---	---	---	7.82	7.82	---	---	---	---	7.92	---	7.82
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	7.84	---	---	---	7.84	7.80	7.85	7.84	---	---	---
31	7.84	---	7.80	7.82	---	---	---	---	---	---	---	---

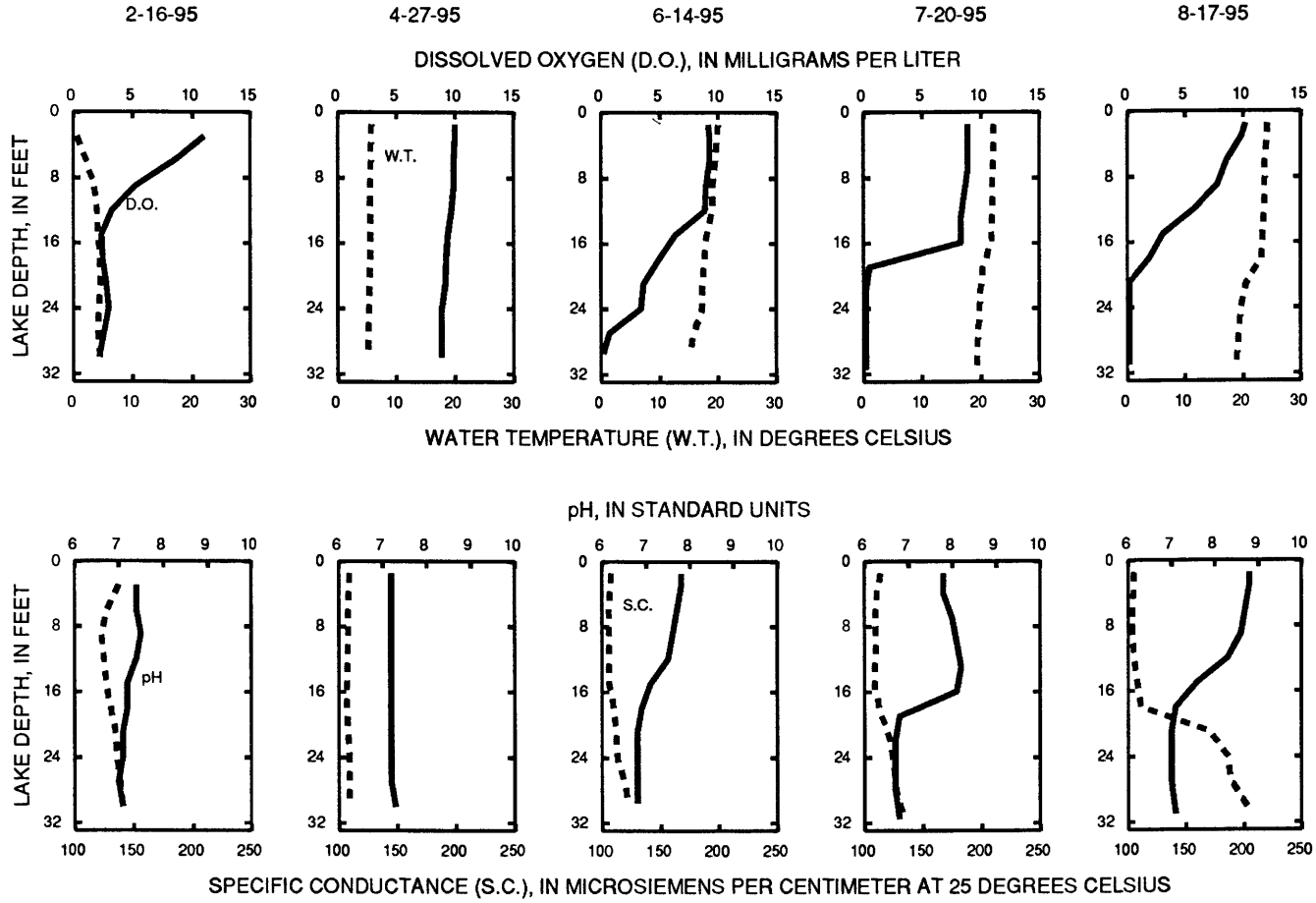
WATER-QUALITY RECORDS

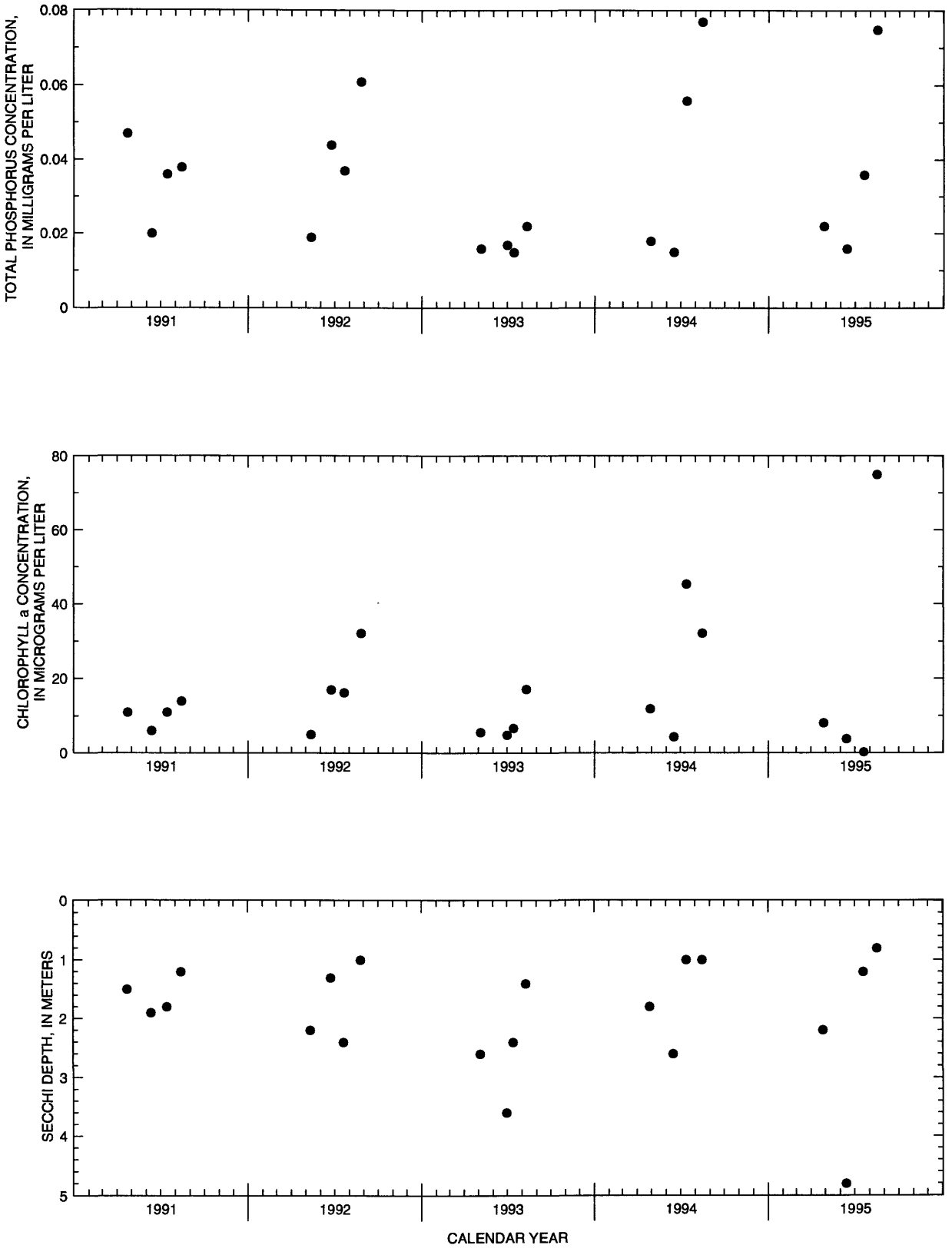
PERIOD OF RECORD.--February 1991 to current year.

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

WATER-QUALITY DATA, FEBRUARY 16 TO AUGUST 17, 1995
(Milligrams per liter unless otherwise indicated)

	Feb. 16		Apr. 27		June 14		July 20		Aug. 17	
Depth of sample (ft)	3.0	30	1.5	30	1.5	29	1.5	31	1.5	31
Lake stage (ft)	7.81		7.83		7.80		7.87		7.87	
Specific conductance (µS/cm)	138	141	109	109	108	123	114	134	105	207
pH (units)	7.4	7.1	7.2	7.3	7.8	6.8	7.8	6.8	8.8	7.1
Water temperature (°C)	0.5	4.5	6.0	5.0	20.0	15.0	22.0	19.5	24.0	19.0
Color (Pt-Co. scale)	---	---	10	10	---	---	---	---	---	---
Turbidity (NTU)	---	---	1.9	2.5	---	---	---	---	---	---
Secchi-depth (meters)	---		2.2		4.8		1.2		0.8	
Dissolved oxygen	11.0	2.2	10.0	8.9	9.2	0.2	8.9	0.2	10.2	0.2
Hardness, as CaCO3	---	---	54	54	---	---	---	---	---	---
Calcium, dissolved (Ca)	---	---	15	15	---	---	---	---	---	---
Magnesium, dissolved (Mg)	---	---	4.0	4.1	---	---	---	---	---	---
Sodium, dissolved (Na)	---	---	2.6	2.6	---	---	---	---	---	---
Potassium, dissolved (K)	---	---	0.8	0.7	---	---	---	---	---	---
Alkalinity, as CaCO3	---	---	50	52	---	---	---	---	---	---
Sulfate, dissolved (SO4)	---	---	6.0	4.0	---	---	---	---	---	---
Chloride, dissolved (Cl)	---	---	2.6	2.7	---	---	---	---	---	---
Fluoride, dissolved (F)	---	---	<0.1	<0.1	---	---	---	---	---	---
Silica, dissolved (SiO2)	---	---	9.7	5.4	---	---	---	---	---	---
Solids, dissolved, at 180°C	---	---	66	70	---	---	---	---	---	---
Nitrogen, NO2 + NO3, diss. (as N)	---	---	0.05	0.05	---	---	---	---	---	---
Nitrogen, ammonia, dissolved (as N)	---	---	0.03	0.07	---	---	---	---	---	---
Nitrogen, organic, total (as N)	---	---	0.37	0.43	---	---	---	---	---	---
Nitrogen, amm. + org., total (as N)	---	---	0.40	0.50	---	---	---	---	---	---
Nitrogen, total (as N)	---	---	0.45	0.55	---	---	---	---	---	---
Phosphorus, total (as P)	---	---	0.022	0.027	0.016	0.036	0.036	0.075	0.075	0.486
Phosphorus, ortho, dissolved (as P)	---	---	0.003	0.003	---	---	---	---	---	---
Iron, dissolved (Fe) µg/L	---	---	50	70	---	---	---	---	---	---
Manganese, dissolved (Mn) µg/L	---	---	140	160	---	---	---	---	---	---
Chlorophyll a, phytoplankton (µg/L)	---	---	8.1	---	3.8	---	0.1	---	75	---





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

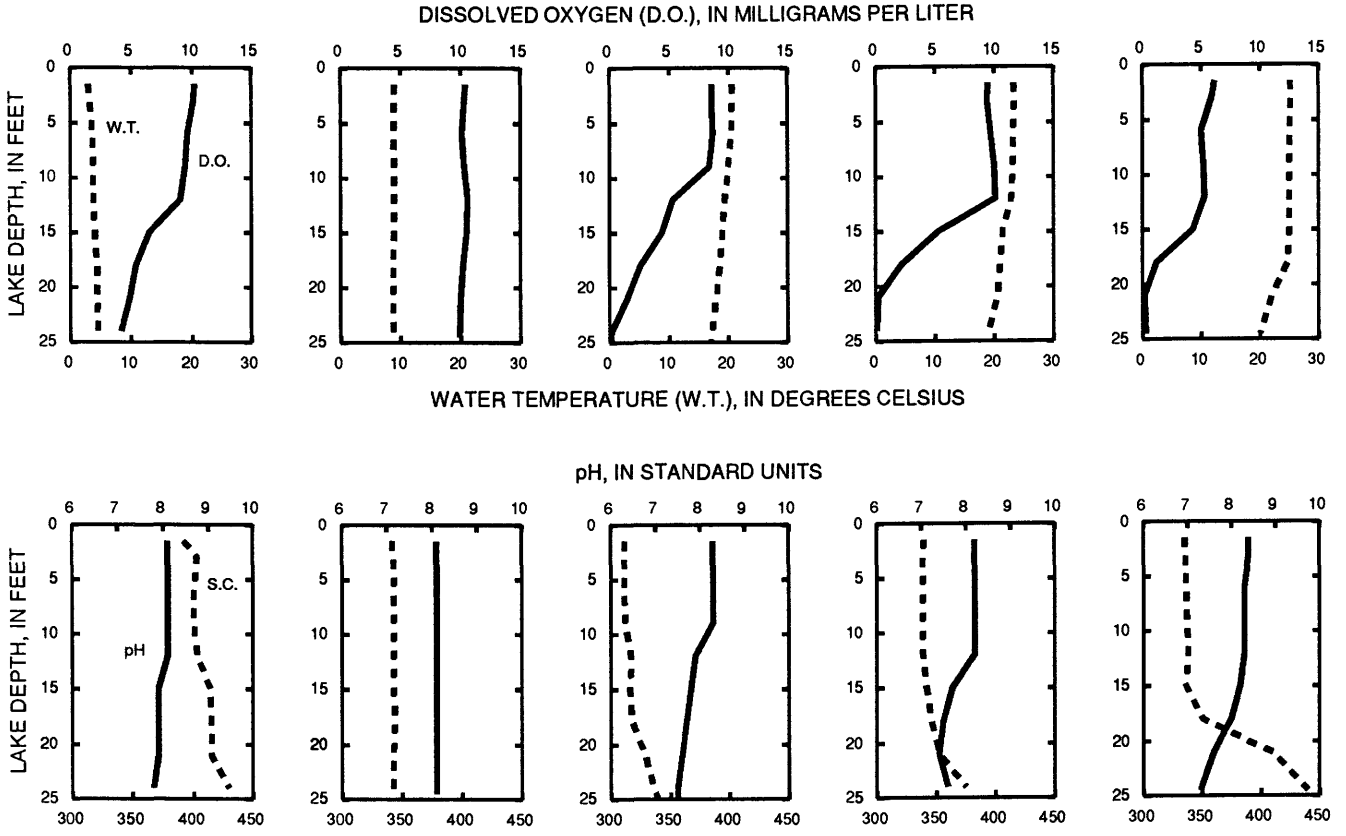
LOCATION--Lat 43°44'12", long 88°59'07", in SW 1/4 SW 1/4 sec.29, T.15 N., R.13 E., Green Lake County, Hydrologic Unit 04030201, 2 mi north of Markesan.

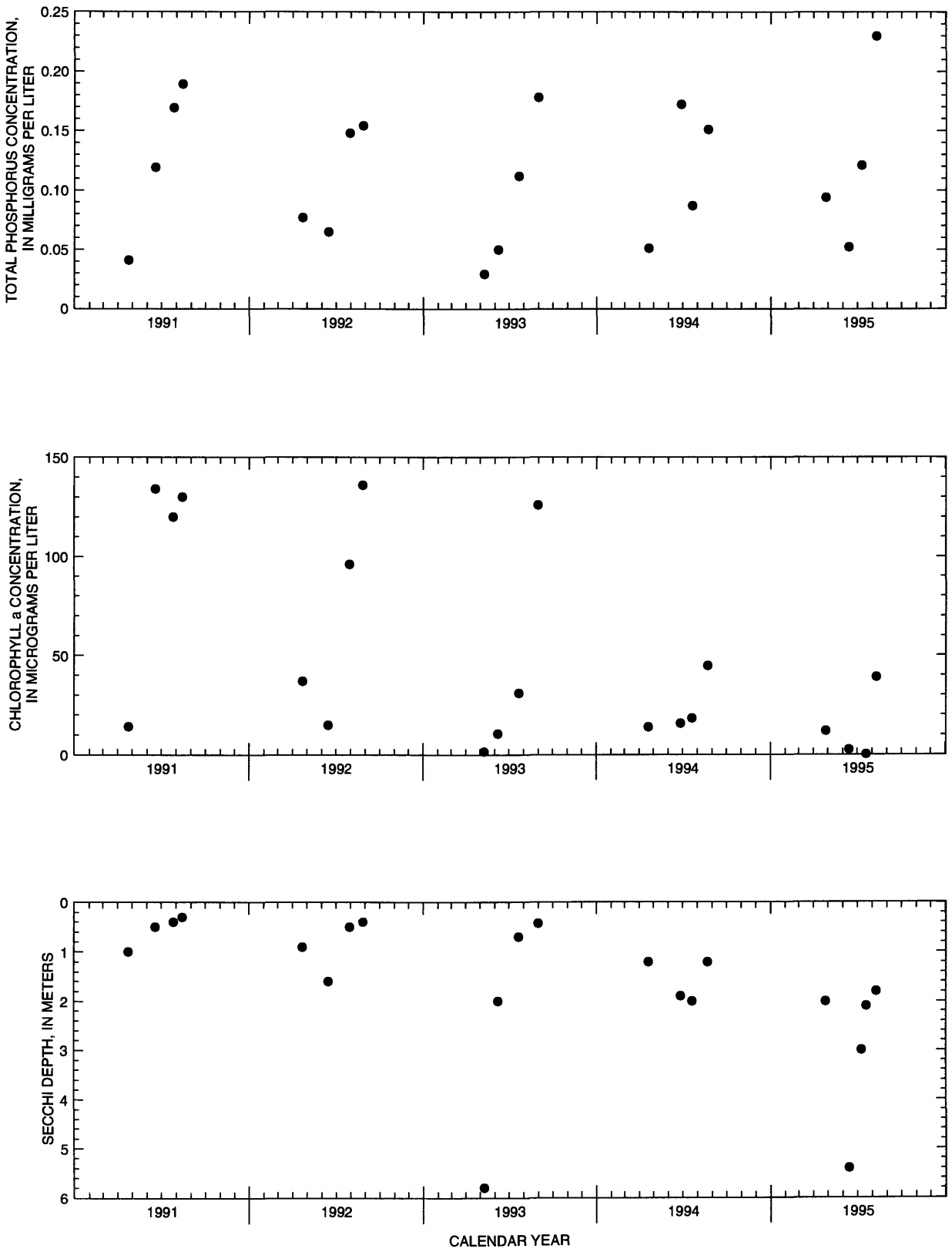
PERIOD OF RECORD.--February 1991 to current year.

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

WATER-QUALITY DATA, FEBRUARY 23 TO AUGUST 10, 1995
(Milligrams per liter unless otherwise indicated)

	Feb. 23		Apr. 27		June 14		July 10		July 20	Aug. 10	
Depth of sample (ft)	1.5	24	1.5	24	1.5	25	1.5	24	1.5	1.5	24
Lake stage (ft)	6.12		6.37		6.28		5.94		---	6.06	
Specific conductance (µS/cm)	392	430	342	343	312	340	340	375	339	335	440
pH (units)	8.1	7.8	8.1	8.1	8.3	7.5	8.2	7.6	8.5	8.4	7.3
Water temperature (°C)	3.0	4.5	9.0	9.0	20.5	17.0	23.5	19.0	25.0	25.0	20.5
Color (Pt-Co. scale)	---	---	10	10	---	---	---	---	---	---	---
Turbidity (NTU)	---	---	1.5	1.3	---	---	---	---	---	---	---
Secchi-depth (meters)	---		2.0		5.4		3.0		2.1	1.8	
Dissolved oxygen	10.2	4.2	10.4	9.9	8.6	0.1	9.5	0.1	7.6	6.2	0.3
Hardness, as CaCO3	---	---	170	170	---	---	---	---	---	---	---
Calcium, dissolved (Ca)	---	---	33	33	---	---	---	---	---	---	---
Magnesium, dissolved (Mg)	---	---	22	22	---	---	---	---	---	---	---
Sodium, dissolved (Na)	---	---	6.8	6.7	---	---	---	---	---	---	---
Potassium, dissolved (K)	---	---	4	4	---	---	---	---	---	---	---
Alkalinity, as CaCO3	---	---	150	150	---	---	---	---	---	---	---
Sulfate, dissolved (SO4)	---	---	12	12	---	---	---	---	---	---	---
Chloride, dissolved (Cl)	---	---	15	15	---	---	---	---	---	---	---
Fluoride, dissolved (F)	---	---	<0.1	<0.1	---	---	---	---	---	---	---
Silica, dissolved (SiO2)	---	---	<0.1	0.1	---	---	---	---	---	---	---
Solids, dissolved, at 180°C	---	---	188	190	---	---	---	---	---	---	---
Nitrogen, NO2 + NO3, diss. (as N)	---	---	<0.01	<0.01	---	---	---	---	---	---	---
Nitrogen, ammonia, dissolved (as N)	---	---	<0.03	<0.03	---	---	---	---	---	---	---
Nitrogen, organic, total (as N)	---	---	0.80	0.80	---	---	---	---	---	---	---
Nitrogen, amm. + org., total (as N)	---	---	0.80	0.80	---	---	---	---	---	---	---
Nitrogen, total (as N)	---	---	0.80	0.80	---	---	---	---	---	---	---
Phosphorus, total (as P)	---	---	0.094	0.038	0.052	0.192	0.121	0.365	---	0.230	1.4
Phosphorus, ortho, dissolved (as P)	---	---	<0.002	<0.002	---	---	---	---	---	---	---
Iron, dissolved (Fe) µg/L	---	---	<10	<10	---	---	---	---	---	---	---
Manganese, dissolved (Mn) µg/L	---	---	<0.4	0.4	---	---	---	---	---	---	---
Chlorophyll a, phytoplankton (µg/L	---	---	12	---	2.5	---	---	---	0.1	39	---
	2-23-95		4-27-95		6-14-95		7-10-95			8-10-95	





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.

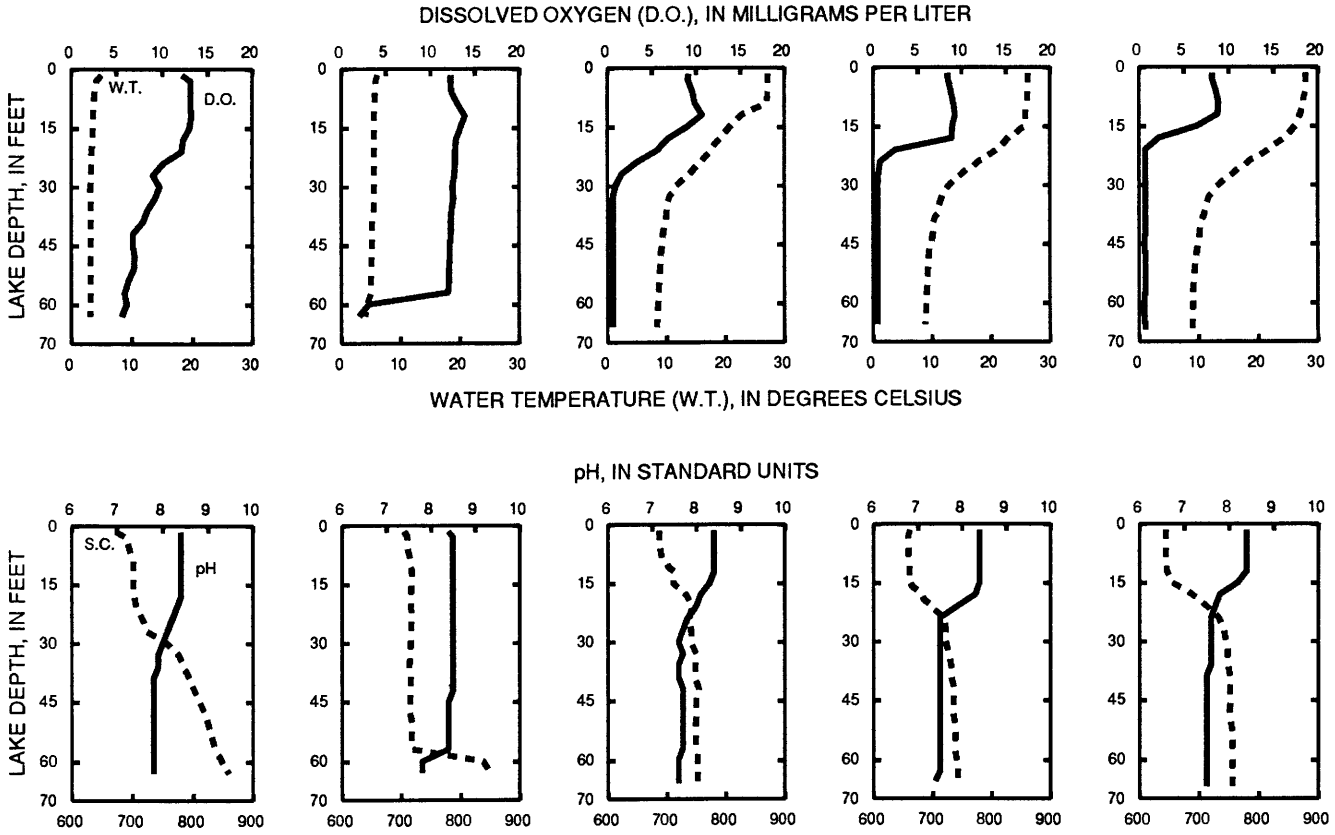
LAKE-STAGE GAGE.--Datum of gage is 693.40 ft above sea level.

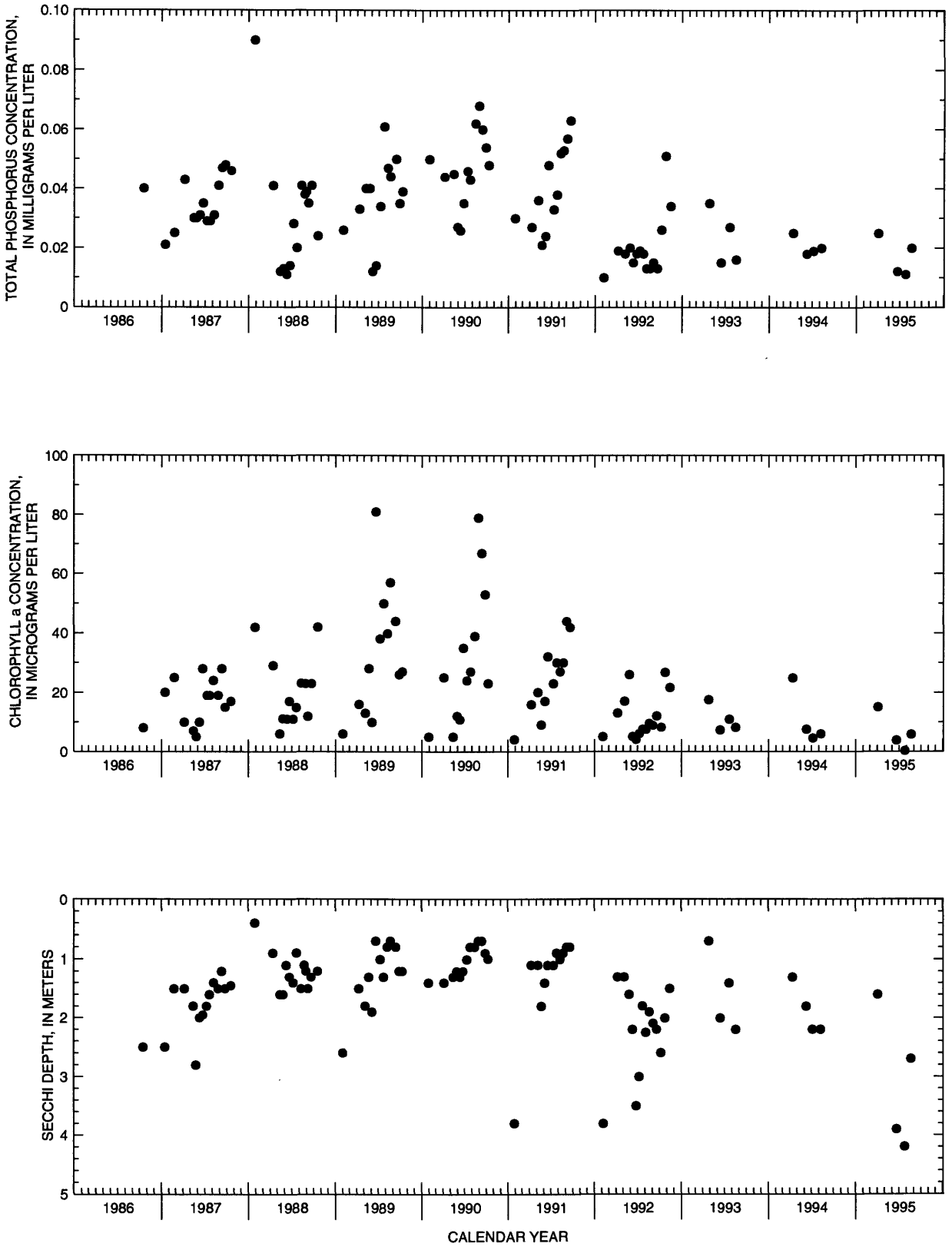
REMARKS.--Lake sampled about 1,000 ft north-northwest of dam outlet at the deep hole. An aeration system was operated from April to November for the years 1987-91. Lake ice-covered during February measurements. Water-quality analyses done by Wisconsin State Laboratory of Hygiene. Prior to October 1987, published under station number 425450088083500.

WATER-QUALITY DATA, FEBRUARY 22 TO AUGUST 21, 1995

(Milligrams per liter unless otherwise indicated)

	Feb. 22		Apr. 03		June 21		July 25		Aug. 21	
Depth of sample (ft)	1.5	63	1.5	63	1.5	66	1.5	65	1.5	67
Lake stage (ft)	---		---		98.73		98.81		99.19	
Specific conductance (µS/cm)	674	859	706	850	687	753	661	744	644	757
pH (units)	8.4	7.8	8.4	7.8	8.4	7.6	8.4	7.4	8.4	7.5
Water temperature (°C)	5.0	3.0	6.0	4.0	27.0	8.5	26.5	9.0	28.0	9.0
Color (Pt-Co. scale)	---	---	15	15	---	---	---	---	---	---
Turbidity (NTU)	---	---	2.1	2.1	---	---	---	---	---	---
Secchi-depth (meters)	---		1.6		3.9		4.2		2.7	
Dissolved oxygen	12.2	5.6	12.3	2.0	9.2	0.6	8.4	0.5	8.2	0.7
Hardness, as CaCO3	---	---	260	310	---	---	---	---	---	---
Calcium, dissolved (Ca)	---	---	50	60	---	---	---	---	---	---
Magnesium, dissolved (Mg)	---	---	34	38	---	---	---	---	---	---
Sodium, dissolved (Na)	---	---	44	45	---	---	---	---	---	---
Potassium, dissolved (K)	---	---	2	2	---	---	---	---	---	---
Alkalinity, as CaCO3	---	---	210	240	---	---	---	---	---	---
Sulfate, dissolved (SO4)	---	---	37	42	---	---	---	---	---	---
Chloride, dissolved (Cl)	---	---	90	95	---	---	---	---	---	---
Fluoride, dissolved (F)	---	---	0.1	0.1	---	---	---	---	---	---
Silica, dissolved (SiO2)	---	---	0.2	3.7	---	---	---	---	---	---
Solids, dissolved, at 180°C	---	---	394	444	---	---	---	---	---	---
Nitrogen, NO2 + NO3, diss. (as N)	---	---	0.18	0.19	---	---	---	---	---	---
Nitrogen, ammonia, dissolved (as N)	---	---	0.09	0.48	---	---	---	---	---	---
Nitrogen, organic, total (as N)	---	---	0.61	0.52	---	---	---	---	---	---
Nitrogen, amm. + org., total (as N)	---	---	0.70	1.0	---	---	---	---	---	---
Nitrogen, total (as N)	---	---	0.88	1.2	---	---	---	---	---	---
Phosphorus, total (as P)	---	---	0.025	0.023	0.012	0.149	0.011	0.197	0.020	0.252
Phosphorus, ortho, dissolved (as P)	---	---	0.005	<0.002	---	---	---	---	---	---
Iron, dissolved (Fe) µg/L	---	---	<10	<10	---	---	---	---	---	---
Manganese, dissolved (Mn) µg/L	---	---	<0.4	110	---	---	---	---	---	---
Chlorophyll a, phytoplankton (µg/L)	---	---	15	---	3.7	---	0.1	---	5.7	---
	2-22-95	4-3-95		6-21-95		7-25-95			8-21-95	





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, 27.12 ft, May 16-17; minimum observed gage height, 26.52 ft, Sept. 29-30.

