METHODS OF DATA COLLECTION AND WATER-QUALITY DATA FOR STANDLEY LAKE, JEFFERSON COUNTY, COLORADO, 1989-90

by Barbara C. Ruddy, David A. Johncox, and David K. Mueller

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CONVERSION FACTORS AND RELATED INFORMATION

Multiply	*By*	*To obtain*
acre	0.4047	square kilometer
acre-foot (acre-ft)	1,233.49	cubic meter
centimeter (cm)	0.3937	inch
foot (ft)	0.3048	meter
gallon (gal)	3.785	liter
inch (in.)	25.4	millimeter
liter (L)	0.2642	gallon (US)
meter (m)	3.281	foot
micrometer (μm)	0.00003937	inch
milliliter (mL)	0.03381	ounce
ounce (oz)	29.57	milliliter

Degree Celsius (°C) may be converted to degree Fahrenheit (°F) by using the following equation:

$$°F = 9/5(°C) + 32$$

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."

The following terms and abbreviations also are used in the report:

microgram per liter (μg/L)
milligram per liter (mg/L)

METHODS OF DATA COLLECTION AND WATER-QUALITY DATA FOR STANDLEY LAKE, JEFFERSON COUNTY, COLORADO, 1989-90

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ABSTRACT

Physical, chemical, and biological water-quality data were collected and compiled for sites in Standley Lake, its primary inflows, and its outflow from June 21, 1989, to October 30, 1990. Data were collected to determine the limnological characteristics of Standley Lake and the processes that could affect nutrient availability, algal growth, and the occurrence and potential sources of compounds that cause taste and odor problems. These data include measurements of water temperature, pH, dissolved oxygen, and specific conductance in the lake and in the inflows and outflow. Light transparency also was measured in the lake. Lake water, inflow and outflow water, bottom sediment, and interstitial pore water periodically were analyzed for concentrations of nutrients and trace elements. Lake water also was analyzed for concentrations of chlorophyll a, densities and biovolumes of phytoplankton, and densities of zooplankton. Artificial and natural substrates from the lake were analyzed for periphyton density and biomass. The inflows were analyzed for densities and biovolumes of phytoplankton.

INTRODUCTION

Standley Lake is a reservoir[1] that provides domestic water to the suburban cities of Northglenn, Thornton, and Westminster in Jefferson County, northwest of Denver, Colo. (fig. 1). In 1988, a taste and odor problem developed in water supplied from the lake. This problem occurred in October and November, after the fall turnover, when the water in the lake became completely mixed. The cities suspected that the taste and odor problem was related to phytoplankton growing in the lake, and that this growth could be controlled by regulating the phosphorus concentration in the lake. The Colorado Water Quality Control Commission was petitioned by these cities to set a phosphorus standard for the lake. In a hearing before the Commission, the standard was opposed by the cities of Arvada and Golden and by Jefferson County. These entities potentially could be required to meet phosphorus control regulations under the standard. They contended that previous studies were not conclusive in determining the source of the taste and odor problem or the factors limiting phytoplankton growth in the lake. The Commission deferred a decision on the standard and suggested that all the parties work

[1]Although it is a reservoir, the word lake is used in its name. For consistency, it is referred to as a lake throughout this report.

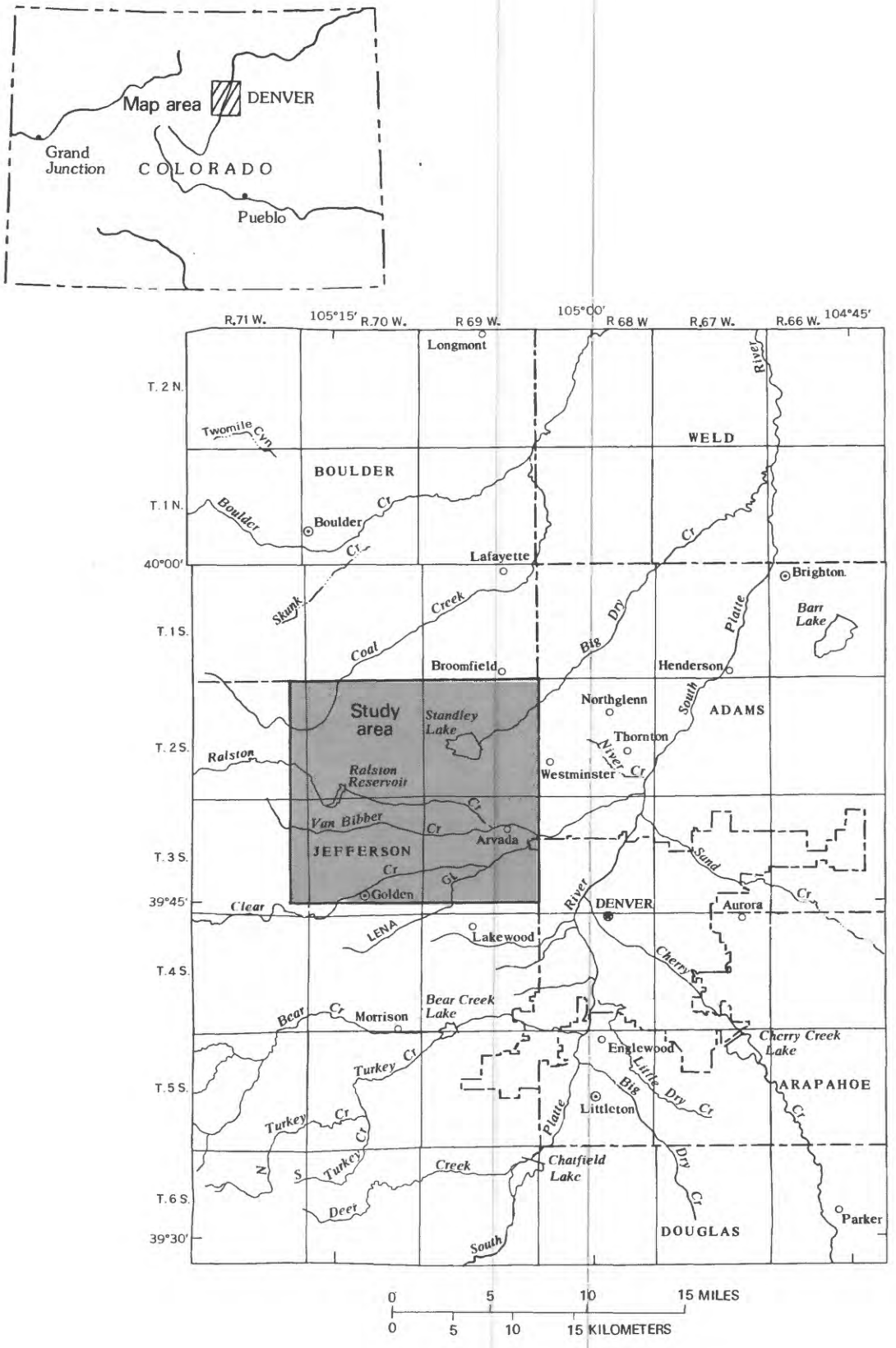


Figure 1.--Location of the study area.

together to develop the information necessary to determine appropriate standards for the protection of Standley Lake as a water supply source. The parties requested that the U.S. Geological Survey conduct a study to provide this information.

In 1989, the U.S. Geological Survey, in cooperation with the cities of Arvada, Golden, Northglenn, Thornton, and Westminster and Jefferson County, began a study of Standley Lake. The objectives of this study were as follows:

1. Determine the limnological characteristics of Standley Lake regarding nutrients, phytoplankton and zooplankton, and processes that could affect nutrient availability, algal growth, or the occurrence of taste and odor problems. These processes include stratification, turnover (mixing of the entire water column), and development of anoxic conditions.

2. Quantify the nutrient loading to Standley Lake from inflow sources and the retention of nutrients in the lake. Determine whether internal cycling from bottom sediment in Standley Lake may be a significant source of nutrients to the lake water.

3. Determine whether the availability of phosphorus limits algal growth during periods when algae suspected of causing taste and odor problems may be present in Standley Lake.

4. Determine the compounds responsible for taste and odor problems in the water delivered from Standley Lake and the potential sources of these compounds to water in the lake.

Objectives 1-3 were accomplished by the U.S. Geological Survey. Objective 4 was accomplished by Drexel University, Philadelphia, Pa., using water and biota samples provided by the U.S. Geological Survey; results of this part of the study are presented in two reports from Drexel University (I.H. Suffet and Djanette Khiari, Drexel University, written commun., 1991; Patricia Cascallar and Wesley O. Pipes, Drexel University, written commun., 1991).

Purpose and Scope

This report describes the methods of data collection and presents the physical, chemical, and biological data collected from Standley Lake, its primary inflows, and its outflow. Physical data include measurements of temperature, pH, dissolved oxygen, and specific conductance in the lake and in the inflows and the outflow. Transparency, or light penetration, also was measured in the lake. Chemical data include concentrations of nutrients and trace elements in the lake water, the inflows and outflow, the bottom sediment, and the interstitial pore water. Biological data include concentrations of chlorophyll a, densities and biovolumes of phytoplankton, densities of zooplankton, and densities and biomass of periphyton in the lake and densities and biovolumes of phytoplankton in the inflows.

Samples were collected from several locations in Standley Lake, from three surface inflows to the lake, and from the outflow to the city of Westminster's Semper Water Treatment Plant. Sampling began on June 21, 1989, and concluded on October 30, 1990.

Description of the Study Area

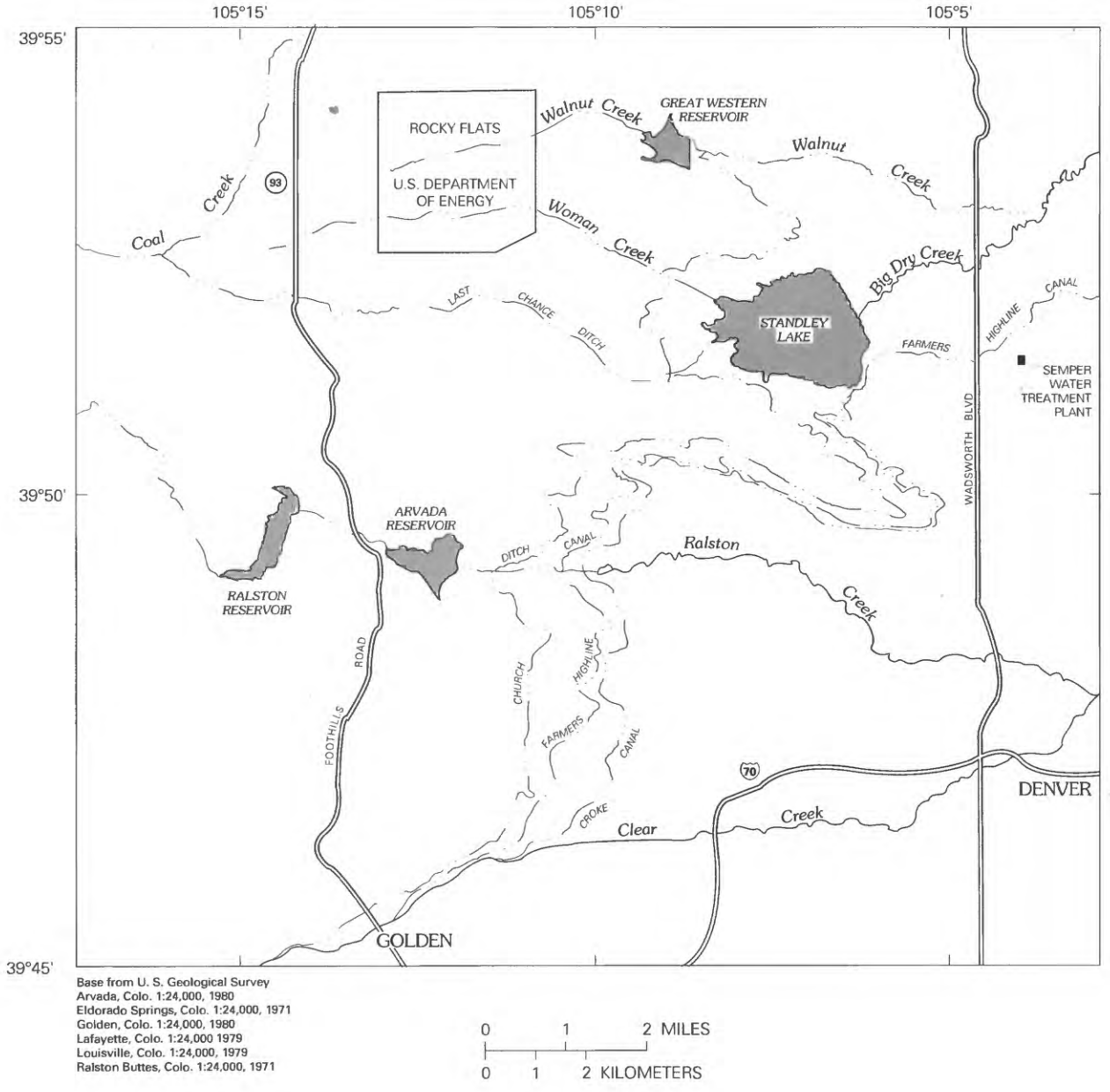
Standley Lake is located in the city of Westminster, a suburb of Denver, in northeastern Jefferson County, Colo. It is a reservoir formed by an earthen dam on Big Dry Creek (fig. 2). Storage of water in the lake began about 1910. The lake originally was used to supply water for irrigation, but as suburban development replaced farmland in the delivery area, some of the water use shifted to domestic supply. During 1963-66, the lake was enlarged to create more capacity for municipal users; however, the full capacity of the lake was not usable until 1981.

At its full-pool elevation, Standley Lake has a capacity of about 43,000 acre-ft and a surface area of about 1,200 acres (Richard P. Arber Associates, 1982). Mean depth is about 36 ft and maximum depth is 96 ft, based on the original land surface.

Natural inflow to Standley Lake is intermittent. Most of the inflow is imported by canals from Clear Creek, to the south, or from Coal Creek, to the west. Water from Clear Creek is diverted into three canals in the vicinity of Golden (fig. 2). The Farmers Highline and Croke Canals flow approximately parallel to each other and deliver water to Standley Lake through a common channel near the southern end of the dam. The Church Ditch conveys water around the western side of Standley Lake. Water from this ditch can be diverted into the lake through the Last Chance Ditch channel or through Woman Creek. Water from Coal Creek also can be diverted into Standley Lake through the Last Chance Ditch.

Each canal delivers water to Standley Lake only during certain times of the year. The normal season for diversions into the Farmers Highline Canal is March 20 through November 11. Water from the canal is delivered to Standley Lake during most of this period, although flow may bypass the lake for several days to provide water for irrigation downstream. The Croke Canal diverts water during November 12 through March 19 and during peak runoff in June. All diverted water is delivered to Standley Lake. The season for Church Ditch diversions is April 1 through October 31, but deliveries to Standley Lake normally are not made during this entire period. The season for Last Chance Ditch diversions is November 1 through April 20, depending on availability of water in Coal Creek. No water was diverted into Last Chance Ditch during November or December 1989. Water also may be diverted into the ditch during peak runoff in May. All diverted water is delivered to Standley Lake.

Outflow from Standley Lake is controlled by an outlet structure located several hundred feet west of the dam at a depth of 72-86 ft below the full-pool water surface. From this outlet, water may be delivered to Big Dry Creek and to municipal water treatment plants serving the cities of Northglenn, Thornton, and Westminster.



Base from U. S. Geological Survey
Arvada, Colo. 1:24,000, 1980
Eldorado Springs, Colo. 1:24,000, 1971
Golden, Colo. 1:24,000, 1980
Lafayette, Colo. 1:24,000 1979
Louisville, Colo. 1:24,000, 1979
Ralston Buttes, Colo. 1:24,000, 1971

Figure 2.--Location of Standley Lake and the surrounding area.

METHODS OF DATA COLLECTION

The Standley Lake project was a comprehensive study involving various aspects of nutrient dynamics. The data-collection methods were designed to determine physical, chemical, and biological characteristics of Standley Lake, and to provide information for evaluating the nutrient loading, the internal nutrient cycling from bottom sediment, and the occurrence of compounds that could cause taste and odor problems in the lake. The methods used for data collection included both standard techniques (Guy and Norman, 1970; Edwards and Glysson, 1988; Britton and Greeson, 1989; Ward and Harr, 1990) and special techniques adapted for this study. The methods of data collection used in this study are described for various project activities in the following sections.

The sampling sites used in this study are listed in table 1 and are shown in figures 3 and 4. The laboratory analyses of samples are listed for each project activity in table 2. All data are listed in tables 3-19, which are located in the "Water-Quality Data" section at the back of this report.

Table 1.--*Description of sampling sites*

[Identification number is latitude and longitude of the site with a sequence number of 00 at the end; see figures 3 and 4 for site location]

Site number	U.S. Geological Survey identification number	Site name
	INFLOW AND OUTFLOW SITES	
I01	395111105064100	Farmers Highline and Croke Canals
I02	395119105090600	Last Chance and Church Ditches
I03	395216105084500	Woman Creek and Church Ditch
I04	395131105041500	Semper Water Treatment Plant
	LAKE SITES	
L1	395159105063200	Standley Lake near dam
L2	395150105072300	Standley Lake near center
L3	395224105065700	Standley Lake near spillway
L4	395218105073600	Standley Lake (north side)
L5	395148105080000	Standley Lake near island
L6	395125105072700	Standley Lake (south side)
L7	395208105082900	Standley Lake near Woman Creek inlet
L8	395153105083800	Standley Lake (west side)
L9	395144105083100	Standley Lake near Last Chance Ditch inlet
L10	395124105063900	Standley Lake near Farmers Highline and Croke Canal inlet
L11	395148105062200	Standley Lake near boat ramp

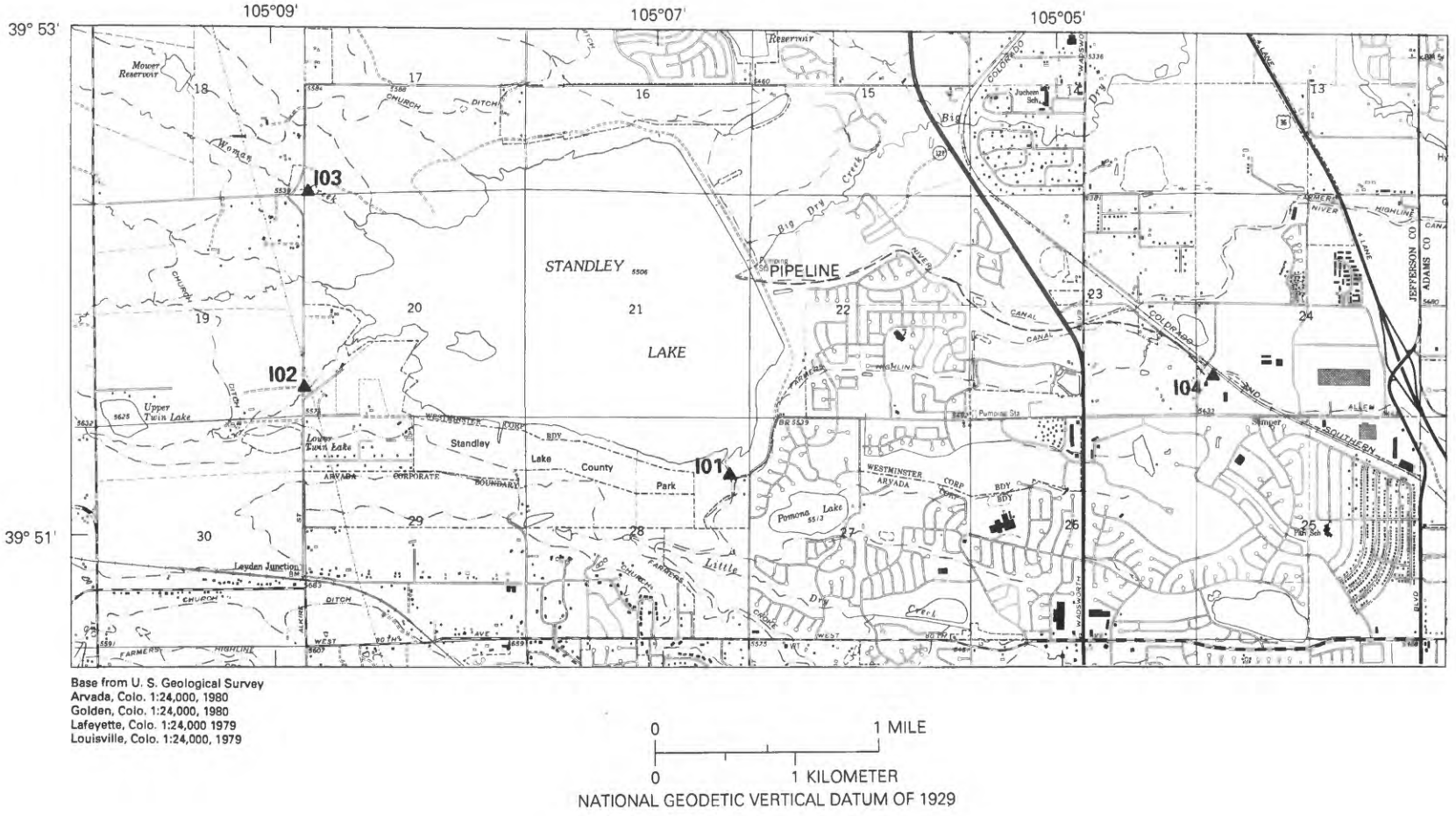
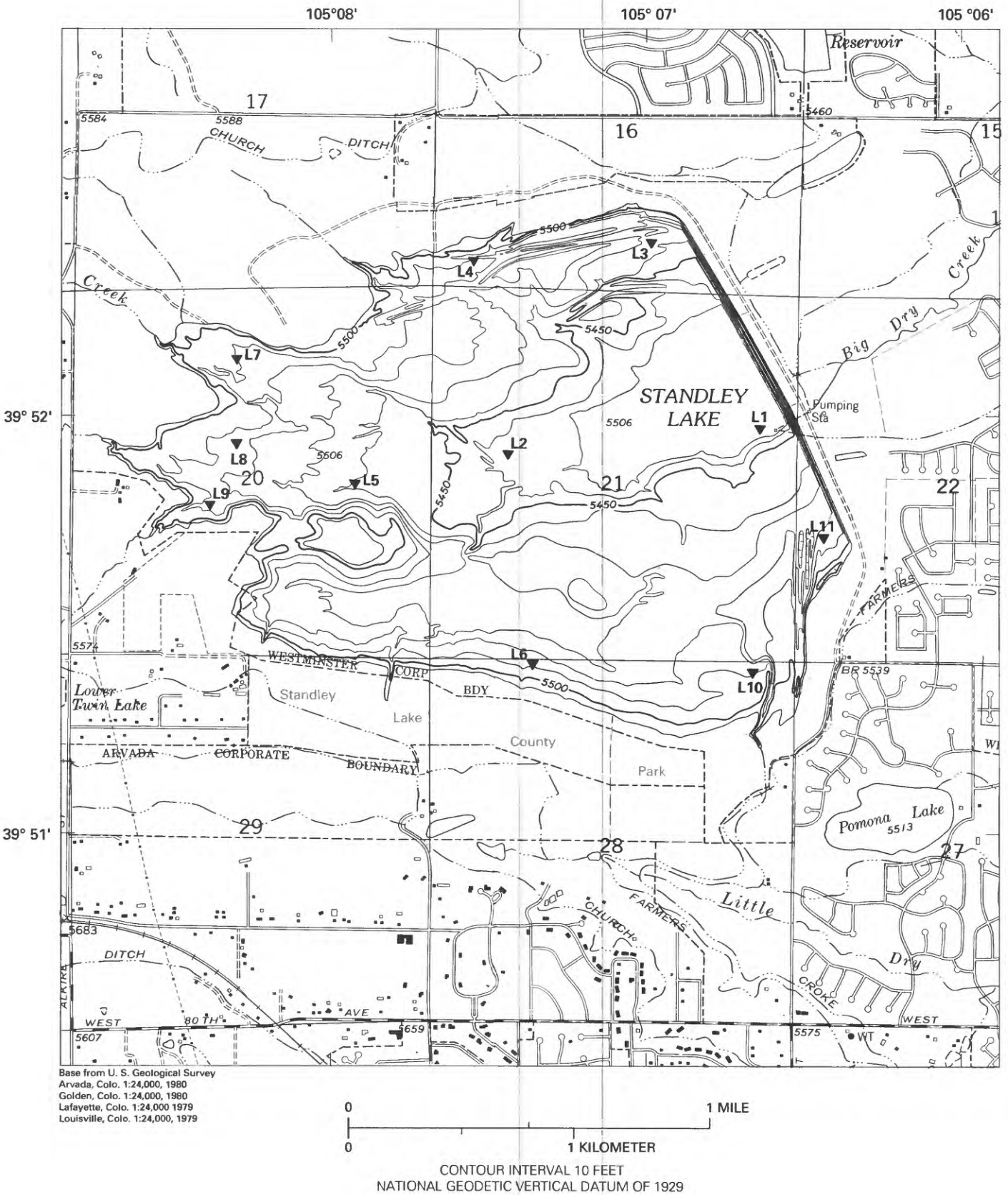


Figure 3.--Location of inflow and outflow sampling sites.



Base from U. S. Geological Survey
Arvada, Colo. 1:24,000, 1980
Golden, Colo. 1:24,000, 1980
Lafayette, Colo. 1:24,000 1979
Louisville, Colo. 1:24,000, 1979

0 1 MILE
0 1 KILOMETER

CONTOUR INTERVAL 10 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

Figure 4.--Location of sampling sites in Standley Lake.

Table 2.--*Laboratory analyses for Standley Lake study*

[SWTP, Semper Water Treatment Plant; --, sample not collected; S, water sample collected near the surface; M, water sample collected at a middle depth; B, water sample collected near the bottom; X, sample collected]

Constituent	Lake				Inflows		Outflow (SWTP)		Nutrient limitation test		Bottom material	Pore water
	L1		L2									
	1989	1990	1989	1990	1989	1990	1989	1990	1989	1990	1989	1989-90
Chemical oxygen demand	--	--	--	--	--	--	--	--	--	--	X	--
Suspended solids	S	S,M,B	S	--	X	X	X	X	--	--	--	--
Alkalinity, total	S,M,B	--	S,B	--	--	--	--	--	X	--	--	--
Silica, dissolved	S,M,B	--	S,B	--	X	X	X	X	--	--	--	--
Nitrate as nitrogen, dissolved	--	--	--	--	--	--	--	--	--	--	--	X
Nitrite plus nitrate as nitrogen, dissolved	S,M,B	S,M,B	S,B	--	X	X	X	X	X	X	X	--
Ammonia as nitrogen, dissolved	S,M,B	S,M,B	S,B	--	X	X	X	X	X	X	X	X
Ammonia plus organic nitrogen as nitrogen, total	S,M,B	--	S,B	--	X	X	X	X	X	--	--	--
Nitrogen, dissolved	--	--	--	--	--	--	--	--	--	--	--	X
Nitrogen, total	S,M,B	S,M,B	S,B	S,B	X	X	X	X	X	X	--	--
Orthophosphate as phosphorus, dissolved	S,M,B	S,M,B	S,B	--	X	X	X	X	X	X	--	X
Phosphorus, dissolved	--	--	--	--	--	--	--	--	--	--	--	X
Phosphorus, total	S,M,B	S,M,B	S,B	S,B	X	X	X	X	X	X	X	--
Arsenic, total	S,M,B	S,M,B	S,B	--	--	--	--	--	--	--	X	--
Barium, dissolved	--	--	--	--	--	--	--	--	--	--	--	X
Barium, total recoverable	S,M,B	S,M,B	S,B	--	--	--	--	--	--	--	X	--
Cadmium, dissolved	--	--	--	--	--	--	--	--	--	--	--	X
Cadmium, total recoverable	S,M,B	S,M,B	S,B	--	--	--	--	--	--	--	X	--
Chromium, dissolved	--	--	--	--	--	--	--	--	--	--	--	X
Chromium, total recoverable	S,M,B	S,M,B	S,B	--	--	--	--	--	--	--	X	--
Copper, dissolved	--	S,M,B	--	--	--	--	--	--	--	--	--	X
Copper, total recoverable	S,M,B	S,M,B	S,B	--	--	--	--	--	--	--	X	--
Iron, dissolved	S,M,B	S,M,B	S,B	--	--	--	--	--	--	--	--	X
Iron, total recoverable	S,M,B	S,M,B	S,B	--	--	--	--	--	--	--	X	--
Lead, dissolved	--	--	--	--	--	--	--	--	--	--	--	X
Lead, total recoverable	S,M,B	S,M,B	S,B	--	--	--	--	--	--	--	X	--
Lithium, dissolved	--	--	--	--	--	--	--	--	--	--	--	X
Manganese, dissolved	S,M,B	S,M,B	S,B	--	--	--	--	--	--	--	--	X
Manganese, total recoverable	S,M,B	S,M,B	S,B	--	--	--	--	--	--	--	X	--
Mercury, total recoverable	S,M,B	S,M,B	S,B	--	--	--	--	--	--	--	X	--
Selenium, total	S,M,B	S,M,B	S,B	--	--	--	--	--	--	--	X	--
Silver, dissolved	--	--	--	--	--	--	--	--	--	--	--	X
Silver, total recoverable	S,M,B	S,M,B	S,B	--	--	--	--	--	--	--	--	--
Strontium, dissolved	--	--	--	--	--	--	--	--	--	--	--	X
Organic carbon, total	--	--	--	--	X	X	--	--	--	--	X	--
Chlorophyll a	S	S	S	S	--	--	--	--	X	X	--	--
Phytoplankton	S	S	S	S	X	X	--	--	X	X	--	--
Periphyton[1]	--	--	--	--	--	--	--	--	--	--	--	--
Zooplankton	S	S	S	S	--	--	--	--	X	X	--	--

[1]Periphyton was collected at several locations in the lake during 1989 and 1990.

Chemical analyses of water samples were done at the U.S. Geological Survey National Water Quality Laboratory in Arvada, Colo. Most analytical methods are described by Fishman and Friedman (1989). Low-level nutrient analyses were used so that the minimum possible concentrations could be detected. Dissolved ammonia as nitrogen was measured colorimetrically by using the salicylate hypochlorite method (I-2522-85). Dissolved nitrite plus nitrate as nitrogen was determined colorimetrically after cadmium reduction and diazotization (method I-2546-89). Total nitrogen was analyzed by pyro-chemoluminescence (method I-2511-90). Dissolved orthophosphate as phosphorus was measured colorimetrically by using the phosphomolybdate method (I-2606-89), and total phosphorus was measured by using the same technique following persulfate digestion (method I-4607-90). Most trace elements were measured using graphite-furnace atomic-adsorption spectrometry. Chlorophyll a was measured by fluorescence spectroscopy following high-pressure liquid chromatography using methanol as the solvent (method B-6530-85; Britton and Greeson, 1989). Quality assurance for these methods is described by Friedman and Erdmann (1982), and results of quality-assurance analyses are available annually.

The chemical composition of solid-phase sediment samples was analyzed at the U.S. Geological Survey's geological laboratory in Lakewood, Colo., by using procedures described by Severson and others (1987). Plankton identification was contracted to the U.S. Bureau of Reclamation in Lakewood, Colo. The analysis of phytoplankton was done by Dr. Paul Zimba at the University of Florida. Dr. Zimba also did the periphyton identification from natural substrates collected in 1989. All other periphyton analyses were done by Dr. Richard Dufford of Colorado State University. Zooplankton analyses were done by Dr. John Beaver of Life Systems in Cleveland, Ohio.

Inflow and Outflow Sampling

Data for estimation of nutrient loading and retention in Standley Lake were collected at three inflow sites and one outflow site (fig. 3, table 1). The inflow sites were I01, located near the south side of the lake, and I02, and I03, located on the west side of the lake. The outflow site (I04) was the raw-water intake to the city of Westminster's Semper Water Treatment Plant. Daily streamflow at each site was measured in one or more Parshall flumes by the Farmers Reservoir and Irrigation Company, and data were provided by the city of Westminster (Dan Strietelmeier, city of Westminster, written commun., 1989 and 1990).

Onsite measurements made at the inflow and outflow sites included water temperature, pH, dissolved oxygen, and specific conductance. Water samples for chemical and biological analyses were collected from the three inflow sites and one outflow site monthly from November through April, biweekly from May through August, and weekly during September and October. Additional samples were collected from the inflow sites (I01, I02, and I03) during or immediately following rainfall and snowmelt events. A U.S. Geological Survey mini-monitor, which recorded water temperature and specific conductance every hour, was installed on I01 in 1990. The data from the mini-monitor were to be used to delineate storm-affected inflow. However, the probes were inundated by backwater from the lake and subsequently covered by sediment; therefore, the data could not be used and are not reported.

Standard U.S. Geological Survey sampling techniques were used to obtain water-quality samples (Ward and Harr, 1990). The water-quality samples were collected using a depth-integrating sampler utilizing the equal-width-increment (EWI) method at the three inflow sites (Guy and Norman, 1970). EWI subsamples were composited into a plastic 1-gal bottle. Point samples were collected at the inflow sites during periods of low flow by submerging a hand-held 1-gal bottle in the centroid of the flow with the mouth of the bottle directed toward the current. Total organic carbon (TOC) samples were collected at the inflow sites as point samples by submerging a 100-mL glass bottle into the flow. At site I04, a 1-gal bottle was filled from the raw-water tap and was assumed to represent the outflow from the lake. All samples were chilled and protected from light for transport to the office. The maximum time between collection of a sample and completion of filtering and preservation was about five hours.