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	26.86	26.83	26.87	26.80	26.76	26.75	26.89	26.98	27.10	26.94	26.86	26.74
2	26.84	26.82	26.87	26.79	26.76	26.74	26.89	26.98	27.09	26.92	26.84	26.72
3	26.82	26.82	26.87	26.78	26.75	26.74	26.89	26.97	27.10	26.90	26.83	26.70
4	26.81	26.82	26.87	26.77	26.75	26.74	26.89	26.97	27.10	26.89	26.83	26.70
5	26.81	26.81	26.87	26.78	26.74	26.76	26.89	26.96	27.09	26.89	26.82	26.69
6	26.80	26.80	26.86	26.78	26.74	26.77	26.90	26.95	27.08	26.89	26.80	26.67
7	26.80	26.79	26.86	26.78	26.75	26.80	26.90	26.95	27.09	26.90	26.81	26.65
8	26.81	26.79	26.85	26.78	26.74	26.79	26.90	26.95	27.07	26.88	26.82	26.63
9	26.79	26.79	26.85	26.77	26.74	26.79	26.90	27.03	27.06	26.88	26.81	26.61
10	26.79	26.78	26.85	26.77	26.75	26.79	26.90	27.04	27.06	26.87	26.80	26.59
11	26.77	26.77	26.85	26.76	26.74	26.79	26.90	27.04	27.07	26.86	26.80	26.58
12	26.77	26.76	26.84	26.76	26.74	26.79	26.95	27.03	27.06	26.86	26.80	26.56
13	26.75	26.77	26.84	26.76	26.74	26.81	26.96	27.04	27.05	26.87	26.82	26.56
14	26.75	26.77	26.84	26.76	26.74	26.82	26.96	27.10	27.04	26.87	26.91	26.54
15	26.74	26.77	26.84	26.76	26.75	26.83	26.96	27.10	27.03	26.89	26.91	26.52
16	26.74	26.77	26.84	26.76	26.76	26.83	26.96	27.12	27.02	26.92	26.90	26.57
17	26.81	26.75	26.84	26.76	26.76	26.84	26.96	27.12	27.01	26.95	26.89	26.58
18	26.87	26.75	26.84	26.77	26.76	26.84	26.99	27.11	27.00	26.99	26.87	26.56
19	26.87	26.75	26.84	26.76	26.76	26.84	27.02	27.10	26.98	26.98	26.87	26.56
20	26.86	26.76	26.84	26.76	26.76	26.89	27.02	27.09	26.97	26.98	26.86	26.56
21	26.86	26.82	26.84	26.76	26.76	26.93	27.02	27.07	26.96	26.99	26.84	26.55
22	26.88	26.82	26.84	26.77	26.76	26.93	27.02	27.07	26.94	26.98	26.81	26.56
23	26.89	26.82	26.84	26.77	26.76	26.93	27.02	27.08	26.92	26.97	26.80	26.56
24	26.88	26.82	26.82	26.77	26.76	26.93	27.02	27.07	26.91	26.95	26.77	26.55
25	26.87	26.81	26.82	26.78	26.76	26.93	27.02	27.07	26.89	26.94	26.77	26.54
26	26.87	26.80	26.82	26.77	26.76	26.93	27.02	27.06	26.87	26.93	26.79	26.54
27	26.86	26.82	26.82	26.77	26.75	26.92	27.01	27.06	26.88	26.91	26.80	26.53
28	26.85	26.87	26.82	26.77	26.73	26.91	27.00	27.11	26.93	26.91	26.80	26.52
29	26.85	26.87	26.81	26.77	---	26.91	27.00	27.11	26.98	26.90	26.79	26.52
30	26.85	26.87	26.80	26.76	---	26.90	26.99	27.11	26.97	26.88	26.77	26.57
31	26.84	---	26.80	26.76	---	26.90	---	27.10	---	26.87	26.76	---
MEAN	26.82	26.80	26.84	26.77	26.75	26.84	26.96	27.05	27.01	26.91	26.82	26.59
MAX	26.89	26.87	26.87	26.80	26.76	26.93	27.02	27.12	27.10	26.99	26.91	26.74
MIN	26.74	26.75	26.80	26.76	26.73	26.74	26.89	26.95	26.87	26.86	26.76	26.52

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, 6.20 ft, Apr. 30; minimum observed, 5.11 ft, Nov. 24.

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	5.57	5.27	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	5.45	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	6.06	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	5.35	---	---	---	---	---	---	---	---	5.74	5.92
7	---	---	---	---	---	---	---	6.02	---	---	---	---
8	---	---	---	---	---	---	5.50	---	6.06	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	5.88
10	5.53	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	5.58	6.16	---	---	5.80	---
12	---	5.40	---	---	---	---	---	---	---	---	---	---
13	---	---	5.15	---	---	---	5.64	---	---	---	---	---
14	---	---	---	---	---	---	---	6.06	5.94	---	---	---
15	5.49	---	---	---	---	---	---	---	---	---	5.77	---
16	---	---	---	---	---	---	5.62	---	---	5.76	---	---
17	---	---	---	---	---	---	---	---	---	---	---	5.82
18	---	---	---	5.31	---	---	---	---	---	---	---	---
19	---	5.17	---	---	---	---	---	---	---	---	6.15	---
20	---	---	5.13	---	---	---	---	---	5.84	---	---	---
21	5.45	---	---	---	---	---	---	5.96	---	---	---	---
22	---	---	---	---	5.32	5.42	---	---	---	---	---	---
23	---	---	---	---	---	---	6.12	---	---	---	---	5.82
24	---	5.11	5.14	---	---	---	---	---	---	5.74	---	---
25	---	---	---	---	---	---	---	5.96	---	5.74	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	5.39	---	---	---	---	---	---	---	5.76	---	---	---
29	---	---	---	---	---	5.46	---	---	---	---	---	---
30	---	5.13	---	---	---	---	6.20	---	---	---	6.15	---
31	---	---	---	---	---	---	---	5.94	---	---	---	---

WATER-QUALITY RECORDS

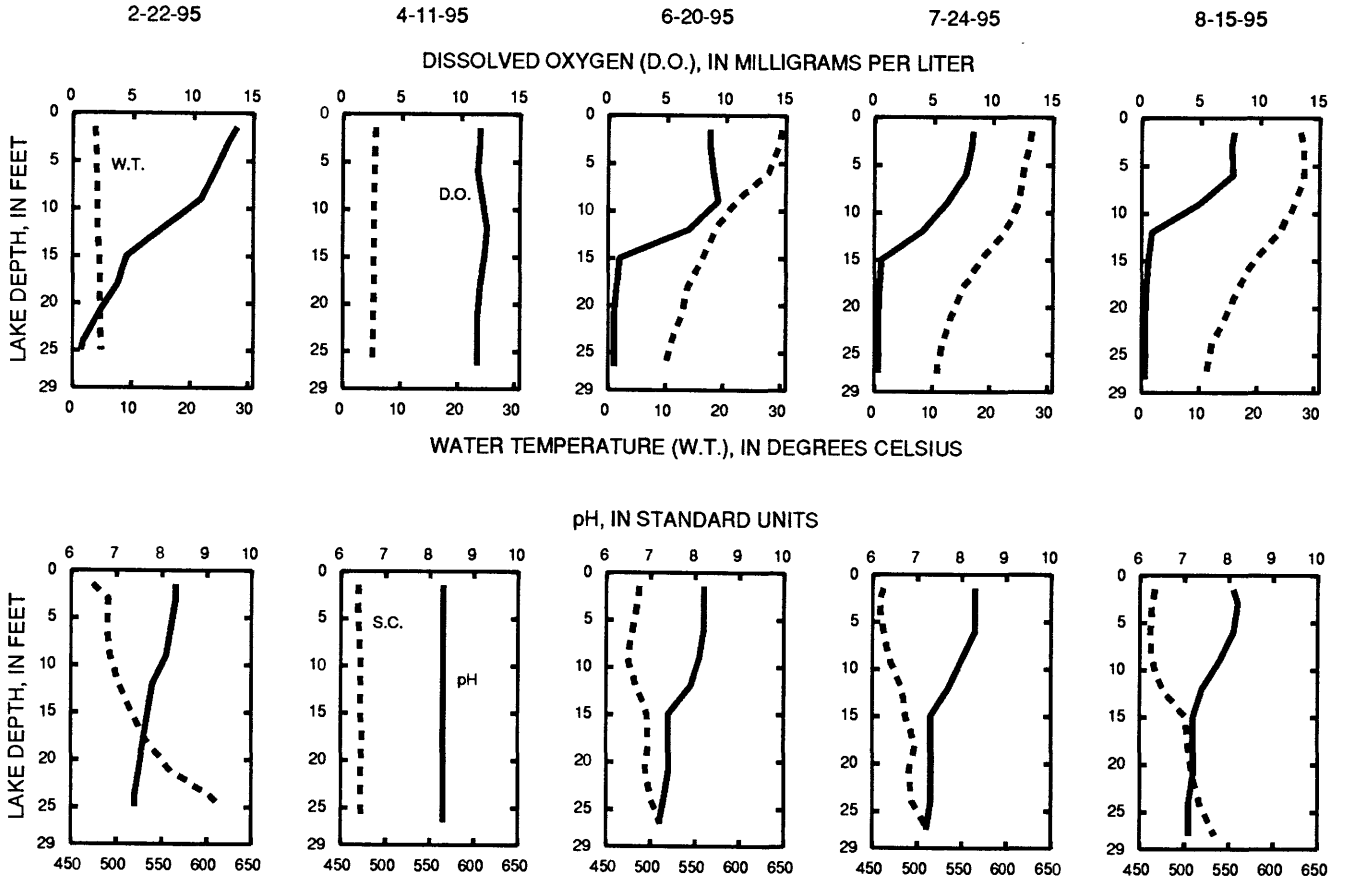
PERIOD OF RECORD.--February 1988 to August 1989, February 1991 to current year.

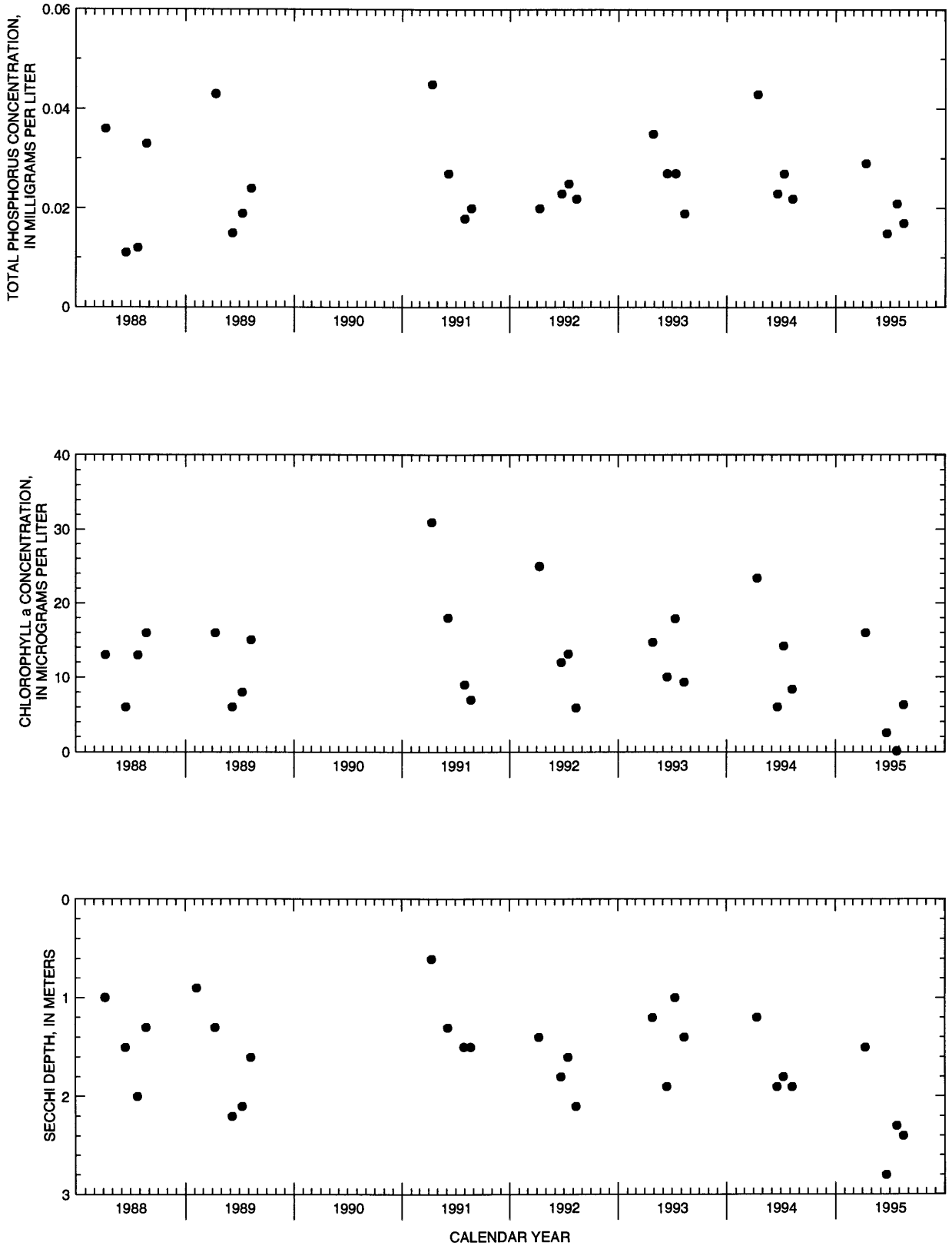
REMARKS.--Lake sampled at the deepest point in southwest end of lake. Lake ice-covered during February measurements. Water-quality analyses done by Wisconsin State Laboratory of Hygiene.

WATER-QUALITY DATA, FEBRUARY 22 TO AUGUST 15, 1995

(Milligrams per liter unless otherwise indicated)

	Feb. 22		Apr. 11		June 20		July 24		Aug. 15	
Depth of sample (ft)	1.5	25	1.5	26	1.5	26	1.5	27	1.5	27
Lake stage (ft)	5.32		5.58		5.84		5.74		5.77	
Specific conductance (µS/cm)	474	612	469	473	487	511	462	512	467	534
pH (units)	8.3	7.4	8.3	8.3	8.2	7.2	8.3	7.2	8.1	7.1
Water temperature (°C)	4.0	5.0	5.5	5.5	30.5	10.0	27.5	11.0	27.5	11.0
Color (Pt-Co. scale)	---	---	30	30	---	---	---	---	---	---
Turbidity (NTU)	---	---	3.0	3.1	---	---	---	---	---	---
Secchi-depth (meters)	---		1.5		2.8		2.3		2.4	
Dissolved oxygen	13.6	0.7	11.6	11.4	8.6	0.5	8.3	0.3	7.8	0.3
Hardness, as CaCO3	---	---	230	230	---	---	---	---	---	---
Calcium, dissolved (Ca)	---	---	44	44	---	---	---	---	---	---
Magnesium, dissolved (Mg)	---	---	28	28	---	---	---	---	---	---
Sodium, dissolved (Na)	---	---	12	13	---	---	---	---	---	---
Potassium, dissolved (K)	---	---	3	3	---	---	---	---	---	---
Alkalinity, as CaCO3	---	---	180	180	---	---	---	---	---	---
Sulfate, dissolved (SO4)	---	---	33	33	---	---	---	---	---	---
Chloride, dissolved (Cl)	---	---	29	29	---	---	---	---	---	---
Fluoride, dissolved (F)	---	---	0.2	0.2	---	---	---	---	---	---
Silica, dissolved (SiO2)	---	---	1.0	1.0	---	---	---	---	---	---
Solids, dissolved, at 180°C	---	---	298	298	---	---	---	---	---	---
Nitrogen, NO2 + NO3, diss. (as N)	---	---	<0.01	0.02	---	---	---	---	---	---
Nitrogen, ammonia, dissolved (as N)	---	---	<0.03	<0.03	---	---	---	---	---	---
Nitrogen, organic, total (as N)	---	---	1.3	1.3	---	---	---	---	---	---
Nitrogen, amm. + org., total (as N)	---	---	1.3	1.3	---	---	---	---	---	---
Nitrogen, total (as N)	---	---	1.3	1.3	---	---	---	---	---	---
Phosphorus, total (as P)	---	---	0.029	0.028	0.015	0.139	0.021	0.355	0.017	0.336
Phosphorus, ortho, dissolved (as P)	---	---	0.002	0.002	---	---	---	---	---	---
Iron, dissolved (Fe) µg/L	---	---	<10	<10	---	---	---	---	---	---
Manganese, dissolved (Mn) µg/L	---	---	<0.4	<0.4	---	---	---	---	---	---
Chlorophyll a, phytoplankton (µg/L)	---	---	16	---	2.5	---	<0.1	---	6.3	---





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

423128088151200 MARIE (MARY) LAKE AT TWIN LAKES, WI

LOCATION.--Lat 42°31'28", long 88°15'12", in SW 1/4 SE 1/4 sec.21, T.1 N., R.19 E., Kenosha County, Hydrologic Unit 07120006, near Twin Lakes.

PERIOD OF RECORD.--February to August 1995.

REMARKS.--Lake sampled slightly north of center at the deep hole. Lake ice-covered during February measurements. Water-quality analyses done by Wisconsin State Laboratory of Hygiene.

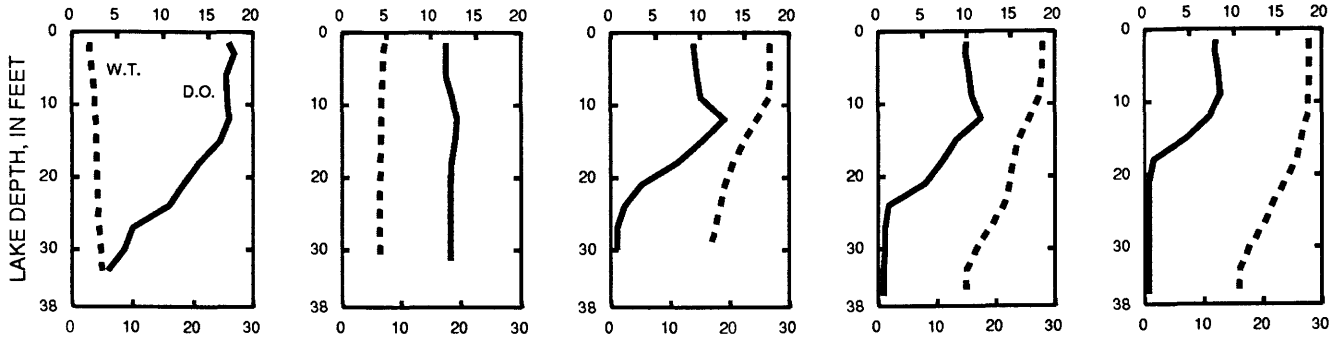
WATER-QUALITY ANALYSIS, FEBRUARY 02 TO AUGUST 16, 1995

(Milligrams per liter unless otherwise indicated)

	Feb. 02		Apr. 06		June 26		July 13		July 18	Aug. 16	
Depth of sample (ft)	1.5	33	1.5	31	1.5	30	1.5	36	1.5	1.5	36
Lake stage (ft)	---		---		11.37		11.34		---	11.38	
Specific conductance (µS/cm)	603	721	612	631	624	650	623	678	618	603	703
pH (units)	8.9	7.8	8.5	8.5	8.4	7.6	8.5	7.4	8.5	8.4	7.2
Water temperature (°C)	3.0	5.0	7.5	6.5	27.0	16.5	28.0	15.0	27.5	28.0	16.0
Color (Pt-Co. scale)	---	---	5	5	---	---	---	---	---	---	---
Turbidity (NTU)	---	---	0.90	0.80	---	---	---	---	---	---	---
Secchi-depth (meters)	---		4.0		3.9		2.9		2.4	2.4	
Dissolved oxygen	17.3	4.0	11.7	12.2	9.3	0.7	10.0	0.6	8.2	8.0	0.5
Hardness, as CaCO3	---	---	250	250	---	---	---	---	---	---	---
Calcium, dissolved (Ca)	---	---	36	36	---	---	---	---	---	---	---
Magnesium, dissolved (Mg)	---	---	39	39	---	---	---	---	---	---	---
Sodium, dissolved (Na)	---	---	33	32	---	---	---	---	---	---	---
Potassium, dissolved (K)	---	---	2	2	---	---	---	---	---	---	---
Alkalinity, as CaCO3	---	---	180	190	---	---	---	---	---	---	---
Sulfate, dissolved (SO4)	---	---	43	43	---	---	---	---	---	---	---
Chloride, dissolved (Cl)	---	---	72	72	---	---	---	---	---	---	---
Fluoride, dissolved (F)	---	---	0.1	0.1	---	---	---	---	---	---	---
Silica, dissolved (SiO2)	---	---	2.3	2.3	---	---	---	---	---	---	---
Solids, dissolved, at 180°C	---	---	354	352	---	---	---	---	---	---	---
Nitrogen, NO2 + NO3, diss. (as N)	---	---	0.07	0.06	---	---	---	---	---	---	---
Nitrogen, ammonia, dissolved (as N)	---	---	<0.03	<0.03	---	---	---	---	---	---	---
Nitrogen, organic, total (as N)	---	---	0.80	0.70	---	---	---	---	---	---	---
Nitrogen, amm. + org., total (as N)	---	---	0.80	0.70	---	---	---	---	---	---	---
Nitrogen, total (as N)	---	---	0.87	0.76	---	---	---	---	---	---	---
Phosphorus, total (as P)	---	---	0.013	0.014	0.012	0.039	0.010	0.072	---	0.012	0.061
Phosphorus, ortho, dissolved (as P)	---	---	0.003	0.004	---	---	---	---	---	---	---
Iron, dissolved (Fe) µg/L	---	---	<10	<10	---	---	---	---	---	---	---
Manganese, dissolved (Mn) µg/L	---	---	<0.4	<0.4	---	---	---	---	---	---	---
Chlorophyll a, phytoplankton (µg/L)	---	---	2.9	---	2.4	---	---	---	0.6	6.2	---

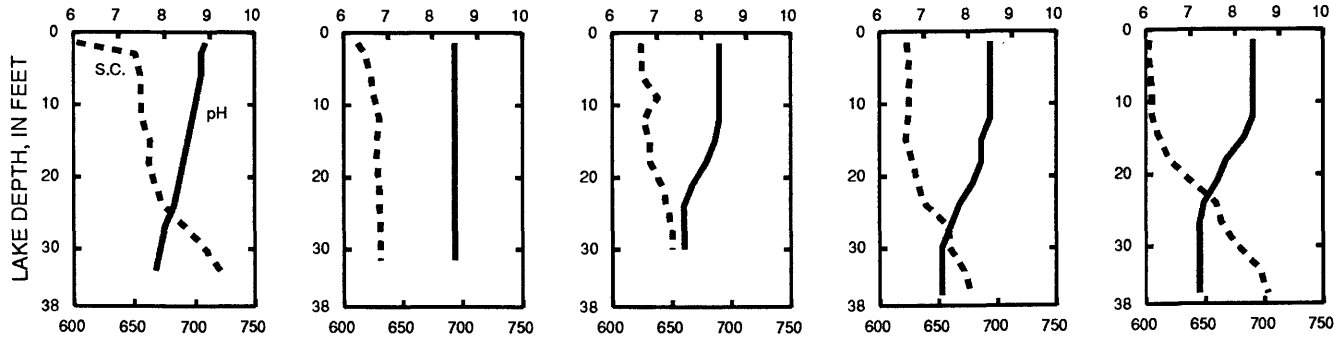
2-2-95 4-6-95 6-26-95 7-13-95 8-16-95

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



WATER TEMPERATURE (W.T.), IN DEGREES CELSIUS

pH, IN STANDARD UNITS



SPECIFIC CONDUCTANCE (S.C.), IN MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS

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 recorded gage height, 6.14 ft, May 28-30 and June 7; minimum recorded, 5.35 ft, Sept. 15.

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	5.81	5.88	5.90	5.77	5.68	5.64	5.74	5.86	6.12	5.90	5.86	5.60
2	5.80	5.87	5.90	5.78	5.68	5.64	5.74	5.86	6.11	5.87	5.83	5.58
3	5.79	5.87	5.89	5.77	5.67	5.63	5.73	5.86	6.11	5.86	5.82	5.56
4	5.79	5.88	5.89	5.77	5.68	5.62	5.73	5.86	6.10	5.84	5.81	5.55
5	5.79	5.88	5.89	5.76	5.67	5.63	5.72	5.86	6.09	5.85	5.79	5.54
6	5.79	5.88	5.88	5.75	5.67	5.64	5.73	5.85	6.10	5.86	5.77	5.52
7	5.81	5.88	5.88	5.74	5.68	5.66	5.73	5.85	6.14	5.86	5.79	5.51
8	5.81	5.87	5.87	5.74	5.68	5.66	5.73	5.86	6.13	5.85	5.78	5.48
9	5.81	5.86	5.88	5.73	5.68	5.66	5.73	5.96	6.11	5.85	5.76	5.46
10	5.80	5.86	5.87	5.73	5.69	5.66	5.73	5.97	6.13	5.83	5.75	5.44
11	5.79	5.85	5.87	5.73	5.70	5.66	5.73	5.97	6.13	5.82	5.75	5.42
12	5.78	5.85	5.87	5.73	5.70	5.66	5.77	5.97	6.12	5.83	5.74	5.40
13	5.77	5.85	5.87	5.72	5.70	5.66	5.78	5.99	6.11	5.84	5.79	5.39
14	5.77	5.85	5.86	5.71	5.70	5.66	5.79	6.05	6.10	5.84	5.85	5.37
15	5.76	5.84	5.86	5.71	5.70	5.66	5.78	6.05	6.09	5.87	5.83	5.35
16	5.76	5.83	5.86	5.70	5.71	5.66	5.78	6.09	6.07	5.94	5.82	5.44
17	5.84	5.82	5.85	5.71	5.71	5.66	5.78	6.09	6.06	5.98	5.80	5.44
18	5.89	5.83	5.85	5.71	5.69	5.66	5.81	6.08	6.05	6.01	5.79	5.43
19	5.89	5.82	5.84	5.70	5.68	5.66	5.85	6.07	6.04	6.00	5.79	5.42
20	5.89	5.81	5.84	5.70	5.67	5.71	5.85	6.06	6.02	5.99	5.77	5.41
21	5.88	5.88	5.83	5.70	5.67	5.74	5.86	6.05	6.01	6.00	5.74	5.40
22	5.90	5.88	5.83	5.71	5.67	5.74	5.86	6.06	5.99	5.99	5.72	5.42
23	5.92	5.87	5.82	5.71	5.66	5.74	5.86	6.07	5.97	5.98	5.70	5.41
24	5.91	5.86	5.82	5.71	5.65	5.74	5.87	6.07	5.96	5.96	5.68	5.39
25	5.91	5.85	5.82	5.71	5.65	5.74	5.87	6.06	5.93	5.95	5.66	5.38
26	5.90	5.85	5.81	5.71	5.65	5.74	5.88	6.06	5.92	5.93	5.68	5.37
27	5.90	5.85	5.81	5.71	5.64	5.75	5.88	6.06	5.92	5.92	5.68	5.36
28	5.89	5.91	5.80	5.70	5.64	5.75	5.87	6.14	5.94	5.92	5.67	5.36
29	5.90	5.91	5.79	5.69	---	5.75	5.87	6.14	5.94	5.89	5.66	5.36
30	5.89	5.90	5.79	5.69	---	5.75	5.87	6.14	5.92	5.87	5.65	5.43
31	5.89	---	5.78	5.68	---	5.74	---	6.13	---	5.86	5.63	---
MEAN	5.84	5.86	5.85	5.72	5.68	5.69	5.80	6.01	6.05	5.90	5.75	5.44
MAX	5.92	5.91	5.90	5.78	5.71	5.75	5.88	6.14	6.14	6.01	5.86	5.60
MIN	5.76	5.81	5.78	5.68	5.64	5.62	5.72	5.85	5.92	5.82	5.63	5.35

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 done by Wisconsin State Laboratory of Hygiene.

WATER-QUALITY DATA, APRIL 25 TO AUGUST 18, 1995
(Milligrams per liter unless otherwise indicated)

	Apr. 25	June 12	July 18	Aug. 18
Depth of sample (ft)	1.5	1.5	1.5	1.5
Lake stage (ft)	1.90	1.74	1.52	1.91
Specific conductance (µS/cm)	108	113	123	114
pH (units)	7.2	7.2	8.7	6.5
Water temperature (°C)	9.0	21.0	26.0	25.0
Secchi-depth (meters)	1.0	1.0	0.6	0.7
Dissolved oxygen	11.2	8.3	10.2	4.9
Phosphorus, total (as P)	0.059	0.151	0.201	0.270
Chlorophyll a, phytoplankton (µg/L)	3.3	13	0.8	18

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.--Staff gage mounted to wingwall of dam, read by Margaret Stauner.

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, 2.18 ft, Apr. 12; minimum observed, 1.18 ft, Aug. 9.

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	---	---	---	---	---	---	---	---	---	1.44	1.38	---
2	---	1.64	---	---	---	---	---	1.76	---	---	---	---
3	1.58	---	---	---	---	---	1.98	---	1.98	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	1.62
5	---	---	---	---	---	---	---	1.72	---	1.42	1.26	---
6	1.56	1.64	---	---	---	---	1.88	---	1.70	---	---	---
7	---	---	---	---	---	---	---	---	---	1.42	---	1.48
8	---	---	---	---	---	---	---	1.72	---	---	---	---
9	---	1.62	---	---	---	---	---	---	---	---	1.18	---
10	---	---	---	---	---	---	---	---	1.74	---	---	1.50
11	---	---	---	---	---	---	---	1.96	---	1.40	---	---
12	---	1.64	---	---	---	---	2.18	---	1.74	---	---	---
13	---	---	---	---	---	---	---	---	---	---	1.78	1.50
14	---	---	---	---	---	---	1.82	---	---	---	---	---
15	---	1.68	---	---	1.53	---	---	1.96	1.64	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	1.88	---	---	1.48	1.88	---
18	---	---	---	---	---	---	---	1.74	---	1.52	1.91	1.46
19	---	1.68	---	---	---	---	---	---	1.58	---	---	---
20	1.74	---	---	---	---	---	1.78	---	---	---	---	---
21	---	---	---	---	---	1.68	---	---	---	---	1.74	---
22	---	1.96	---	---	---	---	---	1.58	---	---	---	1.58
23	---	---	---	---	---	---	---	---	1.48	1.48	---	---
24	1.68	---	---	---	---	1.94	1.98	---	---	---	---	---
25	---	1.74	---	---	---	---	1.90	1.68	---	---	1.66	---
26	---	---	---	---	---	---	1.88	---	1.38	1.40	---	1.58
27	1.66	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	1.58	1.44	---	1.78	---
29	---	1.68	---	---	---	---	1.82	---	---	1.42	---	---
30	1.64	---	---	---	---	---	---	---	---	---	---	1.62
31	---	---	---	---	---	1.68	---	1.86	---	---	1.74	---

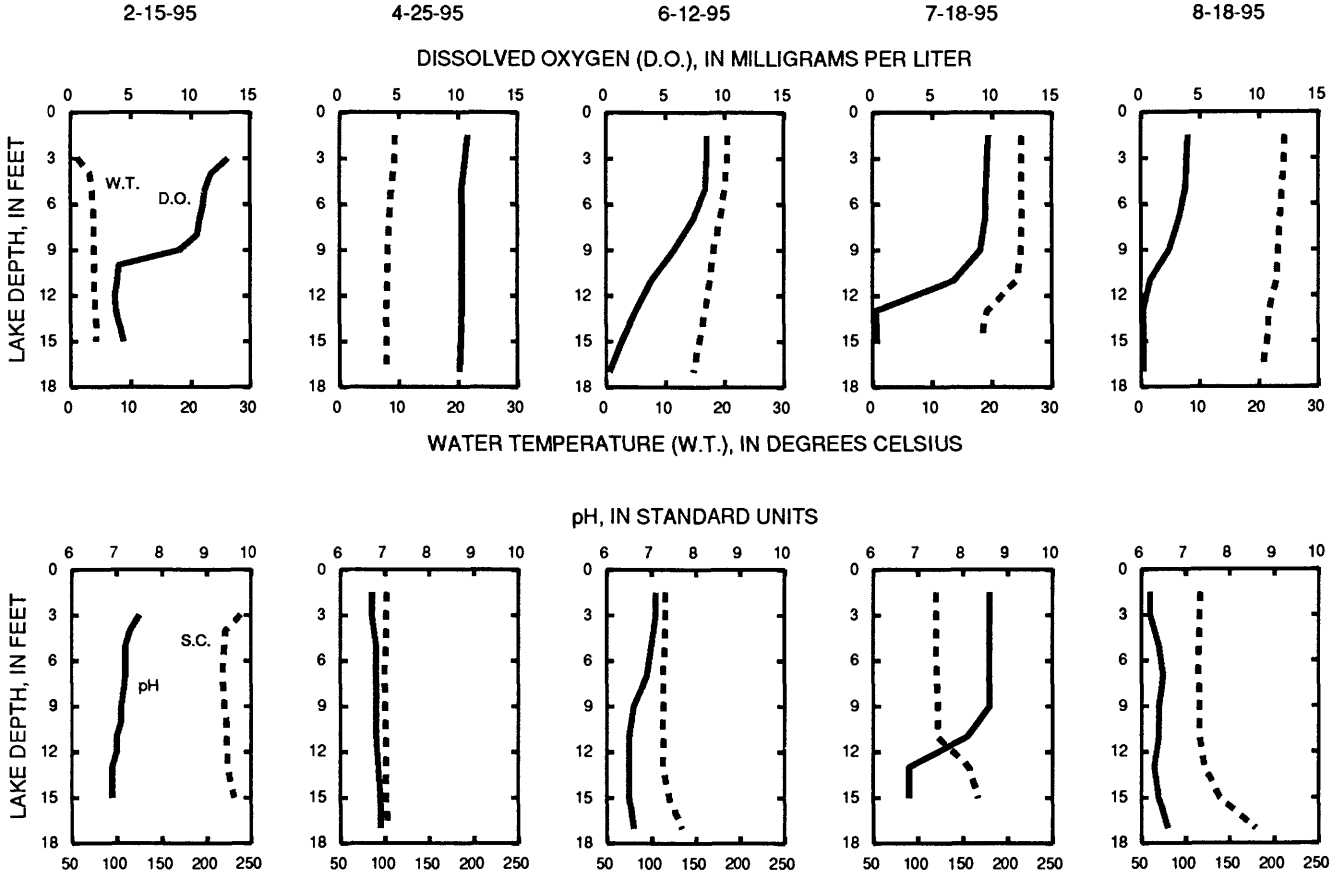
WATER-QUALITY RECORDS

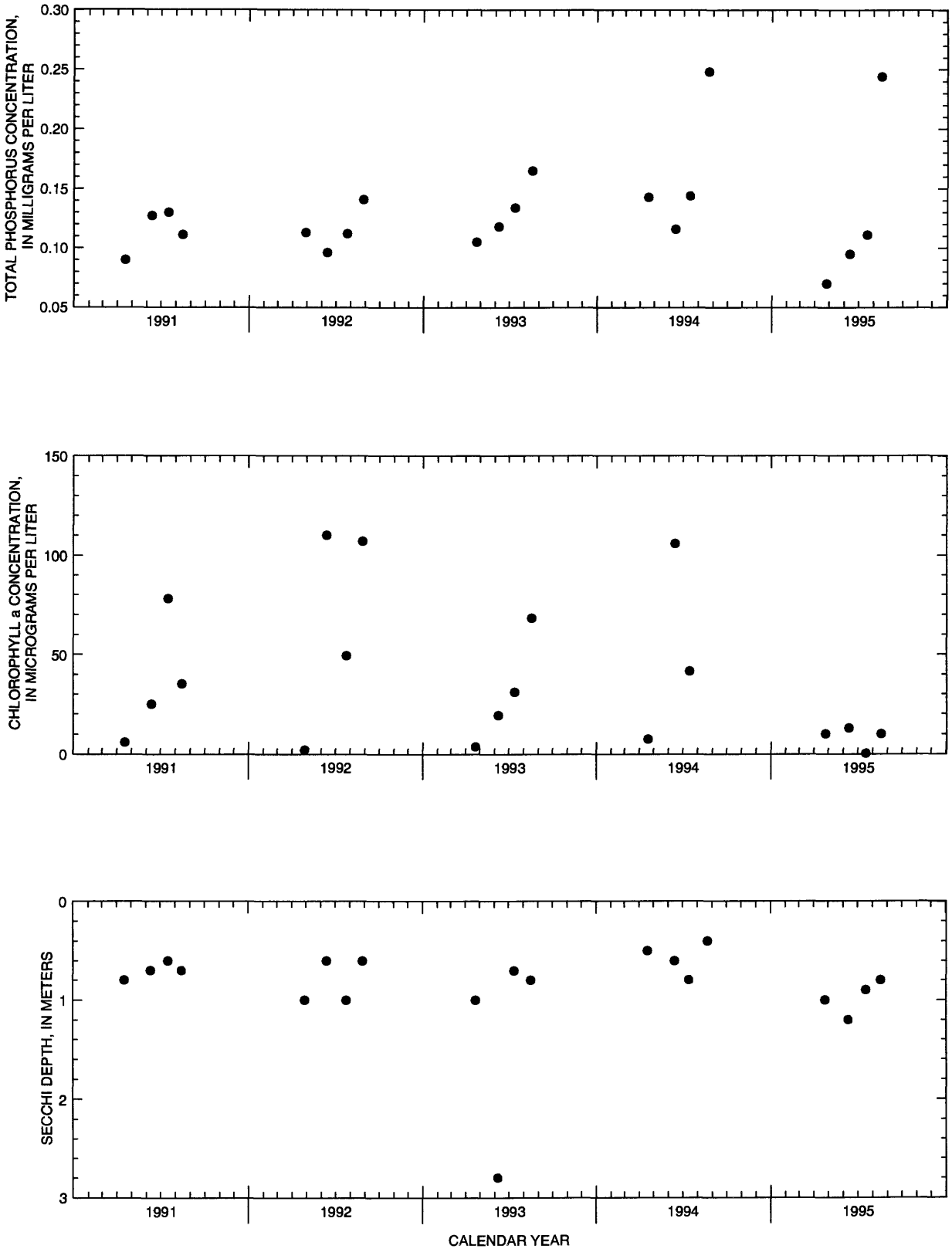
PERIOD OF RECORD.--February 1991 to current year.