Preparation and preservation of water samples were completed at the office. Samples for analysis of total concentrations were poured directly from the 1-gal bottles, which were first gently inverted several times to resuspend particulates. Samples for analysis of dissolved concentrations were pumped from the 1-gal bottles through a 0.45-μm cellulose-membrane filter. The filter assembly and a newly installed filter were flushed with 1 L of deionized water prior to filtration of samples from each site. Samples for analyses of total and dissolved nutrients (nitrogen and phosphorus species) were stored in amber-colored polyethylene bottles and were preserved with 1-mL mercuric chloride to about 250 mL of sample water. Samples for analyses of trace elements were preserved with 1-mL of 50-percent nitric acid to 250 mL of sample water to achieve a pH of about 2. All samples were stored at 4°C until delivery to the laboratory. The inflow and outflow water samples for chemical analysis were delivered to the U.S. Geological Survey National Water Quality Laboratory in Arvada generally within 24 hours of sample collection. Onsite measurements and the results of chemical analyses are listed in table 3.

When EWI composite samples were collected at the three inflow sites, a 1-L subsample was poured into an amber-colored 1-L polyethylene bottle for preservation of phytoplankton. During periods of low flow, phytoplankton samples were collected at the inflow sites by submerging an amber-colored 1-L polyethylene bottle in the centroid of the flow with the mouth of the bottle directed toward the current. Samples collected in 1989 were preserved with Formalin (an aqueous formaldehyde), which was effective but had a propensity to distort the cell shape of the species. In 1990, samples were preserved with acidified Lugol's solution, which maintains cell morphology and contains iodine to stain the cells (Britton and Greeson, 1989). . The results of the phytoplankton identification are listed in table 4.

Lake Sampling

The limnological characteristics of Standley Lake regarding nutrients, biota, and processes that could affect the trophic status of the lake were determined by in-lake monitoring at sites L1 and L2 (fig. 4, table 1). Site L1 was located near the dam at the deepest point of the lake. Site L2 was

located near the center of the lake. Both sites were near the sampling points used in previous studies conducted on Standley Lake (sample points 10 and 60, Richard P. Arber Associates, 1982, 1986, 1987, and 1988). The sites were identified by using a depth finder and triangulation with landmarks around the lake.

Onsite measurements were made and water samples for chemical and biological analyses were collected monthly from March through July, biweekly during August and November, and weekly during September and October. Additional measurements were made and samples were collected to determine the effects of motorboats and wind on stratification and mixing in the lake.

Onsite measurements made at sites on Standley Lake included water temperature, pH, dissolved oxygen, specific conductance, and light transparency. Profiles of water temperature, pH, dissolved oxygen, and specific conductance were measured using a multi-parameter probe lowered through the water column. Measurements normally were made at 5-ft intervals, but 2.5-ft intervals occasionally were used to better define the thermocline or the top of the anoxic zone. Profile measurements are listed by date in table 5. Light transparency was measured with a black and white 20-cm-diameter Secchi disk.

Water samples from the lake were collected by using a vertically suspended van Dorn sampler. The sampler consisted of a polyvinyl chloride (PVC) cylinder with rigid polyurethane end seals, silicone gaskets, and a latex closing tube. It was about 2 ft long and had a capacity of about 4 L. Samples were collected from within the photic zone and from near the bottom. An additional sample was collected from within the thermocline at site L1 when the lake was stratified. The photic zone was assumed to extend from the surface to a depth of about twice the Secchi-disk depth. Photic zone samples were collected at 3-ft intervals beginning with the top of the sampler at the surface. An equal volume from each sample was composited in a 14-L PVC churn splitter. Composite samples then were drawn from the churn. The first liter drawn from the churn was preserved with Formalin (1989 samples) or Lugol's solution (1990 samples) for phytoplankton identification. The remaining water in the churn was drawn into 1-gal plastic bottles, chilled, and protected from light for transport to the office. Bottom and middle (thermocline) samples were drawn directly from the van Dorn sampler into 1-gal bottles.

Zooplankton samples from the lake were collected using a Wisconsin-type sampler having an 80-μm mesh net. Samples were collected by a vertical haul through the entire water column. Two replicate samples were collected at each site. The zooplankton were rinsed from the net and sampler bucket into a sample bottle using water from the lake. About 10-percent (by volume) commercial soda water was added to the sample as a narcotizing agent. The samples were preserved with Formalin (1989 samples) or Lugol's solution (1990 samples).

Preparation and preservation of water samples were completed at the office. The first process was filtering samples for chlorophyll *a* analysis. A 1-L aliquot was poured from the photic-zone composite after gently inverting the container several times to resuspend particulates. The 1-L aliquot was pumped through a Gelman type A/E glass-fiber filter by using a hand-operated vacuum pump. The filter was then placed in a glass vial, which was wrapped in aluminum foil and immediately frozen.

Samples that were to be analyzed for chemical constituents were prepared and preserved in the same manner described in the "Inflow and Outflow Sampling" section of this report. All samples for chemical analysis were stored at 4°C until delivery to the U.S. Geological Survey National Water Quality Laboratory, generally within 24 hours of sample collection. Results of the chemical analyses are listed in table 6. Phytoplankton densities and biovolumes are listed in table 7, and zooplankton densities are listed in table 8.

The analytical schedule was modified following review of the 1989 data. Because data from sites L1 (near the dam) and L2 (near the center) were similar, most analyses were discontinued for samples from site L2. Alkalinity and concentration of silica were relatively constant in all samples, so these analyses also were discontinued. Analyses for ammonia plus organic nitrogen were discontinued because the method seemed to be less accurate than the method for analysis of total nitrogen, and the information from the total nitrogen analysis was considered sufficient. Analyses for suspended solids were added to the middle and bottom samples collected at site L1.

Periphyton Sampling

Samples of periphyton were collected to determine whether species present in Standley Lake had the potential to cause taste and odor problems in the water. Although periphyton literally refers to the plants growing on solid surfaces, it generally includes the entire micro-organism community that attaches to or lives upon submerged solid surfaces (Britton and Greeson, 1989). Samples were collected three times each year of the study: during the peak of the growing season in August, prior to turnover in September, and after turnover in October. Periphyton samples were collected from artificial and natural substrates in 1989. Because the periphyton species identified on the artificial substrates differed from the naturally occurring periphyton, artificial substrates were not used in 1990. In 1989, periphyton samples were collected from artificial substrates at sites L3, L7, L9, and L10 and from natural substrates at sites L3, L7, L9, L10, and L11 (fig. 4). In 1990, periphyton samples were collected from the bottom sediment at sites L7, L10, and L11 (fig. 4).

Collection of Samples from Artificial Substrates

Polyethylene strips were used as artificial substrates in this study. The strips were suspended from a float, anchored by a weight, and placed parallel to the lake bottom. Nine 2-in. by 6-in. strips were attached at three evenly spaced depths within the photic zone. The artificial substrates were left in the lake for almost 3 weeks for maximum accumulation of periphyton biomass. The substrates then were carefully removed, touching only the edges, and were placed in polyethylene containers filled with distilled water and Formalin, as a preservative. Total periphyton biomass on each successfully retrieved artificial substrate is listed in table 9. Densities of individual species on selected substrates are listed in table 10.

Collection of Samples from Natural Substrates

In 1989, on the same days that the artificial substrates were removed from the lake, periphyton samples also were collected from natural substrates. Divers collected submerged natural objects, such as rocks and plant material, from the lake and brought them to the surface, where the periphyton was scraped into 125-mL polyethylene containers. The samples were covered with distilled water and preserved with Formalin. Species composition on the natural substrates is listed in table 11.

In 1990, a 15-cm by 15-cm Eckman grab was used to collect undisturbed samples of the bottom sediments. Subsample cores for periphyton identification were removed using a method described by Sullivan and Moncreiff (1988). At each site, the Secchi-disk depth (transparency) was determined, and bottom sediment was collected at one, two, and three times the Secchi-disk depth. Cores were removed by using a 2.6-cm-diameter syringe with the tip cut off. The syringe was pushed into the sediment to a depth of 3 to 4 cm. Each core was trimmed to leave the upper 2 cm of the surface layer, which was placed in a 4-oz amber-colored Nalgene bottle. The sample was covered with distilled water and preserved with Lugol's solution. Periphyton densities are listed by sampling date in table 12.

Collection of Samples for Taste and Odor Analyses

Water, biota, and bottom-sediment samples were analyzed for organic compounds that can cause taste and odor problems and for potential sources of these compounds. In 1989, water and phytoplankton samples were collected at sites L1, L2, L3, L10, I01, and I04; and periphyton algae samples were collected at sites L3, L7, L9, L10, and L11 (fig. 4). In 1990, water and phytoplankton samples were collected at sites L1, L2, L3, L8, L10, L11, I01, and I04; and bottom sediment and periphyton samples were collected at sites L7, L10, and L11 (fig. 4). The lake-water samples were collected from the surface and near the bottom.

Water and phytoplankton samples were collected in amber-colored 1-gal glass bottles. Where possible, the bottles were filled by submerging the 1-gal bottles in the water. The lake bottom samples were collected using a vertically suspended van Dorn sampler. Periphyton samples were collected from the shoreline and from submerged natural substrates. In 1990, bottom-sediment samples were collected by using an Ekman grab, as described in the "Periphyton Sampling" section. Subsample cores were removed by using a 1.4-cm-diameter modified syringe. At each site, cores from three depths were composited into an amber-colored glass vial. The samples were shipped overnight to Drexel University in Philadelphia, Pa., for chemical analyses and algae culturing.

Bottom-Sediment and Pore-Water Sampling

Bottom-sediment and pore-water samples were collected to determine the availability of chemical constituents in the sediment and the potential flux of constituents to the lake water. Bottom-sediment samples were collected in July 1989 during lake stratification. Pore-water samples were collected twice each year: during stratification in 1989 and 1990, during fall turnover in 1989, and before stratification in the spring of 1990.

Bottom sediments were characterized by analysis of dredge samples collected at sites L1-L10 (fig. 4) in July 1989. Dredge samples were taken using a BMH-60 sampler, which collects unconsolidated sediment from about the upper 4 cm of the lake bottom (Ward and Harr, 1990). The bottom sediment from each site was scraped into a 500-mL wide-mouthed polyethylene jar by using a teflon spatula. The samples were chilled at 4°C for transport to the U.S. Geological Survey geological laboratory. The samples were analyzed for solid-phase chemical composition. Results are listed in table 13.

The potential flux of constituents from the bottom sediments were determined by computing the gradients of the constituents in the pore water. In August and October 1989, sediment cores were collected at sites L1 and L2; in May 1990, sediment cores were collected at sites L1, L2, L4, L5, L8, and L10; and in August 1990 at sites L1, L2, and L5 (fig. 4). The cores were collected using a gravity-driven piston coring device having 6.7-cm-inside-diameter by 1.2-m-long butyrate plastic tubes. At the same time, water was collected from the bottom of the lake by using a horizontally suspended van Dorn sampler. The sediment cores were kept intact and air tight until arrival at the office. The cores then were extruded from the tube under a nitrogen atmosphere to prevent oxidation of chemical species in the pore water. Sections of the core were removed at 1-cm intervals, and the pore water was extracted by centrifuging. Pore-water samples were extracted from the upper 10 cm of cores collected in 1989 and from the upper 4 cm of cores collected in 1990. Samples were filtered and preserved in a glove box under a nitrogen atmosphere. The samples were analyzed for concentrations of nutrients and trace elements, and porosity and pH were measured. Analytical results are listed in table 14.

Nutrient-Limitation Experiments

A series of in-lake enclosure experiments were used to test the algal response to phosphorus and nitrogen additions. The experiments were done at site L3 (fig. 4), where the water depth was about 25-30 ft. Two types of enclosures were used: (1) small, completely sealed enclosures referred to in this study as microcosms (Wurtsbaugh and others, 1985; Morris and Lewis, 1988; Dodds and Priscu, 1990); and (2) large enclosures that were open to the atmosphere, referred to as mesocosms (Bloesch and others, 1988; French and others, 1988; Elser and others, 1990). Six microcosm experiments were done during the study--July, August, September, and October 1989, and August and October 1990. The experiments in July, August, and September were during the period of stratification. The experiments in October were after turnover, during the period of historic taste and odor events. One mesocosm experiment was done concurrently with the microcosm experiment in October 1990. The mesocosm experiment was done to compare the results of the simpler microcosm experiment to a more complex experiment that allowed for atmospheric exchange.

Four treatments of three replicates each were used for all experiments: (1) control (no nutrient addition), (2) addition of nitrogen, (3) addition of phosphorus, and (4) addition of nitrogen plus phosphorus. Added nitrogen was in the form of sodium nitrate ($NaNO_3$); added phosphorus was in the form of potassium phosphate (K_2HPO_4). Concentrated solutions were made, then a specified volume was added to the appropriate enclosures. For the July 1989 experiment, the additions were 1,000 µg/L nitrogen and 100 µg/L phosphorus. For the August, September, and October 1989 experiments, the additions were 100 µg/L nitrogen and 10 µg/L phosphorus. For the 1990 experiments, the additions were 200 µg/L nitrogen and 20 µg/L phosphorus.

Water in the enclosures was sampled to determine the concentrations of nutrients and algal response. Analyses of nutrients included totals and selected dissolved species of nitrogen and phosphorus. Alkalinity also was analyzed in samples from the August, September, and October 1989 experiments, and silica was analyzed in samples from the September 1989 experiment. These additional analyses were deleted from the 1990 experiments because no substantial variation in concentrations was identified in the lake or the enclosure samples during 1989. Algal response was measured by the concentration of chlorophyll a and phytoplankton biovolume in each enclosure.

Microcosm Experiments

The microcosms consisted of 10-L polyethylene cubitainers suspended in the lake at one-half the Secchi-disk depth. The microcosms were filled using a 1.5-in.-diameter, 15-ft-long hose to obtain a depth-integrated sample. (In July 1989, the microcosms were filled only with surface water.) The lake was sampled at the nutrient-limitation-experiment site the day of setup. Onsite measurements were made in the same manner as described in the "Lake Sampling" section. A depth integrated water sample was collected with the 15-ft hose and poured into a 1-gal bottle. The sample was chilled during transport to the office for preparation and preservation.

The microcosms were removed from the lake on the fifth day after installation, were chilled, and were protected from light. At the office, the samples were prepared and preserved as described in the "Inflow and Outflow Sampling" and "Lake Sampling" sections of this report. During preparation for chemical analysis, samples from the replicate microcosms were filtered through the same filter, and filters were changed between treatments. Samples from the four treatments always were prepared in the following order: control, nitrogen addition, phosphorus addition, and nitrogen plus phosphorus addition. Results of chemical analyses are listed in table 15. After chlorophyll *a* and chemical sample preparation, a 1-L sample was poured into an amber-colored bottle and preserved with Formalin (1989) or Lugol's solution (1990) for phytoplankton analysis. Phytoplankton densities and biovolumes by species are listed in table 16.

Mesocosm Experiment

The mesocosms were constructed of filament polyethylene plastic that was sealed with waterproof tape to form about a 3-ft-diameter tube. These mesocosm tubes then were attached to a 3-ft-diameter hoop, sealed at the bottom, and suspended to a depth of about 15 ft into the lake (through the photic zone). Divers filled the tubes by lowering the collapsed tubes to a depth of about 15-20 ft then opening the tubes and bringing them back up through the water column. This method ensured that the water in the tube was representative of the water through the photic zone. Surface water was added to make the water level in the tube equal to the lake level. The 12 mesocosms were supported on 2 anchored rafts, 6 tubes per raft.

The mesocosms were sampled on days 2, 4, and 8 after installation (day 1). A lake sample was collected from the photic zone on each day the mesocosms were sampled. The mesocosms were sampled using 15-ft hoses to collect an integrated sample through the entire length of the tube. Two samples from each mesocosm were composited in a churn. A 1-gal bottle was filled from the churn, chilled, protected from light, and transported to the office for preparation and preservation. The samples were collected in the following order: control, nitrogen addition, phosphorus addition, and nitrogen plus phosphorus addition. Separate sampling hoses were used for each treatment. The samples were prepared and preserved as described for the microcosm experiments. Chemical analyses of the mesocosm samples are listed in table 17, and phytoplankton densities and biovolumes are listed in table 18. On the last day of sampling, a zooplankton sample was collected from each tube by using a net hauled vertically from near the bottom of the tube to the surface. A sample also was collected from the upper 15 ft of the water column in the lake. These samples were preserved as described in the "Lake Sampling" section of this report. Zooplankton densities are listed in table 19.

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WATER-QUALITY DATA

The following terms and abbreviations are used in tables 3-19:

cells per milliliter (cells/mL)
cubic feet per second (ft^3/s)
cubic micrometers per milliliter ($\mu m^3/mL$)
degrees Celsius (deg. C, °C)
feet (ft)
inches (in.)
micrograms per liter (µg/L)
microsiemens per centimeter at 25 degrees Celsius (µS/cm)
milligrams per liter (mg/L)

Table 3.--*Onsite measurements and chemical data for Standley Lake inflows and outflow*

[Outflow streamflow is total from all sources; --, no data; <, less than]

Property or constituent	Units	Inflows			Outflow
		Site IO1 (Farmers Highline and Croke Canals)	Site IO2 (Last Chance and Church Ditches)	Site IO3 (Woman Creek and Church Ditch)	Site IO4 (Semper Water Treatment Plant)
		JUNE 22, 1989			
Streamflow	ft^3/s	93	0	3.2	48
Temperature	deg. C	13.3	--	14.4	14.5
pH	units	6.8	--	7.0	6.9
Dissolved oxygen	mg/L	7.9	--	8.2	2.9
Specific conductance	µS/cm	113	--	118	268
Suspended solids	mg/L	26	--	14	17
Silica, dissolved	mg/L	6.4	--	6.6	2.6
Nitrite plus nitrate as nitrogen, dissolved	mg/L	0.11	--	0.07	0.25
Ammonia as nitrogen, dissolved	mg/L	<0.01	--	<0.01	0.02
Ammonia plus organic nitrogen as nitrogen, dissolved	mg/L	0.3	--	0.6	0.6
Nitrogen, total	mg/L	0.3	--	0.3	0.4
Orthophosphate as phosphorus, dissolved	mg/L	0.004	--	0.003	0.006
Phosphorus, total	mg/L	0.013	--	0.009	0.027
		JULY 6, 1989			
Streamflow	ft^3/s	31	0	7.8	142
Temperature	deg. C	21.4	--	19.0	16.4
pH	units	7.7	--	7.0	6.8
Dissolved oxygen	mg/L	7.2	--	8.0	2.9
Specific conductance	µS/cm	272	--	106	256
Suspended solids	mg/L	25	--	18	27
Silica, dissolved	mg/L	6.5	--	6.3	3.3
Nitrite plus nitrate as nitrogen, dissolved	mg/L	0.02	--	0.03	0.28
Ammonia as nitrogen, dissolved	mg/L	0.03	--	0.02	0.03
Ammonia plus organic nitrogen as nitrogen, total	mg/L	0.3	--	0.2	0.3
Nitrogen, total	mg/L	<0.1	--	<0.1	0.2
Orthophosphate as phosphorus, dissolved	mg/L	0.012	--	0.006	0.006
Phosphorus, total	mg/L	0.023	--	0.014	0.014
		JULY 19, 1989			
Streamflow	ft^3/s	35	0	6.1	95
Temperature	deg. C	17.8	--	16.9	15.4
pH	units	7.3	--	7.3	6.7
Dissolved oxygen	mg/L	7.7	--	7.7	2.2
Specific conductance	µS/cm	117	--	116	246
Suspended solids	mg/L	18	--	23	23
Silica, dissolved	mg/L	5.8	--	5.9	3.3
Nitrite plus nitrate as nitrogen, dissolved	mg/L	0.02	--	0.02	0.26
Ammonia as nitrogen, dissolved	mg/L	0.03	--	0.02	0.02
Ammonia plus organic nitrogen as nitrogen, total	mg/L	0.2	--	0.3	0.3
Nitrogen, total	mg/L	<0.1	--	<0.1	0.3
Orthophosphate as phosphorus, dissolved	mg/L	0.001	--	<0.001	0.002
Phosphorus, total	mg/L	0.009	--	0.003	0.019

Table 3.--*Onsite measurements and chemical data for Standley Lake inflows and outflow*--Continued

Property or constituent	Units	Inflows			Outflow
		Site IO1 (Farmers Highline and Croke Canals)	Site IO2 (Last Chance and Church Ditches)	Site IO3 (Woman Creek and Church Ditch)	Site IO4 (Semper Water Treatment Plant)
		AUGUST 2, 1990			
Streamflow	ft^3/s	33	0.8	18	54
Temperature	deg. C	18.6	18.0	17.9	15.0
pH	units	7.5	7.6	7.6	6.7
Dissolved oxygen	mg/L	7.3	6.7	7.2	2.8
Specific conductance	µS/cm	139	138	133	241
Suspended solids	mg/L	18	53	<1	12
Silica, dissolved	mg/L	6.3	6.5	6.3	3.7
Nitrite plus nitrate as nitrogen, dissolved	mg/L	0.13	0.07	0.08	0.16
Ammonia as nitrogen, dissolved	mg/L	<0.01	<0.01	<0.01	0.05
Ammonia plus organic nitrogen as nitrogen, total	mg/L	<0.2	0.2	0.3	0.2
Nitrogen, total	mg/L	0.2	0.1	0.1	0.3
Orthophosphate as phosphorus, dissolved	mg/L	0.003	0.004	0.002	0.003
Phosphorus, total	mg/L	0.011	0.014	0.017	0.011
Organic carbon, total	mg/L	2.4	3.1	3.4	--
		AUGUST 15, 1989			
Streamflow	ft^3/s	60	1.2	14	91
Temperature	deg. C	17.9	15.6	15.8	15.6
pH	units	7.4	6.7	7.2	6.9
Dissolved oxygen	mg/L	7.8	8.1	8.4	2.7
Specific conductance	µS/cm	191	138	133	238
Suspended solids	mg/L	61	57	6	28
Silica, dissolved	mg/L	7.0	7.0	7.0	4.0
Nitrite plus nitrate as nitrogen, dissolved	mg/L	0.12	0.12	0.13	0.10
Ammonia as nitrogen, dissolved	mg/L	<0.01	<0.01	<0.01	0.10
Ammonia plus organic nitrogen as nitrogen, total	mg/L	0.6	0.3	0.5	0.3
Nitrogen, total	mg/L	0.2	0.2	0.2	0.3
Orthophosphate as phosphorus, dissolved	mg/L	<0.001	<0.001	<0.001	<0.001
Phosphorus, total	mg/L	0.011	0.015	0.016	0.009
		AUGUST 29, 1989			
Streamflow	ft^3/s	15	0	0	63
Temperature	deg. C	22.4	--	--	16.5
pH	units	7.6	--	--	7.0
Dissolved oxygen	mg/L	6.7	--	--	2.6
Specific conductance	µS/cm	202	--	--	250
Suspended solids	mg/L	13	--	--	2
Silica, dissolved	mg/L	7.0	--	--	4.0
Nitrite plus nitrate as nitrogen, dissolved	mg/L	0.10	--	--	0.03
Ammonia as nitrogen, dissolved	mg/L	<0.01	--	--	0.14
Ammonia plus organic nitrogen as nitrogen, total	mg/L	0.3	--	--	0.3
Nitrogen, total	mg/L	0.1	--	--	0.2
Orthophosphate as phosphorus, dissolved	mg/L	0.002	--	--	0.011
Phosphorus, total	mg/L	0.015	--	--	0.025

Table 3.--*Onsite measurements and chemical data for Standley Lake inflows and outflow*--Continued

Property or constituent	Units	Inflows			Outflow
		Site I01 (Farmers Highline and Croke Canals)	Site I02 (Last Chance and Church Ditches)	Site I03 (Woman Creek and Church Ditch)	Site I04 (Semper Water Treatment Plant)
		SEPTEMBER 6, 1989			
Streamflow	ft^3/s	24	0	0	73
Temperature	deg. C	19.9	--	--	17.1
pH	units	7.5	--	--	7.2
Dissolved oxygen	mg/L	--	--	--	--
Specific conductance	µS/cm	209	--	--	240
Suspended solids	mg/L	<1	--	--	<1
Silica, dissolved	mg/L	6.5	--	--	4.2
Nitrite plus nitrate as nitrogen, dissolved	mg/L	0.11	--	--	0.01
Ammonia as nitrogen, dissolved	mg/L	<0.01	--	--	0.22
Ammonia plus organic nitrogen as nitrogen, total	mg/L	<0.2	--	--	0.4
Nitrogen, total	mg/L	0.2	--	--	0.3
Orthophosphate as phosphorus, dissolved	mg/L	0.002	--	--	0.015
Phosphorus, total	mg/L	0.010	--	--	0.027
Organic carbon, total	mg/L	1.6	--	--	--
		SEPTEMBER 9, 1989			
Streamflow	ft^3/s	30	0	0	31
Temperature	deg. C	15.6	--	--	--
pH	units	7.7	--	--	--
Dissolved oxygen	mg/L	7.9	--	--	--
Specific conductance	µS/cm	202	--	--	--
Suspended solids	mg/L	177	--	--	--
Silica, dissolved	mg/L	7.0	--	--	--
Nitrite plus nitrate as nitrogen, dissolved	mg/L	0.30	--	--	--
Ammonia as nitrogen, dissolved	mg/L	0.02	--	--	--
Ammonia plus organic nitrogen as nitrogen, total	mg/L	0.2	--	--	--
Nitrogen, total	mg/L	0.5	--	--	--
Orthophosphate as phosphorus, dissolved	mg/L	0.004	--	--	--
Phosphorus, total	mg/L	0.031	--	--	--
		SEPTEMBER 11, 1989			
Streamflow	ft^3/s	33	0	0	43
Temperature	deg. C	13.3	--	--	--
pH	units	7.6	--	--	--
Dissolved oxygen	mg/L	9.2	--	--	--
Specific conductance	µS/cm	191	--	--	--
Suspended solids	mg/L	9	--	--	--
Silica, dissolved	mg/L	7.0	--	--	--
Nitrite plus nitrate as nitrogen, dissolved	mg/L	0.18	--	--	--
Ammonia as nitrogen, dissolved	mg/L	0.02	--	--	--
Ammonia plus organic nitrogen as nitrogen, total	mg/L	<0.2	--	--	--
Nitrogen, total	mg/L	0.2	--	--	--
Orthophosphate as phosphorus, dissolved	mg/L	0.001	--	--	--
Phosphorus, total	mg/L	0.011	--	--	--
Organic carbon, total	mg/L	1.8	--	--	--

Table 3.--*Onsite measurements and chemical data for Standley Lake inflows and outflow*--Continued

Property or constituent	Units	Inflows			Outflow
		Site IO1 (Farmers Highline and Croke Canals)	Site IO2 (Last Chance and Church Ditches)	Site IO3 (Woman Creek and Church Ditch)	Site IO4 (Semper Water Treatment Plant)
		SEPTEMBER 15, 1989			
Streamflow	ft^3/s	33	1.2	0	31
Temperature	deg. C	16.9	--	--	16.8
pH	units	7.8	--	--	6.9
Dissolved oxygen	mg/L	7.9	--	--	2.5
Specific conductance	µS/cm	206	--	--	229
Suspended solids	mg/L	14	--	--	14
Silica, dissolved	mg/L	7.4	--	--	3.8
Nitrite plus nitrate as nitrogen, dissolved	mg/L	0.11	--	--	0.10
Ammonia as nitrogen, dissolved	mg/L	0.01	--	--	0.04
Ammonia plus organic nitrogen as nitrogen, total	mg/L	0.8	--	--	0.3
Nitrogen, total	mg/L	0.1	--	--	0.2
Orthophosphate as phosphorus, dissolved	mg/L	0.002	--	--	0.004
Phosphorus, total	mg/L	0.014	--	--	0.017
Organic carbon, total	mg/L	2.0	--	--	--
		SEPTEMBER 20, 1989			
Streamflow	ft^3/s	29	0	0	32
Temperature	deg. C	19.2	--	--	17.1
pH	units	7.8	--	--	7.4
Dissolved oxygen	mg/L	7.6	--	--	4.2
Specific conductance	µS/cm	248	--	--	228
Suspended solids	mg/L	5	--	--	15
Silica, dissolved	mg/L	7.0	--	--	4.0
Nitrite plus nitrate as nitrogen,dissolved	mg/L	0.10	--	--	0.15
Ammonia as nitrogen, dissolved	mg/L	<0.01	--	--	0.02
Ammonia plus organic nitrogen as nitrogen, total	mg/L	0.2	--	--	0.3
Nitrogen, total	mg/L	0.2	--	--	0.3
Orthophosphate as phosphorus, dissolved	mg/L	<0.001	--	--	0.001
Phosphorus, total	mg/L	0.009	--	--	0.014
Organic carbon, total	mg/L	1.6	--	--	--
		SEPTEMBER 27, 1989			
Streamflow	ft^3/s	22	0	0	53
Temperature	deg. C	18.1	--	--	17.7
pH	units	7.6	--	--	6.8
Dissolved oxygen	mg/L	7.7	--	--	2.2
Specific conductance	µS/cm	206	--	--	223
Suspended solids	mg/L	8	--	--	18
Silica, dissolved	mg/L	6.4	--	--	3.7
Nitrite plus nitrate as nitrogen, dissolved	mg/L	0.03	--	--	0.15
Ammonia as nitrogen, dissolved	mg/L	<0.01	--	--	0.01
Ammonia plus organic nitrogen as nitrogen, total	mg/L	<0.2	--	--	<0.2
Nitrogen, total	mg/L	<0.1	--	--	0.2
Orthophosphate as phosphorus, dissolved	mg/L	0.003	--	--	0.002
Phosphorus, total	mg/L	0.009	--	--	0.010
Organic carbon, total	mg/L	1.3	--	--	--

Table 3.--*Onsite measurements and chemical data for Standley Lake inflows and outflow*--Continued

Property or constituent	Units	Inflows			Outflow
		Site IO1 (Farmers Highline and Croke Canals)	Site IO2 (Last Chance and Church Ditches)	Site IO3 (Woman Creek and Church Ditch)	Site IO4 (Semper Water Treatment Plant)
		OCTOBER 4, 1989			
Streamflow	ft^3/s	25	0	0	32
Temperature	deg. C	11.5	--	--	16.8
pH	units	7.5	--	--	7.6
Dissolved oxygen	mg/L	8.6	--	--	4.8
Specific conductance	µS/cm	227	--	--	221
Suspended solids	mg/L	9	--	--	12
Silica, dissolved	mg/L	8.0	--	--	3.0
Nitrite plus nitrate as nitrogen, dissolved	mg/L	0.04	--	--	0.02
Ammonia as nitrogen, dissolved	mg/L	0.01	--	--	<0.01
Ammonia plus organic nitrogen as nitrogen, total	mg/L	<0.2	--	--	0.2
Nitrogen, total	mg/L	<0.1	--	--	<0.1
Orthophosphate as phosphorus, dissolved	mg/L	0.002	--	--	0.002
Phosphorus, total	mg/L	0.011	--	--	0.009
Organic carbon, total	mg/L	1.2	--	--	--
		OCTOBER 12, 1989			
Streamflow	ft^3/s	24	0	0	63
Temperature	deg. C	16.3	--	--	17.9
pH	units	8.0	--	--	7.7
Dissolved oxygen	mg/L	7.3	--	--	4.6
Specific conductance	µS/cm	233	--	--	228
Suspended solids	mg/L	<1	--	--	18
Silica, dissolved	mg/L	7.4	--	--	2.7
Nitrite plus nitrate as nitrogen, dissolved	mg/L	0.03	--	--	<0.01
Ammonia as nitrogen, dissolved	mg/L	0.01	--	--	0.02
Ammonia plus organic nitrogen as nitrogen, total	mg/L	0.2	--	--	0.3
Nitrogen, total	mg/L	0.1	--	--	0.1
Orthophosphate as phosphorus, dissolved	mg/L	0.002	--	--	0.001
Phosphorus, total	mg/L	0.016	--	--	0.013
Organic carbon, total	mg/L	2.0	--	--	--
		OCTOBER 19, 1989			
Streamflow	ft^3/s	35	0	0	33
Temperature	deg. C	8.8	--	--	13.6
pH	units	7.4	--	--	7.2
Dissolved oxygen	mg/L	8.9	--	--	5.7
Specific conductance	µS/cm	254	--	--	226
Suspended solids	mg/L	<1	--	--	<1
Silica, dissolved	mg/L	8.6	--	--	2.2
Nitrite plus nitrate as nitrogen, dissolved	mg/L	0.12	--	--	0.03
Ammonia as nitrogen, dissolved	mg/L	<0.01	--	--	0.02
Ammonia plus organic nitrogen as nitrogen, total	mg/L	0.2	--	--	0.2
Nitrogen, total	mg/L	0.3	--	0.3	0.4
Orthophosphate as phosphorus, dissolved	mg/L	0.001	--	--	0.001
Phosphorus, total	mg/L	0.013	--	--	0.010
Organic carbon, total	mg/L	1.5	--	--	--

Table 3.--*Onsite measurements and chemical data for Standley Lake inflows and outflow*--Continued

Property or constituent	Units	Inflows			Outflow
		Site IO1 (Farmers Highline and Croke Canals)	Site IO2 (Last Chance and Church Ditches)	Site IO3 (Woman Creek and Church Ditch)	Site IO4 (Semper Water Treatment Plant)
		OCTOBER 27, 1989			
Streamflow	ft^3/s	34	0	0	25
Temperature	deg. C	13.5	--	--	12.8
pH	units	7.9	--	--	8.0
Dissolved oxygen	mg/L	8.4	--	--	5.4
Specific conductance	µS/cm	254	--	--	228
Suspended solids	mg/L	1	--	--	5
Silica, dissolved	mg/L	8.7	--	--	2.1
Nitrite plus nitrate as nitrogen, dissolved	mg/L	0.07	--	--	0.03
Ammonia as nitrogen, dissolved	mg/L	0.01	--	--	0.01
Ammonia plus organic nitrogen as nitrogen, total	mg/L	0.4	--	--	<0.2
Nitrogen, total	mg/L	0.1	--	--	0.1
Orthophosphate as phosphorus, dissolved	mg/L	0.002	--	--	0.001
Phosphorus, total	mg/L	0.019	--	--	0.017
Organic carbon, total	mg/L	2.0	--	--	--
		NOVEMBER 14, 1989			
Streamflow	ft^3/s	43	0	0	26
Temperature	deg. C	12.6	--	--	9.3
pH	units	8.0	--	--	8.3
Dissolved oxygen	mg/L	8.3	--	--	9.0
Specific conductance	µS/cm	306	--	--	232
Suspended solids	mg/L	2	--	--	<1
Silica, dissolved	mg/L	9.5	--	--	1.5
Nitrite plus nitrate as nitrogen, dissolved	mg/L	0.19	--	--	<0.01
Ammonia as nitrogen, dissolved	mg/L	<0.01	--	--	<0.01
Ammonia plus organic nitrogen as nitrogen, total	mg/L	0.2	--	--	0.3
Nitrogen, total	mg/L	0.2	--	--	<0.1
Orthophosphate as phosphorus, dissolved	mg/L	0.005	--	--	<0.001
Phosphorus, total	mg/L	0.024	--	--	0.017
Organic carbon, total	µg/L	1.9	--	--	--
		DECEMBER 20, 1989			
Streamflow	ft^3/s	26	0	0	25
Temperature	deg. C	0.5	--	--	5.8
pH	units	7.8	--	--	7.7
Dissolved oxygen	mg/L	11.8	--	--	9.6
Specific conductance	µS/cm	367	--	--	241
Suspended solids	mg/L	23	--	--	1
Silica, dissolved	mg/L	10	--	--	1.0
Nitrite plus nitrate as nitrogen, dissolved	mg/L	0.55	--	--	0.02
Ammonia as nitrogen, dissolved	mg/L	0.03	--	--	0.03
Ammonia plus organic nitrogen as nitrogen, total	mg/L	0.3	--	--	0.3
Nitrogen, total	mg/L	0.7	--	--	0.2
Orthophosphate as phosphorus, dissolved	mg/L	0.004	--	--	0.002
Phosphorus, total	mg/L	0.021	--	--	0.011
Organic carbon, total	µg/L	1.7	--	--	--

Table 3.--*Onsite measurements and chemical data for Standley Lake inflows and outflow*--Continued

Property or constituent	Units	Inflows			Outflow
		Site IO1 (Farmers Highline and Croke Canals)	Site IO2 (Last Chance and Church Ditches)	Site IO3 (Woman Creek and Church Ditch)	Site IO4 (Semper Water Treatment Plant)
		DECEMBER 26, 1989			
Streamflow	ft^3/s	51	0	0	25
Temperature	deg. C	7.0	--	--	--
pH	units	8.0	--	--	--
Dissolved oxygen	mg/L	9.6	--	--	--
Specific conductance	µS/cm	339	--	--	--
Suspended solids	mg/L	29	--	--	--
Silica, dissolved	mg/L	10	--	--	--
Nitrite plus nitrate as nitrogen, dissolved	mg/L	0.48	--	--	--
Ammonia as nitrogen, dissolved	mg/L	0.05	--	--	--
Ammonia plus organic nitrogen as nitrogen, total	mg/L	0.3	--	--	--
Nitrogen, total	mg/L	0.7	--	--	--
Orthophosphate as phosphorus, dissolved	mg/L	0.004	--	--	--
Phosphorus, total	mg/L	0.016	--	--	--
Organic carbon, total	µg/L	1.5	--	--	--
		JANUARY 11, 1990			
Streamflow	ft^3/s	39	1.0	0.2	22
Temperature	deg. C	8.6	--	--	5.2
pH	units	7.9	--	--	8.1
Dissolved oxygen	mg/L	9.4	--	--	10.2
Specific conductance	µS/cm	334	--	--	245
Suspended solids	mg/L	1	--	--	9
Silica, dissolved	mg/L	10	--	--	1.0
Nitrite plus nitrate as nitrogen, dissolved	mg/L	0.49	--	--	0.03
Ammonia as nitrogen, dissolved	mg/L	0.03	--	--	0.03
Ammonia plus organic nitrogen as nitrogen, total	mg/L	0.3	--	--	<0.2
Nitrogen, total	mg/L	0.6	--	--	0.2
Orthophosphate as phosphorus, dissolved	mg/L	0.006	--	--	0.002
Phosphorus, total	mg/L	0.027	--	--	0.011
Organic carbon, total	µg/L	1.6	--	--	--
		FEBRUARY 12, 1990			
Streamflow	ft^3/s	29	0.3	0.1	21
Temperature	deg. C	10.3	0.6	2.9	5.3
pH	units	7.8	--	7.5	8.1
Dissolved oxygen	mg/L	10.4	12.5	11.0	11.1
Specific conductance	µS/cm	370	400	520	250
Suspended solids	mg/L	6	2,350	7	8
Silica, dissolved	mg/L	9.2	8.6	8.4	0.8
Nitrite plus nitrate as nitrogen, dissolved	mg/L	0.29	0.13	<0.01	0.02
Ammonia as nitrogen, dissolved	mg/L	0.02	0.09	0.02	0.02
Ammonia plus organic nitrogen as nitrogen, total	mg/L	0.3	3.2	0.3	0.2
Nitrogen, total	mg/L	0.4	0.4	<0.1	<0.1
Orthophosphate as phosphorus, dissolved	mg/L	0.005	0.025	0.007	0.001
Phosphorus, total	mg/L	0.031	0.045	0.013	0.008
Organic carbon, total	µg/L	1.4	36	2.8	--

Table 3.--*Onsite measurements and chemical data for Standley Lake inflows and outflow*--Continued

Property or constituent	Units	Inflows			Outflow
		Site I01 (Farmers Highline and Croke Canals)	Site I02 (Last Chance and Church Ditches)	Site I03 (Woman Creek and Church Ditch)	Site I04 (Semper Water Treatment Plant)
		MARCH 9, 1990			
Streamflow	ft^3/s	47	0.1	1.8	29
Temperature	deg. C	13.3	--	--	--
pH	units	8.2	--	--	--
Dissolved oxygen	mg/L	8.1	--	--	--
Specific conductance	µS/cm	372	--	--	--
Suspended solids	mg/L	31	--	--	--
Nitrite plus nitrate as nitrogen, dissolved	mg/L	0.45	--	--	--
Ammonia as nitrogen, dissolved	mg/L	0.03	--	--	--
Nitrogen, total	mg/L	0.4	--	--	--
Orthophosphate as phosphorus, dissolved	mg/L	0.016	--	--	--
Phosphorus, total	mg/L	0.026	--	--	--
Organic carbon, total	µg/L	2.8	--	--	--
		MARCH 11, 1990			
Streamflow	ft^3/s	52	0.1	3.4	28
Temperature	deg. C	14.6	--	--	--
pH	units	7.9	--	--	--
Dissolved oxygen	mg/L	8.6	--	--	--
Specific conductance	µS/cm	401	--	--	--
Suspended solids	mg/L	60	--	--	--
Nitrite plus nitrate as nitrogen, dissolved	mg/L	0.49	--	--	--
Ammonia as nitrogen, dissolved	mg/L	0.02	--	--	--
Nitrogen, total	mg/L	0.4	--	--	--
Orthophosphate as phosphorus, dissolved	mg/L	0.010	--	--	--
Phosphorus, total	mg/L	0.033	--	--	--
Organic carbon, total	µg/L	3.2	--	--	--
		MARCH 26, 1990			
Streamflow	ft^3/s	50	4.4	1.5	18
Temperature	deg. C	9.5	1.0	2.2	7.2
pH	units	7.9	8.0	7.7	7.1
Dissolved oxygen	mg/L	9.6	12.3	11.0	9.6
Specific conductance	µS/cm	349	275	418	266
Suspended solids	mg/L	3	144	3	1
Nitrite plus nitrate as nitrogen, dissolved	mg/L	0.30	0.53	0.21	0.06
Ammonia as nitrogen, dissolved	mg/L	<0.01	<0.01	<0.01	<0.01
Nitrogen, total	mg/L	0.6	0.6	0.3	<0.1
Orthophosphate as phosphorus, dissolved	mg/L	0.005	0.006	<0.001	0.011
Phosphorus, total	mg/L	--	0.019	0.025	0.004
Organic carbon, total	µg/L	2.4	7.4	5.0	--

Table 3.--*Onsite measurements and chemical data for Standley Lake inflows and outflow*--Continued

Property or constituent	Units	Inflows			Outflow
		Site I01 (Farmers Highline and Croke Canals)	Site I02 (Last Chance and Church Ditches)	Site I03 (Woman Creek and Church Ditch)	Site I04 (Semper Water Treatment Plant)
		APRIL 6, 1990			
Streamflow	ft^3/s	35	10	6.9	29
Temperature	deg. C	10.2	2.8	--	--
pH	units	7.4	7.6	--	--
Dissolved oxygen	mg/L	9.4	10.6	--	--
Specific conductance	µS/cm	350	259	--	--
Suspended solids	mg/L	58	288	--	--
Nitrite plus nitrate as nitrogen, dissolved	mg/L	0.25	0.53	--	--
Ammonia as nitrogen, dissolved	mg/L	0.02	0.01	--	--
Nitrogen, total	mg/L	0.2	0.6	--	--
Orthophosphate as phosphorus, dissolved	mg/L	0.007	0.009	--	--
Phosphorus, total	mg/L	0.057	0.107	--	--
Organic carbon, total	µg/L	2.8	13	--	--
		APRIL 19, 1990			
Streamflow	ft^3/s	37	9.5	3.6	29
Temperature	deg. C	15.0	7.8	9.2	7.3
pH	units	8.0	7.0	7.3	7.8
Dissolved oxygen	mg/L	8.4	9.8	9.3	8.9
Specific conductance	µS/cm	341	196	322	273
Suspended solids	mg/L	17	98	145	7
Nitrite plus nitrate as nitrogen, dissolved	mg/L	0.18	0.38	0.23	0.04
Ammonia as nitrogen, dissolved	mg/L	<0.01	<0.01	<0.01	0.02
Nitrogen, total	mg/L	0.2	0.6	0.3	<0.1
Orthophosphate as phosphorus, dissolved	mg/L	0.006	0.004	0.004	<0.001
Phosphorus, total	mg/L	0.029	0.087	0.143	0.015
Organic carbon, total	µg/L	2.5	9.5	8.2	--
		APRIL 23, 1990			
Streamflow	ft^3/s	36	9.9	4.3	42
Temperature	deg. C	--	12.0	--	--
pH	units	--	7.4	--	--
Dissolved oxygen	mg/L	--	8.7	--	--
Specific conductance	µS/cm	--	220	--	--
Suspended solids	mg/L	--	60	--	--
Nitrite plus nitrate as nitrogen, dissolved	mg/L	--	0.22	--	--
Ammonia as nitrogen, dissolved	mg/L	--	<0.01	--	--
Nitrogen, total	mg/L	--	0.4	--	--
Orthophosphate as phosphorus, dissolved	mg/L	--	0.003	--	--
Phosphorus, total	mg/L	--	0.077	--	--
Organic carbon, total	µg/L	--	7.1	--	--

Table 3.--*Onsite measurements and chemical data for Standley Lake inflows and outflow*--Continued

Property or constituent	Units	Inflows			Outflow
		Site IO1 (Farmers Highline and Croke Canals)	Site IO2 (Last Chance and Church Ditches)	Site IO3 (Woman Creek and Church Ditch)	Site IO4 (Semper Water Treatment Plant)
		MAY 9, 1990			
Streamflow	ft^3/s	27	8.0	1.7	26
Temperature	deg. C	12.0	7.7	9.4	9.4
pH	units	8.0	7.8	7.6	7.8
Dissolved oxygen	mg/L	8.5	9.7	9.2	--
Specific conductance	µS/cm	275	180	279	247
Suspended solids	mg/L	11	32	19	33
Nitrite plus nitrate as nitrogen, dissolved	mg/L	0.15	0.19	0.11	0.04
Ammonia as nitrogen, dissolved	mg/L	0.03	<0.01	<0.01	0.02
Nitrogen, total	mg/L	0.2	0.4	0.3	0.2
Orthophosphate as phosphorus, dissolved	mg/L	<0.001	<0.001	<0.001	<0.001
Phosphorus, total	mg/L	0.041	0.073	0.053	0.027
Organic carbon, total	µg/L	2.8	6.5	3.9	--
		MAY 22, 1990			
Streamflow	ft^3/s	12	6.9	0.5	96
Temperature	deg. C	16.8	12.8	15.1	12.3
pH	units	8.0	7.7	7.7	7.3
Dissolved oxygen	mg/L	7.7	8.2	8.5	6.4
Specific conductance	µS/cm	272	189	330	277
Suspended solids	mg/L	31	32	2	12
Nitrite plus nitrate as nitrogen, dissolved	mg/L	0.05	<0.01	<0.01	0.05
Ammonia as nitrogen, dissolved	mg/L	0.02	0.01	0.01	0.03
Nitrogen, total	mg/L	0.1	<0.1	<0.1	<0.1
Orthophosphate as phosphorus, dissolved	mg/L	0.001	0.004	0.002	<0.001
Phosphorus, total	mg/L	0.021	--	0.015	--
Organic carbon, total	µg/L	3.0	5.8	2.9	--
		MAY 25, 1990			
Streamflow	ft^3/s	100	6.5	3.1	101
Temperature	deg. C	13.8	--	--	--
pH	units	7.4	--	--	--
Dissolved oxygen	mg/L	8.6	--	--	--
Specific conductance	µS/cm	199	--	--	--
Suspended solids	mg/L	217	--	--	--
Nitrite plus nitrate as nitrogen, dissolved	mg/L	0.09	--	--	--
Ammonia as nitrogen, dissolved	mg/L	0.04	--	--	--
Nitrogen, total	mg/L	0.2	--	--	--
Orthophosphate as phosphorus, dissolved	mg/L	0.004	--	--	--
Phosphorus, total	mg/L	0.047	--	--	--
Organic carbon, total	µg/L	7.8	--	--	--

Table 3.--*Onsite measurements and chemical data for Standley Lake inflows and outflow*--Continued

Property or constituent	Units	Inflows			Outflow
		Site IO1 (Farmers Highline and Croke Canals)	Site IO2 (Last Chance and Church Ditches)	Site IO3 (Woman Creek and Church Ditch)	Site IO4 (Semper Water Treatment Plant)
		MAY 29, 1990			
Streamflow	ft^3/s	138	13	6.5	25
Temperature	deg. C	11.1	12.4	12.4	--
pH	units	7.8	7.7	7.3	--
Dissolved oxygen	mg/L	8.6	8.8	8.2	--
Specific conductance	µS/cm	142	198	183	--
Suspended solids	mg/L	303	162	99	--
Nitrite plus nitrate as nitrogen, dissolved	mg/L	0.15	0.33	0.11	--
Ammonia as nitrogen, dissolved	mg/L	0.04	0.07	0.07	--
Nitrogen, total	mg/L	0.4	0.7	0.8	--
Orthophosphate as phosphorus, dissolved	mg/L	0.008	0.050	0.016	--
Phosphorus, total	mg/L	0.055	0.114	0.127	--
Organic carbon, total	µg/L	--	18.0	9.8	--
		JUNE 5, 1990			
Streamflow	ft^3/s	217	9.4	5.4	74
Temperature	deg. C	13.7	15.5	16.9	13.0
pH	units	7.8	7.1	7.1	7.3
Dissolved oxygen	mg/L	7.9	8.4	8.6	7.3
Specific conductance	µS/cm	130	146	146	281
Suspended solids	mg/L	26	50	35	10
Nitrite plus nitrate as nitrogen, dissolved	mg/L	0.08	0.07	0.07	0.08
Ammonia as nitrogen, dissolved	mg/L	<0.01	<0.01	<0.01	0.02
Nitrogen, total	mg/L	0.1	0.2	0.2	0.2
Orthophosphate as phosphorus, dissolved	mg/L	0.003	0.004	0.005	0.002
Phosphorus, total	mg/L	0.024	0.026	0.025	0.022
Organic carbon, total	µg/L	4.5	4.7	3.3	--
		JUNE 13, 1990			
Streamflow	ft^3/s	339	2.2	15	100
Temperature	deg. C	13.5	12.0	11.6	13.8
pH	units	7.5	7.6	7.3	7.8
Dissolved oxygen	mg/L	9.0	9.3	9.4	4.9
Specific conductance	µS/cm	90	177	88	272
Suspended solids	mg/L	13	24	28	10
Nitrite plus nitrate as nitrogen, dissolved	mg/L	0.11	0.08	0.10	0.11
Ammonia as nitrogen, dissolved	mg/L	0.02	0.01	<0.01	0.02
Nitrogen, total	mg/L	0.2	0.2	0.2	0.2
Orthophosphate as phosphorus, dissolved	mg/L	0.008	0.008	0.009	0.008
Phosphorus, total	mg/L	0.015	0.018	0.022	0.014
Organic carbon, total	µg/L	4.4	4.7	6.0	--

Table 3.--*Onsite measurements and chemical data for Standley Lake inflows and outflow*--Continued

Property or constituent	Units	Inflows			Outflow
		Site IO1 (Farmers Highline and Croke Canals)	Site IO2 (Last Chance and Church Ditches)	Site IO3 (Woman Creek and Church Ditch)	Site IO4 (Semper Water Treatment Plant)
		JUNE 19, 1990			
Streamflow	ft^3/s	109	2.3	16	155
Temperature	deg. C	15.5	15.2	14.1	13.8
pH	units	7.3	7.5	7.4	7.2
Dissolved oxygen	mg/L	8.3	8.9	9.1	4.4
Specific conductance	µS/cm	100	109	93	273
Suspended solids	mg/L	12	28	16	38
Nitrite plus nitrate as nitrogen, dissolved	mg/L	0.12	0.09	0.09	0.14
Ammonia as nitrogen, dissolved	mg/L	0.02	<0.01	<0.01	0.02
Nitrogen, total	mg/L	0.3	<0.1	<0.1	0.1
Orthophosphate as phosphorus, dissolved	mg/L	0.007	0.004	0.003	0.002
Phosphorus, total	mg/L	0.014	0.021	0.015	0.017
Organic carbon, total	µg/L	2.6	2.7	3.1	--
		JULY 9, 1990			
Streamflow	ft^3/s	32	2.1	23	36
Temperature	deg. C	14.2	14.8	14.7	14.3
pH	units	7.6	7.6	7.6	7.5
Dissolved oxygen	mg/L	8.5	8.3	8.4	2.5
Specific conductance	µS/cm	124	148	144	263
Suspended solids	mg/L	168	50	75	8
Nitrite plus nitrate as nitrogen, dissolved	mg/L	0.21	0.20	0.22	0.21
Ammonia as nitrogen, dissolved	mg/L	0.01	<0.01	<0.01	<0.01
Nitrogen, total	mg/L	0.3	0.3	0.4	0.3
Orthophosphate as phosphorus, dissolved	mg/L	0.010	0.007	0.006	0.001
Phosphorus, total	mg/L	0.047	0.043	0.049	0.016
Organic carbon, total	µg/L	6.7	5.6	6.6	--
		JULY 11, 1990			
Streamflow	ft^3/s	21	1.9	11	49
Temperature	deg. C	15.6	17.6	18.8	--
pH	units	7.6	7.6	7.7	--
Dissolved oxygen	mg/L	--	--	--	--
Specific conductance	µS/cm	123	135	117	--
Suspended solids	mg/L	8	7	6	--
Nitrite plus nitrate as nitrogen, dissolved	mg/L	0.12	0.14	0.06	--
Ammonia as nitrogen, dissolved	mg/L	0.07	0.05	0.02	--
Nitrogen, total	mg/L	0.2	0.2	<0.1	--
Orthophosphate as phosphorus, dissolved	mg/L	0.024	0.017	0.002	--
Phosphorus, total	mg/L	0.052	0.051	0.021	--
Organic carbon, total	µg/L	--	--	--	--

Table 3.--*Onsite measurements and chemical data for Standley Lake inflows and outflow*--Continued

Property or constituent	Units	Inflows			Outflow
		Site IO1 (Farmers Highline and Croke Canals)	Site IO2 (Last Chance and Church Ditches)	Site IO3 (Woman Creek and Church Ditch)	Site IO4 (Semper Water Treatment Plant)
		JULY 13, 1990			
Streamflow	ft^3/s	14	1.4	7.1	28
Temperature	deg. C	14.9	14.8	14.5	14.5
pH	units	7.6	7.5	7.3	7.4
Dissolved oxygen	mg/L	8.5	8.4	8.3	2.5
Specific conductance	µS/cm	121	146	117	269
Suspended solids	mg/L	5	11	23	12
Nitrite plus nitrate as nitrogen, dissolved	mg/L	0.06	0.04	0.04	0.19
Ammonia as nitrogen, dissolved	mg/L	<0.01	<0.01	<0.01	<0.01
Nitrogen, total	mg/L	0.1	0.1	<0.1	0.2
Orthophosphate as phosphorus, dissolved	mg/L	0.001	0.001	0.002	<0.001
Phosphorus, total	mg/L	0.009	0.015	0.019	0.018
Organic carbon, total	µg/L	2.0	2.0	2.5	--
		JULY 23, 1990			
Streamflow	ft^3/s	26	1.7	8.8	22
Temperature	deg. C	20.1	18.7	18.8	--
pH	units	--	--	--	--
Dissolved oxygen	mg/L	--	--	--	--
Specific conductance	µS/cm	149	154	145	--
Suspended solids	mg/L	13	43	48	--
Nitrite plus nitrate as nitrogen, dissolved	mg/L	0.05	0.04	0.04	--
Ammonia as nitrogen, dissolved	mg/L	0.04	0.03	<0.01	--
Nitrogen, total	mg/L	0.2	0.2	0.2	--
Orthophosphate as phosphorus, dissolved	mg/L	0.002	0.004	<0.001	--
Phosphorus, total	mg/L	0.019	0.025	0.021	--
Organic carbon, total	µg/L	2.1	4.1	3.8	--
		JULY 24, 1990			
Streamflow	ft^3/s	25	2.0	7.1	27
Temperature	deg. C	17.6	15.6	15.6	15.5
pH (laboratory)	units	7.7	7.8	7.8	7.4
Dissolved oxygen	mg/L	7.8	8.1	8.0	0.9
Specific conductance	µS/cm	151	160	152	263
Suspended solids	mg/L	30	40	49	26
Nitrite plus nitrate as nitrogen, dissolved	mg/L	0.05	0.05	0.05	0.18
Ammonia as nitrogen, dissolved	mg/L	0.02	0.02	0.02	<0.01
Nitrogen, total	mg/L	0.1	0.2	0.2	0.3
Orthophosphate as phosphorus, dissolved	mg/L	0.002	0.001	0.001	0.001
Phosphorus, total	mg/L	0.029	0.029	0.018	0.008
Organic carbon, total	µg/L	2.0	2.3	2.5	--

Table 3.--*Onsite measurements and chemical data for Standley Lake inflows and outflow*--Continued

Property or constituent	Units	Inflows			Outflow
		Site IO1 (Farmers Highline and Croke Canals)	Site IO2 (Last Chance and Church Ditches)	Site IO3 (Woman Creek and Church Ditch)	Site IO4 (Semper Water Treatment Plant)
		AUGUST 7, 1990			
Streamflow	ft^3/s	14	4.8	5.0	86
Temperature	deg. C	22.4	16.0	15.9	14.7
pH	units	7.2	7.3	7.0	7.1
Dissolved oxygen	mg/L	7.1	8.1	7.9	0.7
Specific conductance	µS/cm	177	160	171	246
Suspended solids	mg/L	7	35	47	6
Nitrite plus nitrate as nitrogen, dissolved	mg/L	0.04	0.04	0.04	0.19
Ammonia as nitrogen, dissolved	mg/L	<0.01	<0.01	0.02	<0.01
Nitrogen, total	mg/L	<0.1	0.1	0.2	0.2
Orthophosphate as phosphorus, dissolved	mg/L	0.003	0.004	0.006	<0.001
Phosphorus, total	mg/L	0.017	0.052	0.077	--
Organic carbon, total	µg/L	1.4	2.3	3.8	--
		AUGUST 23, 1990			
Streamflow	ft^3/s	0.8	4.0	4.8	59
Temperature	deg. C	--	15.4	15.5	16.2
pH	units	--	7.6	7.8	7.2
Dissolved oxygen	mg/L	--	8.1	8.1	0.0
Specific conductance	µS/cm	--	165	171	254
Suspended solids	mg/L	--	36	59	9
Nitrite plus nitrate as nitrogen, dissolved	mg/L	--	0.10	0.12	0.08
Ammonia as nitrogen, dissolved	mg/L	--	<0.01	0.01	0.06
Nitrogen, total	mg/L	--	0.2	0.3	0.1
Orthophosphate as phosphorus, dissolved	mg/L	--	--	0.001	<0.001
Phosphorus, total	mg/L	--	0.025	0.024	0.013
Organic carbon, total	µg/L	--	2.9	3.2	--
		AUGUST 31, 1990			
Streamflow	ft^3/s	15	0.2	0.1	97
Temperature	deg. C	22.6	--	--	--
pH	units	7.6	--	--	--
Dissolved oxygen	mg/L	7.3	--	--	--
Specific conductance	µS/cm	183	--	--	--
Suspended solids	mg/L	21	--	--	--
Nitrite plus nitrate as nitrogen, dissolved	mg/L	0.06	--	--	--
Ammonia as nitrogen, dissolved	mg/L	<0.01	--	--	--
Nitrogen, total	mg/L	0.1	--	--	--
Orthophosphate as phosphorus, dissolved	mg/L	<0.001	--	--	--
Phosphorus, total	mg/L	0.012	--	--	--
Organic carbon, total	µg/L	2.7	--	--	--

Table 3.--*Onsite measurements and chemical data for Standley Lake inflows and outflow*--Continued

Property or constituent	Units	Inflows			Outflow
		Site IO1 (Farmers Highline and Croke Canals)	Site IO2 (Last Chance and Church Ditches)	Site IO3 (Woman Creek and Church Ditch)	Site IO4 (Semper Water Treatment Plant)
		SEPTEMBER 4, 1990			
Streamflow	ft^3/s	23	0.1	0.1	99
Temperature	deg. C	19.8	--	--	16.2
pH	units	7.6	--	--	7.4
Dissolved oxygen	mg/L	7.4	--	--	0.5
Specific conductance	µS/cm	169	--	--	245
Suspended solids	mg/L	342	--	--	5
Nitrite plus nitrate as nitrogen, dissolved	mg/L	0.28	--	--	0.03
Ammonia as nitrogen, dissolved	mg/L	0.04	--	--	0.11
Nitrogen, total	mg/L	0.4	--	--	0.1
Orthophosphate as phosphorus, dissolved	mg/L	0.004	--	--	0.007
Phosphorus, total	mg/L	0.141	--	--	0.028
Organic carbon, total	µg/L	8.6	--	--	--
		SEPTEMBER 7, 1990			
Streamflow	ft^3/s	26	0.6	4.8	52
Temperature	deg. C	19.5	--	--	--
pH	units	7.4	--	--	--
Dissolved oxygen	mg/L	7.7	--	--	--
Specific conductance	µS/cm	191	--	--	--
Suspended solids	mg/L	96	--	--	--
Nitrite plus nitrate as nitrogen, dissolved	mg/L	0.23	--	--	--
Ammonia as nitrogen, dissolved	mg/L	0.01	--	--	--
Nitrogen, total	mg/L	0.2	--	--	--
Orthophosphate as phosphorus, dissolved	mg/L	0.009	--	--	--
Phosphorus, total	mg/L	0.034	--	--	--
Organic carbon, total	µg/L	4.3	--	--	--
		SEPTEMBER 13, 1990			
Streamflow	ft^3/s	25	1.2	1.5	93
Temperature	deg. C	21.7	--	--	17.0
pH	units	7.8	--	--	7.4
Dissolved oxygen	mg/L	7.2	--	--	0.4
Specific conductance	µS/cm	186	--	--	237
Suspended solids	mg/L	26	--	--	11
Nitrite plus nitrate as nitrogen, dissolved	mg/L	0.08	--	--	<0.01
Ammonia as nitrogen, dissolved	mg/L	<0.01	--	--	0.13
Nitrogen, total	mg/L	0.1	--	--	0.1
Orthophosphate as phosphorus, dissolved	mg/L	0.003	--	--	0.005
Phosphorus, total	mg/L	0.013	--	--	0.018
Organic carbon, total	µg/L	2.1	--	--	--

Table 3.--*Onsite measurements and chemical data for Standley Lake inflows and outflow*--Continued

Property or constituent	Units	Inflows			Outflow
		Site IO1 (Farmers Highline and Croke Canals)	Site IO2 (Last Chance and Church Ditches)	Site IO3 (Woman Creek and Church Ditch)	Site IO4 (Semper Water Treatment Plant)
		SEPTEMBER 18, 1990			
Streamflow	ft^3/s	22	0	0.1	51
Temperature	deg. C	17.1	--	--	17.2
pH	units	8.0	--	--	7.3
Dissolved oxygen	mg/L	8.8	--	--	0.0
Specific conductance	µS/cm	172	--	--	229
Suspended solids	mg/L	22	--	--	10
Nitrite plus nitrate as nitrogen, dissolved	mg/L	0.11	--	--	<0.01
Ammonia as nitrogen, dissolved	mg/L	<0.01	--	--	0.12
Nitrogen, total	mg/L	0.1	--	--	0.2
Orthophosphate as phosphorus, dissolved	mg/L	0.001	--	--	0.007
Phosphorus, total	mg/L	0.013	--	--	0.021
Organic carbon, total	µg/L	2.0	--	--	--
		SEPTEMBER 25, 1990			
Streamflow	ft^3/s	20	0	0	45
Temperature	deg. C	18.7	--	--	17.5
pH	units	7.8	--	--	7.4
Dissolved oxygen	mg/L	8.4	--	--	0.7
Specific conductance	µS/cm	186	--	--	224
Suspended solids	mg/L	11	--	--	14
Nitrite plus nitrate as nitrogen, dissolved	mg/L	0.04	--	--	<0.01
Ammonia as nitrogen, dissolved	mg/L	0.02	--	--	0.14
Nitrogen, total	mg/L	0.1	--	--	0.1
Orthophosphate as phosphorus, dissolved	mg/L	0.003	--	--	0.012
Phosphorus, total	mg/L	0.005	--	--	0.015
Organic carbon, total	µg/L	1.9	--	--	--
		OCTOBER 2, 1990			
Streamflow	ft^3/s	25	0	0	24
Temperature	deg. C	15.8	--	--	17.4
pH	units	7.8	--	--	7.3
Dissolved oxygen	mg/L	8.2	--	--	0.8
Specific conductance	µS/cm	158	--	--	222
Suspended solids	mg/L	18	--	--	23
Nitrite plus nitrate as nitrogen, dissolved	mg/L	0.03	--	--	0.02
Ammonia as nitrogen, dissolved	mg/L	<0.01	--	--	0.10
Nitrogen, total	mg/L	<0.1	--	--	0.2
Orthophosphate as phosphorus, dissolved	mg/L	<0.001	--	--	0.002
Phosphorus, total	mg/L	0.014	--	--	0.013
Organic carbon, total	µg/L	1.9	--	--	--

Table 3.--*Onsite measurements and chemical data for Standley Lake inflows and outflow*--Continued

Property or constituent	Units	Inflows			Outflow
		Site IO1 (Farmers Highline and Croke Canals)	Site IO2 (Last Chance and Church Ditches)	Site IO3 (Woman Creek and Church Ditch)	Site IO4 (Semper Water Treatment Plant)
		OCTOBER 10, 1990			
Streamflow	ft^3/s	28	0	0	25
Temperature	deg. C	8.1	--	--	15.6
pH	units	7.7	--	--	7.8
Dissolved oxygen	mg/L	10.4	--	--	6.9
Specific conductance	µS/cm	172	--	--	207
Suspended solids	mg/L	28	--	--	3
Nitrite plus nitrate as nitrogen, dissolved	mg/L	0.09	--	--	0.04
Ammonia as nitrogen, dissolved	mg/L	<0.01	--	--	<0.01
Nitrogen, total	mg/L	0.1	--	--	<0.1
Orthophosphate as phosphorus, dissolved	mg/L	0.009	--	--	0.010
Phosphorus, total	mg/L	0.021	--	--	0.023
Organic carbon, total	µg/L	1.7	--	--	--
		OCTOBER 16, 1990			
Streamflow	ft^3/s	28	0	0	29
Temperature	deg. C	12.6	--	--	15.4
pH	units	7.8	--	--	7.7
Dissolved oxygen	mg/L	8.8	--	--	6.5
Specific conductance	µS/cm	198	--	--	212
Suspended solids	mg/L	<1	--	--	6
Nitrite plus nitrate as nitrogen, dissolved	mg/L	0.03	--	--	<0.01
Ammonia as nitrogen, dissolved	mg/L	<0.01	--	--	<0.01
Nitrogen, total	mg/L	<0.1	--	--	<0.1
Orthophosphate as phosphorus, dissolved	mg/L	0.001	--	--	<0.001
Phosphorus, total	mg/L	0.009	--	--	0.009
Organic carbon, total	µg/L	2.0	--	--	--
		OCTOBER 23, 1990			
Streamflow	ft^3/s	1.4	0	0	22
Temperature	deg. C	--	--	--	13.7
pH	units	--	--	--	7.9
Dissolved oxygen	mg/L	--	--	--	6.8
Specific conductance	µS/cm	--	--	--	210
Suspended solids	mg/L	--	--	--	<1
Nitrite plus nitrate as nitrogen, dissolved	mg/L	--	--	--	0.01
Ammonia as nitrogen, dissolved	mg/L	--	--	--	<0.01
Nitrogen, total	mg/L	--	--	--	<0.1
Orthophosphate as phosphorus, dissolved	mg/L	--	--	--	0.001
Phosphorus, total	mg/L	--	--	--	0.012