REMARKS.--Lake sampled at the deepest point in the west bay. Lake ice-covered during February measurements. Water-quality analyses done by Wisconsin State Laboratory of Hygiene.

WATER-QUALITY DATA, FEBRUARY 15 TO AUGUST 18, 1995
(Milligrams per liter unless otherwise indicated)

	Feb. 15		Apr. 25		June 12		July 18		Aug. 18	
Depth of sample (ft)	3.0	15	1.5	17	1.5	17	1.5	15	1.5	17
Lake stage (ft)	1.53		1.90		1.74		1.52		1.91	
Specific conductance (µS/cm)	238	231	102	103	116	134	120	167	117	179
pH (units)	7.5	6.9	6.7	6.9	7.1	6.6	8.6	6.8	6.2	6.6
Water temperature (°C)	1.0	4.0	9.5	8.0	20.5	14.5	25.0	18.0	24.5	20.5
Color (Pt-Co. scale)	---	---	55	55	---	---	---	---	---	---
Turbidity (NTU)	---	---	4.7	5.1	---	---	---	---	---	---
Secchi-depth (meters)	---		1.0		1.2		0.9		0.8	
Dissolved oxygen	13.1	4.4	10.8	10.1	8.5	0.3	9.7	0.3	4.0	0.2
Hardness, as CaCO3	---	---	37	37	---	---	---	---	---	---
Calcium, dissolved (Ca)	---	---	8.9	8.9	---	---	---	---	---	---
Magnesium, dissolved (Mg)	---	---	3.7	3.7	---	---	---	---	---	---
Sodium, dissolved (Na)	---	---	3.9	3.8	---	---	---	---	---	---
Potassium, dissolved (K)	---	---	4	4	---	---	---	---	---	---
Alkalinity, as CaCO3	---	---	25	25	---	---	---	---	---	---
Sulfate, dissolved (SO4)	---	---	11	10	---	---	---	---	---	---
Chloride, dissolved (Cl)	---	---	7.6	6.6	---	---	---	---	---	---
Fluoride, dissolved (F)	---	---	<0.1	<0.1	---	---	---	---	---	---
Silica, dissolved (SiO2)	---	---	4.1	4.6	---	---	---	---	---	---
Solids, dissolved, at 180°C	---	---	82	80	---	---	---	---	---	---
Nitrogen, NO2 + NO3, diss. (as N)	---	---	0.33	0.32	---	---	---	---	---	---
Nitrogen, ammonia, dissolved (as N)	---	---	<0.03	<0.03	---	---	---	---	---	---
Nitrogen, organic, total (as N)	---	---	0.90	0.80	---	---	---	---	---	---
Nitrogen, amm. + org., total (as N)	---	---	0.90	0.80	---	---	---	---	---	---
Nitrogen, total (as N)	---	---	1.2	1.1	---	---	---	---	---	---
Phosphorus, total (as P)	---	---	0.070	0.072	0.095	0.178	0.111	0.267	0.244	1.4
Phosphorus, ortho, dissolved (as P)	---	---	0.012	0.017	---	---	---	---	---	---
Iron, dissolved (Fe) µg/L	---	---	230	230	---	---	---	---	---	---
Manganese, dissolved (Mn) µg/L	---	---	23	24	---	---	---	---	---	---
Chlorophyll a, phytoplankton (µg/L)	---	---	10	---	13	---	0.2	---	10	---





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.

REMARKS.--No estimated daily gage heights. Records are good. 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 recorded gage height, 10.51 ft, Oct. 1; minimum recorded, 8.99 ft, Nov. 13.

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	10.47	9.21	9.30	9.56	9.73	9.61	9.61	9.91	10.11	9.76	10.05	9.95
2	10.42	9.15	9.32	9.56	9.73	9.60	9.58	9.90	10.08	9.72	10.05	9.91
3	10.37	9.13	9.33	9.56	9.74	9.58	9.59	9.89	10.06	9.70	10.07	9.88
4	10.34	9.12	9.34	9.53	9.73	9.56	9.57	9.88	10.03	9.69	10.07	9.86
5	10.30	9.11	9.38	9.52	9.73	9.56	9.53	9.89	10.00	9.80	10.07	9.84
6	10.26	9.15	9.40	9.54	9.74	9.56	9.51	9.89	9.98	9.86	10.05	9.81
7	10.22	9.10	9.46	9.55	9.74	9.57	9.51	9.88	9.96	9.85	10.05	9.80
8	10.22	9.10	9.46	9.55	9.74	9.55	9.55	9.91	9.96	9.83	10.04	9.77
9	10.18	9.10	9.48	9.55	9.74	9.53	9.57	10.01	9.91	9.87	10.04	9.74
10	10.13	9.07	9.48	9.57	9.73	9.51	9.56	10.14	9.89	9.87	10.06	9.71
11	10.09	9.04	9.48	9.57	9.73	9.51	9.62	10.18	9.85	9.87	10.05	9.68
12	10.06	9.02	9.47	9.58	9.73	9.55	9.70	10.19	9.81	9.87	10.04	9.66
13	10.02	9.00	9.47	9.58	9.73	9.58	9.74	10.19	9.80	9.89	10.03	9.65
14	9.99	9.06	9.47	9.61	9.73	9.61	9.72	10.24	9.79	9.90	10.01	9.63
15	9.95	9.04	9.47	9.62	9.73	9.62	9.70	10.23	9.78	9.89	9.98	9.60
16	9.92	9.03	9.48	9.62	9.74	9.62	9.70	10.24	9.77	9.94	9.98	9.60
17	9.89	9.02	9.50	9.63	9.73	9.62	9.70	10.25	9.77	9.94	10.07	9.60
18	9.86	9.08	9.49	9.63	9.73	9.61	9.76	10.24	9.78	9.91	10.07	9.58
19	9.84	9.05	9.48	9.65	9.74	9.61	9.81	10.23	9.79	9.91	10.09	9.60
20	9.79	9.05	9.49	9.68	9.74	9.65	9.80	10.21	9.78	9.93	10.11	9.65
21	9.74	9.13	9.49	9.68	9.74	9.68	9.84	10.17	9.77	9.92	10.10	9.65
22	9.70	9.12	9.50	9.70	9.73	9.67	9.84	10.13	9.76	9.93	10.07	9.64
23	9.67	9.11	9.51	9.71	9.71	9.68	9.83	10.12	9.75	10.01	10.05	9.61
24	9.62	9.09	9.51	9.71	9.70	9.65	9.82	10.10	9.75	10.01	10.02	9.61
25	9.55	9.11	9.52	9.72	9.69	9.61	9.81	10.07	9.73	10.03	9.99	9.61
26	9.49	9.09	9.52	9.72	9.67	9.57	9.82	10.04	9.74	10.03	9.97	9.61
27	9.42	9.15	9.53	9.72	9.66	9.59	9.91	10.03	9.76	10.01	9.95	9.62
28	9.37	9.28	9.54	9.73	9.63	9.63	9.92	10.15	9.77	10.06	9.97	9.63
29	9.34	9.29	9.53	9.73	---	9.64	9.91	10.17	9.79	10.04	10.00	9.62
30	9.30	9.29	9.54	9.73	---	9.63	9.91	10.16	9.80	10.03	9.99	9.63
31	9.26	---	9.56	9.73	---	9.63	---	10.14	---	10.04	9.98	---
MEAN	9.90	9.11	9.47	9.63	9.72	9.60	9.71	10.09	9.85	9.91	10.03	9.69
MAX	10.47	9.29	9.56	9.73	9.74	9.68	9.92	10.25	10.11	10.06	10.11	9.95
MIN	9.26	9.00	9.30	9.52	9.63	9.51	9.51	9.88	9.73	9.69	9.95	9.58

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.

REMARKS.--No estimated daily gage heights. Records are good. 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 recorded gage height, 5.68 ft, Oct. 1; minimum recorded, 3.82 ft, Feb. 13-19.

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	5.67	5.10	4.19	3.85	3.88	4.14	4.82	5.12	5.23	4.77	5.17	5.13
2	5.66	5.09	4.16	3.85	3.88	4.15	4.81	5.09	5.24	4.78	5.18	5.10
3	5.64	5.08	4.12	3.84	3.87	4.17	4.77	5.06	5.23	4.78	5.19	5.10
4	5.63	5.05	4.09	3.83	3.85	4.19	4.72	5.03	5.23	4.80	5.17	5.09
5	5.62	5.02	4.07	3.84	3.85	4.22	4.72	4.98	5.22	4.94	5.15	5.08
6	5.61	5.03	4.05	3.86	3.85	4.24	4.72	4.96	5.23	4.92	5.13	5.06
7	5.60	5.02	4.07	3.87	3.85	4.27	4.74	4.95	5.26	4.89	5.10	5.10
8	5.59	4.99	4.05	3.87	3.84	4.27	4.83	5.02	5.31	4.91	5.07	5.09
9	5.55	4.98	4.02	3.87	3.84	4.29	4.89	5.12	5.28	4.95	5.04	5.06
10	5.52	4.95	4.01	3.89	3.84	4.30	4.91	5.19	5.27	4.96	5.01	5.05
11	5.50	4.92	3.98	3.89	3.83	4.34	4.98	5.20	5.25	4.98	5.00	5.03
12	5.47	4.89	3.97	3.89	3.83	4.39	5.06	5.20	5.23	4.99	5.00	5.02
13	5.44	4.88	3.96	3.89	3.83	4.43	5.07	5.24	5.18	5.00	4.98	5.00
14	5.41	4.87	3.95	3.91	3.83	4.46	5.09	5.21	5.15	5.00	4.97	4.97
15	5.39	4.78	3.95	3.92	3.83	4.47	5.10	5.18	5.12	5.01	4.97	4.94
16	5.36	4.70	3.94	3.92	3.82	4.49	5.09	5.15	5.07	5.09	5.05	4.91
17	5.35	4.65	3.94	3.92	3.82	4.51	5.09	5.10	5.01	5.05	5.22	4.90
18	5.36	4.57	3.93	3.91	3.82	4.51	5.15	5.07	4.97	5.02	5.23	4.89
19	5.36	4.50	3.93	3.92	3.82	4.51	5.18	5.03	4.91	5.04	5.25	4.92
20	5.35	4.46	3.93	3.95	3.85	4.57	5.20	5.02	4.88	5.07	5.25	4.96
21	5.34	4.41	3.92	3.95	3.91	4.60	5.21	5.01	4.88	5.07	5.22	4.95
22	5.33	4.34	3.91	3.95	3.96	4.62	5.19	5.01	4.86	5.09	5.20	4.91
23	5.31	4.29	3.90	3.95	4.00	4.64	5.18	5.03	4.85	5.18	5.18	4.92
24	5.27	4.25	3.90	3.94	4.02	4.69	5.15	5.05	4.83	5.19	5.17	4.91
25	5.23	4.21	3.89	3.93	4.06	4.73	5.13	5.04	4.81	5.20	5.14	4.91
26	5.21	4.18	3.89	3.93	4.08	4.78	5.12	5.04	4.81	5.25	5.13	4.90
27	5.19	4.25	3.89	3.92	4.10	4.88	5.18	5.10	4.84	5.25	5.12	4.89
28	5.17	4.26	3.88	3.91	4.12	4.93	5.19	5.24	4.83	5.24	5.15	4.89
29	5.16	4.24	3.88	3.90	---	4.92	5.18	5.24	4.83	5.20	5.20	4.89
30	5.14	4.21	3.88	3.90	---	4.88	5.15	5.24	4.80	5.18	5.19	4.92
31	5.12	---	3.87	3.89	---	4.85	---	5.23	---	5.17	5.16	---
MEAN	5.40	4.67	3.97	3.90	3.90	4.50	5.02	5.10	5.05	5.03	5.13	4.98
MAX	5.67	5.10	4.19	3.95	4.12	4.93	5.21	5.24	5.31	5.25	5.25	5.13
MIN	5.12	4.18	3.87	3.83	3.82	4.14	4.72	4.95	4.80	4.77	4.97	4.89

434748089195800 LAKE MONTELLO AT MONTELLO, WI

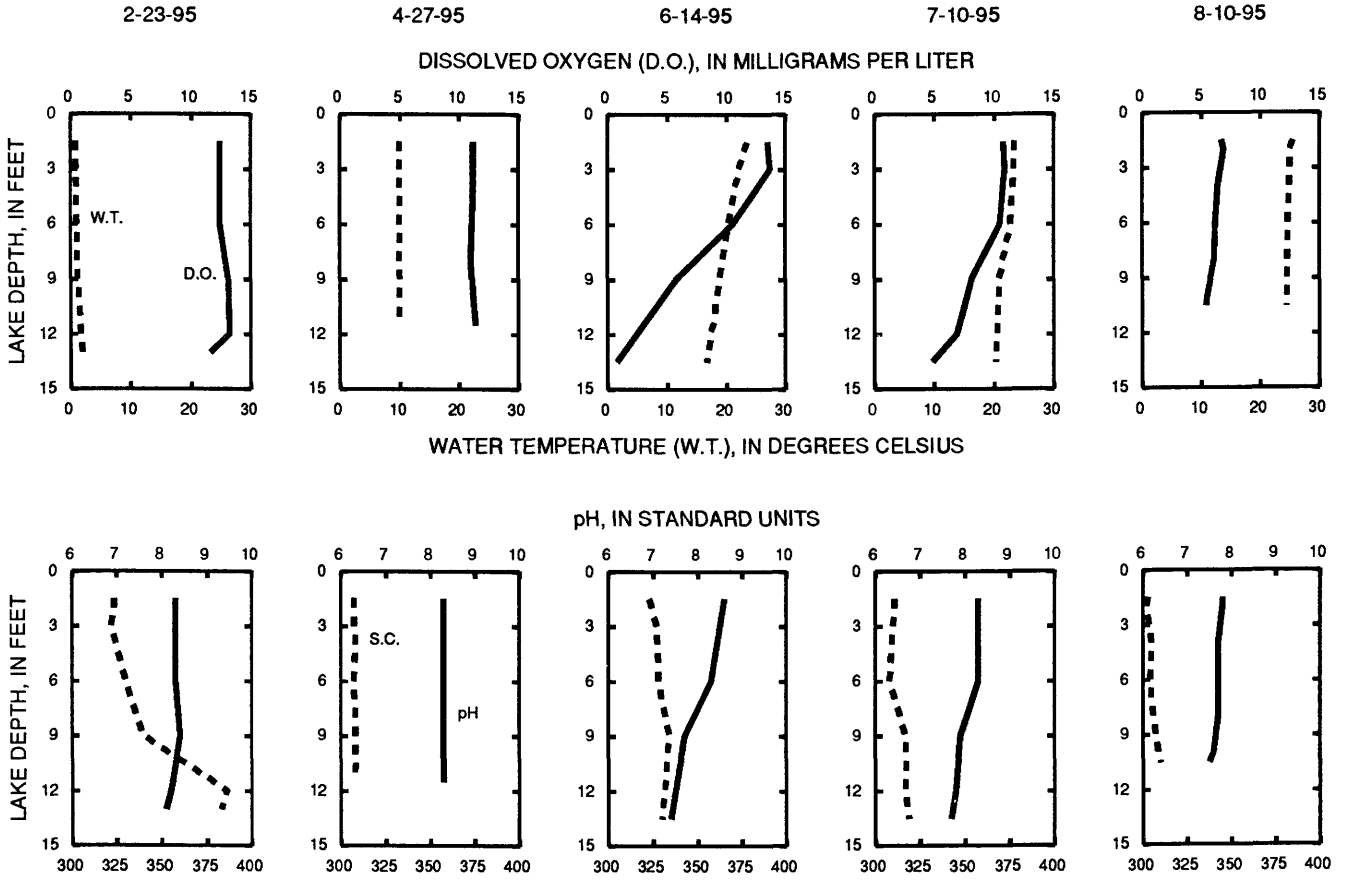
LOCATION.--Lat 43°47'48", long 89°19'58", in SW 1/4 NE 1/4 sec.8, T.15 N., R.10 E., Marquette County, Hydrologic Unit 04030201, at Montello.

PERIOD OF RECORD.--February to August 1995. Lake-stage and secchi measurements for water years 1984 to 1990 were collected at a different site (station number 434813089204000).

REMARKS.--Lake sampled near southeast end at the deep hole. The lake was ice-covered during the February measurements. Water-quality analyses done by Wisconsin State Laboratory of Hygiene.

WATER-QUALITY DATA, FEBRUARY 23 TO AUGUST 10, 1995
(Milligrams per liter unless otherwise indicated)

	Feb. 23		Apr. 27		June 14		July 10		July 20	Aug. 10	
Depth of sample (ft)	1.5	13	1.5	11	1.5	13	1.5	13	1.5	1.5	10
Lake stage (ft)	---		---		---		---		---	---	
Specific conductance (µS/cm)	324	383	307	308	323	330	311	319	315	303	310
pH (units)	8.3	8.1	8.3	8.3	8.6	7.4	8.3	7.7	8.3	7.8	7.5
Water temperature (°C)	1.0	2.0	10.0	10.0	23.5	16.5	23.5	20.5	25.0	25.5	24.5
Color (Pt-Co. scale)	---	---	50	50	---	---	---	---	---	---	---
Turbidity (NTU)	---	---	1.6	1.8	---	---	---	---	---	---	---
Secchi-depth (meters)	---		1.8		1.4		4.1		3.2	2.5	
Dissolved oxygen	12.4	11.6	11.2	11.4	13.5	0.8	10.8	4.9	8.2	6.7	5.4
Hardness, as CaCO3	---	---	170	170	---	---	---	---	---	---	---
Calcium, dissolved (Ca)	---	---	36	37	---	---	---	---	---	---	---
Magnesium, dissolved (Mg)	---	---	19	19	---	---	---	---	---	---	---
Sodium, dissolved (Na)	---	---	3.0	3.0	---	---	---	---	---	---	---
Potassium, dissolved (K)	---	---	2	2	---	---	---	---	---	---	---
Alkalinity, as CaCO3	---	---	150	150	---	---	---	---	---	---	---
Sulfate, dissolved (SO4)	---	---	12	12	---	---	---	---	---	---	---
Chloride, dissolved (Cl)	---	---	5.5	5.8	---	---	---	---	---	---	---
Fluoride, dissolved (F)	---	---	<0.1	<0.1	---	---	---	---	---	---	---
Silica, dissolved (SiO2)	---	---	6.5	6.5	---	---	---	---	---	---	---
Solids, dissolved, at 180°C	---	---	186	196	---	---	---	---	---	---	---
Nitrogen, NO2 + NO3, diss. (as N)	---	---	0.70	0.70	---	---	---	---	---	---	---
Nitrogen, ammonia, dissolved (as N)	---	---	0.07	0.06	---	---	---	---	---	---	---
Nitrogen, organic, total (as N)	---	---	0.63	0.94	---	---	---	---	---	---	---
Nitrogen, amm. + org., total (as N)	---	---	0.70	1.0	---	---	---	---	---	---	---
Nitrogen, total (as N)	---	---	1.4	1.7	---	---	---	---	---	---	---
Phosphorus, total (as P)	---	---	0.034	0.036	0.064	0.400	0.052	0.091	---	0.054	0.070
Phosphorus, ortho, dissolved (as P)	---	---	0.006	0.007	---	---	---	---	---	---	---
Iron, dissolved (Fe) µg/L	---	---	100	100	---	---	---	---	---	---	---
Manganese, dissolved (Mn) µg/L	---	---	30	31	---	---	---	---	---	---	---
Chlorophyll a, phytoplankton (µg/L)	---	---	8.7	---	29	---	---	---	<0.1	7.4	---



455504089260500 MOON LAKE NEAR ST. GERMAIN, WI

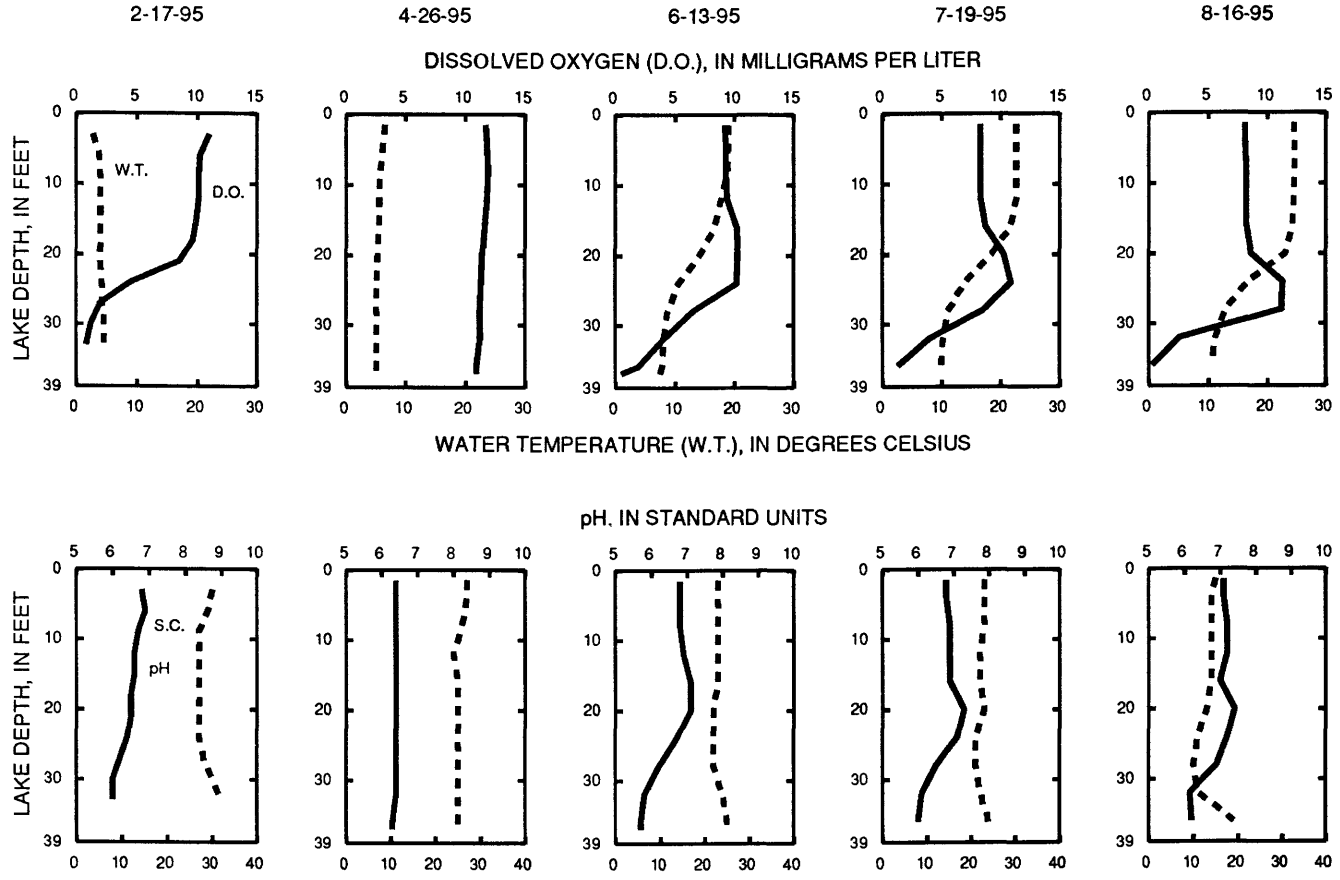
LOCATION.--Lat 45°55'04", long 89°26'05", in SE 1/4 SE 1/4 sec.25, T.40 N., R.8 E., Vilas County, Hydrologic Unit 07070001, 2.9 mi northeast of St. Germain.

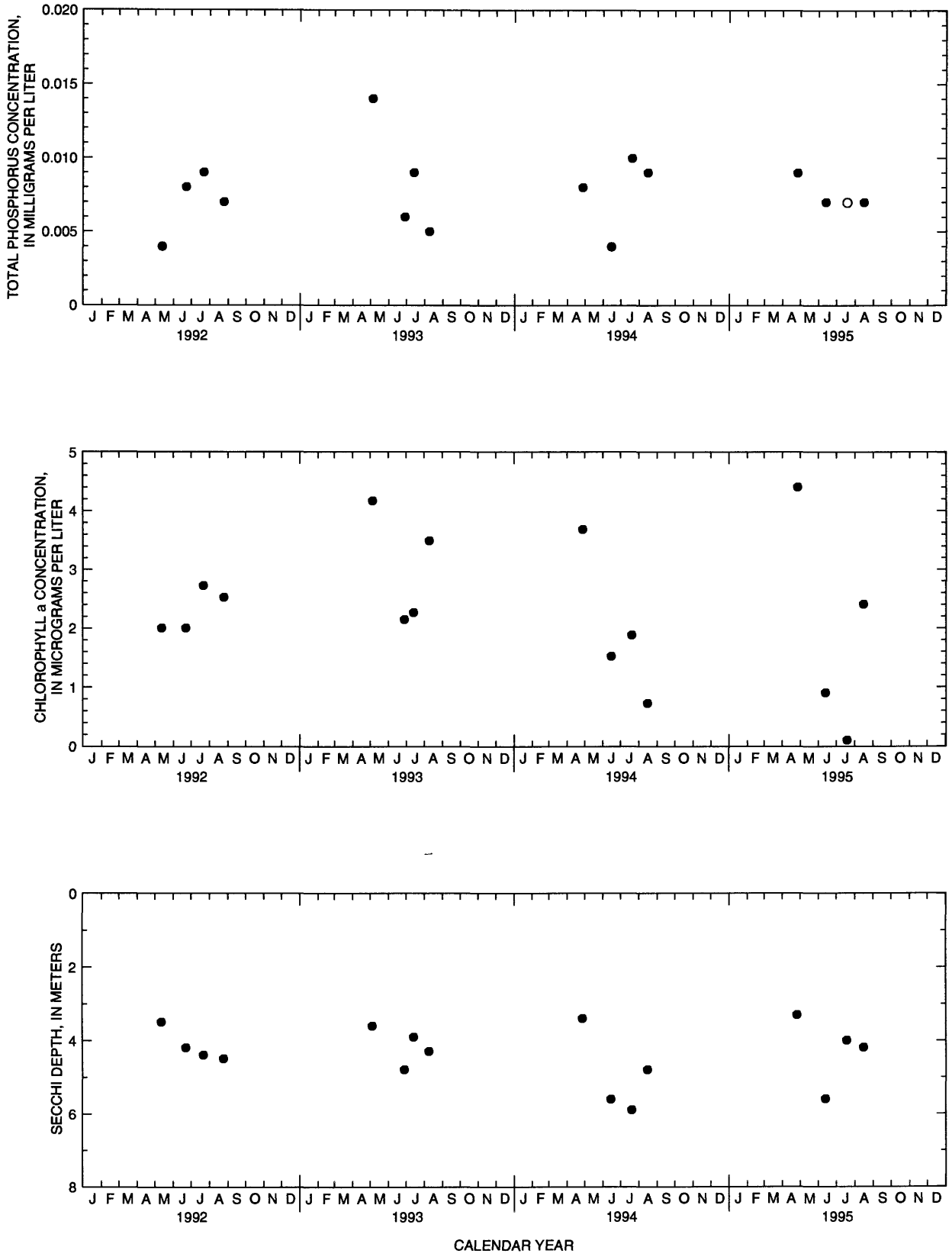
PERIOD OF RECORD.--May 1985 to September 1988 and October 1989 to September 1990, Secchi depth only; February 1992 to current year.

REMARKS.--The stage of Moon Lake is the same as Alma Lake; lake stages read at Alma Lake. Lake sampled near center at the deep hole. Lake ice-covered during February measurements. Water-quality analyses done by Wisconsin State Laboratory of Hygiene.

WATER-QUALITY DATA, FEBRUARY 17 TO AUGUST 16, 1995
(Milligrams per liter unless otherwise indicated)

	Feb. 17		Apr. 26		June 13		July 19		Aug. 16	
Depth of sample (ft)	3.0	33	1.5	37	1.5	37	1.5	36	1.5	36
Lake stage (ft)	10.72		10.76		10.82		10.72		10.87	
Specific conductance (µS/cm)	30	32	27	25	23	25	23	24	15	19
pH (units)	6.8	6.0	6.4	6.3	6.8	5.7	6.8	6.0	7.1	6.2
Water temperature (°C)	3.0	4.5	6.5	5.0	19.0	7.5	22.5	10.0	24.5	10.5
Color (Pt-Co. scale)	---	---	5	10	---	---	---	---	---	---
Turbidity (NTU)	---	---	0.60	0.80	---	---	---	---	---	---
Secchi-depth (meters)	---		3.3		5.6		4.0		4.2	
Dissolved oxygen	11.0	0.8	11.7	10.9	9.2	0.5	8.3	1.3	8.1	0.3
Hardness, as CaCO3	---	---	9	9	---	---	---	---	---	---
Calcium, dissolved (Ca)	---	---	2.1	2.2	---	---	---	---	---	---
Magnesium, dissolved (Mg)	---	---	0.8	0.8	---	---	---	---	---	---
Sodium, dissolved (Na)	---	---	0.7	0.7	---	---	---	---	---	---
Potassium, dissolved (K)	---	---	0.4	0.3	---	---	---	---	---	---
Alkalinity, as CaCO3	---	---	7	7	---	---	---	---	---	---
Sulfate, dissolved (SO4)	---	---	3.0	4.0	---	---	---	---	---	---
Chloride, dissolved (Cl)	---	---	0.8	0.6	---	---	---	---	---	---
Fluoride, dissolved (F)	---	---	<0.1	<0.1	---	---	---	---	---	---
Silica, dissolved (SiO2)	---	---	0.3	0.1	---	---	---	---	---	---
Solids, dissolved, at 180°C	---	---	18	12	---	---	---	---	---	---
Nitrogen, NO2 + NO3, diss. (as N)	---	---	0.06	0.04	---	---	---	---	---	---
Nitrogen, ammonia, dissolved (as N)	---	---	<0.03	<0.03	---	---	---	---	---	---
Nitrogen, organic, total (as N)	---	---	0.40	0.30	---	---	---	---	---	---
Nitrogen, amm. + org., total (as N)	---	---	0.40	0.30	---	---	---	---	---	---
Nitrogen, total (as N)	---	---	0.46	0.34	---	---	---	---	---	---
Phosphorus, total (as P)	---	---	0.009	0.018	0.007	0.048	<0.007	0.025	0.007	0.036
Phosphorus, ortho, dissolved (as P)	---	---	<0.002	<0.002	---	---	---	---	---	---
Iron, dissolved (Fe) µg/L	---	---	20	20	---	---	---	---	---	---
Manganese, dissolved (Mn) µg/L	---	---	4	6	---	---	---	---	---	---
Chlorophyll a, phytoplankton (µg/L)	---	---	4.4	---	0.9	---	<0.01	---	2.4	---





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.

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, 65.71 ft, Oct. 18-19; minimum observed gage height, 65.21 ft, Sept. 15.

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	---	65.66	65.64	65.56	65.53	65.49	---	65.56	---	65.49	65.29	65.34
2	---	65.66	65.63	65.56	65.52	65.49	---	65.54	---	65.48	65.30	65.33
3	---	65.66	65.63	65.55	65.52	65.49	---	65.54	---	65.47	65.28	65.32
4	---	65.65	65.63	65.55	65.51	65.49	---	65.54	---	65.44	65.30	65.31
5	---	65.65	65.63	65.54	65.51	65.49	---	65.52	---	65.43	65.37	65.31
6	---	65.65	65.63	65.56	65.52	65.49	---	65.51	---	65.43	65.37	65.31
7	---	65.65	65.63	65.54	65.50	65.52	---	65.50	---	65.42	65.37	65.32
8	---	65.65	65.62	65.53	65.50	65.52	---	65.50	---	65.41	65.37	65.28
9	---	65.65	65.62	65.52	65.51	65.52	---	65.56	---	65.42	65.34	65.28
10	---	65.65	65.62	65.53	65.51	65.53	---	65.56	---	65.42	65.33	65.27
11	---	65.63	65.62	65.54	65.51	65.53	---	---	---	65.41	65.33	65.25
12	---	65.62	65.61	65.54	65.52	65.53	---	---	---	65.39	65.33	65.23
13	---	65.63	65.60	65.54	65.51	65.55	---	---	65.49	65.39	65.40	65.23
14	---	65.63	65.59	65.54	65.51	65.56	---	---	65.45	65.39	65.44	65.22
15	---	65.63	65.59	65.54	65.52	65.56	---	---	65.41	65.44	65.43	65.21
16	---	65.63	65.59	65.54	65.52	65.56	---	---	65.42	65.46	65.43	65.24
17	---	65.63	65.59	65.52	65.52	65.56	---	---	65.42	65.47	65.44	65.26
18	65.71	65.63	65.59	65.52	65.52	65.56	---	---	65.41	65.46	65.41	65.25
19	65.71	65.62	65.59	65.52	65.51	65.56	---	---	65.41	65.44	65.41	65.25
20	65.69	65.62	65.59	65.52	65.51	65.57	---	---	65.38	65.42	65.40	65.25
21	65.68	65.62	65.59	65.54	65.50	65.60	---	---	65.43	65.42	65.39	65.25
22	65.69	65.62	65.59	65.54	65.51	---	---	---	65.53	65.41	65.35	65.25
23	65.69	65.63	65.59	65.54	65.51	---	---	---	65.53	65.38	65.34	65.24
24	65.69	65.63	65.57	65.54	65.51	---	---	---	65.51	65.37	65.32	65.24
25	65.69	65.63	65.57	65.54	65.50	---	65.59	---	65.49	65.36	65.32	65.23
26	65.69	65.63	65.57	65.54	65.50	---	65.59	---	65.48	65.35	65.37	65.23
27	65.69	65.63	65.57	65.54	65.50	---	65.59	---	65.48	65.32	65.40	65.23
28	65.69	65.63	65.57	65.54	65.50	---	65.56	---	65.48	65.31	65.39	65.23
29	65.69	65.64	65.57	65.53	---	---	65.56	---	65.52	65.29	65.39	65.23
30	65.68	65.64	65.57	65.53	---	---	65.56	---	65.51	65.27	65.39	65.23
31	65.67	---	65.56	65.53	---	---	---	---	---	65.26	65.37	---
MEAN	---	65.64	65.60	65.54	65.51	---	---	---	---	65.40	65.37	65.26
MAX	---	65.66	65.64	65.56	65.53	---	---	---	---	65.49	65.44	65.34
MIN	---	65.62	65.56	65.52	65.50	---	---	---	---	65.26	65.28	65.21

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.--Staff gage read by Edward Girzi; gage is located near his residence.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height observed, 89.88 ft, Apr. 23, 1992; minimum observed, 86.46 ft, Aug. 21, 1994, and Aug. 4, 1995.

EXTREMES FOR CURRENT YEAR.--Maximum gage height observed, 87.81 ft, May 18; minimum observed, 86.46 ft, Aug. 4.

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	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	87.34	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	86.46	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	86.68	---	86.72
8	---	---	---	---	---	---	---	---	87.00	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	86.64	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	86.98	---	86.52	---
12	86.83	---	---	---	---	---	---	87.46	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	86.60
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	86.58	86.48	---
18	---	---	---	---	---	---	---	87.81	86.82	---	---	---
19	---	---	---	---	---	---	---	---	---	86.58	86.51	---
20	---	---	---	---	---	---	---	---	86.78	---	---	86.56
21	86.75	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	86.57	---	---
24	---	---	---	---	---	---	---	87.52	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	86.64	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	86.56	---	---
30	---	---	---	---	---	---	---	---	86.55	---	---	---
31	---	---	---	---	---	---	---	---	---	---	86.76	---

WATER-QUALITY RECORDS

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

REMARKS.--Lake sampled at the deepest point in the southeast bay. Lake ice-covered during March measurements. Water-quality analyses done by Wisconsin State Laboratory of Hygiene.

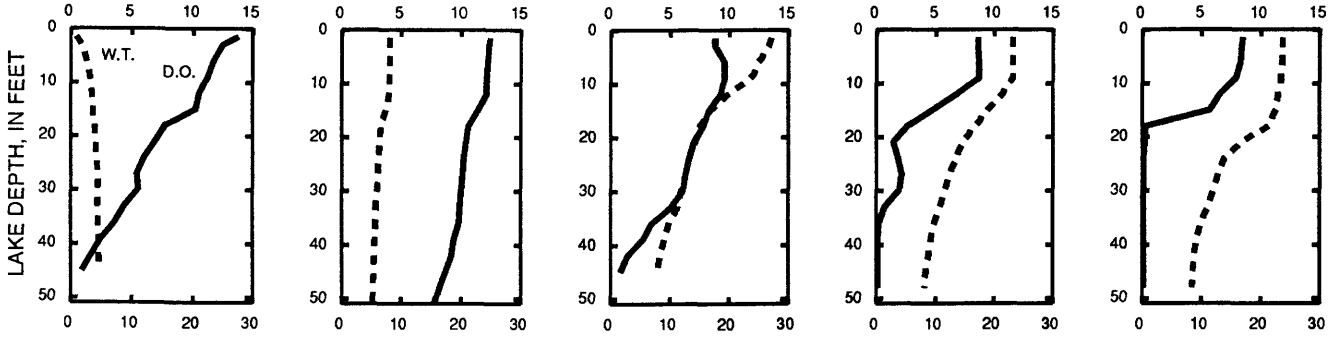
WATER-QUALITY DATA, MARCH 10 TO AUGUST 17, 1995

(Milligrams per liter unless otherwise indicated)

	Mar. 10		May 02		June 20		July 19		Aug. 17	
Depth of sample (ft)	1.5	45	1.5	51	1.5	46	1.5	48	1.5	48
Lake stage (ft)	86.64		87.34		86.78		86.58		86.48	
Specific conductance (µS/cm)	122	129	111	113	96	104	98	113	100	125
pH (units)	8.4	7.8	7.8	7.5	7.2	7.4	7.6	7.4	7.7	7.2
Water temperature (°C)	1.0	4.5	8.0	5.5	27.0	8.0	23.0	8.0	23.5	8.5
Color (Pt-Co. scale)	---	---	30	30	---	---	---	---	---	---
Turbidity (NTU)	---	---	6.1	3.5	---	---	---	---	---	---
Secchi-depth (meters)	---		1.8		2.1		2.4		1.8	
Dissolved oxygen	13.8	0.9	12.4	7.8	8.8	0.8	8.6	0.1	8.5	0.1
Hardness, as CaCO3	---	---	50	50	---	---	---	---	---	---
Calcium, dissolved (Ca)	---	---	13	13	---	---	---	---	---	---
Magnesium, dissolved (Mg)	---	---	4.2	4.3	---	---	---	---	---	---
Sodium, dissolved (Na)	---	---	2.8	2.9	---	---	---	---	---	---
Potassium, dissolved (K)	---	---	0.8	0.8	---	---	---	---	---	---
Alkalinity, as CaCO3	---	---	44	46	---	---	---	---	---	---
Sulfate, dissolved (SO4)	---	---	6.0	6.0	---	---	---	---	---	---
Chloride, dissolved (Cl)	---	---	3.1	3.1	---	---	---	---	---	---
Fluoride, dissolved (F)	---	---	<0.1	<0.1	---	---	---	---	---	---
Silica, dissolved (SiO2)	---	---	9.8	11	---	---	---	---	---	---
Solids, dissolved, at 180°C	---	---	88	90	---	---	---	---	---	---
Nitrogen, NO2 + NO3, diss. (as N)	---	---	0.09	0.07	---	---	---	---	---	---
Nitrogen, ammonia, dissolved (as N)	---	---	<0.03	0.08	---	---	---	---	---	---
Nitrogen, organic, total (as N)	---	---	0.60	0.42	---	---	---	---	---	---
Nitrogen, amm. + org., total (as N)	---	---	0.60	0.50	---	---	---	---	---	---
Nitrogen, total (as N)	---	---	0.69	0.57	---	---	---	---	---	---
Phosphorus, total (as P)	---	---	0.017	0.019	0.007	0.037	0.013	0.049	0.013	0.064
Phosphorus, ortho, dissolved (as P)	---	---	0.002	0.003	---	---	---	---	---	---
Iron, dissolved (Fe) µg/L	---	---	60	120	---	---	---	---	---	---
Manganese, dissolved (Mn) µg/L	---	---	89	500	---	---	---	---	---	---
Chlorophyll a, phytoplankton (µg/L)	---	---	15	---	<0.01	---	0.2	---	6.8	---

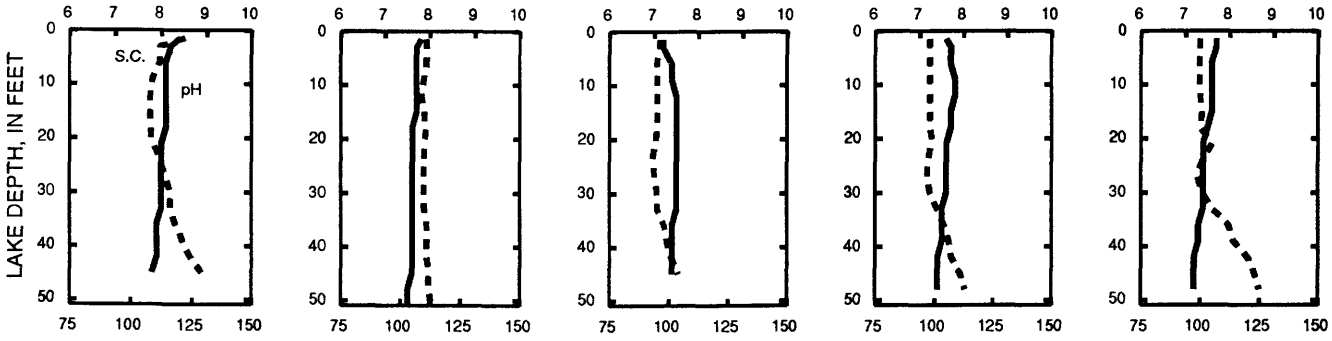
3-10-95 5-2-95 6-20-95 7-19-95 8-17-95

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

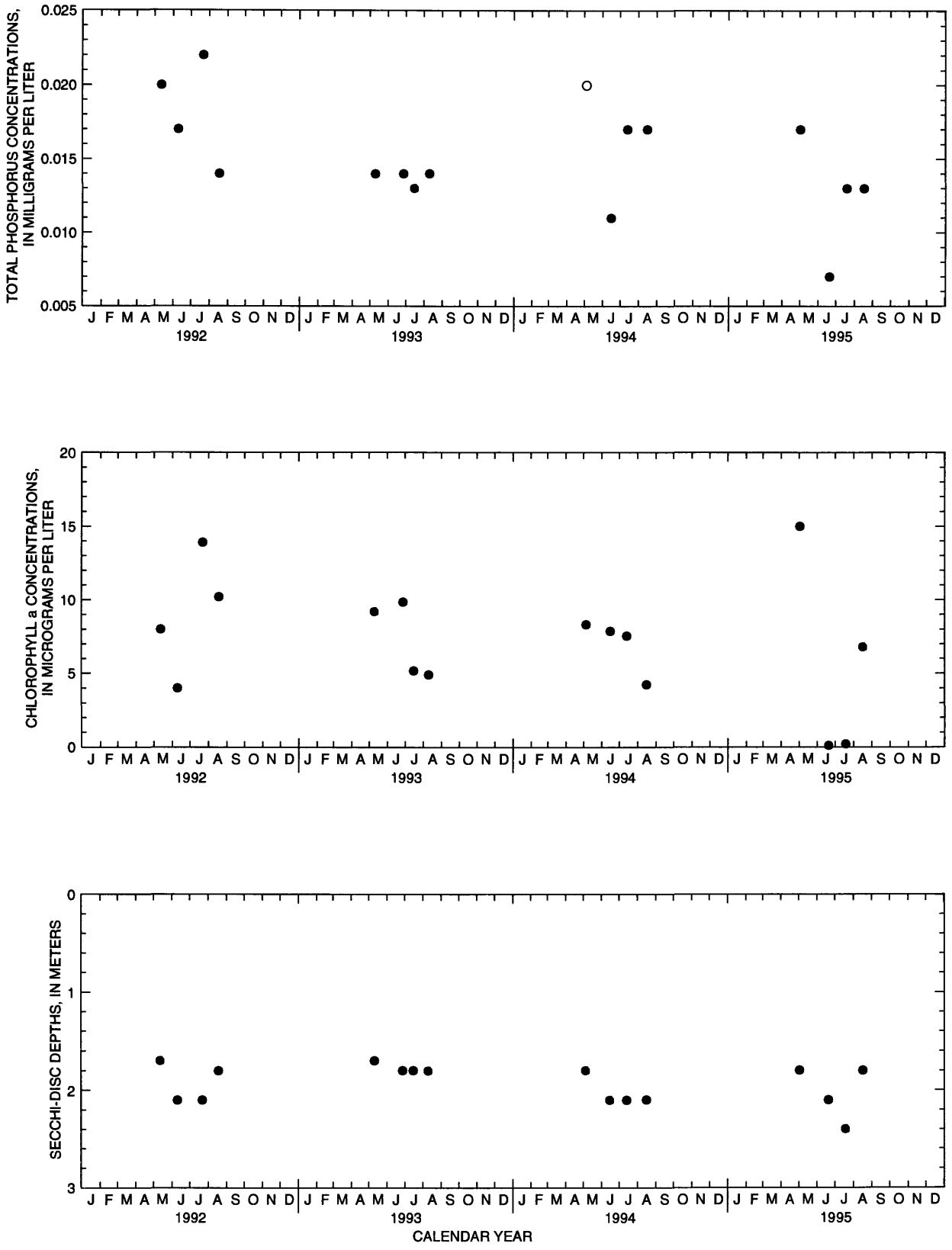


WATER TEMPERATURE (W.T.), IN DEGREES CELSIUS

pH, IN STANDARD UNITS



SPECIFIC CONDUCTANCE (S.C.), IN MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS



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

(Circles indicate laboratory detection limit for selected analyses. Actual concentrations for these particular analyses are less than the plotted circles.

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 lake depth of about 20 ft. Water-quality analyses done by Wisconsin State Laboratory of Hygiene.

WATER-QUALITY DATA, MAY 02 TO AUGUST 17, 1995
(Milligrams per liter unless otherwise indicated)

	May 02	June 20	July 19	Aug. 17
Depth of sample (ft)	1.5	1.5	1.5	1.5
Lake stage (ft)	87.34	86.78	86.58	86.48
Specific conductance (µS/cm)	106	97	98	101
pH (units)	8.1	7.1	7.7	7.8
Water temperature (°C)	8.0	28.0	24.5	24.0
Secchi-depth (meters)	2.0	2.1	2.4	1.7
Dissolved oxygen	12.0	8.5	8.7	8.6
Phosphorus, total (as P)	0.020	0.008	0.014	0.017
Chlorophyll a, phytoplankton (µg/L)	9.8	<0.1	0.6	7.8

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 at the deepest point in the northeast bay. Water-quality analyses done by Wisconsin State Laboratory of Hygiene.

WATER-QUALITY DATA, MAY 02 TO AUGUST 17, 1995
(Milligrams per liter unless otherwise indicated)

	May 02	June 20	July 19	Aug. 17
Depth of sample (ft)	1.5	1.5	1.5	1.5
Lake stage (ft)	87.34	86.78	86.58	86.48
Specific conductance (µS/cm)	108	97	99	101
pH (units)	7.8	7.1	7.9	8.2
Water temperature (°C)	7.5	29.0	23.0	24.0
Secchi-depth (meters)	2.0	2.6	2.1	1.8
Dissolved oxygen	11.7	8.4	8.8	8.5
Phosphorus, total (as P)	0.011	0.009	0.014	0.015
Chlorophyll a, phytoplankton (µg/L)	6.9	<0.01	0.1	9.4

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

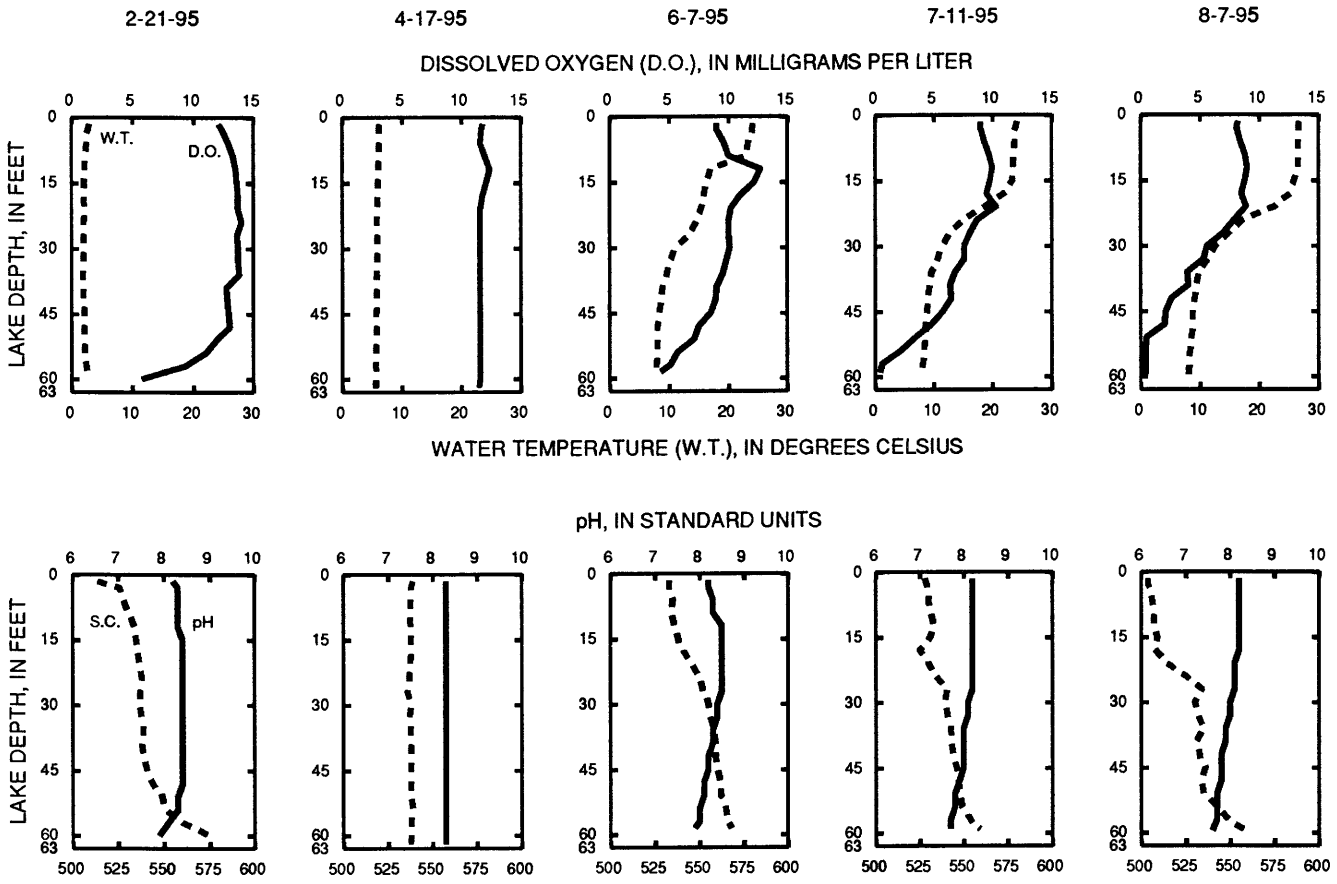
LOCATION.--Lat 43°05'51", long 88°27'35", in NW 1/4 SE 1/4 sec.2, T.7 N., R.17 E., Waukesha County, Hydrologic Unit 07090001, at Oconomowoc.

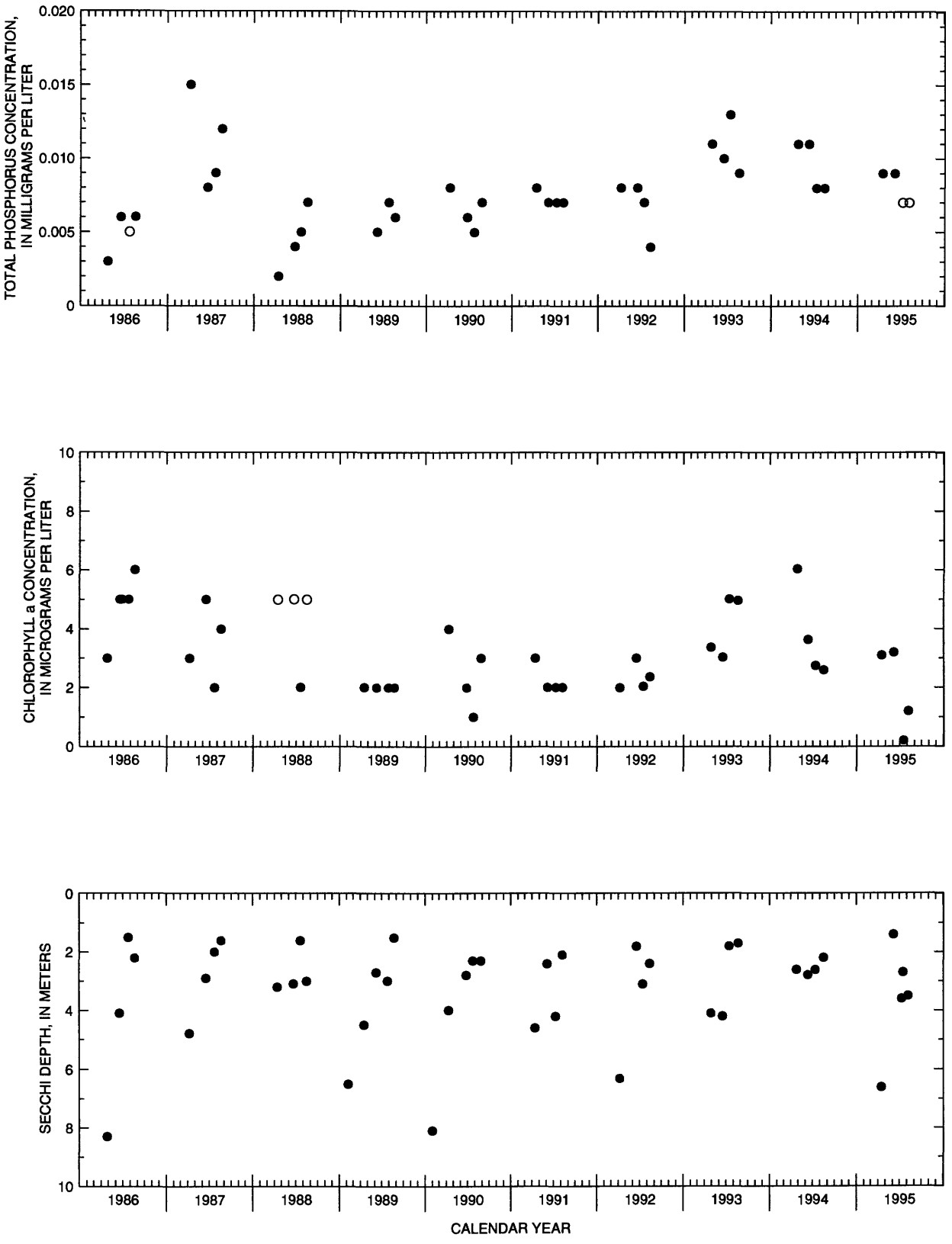
PERIOD OF RECORD.--March 1986 to current year.

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

WATER-QUALITY DATA, FEBRUARY 21 TO AUGUST 07, 1995
(Milligrams per liter unless otherwise indicated)

	Feb. 21		Apr. 17		June 07		July 11		July 17	Aug. 07	
Depth of sample (ft)	1.5	60	1.5	62	1.5	58	1.5	59	1.5	1.5	59
Lake stage (ft)	7.12		7.92		8.04		8.03		---	8.06	
Specific conductance (µS/cm)	514	575	539	538	533	568	528	559	519	504	559
pH (units)	8.2	7.9	8.3	8.3	8.2	7.9	8.2	7.7	8.2	8.2	7.6
Water temperature (°C)	3.0	3.0	6.0	5.5	24.0	8.0	24.0	8.0	26.5	26.5	8.0
Color (Pt-Co. scale)	---	---	5	10	---	---	---	---	---	---	---
Turbidity (NTU)	---	---	0.50	<0.50	---	---	---	---	---	---	---
Secchi-depth (meters)	---		6.6		1.4		3.6		2.7	3.5	
Dissolved oxygen	12.1	5.8	11.8	11.5	9.0	4.3	9.0	0.4	8.4	8.2	0.4
Hardness, as CaCO3	---	---	260	260	---	---	---	---	---	---	---
Calcium, dissolved (Ca)	---	---	49	50	---	---	---	---	---	---	---
Magnesium, dissolved (Mg)	---	---	34	34	---	---	---	---	---	---	---
Sodium, dissolved (Na)	---	---	14	14	---	---	---	---	---	---	---
Potassium, dissolved (K)	---	---	2	2	---	---	---	---	---	---	---
Alkalinity, as CaCO3	---	---	220	220	---	---	---	---	---	---	---
Sulfate, dissolved (SO4)	---	---	27	27	---	---	---	---	---	---	---
Chloride, dissolved (Cl)	---	---	32	32	---	---	---	---	---	---	---
Fluoride, dissolved (F)	---	---	<0.1	<0.1	---	---	---	---	---	---	---
Silica, dissolved (SiO2)	---	---	5.0	5.0	---	---	---	---	---	---	---
Solids, dissolved, at 180°C	---	---	310	306	---	---	---	---	---	---	---
Nitrogen, NO2 + NO3, diss. (as N)	---	---	0.17	0.19	---	---	---	---	---	---	---
Nitrogen, ammonia, dissolved (as N)	---	---	0.10	0.10	---	---	---	---	---	---	---
Nitrogen, organic, total (as N)	---	---	0.50	0.60	---	---	---	---	---	---	---
Nitrogen, amm. + org., total (as N)	---	---	0.60	0.70	---	---	---	---	---	---	---
Nitrogen, total (as N)	---	---	0.77	0.89	---	---	---	---	---	---	---
Phosphorus, total (as P)	---	---	0.009	0.010	0.009	0.025	<0.007	0.021	---	<0.007	0.040
Phosphorus, ortho, dissolved (as P	---	---	<0.002	<0.002	---	---	---	---	---	---	---
Iron, dissolved (Fe) µg/L	---	---	<10	<10	---	---	---	---	---	---	---
Manganese, dissolved (Mn) µg/L	---	---	0.5	<0.4	---	---	---	---	---	---	---
Chlorophyll a, phytoplankton (µg/L)	---	---	3.1	---	3.2	---	---	---	0.2	1.2	---





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

(Circles indicate laboratory detection limit for selected analyses. Actual concentrations for these particular analyses are less than the plotted circles.)

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

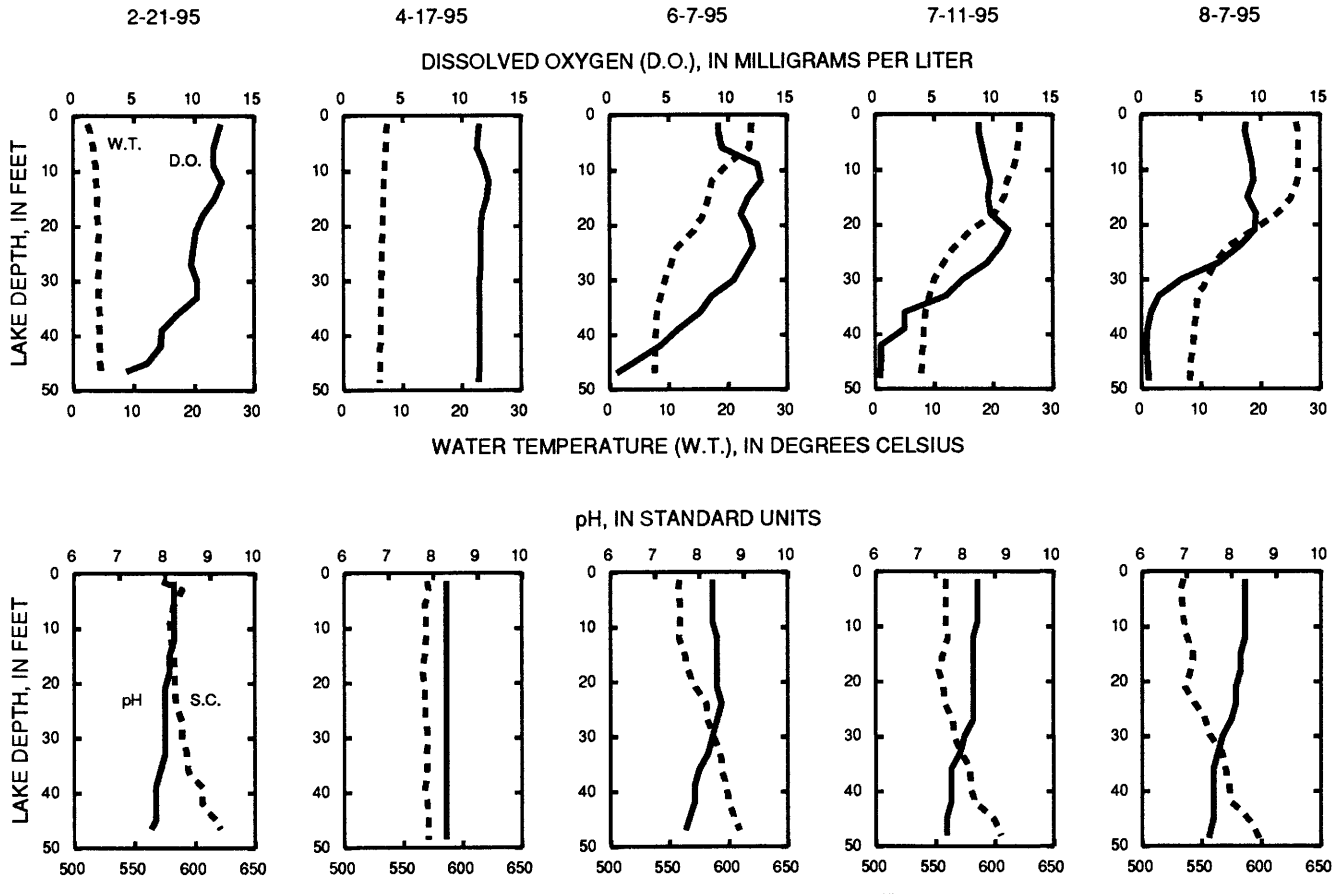
LOCATION.--Lat 43°06'09", long 88°26'22", in NW 1/4 NW 1/4 sec.1, T.7 N., R.17 E., Waukesha County, Hydrologic Unit 07090001, at Oconomowoc.

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

REMARKS.--Lake sampled at the deepest point in northeast bay near Hewitt Point. Lake ice-covered during February measurements. Water-quality analyses done by Wisconsin State Laboratory of Hygiene.

WATER-QUALITY DATA, FEBRUARY 21 TO AUGUST 07, 1995
(Milligrams per liter unless otherwise indicated)

	Feb. 21		Apr. 17		June 07		July 11		July 17	Aug. 07	
Depth of sample (ft)	1.5	47	1.5	48	1.5	47	1.5	48	1.5	1.5	48
Lake stage (ft)	7.12		7.92		8.04		8.03		---	8.06	
Specific conductance (µS/cm)	573	621	570	571	558	609	559	606	550	535	598
pH (units)	8.2	7.7	8.3	8.3	8.3	7.7	8.3	7.	8.1	8.3	7.5
Water temperature (°C)	2.5	4.5	7.5	6.0	24.0	7.5	24.5	8.0	27.5	26.0	8.0
Secchi-depth (meters)	---		6.8		1.7		2.7		2.6	2.5	
Dissolved oxygen	12.2	4.4	11.5	11.4	9.2	0.6	8.8	0.4	8.1	8.8	0.6
Phosphorus, total (as P)	---	---	<0.007	<0.007	0.007	0.03	<0.007	0.044	---	<0.007	0.053
Chlorophyll a, phytoplankton (µg/L)	---	---	2.2	---	2.9	---	---	---	0.1	2.2	---



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.

LAKE-STAGE GAGE.--Datum of gage is 869.00 ft above sea level.

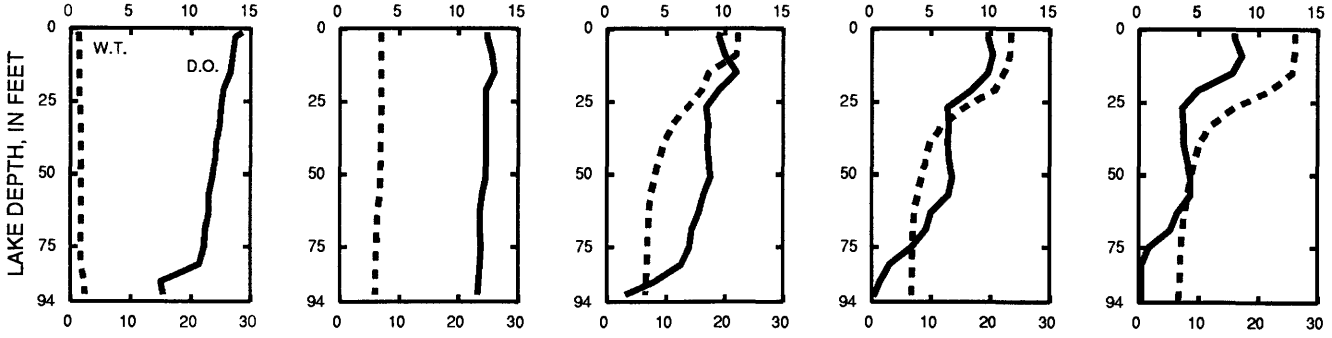
REMARKS.--A detailed water quality management plan has been developed for Okauchee Lake by Southeastern Wisconsin Regional Planning Commission; previous water-quality data are available in this report. Lake sampled near center at the deep hole. Lake ice-covered during February measurements. Water-quality analyses done by Wisconsin State Laboratory of Hygiene.