Table 3.--*Onsite measurements and chemical data for Standley Lake inflows and outflow*--Continued

Property or constituent	Units	Inflows			Outflow
		Site IO1 (Farmers Highline and Croke Canals)	Site IO2 (Last Chance and Church Ditches)	Site IO3 (Woman Creek and Church Ditch)	Site IO4 (Semper Water Treatment Plant)
		OCTOBER 30, 1990			
Streamflow	ft^3/s	44	0	0	41
Temperature	deg. C	14.9	--	--	13.1
pH	units	7.8	--	--	8.2
Dissolved oxygen	mg/L	8.3	--	--	5.8
Specific conductance	µS/cm	217	--	--	220
Suspended solids	mg/L	14	--	--	20
Nitrite plus nitrate as nitrogen, dissolved	mg/L	0.05	--	--	0.01
Ammonia as nitrogen, dissolved	mg/L	<0.01	--	--	--
Nitrogen, total	mg/L	<0.1	--	--	<0.1
Orthophosphate as phosphorus, dissolved	mg/L	0.002	--	--	0.007
Phosphorus, total	mg/L	0.002	--	--	0.010
Organic carbon, total	µg/L	1.9	--	--	--

Table 4.--*Phytoplankton densities and biovolumes in Standley Lake inflows*

[--, species not identified in sample; <, less than]

PHYLUM CLASS Order *Genus species*	Site I01 (Farmers Highline and Croke Canals)		Site I02 (Last Chance and Church Ditches)		Site I03 (Woman Creek and Church Ditch)	
	Density (cells/mL)	Biovolume (μm^3/mL)	Density (cells/mL)	Biovolume (μm^3/mL)	Density (cells/mL)	Biovolume (μm^3/mL)
		JUNE 22, 1989				
CHRYSOPHYTA						
BACILLARIOPHYCEAE (Diatoms)						
Centrales						
unidentified centric diatoms	960	120,000	--	--	77	9,500
Pennales						
Gomphonema sp.	56	140,000	--	--	77	180,000
Nitzschia sigmoidea	<1	31,000	--	--	--	--
Surirella sp.	<1	420	--	--	--	--
unidentified pennate diatoms	2,300	4,700,000	--	--	770	2,600,000
CRYPTOPHYTA						
CRYPTOPHYCEAE (Cryptomonads)						
unidentified cryptophytes	19	920	--	--	1,000	49,000
CYANOPHYTA						
CYANOPHYCEAE (Blue-green algae)						
Anacystis marina	--	--	--	--	460	1,200
unidentified blue-green algae	14,500	770,000	--	--	--	--
		JULY 6, 1989				
CHLOROPHYTA						
CHLOROPHYCEAE (Green algae)						
Closterium jenneri	2.2	1,300	--	--	--	--
Cosmarium sp.	8.9	70,000	--	--	--	--
Scenedesmus bijuga	4.5	500	--	--	--	--
Scenedesmus dimorphus	--	--	--	--	--	--
Scenedesmus quadricauda	--	--	--	--	--	--
Scenedesmus sp.	--	--	--	--	--	--
CHRYSOPHYTA						
BACILLARIOPHYCEAE (Diatoms)						
Centrales						
Cyclotella sp.	2.2	20,000	--	--	--	--
Melosira sp.	<1	80	--	--	--	--
unidentified centric diatoms	110	38,000	--	--	1,100	130,000
Pennales						
Achnanthes sp.	--	--	--	--	180	68,000
Amphora ovalis	450	690,000	--	--	--	--
Fragilaria sp.	8.9	5,000	--	--	320	180,000
Gomphonema sp	--	--	--	--	<1	820
Hantzschia sp.	--	--	--	--	180	160,000
Navicula section lyratae	--	--	--	--	<1	310
Navicula sp.	31	94,000	--	--	--	--
Nitzschia sp.	--	--	--	--	45	36,000
Pinnularia sp.	--	--	--	--	<1	1,000
Pleurosigma sp.	--	--	--	--	<1	600
Surirella sp.	<1	83	--	--	<1	1,700
unidentified pennate diatoms	120	54,000	--	--	4,200	9,100,000
CRYPTOPHYTA						
CRYPTOPHYCEAE (Cryptomonads)						
unidentified cryptophytes	--	--	--	--	1,400	67,000
CYANOPHYTA						
CYANOPHYCEAE (Blue-green algae)						
Anacystis marina	--	--	--	--	1,600	4,300
PYRROPHYTA						
DINOPHYCEAE (Dinoflagellates)						
Gymnodinium sp.	--	--	--	--	<1	1,100

Table 4.--*Phytoplankton densities and biovolumes in Standley Lake inflows*--Continued

PHYLUM CLASS Order *Genus species*	Site I01 (Farmers Highline and Croke Canals)		Site I02 (Last Chance and Church Ditches)		Site I03 (Woman Creek and Church Ditch)	
	Density (cells/mL)	Biovolume (μm^3/mL)	Density (cells/mL)	Biovolume (μm^3/mL)	Density (cells/mL)	Biovolume (μm^3/mL)
		JULY 19, 1989				
CHLOROPHYTA						
CHLOROPHYCEAE (Green algae)						
Ankistrodesmus convolutus	4.3	320	--	--	--	--
Chlamydomonas sp.	--	--	--	--	45	1,500
CHRYSOPHYTA						
BACILLARIOPHYCEAE (Diatoms)						
Centrales						
Cyclotella sp.	8.6	78,000	--	--	--	--
unidentified centric diatoms	860	110,000	--	--	820	100,000
Pennales						
Amphora sp.	17	21,000	--	--	--	--
Cymbella sp.	--	--	--	--	45	68,000
Fragilaria construens	--	--	--	--	450	680,000
Fragilaria sp.	250	140,000	--	--	--	--
Gomphonema sp	13	31,000	--	--	--	--
Surirella sp.	17	42,000	--	--	--	--
Synedra sp.	--	--	--	--	<1	380
unidentified pennate diatoms	410	850,000	--	--	2,300	5,800,000
CRYPTOPHYTA						
CRYPTOPHYCEAE (Cryptomonads)						
unidentified cryptophytes	--	--	--	--	1,200	58,000
CYANOPHYTA						
CYANOPHYCEAE (Blue-green algae)						
Anabaena circinalis	--	--	--	--	<1	48
unidentified blue-green algae	--	--	--	--	4,700	790,000
EUGLENOPHYTA (Euglenoids)						
Euglena sp.	--	--	--	--	45	53,000
		AUGUST 2, 1989				
CHLOROPHYTA						
CHLOROPHYCEAE (Green algae)						
Cosmarium sp.	--	--	--	--	<1	1,300
Scenedesmus armatus var major	<1	270	--	--	--	--
Scenedesmus sp.	2.7	650	--	--	--	--
unidentified green algae	1.4	3,200	--	--	--	--
CHRYSOPHYTA						
BACILLARIOPHYCEAE (Diatoms)						
Centrales						
Cyclotella sp.	210	1,900,000	--	--	--	--
unidentified centric diatoms	910	250,000	--	--	1,200	150,000
Pennales						
Achnanthes sp.	770	290,000	--	--	--	--
Amphora sp.	210	250,000	--	--	--	--
Amphora veneta	<1	360	--	--	--	--
Cocconeis sp.	70	34,000	--	--	--	--
Epithemia sp.	70	530,000	--	--	--	--
Fragilaria sp.	1,000	590,000	--	--	--	--
Gomphonema parvulum	70	56,000	--	--	--	--
Gomphonema sp.	70	170,000	--	--	--	--
Nitzschia sp.	1.0	690	--	--	--	--
Pleurosigma sp.	--	--	--	--	<1	600
Surirella sp.	--	--	--	--	<1	420
unidentified pennate diatoms	10,000	23,000,000	--	--	3,900	8,100,000
CYANOPHYTA						
CYANOPHYCEAE (Blue-green algae)						
Anabaena sp.	6.3	490	--	--	--	--
Oscillatoria sp.	<1	140	--	--	<1	47
unidentified blue-green algae	2,200	370,000	--	--	--	--
EUGLENOPHYTO (Euglenoids)						
Euglena sp.	70	82,000	--	--	--	--
PYRROPHYTA						
DINOPHYCEAE (Dinoflagellates)						
Ceratium hirundinella	<1	170	--	--	<1	170
unidentified dinoflagellates	70	69,000	--	--	--	--

Table 4.--*Phytoplankton densities and biovolumes in Standley Lake inflows*--Continued

PHYLUM CLASS Order *Genus species*	Site I01 (Farmers Highline and Croke Canals)		Site I02 (Last Chance and Church Ditches)		Site I03 (Woman Creek and Church Ditch)	
	Density (cells/mL)	Biovolume (μm^3/mL)	Density (cells/mL)	Biovolume (μm^3/mL)	Density (cells/mL)	Biovolume (μm^3/mL)
		AUGUST 15, 1989				
CHLOROPHYTA						
CHLOROPHYCEAE (Green algae)						
Ankistrodesmus convolutus	--	--	38	2,900	--	--
Chlamydomonas sp.	--	--	120	3,900	31	1,000
Cosmarium sp.	--	--	--	--	<1	530
Pyramimonas sp.	--	--	--	--	31	46,000
unidentified green algae	--	--	--	--	<1	1,300
CHRYSOPHYTA						
BACILLARIOPHYCEAE (Diatoms)						
Centrales						
unidentified centric diatoms	90	23,000	190	24,000	--	--
Pennales						
Achnanthes sp.	--	--	890	330,000	92	35,000
Amphora sp.	--	--	230	280,000	--	--
Cocconeis sp.	--	--	--	--	31	15,000
Cymbella minuta	--	--	--	--	31	180,000
Cymbella sp.	--	--	38	58,000	--	--
Fragilaria construens	--	--	350	520,000	--	--
Fragilaria sp.	--	--	77	43,000	680	380,000
Gomphonema sp	--	--	77	180,000	92	220,000
Hantzschia sp.	--	--	<1	150	<1	61
Nitzschia sp.	--	--	--	--	<1	46
Pleurosigma sp.	--	--	--	--	<1	480
Surirella sp.	<1	83	--	--	<1	170
Synedra sp.	--	--	38	88,000	--	--
unidentified pennate diatoms	1,100	2,500,000	2,400	970,000	1,500	3,100,000
CRYPTOPHYTA						
CRYPTOPHYCEAE (Cryptomonads)						
unidentified cryptophytes	180	8,600	310	15,000	--	--
CYANOPHYTA						
CYANOPHYCEAE (Blue-green algae)						
Anabaena sp.	--	--	13	1,000	--	--
Anacystis didamaeta	--	--	380	38,000	--	--
Lyngbya sp.	--	--	--	--	3,600	630,000
Oscillatoria sp.	--	--	<1	93	--	--
unidentified blue-green algae	1,100	180,000	2,900	500,000	--	--
EUGLENOPHYTA (Euglenoids)						
Euglena acus	--	--	--	--	<1	71
PYRROPHYTA						
DINOPHYCEAE (Dinoflagellates)						
Gymnodinium sp.	--	--	38	260,000	--	--

Table 4.--*Phytoplankton densities and biovolumes in Standley Lake inflows*--Continued

PHYLUM CLASS Order *Genus species*	Site I01 (Farmers Highline and Croke Canals)		Site I02 (Last Chance and Church Ditches)		Site I03 (Woman Creek and Church Ditch)	
	Density (cells/mL)	Biovolume (μm^3/mL)	Density (cells/mL)	Biovolume (μm^3/mL)	Density (cells/mL)	Biovolume (μm^3/mL)
		AUGUST 29, 1989				
CHLOROPHYTA						
CHLOROPHYCEAE (Green algae)						
Scenedesmus bijuga	<1	310	--	--	--	--
Scenedesmus dimorphus	150	16,000	--	--	--	--
BACILLARIOPHYCEAE (Diatoms)						
Centrales						
Melosira distans	<1	2,900	--	--	--	--
unidentified centric diatoms	120	180,000	--	--	--	--
Pennales						
Amphora sp.	120	140,000	--	--	--	--
Cocconeis disculus	230	28,000	--	--	--	--
Epithemia sp.	<1	1,300	--	--	--	--
Fragilaria sp.	2,700	1,500,000	--	--	--	--
Nitzschia sp.	77	62,000	--	--	--	--
Nitzschia vermicularis	<1	410	--	--	--	--
Pleurosigma sp.	38	140,000	--	--	--	--
Surirella sp.	1.5	3,800	--	--	--	--
unidentified pennate diatoms	2,500	2,300,000	--	--	--	--
CRYPTOPHYTA						
CRYPTOPHYCEAE (Cryptomonads)						
unidentified cryptophytes	1,800	90,000	--	--	--	--
CYANOPHYTA						
CYANOPHYCEAE (Blue-green algae)						
Anacystis marina	4,200	11,000	--	--	--	--
PYRROPHYTA						
DINOPHYCEAE (Dinoflagellates)						
Ceratium hirundinella	<1	84	--	--	--	--
		SEPTEMBER 6, 1989				
CHLOROPHYTA						
CHLOROPHYCEAE (Green algae)						
Staurastrum sp.	<1	2,400	--	--	--	--
BACILLARIOPHYCEAE (Diatoms)						
Centrales						
Melosira sp.	<1	4,700	--	--	--	--
unidentified centric diatoms	45	14,000	--	--	--	--
Pennales						
Achnanthes sp.	410	150,000	--	--	--	--
Cymbella minuta	91	140,000	--	--	--	--
Fragilaria construens	270	410,000	--	--	--	--
Hantzschia sp.	45	41,000	--	--	--	--
Nitzschia sp.	720	580,000	--	--	--	--
Nitzschia tryblionelleae	<1	570	--	--	--	--
Pinnularia sp.	45	54,000	--	--	--	--
Pleurosigma sp.	<1	600	--	--	--	--
Surirella sp.	<1	830	--	--	--	--
Synedra sp.	<1	760	--	--	--	--
unidentified pennate diatoms	230	620,000	--	--	--	--
CRYPTOPHYTA						
CRYPTOPHYCEAE (Cryptomonads)						
unidentified cryptophytes	1,600	80,000	--	--	--	--
CYANOPHYTA						
CYANOPHYCEAE (Blue-green algae)						
Anacystis marina	1,300	3,400	--	--	--	--

Table 4.--*Phytoplankton densities and biovolumes in Standley Lake inflows*--Continued

PHYLUM CLASS Order *Genus species*	Site I01 (Farmers Highline and Croke Canals)		Site I02 (Last Chance and Church Ditches)		Site I03 (Woman Creek and Church Ditch)	
	Density (cells/mL)	Biovolume (μm^3/mL)	Density (cells/mL)	Biovolume (μm^3/mL)	Density (cells/mL)	Biovolume (μm^3/mL)
		SEPTEMBER 9, 1989				
CHRYSOPHYTA						
BACILLARIOPHYCEAE (Diatoms)						
Centrales						
Cyclotella sp.	2,500	22,000,000	--	--	--	--
Melosira sp.	4.1	28,000	--	--	--	--
Pennales						
Achnanthes sp.	1,800	690,000	--	--	--	--
Cymbella minuta	620	920,000	--	--	--	--
Nitzschia sp.	1,200	990,000	--	--	--	--
Pinnularia sp.	1.4	1,600	--	--	--	--
Surirella sp.	5.4	13,000	--	--	--	--
unidentified pennate diatoms	6,800	12,000,000	--	--	--	--
CRYPTOPHYTA						
CRYPTOPHYCEAE (Cryptomonads)						
unidentified cryptophytes	230,000	11,000,000	--	--	--	--
		SEPTEMBER 11, 1989				
CHRYSOPHYTA						
BACILLARIOPHYCEAE (Diatoms)						
Centrales						
Melosira sp.	2.0	14,000	--	--	--	--
unidentified centric diatoms	150	48,000	--	--	--	--
Pennales						
Cymbella sp.	150	230,000	--	--	--	--
Fragilaria construens	1,100	1,600,000	--	--	--	--
Navicula sp.	150	460,000	--	--	--	--
Nitzschia tryblionelleae	<1	760	--	--	--	--
Pinnularia sp.	<1	410	--	--	--	--
Surirella sp.	2.4	5,800	--	--	--	--
Synedra sp.	6.5	14,000	--	--	--	--
unidentified pennate diatoms	460	1,500,000	--	--	--	--
CRYPTOPHYTA						
CRYPTOPHYCEAE (Cryptomonads)						
unidentified cryptophytes	11,000	560,000	--	--	--	--
CYANOPHYTA						
CYANOPHYCEAE (Blue-green algae)						
Anacystis marina	12,000	32,000	--	--	--	--
PYRROPHYTA						
DINOPHYCEAE (Dinoflagellates)						
Ceratium hirundinella	<1	340	--	--	--	--
		SEPTEMBER 15, 1989				
CHRYSOPHYTA						
BACILLARIOPHYCEAE (Diatoms)						
Centrales						
Melosira sp.	4.8	33,000	--	--	--	--
Pennales						
Achnanthes sp.	280	100,000	--	--	--	--
Asterionella sp.	2.4	100,000	--	--	--	--
Cocconeis sp.	70	34,000	--	--	--	--
Cymbella minuta	21	32,000	--	--	--	--
Fragilaria construens	210	320,000	--	--	--	--
Hantzschia sp.	140	130,000	--	--	--	--
Nitzschia sp.	280	220,000	--	--	--	--
Nitzschia tryblionelleae	<1	380	--	--	--	--
Pinnularia sp.	<1	410	--	--	--	--
Stauroneis sp.	21	56,000	--	--	--	--
Surirella linearis	70	170,000	--	--	--	--
Surirella sp.	2.4	5,800	--	--	--	--
Synedra sp.	1.2	2,700	--	--	--	--
unidentified pennate diatoms	700	3,000,000	--	--	--	--
CRYPTOPHYTA						
CRYPTOPHYCEAE (Cryptomonads)						
unidentified cryptophytes	6,000	300,000	--	--	--	--

Table 4.--*Phytoplankton densities and biovolumes in Standley Lake inflows*--Continued

PHYLUM CLASS Order *Genus species*	Site I01 (Farmers Highline and Croke Canals)		Site I02 (Last Chance and Church Ditches)		Site I03 (Woman Creek and Church Ditch)	
	Density (cells/mL)	Biovolume (μm^3/mL)	Density (cells/mL)	Biovolume (μm^3/mL)	Density (cells/mL)	Biovolume (μm^3/mL)
		SEPTEMBER 20, 1989				
CHLOROPHYTA						
CHLOROPHYCEAE (Green algae)						
unidentified green algae	<1	<1	--	--	--	--
CHRYSOPHYTA						
BACILLARIOPHYCEAE						
Centrales						
Melosira sp.	3.4	1,600	--	--	--	--
Pennales						
Achnanthes sp.	280	100,000	--	--	--	--
Amphora sp.	550	660,000	--	--	--	--
Asterionella formosa	<1	3,700	--	--	--	--
Cymbella minuta	110	160,000	--	--	--	--
Fragilaria construens	280	410,000	--	--	--	--
Fragilaria crotonensis	<1	400	--	--	--	--
Gomphonema sp	160	400,000	--	--	--	--
Hantzschia sp.	110	99,000	--	--	--	--
Navicula sp.	110	330,000	--	--	--	--
Nitzschia sp.	440	350,000	--	--	--	--
Stauroneis sp.	55	140,000	--	--	--	--
unidentified pennate diatoms	770	2,300,000	--	--	--	--
CRYPTOPHYTA						
CRYPTOPHYCEAE (Cryptomonads)						
unidentified cryptophytes	2,500	120,000	--	--	--	--
PYRROPHYTA						
DINOPHYCEAE (Dinoflagellates)						
Ceratium hirundinella	<1	400	--	--	--	--
		SEPTEMBER 27, 1989				
CHRYSOPHYTA						
BACILLARIOPHYCEAE (Diatoms)						
Centrales						
Melosira distans	5.5	38,000	--	--	--	--
Melosira granulata	1.4	4,200	--	--	--	--
unidentified centric diatoms	31	73,000	--	--	--	--
Pennales						
Achnanthes sp.	140	52,000	--	--	--	--
Cymbella ventricosa	77	120,000	--	--	--	--
Fragilaria crotonensis	1.5	990	--	--	--	--
Fragilaria sp.	630	350,000	--	--	--	--
Gomphonema sp.	31	74,000	--	--	--	--
Hantzschia sp.	200	180,000	--	--	--	--
Navicula sp.	31	92,000	--	--	--	--
Nitzschia sp.	420	330,000	--	--	--	--
Pleurosigma sp.	<1	360	--	--	--	--
Rhoicosphenia sp.	290	140,000	--	--	--	--
Surirella sp.	4.2	10,000	--	--	--	--
CRYPTOPHYTA						
CRYPTOPHYCEAE (Cryptomonads)						
unidentified cryptophytes	77	3,800	--	--	--	--
CYANOPHYTA						
CYANOPHYCEAE (Blue-green algae)						
Aphanizomenon sp.	<1	64	--	--	--	--

Table 4.--*Phytoplankton densities and biovolumes in Standley Lake inflows*--Continued

PHYLUM CLASS Order *Genus species*	Site I01 (Farmers Highline and Croke Canals)		Site I02 (Last Chance and Church Ditches)		Site I03 (Woman Creek and Church Ditch)	
	Density (cells/mL)	Biovolume (μm^3/mL)	Density (cells/mL)	Biovolume (μm^3/mL)	Density (cells/mL)	Biovolume (μm^3/mL)
		OCTOBER 4, 1989				
CHRYSOPHYTA						
BACILLARIOPHYCEAE (Diatoms)						
Centrales						
Melosira distans	2.0	13,000	--	--	--	--
Melosira sp.	1.1	520	--	--	--	--
Pennales						
Achnanthes minutissima	120	43,000	--	--	--	--
Amphora sp.	38	46,000	--	--	--	--
Asterionella sp.	<1	7,400	--	--	--	--
Cymbella minuta	<1	380	--	--	--	--
Fragilaria construens	<1	380	--	--	--	--
Navicula pupula	<1	1,200	--	--	--	--
Nitzschia sp.	1.9	1,500	--	--	--	--
Plagiotropsis lepidoptera	38	58,000	--	--	--	--
Pleurosigma sp.	<1	890	--	--	--	--
Rhoicosphenia curvata	120	55,000	--	--	--	--
Surirella sp.	2.8	6,900	--	--	--	--
unidentified pennate diatoms	2,100	3,000,000	--	--	--	--
CRYPTOPHYTA						
CRYPTOPHYCEAE (Cryptomonads)						
unidentified cryptophytes	810	40,000	--	--	--	--
CYANOPHYTA						
CYANOPHYCEAE (Blue-green algae)						
unidentified blue-green algae	620	13,000	--	--	--	--
		OCTOBER 12, 1989				
CHLOROPHYTA						
CHLOROPHYCEAE (Green algae)						
Closterium sp.	<1	310	--	--	--	--
Cosmarium sp.	<1	670	--	--	--	--
Staurastrum sp.	<1	290	--	--	--	--
CHRYSOPHYTA						
BACILLARIOPHYCEAE (Diatoms)						
Centrales						
Melosira distans	3.2	22,000	--	--	--	--
Pennales						
Achnanthes minutissima	58	22,000	--	--	--	--
Cymbella sp.	<1	510	--	--	--	--
Fragilaria crotonensis	<1	340	--	--	--	--
Navicula sp.	<1	760	--	--	--	--
Pinnularia sp.	<1	410	--	--	--	--
Rhoicosphenia curvata	38	18,000	--	--	--	--
Surirella sp.	6.3	15,000	--	--	--	--
unidentified pennate diatoms	1,300	2,600,000	--	--	--	--
CYANOPHYTA						
CYANOPHYCEAE (Blue-green algae)						
unidentified blue-green algae	3,100	65,000	--	--	--	--
PYRROPHYTA						
DINOPHYCEAE (Dinoflagellates)						
Gymnodinium sp.	<1	570	--	--	--	--

Table 4.--*Phytoplankton densities and biovolumes in Standley Lake inflows*--Continued

PHYLUM CLASS Order *Genus species*	Site I01 (Farmers Highline and Croke Canals)		Site I02 (Last Chance and Church Ditches)		Site I03 (Woman Creek and Church Ditch)	
	Density (cells/mL)	Biovolume (μm^3/mL)	Density (cells/mL)	Biovolume (μm^3/mL)	Density (cells/mL)	Biovolume (μm^3/mL)
		OCTOBER 19, 1989				
CHLOROPHYTA						
CHLOROPHYCEAE (Green algae)						
Staurastrum sp.	1.7	5,900	--	--	--	--
CHRYSOPHYTA						
BACILLARIOPHYCEAE (Diatoms)						
Centrales						
Melosira distans	<1	5,900	--	--	--	--
Melosira sp.	270	130,000	--	--	--	--
unidentified centric diatoms	38	60,000	--	--	--	--
Pennales						
Asterionella sp.	<1	30,000	--	--	--	--
Cymbella sp.	<1	130	--	--	--	--
Navicula sp.	<1	510	--	--	--	--
Nitzschia sp.	<1	200	--	--	--	--
Pinnularia sp.	<1	410	--	--	--	--
Rhoicosphenia curvata	77	37,000	--	--	--	--
Surirella sp.	3.2	7,700	--	--	--	--
unidentified pennate diatoms	190	300,000	--	--	--	--
		OCTOBER 27, 1989				
CHRYSOPHYTA						
BACILLARIOPHYCEAE (Diatoms)						
Centrales						
Melosira distans	120	800,000	--	--	--	--
Melosira sp.	3.2	1,500	--	--	--	--
Stephanodiscus nigreae	<1	6,400	--	--	--	--
unidentified centric diatoms	150	48,000	--	--	--	--
Pennales						
Asterionella sp.	<1	26,000	--	--	--	--
Cymbella sp.	<1	380	--	--	--	--
Fragilaria crotonensis	1.7	1,100	--	--	--	--
Hantzschia sp.	<1	77	--	--	--	--
Nitzschia sigmoidea	<1	12,000	--	--	--	--
Pinnularia sp.	<1	610	--	--	--	--
Plagiotropsis lepidoptera	38	58,000	--	--	--	--
Rhoicosphenia curvata	38	18,000	--	--	--	--
Surirella sp.	20	49,000	--	--	--	--
Synedra sp.	<1	380	--	--	--	--
unidentified pennate diatoms	540	350,000	--	--	--	--
CRYPTOPHYTA						
CRYPTOPHYCEAE (Cryptomonads)						
unidentified cryptophytes	3,400	160,000	--	--	--	--
CYANOPHYTA						
CYANOPHYCEAE (Blue-green algae)						
unidentified blue-green algae	2,200	47,000	--	--	--	--

Table 4.--*Phytoplankton densities and biovolumes in Standley Lake inflows*--Continued

PHYLUM CLASS Order *Genus species*	Site I01 (Farmers Highline and Croke Canals)		Site I02 (Last Chance and Church Ditches)		Site I03 (Woman Creek and Church Ditch)	
	Density (cells/mL)	Biovolume (μm^3/mL)	Density (cells/mL)	Biovolume (μm^3/mL)	Density (cells/mL)	Biovolume (μm^3/mL)
		JUNE 5, 1990				
CHRYSOPHYTA						
BACILLARIOPHYCEAE (Diatoms)						
Pennales						
Achnanthes sp.	--	--	150	670,000	79	16,000
Amphora sp.	--	--	--	--	40	48,000
Cocconeis disculus	--	--	--	--	40	2,500
Cymbella sp.	--	--	--	--	40	67,000
Navicula sp.	--	--	--	--	<1	53
Nitzschia sp.	91	72,000	1,100	400,000	--	--
Nitzschia tryblionelleae	--	--	--	--	<1	390
Pinnularia sp.	<1	2,400	--	--	--	--
Plagiotropsis lepidoptera	--	--	--	--	<1	180
Surirella sp.	--	--	<1	1,700	--	--
Synedra sp.	<1	660	--	--	2.9	3,200
unidentified pennate diatoms	1,100	2,300,000	470	860,000	1,300	2,800,000
CRYPTOPHYTA						
CRYPTOPHYCEAE (Cryptomonads)						
unidentified cryptophytes	--	--	9,700	480,000	2,400	120,000
CYANOPHYTA						
CYANOPHYCEAE (Blue-green algae)						
Oscillatoria sp.	<1	71	<1	190	<1	31
unidentified blue-green algae	12,000	760,000	33,000	5,600,000	670	44,000
		JUNE 13, 1990				
CHLOROPHYTA						
CHLOROPHYCEAE (Green algae)						
unidentified green algae	--	--	--	--	<1	120
CHRYSOPHYTA						
BACILLARIOPHYCEAE (Diatoms)						
Centrales						
Melosira distans	--	--	<1	1,600	--	--
Pennales						
Achnanthes minutissima	--	--	41	2,400	--	--
Achnanthes sp.	--	--	180	37,000	--	--
Amphora sp.	--	--	53	64,000	--	--
Cymbella sp.	--	--	160	280,000	77	130,000
Epithemia sp.	<1	710	--	--	--	--
Eunotia sp.	--	--	--	--	<1	150
Fragilaria construens	2.6	3,800	--	--	--	--
Hantzschia sp.	--	--	<1	81	--	--
Navicula pupula	--	--	41	110,000	--	--
Navicula sp.	<1	19	--	--	--	--
Nitzschia sp.	43	34,000	<1	290	<1	410
Pinnularia sp.	130	1,600,000	<1	2,200	<1	4,200
Plagiotropis sp.	--	--	<1	180	--	--
Pleurosigma sp.	--	--	<1	320	--	--
Surirella sp.	43	110,000	--	--	<1	420
Synedra sp.	1.6	1,800	1.1	1,200	--	--
unidentified pennate diatoms	390	830,000	1,600	3,400,000	540	1,100,000
CRYPTOPHYTA						
CRYPTOPHYCEAE (Cryptomonads)						
unidentified cryptophytes	--	--	480	23,000	2,400	120,000
CYANOPHYTA						
CYANOPHYCEAE (Blue-green algae)						
Anabaena sp.	--	--	--	--	<1	13
Oscillatoria sp.	--	--	<1	64	--	--
unidentified blue-green algae	1,400	93,000	1,600	110,000	4,900	320,000

Table 4.--*Phytoplankton densities and biovolumes in Standley Lake inflows*--Continued

PHYLUM CLASS Order *Genus species*	Site I01 (Farmers Highline and Croke Canals)		Site I02 (Last Chance and Church Ditches)		Site I03 (Woman Creek and Church Ditch)	
	Density (cells/mL)	Biovolume (μm^3/mL)	Density (cells/mL)	Biovolume (μm^3/mL)	Density (cells/mL)	Biovolume (μm^3/mL)
		JUNE 19, 1990				
CHRYSOPHYTA						
BACILLARIOPHYCEAE (Diatoms)						
Centrales						
Melosira sp.	1.0	500	<1	160	--	--
unidentified centric diatoms	--	--	230	200,000	150	48,000
Pennales						
Achnanthes sp.	40	7,900	--	--	540	110,000
Cymbella sp.	40	67,000	<1	140	77	130,000
Fragilaria construens	<1	520	--	--	--	--
Fragilaria crotonensis	<1	350	--	--	--	--
Hantzschia sp.	--	--	38	35,000	--	--
Navicula section lyratae	--	--	<1	150	--	--
Navicula sp.	<1	53	--	--	<1	68
Nitzschia sp.	79	64,000	<1	410	<1	680
Opephoria sp.	--	--	38	23,000	--	--
Pinnularia sp.	<1	3,200	--	--	--	--
Rhopalodia sp.	<1	840	<1	820	--	--
Surirella sp.	40	97,000	<1	420	--	--
Synedra sp.	--	--	<1	94	<1	560
unidentified pennate diatoms	--	--	270	1,400,000	310	650,000
CRYPTOPHYTA						
CRYPTOPHYCEAE (Cryptomonads)						
unidentified cryptophytes	1,100	53,000	1,200	59,000	9,700	480,000
CYANOPHYTA						
CYANOPHYCEAE (Blue-green algae)						
unidentified blue-green algae	8,100	530,000	2,400	160,000	6,000	390,000
PYRROPHYTA						
DINOPHYCEAE (Dinoflagellates)						
Ceratium hirundinella	--	--	<1	5,900	--	--
		JULY 9, 1990				
CHLOROPHYTA						
CHLOROPHYCEAE (Green algae)						
Actinastrum hantzschii	--	--	--	--	480	30,000
CHRYSOPHYTA						
BACILLARIOPHYCEAE (Diatoms)						
Centrales						
Melosira sp.	--	--	<1	250	--	--
Stephanodiscus nigreae	--	--	<1	2,300	--	--
Pennales						
Achnanthes sp.	330	65,000	160	33,000	79	16,000
Cymbella sp.	--	--	82	140,000	--	--
Fragilaria crotonensis	--	--	82	54,000	--	--
Navicula pupula	330	860,000	--	--	--	--
Nitzschia sp.	2.2	1,700	<1	140	--	--
Nitzschia tryblionelleae	<1	3,200	--	--	<1	2,400
Pinnularia sp.	--	--	82	1,000,000	<1	2,200
Pleurosigma sp.	--	--	--	--	<1	610
Synedra sp.	<1	790	--	--	<1	190
unidentified pennate diatoms	2,900	5,700,000	650	1,400,000	2,000	4,200,000
CRYPTOPHYTA						
CRYPTOPHYCEAE (Cryptomonads)						
unidentified cryptophytes	66,000	3,200,000	15,000	740,000	130	6,200
CYANOPHYTA						
CYANOPHYCEAE (Blue-green algae)						
Oscillatoria sp.	--	--	<1	64	<1	120
unidentified blue-green algae	32,000	2,100,000	14,000	940,000	14,000	920,000

Table 4.--*Phytoplankton densities and biovolumes in Standley Lake inflows*--Continued