WATER-QUALITY DATA, FEBRUARY 03 TO AUGUST 07, 1995

(Milligrams per liter unless otherwise indicated)

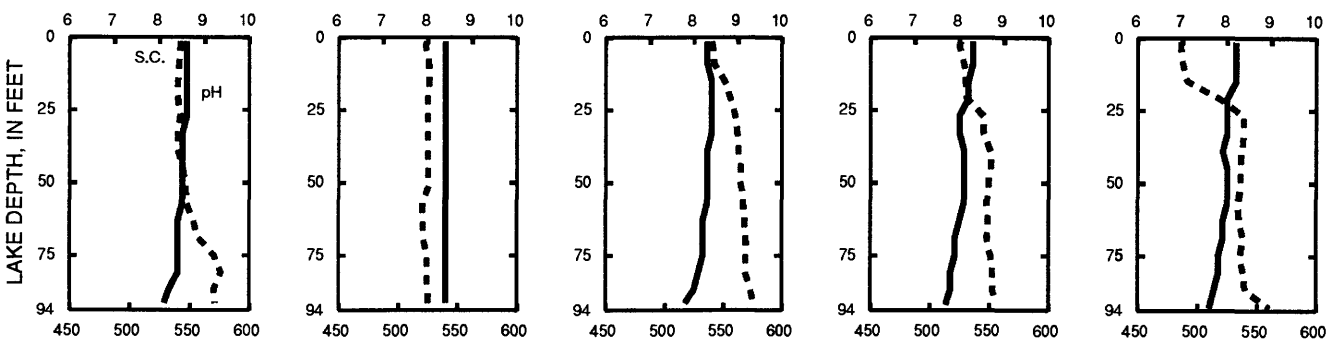
	Feb. 03		Apr. 25		June 0		July 11		July 17	Aug. 07	
Depth of sample (ft)	1.5	92	1.5	91	1.5	91	1.5	92	1.5	1.5	93
Lake stage (ft)	---		4.81		4.77		4.76		---	4.61	
Specific conductance (µS/cm)	542	571	524	525	540	576	526	555	505	486	565
pH (units)	8.6	8.1	8.4	8.4	8.3	7.8	8.3	7.7	8.3	8.2	7.6
Water temperature (°C)	1.5	2.5	7.0	6.0	22.0	6.5	23.5	6.5	27.0	26.0	6.5
Color (Pt-Co. scale)	---	---	20	20	---	---	---	---	---	---	---
Turbidity (NTU)	---	---	1.00	1.00	---	---	---	---	---	---	---
Secchi-depth (meters)	---		3.2		2.9		2.5		2.5	2.2	
Dissolved oxygen	14.3	7.7	12.4	11.6	9.6	1.6	9.8	0.2	8.7	8.0	0.3
Hardness, as CaCO3	---	---	270	270	---	---	---	---	---	---	---
Calcium, dissolved (Ca)	---	---	54	54	---	---	---	---	---	---	---
Magnesium, dissolved (Mg)	---	---	34	34	---	---	---	---	---	---	---
Sodium, dissolved (Na)	---	---	11	11	---	---	---	---	---	---	---
Potassium, dissolved (K)	---	---	2	2	---	---	---	---	---	---	---
Alkalinity, as CaCO3	---	---	230	230	---	---	---	---	---	---	---
Sulfate, dissolved (SO4)	---	---	24	24	---	---	---	---	---	---	---
Chloride, dissolved (Cl)	---	---	27	28	---	---	---	---	---	---	---
Fluoride, dissolved (F)	---	---	<0.1	<0.1	---	---	---	---	---	---	---
Silica, dissolved (SiO2)	---	---	1.4	1.6	---	---	---	---	---	---	---
Solids, dissolved, at 180°C	---	---	312	314	---	---	---	---	---	---	---
Nitrogen, NO2 + NO3, diss. (as N)	---	---	<0.01	0.26	---	---	---	---	---	---	---
Nitrogen, ammonia, dissolved (as N)	---	---	<0.03	<0.03	---	---	---	---	---	---	---
Nitrogen, organic, total (as N)	---	---	0.60	0.70	---	---	---	---	---	---	---
Nitrogen, amm. + org., total (as N)	---	---	0.60	0.70	---	---	---	---	---	---	---
Nitrogen, total (as N)	---	---	0.60	0.96	---	---	---	---	---	---	---
Phosphorus, total (as P)	---	---	0.013	0.012	0.012	0.037	0.007	0.023	---	0.009	0.062
Phosphorus, ortho, dissolved (as P)	---	---	<0.002	<0.002	---	---	---	---	---	---	---
Iron, dissolved (Fe) µg/L	---	---	<10	<10	---	---	---	---	---	---	---
Manganese, dissolved (Mn) µg/L	---	---	<0.4	<0.4	---	---	---	---	---	---	---
Chlorophyll a, phytoplankton (µg/L)	---	---	9.9	---	1.5	---	---	---	0.8	2.7	---
	2-3-95		4-25-95		6-7-95		7-11-95			8-7-95	

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

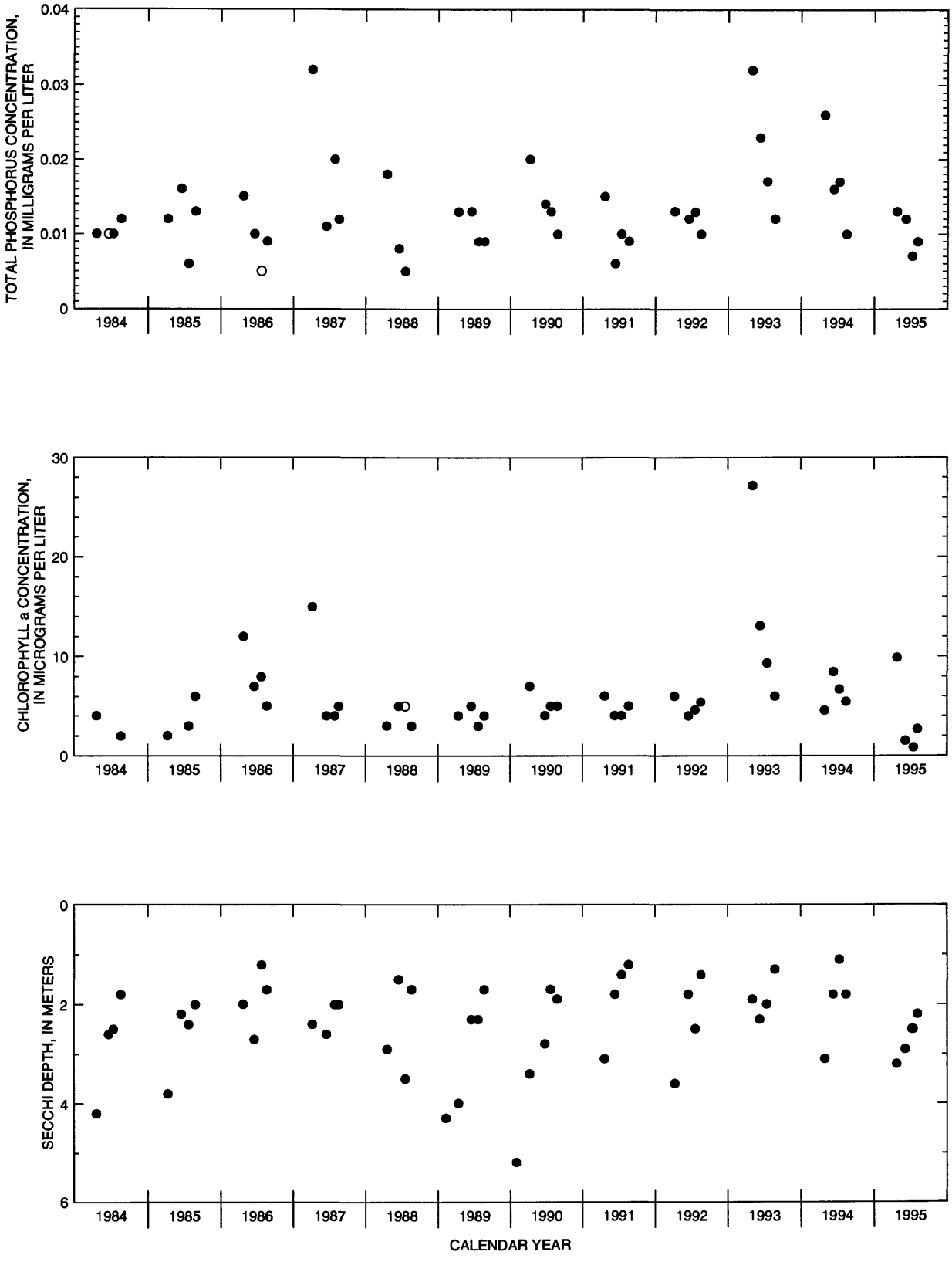


WATER TEMPERATURE (W.T.), IN DEGREES CELSIUS

pH, IN STANDARD UNITS



SPECIFIC CONDUCTANCE (S.C.), IN MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS



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

(Circles indicate laboratory detection limit for selected analyses. Actual concentrations for these particular analyses are less than the plotted circles.)

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.

LAKE-STAGE GAGE.--Datum of gage is 869.00 ft above sea level.

REMARKS.--Lake sampled in Crane's Nest Bay, in the northeast part of the lake, at an approximate depth of 7 ft. Water-quality analyses done by Wisconsin State Laboratory of Hygiene.

WATER-QAULTIY DATA, APRIL 25 TO AUGUST 07, 1995
(Milligrams per liter unless otherwise indicated)

	Apr. 25	June 07	July 11	July 17	Aug. 07
Depth of sample (ft)	1.5	1.5	1.5	1.5	1.5
Lake stage (ft)	4.81	4.77	4.76	---	4.61
Specific conductance (µS/cm)	524	532	550	517	502
pH (units)	8.4	8.5	8.5	8.2	8.3
Water temperature (°C)	7.0	23.5	24.0	28.0	26.5
Secchi-depth (meters)	3.2	1.5	1.9	2.3	1.7
Dissolved oxygen	12.4	11.9	11.4	8.4	7.9
Phosphorus, total (as P)	0.012	0.020	0.023	---	0.018
Chlorophyll a, phytoplankton (µg/L)	9.9	1.4	---	0.2	6.2

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.

LAKE-STAGE GAGE.--Datum of gage is 869.00 ft above sea level.

REMARKS.--Lake sampled in Lower Okauchee Lake, at an approximate depth of 14 ft. Water-quality analyses done by Wisconsin State Laboratory of Hygiene.

WATER-QUALITY DATA, APRIL 25 TO AUGUST 07, 1995
(Milligrams per liter unless otherwise indicated)

	Apr. 25	June 07	July 11	July 17	Aug. 07
Depth of sample (ft)	1.5	1.5	1.5	1.5	1.5
Lake stage (ft)	4.81	4.77	4.76	---	4.61
Specific conductance (µS/cm)	519	500	478	468	458
pH (units)	8.5	8.5	8.5	8.4	8.5
Water temperature (°C)	9.5	24.5	25.0	29.0	27.5
Secchi-depth (meters)	3.0	2.4	3.2	2.7	2.1
Dissolved oxygen	12.0	11.3	10.2	9.5	9.2
Phosphorus, total (as P)	0.012	0.017	0.012	---	0.019
Chlorophyll a, phytoplankton (µg/L)	6.1	4.0	---	0.2	5.3

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.

LAKE-STAGE GAGE.--Datum of gage is 869.00 ft above sea level.

REMARKS.--Lake sampled in Ice House Bay, in the southern part of the lake, at an approximate depth of 12 ft. Water-quality analyses done by Wisconsin State Laboratory of Hygiene.

WATER-QUALITY DATA, APRIL 25 TO AUGUST 07, 1995
(Milligrams per liter unless otherwise indicated)

	Apr. 25	June 07	July 11	July 17	Aug. 07
Depth of sample (ft)	1.5	1.5	1.5	1.5	1.5
Lake stage (ft)	4.81	4.77	4.76	---	4.61
Specific conductance (µS/cm)	520	577	497	487	473
pH (units)	8.5	8.4	8.5	8.3	8.3
Water temperature (°C)	8.0	23.0	24.5	28.0	27.0
Secchi-depth (meters)	3.0	2.3	3.1	2.4	2.2
Dissolved oxygen	12.3	10.4	10.8	9.2	8.3
Phosphorus, total (as P)	0.010	0.014	0.009	---	0.013
Chlorophyll a, phytoplankton (µg/L)	8.1	1.4	---	0.3	4.1

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.

LAKE-STAGE GAGE.--Datum of gage is 869.00 ft above sea level.

REMARKS.--Lake sampled near Crazyman's Island, in the northwest bay of the lake, at an approximate depth of 5.5 ft. Water-quality analyses done by Wisconsin State Laboratory of Hygiene.

WATER-QUALITY DATA, APRIL 25 TO AUGUST 07, 1995
(Milligrams per liter unless otherwise indicated)

	Apr. 25	June 07	July 11	July 17	Aug. 07
Depth of sample (ft)	1.5	1.5	1.5	1.5	1.5
Lake stage (ft)	4.81	4.77	4.76	---	4.61
Specific conductance (µS/cm)	524	535	512	423	456
pH (units)	8.5	8.4	8.5	8.4	8.5
Water temperature (°C)	6.5	23.0	23.5	27.5	26.5
Secchi-depth (meters)	3.0	2.1	2.4	2.3	1.9
Dissolved oxygen	12.2	9.4	10.5	10.7	10.0
Phosphorus, total (as P)	0.014	0.012	0.008	---	0.011
Chlorophyll a, phytoplankton (µg/L)	9.9	2.0	---	0.6	2.4

424905088204000 POTTER LAKE NEAR MUKWONAGO, WI

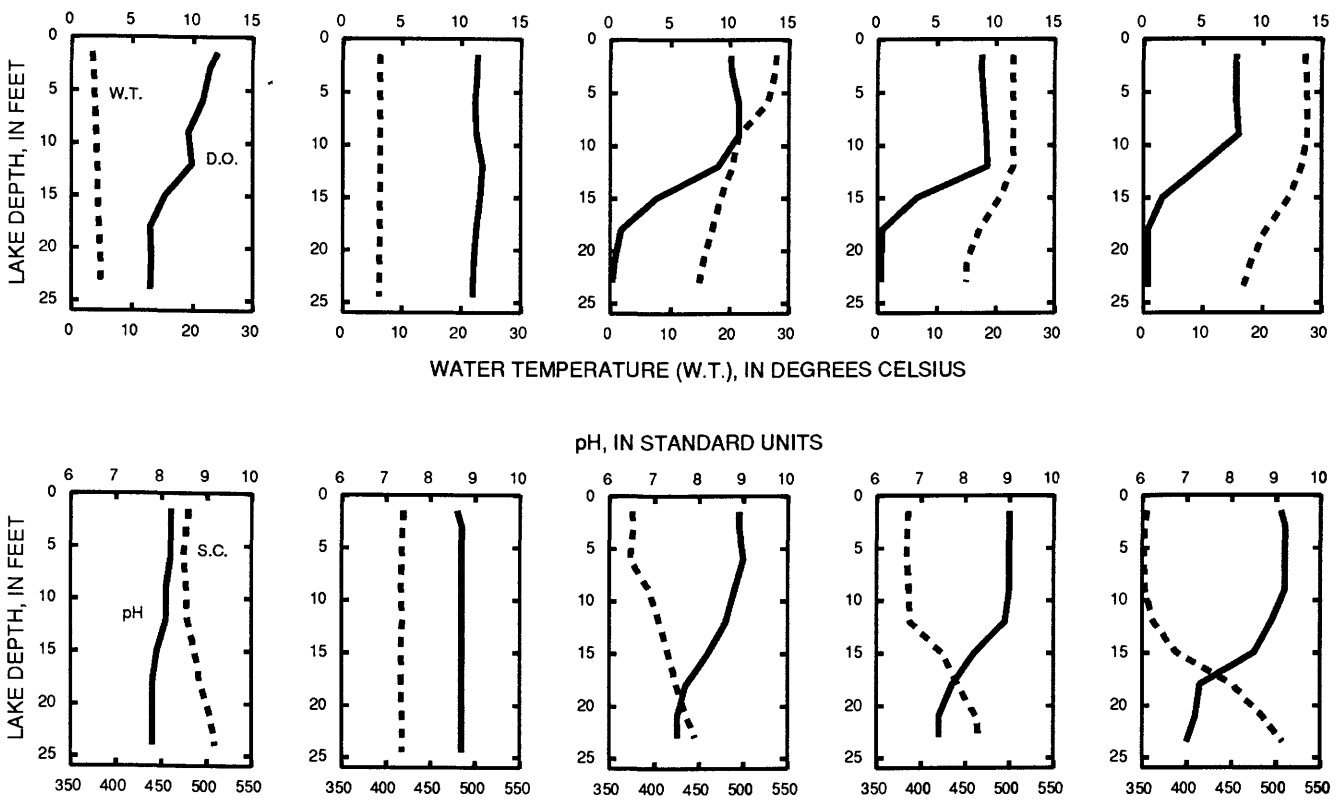
LOCATION.--Lat 42°49'05", long 88°20'40", in NW 1/4 SW 1/4 sec.11, T.4 N., R.18 E., Walworth County, Hydrologic Unit 07120006, 3.3 mi south of Mukwonago.

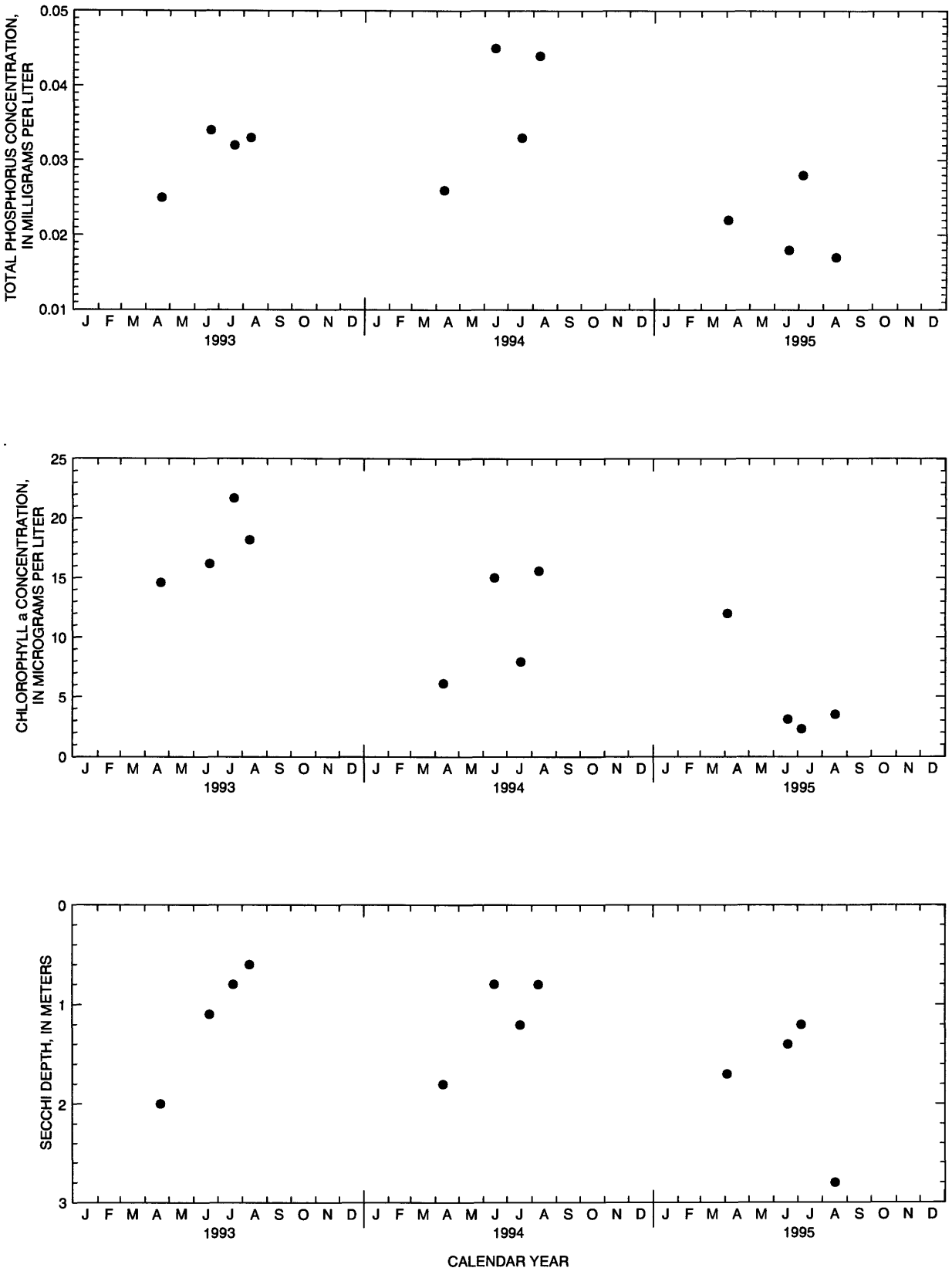
PERIOD OF RECORD.--February 1993 to current year.

REMARKS.--Lake sampled at the deep hole. Lake ice-covered during February measurements. Water-quality analyses done by Wisconsin State Laboratory of Hygiene. Lake-stage values published in 1994 water year were 0.08 ft too low.

WATER-QUALITY DATA, FEBRUARY 21 TO AUGUST 17, 1995
(Milligrams per liter unless otherwise indicated)

	Feb. 21		Apr. 04		June 19		July 06		Aug. 17	
Depth of sample (ft)	1.5	24	1.5	24	1.5	23	1.5	23	1.5	23
Lake stage (ft)	---		7.16		---		7.39		7.63	
Specific conductance (µS/cm)	479	509	420	418	375	445	385	465	355	507
pH (units)	8.2	7.8	8.6	8.7	8.9	7.5	9.0	7.4	9.1	7.0
Water temperature (°C)	3.5	5.0	6.5	6.0	28.0	15.0	23.0	15.0	27.0	17.0
Color (Pt-Co. scale)	---	---	<5	<5	---	---	---	---	---	---
Turbidity (NTU)	---	---	15	15	---	---	---	---	---	---
Secchi-depth (meters)	---		1.7		1.4		1.2		2.8	
Dissolved oxygen	12.0	6.5	11.4	11.0	10.1	0.2	8.8	0.3	7.8	0.4
Hardness, as CaCO3	---	---	170	170	---	---	---	---	---	---
Calcium, dissolved (Ca)	---	---	28	28	---	---	---	---	---	---
Magnesium, dissolved (Mg)	---	---	25	24	---	---	---	---	---	---
Sodium, dissolved (Na)	---	---	22	21	---	---	---	---	---	---
Potassium, dissolved (K)	---	---	2	2	---	---	---	---	---	---
Alkalinity, as CaCO3	---	---	140	140	---	---	---	---	---	---
Sulfate, dissolved (SO4)	---	---	10.0	10	---	---	---	---	---	---
Chloride, dissolved (Cl)	---	---	48	49	---	---	---	---	---	---
Fluoride, dissolved (F)	---	---	0.1	0.1	---	---	---	---	---	---
Silica, dissolved (SiO2)	---	---	<0.1	<0.1	---	---	---	---	---	---
Solids, dissolved, at 180°C	---	---	234	240	---	---	---	---	---	---
Nitrogen, NO2 + NO3, diss. (as N)	---	---	<0.01	<0.01	---	---	---	---	---	---
Nitrogen, ammonia, dissolved (as N)	---	---	<0.03	<0.03	---	---	---	---	---	---
Nitrogen, organic, total (as N)	---	---	0.80	0.90	---	---	---	---	---	---
Nitrogen, amm. + org., total (as N)	---	---	0.80	0.90	---	---	---	---	---	---
Nitrogen, total (as N)	---	---	0.80	0.90	---	---	---	---	---	---
Phosphorus, total (as P)	---	---	0.022	0.019	0.018	0.088	0.028	0.141	0.017	0.088
Phosphorus, ortho, dissolved (as P)	---	---	0.004	0.005	---	---	---	---	---	---
Iron, dissolved (Fe) µg/L	---	---	<10	<10	---	---	---	---	---	---
Manganese, dissolved (Mn) µg/L	---	---	0.6	<0.4	---	---	---	---	---	---
Chlorophyll a, phytoplankton (µg/L)	---	---	12	---	3.1	---	2.3	---	3.5	---





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 the deep hole. Lake ice-covered during February measurements.. Water-quality analyses done by Wisconsin State Laboratory of Hygiene.

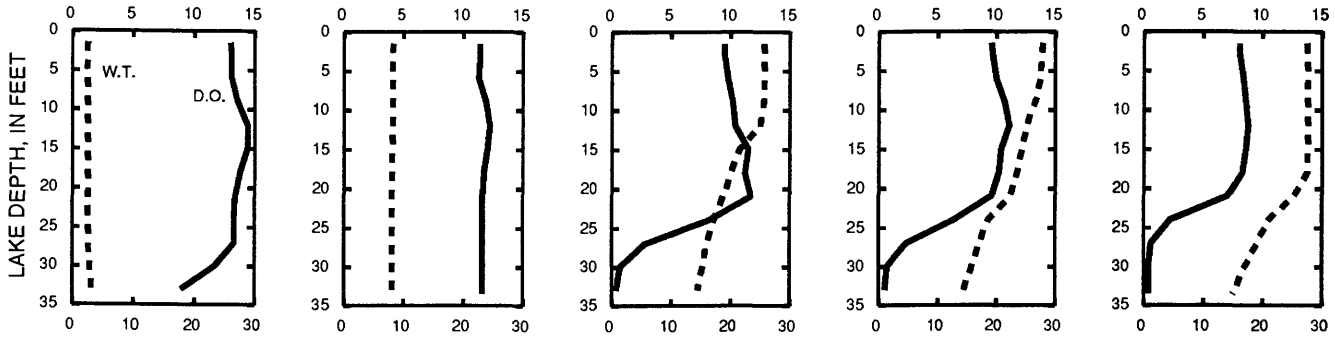
WATER-QUALITY DATA, FEBRUARY 02 TO AUGUST 16, 1995

(Milligrams per liter unless otherwise indicated)

	Feb. 02		Apr. 19		June 20		July 13		July 18	Aug. 16	
Depth of sample (ft)	1.5	33	1.5	33	1.5	33	1.5	33	1.5	1.5	33
Lake stage (ft)	10.50		10.32		9.92		9.81		---	9.88	
Specific conductance (µS/cm)	470	494	476	477	489	496	477	505	474	458	518
pH (units)	8.5	8.2	8.4	8.4	8.3	7.5	8.4	7.6	8.4	8.3	7.3
Water temperature (°C)	2.5	3.0	8.5	8.0	25.5	14.5	28.0	14.5	27.0	27.5	15.0
Color (Pt-Co. scale)	---	---	10	15	---	---	---	---	---	---	---
Turbidity (NTU)	---	---	0.50	0.60	---	---	---	---	---	---	---
Secchi-depth (meters)	---		4.1		3.0		3.4		3.4	2.7	
Dissolved oxygen	13.0	8.9	11.4	11.6	9.5	0.4	9.6	0.5	8.3	8.1	0.4
Hardness, as CaCO3	---	--	230	230	---	---	---	---	---	---	---
Calcium, dissolved (Ca)	---	---	36	36	---	---	---	---	---	---	---
Magnesium, dissolved (Mg)	---	---	33	33	---	---	---	---	---	---	---
Sodium, dissolved (Na)	---	---	16	16	---	---	---	---	---	---	---
Potassium, dissolved (K)	---	---	3	2	---	---	---	---	---	---	---
Alkalinity, as CaCO3	---	---	180	180	---	---	---	---	---	---	---
Sulfate, dissolved (SO4)	---	---	37	34	---	---	---	---	---	---	---
Chloride, dissolved (Cl)	---	---	35	34	---	---	---	---	---	---	---
Fluoride, dissolved (F)	---	---	0.1	0.1	---	---	---	---	---	---	---
Silica, dissolved (SiO2)	---	---	7.7	7.7	---	---	---	---	---	---	---
Solids, dissolved, at 180°C	---	---	282	280	---	---	---	---	---	---	---
Nitrogen, NO2 + NO3, diss. (as N)	---	---	0.01	0.02	---	---	---	---	---	---	---
Nitrogen, ammonia, dissolved (as N)	---	---	<0.03	<0.03	---	---	---	---	---	---	---
Nitrogen, organic, total (as N)	---	---	0.50	0.50	---	---	---	---	---	---	---
Nitrogen, amm. + org., total (as N)	---	---	0.50	0.50	---	---	---	---	---	---	---
Nitrogen, total (as N)	---	---	0.51	0.52	---	---	---	---	---	---	---
Phosphorus, total (as P)	---	---	0.019	0.010	0.007	0.027	0.007	0.037	---	0.009	0.084
Phosphorus, ortho, dissolved (as P)	---	---	0.014	<0.002	---	---	---	---	---	---	---
Iron, dissolved (Fe) µg/L	---	---	<10	<10	---	---	---	---	---	---	---
Manganese, dissolved (Mn) µg/L	---	---	<0.4	<0.4	---	---	---	---	---	---	---
Chlorophyll a, phytoplankton (µg/L)	---	---	4.0	---	1.9	---	---	---	0.2	3.6	---

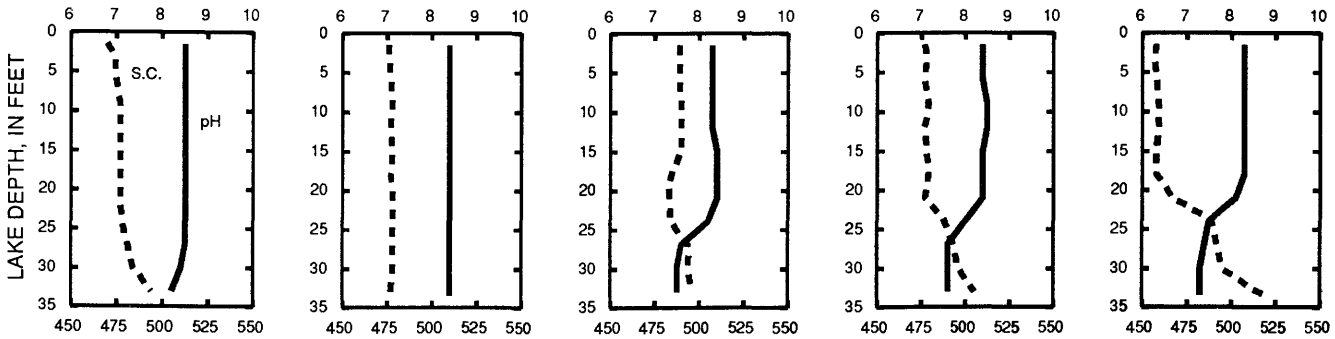
2-2-95 4-19-95 6-20-95 7-13-95 8-16-95

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

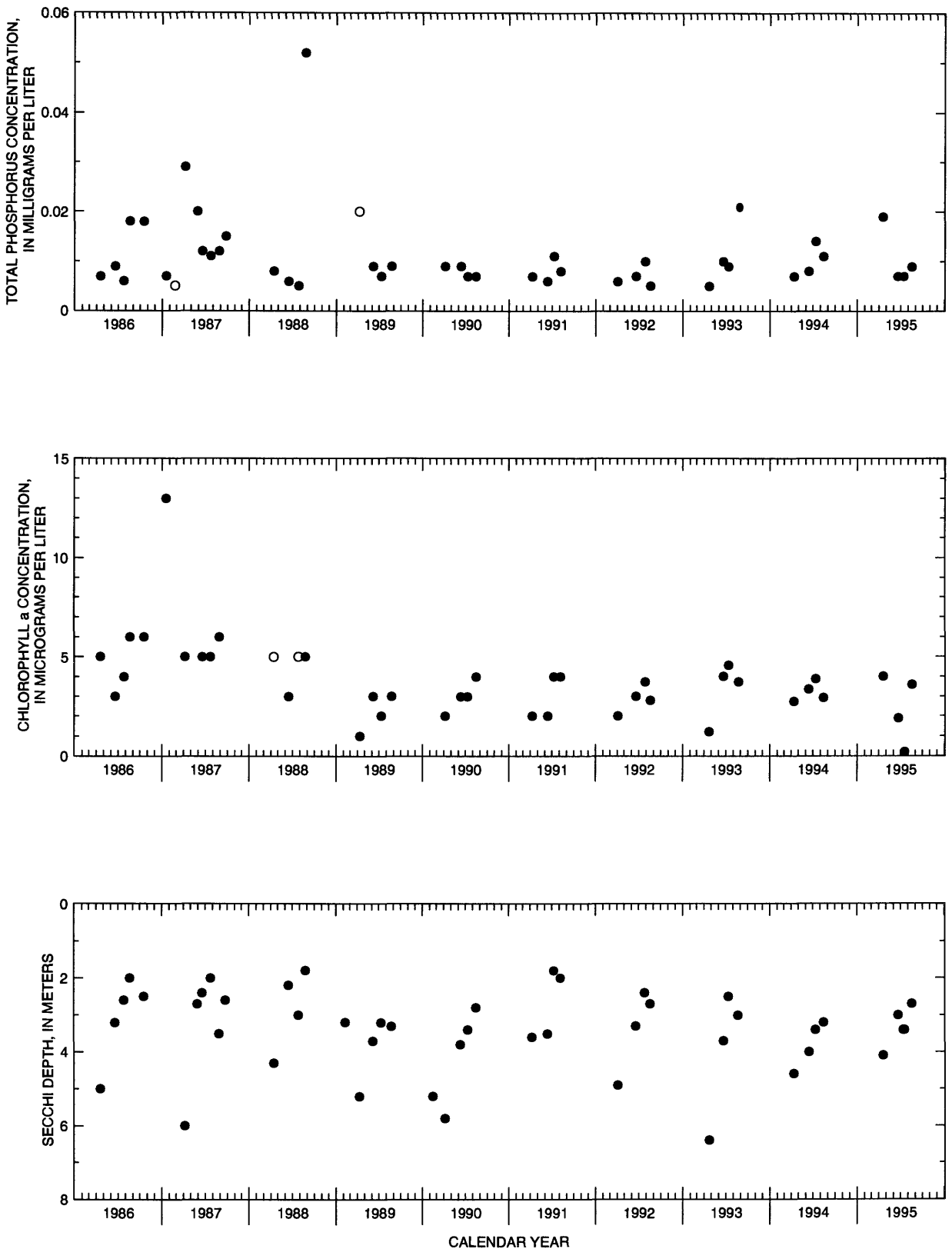


WATER TEMPERATURE (W.T.), IN DEGREES CELSIUS

pH, IN STANDARD UNITS



SPECIFIC CONDUCTANCE (S.C.), IN MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS



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

(Circles indicate laboratory detection limit for selected analyses. Actual concentrations for these particular analyses are less than the plotted circles.)