PHYLUM CLASS Order *Genus species*	Site I01 (Farmers Highline and Croke Canals)		Site I02 (Last Chance and Church Ditches)		Site I03 (Woman Creek and Church Ditch)	
	Density (cells/mL)	Biovolume (μm^3/mL)	Density (cells/mL)	Biovolume (μm^3/mL)	Density (cells/mL)	Biovolume (μm^3/mL)
		JULY 13, 1990				
CHLOROPHYTA						
CHLOROPHYCEAE (Green algae)						
Chlamydomonas sp.	--	--	--	--	79	75,000
Pediastrum simplex	--	--	2.9	510	--	--
Staurastrum sp.	--	--	--	--	<1	150
CHRYSOPHYTA						
BACILLARIOPHYCEAE (Diatoms)						
Centrales						
Melosira sp.	3.6	1,700	--	--	--	--
Pennales						
Achnanthes sp.	--	--	240	49,000	--	--
Fragilaria crotonensis	--	--	--	--	1.4	920
Navicula sp.	--	--	410	82,000	--	--
Nitzschia tryblionelleae	--	--	--	--	<1	790
Pinnularia sp.	--	--	<1	6,600	--	--
Rhoicosphenia curvata	--	--	<1	86	<1	250
Synedra sp.	--	--	<1	990	<1	190
unidentified pennate diatoms	620	1,200,000	--	--	950	3,400,000
CRYPTOPHYTA						
CRYPTOPHYCEAE (Cryptomonads)						
unidentified cryptophytes	6,400	320,000	14,000	680,000	11,000	560,000
CYANOPHYTA						
CYANOPHYCEAE (Blue-green algae)						
Aphanizomenon sp.	1.2	750	--	--	--	--
Merismopedia sp.	--	--	12	440	--	--
unidentified blue-green algae	1,500	250,000	15,000	980,000	11,000	720,000
		JULY 24, 1990				
CHRYSOPHYTA						
BACILLARIOPHYCEAE (Diatoms)						
Centrales						
Melosira sp.	3.9	1,800	--	--	--	--
Pennales						
Achnanthes sp.	84	17,000	330	65,000	--	--
Amphora sp.	<1	220	--	--	--	--
Epithemia sp.	<1	2,800	--	--	--	--
Fragilaria construens	<1	1,100	--	--	--	--
Fragilaria crotonensis	<1	490	--	--	--	--
Navicula pupula	170	440,000	--	--	--	--
Navicula sp.	--	--	--	--	<1	510
Nitzschia sp.	340	270,000	--	--	150	120,000
Nitzschia tryblionelleae	--	--	<1	4,000	--	--
Opephoria sp.	--	--	<1	110	--	--
Plagiotropsis lepidoptera	<1	370	--	--	--	--
Synedra sp.	<1	200	--	--	--	--
unidentified pennate diatoms	1,600	5,200,000	740	1,400,000	310	1,100,000
CRYPTOPHYTA						
CRYPTOPHYCEAE (Cryptomonads)						
unidentified cryptophytes	7,800	380,000	6,300	310,000	4,100	200,000
CYANOPHYTA						
CYANOPHYCEAE (Blue-green algae)						
Anabaena sp.	--	--	--	--	<1	13
Oscillatoria sp.	3.7	1,300	--	--	--	--
unidentified blue-green algae	2,900	190,000	15,000	960,000	14,000	2,300,000

Table 4.--*Phytoplankton densities and biovolumes in Standley Lake inflows*--Continued

PHYLUM CLASS Order *Genus species*	Site I01 (Farmers Highline and Croke Canals)		Site I02 (Last Chance and Church Ditches)		Site I03 (Woman Creek and Church Ditch)	
	Density (cells/mL)	Biovolume (μm^3/mL)	Density (cells/mL)	Biovolume (μm^3/mL)	Density (cells/mL)	Biovolume (μm^3/mL)
		AUGUST 7, 1990				
CHLOROPHYTA						
CHLOROPHYCEAE (Green algae)						
Closterium sp.	--	--	--	--	<1	1,900
Scenedesmus dimorphus	--	--	<1	74	--	--
CHRYSOPHYTA						
BACILLARIOPHYCEAE (Diatoms)						
Centrales						
Melosira distans	<1	4,700	--	--	<1	4,700
Melosira sp.	7.5	3,500	--	--	--	--
unidentified centric diatoms	620	190,000	79	9,700	--	--
Pennales						
Achnanthes sp.	150	58,000	480	95,000	77	29,000
Amphora sp.	--	--	<1	210	--	--
Cymbella sp.	--	--	<1	300	--	--
Navicula pupula	--	--	160	420,000	--	--
Nitzschia closterium	--	--	--	--	230	98,000
Nitzschia tryblionelleae	--	--	79	360,000	--	--
Nitzschia sp.	--	--	240	190,000	--	--
Opephoria sp.	--	--	<1	100	--	--
Pleurosigma sp.	--	--	<1	1,200	--	--
Rhoicosphenia curvata	--	--	160	76,000	--	--
Surirella sp.	9.9	24,000	--	--	--	--
Synedra sp.	--	--	<1	190	--	--
unidentified pennate diatoms	320	650,000	1,300	2,600,000	1,000	4,500,000
CRYPTOPHYTA						
CRYPTOPHYCEAE (Cryptomonads)						
unidentified cryptophytes	13,000	620,000	5,800	280,000	5,600	270,000
CYANOPHYTA						
CYANOPHYCEAE (Blue-green algae)						
Anabaena sp.	--	--	--	--	310	24,000
unidentified blue-green algae	9,900	1,700,000	6,200	400,000	7,800	1,300,000
EUGLENOPHYTA (Euglenoids)						
Phacus sp.	150	180,000	--	--	--	--
		AUGUST 23, 1990				
CHRYSOPHYTA						
BACILLARIOPHYCEAE (Diatoms)						
Centrales						
Melosira distans	--	--	4.4	30,000	--	--
Melosira sp.	--	--	1.4	660	--	--
Pennales						
Achnanthes sp.	--	--	160	60,000	--	--
Fragilaria construens	--	--	--	--	<1	790
Nitzschia sp.	--	--	2.3	1,800	--	--
Nitzschia tryblionelleae	--	--	79	380,000	1.9	9,200
unidentified pennate diatoms	--	--	2,300	9,400,000	960	4,000,000
CRYPTOPHYTA						
CRYPTOPHYCEAE (Cryptomonads)						
unidentified cryptophytes	--	--	9,000	440,000	7,000	340,000
CYANOPHYTA						
CYANOPHYCEAE (Blue-green algae)						
Aphanizomenon sp.	--	--	--	--	<1	110
Lyngbya sp.	--	--	--	--	160	27,000
unidentified blue-green algae	--	--	14,000	2,400,000	15,000	2,600,000

Table 4.--*Phytoplankton densities and biovolumes in Standley Lake inflows*--Continued

PHYLUM CLASS Order *Genus species*	Site I01 (Farmers Highline and Croke Canals)		Site I02 (Last Chance and Church Ditches)		Site I03 (Woman Creek and Church Ditch)	
	Density (cells/mL)	Biovolume (μm^3/mL)	Density (cells/mL)	Biovolume (μm^3/mL)	Density (cells/mL)	Biovolume (μm^3/mL)
		AUGUST 31, 1990				
CHLOROPHYTA						
CHLOROPHYCEAE (Green algae)						
Scenedesmus dimorphus	1.4	140	--	--	--	--
CHRYSOPHYTA						
BACILLARIOPHYCEAE (Diatoms)						
Centrales						
Melosira distans	32	220,000	--	--	--	--
Pennales						
Achnanthes hauckiana	79	11,000	--	--	--	--
Achnanthes sp.	79	30,000	--	--	--	--
Fragilaria construens	2.8	4,200	--	--	--	--
Navicula sp.	<1	1,000	--	--	--	--
Surirella sp.	12	29,000	--	--	--	--
Synedra sp.	<1	390	--	--	--	--
unidentified pennate diatoms	1,400	3,300,000	--	--	--	--
CRYPTOPHYTA						
CRYPTOPHYCEAE (Cryptomonads)						
unidentified cryptophytes	1,800	90,000	--	--	--	--
CYANOPHYTA						
CYANOPHYCEAE (Blue-green algae)						
unidentified blue-green algae	10,000	1,800,000	--	--	--	--
		SEPTEMBER 4, 1990				
CHRYSOPHYTA						
BACILLARIOPHYCEAE (Diatoms)						
Pennales						
unidentified pennate diatoms	1.0	4,400	--	--	--	--
CRYPTOPHYTA						
CRYPTOPHYCEAE (Cryptomonads)						
unidentified cryptophytes	79	3,900	--	--	--	--
CYANOPHYTA						
MYXOPHYCEAE (Blue-green algae)						
unidentified blue-green algae	79	14,000	--	--	--	--
		SEPTEMBER 7, 1990				
CHRYSOPHYTA						
BACILLARIOPHYCEAE (Diatoms)						
Centrales						
Melosira distans	<1	3,600	--	--	--	--
Pennales						
Surirella sp.	11	27,000	--	--	--	--
unidentified pennate diatoms	2,600	13,000,000	--	--	--	--
CRYPTOPHYTA						
CRYPTOPHYCEAE (Cryptomonads)						
unidentified cryptophytes	640	31,000	--	--	--	--
CYANOPHYTA						
CYANOPHYCEAE (Blue-green algae)						
unidentified blue-green algae	6,700	1,100,000	--	--	--	--

Table 4.--*Phytoplankton densities and biovolumes in Standley Lake inflows*--Continued

PHYLUM CLASS Order *Genus species*	Site I01 (Farmers Highline and Croke Canals)		Site I02 (Last Chance and Church Ditches)		Site I03 (Woman Creek and Church Ditch)	
	Density (cells/mL)	Biovolume (μm^3/mL)	Density (cells/mL)	Biovolume (μm^3/mL)	Density (cells/mL)	Biovolume (μm^3/mL)
		SEPTEMBER 13, 1990				
CHRYSOPHYTA						
BACILLARIOPHYCEAE (Diatoms)						
Pennales						
Navicula sp.	<1	1,600	--	--	--	--
unidentified pennate diatoms	<1	3,700	--	--	--	--
CRYPTOPHYTA						
CRYPTOPHYCEAE (Cryptomonads)						
unidentified cryptophytes	790	39,000	--	--	--	--
CYANOPHYTA						
CYANOPHYCEAE (Blue-green algae)						
unidentified blue-green algae	674	110,000	--	--	--	--
		SEPTEMBER 18, 1990				
CHRYSOPHYTA						
BACILLARIOPHYCEAE (Diatoms)						
Centrales						
Melosira distans	33	230,000	--	--	--	--
Melosira sp.	10	5,000	--	--	--	--
Pennales						
Cymbella minuta	160	900,000	--	--	--	--
Nitzschia sp.	79	64,000	--	--	--	--
Surirella sp.	9.3	23,000	--	--	--	--
unidentified pennate diatoms	1,700	6,800,000	--	--	--	--
CHRYSOPHYCEAE (Golden-brown algae)						
Dinobryon sp.	1.2	240	--	--	--	--
CRYPTOPHYTA						
CRYPTOPHYCEAE (Cryptomonads)						
unidentified cryptophytes	6,700	330,000	--	--	--	--
CYANOPHYTA						
CYANOPHYCEAE (Blue-green algae)						
unidentified blue-green algae	790	140,000	--	--	--	--
		SEPTEMBER 25, 1990				
CHRYSOPHYTA						
BACILLARIOPHYCEAE (Diatoms)						
Centrales						
Melosira distans	52	360,000	--	--	--	--
Melosira sp.	12	5,800	--	--	--	--
Stephanodiscus nigreae	<1	2,200	--	--	--	--
Pennales						
Achnanthes sp.	79	16,000	--	--	--	--
Fragilaria crotonensis	2.1	1,400	--	--	--	--
Surirella sp.	8.4	21,000	--	--	--	--
unidentified pennate diatoms	330	990,000	--	--	--	--
CRYPTOPHYTA						
CRYPTOPHYCEAE (Cryptomonads)						
unidentified cryptophytes	6,000	300,000	--	--	--	--
CYANOPHYTA						
CYANOPHYCEAE (Blue-green algae)						
Oscillatoria sp.	79	28,000	--	--	--	--
unidentified blue-green algae	4,500	300,000	--	--	--	--

Table 4.--*Phytoplankton densities and biovolumes in Standley Lake inflows*--Continued

PHYLUM CLASS Order *Genus species*	Site I01 (Farmers Highline and Croke Canals)		Site I02 (Last Chance and Church Ditches)		Site I03 (Woman Creek and Church Ditch)	
	Density (cells/mL)	Biovolume (μm^3/mL)	Density (cells/mL)	Biovolume (μm^3/mL)	Density (cells/mL)	Biovolume (μm^3/mL)
		OCTOBER 2, 1990				
CHRYSOPHYTA						
BACILLARIOPHYCEAE (Diatoms)						
Centrales						
Melosira distans	22	150,000	--	--	--	--
Melosira sp.	9.1	4,300	--	--	--	--
unidentified centric diatoms	79	25,000	--	--	--	--
Pennales						
Amphora sp.	79	95,000	--	--	--	--
Asterionella sp.	2.6	110,000	--	--	--	--
Fragilaria crotonensis	160	100,000	--	--	--	--
Navicula pupula	160	4,200,000	--	--	--	--
Nitzschia sp.	79	64,000	--	--	--	--
Surirella sp.	33	81,000	--	--	--	--
unidentified pennate diatoms	330	1,500,000	--	--	--	--
CHRYSOPHYTA						
CHRYSOPHYCEAE (Golden-brown algae)						
Dinobryon sp.	3.7	52	--	--	--	--
CRYPTOPHYTA						
CRYPTOPHYCEAE (Cryptomonads)						
unidentified cryptophytes	5,300	260,000	--	--	--	--
CYANOPHYTA						
CYANOPHYCEAE (Blue-green algae)						
Oscillatoria sp.	1.0	370	--	--	--	--
unidentified blue-green algae	4,400	290,000	--	--	--	--
		OCTOBER 10, 1990				
CHLOROPHYTA						
CHLOROPHYCEAE (Green algae)						
Scenedesmus quadricauda	<1	28	--	--	--	--
CHRYSOPHYTA						
BACILLARIOPHYCEAE (Diatoms)						
Centrales						
Melosira distans	2.6	18,000	--	--	--	--
Melosira sp.	21	9,900	--	--	--	--
Pennales						
Asterionella sp.	3.0	130,000	--	--	--	--
Navicula pupula	<1	4,600	--	--	--	--
Rhoicosphenia curvata	1.0	500	--	--	--	--
Surirella sp.	5.2	13,000	--	--	--	--
unidentified pennate diatoms	240	770,000	--	--	--	--
CHRYSOPHYTA						
CHRYSOPHYCEAE (Golden-brown algae)						
Dinobryon sp.	1.0	15	--	--	--	--
CRYPTOPHYTA						
CRYPTOPHYCEAE (Cryptomonads)						
unidentified cryptophytes	10,000	510,000	--	--	--	--
CYANOPHYTA						
CYANOPHYCEAE (Blue-green algae)						
Merismopedia sp.	320	12,000	--	--	--	--
unidentified blue-green algae	6,000	390,000	--	--	--	--
EUGLENOPHYTA (Euglenoids)						
Phacus sp.	<1	610	--	--	--	--

Table 4.--*Phytoplankton densities and biovolumes in Standley Lake inflows*--Continued

PHYLUM CLASS Order *Genus species*	Site I01 (Farmers Highline and Croke Canals)		Site I02 (Last Chance and Church Ditches)		Site I03 (Woman Creek and Church Ditch)	
	Density (cells/mL)	Biovolume (μm^3/mL)	Density (cells/mL)	Biovolume (μm^3/mL)	Density (cells/mL)	Biovolume (μm^3/mL)
		OCTOBER 16, 1990				
CHRYSOPHYTA						
BACILLARIOPHYCEAE (Diatoms)						
Centrales						
Melosira distans	1.8	12,000	--	--	--	--
Melosira sp.	19	9,100	--	--	--	--
Pennales						
Achnanthes sp.	240	48,000	--	--	--	--
Asterionella sp.	1.9	84,000	--	--	--	--
Gomphonema sp.	560	440,000	--	--	--	--
Pinnularia sp.	<1	2,200	--	--	--	--
Rhoicosphenia curvata	240	110,000	--	--	--	--
Surirella sp.	16	39,000	--	--	--	--
unidentified pennate diatoms	480	2,300,000	--	--	--	--
CRYPTOPHYTA						
CRYPTOPHYCEAE (Cryptomonads)						
unidentified cryptophytes	6,700	330,000	--	--	--	--
CYANOPHYTA						
CYANOPHYCEAE (Blue-green algae)						
unidentified blue-green algae	3,200	210,000	--	--	--	--
		OCTOBER 30, 1990				
CHRYSOPHYTA						
BACILLARIOPHYCEAE (Diatoms)						
Centrales						
Melosira sp.	2.6	1,200	--	--	--	--
Pennales						
Achnanthes sp.	79	16,000	--	--	--	--
Cymbella minuta	79	130,000	--	--	--	--
Surirella sp.	14	34,000	--	--	--	--
unidentified pennate diatoms	1,600	8,400,000	--	--	--	--
CRYPTOPHYTA						
CRYPTOPHYCEAE (Cryptomonads)						
unidentified cryptophytes	5,300	260,000	--	--	--	--
CYANOPHYTA						
CYANOPHYCEAE (Blue-green algae)						
unidentified blue-green algae	3,700	240,000	--	--	--	--
PYRROPHYTA						
DINOPHYCEAE (Dinoflagellates)						
Ceratium hirundinella	<1	12,000	--	--	--	--

Table 5.--*Profiles of onsite measurements in Standley Lake*

[--, no measurement]

Depth (ft)	Site L1 (near dam) Temperature (°C)	pH (units)	Dissolved oxygen (mg/L)	Specific conductance (µS/cm)	Site L2 (near center) Temperature (°C)	pH (units)	Dissolved oxygen (mg/L)	Specific conductance (µS/cm)
			JUNE 21, 1989					
	(Light transparency, 57.5 inches)				(Light transparency, 72.5 inches)			
1	18.9	8.0	7.5	228	18.7	8.2	7.6	230
5	18.9	8.0	7.4	228	18.7	8.2	7.6	230
10.1	18.9	8.0	7.4	228	18.7	8.2	7.6	230
15	17.2	8.0	7.3	226	17.3	8.1	7.6	227
20	16.2	7.9	7.3	228	15.9	7.8	6.7	230
25	15.7	7.7	6.7	225	15.4	7.7	6.6	224
30	15.1	7.6	6.2	227	15.0	7.6	6.2	227
35	14.4	7.4	5.9	229	14.6	7.5	5.7	229
40	13.8	7.3	5.2	235	13.6	7.3	5.2	235
45	13.3	7.3	4.9	239	13.0	7.3	4.8	242
50	11.8	7.2	3.9	258	12.4	7.2	4.4	249
55	--	--	--	--	11.8	7.1	3.6	256
60	11.4	7.1	3.2	261	11.4	7.1	3.1	261
70	10.8	7.0	1.9	268	11.4	7.1	2.3	264
75	10.7	7.0	1.6	268	10.9	7.0	1.7	266
			JULY 20, 1989					
	(Light transparency, 201 inches)				(Light transparency, 191 inches)			
1	22.4	8.1	7.2	221	23.6	7.9	7.3	218
5	22.2	8.1	7.2	221	23.0	7.9	7.3	219
10	22.0	8.1	7.2	221	22.5	7.9	7.3	219
15	22.0	8.1	7.2	220	22.1	8.0	7.4	218
20	21.7	8.0	7.1	218	20.9	7.9	7.1	213
25	18.6	7.4	5.1	215	19.4	7.4	6.2	213
30	17.0	7.3	3.0	223	17.3	7.1	3.6	221
35	15.9	7.0	2.1	226	15.8	6.9	2.2	225
40	15.4	6.9	1.9	227	15.2	6.8	2.1	226
45	14.7	6.8	1.8	229	14.6	6.7	1.8	229
50	14.3	6.8	1.6	231	14.3	6.7	1.9	229
55	13.9	6.8	1.6	233	13.9	6.7	1.6	232
60	13.4	6.8	1.3	235	13.6	6.7	1.5	233
65	12.9	6.8	0.6	240	13.6	6.7	1.1	234
70	12.8	6.8	0.3	240	13.4	6.7	0.8	234
73	12.8	6.8	0.1	240	--	--	--	--

Table 5.--*Profiles of onsite measurements in Standley Lake*--Continued

Depth (ft)	Site L1 (near dam) Temperature (°C)	pH (units)	Dissolved oxygen (mg/L)	Specific conductance (µS/cm)	Site L2 (near center) Temperature (°C)	pH (units)	Dissolved oxygen (mg/L)	Specific conductance (µS/cm)
				AUGUST 3, 1989				
	(Light transparency, 169 inches)				(Light transparency, 166 inches)			
1	22.2	7.8	6.8	213	22.3	8.0	7.5	216
5	22.2	7.8	6.7	215	22.3	7.9	7.1	216
10	22.1	7.8	6.7	214	22.2	7.9	7.0	215
15	22.1	7.8	6.7	214	22.2	7.9	7.0	215
17.5	22.0	7.8	6.6	214	22.0	7.8	6.8	213
20	21.4	7.7	6.1	212	21.7	7.8	6.6	211
22.5	21.2	7.6	5.9	212	21.5	7.7	6.3	211
25	20.8	7.5	5.5	211	20.9	7.5	5.7	210
27.5	20.0	7.3	5.0	207	21.0	7.5	5.7	211
30	19.1	7.1	3.3	216	18.5	7.2	3.6	213
35	17.3	7.0	1.3	218	17.9	7.0	1.6	218
40	16.1	6.9	0.7	221	16.2	7.1	0.6	219
45	15.3	6.8	0.5	223	15.6	6.8	0.5	222
50	14.6	6.8	0.7	224	15.1	7.0	0.6	223
55	14.3	6.7	0.7	226	14.6	7.1	0.6	224
60	14.0	6.7	0.5	227	14.2	6.8	0.4	224
65	13.7	6.7	0.3	228	14.0	6.8	0.3	227
67.5	--	--	--	--	14.0	6.9	0.0	230
70	13.3	6.7	0.0	232	--	--	--	--
75	13.0	6.7	0.0	236	--	--	--	--
80	12.9	6.7	0.0	238	--	--	--	--
84	12.8	6.8	0.0	242	--	--	--	--
				AUGUST 8-9, 1989				
1	21.2	7.8	7.0	213	21.6	7.9	6.8	215
5	21.2	7.8	6.8	214	21.6	7.9	6.8	215
10	21.1	7.8	6.8	213	21.6	7.9	6.8	215
15	21.1	7.8	6.7	213	21.6	7.9	6.7	215
20	21.1	7.8	6.7	212	21.6	7.9	6.8	215
25	21.0	7.8	6.7	212	21.1	7.7	6.1	213
30	20.4	7.5	5.6	212	19.9	7.3	3.3	214
32.5	18.5	7.0	1.8	216	--	--	--	--
35	17.5	7.0	1.0	217	17.5	7.0	0.7	220
40	16.2	6.8	0.1	222	16.6	6.9	0.3	222
45	15.4	6.8	0.1	222	15.9	6.9	0.2	223
50	15.0	6.8	0.1	222	15.0	6.8	0.2	225
55	14.6	6.8	0.1	224	14.7	6.8	0.3	225
60	14.3	6.8	0.1	224	14.1	6.8	0.0	227
65	14.0	6.8	0.0	226	13.7	6.8	0.0	230
70	13.8	6.8	0.0	226	13.7	6.8	0.0	230
72	--	--	--	--	13.5	6.8	0.0	238
75	13.6	6.8	0.0	228	--	--	--	--
80	13.3	6.9	0.0	232	--	--	--	--
83	13.2	7.0	0.0	234	--	--	--	--

Table 5.--*Profiles of onsite measurements in Standley Lake*--Continued

Depth (ft)	Site L1 (near dam) Temperature (°C)	pH (units)	Dissolved oxygen (mg/L)	Specific conductance (µS/cm)	Site L2 (near center) Temperature (°C)	pH (units)	Dissolved oxygen (mg/L)	Specific conductance (µS/cm)
			AUGUST 18, 1989					
	(Light transparency, 58 inches)				(Light transparency, 96 inches)			
1	21.4	7.6	7.2	215	21.2	8.1	6.9	215
5	21.4	7.8	7.0	215	21.2	8.1	6.8	214
10	21.4	7.8	6.9	215	21.2	8.1	6.8	214
15	21.3	7.9	6.9	215	21.2	8.1	6.7	213
20	21.3	7.9	6.8	214	21.2	8.1	6.7	213
25	21.1	7.9	6.7	214	21.1	8.1	6.7	213
27.5	20.6	7.5	5.1	214	21.0	8.0	6.5	213
30	20.2	7.3	3.9	213	20.7	7.8	5.3	213
32.5	20.0	7.1	3.2	214	20.1	7.4	3.3	212
35	19.8	7.1	2.8	214	19.3	7.2	1.7	214
37.5	19.2	6.9	1.6	215	18.8	7.1	1.1	216
40	--	--	--	--	17.5	7.0	0.1	218
42.5	16.5	6.8	0.0	222	17.0	7.0	0.0	220
45	16.0	6.8	0.0	223	16.6	6.9	0.0	221
50	15.6	6.8	0.0	223	15.6	6.9	0.0	223
55	14.8	6.8	0.0	225	15.0	6.9	0.0	224
60	14.4	6.8	0.0	226	14.6	6.9	0.0	227
65	14.3	6.8	0.0	227	14.3	6.9	0.0	230
70	14.2	6.8	0.0	227	14.0	6.9	0.0	230
74	--	--	--	--	13.6	6.9	0.0	234
75	14.1	6.9	0.0	227	--	--	--	--
78	14.0	6.9	0.0	227	--	--	--	--
			AUGUST 21, 1989					
	(Light transparency, 92 inches)				(Light transparency, 91 inches)			
1	20.5	7.7	6.8	215	20.9	8.0	6.9	214
5	20.6	7.7	6.7	215	20.8	8.1	6.9	213
10	20.5	7.7	6.7	214	20.8	8.0	6.8	213
15	20.5	7.7	6.6	214	20.7	8.0	6.7	213
20	20.5	7.7	6.6	214	20.7	8.0	6.6	212
25	20.5	7.7	6.6	214	20.7	8.0	6.4	212
30	20.5	7.7	--	212	20.5	7.8	5.5	213
32.5	--	--	--	--	20.4	7.6	5.0	213
35	--	--	--	--	19.7	7.3	2.7	213
37.5	19.0	7.2	1.4	214	18.7	7.2	0.9	215
40	18.1	6.9	0.4	217	18.3	7.1	0.5	216
42.5	17.0	6.8	0.0	220	--	--	--	--
45	16.6	6.8	0.0	221	16.9	7.0	0.0	219
50	15.8	6.8	0.0	222	15.8	6.9	0.0	222
55	15.5	6.8	0.0	223	15.0	6.9	0.0	224
60	15.1	6.8	0.0	224	14.7	6.9	0.0	225
65	14.0	6.9	0.0	230	14.5	6.9	0.0	226
70	14.0	6.9	0.0	230	14.5	6.9	0.0	226
73	--	--	--	--	14.2	7.0	0.0	227
75	13.9	6.9	0.0	230	--	--	--	--
80	13.8	6.9	0.0	230	--	--	--	--
82	13.8	7.0	0.0	230	--	--	--	--

Table 5.--*Profiles of onsite measurements in Standley Lake*--Continued

Depth (ft)	Site L1 (near dam) Temperature (°C)	pH (units)	Dissolved oxygen (mg/L)	Specific conductance (µS/cm)	Site L2 (near center) Temperature (°C)	pH (units)	Dissolved oxygen (mg/L)	Specific conductance (µS/cm)
			SEPTEMBER 1, 1989					
	(Light transparency, 579 inches)				(Light transparency, 89 inches)			
1	20.7	7.8	6.4	219	20.8	8.0	6.4	221
5	20.7	7.8	6.4	219	20.7	7.9	6.4	220
10	20.6	7.8	6.4	219	20.7	8.0	6.3	220
15	20.6	7.8	6.4	220	20.6	7.9	6.3	220
20	20.6	7.8	6.4	219	20.6	7.9	6.2	219
25	20.6	7.8	6.4	219	20.6	7.9	6.2	219
30	20.5	7.7	6.1	218	20.4	7.7	5.4	218
32.5	--	--	--	--	20.0	7.6	4.4	218
35	20.0	7.5	4.5	217	19.9	7.5	4.3	218
37.5	19.4	7.3	2.8	218	19.8	7.4	3.8	217
40	19.0	7.1	2.0	219	19.6	7.3	3.2	218
42.5	18.7	7.1	1.6	219	19.1	7.3	2.3	219
45	18.6	7.0	1.3	219	18.4	7.1	1.1	220
47.5	18.3	6.9	0.9	220	17.5	7.1	0.0	222
50	17.3	6.9	0.0	223	17.2	7.0	0.0	222
55	16.4	6.9	0.0	225	16.2	7.0	0.0	225
60	15.4	6.9	0.0	227	15.5	7.0	0.0	227
65	14.8	6.9	0.0	229	15.1	7.0	0.0	228
70	14.4	6.9	0.0	233	14.7	7.0	0.0	229
72	--	--	--	--	14.4	7.0	0.0	233
75	14.3	7.0	0.0	234	--	--	--	--
79	14.2	7.0	0.0	234	--	--	--	--
			SEPTEMBER 5, 1989					
	(Light transparency, 100 inches)				(Light transparency, 101 inches)			
1	20.7	7.8	6.6	221	21.2	7.8	6.7	221
5	20.7	7.7	6.7	220	21.1	7.8	6.7	221
10	20.7	7.7	6.7	220	20.9	7.8	6.7	220
15	20.7	7.7	6.7	220	20.9	7.8	6.6	220
20	20.6	7.7	6.4	220	20.5	7.7	6.0	220
25	20.4	7.6	6.1	220	20.4	7.6	5.8	219
30	20.2	7.5	5.7	219	20.3	7.5	5.3	219
35	20.2	7.4	5.3	218	20.0	7.4	4.2	219
40	19.8	7.3	3.7	218	19.7	7.3	3.3	218
42.5	19.4	7.2	3.0	219	--	--	--	--
45	18.8	7.0	1.6	220	19.1	7.1	1.8	218
47.5	18.1	6.9	0.6	221	18.1	7.0	0.3	221
50	17.8	6.9	0.2	222	17.8	7.0	0.1	222
52.5	17.2	6.9	0.0	223	--	--	--	--
55	16.8	6.9	0.0	225	16.9	6.9	0.0	224
60	15.5	6.9	0.0	228	16.0	6.9	0.0	226
65	15.1	6.9	0.0	229	15.4	7.0	0.0	228
70	15.0	6.9	0.0	229	14.4	7.0	0.0	235
72	--	--	--	--	14.4	7.0	0.0	236
75	14.7	7.0	0.0	231	--	--	--	--
80	14.1	7.0	0.0	238	--	--	--	--

Table 5.--*Profiles of onsite measurements in Standley Lake*--Continued

Depth (ft)	Site L1 (near dam) Temperature (°C)	pH (units)	Dissolved oxygen (mg/L)	Specific conductance (µS/cm)	Site L2 (near center) Temperature (°C)	pH (units)	Dissolved oxygen (mg/L)	Specific conductance (µS/cm)
				SEPTEMBER 14-15, 1989				
	(Light transparency, 68.5 inches)				(Light transparency, 77 inches)			
1	17.1	7.2	6.3	221	17.2	7.6	6.9	218
5	17.1	7.1	6.5	220	17.1	7.6	6.7	217
10	17.0	7.2	6.2	220	17.0	7.6	6.5	218
15	17.0	7.3	6.2	220	16.9	7.5	6.1	218
20	17.0	7.3	6.1	219	16.9	7.5	6.0	218
25	17.0	7.3	6.0	219	16.9	7.5	5.9	218
30	16.9	7.3	6.2	219	16.9	7.5	5.9	217
35	16.9	7.3	6.2	218	16.9	7.5	5.9	217
40	16.9	7.3	6.2	217	16.9	7.5	5.9	217
45	16.9	7.3	6.2	217	16.8	7.5	6.0	216
50	16.8	7.4	6.2	216	16.7	7.5	5.7	216
55	16.7	7.3	5.9	215	16.6	7.5	5.2	216
60	16.6	7.3	5.5	217	16.5	7.4	4.9	216
62.5	16.3	7.1	4.3	217	--	--	--	--
65	16.3	7.1	3.0	220	16.2	7.3	3.8	217
67.5	16.0	7.0	2.4	220	15.7	7.1	1.4	223
70	15.9	7.0	2.1	221	15.6	7.1	0.7	224
71	--	--	--	--	15.2	7.1	0.0	228
75	14.4	6.9	0.0	238	--	--	--	--
80	14.0	6.6	0.0	245	--	--	--	--
				SEPTEMBER 18, 1989				
1	--	--	--	--	18.9	8.4	9.0	221
5	--	--	--	--	18.5	8.4	8.6	221
10	--	--	--	--	17.8	8.3	8.4	221
15	--	--	--	--	17.5	8.2	8.0	221
20	--	--	--	--	17.3	7.9	6.7	221
25	--	--	--	--	17.1	7.6	5.8	220
30	--	--	--	--	17.0	7.5	5.6	220
35	--	--	--	--	16.9	7.5	6.0	220
40	--	--	--	--	16.9	7.4	5.4	219
45	--	--	--	--	16.8	7.4	5.3	219
50	--	--	--	--	16.8	7.4	5.0	219
55	--	--	--	--	16.7	7.3	4.7	218
60	--	--	--	--	16.5	7.3	3.8	220
65	--	--	--	--	16.2	7.2	2.3	222
69	--	--	--	--	15.9	7.1	1.1	225