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

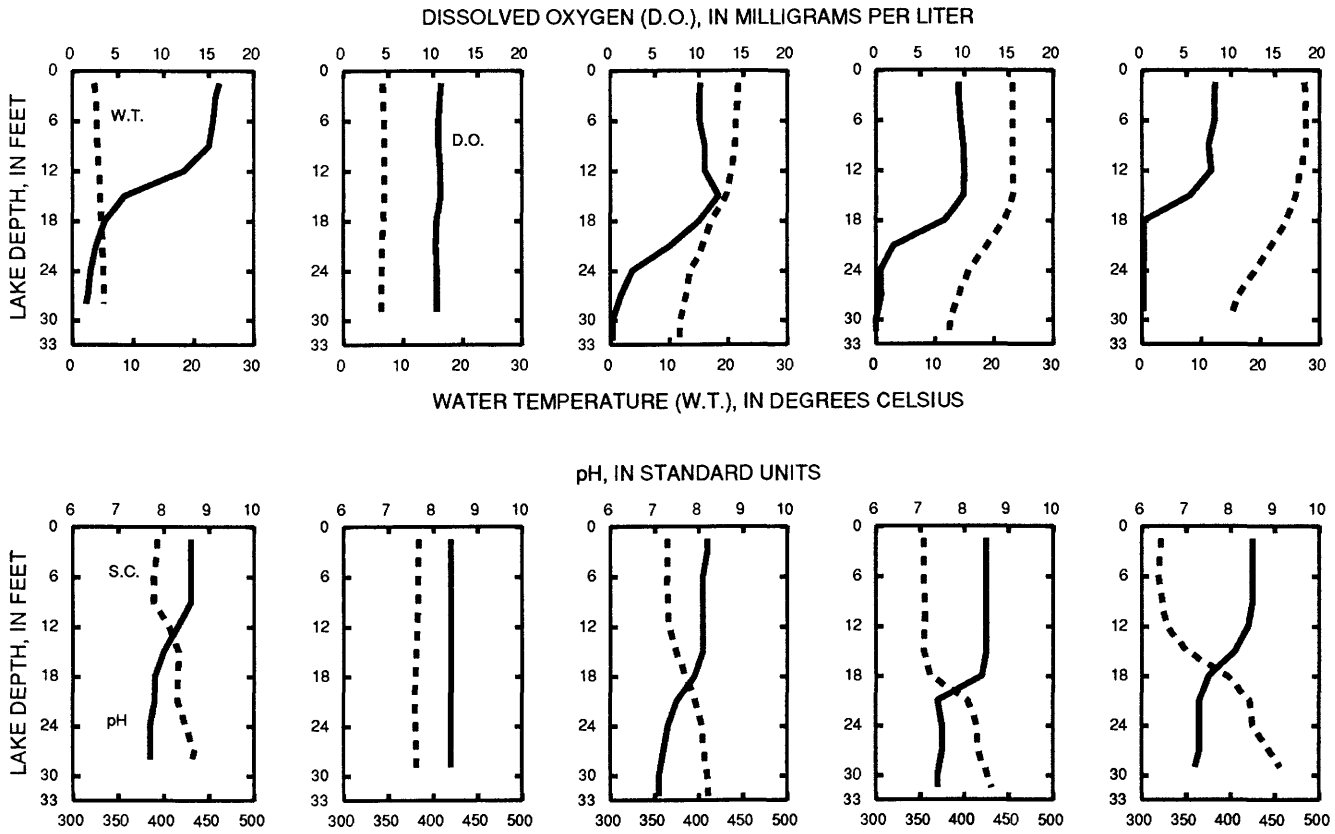
LOCATION.--Lat 42°57'22", long 88°29'50", in NE 1/4 NW 1/4 sec.28, T.6 N., R.17 E., Waukesha County, Hydrologic Unit 07090001, 4.1 mi south of Dousman.

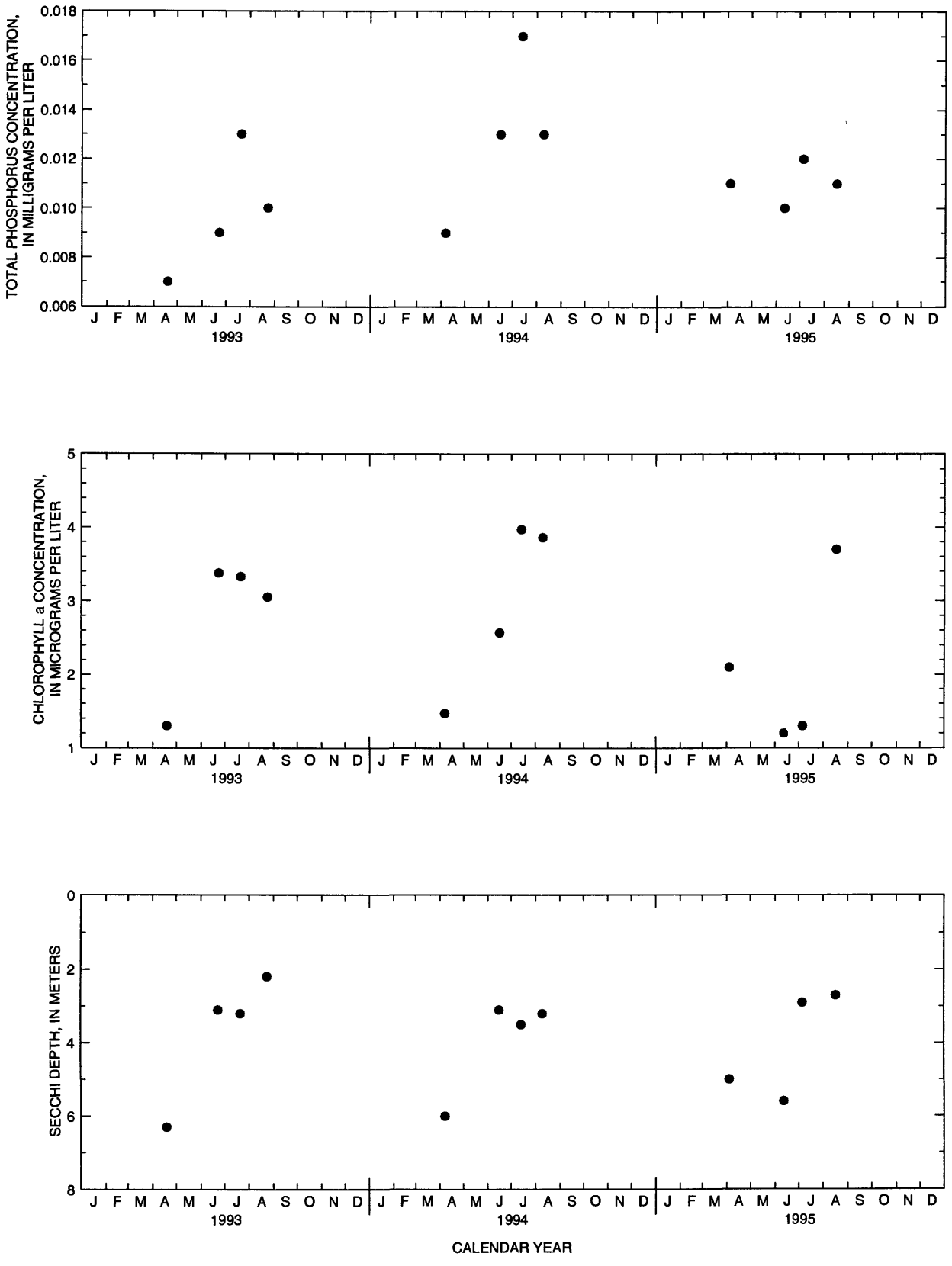
PERIOD OF RECORD.--February 1993 to current year.

REMARKS.--Lake sampled at the deep hole which is near the northeast end of lake. Lake ice-covered during February measurements. Water-quality analyses done by Wisconsin State Laboratory of Hygiene.

WATER-QUALITY DATA, FEBRUARY 21 TO AUGUST 17, 1995
(Milligrams per liter unless otherwise indicated)

	Feb. 21		Apr. 04		June 12		July 06		Aug. 17	
Depth of sample (ft)	1.5	28	1.5	29	1.5	32	1.5	31	1.5	29
Lake stage (ft)	---		---		865.38		---		865.40	
Specific conductance (µS/cm)	393	431	384	381	365	411	354	431	322	456
pH (units)	8.6	7.7	8.4	8.4	8.2	7.1	8.5	7.4	8.5	7.2
Water temperature (°C)	3.5	5.0	6.5	6.5	21.5	11.5	23.0	12.5	27.5	15.5
Color (Pt-Co. scale)	---	---	<5	<5	---	---	---	---	---	---
Turbidity (NTU)	---	---	15	10.0	---	---	---	---	---	---
Secchi-depth (meters)	---		5.0		5.6		2.9		2.7	
Dissolved oxygen	16.2	1.5	10.9	10.4	10.2	0.3	9.4	0.0	8.3	0.2
Hardness, as CaCO3	---	---	190	190	---	---	---	---	---	---
Calcium, dissolved (Ca)	---	---	32	32	---	---	---	---	---	---
Magnesium, dissolved (Mg)	---	---	27	27	---	---	---	---	---	---
Sodium, dissolved (Na)	---	---	8.0	8.0	---	---	---	---	---	---
Potassium, dissolved (K)	---	---	1	2	---	---	---	---	---	---
Alkalinity, as CaCO3	---	---	170	170	---	---	---	---	---	---
Sulfate, dissolved (SO4)	---	---	16	16	---	---	---	---	---	---
Chloride, dissolved (Cl)	---	---	14	14	---	---	---	---	---	---
Fluoride, dissolved (F)	---	---	0.1	0.1	---	---	---	---	---	---
Silica, dissolved (SiO2)	---	---	0.9	0.9	---	---	---	---	---	---
Solids, dissolved, at 180°C	---	---	216	218	---	---	---	---	---	---
Nitrogen, NO2 + NO3, diss. (as N)	---	---	0.04	0.03	---	---	---	---	---	---
Nitrogen, ammonia, dissolved (as N)	---	---	0.28	0.28	---	---	---	---	---	---
Nitrogen, organic, total (as N)	---	---	0.62	0.72	---	---	---	---	---	---
Nitrogen, amm. + org., total (as N)	---	---	0.90	1.0	---	---	---	---	---	---
Nitrogen, total (as N)	---	---	0.94	1.0	---	---	---	---	---	---
Phosphorus, total (as P)	---	---	0.011	0.015	0.010	0.042	0.012	0.093	0.011	0.062
Phosphorus, ortho, dissolved (as P)	---	---	<0.002	<0.002	---	---	---	---	---	---
Iron, dissolved (Fe) µg/L	---	---	<10	<10	---	---	---	---	---	---
Manganese, dissolved (Mn) µg/L	---	---	<0.4	<0.4	---	---	---	---	---	---
Chlorophyll a, phytoplankton (µg/L)	---	---	2.1	---	1.2	---	1.3	---	3.7	---
	2-21-95	4-4-95	6-12-95		7-6-95		8-17-95			





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

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.--Stage measured by Barbara Barquist at her residence.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height observed, 12.04 ft, Apr. 24, 1993; minimum observed, 10.24 ft, Aug. 6, 8, 1995.

EXTREMES FOR CURRENT YEAR.--Maximum gage height observed, 11.01 ft, Aug. 20; minimum observed, 10.24 ft, Aug. 6, 8.

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	---	---	---	---	---	---	---	---	---	10.46	10.32	---
2	---	---	---	---	---	---	---	---	---	10.44	10.28	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	10.77	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	10.86
6	---	---	---	---	---	---	---	---	---	---	10.24	---
7	---	---	---	---	---	---	---	10.86	---	10.44	---	---
8	---	---	---	---	---	---	---	---	10.83	---	10.24	---
9	---	---	---	---	---	---	---	---	---	---	---	10.86
10	---	---	---	---	---	---	---	---	---	---	10.66	---
11	---	---	---	---	---	---	---	---	10.73	10.40	---	---
12	---	---	---	---	---	---	---	---	---	---	10.66	---
13	---	---	---	---	---	---	---	---	---	10.38	---	---
14	---	---	---	---	---	---	---	10.94	---	---	---	---
15	---	---	---	---	---	---	---	---	---	10.36	---	---
16	---	---	---	---	---	---	---	---	---	10.43	---	---
17	---	---	---	---	---	---	10.67	---	---	---	10.96	---
18	---	---	---	---	---	---	---	---	10.70	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	10.40	11.01	---
21	---	---	---	---	---	---	---	10.86	---	---	---	---
22	---	---	---	---	---	---	---	---	10.64	---	---	---
23	---	---	---	---	---	---	---	---	---	10.36	10.98	10.76
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	10.36	---	---
27	---	---	---	---	---	---	---	10.96	10.58	10.34	10.92	---
28	---	---	---	---	---	---	---	---	---	---	---	10.71
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	10.34	---	---
31	---	---	---	---	---	---	---	---	---	---	10.96	---

WATER-QUALITY RECORDS

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

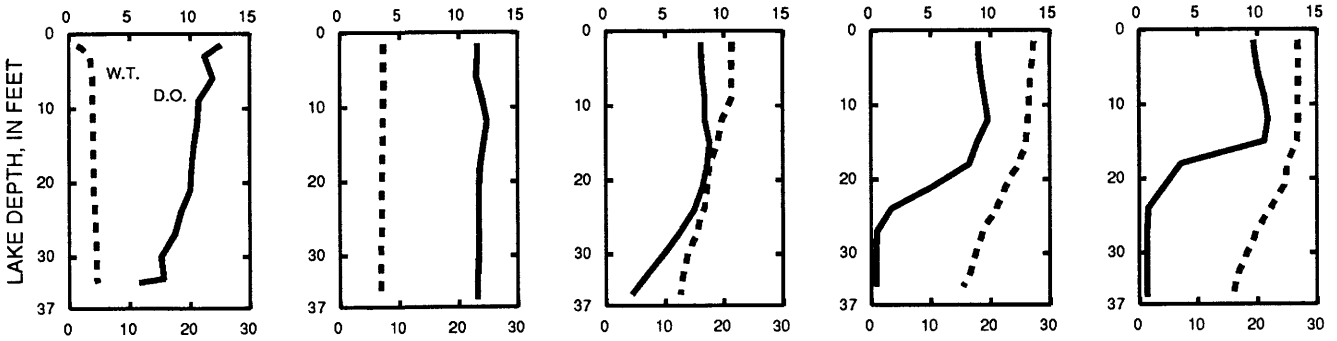
REMARKS.--Lake sampled near center at the deep hole. Lake ice-covered during February measurements. Water-quality analyses done by Wisconsin State Laboratory of Hygiene.

WATER-QUALITY DATA, FEBRUARY 03 TO AUGUST 23, 1995
(Milligrams per liter unless otherwise indicated)

	Feb. 03		Apr. 17		June 08		July 26		Aug. 23	
Depth of sample (ft)	1.5	34	1.5	36	1.5	35	1.5	34	1.5	36
Lake stage (ft)	---		10.67		10.83		10.36		10.98	
Specific conductance (µS/cm)	592	606	563	565	567	595	560	604	527	621
pH (units)	8.5	8.2	8.4	8.4	8.3	7.8	8.4	7.8	8.4	7.5
Water temperature (°C)	1.5	5.0	7.5	6.5	21.5	12.5	27.5	15.5	27.0	16.0
Color (Pt-Co. scale)	---	---	5	5	---	---	---	---	---	---
Turbidity (NTU)	---	---	0.50	0.50	---	---	---	---	---	---
Secchi-depth (meters)	---		7.0		4.1		2.4		2.3	
Dissolved oxygen	12.6	5.8	11.6	11.6	8.1	2.2	9.0	0.4	9.7	0.7
Hardness, as CaCO3	---	---	230	230	---	---	---	---	---	---
Calcium, dissolved (Ca)	---	---	35	35	---	---	---	---	---	---
Magnesium, dissolved (Mg)	---	---	34	35	---	---	---	---	---	---
Sodium, dissolved (Na)	---	---	27	28	---	---	---	---	---	---
Potassium, dissolved (K)	---	---	2	2	---	---	---	---	---	---
Alkalinity, as CaCO3	---	---	170	170	---	---	---	---	---	---
Sulfate, dissolved (SO4)	---	---	32	32	---	---	---	---	---	---
Chloride, dissolved (Cl)	---	---	60	60	---	---	---	---	---	---
Fluoride, dissolved (F)	---	---	<0.1	<0.1	---	---	---	---	---	---
Silica, dissolved (SiO2)	---	---	4.5	4.6	---	---	---	---	---	---
Solids, dissolved, at 180°C	---	---	320	312	---	---	---	---	---	---
Nitrogen, NO2 + NO3, diss. (as N)	---	---	0.18	0.17	---	---	---	---	---	---
Nitrogen, ammonia, dissolved (as N)	---	---	0.16	0.18	---	---	---	---	---	---
Nitrogen, organic, total (as N)	---	---	0.64	0.62	---	---	---	---	---	---
Nitrogen, amm. + org., total (as N)	---	---	0.80	0.80	---	---	---	---	---	---
Nitrogen, total (as N)	---	---	0.98	0.97	---	---	---	---	---	---
Phosphorus, total (as P)	---	---	0.007	0.009	0.007	0.022	0.018	0.011	0.009	0.025
Phosphorus, ortho, dissolved (as P)	---	---	<0.002	<0.002	---	---	---	---	---	---
Iron, dissolved (Fe) µg/L	---	---	<10	<10	---	---	---	---	---	---
Manganese, dissolved (Mn) µg/L	---	---	<0.4	<0.4	---	---	---	---	---	---
Chlorophyll a, phytoplankton (µg/L)	---	---	0.9	---	1.4	---	0.1	---	4.1	---

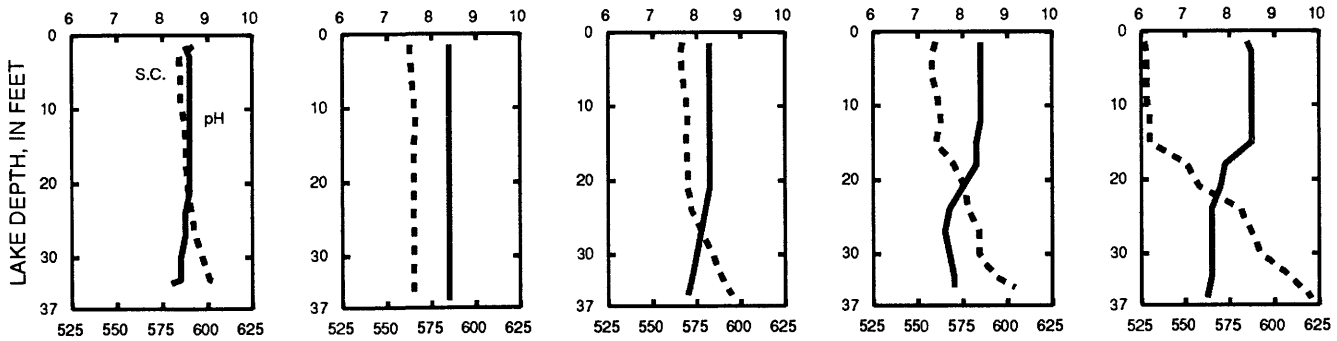
2-3-95 4-17-95 6-8-95 7-26-95 8-23-95

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

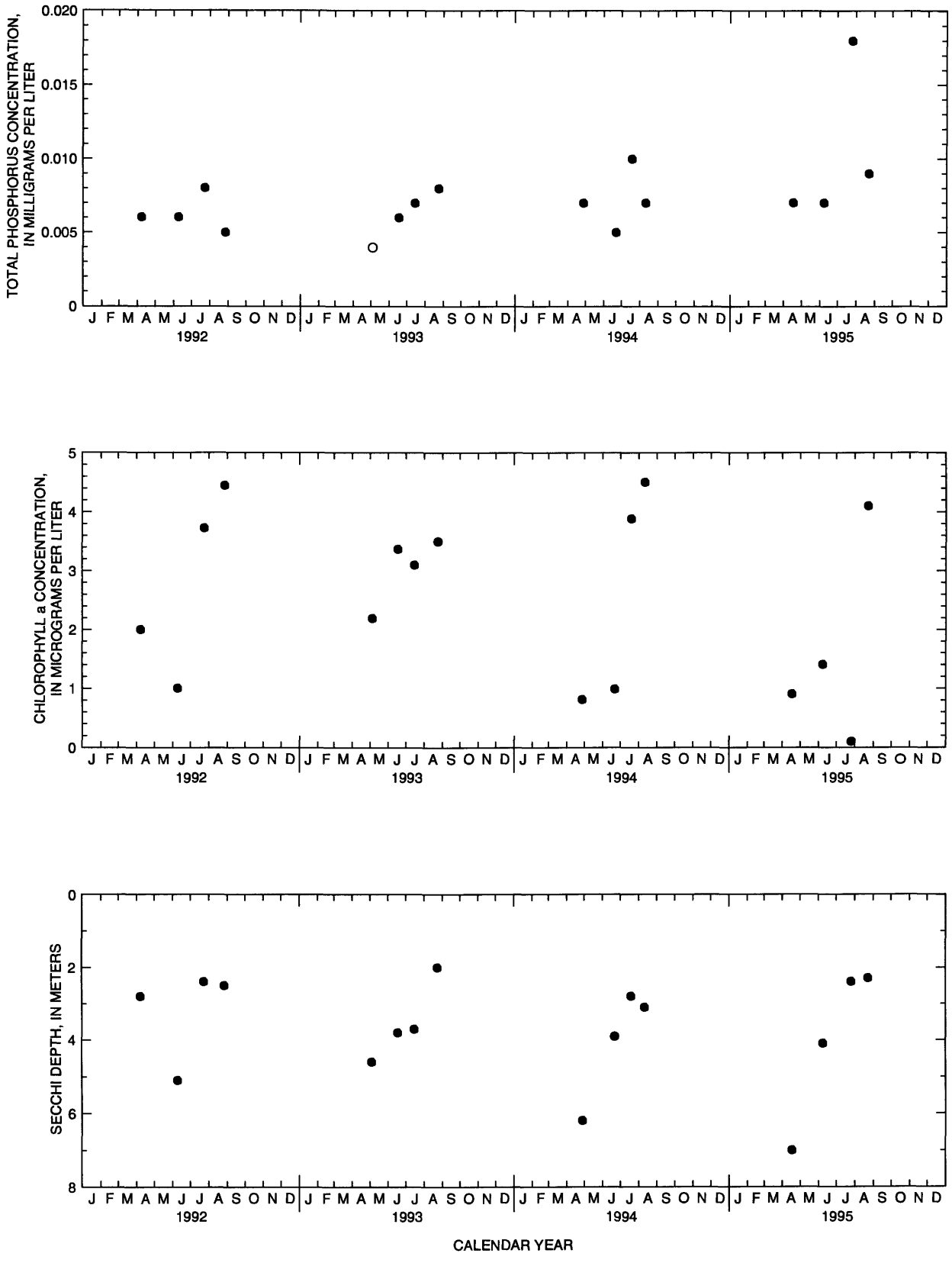


WATER TEMPERATURE (W.T.), IN DEGREES CELSIUS

pH, IN STANDARD UNITS



SPECIFIC CONDUCTANCE (S.C.), IN MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS



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

(Circles indicate laboratory detection limit for selected analyses. Actual concentrations for these particular analyses are less than the plotted circles.)

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 1994 to current year.

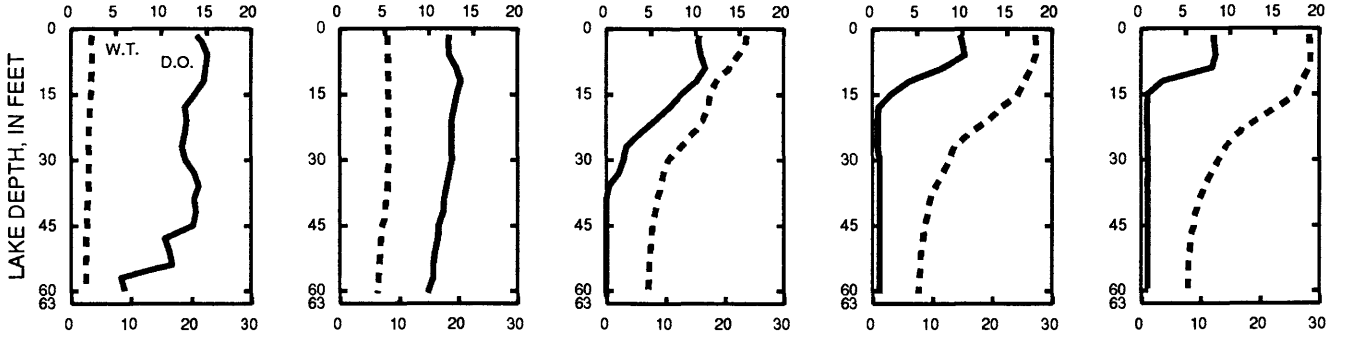
REMARKS.--Lake sampled near center at the deep hole. Lake ice-covered during February measurements. Water-quality analyses done by Wisconsin State Laboratory of Hygiene.

WATER-QUALITY DATA, FEBRUARY 22 TO AUGUST 15, 1995
(Milligrams per liter unless otherwise indicated)

	Feb. 22		Apr. 20		June 05		July 25		Aug. 15	
Depth of sample (ft)	1.5	60	1.5	60	1.5	63	1.5	60	1.5	59
Lake stage (ft)	---		5.13		4.87		4.91		5.13	
Specific conductance (µS/cm)	843	990	820	835	810	896	793	856	786	870
pH (units)	8.8	7.8	8.5	8.3	8.2	7.5	8.4	7.3	8.4	7.4
Water temperature (°C)	3.5	2.5	8.0	6.5	23.5	7.0	27.0	7.5	28.0	8.0
Color (Pt-Co. scale)	---	---	20	20	---	---	---	---	---	---
Turbidity (NTU)	---	---	3.0	1.8	---	---	---	---	---	---
Secchi-depth (meters)	---		1.1		2.7		1.2		1.6	
Dissolved oxygen	13.9	6.0	12.3	9.9	10.4	0.0	9.8	0.8	8.2	0.8
Hardness, as CaCO3	---	---	290	300	---	---	---	---	---	---
Calcium, dissolved (Ca)	---	---	56	59	---	---	---	---	---	---
Magnesium, dissolved (Mg)	---	---	37	38	---	---	---	---	---	---
Sodium, dissolved (Na)	---	---	59	60	---	---	---	---	---	---
Potassium, dissolved (K)	---	---	3	4	---	---	---	---	---	---
Alkalinity, as CaCO3	---	---	220	230	---	---	---	---	---	---
Sulfate, dissolved (SO4)	---	---	47	49	---	---	---	---	---	---
Chloride, dissolved (Cl)	---	---	110	110	---	---	---	---	---	---
Fluoride, dissolved (F)	---	---	0.2	0.2	---	---	---	---	---	---
Silica, dissolved (SiO2)	---	---	0.1	0.3	---	---	---	---	---	---
Solids, dissolved, at 180°C	---	---	478	486	---	---	---	---	---	---
Nitrogen, NO2 + NO3, diss. (as N)	---	---	0.75	0.68	---	---	---	---	---	---
Nitrogen, ammonia, dissolved (as N)	---	---	<0.03	0.21	---	---	---	---	---	---
Nitrogen, organic, total (as N)	---	---	1.2	0.89	---	---	---	---	---	---
Nitrogen, amm. + org., total (as N)	---	---	1.2	1.1	---	---	---	---	---	---
Nitrogen, total (as N)	---	---	1.9	1.8	---	---	---	---	---	---
Phosphorus, total (as P)	---	---	0.027	0.045	0.028	0.463	0.042	0.603	0.045	0.642
Phosphorus, ortho, dissolved (as P)	---	---	0.002	0.008	---	---	---	---	---	---
Iron, dissolved (Fe) µg/L	---	---	<10	<10	---	---	---	---	---	---
Manganese, dissolved (Mn) µg/L	---	---	<0.4	27	---	---	---	---	---	---
Chlorophyll a, phytoplankton (µg/L)	---	---	37	---	7.8	---	0.4	---	25	---

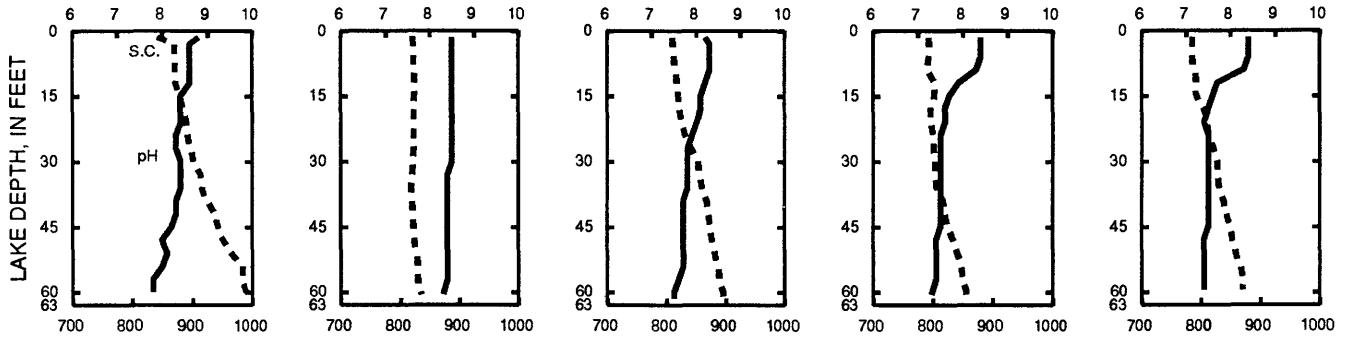
2-22-95 4-20-95 6-5-95 7-25-95 8-15-95

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

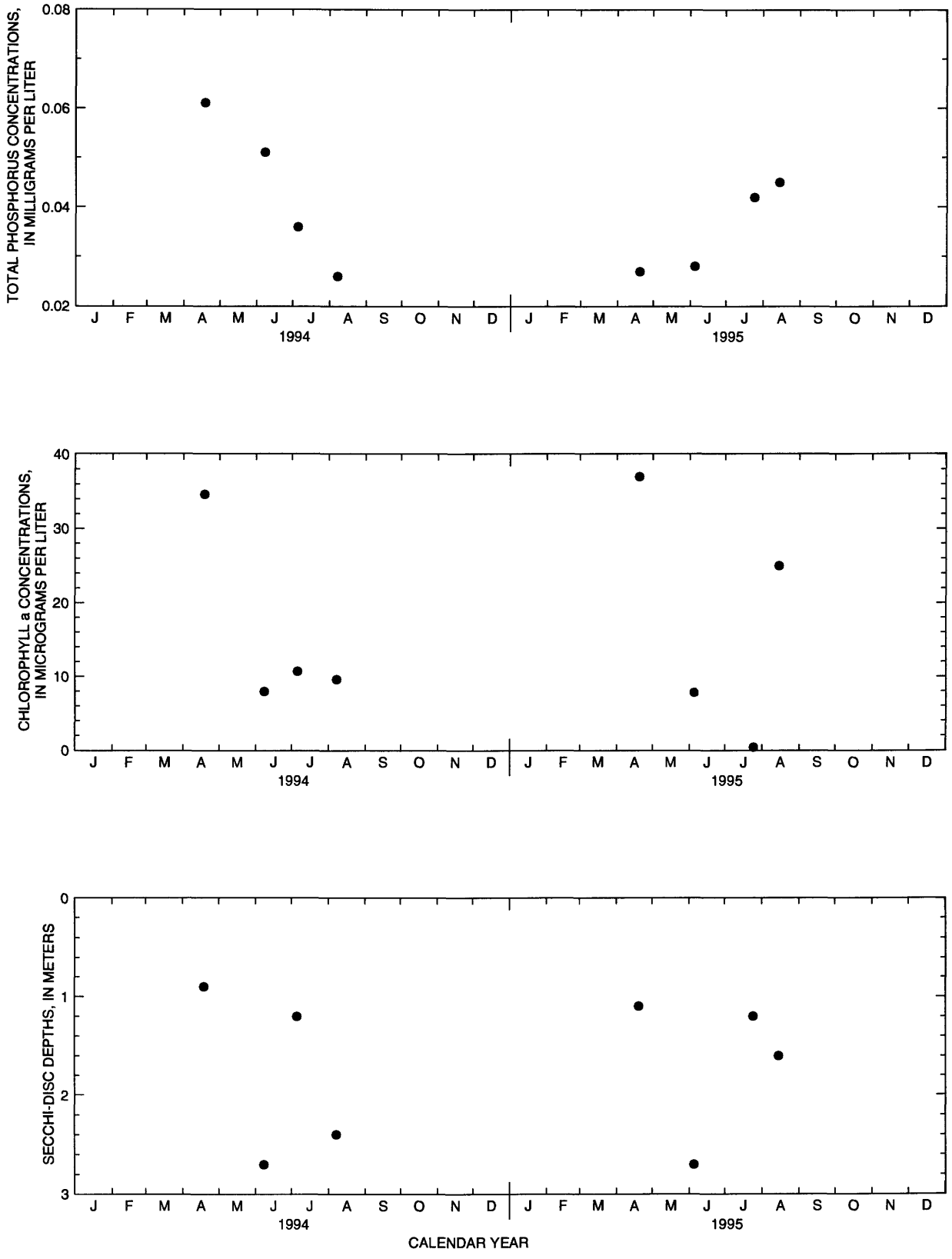


WATER TEMPERATURE (W.T.), IN DEGREES CELSIUS

pH, IN STANDARD UNITS



SPECIFIC CONDUCTANCE (S.C.), IN MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS



Surface total phosphorus and chlorophyll a concentrations, and Secchi depths for Tichigan Lake near Waterford, Wisconsin.