Table 5.--*Profiles of onsite measurements in Standley Lake*--Continued

Depth (ft)	Site L1 (near dam) Temperature (°C)	pH (units)	Dissolved oxygen (mg/L)	Specific conductance (µS/cm)	Site L2 (near center) Temperature (°C)	pH (units)	Dissolved oxygen (mg/L)	Specific conductance (µS/cm)
				SEPTEMBER 21, 1989				
	(Light transparency, 98 inches)				(Light transparency, 89 inches)			
1	17.3	8.2	7.6	221	17.4	8.1	7.4	220
5	17.3	8.2	7.3	221	17.4	8.1	7.4	220
10	17.3	8.2	7.3	222	17.4	8.1	7.3	221
15	17.3	8.2	7.2	222	17.4	8.1	7.3	221
20	17.3	8.2	7.0	222	17.4	8.1	7.3	221
25	17.0	7.8	5.7	221	17.2	7.8	6.2	221
30	16.9	7.7	5.5	221	17.1	7.6	5.7	220
35	16.8	7.7	5.2	220	17.1	7.6	5.6	220
40	16.8	7.6	5.0	220	16.7	7.4	4.5	220
45	16.6	7.5	4.0	221	16.7	7.4	4.3	219
50	16.5	7.4	3.9	220	16.7	7.3	4.3	219
55	16.5	7.4	3.7	220	16.5	7.3	3.7	219
60	16.5	7.4	3.5	220	16.5	7.3	3.4	219
65	16.4	7.3	3.3	219	16.4	7.2	2.9	220
68	--	--	--	--	16.0	7.1	1.3	223
70	16.3	7.3	2.8	220	--	--	--	--
72.5	16.0	7.2	1.9	221	--	--	--	--
75	15.6	7.2	0.0	230	--	--	--	--
79.5	14.8	7.2	0.0	244	--	--	--	--
				SEPTEMBER 26, 1989				
1	17.7	8.1	8.4	222	--	--	--	--
5	17.5	8.2	8.2	222	--	--	--	--
10	17.4	8.2	8.1	222	--	--	--	--
15	17.2	8.2	8.1	222	--	--	--	--
20	17.0	8.2	7.9	221	--	--	--	--
25	16.8	8.0	7.4	221	--	--	--	--
30	16.7	7.8	6.5	221	--	--	--	--
35	16.7	7.7	6.5	220	--	--	--	--
40	16.7	7.5	4.4	220	--	--	--	--
45	16.6	7.3	4.2	219	--	--	--	--
50	16.6	7.2	4.1	219	--	--	--	--
55	16.6	7.2	4.0	218	--	--	--	--
60	16.3	7.1	1.7	219	--	--	--	--
65	16.2	7.0	0.8	220	--	--	--	--
70	16.1	6.9	0.4	221	--	--	--	--
75	16.0	6.9	0.0	222	--	--	--	--
79.5	15.0	7.0	0.0	245	--	--	--	--

Table 5.--*Profiles of onsite measurements in Standley Lake*--Continued

Depth (ft)	Site L1 (near dam) Temperature (°C)	pH (units)	Dissolved oxygen (mg/L)	Specific conductance (µS/cm)	Site L2 (near center) Temperature (°C)	pH (units)	Dissolved oxygen (mg/L)	Specific conductance (µS/cm)
				SEPTEMBER 28, 1989				
	(Light transparency, 146 inches)				(Light transparency, 157 inches)			
1	17.6	8.4	8.4	223	18.1	8.6	9.0	224
5	17.6	8.4	8.4	224	17.9	8.6	8.6	224
10	17.6	8.5	8.4	223	17.7	8.5	8.5	223
15	17.5	8.5	8.5	223	17.2	8.4	8.0	223
20	16.9	8.0	6.8	223	17.1	8.2	7.5	222
25	16.8	7.8	6.5	223	17.0	8.0	7.1	222
30	16.8	7.7	6.1	223	16.9	7.9	6.7	222
35	16.8	7.6	5.9	222	16.9	7.8	6.3	221
40	16.8	7.6	5.7	222	16.8	7.7	6.0	221
45	16.7	7.5	5.3	222	16.7	7.6	5.3	220
50	16.7	7.4	4.4	221	16.7	7.5	4.4	220
55	16.6	7.3	4.0	221	16.6	7.4	2.9	220
60	16.5	7.3	2.8	220	16.5	7.3	2.4	220
65	16.3	7.2	1.4	222	16.3	7.1	1.1	222
70	16.2	7.1	0.8	222	16.0	7.1	0.0	226
71	--	--	--	--	15.8	7.1	0.0	230
75	15.7	7.0	0.0	234	--	--	--	--
78.5	15.1	7.1	0.0	247	--	--	--	--
				OCTOBER 2-3, 1989				
1	16.6	8.3	7.1	223	17.0	8.2	7.3	223
5	16.6	8.3	7.1	223	17.0	8.2	7.1	223
10	16.6	8.2	7.0	223	17.0	8.2	7.0	223
15	16.6	8.2	7.0	222	17.0	8.2	7.0	222
20	16.6	8.2	7.0	222	17.0	8.2	6.9	222
25	16.6	8.2	7.0	222	17.0	8.2	7.0	222
30	16.6	8.2	7.0	221	17.0	8.2	7.0	221
35	16.6	8.2	7.0	221	17.0	8.2	7.0	221
40	16.6	8.2	7.0	220	16.9	8.0	6.1	221
45	16.6	8.2	7.0	220	16.9	7.8	5.3	221
50	16.6	8.2	7.0	220	16.8	7.7	4.9	220
55	16.5	8.1	6.7	219	16.7	7.5	3.7	220
60	16.5	8.1	6.6	219	16.6	7.4	2.6	221
65	16.4	7.9	5.6	219	16.4	7.3	1.8	221
70	16.4	7.7	3.9	220	--	--	--	--
75	16.4	7.6	4.0	219	--	--	--	--
78	16.2	7.4	2.3	221	--	--	--	--
				OCTOBER 5, 1989				
	(Light transparency, 65 inches)				(Light transparency, 74 inches)			
1	15.9	7.9	6.9	224	16.0	7.8	6.8	223
5	16.0	7.9	6.8	224	16.0	7.9	6.8	223
10	16.0	7.9	6.8	223	16.0	7.9	6.7	223
15	16.0	7.9	6.7	223	16.0	7.9	6.7	223
20	15.9	7.9	6.7	223	16.0	7.9	6.6	223
25	16.0	7.9	6.7	222	16.0	7.9	6.6	223
30	15.9	7.9	6.6	222	16.0	7.9	6.6	222
35	15.9	7.9	6.7	221	16.0	7.9	6.6	222
40	15.9	7.9	6.6	221	16.0	7.9	6.6	221
45	15.9	7.9	6.6	221	16.0	7.8	6.6	221
50	15.9	7.9	6.6	220	16.0	7.8	6.6	220
55	15.9	7.9	6.6	220	15.9	7.8	6.5	220
60	15.9	7.8	6.6	219	15.9	7.8	6.4	220
65	15.9	7.8	6.7	219	15.8	7.8	6.1	219
68	--	--	--	--	15.8	7.7	5.2	221
70	15.8	7.9	6.7	218	--	--	--	--
75	15.7	7.8	6.7	218	--	--	--	--
79.5	15.7	7.8	6.6	217	--	--	--	--

Table 5.--*Profiles of onsite measurements in Standley Lake*--Continued

Depth (ft)	Site L1 (near dam) Temperature (°C)	pH (units)	Dissolved oxygen (mg/L)	Specific conductance (µS/cm)	Site L2 (near center) Temperature (°C)	pH (units)	Dissolved oxygen (mg/L)	Specific conductance (µS/cm)
			OCTOBER 12, 1989					
	(Light transparency, 94 inches)				(Light transparency, 94 inches)			
1	15.6	7.9	8.1	222	15.6	8.0	7.8	222
5	15.5	8.2	7.7	222	15.5	7.9	7.4	222
10	15.5	8.1	7.5	222	15.4	7.9	7.1	222
15	15.4	8.1	7.4	222	15.4	7.8	7.0	222
20	15.5	8.1	7.4	222	15.4	7.8	7.0	222
25	15.4	8.1	7.4	222	15.4	7.8	6.9	222
30	15.4	8.1	7.4	222	15.4	7.8	6.8	221
35	15.4	8.0	7.3	222	15.4	7.8	6.8	221
40	15.4	7.9	7.0	222	15.3	7.8	6.7	221
45	15.3	7.9	7.0	221	15.3	7.7	6.6	221
50	15.3	7.9	6.9	221	15.3	7.7	6.5	221
55	15.3	7.8	6.8	221	15.2	7.7	6.3	220
60	15.3	7.9	7.0	221	15.2	7.7	6.3	220
65	15.3	8.0	7.1	220	15.2	7.6	6.0	219
68	--	--	--	--	15.2	7.8	6.5	219
70	15.3	7.7	5.6	220	--	--	--	--
75	15.3	7.6	5.4	220	--	--	--	--
			OCTOBER 19, 1989					
	(Light transparency, 41 inches)				(Light transparency, 41 inches)			
1	12.9	7.4	7.1	223	13.2	7.6	7.1	222
5	12.9	7.4	7.0	224	13.1	7.6	6.9	223
10	12.9	7.5	7.0	224	13.1	7.6	6.9	224
15	12.9	7.5	6.9	223	13.1	7.6	6.9	223
20	13.0	7.6	6.9	223	13.1	7.6	6.8	223
25	13.0	7.6	6.9	223	13.1	7.6	6.8	223
30	13.0	7.6	6.9	223	13.1	7.6	6.8	222
35	12.9	7.6	6.9	222	13.1	7.6	6.8	222
40	12.9	7.6	6.8	232	13.1	7.6	6.8	221
45	12.9	7.6	6.8	221	13.1	7.6	6.7	220
50	12.9	7.7	6.8	220	13.1	7.6	6.7	220
55	12.9	7.7	6.8	220	13.1	7.6	6.8	220
60	12.9	7.7	6.8	220	13.0	7.6	6.7	220
65	12.9	7.7	6.8	219	12.9	7.6	6.5	220
70	12.9	7.7	6.8	218	12.8	7.5	6.4	219
75	12.6	7.7	6.8	218	--	--	--	--
78	12.5	7.7	6.8	218	--	--	--	--
			OCTOBER 27, 1989					
	(Light transparency, 35 inches)				(Light transparency, 34 inches)			
1	12.1	8.0	7.9	225	12.0	7.6	8.6	225
5	12.1	8.0	7.8	224	12.0	7.7	8.2	226
10	12.0	8.0	7.7	225	12.0	7.7	8.0	225
15	12.0	8.0	7.6	225	12.0	7.8	7.9	225
20	12.1	8.0	7.6	225	12.0	7.9	7.7	225
25	12.1	8.0	7.5	224	12.0	7.9	7.7	225
30	12.1	8.0	7.5	223	12.0	7.9	7.7	224
35	12.0	8.0	7.5	223	12.0	7.9	7.6	224
40	12.0	8.0	7.5	223	12.0	7.9	7.6	223
45	12.0	8.0	7.6	222	12.0	8.0	7.6	223
50	12.1	8.0	7.6	221	12.0	8.0	7.6	222
55	12.1	8.0	7.6	221	12.0	8.0	7.6	222
60	12.1	8.0	7.5	220	11.9	8.0	7.6	222
65	12.0	8.0	7.5	220	11.9	8.0	7.6	221
67	--	--	--	--	11.9	8.0	7.5	221
70	12.0	8.0	7.5	220	--	--	--	--
75	11.8	8.0	7.5	220	--	--	--	--
77.5	11.6	8.0	7.5	220	--	--	--	--

Table 5.--*Profiles of onsite measurements in Standley Lake*--Continued

Depth (ft)	Site L1 (near dam) Temperature (°C)	pH (units)	Dissolved oxygen (mg/L)	Specific conductance (µS/cm)	Site L2 (near center) Temperature (°C)	pH (units)	Dissolved oxygen (mg/L)	Specific conductance (µS/cm)
				NOVEMBER 14, 1989				
	(Light transparency, 46 inches)				(Light transparency, 41 inches)			
1	8.0	8.4	9.8	229	7.9	8.0	10.3	229
5	8.0	8.4	9.7	229	7.9	8.1	9.9	229
10	8.0	8.4	9.6	228	7.9	8.2	9.6	228
15	7.9	8.4	9.5	228	7.9	8.3	9.5	228
20	7.9	8.4	9.4	227	7.9	8.3	9.5	227
25	7.9	8.4	9.4	227	7.9	8.3	9.4	227
30	7.9	8.4	9.4	226	7.9	8.4	9.4	226
35	7.9	8.4	9.4	226	7.9	8.4	9.4	226
40	7.9	8.4	9.4	226	7.9	8.4	9.4	225
45	7.9	8.4	9.3	225	7.9	8.4	9.4	225
50	7.9	8.4	9.2	224	7.9	8.4	9.3	224
55	7.9	8.4	9.2	224	7.9	8.4	9.3	224
60	7.9	8.4	9.1	223	7.9	8.4	9.3	223
65	7.9	8.4	9.1	222	7.9	8.4	9.2	223
67	--	--	--	--	7.9	8.4	9.0	222
70	7.9	8.3	9.0	222	--	--	--	--
75	7.9	8.3	8.9	221	--	--	--	--
77	7.9	8.3	8.9	222	--	--	--	--
				DECEMBER 8, 1989				
					(Light transparency, 63 inches)			
1	--	--	--	--	4.6	7.9	11.0	236
5	--	--	--	--	4.5	8.0	10.7	236
10	--	--	--	--	4.5	8.0	10.6	235
15	--	--	--	--	4.5	8.0	10.3	235
20	--	--	--	--	4.5	8.1	10.1	235
25	--	--	--	--	4.5	8.1	10.0	234
30	--	--	--	--	4.5	8.1	9.9	234
35	--	--	--	--	4.5	8.1	9.8	233
40	--	--	--	--	4.5	8.2	9.8	232
45	--	--	--	--	4.5	8.2	9.8	232
50	--	--	--	--	4.5	8.2	9.8	231
55	--	--	--	--	4.5	8.2	9.8	231
60	--	--	--	--	4.5	8.2	9.8	230
65	--	--	--	--	4.5	8.2	9.6	230
66	--	--	--	--	4.5	8.2	9.6	230
				MARCH 21, 1990				
	(Light transparency, 60 inches)				(Light transparency, 42 inches)			
1	7.1	7.3	11.3	268	7.0	8.8	10.8	263
5	6.4	7.6	10.9	266	5.5	8.7	10.8	261
10	6.2	7.6	10.7	265	4.8	8.7	10.6	260
15	5.6	7.7	10.7	261	4.6	8.7	10.6	260
20	5.2	7.8	10.6	259	4.6	8.7	10.5	260
25	5.0	7.9	10.5	260	4.5	8.7	10.3	259
30	4.8	7.9	10.5	260	4.5	8.6	10.3	258
35	4.8	8.0	10.4	260	4.5	8.6	10.4	258
40	4.7	8.0	10.4	259	4.3	8.5	10.2	258
45	4.7	8.0	10.4	258	4.3	8.6	10.1	257
50	4.7	8.0	10.3	258	4.3	8.6	10.1	256
55	4.6	8.1	10.3	257	4.3	8.6	10.1	256
60	4.5	8.1	10.3	256	4.3	8.5	10.1	255
65	4.5	8.1	10.3	255	4.2	8.5	10.1	254
68	--	--	--	--	4.2	8.4	9.8	254
70	4.3	8.1	10.2	254	--	--	--	--
75	4.3	8.1	10.1	253	--	--	--	--
78	4.3	8.1	9.9	253	--	--	--	--

Table 5.--*Profiles of onsite measurements in Standley Lake*--Continued

Depth (ft)	Site L1 (near dam) Temperature (°C)	pH (units)	Dissolved oxygen (mg/L)	Specific conductance (µS/cm)	Site L2 (near center) Temperature (°C)	pH (units)	Dissolved oxygen (mg/L)	Specific conductance (µS/cm)
			APRIL 20, 1990					
	(Light transparency, 32 inches)				(Light transparency, 46 inches)			
1	9.6	8.0	9.6	270	9.6	8.6	9.5	270
5	9.3	8.1	9.7	270	8.6	8.6	9.7	270
10	9.1	8.1	9.7	270	8.2	8.6	9.7	269
15	8.3	8.1	9.7	268	8.1	8.6	9.6	269
20	8.2	8.2	9.7	267	8.0	8.6	9.6	268
25	8.1	8.2	9.7	266	7.9	8.6	9.5	268
30	7.9	8.2	9.7	266	7.8	8.6	9.5	267
35	7.7	8.2	9.5	265	7.8	8.5	9.5	266
40	7.1	8.2	9.3	264	7.7	8.5	9.4	265
45	6.9	8.2	9.2	262	7.4	8.5	9.2	264
50	6.8	8.2	9.1	262	7.2	8.5	9.2	264
55	6.8	8.1	9.0	261	7.1	8.5	9.0	263
60	6.7	8.1	9.0	260	6.8	8.4	8.8	262
65	6.7	8.1	8.9	260	6.6	8.4	8.6	261
70	6.6	8.1	8.8	259	6.5	8.4	8.4	261
73	--	--	--	--	6.5	8.3	8.2	260
75	6.6	8.1	8.7	258	--	--	--	--
80	6.5	8.1	8.4	258	--	--	--	--
			MAY 17, 1990					
	(Light transparency, 33 inches)				(Light transparency, 29 inches)			
1	10.9	7.7	8.4	275	12.2	7.5	8.4	275
5	10.9	7.7	8.2	275	11.2	7.5	8.4	275
10	10.9	7.8	8.2	275	11.1	7.5	8.3	274
15	10.8	7.8	8.2	274	11.0	7.5	8.1	273
20	10.8	7.8	8.2	274	11.0	7.5	8.1	273
25	10.8	7.8	8.2	274	10.9	7.5	8.1	273
30	10.7	7.8	8.1	273	10.9	7.5	8.1	272
35	10.7	7.8	8.0	273	10.9	7.6	8.0	272
40	10.6	7.8	7.9	272	10.8	7.6	8.0	271
45	10.4	7.8	7.8	272	10.7	7.6	7.9	271
50	10.4	7.8	7.8	272	10.4	7.6	7.6	270
55	10.3	7.8	7.7	270	10.1	7.5	7.4	270
60	10.1	7.8	7.6	270	9.9	7.5	7.2	269
65	9.4	7.7	7.0	269	9.5	7.5	6.8	268
70	9.2	7.7	6.7	269	9.2	7.4	6.3	268
75	9.2	7.7	6.6	269	--	--	--	--
80	9.2	7.6	6.4	269	--	--	--	--
			JUNE 12, 1990					
	(Light transparency, 27 inches)				(Light transparency, 37 inches)			
1	18.0	7.7	8.1	227	18.0	7.8	7.8	234
5	18.0	7.7	7.7	227	17.9	7.9	7.5	234
10	18.0	7.7	7.6	227	17.9	7.9	7.4	234
15	18.0	7.7	7.5	226	17.8	7.9	7.2	234
20	16.3	7.7	7.3	--	17.5	7.9	7.1	227
25	14.7	7.6	6.6	243	14.5	7.8	6.6	250
30	14.0	7.5	6.3	259	14.0	7.6	6.5	265
35	13.7	7.4	6.0	264	13.5	7.6	6.1	266
40	13.0	7.4	5.9	266	13.3	7.5	6.0	269
45	12.8	7.4	5.6	267	13.0	7.5	5.9	268
50	12.6	7.4	5.4	267	12.7	7.5	5.5	268
55	12.5	7.4	5.2	267	12.6	7.5	5.3	268
60	12.4	7.3	5.0	267	12.6	7.4	5.3	268
65	12.4	7.3	4.9	266	12.5	7.4	5.2	267
70	12.3	7.3	4.7	266	12.4	7.4	4.8	268
75	12.3	7.3	4.6	265	--	--	--	--
80	12.2	7.3	4.5	265	--	--	--	--
85	12.2	7.3	4.5	265	--	--	--	--

Table 5.--*Profiles of onsite measurements in Standley Lake*--Continued

Depth (ft)	Site L1 (near dam) Temperature (°C)	pH (units)	Dissolved oxygen (mg/L)	Specific conductance (µS/cm)	Site L2 (near center) Temperature (°C)	pH (units)	Dissolved oxygen (mg/L)	Specific conductance (µS/cm)
			JULY 3, 1990					
	(Light transparency, 133 inches)				(Light transparency, 152 inches)			
1	23.2	7.9	7.8	216	23.8	8.0	7.7	217
5	23.1	7.9	7.8	216	23.6	8.1	7.7	217
10	22.8	8.0	7.9	216	23.3	8.1	7.8	216
12.5	22.5	8.0	7.9	214	21.4	8.1	8.0	211
15	20.6	7.9	7.6	210	20.9	8.1	8.2	204
17.5	18.2	7.6	6.1	189	19.8	8.0	7.6	193
20	17.6	7.4	5.3	201	18.6	7.7	6.6	193
22.5	17.0	7.3	4.9	213	17.4	7.5	5.5	203
25	16.2	7.3	4.5	219	16.6	7.5	4.8	214
27.5	15.6	7.2	4.4	227	16.1	7.3	4.5	218
30	15.2	7.2	4.2	231	15.3	7.3	4.2	228
35	14.8	7.2	4.1	237	14.9	7.3	4.3	234
40	14.5	7.2	3.9	240	14.5	7.3	4.4	241
45	14.1	7.2	4.1	248	14.2	7.3	4.4	246
50	13.8	7.2	3.9	251	13.9	7.3	4.3	251
55	13.5	7.2	3.8	256	13.6	7.2	4.0	254
60	13.2	7.2	3.4	259	13.4	7.2	3.8	255
65	13.1	7.2	3.2	260	13.3	7.2	3.7	255
70	13.0	7.2	3.2	259	13.3	7.2	3.5	255
75	12.9	7.2	2.5	260	13.0	7.2	2.4	258
76.5	--	--	--	--	13.0	7.2	2.0	259
80	12.9	7.2	2.3	260	--	--	--	--
84.5	12.7	7.2	1.3	262	--	--	--	--
			JULY 18, 1990					
	(Light transparency, 192 inches)				(Light transparency, 154 inches)			
1	21.2	7.6	7.4	206	22.1	7.8	7.3	205
5	21.0	7.6	7.4	206	21.4	7.8	7.3	204
10	20.9	7.6	7.3	207	21.2	7.8	7.3	204
15	20.8	7.6	7.2	206	20.8	7.8	7.0	204
20	20.7	7.6	7.2	205	20.5	7.7	6.8	204
22.5	20.3	7.6	6.8	205	20.2	7.7	6.3	204
25	18.1	7.2	4.1	212	18.5	7.5	4.1	209
27.5	16.5	7.1	2.4	221	17.6	7.3	3.2	213
30	16.1	7.1	2.1	224	16.9	7.2	2.6	215
32.5	--	--	--	--	16.3	7.1	2.2	220
35	15.6	7.1	1.9	225	15.5	7.1	2.1	227
40	15.2	7.1	2.0	229	15.0	7.1	2.1	230
45	14.8	7.1	2.1	234	14.5	7.1	2.3	237
50	14.1	7.1	2.2	244	14.3	7.1	2.4	240
55	13.5	7.1	2.3	251	14.0	7.1	2.5	244
60	13.4	7.1	2.0	253	13.7	7.1	2.3	247
65	13.2	7.1	1.2	255	13.6	7.1	2.1	248
70	13.2	7.1	1.1	255	13.5	7.1	1.9	249
75	13.1	7.1	0.9	255	13.3	7.1	1.2	252
80	13.1	7.1	0.4	256	--	--	--	--
85	13.0	7.1	0.2	256	--	--	--	--

Table 5.--*Profiles of onsite measurements in Standley Lake*--Continued

Depth (ft)	Site L1 (near dam) Temperature (°C)	pH (units)	Dissolved oxygen (mg/L)	Specific conductance (µS/cm)	Site L2 (near center) Temperature (°C)	pH (units)	Dissolved oxygen (mg/L)	Specific conductance (µS/cm)
			JULY 31, 1990					
	(Light transparency, 201 inches)				(Light transparency, 211 inches)			
1	20.5	7.9	6.9	208	21.1	8.1	6.8	208
5	20.5	8.0	6.9	208	20.8	8.1	6.9	207
10	20.5	8.0	6.9	208	20.6	8.1	6.9	207
15	20.4	8.0	6.8	208	20.5	8.1	6.8	207
20	20.2	7.9	6.4	207	20.3	8.1	6.8	207
22.5	19.9	7.8	5.8	209	20.0	8.1	6.4	208
25	19.5	7.7	5.2	210	19.7	8.0	5.6	208
27.5	19.0	7.6	4.3	211	19.1	7.8	4.4	210
30	18.7	7.5	3.6	213	18.7	7.6	3.5	212
32.5	17.9	7.4	2.1	217	18.2	7.5	2.6	214
35	17.0	7.3	0.9	222	17.4	7.4	1.3	218
37.5	16.1	7.3	0.6	227	16.4	7.3	0.7	224
40	15.7	7.3	0.6	229	15.8	7.3	0.5	227
45	14.9	7.2	0.7	235	15.0	7.2	0.8	233
50	14.7	7.2	0.8	238	14.4	7.2	1.0	240
55	14.3	7.2	0.7	242	14.2	7.2	0.9	242
60	13.9	7.2	0.9	246	13.8	7.2	0.7	246
65	13.5	7.2	0.7	250	13.6	7.2	0.8	249
70	13.3	7.2	0.2	254	13.4	7.2	0.5	250
75	13.2	7.1	0.0	255	13.3	7.2	0.2	251
77.5	--	--	--	--	13.3	7.1	0.1	252
79.5	--	--	--	--	13.1	7.1	0.0	255
80	13.1	7.1	0.0	255	--	--	--	--
85	13.1	7.1	0.0	255	--	--	--	--
86	13.1	7.1	0.0	256	--	--	--	--
			AUGUST 14, 1990					
	(Light transparency, 169 inches)				(Light transparency, 160 inches)			
1	20.7	7.8	7.9	212	20.9	8.1	7.3	212
5	20.6	7.9	7.8	212	20.8	8.0	7.2	211
10	20.6	7.9	7.6	212	20.6	8.1	7.2	211
15	20.6	7.9	7.5	212	20.5	8.0	7.1	210
20	20.5	7.9	7.4	211	20.5	8.0	7.0	210
25	20.2	7.9	6.5	210	20.0	7.9	5.8	211
27.5	19.5	7.7	4.3	213	19.6	7.7	4.4	212
30	19.0	7.6	3.1	214	19.2	7.6	3.4	213
32.5	18.4	7.4	1.8	218	18.7	7.5	2.2	215
35	18.1	7.4	1.2	218	18.2	7.4	1.2	217
37.5	17.9	7.2	0.8	219	17.6	7.3	0.4	221
40	17.4	7.2	0.3	222	17.1	7.2	0.1	222
42.5	16.6	7.2	0.0	225	16.6	7.2	0.0	228
45	15.7	7.2	0.0	232	15.5	7.2	0.0	233
50	14.8	7.1	0.0	238	14.9	7.1	0.0	237
55	14.4	7.1	0.0	242	14.7	7.1	0.0	238
60	14.3	7.1	0.0	242	14.4	7.1	0.0	240
65	14.0	7.1	0.0	245	14.1	7.1	0.0	244
70	13.8	7.1	0.0	248	13.9	7.1	0.0	247
75	13.6	7.1	0.0	249	13.7	7.0	0.0	250
80	13.6	7.0	0.0	250	--	--	--	--
84	13.5	7.0	0.0	252	--	--	--	--

Table 5.--*Profiles of onsite measurements in Standley Lake*--Continued

Depth (ft)	Site L1 (near dam) Temperature (°C)	pH (units)	Dissolved oxygen (mg/L)	Specific conductance (µS/cm)	Site L2 (near center) Temperature (°C)	pH (units)	Dissolved oxygen (mg/L)	Specific conductance (µS/cm)
			AUGUST 28, 1990					
	(Light transparency, 116 inches)				(Light transparency, 125 inches)			
1	20.9	7.9	7.3	215	21.3	8.2	7.2	215
5	20.9	7.9	7.3	215	21.1	8.1	7.2	215
10	20.8	8.0	7.3	214	21.1	8.2	7.2	215
15	20.6	8.0	7.1	214	20.6	8.1	7.0	214
20	20.1	7.9	6.3	214	20.1	8.0	6.3	214
25	19.7	7.7	5.0	214	19.9	7.9	5.7	214
30	19.6	7.6	4.5	214	19.6	7.8	4.6	213
35	19.1	7.5	3.4	214	19.0	7.6	2.7	216
37.5	18.2	7.3	1.0	219	18.6	7.5	1.9	218
40	17.4	7.2	0.2	222	18.1	7.4	0.9	219
42.5	16.7	7.1	0.0	226	17.4	7.3	0.1	223
45	16.7	7.1	0.0	226	17.2	7.2	0.0	224
50	16.3	7.0	0.0	228	16.3	7.2	0.0	229
55	15.6	7.0	0.0	232	15.6	7.2	0.0	235
60	14.9	7.0	0.0	238	15.0	7.1	0.0	239
65	14.5	7.1	0.0	241	14.6	7.1	0.0	240
70	14.2	7.0	0.0	243	14.6	7.1	0.0	240
73	--	--	--	--	14.4	7.1	0.0	243
75	14.1	7.0	0.0	244	--	--	--	--
80	14.0	7.0	0.0	245	--	--	--	--
82	14.0	7.0	0.0	245	--	--	--	--
			SEPTEMBER 4, 1990					
	(Light transparency, 108 inches)				(Light transparency, 121 inches)			
1	21.6	7.8	7.7	217	21.8	8.2	7.1	215
5	21.6	7.9	7.5	217	21.8	8.2	7.1	215
10	21.5	7.9	7.4	216	21.4	8.2	7.1	215
15	21.4	8.0	7.3	216	21.2	8.2	7.1	214
20	21.3	8.0	7.2	216	20.9	8.2	6.9	215
22.5	21.2	8.0	7.0	215	20.6	8.1	6.4	215
25	20.0	7.8	4.4	215	20.3	8.0	5.5	215
27.5	19.9	7.6	4.2	215	20.2	7.9	5.3	214
30	19.7	7.5	3.6	215	20.0	7.8	4.5	214
32.5	19.1	7.4	2.3	216	19.5	7.7	2.9	214
35	18.5	7.3	1.3	218	19.4	7.6	2.7	214
37.5	18.4	7.2	1.0	218	18.9	7.5	1.8	216
40	18.2	7.2	0.8	219	18.6	7.4	1.2	217
42.5	18.1	7.1	0.6	219	17.9	7.3	0.3	220
45	17.9	7.1	0.4	219	17.7	7.3	0.1	221
47.5	17.8	7.1	0.2	219	17.3	7.2	0.0	223
50	17.4	7.0	0.0	221	16.7	7.2	0.0	227
52.5	16.4	7.1	0.0	227	16.5	7.2	0.0	228
55	16.1	7.0	0.0	230	16.1	7.1	0.0	231
60	15.5	7.0	0.0	234	15.6	7.1	0.0	233
65	15.1	7.0	0.0	237	15.5	7.1	0.0	234
70	14.9	7.0	0.0	237	14.8	7.1	0.0	240
72.5	--	--	--	--	14.3	7.1	0.0	246
75	14.8	7.0	0.0	239	--	--	--	--
79	14.3	7.0	0.0	242	--	--	--	--

Table 5.--*Profiles of onsite measurements in Standley Lake*--Continued

Depth (ft)	Site L1 (near dam) Temperature (°C)	pH (units)	Dissolved oxygen (mg/L)	Specific conductance (µS/cm)	Site L2 (near center) Temperature (°C)	pH (units)	Dissolved oxygen (mg/L)	Specific conductance (µS/cm)
			SEPTEMBER 13, 1990					
	(Light transparency, 166 inches)				(Light transparency, 149 inches)			
1	21.3	7.9	7.2	221	21.5	8.0	7.8	219
5	21.2	8.0	7.2	220	21.1	8.0	7.6	219
10	21.0	8.0	7.2	220	21.0	8.0	7.5	219
15	21.0	8.0	7.3	220	20.9	8.1	7.4	218
20	20.8	8.0	6.8	219	20.9	8.1	7.3	218
25	20.4	7.9	6.2	219	20.8	8.0	6.9	218
30	20.2	7.6	4.5	219	20.5	7.9	6.0	218
32.5	--	--	--	--	20.1	7.6	3.4	218
35	19.8	7.5	2.5	219	19.8	7.5	2.5	219
37.5	19.5	7.3	1.7	219	19.5	7.3	1.5	219
40	18.8	7.3	0.8	220	19.0	7.3	0.8	219
42.5	18.5	7.2	0.1	221	18.7	7.2	0.3	220
45	18.3	7.1	0.0	222	18.4	7.1	0.0	221
50	17.7	7.0	0.0	224	17.8	7.1	0.0	225
55	17.0	7.0	0.0	228	17.0	7.1	0.0	229
60	16.2	7.0	0.0	233	16.3	7.0	0.0	232
65	15.5	7.0	0.0	237	16.0	7.0	0.0	234
69	--	--	--	--	15.7	7.0	0.0	236
70	15.2	7.0	0.0	240	--	--	--	--
75	15.0	7.0	0.0	242	--	--	--	--
80	14.5	7.0	0.0	252	--	--	--	--
			SEPTEMBER 18, 1990					
	(Light transparency, 107 inches)				(Light transparency, 133 inches)			
1	19.8	7.7	6.4	217	20.0	7.9	6.2	214
5	19.8	7.7	6.4	217	20.0	7.9	6.1	215
10	19.8	7.7	6.4	217	19.9	7.9	6.1	215
15	19.8	7.8	6.4	216	19.9	7.9	6.0	214
20	19.8	7.8	6.4	216	19.9	7.9	6.1	215
25	19.8	7.8	6.4	216	19.9	7.9	6.1	215
30	19.8	7.8	6.3	215	19.9	7.9	6.2	213
35	19.8	7.8	6.2	215	19.9	7.9	6.2	213
37.5	--	--	--	--	19.6	7.6	2.4	214
40	19.6	7.7	5.0	215	19.3	7.4	0.8	214
42.5	19.3	7.5	2.3	216	19.0	7.3	0.1	215
45	18.4	7.4	0.0	218	18.4	7.2	0.0	217
47.5	18.0	7.3	0.0	219	18.1	7.2	0.0	218
50	17.8	7.2	0.0	220	17.9	7.2	0.0	218
55	17.1	7.2	0.0	223	17.4	7.2	0.0	221
60	16.8	7.1	0.0	225	16.6	7.1	0.0	226
65	16.5	7.1	0.0	226	16.1	7.1	0.0	229
70	15.4	7.1	0.0	234	15.8	7.1	0.0	231
71	--	--	--	--	15.7	7.1	0.0	232
75	14.8	7.1	0.0	242	--	--	--	--
80	14.5	7.0	0.0	249	--	--	--	--

Table 5.--*Profiles of onsite measurements in Standley Lake*--Continued

Depth (ft)	Site L1 (near dam) Temperature (°C)	pH (units)	Dissolved oxygen (mg/L)	Specific conductance (µS/cm)	Site L2 (near center) Temperature (°C)	pH (units)	Dissolved oxygen (mg/L)	Specific conductance (µS/cm)
			SEPTEMBER 25, 1990					
	(Light transparency, 124 inches)				(Light transparency, 144 inches)			
1	19.1	7.8	7.4	215	19.5	8.0	7.0	216
5	19.1	7.8	7.2	215	19.4	8.0	7.0	215
10	19.1	7.8	7.0	215	19.3	7.9	6.9	215
15	19.1	7.8	6.6	215	19.2	8.0	6.9	214
20	18.9	7.7	6.4	214	19.0	7.9	6.3	214
25	18.9	7.7	6.2	214	18.9	7.8	6.1	213
30	18.9	7.6	6.1	214	18.9	7.8	6.1	213
35	18.8	7.6	5.5	213	18.8	7.8	6.0	213
40	18.7	7.5	4.8	213	18.8	7.7	5.8	213
45	18.6	7.4	4.3	213	18.7	7.7	4.8	212
47.5	--	--	--	--	18.6	7.6	4.1	213
50	18.3	7.3	2.3	214	18.1	7.5	1.3	216
52.5	17.7	7.2	0.0	219	17.8	7.4	0.0	219
55	17.3	7.1	0.0	221	17.5	7.3	0.0	221
60	17.1	7.1	0.0	222	17.1	7.3	0.0	223
65	16.9	7.1	0.0	223	16.7	7.2	0.0	224
67.5	15.7	7.0	0.0	232	--	--	--	--
70	15.0	7.0	0.0	240	16.2	7.2	0.0	228
71	--	--	--	--	15.8	7.1	0.0	232
75	14.8	7.0	0.0	242	--	--	--	--
79	14.7	7.0	0.0	244	--	--	--	--
			OCTOBER 2, 1990					
	(Light transparency, 111 inches)				(Light transparency, 120 inches)			
1	18.2	7.4	7.0	216	18.2	7.8	6.8	216
5	18.3	7.5	6.9	216	18.2	7.9	6.7	216
10	18.3	7.5	6.8	216	18.2	7.9	6.7	216
15	18.0	7.5	6.5	216	18.0	7.8	6.1	214
20	17.9	7.5	6.1	215	17.9	7.8	6.0	214
25	17.8	7.5	6.1	215	17.9	7.7	6.0	214
30	17.8	7.5	6.1	214	17.8	7.7	6.0	213
35	17.7	7.5	6.2	214	17.8	7.7	5.8	213
40	17.7	7.5	6.0	214	17.8	7.7	5.8	213
45	17.6	7.4	5.2	214	17.7	7.7	5.8	212
50	17.6	7.4	5.5	213	17.6	7.7	5.4	213
55	17.5	7.4	5.5	213	17.5	7.6	5.1	212
60	17.4	7.4	4.4	213	17.4	7.5	3.4	215
62.5	17.2	7.3	3.4	215	17.3	7.5	2.7	216
65	16.8	7.2	0.2	222	17.1	7.4	1.8	216
67.5	16.7	7.2	0.0	223	16.5	7.3	0.0	226
70	16.5	7.1	0.0	225	15.9	7.3	0.0	233
71	--	--	--	--	15.6	7.2	0.0	235
72.5	15.0	7.1	0.0	242	--	--	--	--
75	14.8	7.1	0.0	245	--	--	--	--
79.5	14.7	7.1	0.0	250	--	--	--	--

Table 5.--*Profiles of onsite measurements in Standley Lake*--Continued

Depth (ft)	Site L1 (near dam) Temperature (°C)	pH (units)	Dissolved oxygen (mg/L)	Specific conductance (µS/cm)	Site L2 (near center) Temperature (°C)	pH (units)	Dissolved oxygen (mg/L)	Specific conductance (µS/cm)
			OCTOBER 10, 1990					
	(Light transparency, 52 inches)				(Light transparency, 43 inches)			
1	15.0	7.8	7.0	217	14.8	7.5	7.3	216
5	15.0	7.8	6.9	216	14.8	7.5	7.1	216
10	14.9	7.8	6.9	216	14.8	7.5	7.1	216
15	14.9	7.8	6.8	216	14.8	7.6	7.0	215
20	14.8	7.8	6.8	215	14.8	7.6	7.0	215
25	14.8	7.8	6.8	215	14.8	7.6	7.0	215
30	14.8	7.8	6.8	215	14.7	7.6	6.9	215
35	14.8	7.8	6.9	214	14.7	7.7	6.9	214
40	14.8	7.8	6.9	214	14.7	7.7	6.9	214
45	14.8	7.8	6.9	214	14.7	7.7	6.9	213
50	14.6	7.8	6.7	213	14.7	7.7	6.8	213
55	14.5	7.8	6.7	213	14.6	7.7	6.8	213
60	14.5	7.8	6.6	212	14.7	7.7	6.8	213
65	14.5	7.8	6.6	211	14.6	7.7	6.8	212
68	--	--	--	--	14.6	7.7	6.0	213
70	14.4	7.7	6.6	211	--	--	--	--
75	14.3	7.7	6.5	211	--	--	--	--
80	14.1	7.7	6.2	211	--	--	--	--
			OCTOBER 16, 1990					
	(Light transparency, 52 inches)				(Light transparency, 56 inches)			
1	13.6	7.9	7.5	218	13.6	7.9	7.5	218
5	13.6	7.9	7.4	218	13.6	7.9	7.4	218
10	13.6	7.9	7.4	218	13.6	7.9	7.3	218
15	13.6	7.9	7.4	218	13.6	7.9	7.3	218
20	13.6	7.9	7.4	217	13.6	7.9	7.3	218
25	13.6	7.9	7.4	217	13.6	7.9	7.2	216
30	13.6	7.9	7.4	216	13.6	7.9	7.2	216
35	13.6	7.9	7.3	216	13.6	7.9	7.2	216
40	13.6	7.9	7.3	216	13.6	7.9	7.2	215
45	13.5	7.9	7.2	215	13.6	7.9	7.2	215
50	13.4	7.9	7.2	215	13.5	7.9	7.1	215
55	13.4	7.9	7.1	214	13.5	7.8	7.1	214
60	13.3	7.9	7.1	213	13.5	7.8	7.1	214
65	13.3	7.8	7.1	213	13.4	7.8	7.1	213
70	13.3	7.8	7.0	212	13.4	7.8	7.1	213
71	--	--	--	--	13.3	7.8	6.4	214
75	13.2	7.8	6.7	213	--	--	--	--
80	13.2	7.8	6.3	213	--	--	--	--

Table 5.--*Profiles of onsite measurements in Standley Lake*--Continued

Depth (ft)	Site L1 (near dam) Temperature (°C)	pH (units)	Dissolved oxygen (mg/L)	Specific conductance (µS/cm)	Site L2 (near center) Temperature (°C)	pH (units)	Dissolved oxygen (mg/L)	Specific conductance (µS/cm)
			OCTOBER 23, 1990					
	(Light transparency, 57 inches)				(Light transparency, 58 inches)			
1	11.9	8.2	8.2	215	11.8	8.1	8.4	215
5	11.9	8.2	8.3	215	11.8	8.1	8.4	215
10	11.9	8.2	8.2	215	11.8	8.1	8.2	214
15	11.7	8.2	8.1	215	11.8	8.1	8.1	214
20	11.7	8.2	7.9	215	11.7	8.0	8.0	214
25	11.7	8.2	7.8	214	11.7	8.0	7.9	214
30	11.6	8.2	7.8	214	11.7	8.0	7.8	213
35	11.6	8.2	7.8	213	11.7	8.0	7.8	213
40	11.6	8.2	7.8	213	11.6	8.0	7.8	212
45	11.6	8.1	7.8	212	11.6	8.0	7.8	212
50	11.6	8.1	7.8	212	11.6	8.0	7.7	212
55	11.6	8.1	7.8	212	11.6	8.0	7.7	211
60	11.6	8.1	7.8	211	11.5	8.0	7.6	211
65	11.6	8.1	7.8	211	11.4	8.0	7.7	210
68	--	--	--	--	11.4	8.0	7.5	211
70	11.6	8.1	7.8	209	--	--	--	--
75	11.5	8.1	7.8	209	--	--	--	--
80	11.4	8.1	7.8	209	--	--	--	--
			OCTOBER 30, 1990					
	(Light transparency, 72 inches)				(Light transparency, 72 inches)			
1	12.1	8.3	8.5	218	12.3	8.3	8.4	218
5	12.1	8.3	8.5	217	12.0	8.3	8.4	218
10	12.0	8.2	8.5	217	11.9	8.3	8.4	217
15	12.0	8.2	8.5	217	11.9	8.3	8.3	217
20	11.9	8.1	8.4	216	11.9	8.3	8.3	217
25	11.7	8.1	8.1	216	11.7	8.3	8.1	216
30	11.7	8.1	8.1	215	11.6	8.3	8.0	216
35	11.6	8.0	7.8	215	11.6	8.2	8.0	215
40	11.6	8.0	7.6	214	11.6	8.2	7.9	215
45	11.5	8.0	7.2	215	11.6	8.2	7.8	214
50	11.5	8.0	7.1	214	11.6	8.2	7.7	214
55	11.5	8.0	7.1	214	11.6	8.2	7.5	213
60	11.5	8.0	7.0	213	11.5	8.1	7.2	213
65	11.5	8.0	7.0	213	11.5	8.1	7.1	213
70	11.5	8.0	7.0	212	11.5	8.1	6.8	213
73	--	--	--	--	11.5	8.0	6.4	213
75	11.5	8.0	7.0	212	--	--	--	--
78	11.5	8.0	6.8	212	--	--	--	--

Table 6.--*Chemical data for water samples collected from Standley Lake*

[--, no data; <, less than]

Property or constituent	Units	Site L1 (near dam)			Site L2 (near center)	
		Surface (photic zone)	Middle	Bottom	Surface (photic zone)	Bottom
		JUNE 21, 1989				
Depth	ft	0 - 11	35	70	0 - 13	75
Suspended solids	mg/L	6	--	--	5	--
Alkalinity, lab	mg/L	50	52	62	--	61
Silica, dissolved	mg/L	--	2.3	2.4	0.9	2.5
Nitrite plus nitrate as nitrogen, dissolved	mg/L	<0.01	0.04	0.21	<0.01	0.18
Ammonia as nitrogen, dissolved	mg/L	<0.01	0.02	0.03	<0.01	0.05
Ammonia plus organic nitrogen as nitrogen, total	mg/L	--	<0.2	0.3	0.3	<0.2
Nitrogen, total	mg/L	0.2	0.2	0.3	0.2	0.4
Orthophosphate as phosphorus, dissolved	mg/L	<0.001	<0.001	0.005	<0.001	0.004
Phosphorus, total	mg/L	0.004	0.006	0.012	0.008	0.013
Iron, dissolved	µg/L	30	20	20	20	30
Iron, total recoverable	µg/L	160	460	760	220	920
Manganese, dissolved	µg/L	<10	<10	100	<10	110
Manganese, total recoverable	µg/L	20	30	170	10	220
Chlorophyll a	µg/L	0.8	--	--	0.9	--
		JULY 20, 1989				
Depth	ft	0 - 23	30	70	0 - 23	68
Suspended solids	mg/L	<1	<1	13	<1	42
Alkalinity, lab	mg/L	51	52	57	51	56
Silica, dissolved	mg/L	2.0	2.1	3.3	1.6	3.2
Nitrite plus nitrate as nitrogen, dissolved	mg/L	<0.01	<0.01	0.27	<0.01	0.15
Ammonia as nitrogen, dissolved	mg/L	0.04	0.03	0.04	0.04	0.07
Ammonia plus organic nitrogen as nitrogen, total	mg/L	<0.2	0.2	0.3	<0.2	<0.2
Nitrogen, total	mg/L	0.2	0.2	0.3	0.2	0.5
Orthophosphate as phosphorus, dissolved	mg/L	<0.001	<0.001	0.001	<0.001	0.003
Phosphorus, total	mg/L	<0.001	<0.001	0.005	<0.001	<0.001
Arsenic, total	µg/L	<1	<1	<1	<1	<1
Barium, total recoverable	µg/L	<100	<100	<100	<100	<100
Cadmium, total recoverable	µg/L	<1	<1	<1	<1	<1
Chromium, total recoverable	µg/L	<1	<1	<1	<1	<1
Copper, total recoverable	µg/L	5	5	7	6	10
Iron, dissolved	µg/L	20	20	10	10	50
Iron, total recoverable	µg/L	60	140	800	60	1,200
Lead, total recoverable	µg/L	1	1	6	1	6
Manganese, dissolved	µg/L	<10	<10	<10	<10	80
Manganese, total recoverable	µg/L	10	20	120	10	240
Mercury, total recoverable	µg/L	<0.1	<0.1	<0.1	<0.1	0.6
Selenium, total	µg/L	<1	<1	<1	<1	<1
Silver, total recoverable	µg/L	<1	<1	<1	<1	<1
Chlorophyll a	µg/L	0.7	--	--	0.7	--

Table 6.--*Chemical data for water samples collected from Standley Lake*--Continued

Property or constituent	Units	Site L1 (near dam)			Site L2 (near center)	
		Surface (photic zone)	Middle	Bottom	Surface (photic zone)	Bottom
		AUGUST 3, 1989				
Depth	ft	0 - 26	35	80	0 - 26	66
Suspended solids	mg/L	5	--	--	2	--
Alkalinity, lab	mg/L	51	53	59	51	56
Silica, dissolved	mg/L	2.0	3.0	4.0	2.0	4.0
Nitrite plus nitrate as nitrogen, dissolved	mg/L	0.01	0.01	0.17	<0.01	0.14
Ammonia as nitrogen, dissolved	mg/L	<0.01	0.02	0.16	<0.01	0.05
Ammonia plus organic nitrogen as nitrogen, total	mg/L	0.2	<0.2	0.3	0.2	0.2
Nitrogen, total	mg/L	0.1	0.1	0.3	0.1	0.2
Orthophosphate as phosphorus, dissolved	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Phosphorus, total	mg/L	0.002	0.003	0.011	0.002	0.010
Iron, dissolved	µg/L	10	--	20	30	20
Iron, total recoverable	µg/L	110	160	730	60	750
Manganese, dissolved	µg/L	<10	<10	1,100	<10	130
Manganese, total recoverable	µg/L	10	30	1,300	10	300
Chlorophyll a	µg/L	0.9	--	--	1.0	--
		AUGUST 18, 1989				
Depth	ft	0 - 11	32.5	72.5	0 - 17	68
Suspended solids	mg/L	8	--	--	11	--
Alkalinity, lab	mg/L	51	51	56	51	57
Silica, dissolved	mg/L	2.2	2.7	3.7	2.3	3.9
Nitrite plus nitrate as nitrogen, dissolved	mg/L	<0.01	0.06	0.08	0.01	0.07
Ammonia as nitrogen, dissolved	mg/L	<0.01	0.01	0.10	<0.01	0.15
Ammonia plus organic nitrogen as nitrogen, total	mg/L	--	--	--	--	--
Nitrogen, total	mg/L	0.2	0.2	0.3	0.1	0.3
Orthophosphate as phosphorus, dissolved	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Phosphorus, total	mg/L	0.006	0.008	0.012	0.007	0.021
Iron, dissolved	µg/L	9	14	12	10	10
Iron, total recoverable	µg/L	140	280	380	110	450
Manganese, dissolved	µg/L	<1	4	510	1	920
Manganese, total recoverable	µg/L	20	40	570	10	960
Chlorophyll a	µg/L	3.8	--	--	2.5	--

Table 6.--*Chemical data for water samples collected from Standley Lake*--Continued

Property or constituent	Units	Site L1 (near dam)			Site L2 (near center)	
		Surface (photic zone)	Middle	Bottom	Surface (photic zone)	Bottom
		AUGUST 21, 1989				
Depth	ft	0 - 17	37.5	77.5	0 - 17	675
Suspended solids	mg/L	4	--	--	5	--
Alkalinity, lab	mg/L	52	53	59	52	57
Silica, dissolved	mg/L	2.3	2.9	3.8	2.3	3.7
Nitrite plus nitrate as nitrogen, dissolved	mg/L	0.01	0.08	0.06	<0.01	0.06
Ammonia as nitrogen, dissolved	mg/L	<0.01	<0.01	0.15	<0.01	0.11
Ammonia plus organic nitrogen as nitrogen, total	mg/L	<0.2	<0.2	0.4	<0.2	0.2
Nitrogen, total	mg/L	0.1	0.2	0.3	0.1	0.3
Orthophosphate as phosphorus, dissolved	mg/L	<0.001	<0.001	<0.001	<0.001	0.001
Phosphorus, total	mg/L	0.004	0.003	0.009	0.003	0.010
Iron, dissolved	µg/L	<10	10	10	10	10
Iron, total recoverable	µg/L	130	270	430	110	520
Manganese, dissolved	µg/L	<10	10	1,000	<10	640
Manganese, total recoverable	µg/L	20	40	1,000	10	670
Chlorophyll a	µg/L	2.1	--	--	3.8	--
		SEPTEMBER 1, 1989				
Depth	ft	0 - 14	40	75	0 - 14	65
Suspended solids	mg/L	5	--	--	<1	--
Alkalinity, lab	mg/L	52	53	59	52	56
Silica, dissolved	mg/L	2.5	3.0	4.2	2.5	3.7
Nitrite plus nitrate as nitrogen, dissolved	mg/L	<0.01	0.05	0.01	0.01	0.04
Ammonia as nitrogen, dissolved	mg/L	0.01	0.04	0.25	0.01	0.12
Ammonia plus organic nitrogen as nitrogen, total	mg/L	0.2	<0.2	0.4	<0.2	0.3
Nitrogen, total	mg/L	<0.1	0.1	0.3	<0.1	0.2
Orthophosphate as phosphorus, dissolved	mg/L	<0.001	<0.001	0.021	<0.001	0.009
Phosphorus, total	mg/L	0.011	0.011	0.039	0.013	0.023
Iron, dissolved	µg/L	7	8	130	7	11
Iron, total recoverable	µg/L	130	260	550	100	230
Manganese, dissolved	µg/L	<1	4	1,300	2	700
Manganese, total recoverable	µg/L	30	50	1,400	30	700
Chlorophyll a	µg/L	1.1	--	--	0.9	--

Table 6.--*Chemical data for water samples collected from Standley Lake*--Continued

Property or constituent	Units	Site L1 (near dam)			Site L2 (near center)	
		Surface (photic zone)	Middle	Bottom	Surface (photic zone)	Bottom
		SEPTEMBER 5, 1989				
Depth	ft	0 - 17	40	75	0 - 17	70
Suspended solids	mg/L	2	--	--	3	--
Alkalinity, lab	mg/L	52	52	59	52	61
Silica, dissolved	mg/L	2.6	3.1	4.2	2.6	4.8
Nitrite plus nitrate as nitrogen, dissolved	mg/L	0.01	0.05	0.01	0.01	0.01
Ammonia as nitrogen, dissolved	mg/L	0.02	0.05	0.24	0.01	0.37
Ammonia plus organic nitrogen as nitrogen, total	mg/L	--	0.3	0.6	0.3	0.6
Nitrogen, total	mg/L	0.2	0.3	0.6	0.2	0.7
Orthophosphate as phosphorus, dissolved	mg/L	<0.001	0.001	0.022	0.001	0.054
Phosphorus, total	mg/L	0.010	0.016	0.038	0.011	0.057
Arsenic, total	µg/L	<1	<1	<1	<1	2
Barium, total recoverable	µg/L	<100	200	<100	<100	200
Cadmium, total recoverable	µg/L	<1	<1	<1	<1	<1
Chromium, total recoverable	µg/L	1	1	<1	<1	<1
Copper, total recoverable	µg/L	5	7	9	7	6
Iron, dissolved	µg/L	10	10	100	10	340
Iron, total recoverable	µg/L	70	620	540	90	1,400
Lead, total recoverable	µg/L	2	3	2	2	3
Manganese, dissolved	µg/L	<10	80	1,300	<10	1,800
Manganese, total recoverable	µg/L	<10	130	1,300	10	1,900
Mercury, total recoverable	µg/L	0.2	<0.1	<0.1	<0.1	<0.1
Selenium, total	µg/L	<1	<1	<1	<1	<1
Silver, total recoverable	µg/L	<1	<1	<1	<1	<1
Chlorophyll a	µg/L	1.5	--	--	1.5	--
		SEPTEMBER 14-15, 1989				
Depth	ft	0 - 11	60	70	0 - 14	68
Suspended solids	mg/L	5	--	--	<1	--
Alkalinity, lab	mg/L	52	53	56	52	54
Silica, dissolved	mg/L	3.0	3.5	4.4	2.8	3.8
Nitrite plus nitrate as nitrogen, dissolved	mg/L	0.03	0.04	0.01	0.03	0.03
Ammonia as nitrogen, dissolved	mg/L	0.03	0.06	0.24	0.02	0.13
Ammonia plus organic nitrogen as nitrogen, total	mg/L	0.3	0.3	0.4	0.3	0.4
Nitrogen, total	mg/L	0.1	0.2	0.2	<0.1	0.2
Orthophosphate as phosphorus, dissolved	mg/L	0.001	0.002	0.012	<0.001	0.003
Phosphorus, total	mg/L	0.007	0.021	0.021	0.008	0.014
Iron, dissolved	µg/L	<10	<10	10	5	16
Iron, total recoverable	µg/L	190	510	820	160	700
Manganese, dissolved	µg/L	10	220	1,300	3	800
Manganese, total recoverable	µg/L	40	240	1,400	20	780
Chlorophyll a	µg/L	1.0	--	--	1.7	--

Table 6.--*Chemical data for water samples collected from Standley Lake*--Continued

Property or constituent	Units	Site L1 (near dam)			Site L2 (near center)	
		Surface (photic zone)	Middle	Bottom	Surface (photic zone)	Bottom
		SEPTEMBER 21, 1989				
Depth	ft	0 - 17	50	77	0 - 14	65
Suspended solids	mg/L	1	--	--	<1	--
Alkalinity, lab	mg/L	53	53	53	53	56
Silica, dissolved	mg/L	2.7	3.0	3.6	2.7	5.0
Nitrite plus nitrate as nitrogen, dissolved	mg/L	<0.01	0.07	0.09	<0.01	0.03
Ammonia as nitrogen, dissolved	mg/L	0.01	0.02	0.04	0.01	0.21
Ammonia plus organic nitrogen as nitrogen, total	mg/L	0.2	0.2	0.4	0.3	0.6
Nitrogen, total	mg/L	0.1	0.1	0.1	0.1	0.3
Orthophosphate as phosphorus, dissolved	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Phosphorus, total	mg/L	0.007	0.015	0.014	0.005	0.023
Iron, dissolved	µg/L	10	20	16	20	20
Iron, total recoverable	µg/L	100	470	1,200	100	670
Manganese, dissolved	µg/L	<10	30	150	<10	1,300
Manganese, total recoverable	µg/L	20	90	260	20	1,600
Chlorophyll a	µg/L	2.5	--	--	2.6	--
		SEPTEMBER 28, 1989				
Depth	ft	0 - 23	50	75	0 - 26	70
Suspended solids	mg/L	1	--	--	6	--
Alkalinity, lab	mg/L	53	53	57	52	56
Silica, dissolved	mg/L	2.6	2.9	4.6	2.6	4.4
Nitrite plus nitrate as nitrogen, dissolved	mg/L	<0.01	0.01	0.06	<0.01	0.11
Ammonia as nitrogen, dissolved	mg/L	<0.01	<0.01	0.18	<0.01	0.09
Ammonia plus organic nitrogen as nitrogen, total	mg/L	0.3	0.3	0.6	0.3	0.3
Nitrogen, total	mg/L	<0.1	0.1	0.4	<0.1	0.3
Orthophosphate as phosphorus, dissolved	mg/L	<0.001	0.001	0.004	<0.001	0.001
Phosphorus, total	mg/L	<0.001	<0.001	0.012	0.005	0.006
Iron, dissolved	µg/L	<10	<10	10	<10	<10
Iron, total recoverable	µg/L	40	290	680	120	690
Manganese, dissolved	µg/L	<10	<10	1,400	<10	1,000
Manganese, total recoverable	µg/L	20	80	1,700	50	950
Chlorophyll a	µg/L	2.4	--	--	4.1	--

Table 6.--*Chemical data for water samples collected from Standley Lake*--Continued

Property or constituent	Units	Site L1 (near dam)			Site L2 (near center)	
		Surface (photic zone)	Middle	Bottom	Surface (photic zone)	Bottom
		OCTOBER 5, 1989				
Depth	ft	0 - 11	--	76	0 - 11	65
Suspended solids	mg/L	6	--	--	10	--
Alkalinity, lab	mg/L	54	--	54	54	54
Silica, dissolved	mg/L	3.0	--	3.0	3.0	3.0
Nitrite plus nitrate as nitrogen, dissolved	mg/L	<0.01	--	<0.01	<0.01	0.02
Ammonia as nitrogen, dissolved	mg/L	<0.01	--	0.02	0.01	0.04
Ammonia plus organic nitrogen as nitrogen, total	mg/L	0.3	--	0.2	0.2	0.4
Nitrogen, total	mg/L	0.1	--	0.1	0.1	0.1
Orthophosphate as phosphorus, dissolved	mg/L	0.002	--	0.001	0.002	0.003
Phosphorus, total	mg/L	0.008	--	0.008	0.008	0.012
Arsenic, total	µg/L	<1	--	<1	<1	<1
Barium, total recoverable	µg/L	<100	--	<100	<100	<100
Cadmium, total recoverable	µg/L	<1	--	<1	<1	<1
Chromium, total recoverable	µg/L	<1	--	<1	<1	<1
Copper, total recoverable	µg/L	4	--	6	4	5
Iron, dissolved	µg/L	<10	--	10	10	<10
Iron, total recoverable	µg/L	240	--	960	200	580
Lead, total recoverable	µg/L	1	--	5	2	4
Manganese, dissolved	µg/L	10	--	110	10	30
Manganese, total recoverable	µg/L	70	--	190	50	100
Mercury, total recoverable	µg/L	<0.1	--	<0.1	<0.1	<0.1
Selenium, total	µg/L	<1	--	<1	<1	<1
Silver, total recoverable	µg/L	<1	--	<1	<1	<1
Chlorophyll a	µg/L	2.3	--	--	2.4	--
		OCTOBER 12, 1989				
Depth	ft	0 - 8	--	65	0 - 8	55
Suspended solids	mg/L	<1	--	--	1	--
Alkalinity, lab	mg/L	55	--	55	54	55
Silica, dissolved	mg/L	2.2	--	2.6	2.3	2.6
Nitrite plus nitrate as nitrogen, dissolved	mg/L	0.01	--	0.02	0.01	0.02
Ammonia as nitrogen, dissolved	mg/L	0.02	--	0.02	0.01	0.04
Ammonia plus organic nitrogen as nitrogen, total	mg/L	0.3	--	0.3	0.3	0.4
Nitrogen, total	mg/L	0.1	--	0.2	0.1	0.1
Orthophosphate as phosphorus, dissolved	mg/L	<0.001	--	0.002	<0.001	0.002
Phosphorus, total	mg/L	0.004	--	0.014	0.008	0.014
Iron, dissolved	µg/L	10	--	20	30	10
Iron, total recoverable	µg/L	220	--	900	220	920
Manganese, dissolved	µg/L	<10	--	70	10	80
Manganese, total recoverable	µg/L	20	--	150	30	150
Chlorophyll a	µg/L	3.8	--	--	3.2	--

Table 6.--*Chemical data for water samples collected from Standley Lake*--Continued

Property or constituent	Units	Site L1 (near dam)			Site L2 (near center)	
		Surface (photic zone)	Middle	Bottom	Surface (photic zone)	Bottom
		OCTOBER 19, 1989				
Depth	ft	0 - 8	--	76	0 - 8	70
Suspended solids	mg/L	<1	--	--	<1	--
Alkalinity, lab	mg/L	55	--	54	54	54
Silica, dissolved	mg/L	2.2	--	2.3	2.1	2.2
Nitrite plus nitrate as nitrogen, dissolved	mg/L	0.01	--	0.01	0.01	0.01
Ammonia as nitrogen, dissolved	mg/L	0.03	--	0.03	0.03	0.03
Ammonia plus organic nitrogen as nitrogen, total	mg/L	0.3	--	0.3	0.3	0.2
Nitrogen, total	mg/L	0.2	--	0.1	0.1	0.1
Orthophosphate as phosphorus, dissolved	mg/L	0.001	--	0.001	0.001	0.001
Phosphorus, total	mg/L	0.013	--	0.012	0.014	0.008
Iron, dissolved	µg/L	10	--	10	10	10
Iron, total recoverable	µg/L	300	--	710	260	330
Manganese, dissolved	µg/L	<10	--	10	<10	<10
Manganese, recoverable	µg/L	30	--	80	30	50
Chlorophyll a	µg/L	1.7	--	--	1.7	--
		OCTOBER 27, 1989				
Depth	ft	0 - 5	--	75	0 - 5	65
Suspended solids	mg/L	4	--	--	4	--
Alkalinity, lab	mg/L	54	--	54	54	54
Silica, dissolved	mg/L	1.8	--	1.9	1.7	1.9
Nitrite plus nitrate as nitrogen, dissolved	mg/L	0.01	--	0.01	0.01	0.02
Ammonia as nitrogen, dissolved	mg/L	0.03	--	0.03	0.03	0.03
Ammonia plus organic nitrogen as nitrogen, total	mg/L	0.2	--	<0.2	0.3	<0.2
Nitrogen, total	mg/L	0.2	--	0.2	0.2	0.1
Orthophosphate as phosphorus, dissolved	mg/L	0.001	--	<0.001	0.001	0.001
Phosphorus, total	mg/L	0.014	--	0.019	0.017	0.013
Iron, dissolved	µg/L	20	--	10	20	10
Iron, total recoverable	µg/L	330	--	410	420	660
Manganese, dissolved	µg/L	<10	--	<10	<10	10
Manganese, total recoverable	µg/L	30	--	40	30	60
Chlorophyll a	µg/L	3.0	--	--	3.0	--

Table 6.--*Chemical data for water samples collected from Standley Lake*--Continued

Property or constituent	Units	Site L1 (near dam)			Site L2 (near center)	
		Surface (photic zone)	Middle	Bottom	Surface (photic zone)	Bottom
		NOVEMBER 14, 1989				
Depth	ft	0 - 8	--	75	0 - 8	65
Suspended solids	mg/L	1	--	--	1	--
Alkalinity, lab	mg/L	55	--	56	56	55
Silica, dissolved	mg/L	1.0	--	1.1	1.0	1.1
Nitrite plus nitrate as nitrogen, dissolved	mg/L	<0.01	--	<0.01	<0.01	<0.01
Ammonia as nitrogen, dissolved	mg/L	<0.01	--	<0.01	<0.01	<0.01
Ammonia plus organic nitrogen as nitrogen, total	mg/L	0.2	--	0.2	0.2	<0.2
Nitrogen, total	mg/L	<0.1	--	<0.1	0.2	0.1
Orthophosphate as phosphorus, dissolved	mg/L	<0.001	--	<0.001	<0.001	<0.001
Phosphorus, total	mg/L	0.014	--	0.012	0.014	0.013
Iron, dissolved	µg/L	10	--	10	10	10
Iron, total recoverable	µg/L	330	--	520	280	470
Manganese, dissolved	µg/L	<10	--	<10	<10	<10
Manganese, total recoverable	µg/L	20	--	30	20	40
Chlorophyll a	µg/L	6.1	--	--	6.0	--
		DECEMBER 8, 1989				
Depth	ft	--	--	--	0 - 10	63
Suspended solids	mg/L	--	--	--	5	--
Alkalinity, lab	mg/L	--	--	--	57	57
Silica, dissolved	mg/L	--	--	--	0.9	0.9
Nitrite plus nitrate as nitrogen, dissolved	mg/L	--	--	--	0.01	<0.01
Ammonia as nitrogen, dissolved	mg/L	--	--	--	0.01	0.01
Ammonia plus organic nitrogen as nitrogen, total	mg/L	--	--	--	0.3	0.5
Nitrogen, total	mg/L	--	--	--	0.1	0.1
Orthophosphate as phosphorus, dissolved	mg/L	--	--	--	<0.001	0.001
Phosphorus, total	mg/L	--	--	--	0.008	0.007
Iron, dissolved	µg/L	--	--	--	10	10
Iron, total recoverable	µg/L	--	--	--	200	250
Manganese, dissolved	µg/L	--	--	--	<10	10
Manganese, total recoverable	µg/L	--	--	--	30	50
Chlorophyll a	µg/L	--	--	--	2.0	--