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.

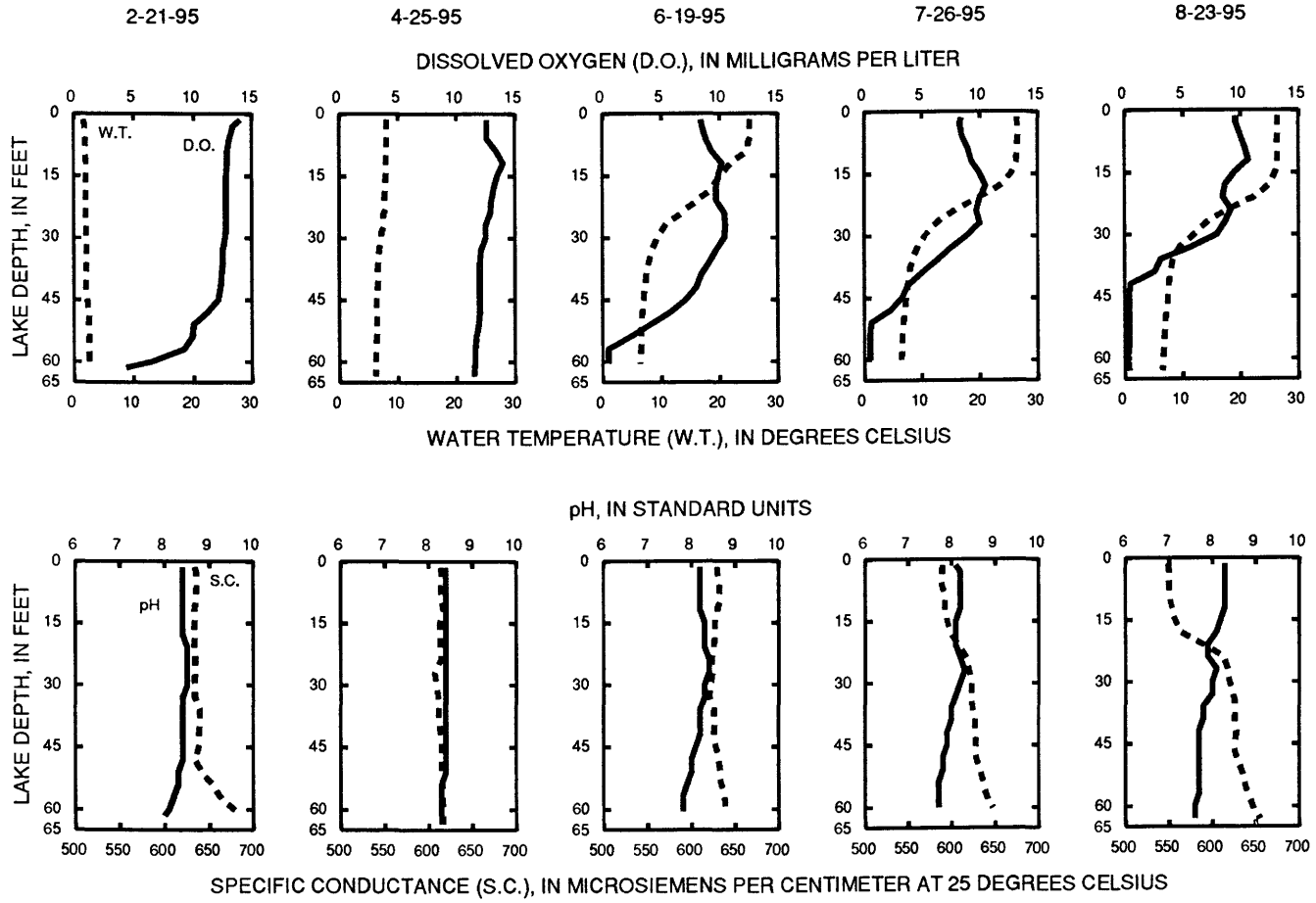
PERIOD OF RECORD.--June 1993 to current year.

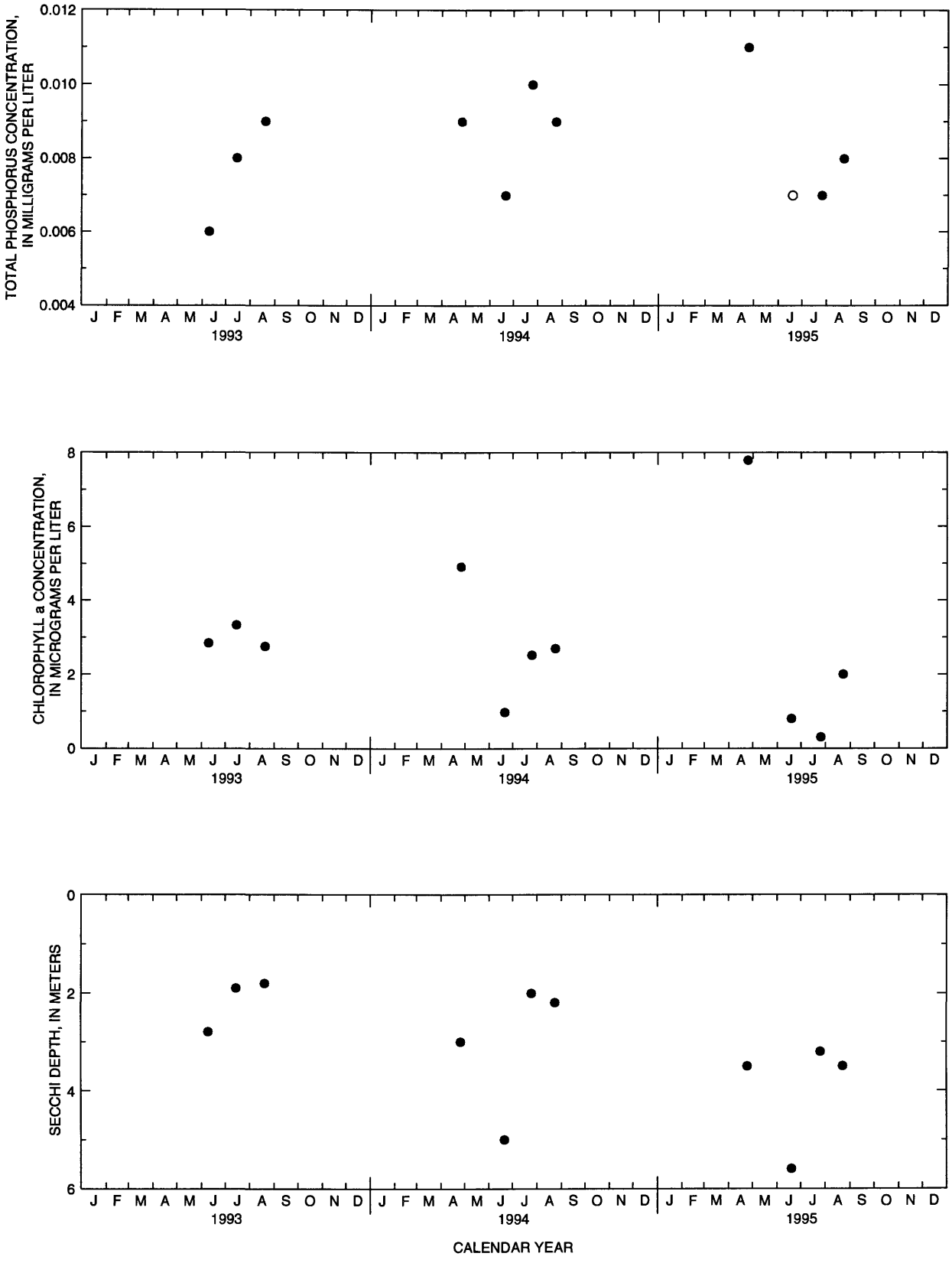
REMARKS.--Lake sampled near center at the deep hole. Lake ice-covered during February measurements. Water-quality analyses done by Wisconsin State Laboratory of Hygiene.

WATER-QUALITY DATA, FEBRUARY 21 TO AUGUST 23, 1995

(Milligrams per liter unless otherwise indicated)

	Feb. 21		Apr. 25		June 19		July 26		Aug. 23	
Depth of sample (ft)	1.5	62	1.5	63	1.5	60	1.5	60	1.5	63
Lake stage (ft)	2.37		2.75		2.45		2.47		3.01	
Specific conductance (µS/cm)	634	681	614	617	630	639	590	647	549	655
pH (units)	8.4	8.0	8.4	8.3	8.2	7.8	8.1	7.7	8.3	7.6
Water temperature (°C)	1.5	3.0	8.0	6.0	25.0	6.5	26.5	6.5	26.5	6.5
Color (Pt-Co. scale)	---	---	15	10	---	---	---	---	---	---
Turbidity (NTU)	---	---	0.90	1.2	---	---	---	---	---	---
Secchi-depth (meters)	---		3.5		5.6		3.2		3.5	
Dissolved oxygen	14.0	4.4	12.6	11.5	8.4	0.5	8.4	0.5	9.6	0.4
Hardness, as CaCO3	---	---	290	290	---	---	---	---	---	---
Calcium, dissolved (Ca)	---	---	55	56	---	---	---	---	---	---
Magnesium, dissolved (Mg)	---	---	37	37	---	---	---	---	---	---
Sodium, dissolved (Na)	---	---	23	23	---	---	---	---	---	---
Potassium, dissolved (K)	---	---	2	2	---	---	---	---	---	---
Alkalinity, as CaCO3	---	---	240	240	---	---	---	---	---	---
Sulfate, dissolved (SO4)	---	---	27	28	---	---	---	---	---	---
Chloride, dissolved (Cl)	---	---	51	51	---	---	---	---	---	---
Fluoride, dissolved (F)	---	---	<0.1	<0.1	---	---	---	---	---	---
Silica, dissolved (SiO2)	---	---	1.7	2.1	---	---	---	---	---	---
Solids, dissolved, at 180°C	---	---	356	354	---	---	---	---	---	---
Nitrogen, NO2 + NO3, diss. (as N)	---	---	0.44	0.41	---	---	---	---	---	---
Nitrogen, ammonia, dissolved (as N)	---	---	0.13	0.16	---	---	---	---	---	---
Nitrogen, organic, total (as N)	---	---	0.57	0.64	---	---	---	---	---	---
Nitrogen, amm. + org., total (as N)	---	---	0.70	0.80	---	---	---	---	---	---
Nitrogen, total (as N)	---	---	1.1	1.2	---	---	---	---	---	---
Phosphorus, total (as P)	---	---	0.011	0.015	<0.007	0.033	0.007	0.012	0.008	0.030
Phosphorus, ortho, dissolved (as P)	---	---	<0.002	<0.002	---	---	---	---	---	---
Iron, dissolved (Fe) µg/L	---	---	<10	<10	---	---	---	---	---	---
Manganese, dissolved (Mn) µg/L	---	---	<0.4	<0.4	---	---	---	---	---	---
Chlorophyll a, phytoplankton (µg/L)	---	---	7.8	---	0.8	---	0.3	---	2.0	---





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

(Circles indicate laboratory detection limit for selected analyses. Actual concentrations for these particular analyses are less than the plotted circles.)

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 done by Wisconsin State Laboratory of Hygiene.

WATER-QUALITY DATA, APRIL 25 TO AUGUST 23, 1995
(Milligrams per liter unless otherwise indicated)

	Apr. 25	June 19	July 26	Aug. 23
Depth of sample (ft)	1.5	1.5	1.5	1.5
Lake stage (ft)	2.75	2.45	2.47	3.01
Specific conductance (µS/cm)	653	635	594	551
pH (units)	8.4	8.4	8.3	8.5
Water temperature (°C)	10.0	25.0	26.0	26.5
Secchi-depth (meters)	1.7	3.2	2.7	2.4
Dissolved oxygen	11.7	8.2	7.5	9.6
Phosphorus, total (as P)	0.017	0.008	0.012	0.010
Chlorophyll a, phytoplankton (µg/L)	8.0	1.7	0.6	2.5

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 done by Wisconsin State Laboratory of Hygiene.

WATER-QUALITY DATA, APRIL 25 TO AUGUST 23, 1995
(Milligrams per liter unless otherwise indicated)

	Apr. 25	June 19	July 26	Aug. 23
Lake stage (ft)	2.75	2.45	2.47	3.01
Discharge (ft^3/s)	40.6	13.8	15.0	40.1
Specific conductance (µS/cm)	---	634	595	551
pH (units)	---	8.0	8.0	8.2
Water temperature (°C)	---	25.5	26.5	26.0
Dissolved oxygen	---	7.8	6.4	10.0
Phosphorus, total (as P)	0.012	0.017	0.012	0.009

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, 30.79 ft, June 3; minimum observed gage height, 30.27 ft, Sept. 28.

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	30.61	30.54	30.55	30.49	30.51	30.52	30.65	---	30.76	30.60	---	30.51
2	30.61	30.53	30.55	30.50	30.50	30.51	30.66	---	30.77	30.58	30.54	30.49
3	30.61	30.52	30.55	30.49	30.50	30.52	30.67	---	30.79	30.56	---	30.48
4	30.61	30.52	30.55	30.48	30.50	30.52	30.68	---	30.78	30.55	30.52	30.47
5	30.60	30.52	30.55	30.49	30.49	30.54	30.67	---	30.77	30.55	30.51	30.47
6	30.60	30.53	30.54	30.49	30.48	30.55	30.67	---	30.77	30.55	30.51	30.46
7	30.62	30.53	30.53	30.48	30.50	30.58	30.66	---	30.77	30.55	30.54	30.43
8	30.62	30.51	30.53	30.47	30.49	30.58	30.66	---	30.75	---	30.54	30.40
9	30.61	30.51	30.53	30.46	30.51	30.58	30.65	---	30.73	---	30.53	30.38
10	30.59	30.50	30.53	30.46	30.52	30.58	30.64	---	30.74	---	30.52	30.36
11	30.57	30.52	30.54	30.48	30.50	30.58	30.66	---	30.74	---	30.51	30.35
12	30.56	30.50	30.53	30.48	30.50	30.59	30.70	---	30.73	---	30.52	30.34
13	30.54	30.52	30.53	30.48	30.49	30.60	30.70	---	30.72	---	30.56	30.33
14	30.53	30.53	30.53	30.48	30.49	30.61	30.69	---	30.71	---	30.67	30.31
15	30.52	30.48	30.54	30.48	30.52	30.63	30.69	---	30.69	---	30.67	30.30
16	30.52	30.49	30.54	30.47	30.52	30.63	30.68	---	30.68	---	30.65	30.36
17	30.57	30.50	30.54	30.51	30.53	30.62	30.68	---	30.68	---	30.64	30.33
18	30.64	30.51	30.54	30.50	30.53	30.61	30.66	---	30.67	---	30.63	30.31
19	30.66	30.47	30.53	30.46	30.53	30.61	30.70	---	30.67	---	30.63	30.31
20	30.61	30.47	30.53	30.49	30.54	30.68	30.73	---	30.66	---	30.61	30.30
21	30.60	30.54	30.53	30.50	30.53	30.71	30.73	---	30.65	---	30.59	30.29
22	30.65	30.55	30.53	30.51	30.53	30.70	30.73	---	30.63	---	30.57	30.31
23	30.66	30.53	30.53	30.51	30.53	30.69	30.72	30.77	30.62	---	30.56	30.30
24	30.64	30.51	30.53	30.51	30.53	30.69	30.71	30.75	30.60	---	30.53	30.29
25	30.63	30.50	30.52	30.51	30.53	30.68	---	30.74	30.58	---	30.54	30.28
26	30.59	30.49	30.52	30.50	30.52	30.69	---	30.73	30.56	---	30.56	30.28
27	30.61	30.49	30.52	30.50	30.53	30.69	---	30.73	30.56	---	30.56	30.28
28	30.59	30.50	30.52	30.50	30.52	30.69	---	30.78	e30.67	---	30.56	30.27
29	30.60	30.55	30.51	30.49	---	30.68	---	30.78	30.65	---	30.55	30.28
30	30.59	30.55	30.52	30.49	---	30.67	---	30.77	30.63	---	30.55	30.34
31	30.56	---	30.51	30.51	---	30.65	---	30.76	---	---	30.54	---
MEAN	30.60	30.51	30.53	30.49	30.51	30.62	---	---	30.69	---	---	30.35
MAX	30.66	30.55	30.55	30.51	30.54	30.71	---	---	30.79	---	---	30.51
MIN	30.52	30.47	30.51	30.46	30.48	30.51	---	---	30.56	---	---	30.27

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.

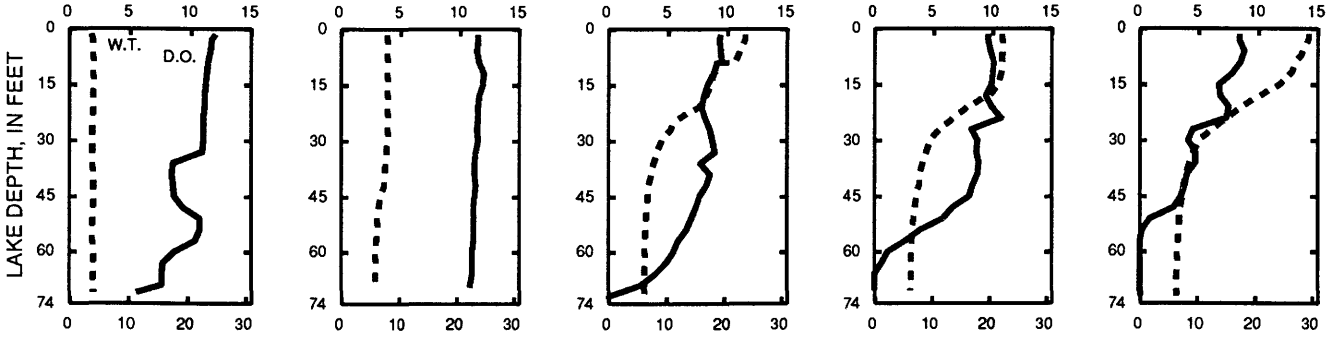
PERIOD OF RECORD.--February 1988 to August 1989, February 1991 to current year.

REMARKS.--Lake sampled near southwest end at the deep hole. Lake ice-covered during February measurements. Water-quality analyses done by Wisconsin State Laboratory of Hygiene.

WATER-QUALITY DATA, FEBRUARY 22 TO AUGUST 14, 1995
(Milligrams per liter unless otherwise indicated)

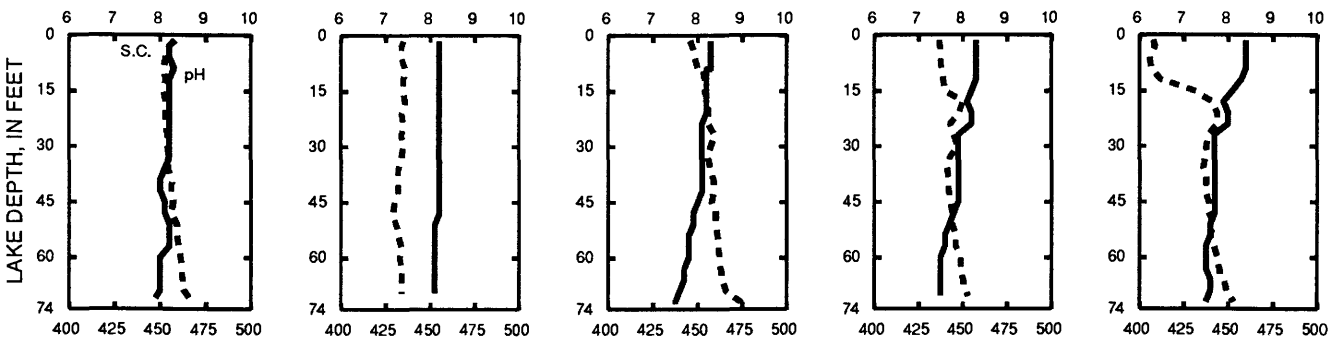
	Feb. 22		Apr. 20		June 06		July 07		Aug. 14	
Depth of sample (ft)	1.5	71	1.5	69	1.5	72	1.5	70	1.5	72
Lake stage (ft)	4.84		5.17		5.16		4.85		4.73	
Specific conductance (µS/cm)	458	466	435	434	446	474	437	453	408	453
pH (units)	8.3	7.9	8.2	8.1	8.3	7.5	8.3	7.5	8.4	7.5
Water temperature (°C)	3.5	4.0	8.0	6.0	23.5	6.0	22.5	6.5	29.5	6.5
Color (Pt-Co. scale)	---	---	20	20	---	---	---	---	---	---
Turbidity (NTU)	---	---	0.80	1.1	---	---	---	---	---	---
Secchi-depth (meters)	---		5.2		5.2		3.3		3.8	
Dissolved oxygen	12.0	5.5	11.5	10.8	9.4	0.0	9.6	0.0	8.4	0.0
Hardness, as CaCO3	---	---	210	210	---	---	---	---	---	---
Calcium, dissolved (Ca)	---	---	42	41	---	---	---	---	---	---
Magnesium, dissolved (Mg)	---	---	26	25	---	---	---	---	---	---
Sodium, dissolved (Na)	---	---	13	12	---	---	---	---	---	---
Potassium, dissolved (K)	---	---	3	3	---	---	---	---	---	---
Alkalinity, as CaCO3	---	---	160	160	---	---	---	---	---	---
Sulfate, dissolved (SO4)	---	---	31	30	---	---	---	---	---	---
Chloride, dissolved (Cl)	---	---	26	26	---	---	---	---	---	---
Fluoride, dissolved (F)	---	---	0.1	0.1	---	---	---	---	---	---
Silica, dissolved (SiO2)	---	---	0.5	0.9	---	---	---	---	---	---
Solids, dissolved, at 180°C	---	---	268	266	---	---	---	---	---	---
Nitrogen, NO2 + NO3, diss. (as N)	---	---	0.16	0.16	---	---	---	---	---	---
Nitrogen, ammonia, dissolved (as N)	---	---	0.03	0.05	---	---	---	---	---	---
Nitrogen, organic, total (as N)	---	---	0.87	0.74	---	---	---	---	---	---
Nitrogen, amm. + org., total (as N)	---	---	0.90	0.80	---	---	---	---	---	---
Nitrogen, total (as N)	---	---	1.1	0.96	---	---	---	---	---	---
Phosphorus, total (as P)	---	---	0.014	0.011	0.013	0.292	0.010	0.140	0.009	0.134
Phosphorus, ortho, dissolved (as P)	---	---	<0.002	0.002	---	---	---	---	---	---
Iron, dissolved (Fe) µg/L	---	---	<10	<10	---	---	---	---	---	---
Manganese, dissolved (Mn) µg/L	---	---	0.7	2	---	---	---	---	---	---
Chlorophyll a, phytoplankton (µg/L)	---	---	1.6	---	0.6	---	0.2	---	1.6	---
	2-22-95		4-20-95		6-6-95		7-7-95		8-14-95	

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

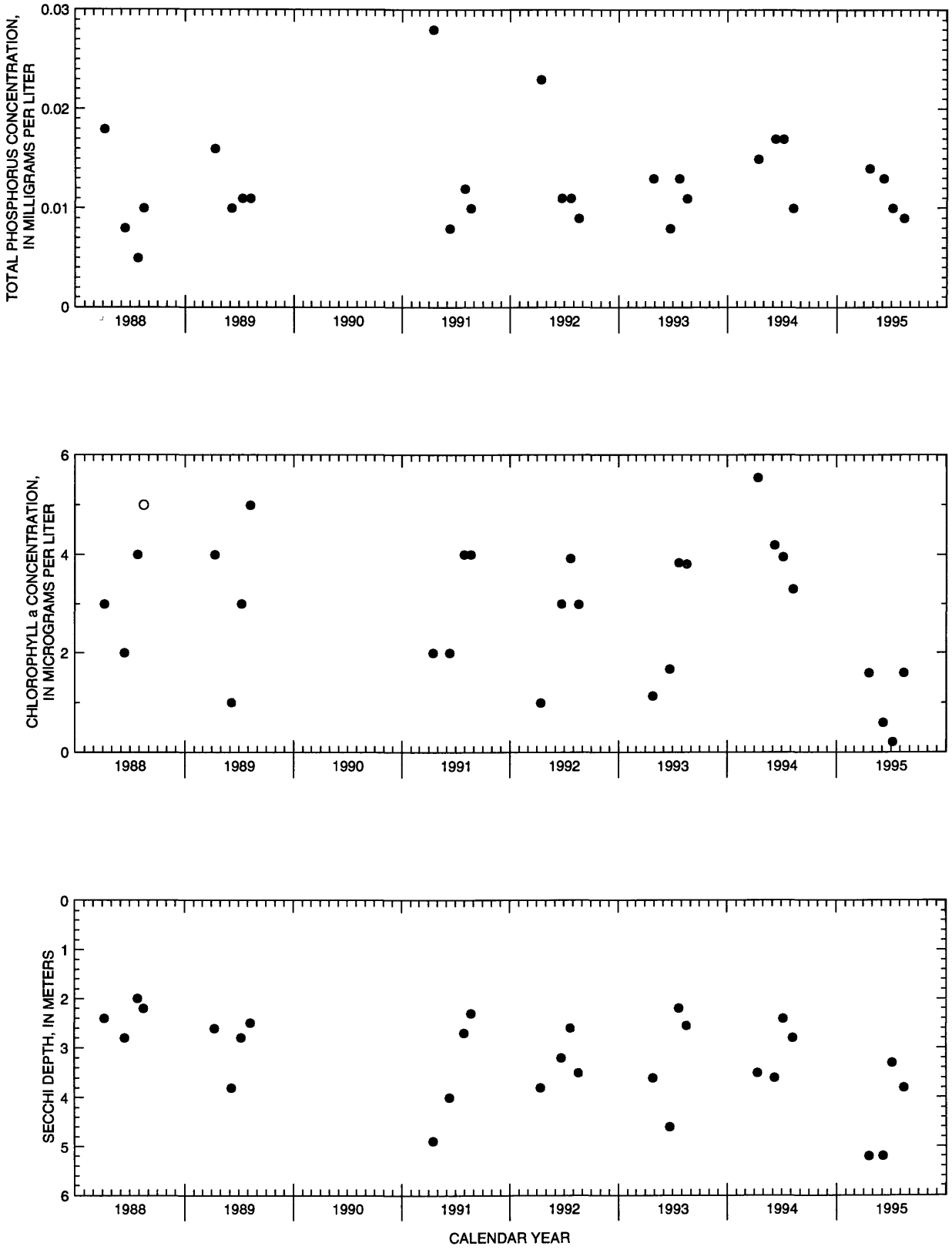


WATER TEMPERATURE (W.T.), IN DEGREES CELSIUS

pH, IN STANDARD UNITS



SPECIFIC CONDUCTANCE (S.C.), IN MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS



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

(Circles indicate laboratory detection limit for selected analyses. Actual concentrations for these particular analyses are less than the plotted circles.)

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 861.00 ft above sea level, revised, (Wisconsin Department of Natural Resources).

REMARKS.--No estimated daily gage heights. Records good except Apr. 23 to May 25, June 16-22, and July 11-18, which are fair. Point of zero flow of dam crest is 10.97 ft. Rainfall data published in 1991 under this station number are now stored under station number 424559088420300.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 11.33 ft, May 13, 1995; minimum daily gage height, 8.89 ft, Oct. 2, 3, 1991.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 11.33 ft, May 13; minimum daily gage height, 10.23 ft, Sept. 30.

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	10.48	10.29	10.51	10.60	10.73	10.64	10.72	11.04	10.87	10.58	10.51	10.50
2	10.46	10.30	10.51	10.59	10.72	10.64	10.73	11.04	10.85	10.57	10.50	10.48
3	10.45	10.29	10.51	10.59	10.72	10.63	10.71	11.04	10.83	10.55	10.49	10.46
4	10.45	10.30	10.50	10.59	10.73	10.63	10.70	11.05	10.81	10.55	10.48	10.45
5	10.45	10.33	10.51	10.59	10.73	10.65	10.69	11.05	10.78	10.57	10.47	10.44
6	10.44	10.47	10.52	10.60	10.72	10.66	10.68	11.06	10.77	10.55	10.47	10.43
7	10.44	10.48	10.58	10.61	10.72	10.68	10.67	11.04	10.77	10.53	10.48	10.41
8	10.44	10.47	10.59	10.59	10.72	10.68	10.73	11.06	10.74	10.52	10.51	10.38
9	10.44	10.49	10.59	10.59	10.71	10.67	10.75	11.11	10.72	10.52	10.56	10.36
10	10.43	10.48	10.59	10.60	10.71	10.68	10.76	11.24	10.69	10.52	10.59	10.35
11	10.43	10.48	10.58	10.60	10.71	10.68	10.78	11.27	10.67	10.51	10.59	10.34
12	10.42	10.48	10.58	10.60	10.70	10.68	10.80	11.29	10.75	10.50	10.58	10.33
13	10.41	10.50	10.58	10.60	10.70	10.70	10.79	11.30	10.70	10.49	10.57	10.33
14	10.41	10.52	10.59	10.68	10.69	10.69	10.78	11.30	10.66	10.48	10.55	10.31
15	10.41	10.51	10.60	10.69	10.69	10.69	10.77	11.28	10.72	10.48	10.55	10.30
16	10.41	10.51	10.60	10.68	10.69	10.68	10.77	11.22	10.73	10.54	10.56	10.29
17	10.40	10.51	10.61	10.68	10.68	10.68	10.77	11.22	10.75	10.50	10.58	10.27
18	10.40	10.51	10.61	10.67	10.68	10.67	10.82	11.21	10.80	10.47	10.58	10.26
19	10.40	10.49	10.60	10.71	10.67	10.67	10.83	11.19	10.77	10.47	10.57	10.25
20	10.38	10.49	10.59	10.75	10.68	10.70	10.84	11.15	10.80	10.49	10.56	10.27
21	10.36	10.50	10.59	10.75	10.68	10.71	10.86	11.13	10.79	10.49	10.55	10.28
22	10.36	10.49	10.59	10.76	10.68	10.70	10.87	11.10	10.70	10.49	10.53	10.28
23	10.36	10.49	10.59	10.77	10.67	10.70	10.88	11.00	10.67	10.51	10.52	10.28
24	10.34	10.49	10.59	10.76	10.66	10.69	10.88	11.01	10.65	10.51	10.50	10.27
25	10.32	10.48	10.59	10.75	10.65	10.68	10.89	10.94	10.62	10.50	10.48	10.26
26	10.32	10.46	10.59	10.75	10.64	10.67	10.91	10.89	10.61	10.52	10.47	10.26
27	10.31	10.50	10.59	10.75	10.65	10.72	11.01	10.88	10.62	10.52	10.46	10.25
28	10.32	10.53	10.59	10.74	10.65	10.74	11.01	10.93	10.63	10.53	10.50	10.25
29	10.27	10.51	10.58	10.74	---	10.74	11.01	10.92	10.61	10.51	10.55	10.24
30	10.28	10.51	10.58	10.73	---	10.73	11.02	10.90	10.60	10.51	10.54	10.24
31	10.29	---	10.58	10.73	---	10.73	---	10.89	---	10.50	10.52	---
MEAN	10.39	10.46	10.57	10.67	10.69	10.68	10.81	11.09	10.72	10.52	10.53	10.33
MAX	10.48	10.53	10.61	10.77	10.73	10.74	11.02	11.30	10.87	10.58	10.59	10.50
MIN	10.27	10.29	10.50	10.59	10.64	10.63	10.67	10.88	10.60	10.47	10.46	10.24

424915088083900 WIND LAKE AT WIND LAKE, WI

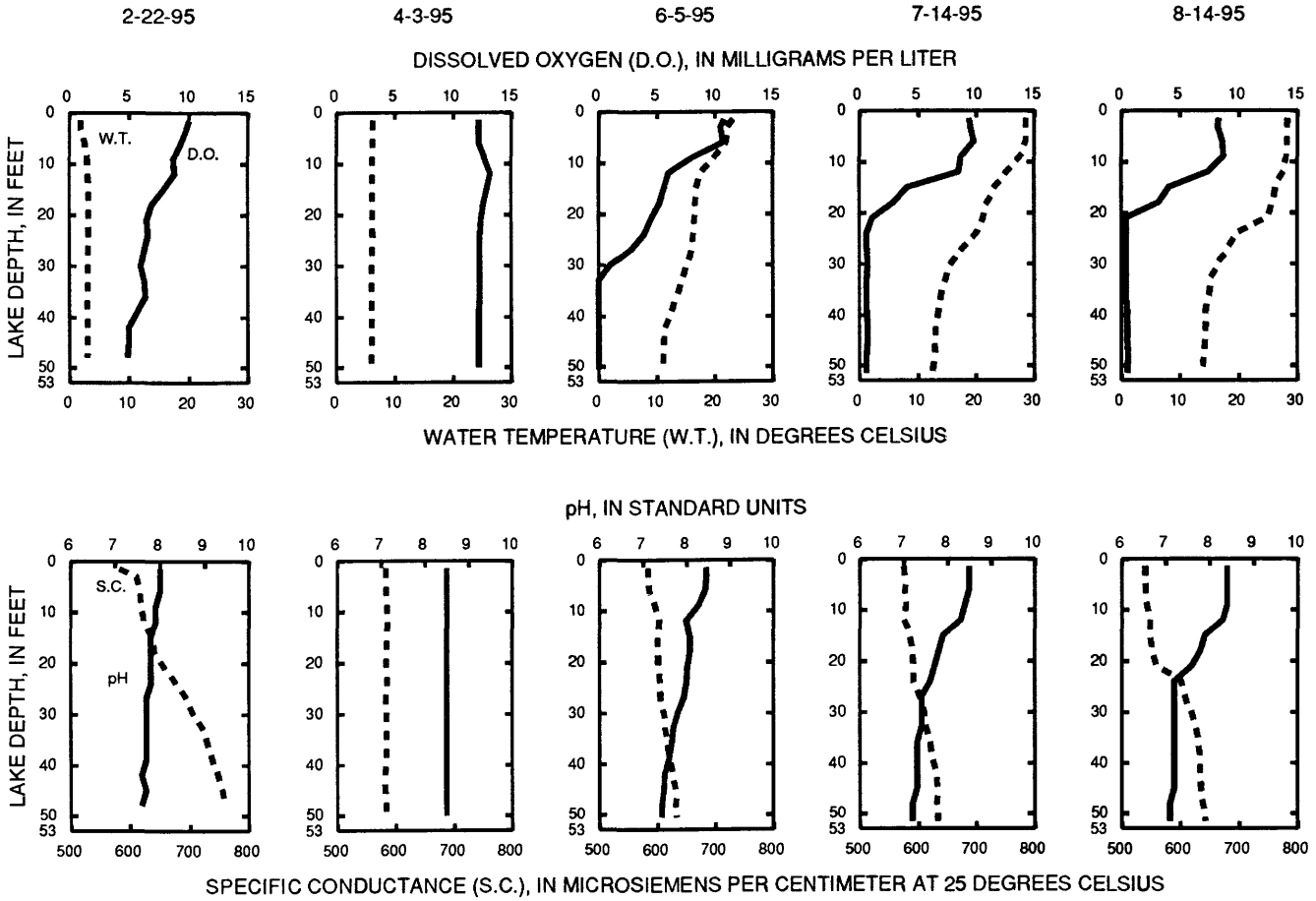
LOCATION.--Lat 42°49'15", long 88°08'39", in NW 1/4 SW 1/4 sec.9, T.4 N., R.20 E., Racine County, Hydrologic Unit 07120006, at Wind Lake.

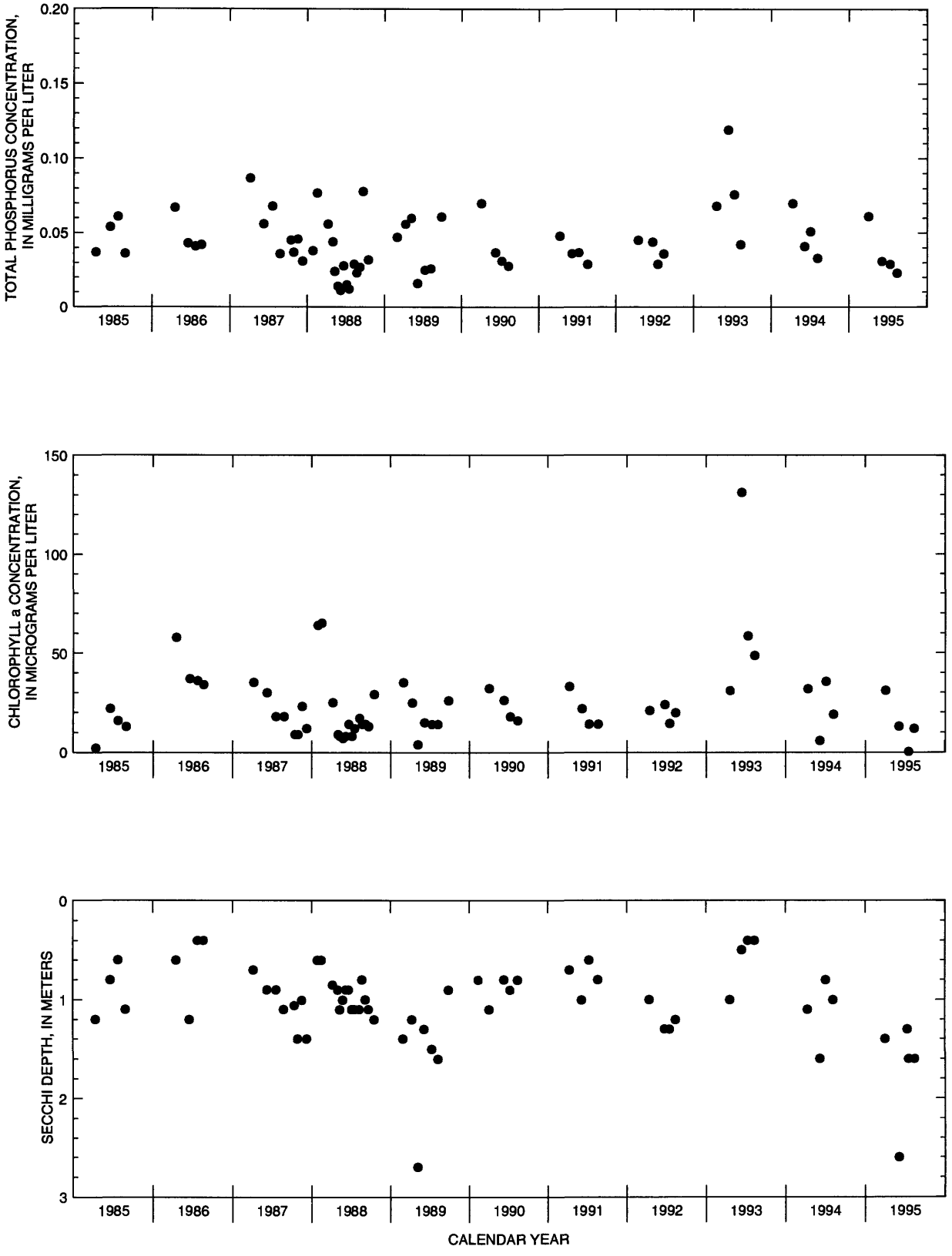
PERIOD OF RECORD.--February 1985 to current year.

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

WATER-QUALITY DATA, FEBRUARY 22 TO AUGUST 14, 1995
(Milligrams per liter unless otherwise indicated)

	Feb. 22		Apr. 03		June 05		July 14		July 18	Aug. 14	
Depth of sample (ft)	1.5	48	1.5	50	1.5	50	1.5	51	1.5	1.5	51
Lake stage (ft)	6.97		7.69		8.32		7.87		---	8.08	
Specific conductance (µS/cm)	583	760	583	589	583	633	575	634	575	540	643
pH (units)	8.0	7.6	8.5	8.5	8.4	7.4	8.5	7.2	8.3	8.4	7.1
Water temperature (°C)	2.0	3.0	6.0	6.0	23.0	11.0	28.5	13.0	26.0	28.5	14.0
Color (Pt-Co. scale)	---	---	30	30	---	---	---	---	---	---	---
Turbidity (NTU)	---	---	2.5	2.8	---	---	---	---	---	---	---
Secchi-depth (meters)	---		1.4		2.6		1.3		1.6	1.6	
Dissolved oxygen	10.0	4.9	12.2	12.2	10.8	0.0	9.4	0.6	7.5	8.3	0.5
Hardness, as CaCO3	---	---	240	240	---	---	---	---	---	---	---
Calcium, dissolved (Ca)	---	---	48	48	---	---	---	---	---	---	---
Magnesium, dissolved (Mg)	---	---	29	29	---	---	---	---	---	---	---
Sodium, dissolved (Na)	---	---	28	28	---	---	---	---	---	---	---
Potassium, dissolved (K)	---	---	3	3	---	---	---	---	---	---	---
Alkalinity, as CaCO3	---	---	190	190	---	---	---	---	---	---	---
Sulfate, dissolved (SO4)	---	---	33	32	---	---	---	---	---	---	---
Chloride, dissolved (Cl)	---	---	57	57	---	---	---	---	---	---	---
Fluoride, dissolved (F)	---	---	0.2	0.2	---	---	---	---	---	---	---
Silica, dissolved (SiO2)	---	---	0.1	0.1	---	---	---	---	---	---	---
Solids, dissolved, at 180°C	---	---	346	342	---	---	---	---	---	---	---
Nitrogen, NO2 + NO3, diss. (as N)	---	---	0.13	0.12	---	---	---	---	---	---	---
Nitrogen, ammonia, dissolved (as N)	---	---	0.28	0.28	---	---	---	---	---	---	---
Nitrogen, organic, total (as N)	---	---	1.5	1.4	---	---	---	---	---	---	---
Nitrogen, amm. + org., total (as N)	---	---	1.8	1.7	---	---	---	---	---	---	---
Nitrogen, total (as N)	---	---	1.9	1.8	---	---	---	---	---	---	---
Phosphorus, total (as P)	---	---	0.061	0.048	0.031	0.470	0.029	0.453	---	0.023	0.454
Phosphorus, ortho, dissolved (as P)	---	---	---	0.003	---	---	---	---	---	---	---
Iron, dissolved (Fe) µg/L	---	---	<10	<10	---	---	---	---	---	---	---
Manganese, dissolved (Mn) µg/L	---	---	0.7	0.8	---	---	---	---	---	---	---
Chlorophyll a, phytoplankton (µg/L)	---	---	31	---	13	---	---	---	0.2	12	---





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. 12 to Feb. 13. Records good. Lake level regulated by dam with two 10-foot gates at outlet. Prior to October 1987, 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 recorded gage height, 8.43 ft, June 8; minimum recorded, 6.91 ft, Feb. 18-20.

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	8.12	8.29	7.23	7.54	7.68	7.10	7.90	8.03	8.30	8.02	7.97	8.25
2	8.12	8.29	7.26	7.48	7.64	7.11	7.81	7.92	8.31	7.99	7.96	8.27
3	8.12	8.26	7.29	7.42	7.60	7.12	7.69	7.94	8.32	7.96	7.95	8.27
4	8.12	8.26	7.32	7.36	7.56	7.13	7.58	7.98	8.32	7.97	7.96	8.27
5	8.12	8.26	7.37	7.29	7.51	7.17	7.47	8.01	8.32	7.99	7.98	8.27
6	8.13	8.30	7.42	7.24	7.47	7.20	7.39	8.04	8.33	7.98	7.97	8.28
7	8.12	8.26	7.55	7.19	7.41	7.23	7.33	8.07	8.36	7.96	7.96	8.29
8	8.14	8.19	7.59	7.12	7.35	7.26	7.34	8.12	8.37	7.94	7.96	8.19
9	8.17	8.20	7.65	7.06	7.31	7.28	7.45	8.23	8.24	7.93	8.01	8.20
10	8.18	8.19	7.69	7.00	7.26	7.30	7.55	8.34	8.22	7.92	8.08	8.20
11	8.18	8.16	7.72	6.96	7.20	7.33	7.62	8.33	8.22	7.92	8.09	8.24
12	8.19	8.14	7.75	6.97	7.13	7.37	7.70	8.23	8.21	7.90	8.09	8.25
13	8.20	8.12	7.78	7.00	7.07	7.42	7.76	8.12	8.21	7.89	8.08	8.22
14	8.22	8.13	7.82	7.12	7.01	7.47	7.82	8.08	8.22	7.87	8.08	8.18
15	8.24	8.11	7.84	7.22	6.97	7.52	7.89	8.13	8.22	7.89	8.08	8.13
16	8.25	8.06	7.88	7.29	6.93	7.58	7.96	8.23	8.20	8.00	8.17	8.05
17	8.28	8.00	7.92	7.34	6.92	7.63	8.04	8.27	8.19	7.98	8.21	8.01
18	8.28	7.90	7.95	7.39	6.92	7.68	8.17	8.27	8.19	7.95	8.19	8.06
19	8.28	7.84	7.97	7.45	6.91	7.74	8.24	8.26	8.18	7.93	8.20	8.08
20	8.28	7.79	8.00	7.51	6.94	7.82	8.28	8.16	8.17	7.94	8.21	8.09
21	8.28	7.71	8.00	7.56	6.95	7.88	8.25	8.04	8.15	7.93	8.20	8.14
22	8.29	7.64	7.99	7.61	6.97	7.95	8.17	8.03	8.13	7.91	8.16	8.14
23	8.30	7.56	7.96	7.65	6.99	8.02	8.08	8.05	8.12	7.90	8.12	8.13
24	8.28	7.50	7.92	7.68	7.02	8.07	7.97	8.10	8.09	7.91	8.21	8.13
25	8.28	7.45	7.88	7.71	7.03	8.05	7.92	8.12	8.08	7.94	8.24	8.12
26	8.28	7.38	7.84	7.74	7.04	8.03	7.98	8.14	8.06	7.93	8.24	8.10
27	8.28	7.36	7.81	7.76	7.07	8.05	8.20	8.17	8.04	7.93	8.21	8.09
28	8.26	7.31	7.77	7.76	7.09	8.09	8.28	8.24	8.03	7.97	8.25	8.08
29	8.24	7.26	7.71	7.76	---	8.11	8.26	8.27	8.03	7.96	8.25	8.06
30	8.24	7.22	7.64	7.74	---	8.07	8.14	8.30	8.05	7.94	8.26	8.04
31	8.26	---	7.59	7.71	---	8.00	---	8.31	---	7.93	8.22	---
MEAN	8.22	7.90	7.71	7.41	7.18	7.61	7.87	8.15	8.20	7.94	8.11	8.16
MAX	8.30	8.30	8.00	7.76	7.68	8.11	8.28	8.34	8.37	8.02	8.26	8.29
MIN	8.12	7.22	7.23	6.96	6.91	7.10	7.33	7.92	8.03	7.87	7.95	8.01

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 recorded gage height, 3.92 ft, Aug. 28; minimum recorded, 1.31 ft, Feb. 14-19.

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	2.65	2.46	2.20	1.89	1.44	1.39	2.50	3.07	3.23	2.91	2.77	3.08
2	2.62	2.41	2.21	1.86	1.43	1.40	2.53	3.04	3.23	2.87	2.73	3.02
3	2.55	2.40	2.21	1.83	1.42	1.39	2.43	3.02	3.23	2.81	2.74	3.04
4	2.52	2.40	2.22	1.80	1.41	1.39	2.51	2.99	3.22	2.81	2.74	2.99
5	2.51	2.41	2.23	1.78	1.40	1.39	2.56	2.96	3.20	2.79	2.76	2.98
6	2.49	2.36	2.27	1.76	1.39	1.40	2.47	2.97	3.18	2.74	2.74	2.93
7	2.44	2.35	2.26	1.74	1.37	1.45	2.55	2.93	3.26	2.80	2.73	3.06
8	2.45	2.32	2.22	1.72	1.36	1.45	2.58	2.94	3.21	2.80	2.71	2.96
9	2.45	2.32	2.17	1.69	1.35	1.43	2.66	2.93	3.13	2.80	2.79	3.00
10	2.48	2.29	2.13	1.67	1.35	1.42	2.61	2.99	3.08	2.78	2.90	3.01
11	2.45	2.25	2.11	1.64	1.34	1.41	2.60	3.03	3.06	2.79	2.96	3.00
12	2.45	2.21	2.10	1.62	1.33	1.41	2.61	3.05	3.02	2.76	3.03	3.00
13	2.45	2.21	2.08	1.61	1.32	1.44	2.67	3.05	3.00	2.77	3.12	3.01
14	2.47	2.18	2.07	1.60	1.32	1.47	2.74	2.97	2.99	2.77	3.26	3.05
15	2.47	2.23	2.06	1.59	1.31	1.51	2.75	3.09	2.98	2.78	3.33	3.02
16	2.46	2.22	2.05	1.57	1.31	1.56	2.74	3.09	2.96	2.77	3.37	2.97
17	2.47	2.19	2.05	1.54	1.31	1.61	2.79	3.09	2.97	2.76	3.39	3.02
18	2.50	2.01	2.04	1.53	1.31	1.66	2.85	3.09	2.99	2.75	3.37	3.00
19	2.48	2.20	2.03	1.54	1.31	1.70	2.87	3.05	3.00	2.75	3.34	3.04
20	2.53	2.20	2.02	1.56	1.32	1.80	2.99	3.02	3.00	2.73	3.34	3.09
21	2.51	2.03	2.01	1.56	1.33	1.93	2.96	3.05	2.99	2.72	3.29	3.08
22	2.50	2.13	2.00	1.56	1.33	2.00	2.99	3.03	2.98	2.71	3.25	3.03
23	2.49	2.19	1.99	1.54	1.33	2.04	3.04	3.00	2.97	2.75	3.15	3.07
24	2.51	2.14	1.98	1.53	1.34	2.11	3.02	3.04	2.95	2.73	3.22	3.06
25	2.54	2.16	1.97	1.52	1.35	2.17	3.06	3.02	2.94	2.73	3.12	3.07
26	2.53	2.21	1.96	1.51	1.37	2.22	3.07	3.03	2.94	2.74	3.09	3.08
27	2.48	2.24	1.95	1.49	1.38	2.27	3.07	3.07	2.91	2.73	3.07	3.10
28	2.45	2.02	1.94	1.48	1.39	2.33	3.10	3.07	2.89	2.72	3.13	3.10
29	2.46	2.21	1.92	1.47	---	2.39	3.11	3.11	2.89	2.75	3.18	3.09
30	2.47	2.20	1.90	1.46	---	2.43	3.08	3.19	2.91	2.73	3.12	3.09
31	2.48	---	1.89	1.45	---	2.48	---	3.21	---	2.71	3.07	---
MEAN	2.49	2.24	2.07	1.62	1.35	1.74	2.78	3.04	3.04	2.77	3.06	3.03
MAX	2.65	2.46	2.27	1.89	1.44	2.48	3.11	3.21	3.26	2.91	3.39	3.10
MIN	2.44	2.01	1.89	1.45	1.31	1.39	2.43	2.93	2.89	2.71	2.71	2.93

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 recorded gage height, 3.74 ft, Aug. 28; minimum recorded, 1.27 ft, Feb. 17-20.

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	2.54	2.40	2.22	1.86	1.41	1.35	2.41	2.98	3.19	2.92	2.69	3.06
2	2.49	2.37	2.18	1.84	1.40	1.35	2.44	2.98	3.19	2.86	2.70	3.07
3	2.45	2.35	2.19	1.80	1.39	1.35	2.52	2.98	3.18	2.82	2.71	2.99
4	2.46	2.34	2.19	1.78	1.39	1.34	2.62	2.95	3.18	2.76	2.74	2.96
5	2.49	2.31	2.20	1.73	1.38	1.34	2.52	2.95	3.17	2.79	2.71	2.95
6	2.48	2.38	2.19	1.70	1.37	1.35	2.46	2.92	3.16	2.88	2.70	2.99
7	2.47	2.36	2.12	1.70	1.36	1.38	2.48	2.85	3.15	2.83	2.69	2.80
8	2.50	2.30	2.16	1.68	1.34	1.40	2.50	2.74	3.08	2.76	2.69	2.89
9	2.53	2.25	2.16	1.65	1.33	1.40	2.38	2.79	3.06	2.76	2.80	2.94
10	2.45	2.23	2.16	1.63	1.32	1.39	2.42	2.89	3.02	2.77	2.88	2.94
11	2.44	2.21	2.11	1.60	1.32	1.37	2.48	2.99	3.00	2.73	2.93	2.98
12	2.41	2.20	2.06	1.58	1.31	1.37	2.64	3.01	2.98	2.73	2.99	2.99
13	2.41	2.19	2.04	1.57	1.30	1.38	2.71	2.99	2.97	2.75	3.07	3.04
14	2.42	2.24	2.03	1.56	1.29	1.40	2.67	3.07	2.96	2.77	3.27	3.00
15	2.41	2.20	2.02	1.56	1.28	1.43	2.61	3.08	2.93	2.73	3.30	2.97
16	2.41	2.18	2.01	1.54	1.28	1.47	2.66	3.08	2.93	2.76	3.32	2.99
17	2.44	2.16	2.01	1.51	1.27	1.51	2.73	3.06	2.95	2.81	3.34	2.97
18	2.48	2.36	2.00	1.49	1.27	1.55	2.75	3.04	2.97	2.79	3.33	3.00
19	2.53	2.19	1.98	1.49	1.27	1.60	2.89	3.06	2.97	2.74	3.33	3.00
20	2.52	2.12	1.97	1.52	1.27	1.66	2.87	3.10	2.97	2.72	3.31	3.00
21	2.48	2.28	1.96	1.53	1.28	1.76	2.91	3.07	2.94	2.71	3.28	3.06
22	2.51	2.41	1.96	1.53	1.28	1.85	2.98	3.00	2.93	2.73	3.22	3.15
23	2.64	2.26	1.95	1.52	1.29	1.90	2.99	3.01	2.92	2.72	3.18	3.04
24	2.64	2.19	1.94	1.50	1.30	1.96	3.01	2.97	2.91	2.72	3.10	3.03
25	2.58	2.18	1.93	1.49	1.30	2.02	3.03	2.95	2.88	2.74	3.06	3.06
26	2.51	2.09	1.91	1.47	1.31	2.07	3.00	2.97	2.83	2.69	3.03	3.06
27	2.52	2.01	1.90	1.46	1.32	2.12	3.04	2.91	2.84	2.68	3.01	3.06
28	2.55	2.35	1.90	1.45	1.33	2.17	3.10	2.97	2.86	2.74	3.09	3.06
29	2.47	2.25	1.88	1.44	---	2.23	3.05	3.12	2.89	2.73	3.13	3.06
30	2.47	2.21	1.86	1.43	---	2.30	2.99	3.16	2.97	2.71	3.13	3.08
31	2.42	---	1.85	1.42	---	2.37	---	3.18	---	2.72	3.11	---
MEAN	2.49	2.25	2.03	1.58	1.32	1.65	2.73	2.99	3.00	2.76	3.03	3.01
MAX	2.64	2.41	2.22	1.86	1.41	2.37	3.10	3.18	3.19	2.92	3.34	3.15
MIN	2.41	2.01	1.85	1.42	1.27	1.34	2.38	2.74	2.83	2.68	2.69	2.80

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 mi2.

LAKE-STAGE RECORDS

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

GAGE.--Stage measured by Alan Depies 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, 5.17 ft, June 13; minimum observed, 4.43 ft, Dec. 3.

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	4.85	---	---	4.47	---	---	---	4.72	---	---	---	---
2	---	---	---	---	---	---	4.64	---	---	---	---	---
3	---	---	4.43	---	---	---	---	---	---	---	---	4.85
4	---	---	---	---	4.56	---	---	---	---	4.77	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	4.72	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	4.80	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	5.17	---	---	---
14	---	---	---	---	---	4.72	---	5.01	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	4.68	---	---	4.64	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	4.97	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	4.56	---	4.84	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	4.47	---	---	---	---	---	---	5.06	---	4.56	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---

435152088123100 WOLF LAKE NEAR MT. CALVARY, WI--CONTINUED

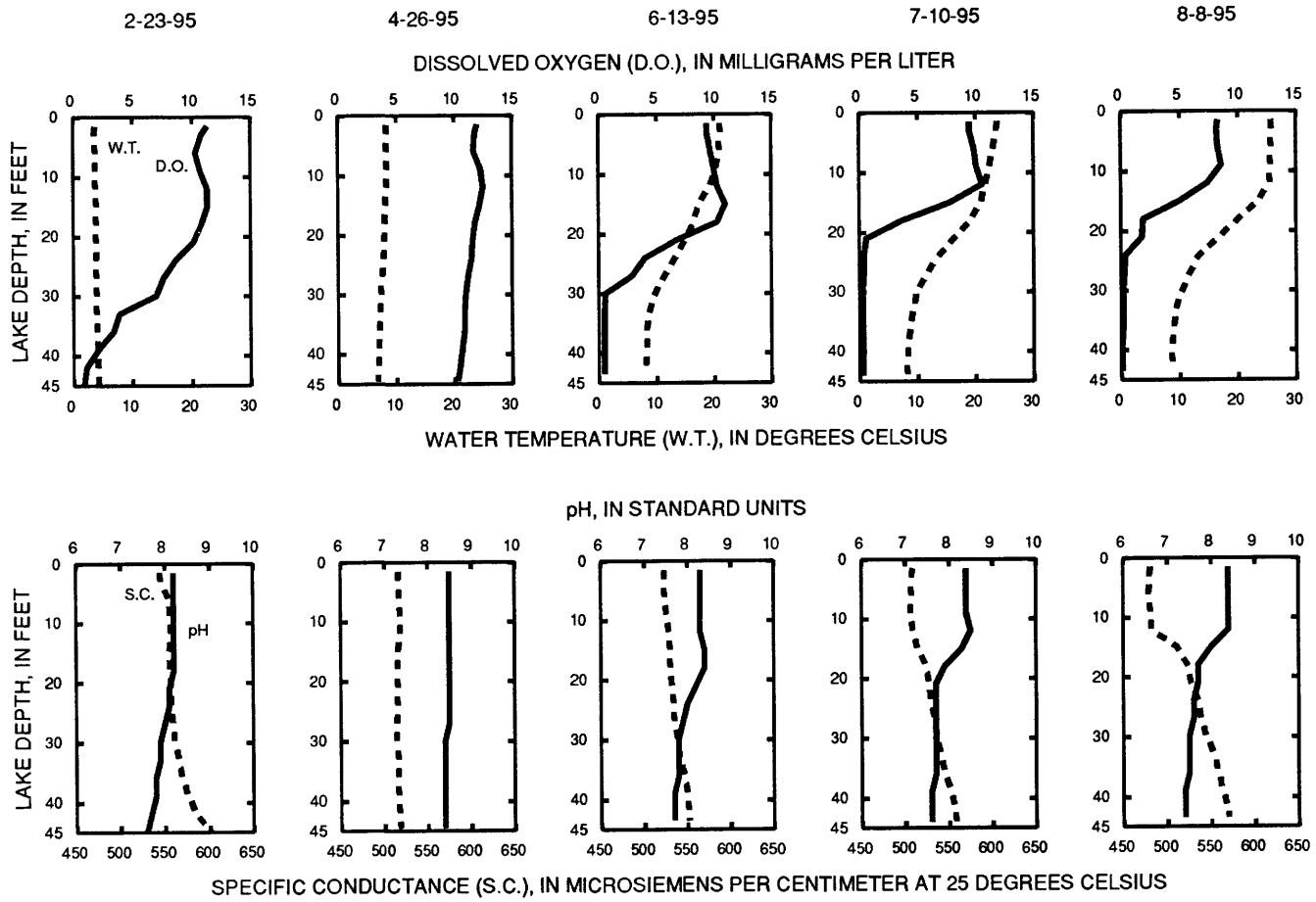
WATER-QUALITY RECORDS

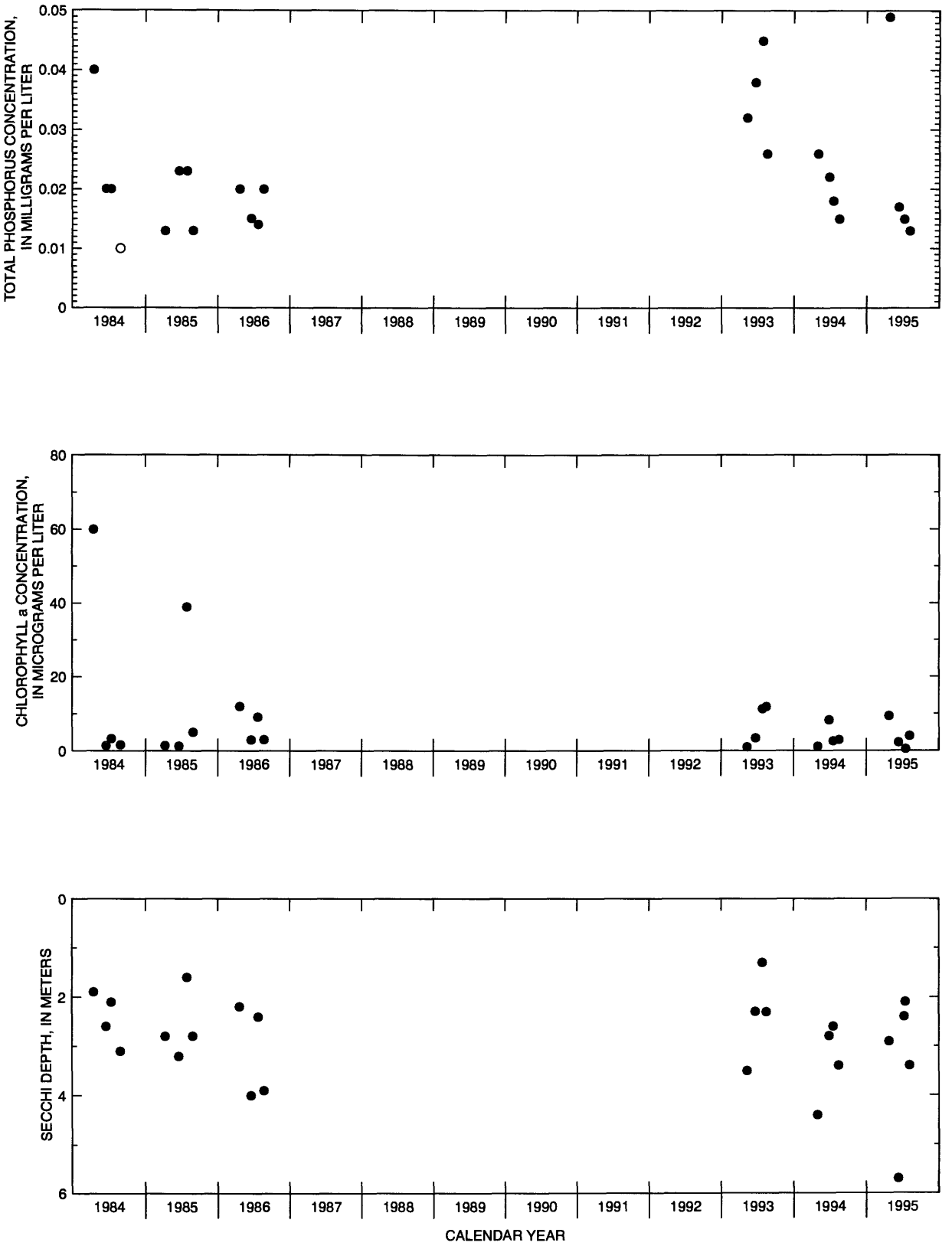
PERIOD OF RECORD.--February 1984 to September 1987, February 1993 to current year.

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

WATER-QUALITY DATA, FEBRUARY 23 TO AUGUST 08, 1995
(Milligrams per liter unless otherwise indicated)

	Feb. 23		Apr. 26		June 13		July 10		July 19	Aug. 08	
Depth of sample (ft)	1.5	45	1.5	44	1.5	43	1.5	44	1.5	1.5	43
Lake stage (ft)	---		4.84		5.17		4.80		---	4.72	
Specific conductance (µS/cm)	545	602	516	518	523	552	509	558	504	481	570
pH (units)	8.2	7.6	8.5	8.4	8.3	7.7	8.4	7.6	8.5	8.4	7.4
Water temperature (°C)	3.5	4.5	8.5	7.0	21.0	8.0	24.0	8.0	24.5	25.5	8.5
Color (Pt-Co. scale)	---	---	25	25	---	---	---	---	---	---	---
Turbidity (NTU)	---	---	1.00	1.3	---	---	---	---	---	---	---
Secchi-depth (meters)	---		2.9		5.7		2.4		2.1	3.4	
Dissolved oxygen	11.3	0.9	12.0	10.3	9.4	0.5	9.5	0.3	8.9	8.3	0.1
Hardness, as CaCO3	---	---	280	270	---	---	---	---	---	---	---
Calcium, dissolved (Ca)	---	---	47	47	---	---	---	---	---	---	---
Magnesium, dissolved (Mg)	---	---	39	38	---	---	---	---	---	---	---
Sodium, dissolved (Na)	---	---	6.8	6.8	---	---	---	---	---	---	---
Potassium, dissolved (K)	---	---	4	4	---	---	---	---	---	---	---
Alkalinity, as CaCO3	---	---	210	210	---	---	---	---	---	---	---
Sulfate, dissolved (SO4)	---	---	31	31	---	---	---	---	---	---	---
Chloride, dissolved (Cl)	---	---	28	28	---	---	---	---	---	---	---
Fluoride, dissolved (F)	---	---	<0.1	<0.1	---	---	---	---	---	---	---
Silica, dissolved (SiO2)	---	---	0.4	1.0	---	---	---	---	---	---	---
Solids, dissolved, at 180°C	---	---	304	306	---	---	---	---	---	---	---
Nitrogen, NO2 + NO3, diss. (as N)	---	---	0.01	0.02	---	---	---	---	---	---	---
Nitrogen, ammonia, dissolved (as N)	---	---	0.08	0.15	---	---	---	---	---	---	---
Nitrogen, organic, total (as N)	---	---	0.62	0.95	---	---	---	---	---	---	---
Nitrogen, amm. + org., total (as N)	---	---	0.70	1.1	---	---	---	---	---	---	---
Nitrogen, total (as N)	---	---	0.71	1.1	---	---	---	---	---	---	---
Phosphorus, total (as P)	---	---	0.049	0.040	0.017	0.332	0.015	0.456	---	0.013	0.453
Phosphorus, ortho, dissolved (as P)	---	---	<0.002	0.008	---	---	---	---	---	---	---
Iron, dissolved (Fe) µg/L	---	---	<10	<10	---	---	---	---	---	---	---
Manganese, dissolved (Mn) µg/L	---	---	<0.4	0.4	---	---	---	---	---	---	---
Chlorophyll a, phytoplankton (µg/L)	---	---	9.3	---	2.1	---	---	---	0.4	3.9	---





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

(Circles indicate laboratory detection limit for selected analyses. Actual concentrations for these particular analyses are less than the plotted circles.)

WISCONSIN DISTRICT PUBLICATIONS PERTAINING TO LAKES

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