Table 6.--*Chemical data for water samples collected from Standley Lake*--Continued

Property or constituent	Units	Site L1 (near dam)			Site L2 (near center)	
		Surface (photic zone)	Middle	Bottom	Surface (photic zone)	Bottom
		MARCH 21, 1990				
Depth	ft	0 - 11	--	78	0 - 8	68
Suspended solids	mg/L	<1	--	<1	--	--
Nitrite plus nitrate as nitrogen, dissolved	mg/L	0.06	--	0.05	--	--
Ammonia as nitrogen, dissolved	mg/L	0.03	--	0.03	--	--
Nitrogen, total	mg/L	0.3	--	0.3	<0.1	<0.1
Orthophosphate as phosphorus, dissolved	mg/L	<0.001	--	<0.001	--	--
Phosphorus, total	mg/L	0.004	--	0.003	<0.001	<0.001
Copper, dissolved	µg/L	7	--	3	--	--
Iron, dissolved	µg/L	<10	--	<10	--	--
Iron, total recoverable	µg/L	450	--	230	--	--
Manganese, dissolved	µg/L	30	--	50	--	--
Manganese, total recoverable	µg/L	80	--	50	--	--
Chlorophyll a	µg/L	1.3	--	--	1.5	--
		APRIL 20, 1990				
Depth	ft	0 - 5	--	78	0 - 8	70
Suspended solids	mg/L	<1	--	<1	--	--
Nitrite plus nitrate as nitrogen, dissolved	mg/L	0.02	--	0.03	--	--
Ammonia as nitrogen, dissolved	mg/L	0.01	--	0.03	--	--
Nitrogen, total	mg/L	0.1	--	0.2	0.2	0.2
Orthophosphate as phosphorus, dissolved	mg/L	<0.001	--	0.001	--	--
Phosphorus, total	mg/L	0.012	--	0.022	0.010	0.021
Copper, dissolved	µg/L	4	--	2	--	--
Iron, dissolved	µg/L	<10	--	<10	--	--
Iron, total recoverable	µg/L	350	--	760	--	--
Manganese, dissolved	µg/L	<10	--	60	--	--
Manganese, total recoverable	µg/L	30	--	140	--	--
Chlorophyll a	µg/L	2.2	--	--	3.3	--

Table 6.--*Chemical data for water samples collected from Standley Lake*--Continued

Property or constituent	Units	Site L1 (near dam)			Site L2 (near center)	
		Surface (photic zone)	Middle	Bottom	Surface (photic zone)	Bottom
		MAY 17, 1990				
Depth	ft	0 - 7	--	75	0 - 7	65
Suspended solids	mg/L	1	--	3	--	--
Nitrite plus nitrate as nitrogen, dissolved	mg/L	0.01	--	0.02	--	--
Ammonia as nitrogen, dissolved	mg/L	0.01	--	0.07	--	--
Nitrogen, total	mg/L	<0.1	--	0.2	<0.1	0.1
Orthophosphate as phosphorus, dissolved	mg/L	<0.001	--	0.001	--	--
Phosphorus, total	mg/L	0.004	--	0.009	0.016	0.009
Arsenic, total	µg/L	<1	--	<1	--	--
Barium, total recoverable	µg/L	<100	--	200	--	--
Cadmium, total recoverable	µg/L	<1	--	<1	--	--
Chromium, total recoverable	µg/L	<1	--	<1	--	--
Copper, total recoverable	µg/L	5	--	5	--	--
Iron, dissolved	µg/L	<10	--	10	--	--
Iron, total recoverable	µg/L	250	--	550	--	--
Lead, total recoverable	µg/L	2	--	3	--	--
Manganese, dissolved	µg/L	<10	--	50	--	--
Manganese, total recoverable	µg/L	30	--	120	--	--
Mercury, total recoverable	µg/L	<0.1	--	<0.1	--	--
Selenium, total	µg/L	<1	--	<1	--	--
Silver, total recoverable	µg/L	<1	--	<1	--	--
Chlorophyll a	µg/L	2.0	--	--	1.9	--
		JUNE 12, 1990				
Depth	ft	0 - 5	--	80	0 - 8	70
Suspended solids	mg/L	9	--	14	--	--
Nitrite plus nitrate as nitrogen, dissolved	mg/L	0.02	--	0.05	--	--
Ammonia as nitrogen, dissolved	mg/L	<0.01	--	0.09	--	--
Nitrogen, total	mg/L	0.3	--	0.3	0.1	0.2
Orthophosphate as phosphorus, dissolved	mg/L	0.006	--	0.004	--	--
Phosphorus, total	mg/L	0.010	--	0.007	0.012	0.012
Copper, dissolved	µg/L	<1	--	2	--	--
Iron, dissolved	µg/L	<10	--	20	--	--
Iron, total recoverable	µg/L	<10	--	620	--	--
Manganese, dissolved	µg/L	<10	--	10	--	--
Manganese, total recoverable	µg/L	<10	--	80	--	--
Chlorophyll a	µg/L	0.9	--	--	0.9	--

Table 6.--*Chemical data for water samples collected from Standley Lake*--Continued

Property or constituent	Units	Site L1 (near dam)			Site L2 (near center)	
		Surface (photic zone)	Middle	Bottom	Surface (photic zone)	Bottom
		JULY 3, 1990				
Depth	ft	0 - 14	20	80	0 - 14	73
Suspended solids	mg/L	<1	3	25	--	--
Nitrite plus nitrate as nitrogen, dissolved	mg/L	0.01	0.04	0.22	--	--
Ammonia as nitrogen, dissolved	mg/L	<0.01	<0.01	0.03	--	--
Nitrogen, total	mg/L	0.2	0.4	0.4	0.2	0.3
Orthophosphate as phosphorus, dissolved	mg/L	<0.001	0.002	0.004	--	--
Phosphorus, total	mg/L	0.006	0.010	0.019	0.006	0.023
Arsenic, total	µg/L	1	<1	<1	--	--
Barium, total recoverable	µg/L	<100	<100	<100	--	--
Cadmium, total recoverable	µg/L	<1	<1	<1	--	--
Chromium, total recoverable	µg/L	<1	<1	2	--	--
Copper, total recoverable	µg/L	4	5	9	--	--
Iron, dissolved	µg/L	50	80	20	--	--
Iron, total recoverable	µg/L	100	300	1,400	--	--
Lead, total recoverable	µg/L	<1	3	11	--	--
Manganese, dissolved	µg/L	10	10	480	--	--
Manganese, total recoverable	µg/L	10	40	610	--	--
Mercury, total recoverable	µg/L	<0.1	<0.1	<0.1	--	--
Selenium, total	µg/L	<1	<1	<1	--	--
Silver, total recoverable	µg/L	<1	<1	<1	--	--
Chlorophyll a	µg/L	3.3	--	--	2.6	--
		JULY 18, 1990				
Depth	ft	0 - 20	30	83	0 - 23	73
Suspended solids	mg/L	4	<1	11	--	--
Nitrite plus nitrate as nitrogen, dissolved	mg/L	0.01	0.06	0.20	--	--
Ammonia as nitrogen, dissolved	mg/L	0.02	0.03	0.03	--	--
Nitrogen, total	mg/L	0.1	0.1	0.2	0.2	0.2
Orthophosphate as phosphorus, dissolved	mg/L	0.002	0.001	0.002	--	--
Phosphorus, total	mg/L	0.005	0.010	0.016	0.007	0.016
Copper, dissolved	µg/L	3	2	2	--	--
Iron, dissolved	µg/L	20	20	20	--	--
Iron, total recoverable	µg/L	80	170	630	--	--
Manganese, dissolved	µg/L	<10	<10	320	--	--
Manganese, total recoverable	µg/L	<10	20	470	--	--
Chlorophyll a	µg/L	0.5	--	--	0.6	--

Table 6.--*Chemical data for water samples collected from Standley Lake*--Continued

Property or constituent	Units	Site L1 (near dam)			Site L2 (near center)	
		Surface (photic zone)	Middle	Bottom	Surface (photic zone)	Bottom
		JULY 31, 1990				
Depth	ft	0 - 23	30	83	0 - 23	76
Suspended solids	mg/L	<1	4	11	--	--
Nitrite plus nitrate as nitrogen, dissolved	mg/L	<0.01	0.03	0.18	--	--
Ammonia as nitrogen, dissolved	mg/L	0.03	0.01	0.02	--	--
Nitrogen, total	mg/L	0.1	0.1	0.2	0.1	0.3
Orthophosphate as phosphorus, dissolved	mg/L	0.003	0.003	0.002	--	--
Phosphorus, total	mg/L	0.006	0.008	0.009	0.004	0.008
Copper, dissolved	µg/L	2	2	1	--	--
Iron, dissolved	µg/L	<10	<10	10	--	--
Iron, total recoverable	µg/L	70	140	360	--	--
Manganese, dissolved	µg/L	<10	<10	70	--	--
Manganese, total recoverable	µg/L	<10	20	330	--	--
Chlorophyll a	µg/L	2.0	--	--	0.6	--
		AUGUST 14, 1990				
Depth	ft	0 - 28	40	80	0 - 26	74
Suspended solids	mg/L	<1	3	12	--	--
Nitrite plus nitrate as nitrogen, dissolved	mg/L	0.01	0.06	0.14	--	--
Ammonia as nitrogen, dissolved	mg/L	0.02	0.03	0.12	--	--
Nitrogen, total	mg/L	0.1	0.1	0.3	0.2	0.3
Orthophosphate as phosphorus, dissolved	mg/L	0.003	0.005	0.003	--	--
Phosphorus, total	mg/L	0.014	0.003	0.008	0.004	0.017
Copper, dissolved	µg/L	2	2	1	--	--
Iron, dissolved	µg/L	20	50	20	--	--
Iron, total recoverable	µg/L	60	140	500	--	--
Manganese, dissolved	µg/L	<10	<10	900	--	--
Manganese, total recoverable	µg/L	10	40	910	--	--
Chlorophyll a	µg/L	1.3	--	--	1.7	--
		AUGUST 28, 1990				
Depth	ft	0 - 20	40	80	0 - 20	70
Suspended solids	mg/L	2	9	12	--	--
Nitrite plus nitrate as nitrogen, dissolved	mg/L	<0.01	0.07	0.08	--	--
Ammonia as nitrogen, dissolved	mg/L	0.02	0.01	0.13	--	--
Nitrogen, total	mg/L	<0.1	0.1	0.2	<0.1	0.1
Orthophosphate as phosphorus, dissolved	mg/L	0.002	0.002	0.009	--	--
Phosphorus, total	mg/L	0.006	0.021	0.006	0.006	0.016
Copper, dissolved	µg/L	3	2	1	--	--
Iron, dissolved	µg/L	10	10	120	--	--
Iron, total recoverable	µg/L	100	320	700	--	--
Manganese, dissolved	µg/L	<10	20	1,000	--	--
Manganese, total recoverable	µg/L	<10	80	1,000	--	--
Chlorophyll a	µg/L	1.1	--	--	1.2	--

Table 6.--*Chemical data for water samples collected from Standley Lake*--Continued

Property or constituent	Units	Site L1 (near dam)			Site L2 (near center)	
		Surface (photic zone)	Middle	Bottom	Surface (photic zone)	Bottom
		SEPTEMBER 4, 1990				
Depth	ft	0 - 17	30	75	0 - 20	70
Suspended solids	mg/L	<1	1	15	--	--
Nitrite plus nitrate as nitrogen, dissolved	mg/L	0.07	<0.01	0.05	--	--
Ammonia as nitrogen, dissolved	mg/L	0.02	0.01	0.13	--	--
Nitrogen, total	mg/L	<0.1	<0.1	0.2	<0.1	0.2
Orthophosphate as phosphorus, dissolved	mg/L	0.002	0.001	0.009	--	--
Phosphorus, total	mg/L	0.005	0.004	0.040	0.005	0.033
Arsenic, total	µg/L	<1	<1	<1	--	--
Barium, total recoverable	µg/L	<100	<100	<100	--	--
Cadmium, total recoverable	µg/L	<1	<1	<1	--	--
Chromium, total recoverable	µg/L	<1	<1	<1	--	--
Copper, dissolved	µg/L	3	2	1	--	--
Copper, total recoverable	µg/L	3	3	4	--	--
Iron, dissolved	µg/L	<10	10	60	--	--
Iron, total recoverable	µg/L	60	100	590	--	--
Lead, total recoverable	µg/L	<1	1	2	--	--
Manganese, dissolved	µg/L	<10	<10	920	--	--
Manganese, total recoverable	µg/L	<10	10	920	--	--
Mercury, total recoverable	µg/L	0.1	<0.1	<0.1	--	--
Selenium, total	µg/L	<1	<1	<1	--	--
Silver, total recoverable	µg/L	<1	<1	<1	--	--
Chlorophyll a	µg/L	0.8	--	--	1.3	--
		SEPTEMBER 13, 1990				
Depth	ft	0 - 29	40	75	0 - 26	65
Suspended solids	mg/L	<1	3	18	--	--
Nitrite plus nitrate as nitrogen, dissolved	mg/L	<0.01	0.01	<0.01	--	--
Ammonia as nitrogen, dissolved	mg/L	0.02	<0.01	0.19	--	--
Nitrogen, total	mg/L	<0.1	0.1	0.3	0.1	0.2
Orthophosphate as phosphorus, dissolved	mg/L	0.001	<0.001	0.012	--	--
Phosphorus, total	mg/L	0.006	0.004	0.018	<0.001	0.015
Copper, dissolved	µg/L	5	2	1	--	--
Iron, dissolved	µg/L	10	10	160	--	--
Iron, total recoverable	µg/L	80	270	1,200	--	--
Manganese, dissolved	µg/L	<10	<10	1,300	--	--
Manganese, total recoverable	µg/L	<10	40	1,300	--	--
Chlorophyll a	µg/L	1.1	--	--	1.0	--

Table 6.--*Chemical data for water samples collected from Standley Lake*--Continued

Property or constituent	Units	Site L1 (near dam)			Site L2 (near center)	
		Surface (photic zone)	Middle	Bottom	Surface (photic zone)	Bottom
		SEPTEMBER 18, 1990				
Depth	ft	0 - 20	42.5	75	0 - 20	65
Suspended solids	mg/L	1	9	16	--	--
Nitrite plus nitrate as nitrogen, dissolved	mg/L	<0.01	0.01	<0.01	--	--
Ammonia as nitrogen, dissolved	mg/L	0.01	0.02	0.27	--	--
Nitrogen, total	mg/L	0.1	0.1	0.4	0.1	0.2
Orthophosphate as phosphorus, dissolved	mg/L	0.001	<0.001	0.047	--	--
Phosphorus, total	mg/L	0.004	0.005	0.051	0.005	0.014
Copper, dissolved	µg/L	2	2	1	--	--
Iron, dissolved	µg/L	<10	<10	540	--	--
Iron, total recoverable	µg/L	90	370	1,100	--	--
Manganese, dissolved	µg/L	<10	40	1,500	--	--
Manganese, total recoverable	µg/L	30	100	1,400	--	--
Chlorophyll a	µg/L	0.8	--	--	0.9	--
		SEPTEMBER 25, 1990				
Depth	ft	0 - 20	50	70	0 - 23	65
Suspended solids	mg/L	<1	12	13	--	--
Nitrite plus nitrate as nitrogen, dissolved	mg/L	<0.01	0.01	<0.01	--	--
Ammonia as nitrogen, dissolved	mg/L	0.03	0.04	0.25	--	--
Nitrogen, total	mg/L	<0.1	<0.1	0.2	<0.1	0.2
Orthophosphate as phosphorus, dissolved	mg/L	0.001	<0.001	0.025	--	--
Phosphorus, total	mg/L	0.006	0.008	0.036	0.009	0.014
Copper, dissolved	µg/L	2	1	<1	--	--
Iron, dissolved	µg/L	10	20	190	--	--
Iron, total recoverable	µg/L	130	550	670	--	--
Manganese, dissolved	µg/L	<10	20	1,500	--	--
Manganese, total recoverable	µg/L	10	150	1,400	--	--
Chlorophyll a	µg/L	1.4	--	--	1.9	--

Table 6.--*Chemical data for water samples collected from Standley Lake*--Continued

Property or constituent	Units	Site L1 (near dam)			Site L2 (near center)	
		Surface (photic zone)	Middle	Bottom	Surface (photic zone)	Bottom
		OCTOBER 2, 1990				
Depth	ft	0 - 17	65	75	0 - 20	67.5
Suspended solids	mg/L	5	18	25	--	--
Nitrite plus nitrate as nitrogen, dissolved	mg/L	<0.01	0.01	<0.01	--	--
Ammonia as nitrogen, dissolved	mg/L	<0.01	0.06	0.45	--	--
Nitrogen, total	mg/L	<0.1	0.1	0.5	0.1	0.3
Orthophosphate as phosphorus, dissolved	mg/L	<0.001	0.002	0.021	--	--
Phosphorus, total	mg/L	0.010	0.008	0.029	0.004	0.017
Arsenic, total	µg/L	<1	<1	2	--	--
Barium, total recoverable	µg/L	<100	<100	<100	--	--
Cadmium, total recoverable	µg/L	<1	<1	<1	--	--
Chromium, total recoverable	µg/L	<1	<1	<1	--	--
Copper, dissolved	µg/L	2	2	<1	--	--
Copper, total recoverable	µg/L	3	4	4	--	--
Iron, dissolved	µg/L	20	30	200	--	--
Iron, total recoverable	µg/L	30	380	560	--	--
Lead, total recoverable	µg/L	1	3	3	--	--
Manganese, dissolved	µg/L	<10	350	2,300	--	--
Manganese, total recoverable	µg/L	<10	420	2,400	--	--
Mercury, total recoverable	µg/L	<0.1	<0.1	<0.1	--	--
Selenium, total	µg/L	<1	<1	<1	--	--
Silver, total recoverable	µg/L	<1	<1	<1	--	--
Chlorophyll a	µg/L	2.0	--	--	1.5	--
		OCTOBER 10, 1990				
Depth	ft	0 - 8	--	75	0 - 8	65
Suspended solids	mg/L	<1	--	2	--	--
Nitrite plus nitrate as nitrogen, dissolved	mg/L	0.02	--	0.02	--	--
Ammonia as nitrogen, dissolved	mg/L	0.02	--	0.03	--	--
Nitrogen, total	mg/L	<0.1	--	0.1	<0.1	0.1
Orthophosphate as phosphorus, dissolved	mg/L	0.009	--	0.010	--	--
Phosphorus, total	mg/L	0.012	--	0.019	0.011	0.014
Copper, dissolved	µg/L	1	--	1	--	--
Iron, dissolved	µg/L	10	--	20	--	--
Iron, total recoverable	µg/L	220	--	800	--	--
Manganese, dissolved	µg/L	<10	--	50	--	--
Manganese, total recoverable	µg/L	40	--	130	--	--
Chlorophyll a	µg/L	1.5	--	--	1.4	--

Table 6.--*Chemical data for water samples collected from Standley Lake*--Continued

Property or constituent	Units	Site L1 (near dam)			Site L2 (near center)	
		Surface (photic zone)	Middle	Bottom	Surface (photic zone)	Bottom
		OCTOBER 16, 1990				
Depth	ft	0 - 8	--	75	0 - 8	65
Suspended solids	mg/L	21	--	18	--	--
Nitrite plus nitrate as nitrogen, dissolved	mg/L	0.02	--	0.02	--	--
Ammonia as nitrogen, dissolved	mg/L	<0.01	--	0.03	--	--
Nitrogen, total	mg/L	<0.1	--	<0.1	0.1	0.2
Orthophosphate as phosphorus, dissolved	mg/L	0.001	--	<0.001	--	--
Phosphorus, total	mg/L	0.003	--	0.012	0.007	0.008
Copper, dissolved	µg/L	2	--	1	--	--
Iron, dissolved	µg/L	20	--	30	--	--
Iron, total recoverable	µg/L	220	--	690	--	--
Manganese, dissolved	µg/L	<10	--	90	--	--
Manganese, total recoverable	µg/L	30	--	150	--	--
Chlorophyll **a**	µg/L	2.9	--	--	2.2	--
		OCTOBER 23, 1990				
Depth	ft	0 - 11	--	75	0 - 11	65
Suspended solids	mg/L	9	--	6	--	--
Nitrite plus nitrate as nitrogen, dissolved	mg/L	0.01	--	<0.01	--	--
Ammonia as nitrogen, dissolved	mg/L	<0.01	--	<0.01	--	--
Nitrogen, total	mg/L	<0.1	--	<0.1	<0.1	<0.1
Orthophosphate as phosphorus, dissolved	mg/L	0.002	--	<0.001	--	--
Phosphorus, total	mg/L	0.011	--	0.012	0.011	0.007
Copper, dissolved	µg/L	2	--	2	--	--
Iron, dissolved	µg/L	10	--	20	--	--
Iron, total recoverable	µg/L	180	--	240	--	--
Manganese, dissolved	µg/L	20	--	20	--	--
Manganese, total recoverable	µg/L	10	--	10	--	--
Chlorophyll **a**	µg/L	2.5	--	--	3.4	--
		OCTOBER 30, 1990				
Depth	ft	0 - 11	--	75	0 - 11	70
Suspended solids	mg/L	13	--	15	--	--
Nitrite plus nitrate as nitrogen, dissolved	mg/L	<0.01	--	<0.01	--	--
Ammonia as nitrogen, dissolved	mg/L	0.01	--	<0.01	--	--
Nitrogen, total	mg/L	<0.1	--	<0.1	<0.1	<0.1
Orthophosphate as phosphorus, dissolved	mg/L	0.003	--	0.002	--	--
Phosphorus, total	mg/L	0.001	--	0.010	0.003	0.005
Copper, dissolved	µg/L	2	--	2	--	--
Iron, dissolved	µg/L	20	--	20	--	--
Iron, total recoverable	µg/L	200	--	310	--	--
Manganese, dissolved	µg/L	<10	--	<10	--	--
Manganese, total recoverable	µg/L	20	--	30	--	--
Chlorophyll **a**	µg/L	1.7	--	--	1.7	--

Table 7.--*Phytoplankton densities and biovolumes in Standley Lake*

[--, species not identified in sample; <, less than]

PHYLUM CLASS Order *Genus species*	Site L1 (near dam) Density (cells/mL)	 Biovolume (μm^3/mL)	Site L2 (near center) Density (cells/mL)	 Biovolume (μm^3/mL)
	JUNE 21, 1989			
CHLOROPHYTA				
CHLOROPHYCEAE (Green algae)				
Ankistrodesmus convolutus	--	--	3.1	30
Chlamydomonas sp.	--	--	<1	21
Oocystis sp.	3.8	1,600	24	10,000
Sphaerocystis sp.	--	--	25	2,400
Staurastrum c.f. quadricuspidatum	<1	650	<1	590
Staurastrum chaetoceros	<1	1,300	--	--
CHRYSOPHYTA				
BACILLARIOPHYCEAE (Diatoms)				
Centrales				
Melosira sp.	10	4,900	7.9	5,000
unidentified centric diatoms	--	--	<1	690
Pennales				
Asterionella formosa	15	630,000	1.7	74,000
Fragilaria crotonensis	84	56,000	1.6	1,100
unidentified pennate diatoms	<1	910	1.2	4,500
CYANOPHYTA				
CYANOPHYCEAE (Blue-green algae)				
Chroococcus sp.	1.9	740	--	--
Merismopedia tenuissima	6.1	36	--	--
PYRROPHYTA				
DINOPHYCEAE (Dinoflagellates)				
Ceratium hirundinella	1.8	1,800	3.0	3,000
	JULY 20, 1989			
CHLOROPHYTA				
CHLOROPHYCEAE (Green algae)				
Ankistrodesmus convolutus	<1	25	--	--
Chlamydomonas sp.	--	--	<1	20
Elakothrix sp.	1.0	1,600	--	--
Oocystis sp.	4.0	1,700	--	--
Sphaerocystis sp.	33	3,200	76	7,400
Staurastrum c.f. quadricuspidatum	--	--	<1	120
CHRYSOPHYTA				
BACILLARIOPHYCEAE (Diatoms)				
Centrales				
Melosira sp.	2.1	980	<1	340
unidentified centric diatoms	<1	270	<1	540
Pennales				
Asterionella formosa	<1	740	<1	12,000
Cymbella sp.	<1	500	--	--
Fragilaria crotonensis	<1	22	--	--
unidentified pennate diatoms	1.7	4,500	3.0	7,700
CYANOPHYTA				
CYANOPHYCEAE (Blue-green algae)				
Anacystis marina	--	--	25	66
Merismopedia tenuissima	66	400	120	710
PYRROPHYTA				
DINOPHYCEAE (Dinoflagellates)				
Ceratium hirundinella	5.6	5,600	4.4	4,300

Table 7.--*Phytoplankton densities and biovolumes in Standley Lake*--Continued

PHYLUM CLASS Order *Genus species*	Site L1 (near dam) Density (cells/mL)	 Biovolume (μm^3/mL)	Site L2 (near center) Density (cells/mL)	 Biovolume (μm^3/mL)
	AUGUST 3, 1989			
CHLOROPHYTA				
CHLOROPHYCEAE (Green algae)				
Ankistrodesmus convolutus	--	--	1.1	81
Oocystis sp.	1.5	660	1.6	690
Scenedesmus/Crucigenia sp.	3.1	910	--	--
Staurastrum c.f. quadricuspidatum	<1	59	--	--
CHRYSOPHYTA				
BACILLARIOPHYCEAE (Diatoms)				
Centrales				
Melosira sp.	1.1	510	<1	160
unidentified centric diatoms	<1	1,100	<1	810
Pennales				
Fragilaria crotonensis	<1	67	<1	56
unidentified pennate diatoms	1.6	3,300	1.6	5,100
CRYPTOPHYTA				
CRYPTOPHYCEAE (Cryptomonads)				
unidentified cryptophytes	4.6	230	--	--
CYANOPHYTA				
CYANOPHYCEAE (Blue-green algae)				
Anacystis marina	--	--	8.6	23
Merismopedia tenuissima	310	1,800	120	700
PYRROPHYTA				
DINOPHYCEAE (Dinoflagellates)				
Ceratium hirundinella	3.4	3,300	2.6	2,600
	AUGUST 18, 1989			
CHLOROPHYTA				
CHLOROPHYCEAE (Green algae)				
Ankistrodesmus convolutus	7.7	580	--	--
Sphaerocystis sp.	--	--	310	30,000
Staurastrum sp.	<1	140	--	--
CHRYSOPHYTA				
BACILLARIOPHYCEAE (Diatoms)				
Centrales				
unidentified centric diatoms	<1	150	--	--
CHRYSOPHYCEAE (Golden-brown algae)				
Peroniella sp.	--	--	15	140
CYANOPHYTA				
CYANOPHYCEAE (Blue-green algae)				
Chroococcus sp.	--	--	<1	40
Merismopedia tenuissima	3,900	23,000	2,400	14,000
PYRROPHYTA				
DINOPHYCEAE (Dinoflagellates)				
Ceratium hirundinella	1.6	1,600	2.2	2,200

Table 7.--*Phytoplankton densities and biovolumes in Standley Lake*--Continued

PHYLUM CLASS Order *Genus species*	Site L1 (near dam) Density (cells/mL)	 Biovolume (μm^3/mL)	Site L2 (near center) Density (cells/mL)	 Biovolume (μm^3/mL)
	AUGUST 21, 1989			
CHLOROPHYTA				
CHLOROPHYCEAE (Green algae)				
Coelastrum sp.	1.1	1,100	--	--
Staurastrum c.f. quadricuspidatum	<1	350	<1	120
Staurastrum sp.	<1	41	--	--
unidentified green algae	1.0	810	--	--
CHRYSOPHYTA				
BACILLARIOPHYCEAE (Diatoms)				
Centrales				
Melosira sp.	1.3	610	<1	450
unidentified centric diatoms	<1	3,500	--	--
Pennales				
Mastogloia smithii	<1	3,800	--	--
unidentified pennate diatoms	<1	410	--	--
CRYPTOPHYTA				
CRYPTOPHYCEAE (Cryptomonads)				
unidentified cryptophytes	51	2,500	--	--
CYANOPHYTA				
CYANOPHYCEAE (Blue-green algae)				
Aphanizomenon sp.	1.0	640	--	--
Merismopedia tenuissima	1,300	7,800	3,800	22,000
Oscillatoria sp.	4.1	1,100	--	--
PYRROPHYTA				
DINOPHYCEAE (Dinoflagellates)				
Ceratium hirundinella	1.7	1,600	1.8	1,700
	SEPTEMBER 1, 1989			
CHLOROPHYTA				
CHLOROPHYCEAE (Green algae)				
Chlamydomonas sp.	--	--	1.4	740
Oocystis sp.	--	--	2.7	1,200
Scenedesmus bijuga	150	17,000	2.7	310
Scenedesmus quadricauda	--	--	2.7	1,700
Staurastrum c.f. quadricuspidatum	<1	1,200	--	--
Staurastrum sp.	--	--	<1	180
Tetraedon minimum	--	--	1.4	12
Tetraedron trigonum	--	--	1.4	28
CHRYSOPHYTA				
BACILLARIOPHYCEAE (Diatoms)				
Centrales				
Melosira sp.	1.90	880	--	--
unidentified centric diatoms	<1	6,400	4.1	8,100
Pennales				
Mastogloia smithii	--	--	<1	210
Navicula sp.	--	--	2.7	8,100
unidentified pennate diatoms	--	--	42	99,000
CRYPTOPHYTA				
CRYPTOPHYCEAE (Cryptomonads)				
unidentified cryptophytes	4,200	200,000	1.4	66

Table 7.--*Phytoplankton densities and biovolumes in Standley Lake*--Continued

PHYLUM CLASS Order *Genus species*	Site L1 (near dam) Density (cells/mL)	 Biovolume (μm^3/mL)	Site L2 (near center) Density (cells/mL)	 Biovolume (μm^3/mL)
	SEPTEMBER 1, 1989--Continued			
CYANOPHYTA				
CYANOPHYCEAE (Blue-green algae)				
Anabaenopsis raciborski	--	--	2.7	850
Anacystis marina	--	--	32	86
Lyngbya contorta	--	--	1.4	120
Lyngbya limnetica	--	--	30	1,800
Merismopedia sp.	3,700	140,000	--	--
Merismopedia tenuissima	--	--	2,000	12,000
Nostoc commune	310	6,000	--	--
Oscillatoria sp.	--	--	11	3,000
Raphidiopsis sp.	--	--	6.8	120
unidentified blue-green algae	3,800	82,000	--	--
PYRROPHYTA				
DINOPHYCEAE (Dinoflagellates)				
Ceratium hirundinella	<1	500	0.22	220
	SEPTEMBER 5, 1989			
CHLOROPHYTA				
CHLOROPHYCEAE (Green algae)				
Chlamydomonas sp.	--	--	6.8	3,700
Kirchneriella contorta	2.0	12	--	--
Mougeotia sp.	--	--	2.3	190,000
Scenedesmus bijuga	--	--	4.5	510
Scenedesmus quadricauda	--	--	9.1	5,800
Selenastrum sp.	--	--	2.3	280
Staurastrum sp.	<1	1,200	<1	240
Tetraedon minimum	--	--	2.3	21
unidentified green algae	--	--	6.8	16,000
CHRYSOPHYTA				
BACILLARIOPHYCEAE (Diatoms)				
Centrales				
unidentified centric diatoms	--	--	23	46,000
Pennales				
Mastogloia smithii	--	--	<1	210
Navicula sp.	--	--	2.3	6,800
unidentified pennate diatoms	--	--	77	160,000
CRYPTOPHYTA				
CRYPTOPHYCEAE (Cryptomonads)				
unidentified cryptophytes	3,300	160,000	20	1,000
CYANOPHYTA				
CYANOPHYCEAE (Blue-green algae)				
Anabaenopsis raciborski	--	--	2.3	710
Anacystis marina	--	--	510	1,400
Lyngbya contorta	--	--	14	1,200
Lyngbya limnetica	--	--	230	14,000
Merismopedia sp.	1,800	71,000	--	--
Merismopedia tenuissima	--	--	2,400	14,000
Oscillatoria sp.	--	--	11	3,100
Raphidiopsis sp.	--	--	11	200
unidentified blue-green algae	5,900	130,000	--	--
PYRROPHYTA				
DINOPHYCEAE (Dinoflagellates)				
Ceratium hirundinella	<1	500	<1	34

Table 7.--*Phytoplankton densities and biovolumes in Standley Lake*--Continued

PHYLUM CLASS Order *Genus species*	Site L1 (near dam) Density (cells/mL)	 Biovolume (μm^3/mL)	Site L2 (near center) Density (cells/mL)	 Biovolume (μm^3/mL)
	SEPTEMBER 14-15, 1989			
CHLOROPHYTA				
CHLOROPHYCEAE (Green algae)				
Eudorina sp.	--	--	2.0	3,600
Kirchneriella obesa	<1	130	--	--
Oocystis sp.	--	--	1.0	440
Staurastrum sp.	<1	1,900	<1	2,000
CHRYSOPHYTA				
BACILLARIOPHYCEAE (Diatoms)				
Centrales				
Melosira distans	<1	5,600	--	--
Melosira sp.	3.9	1,800	5.0	2,400
unidentified centric diatoms	62	14,000	--	--
Pennales				
Asterionella formosa	--	--	<1	12,000
Asterionella sp.	<1	35,000	--	--
Fragilaria crotonensis	1.2	760	2.4	1,600
unidentified pennate diatoms	--	--	<1	640
CRYPTOPHYTA				
CRYPTOPHYCEAE (Cryptomonads)				
unidentified cryptophytes	3,000	150,000	46	2,200
CYANOPHYTA				
CYANOPHYCEAE (Blue-green algae)				
Anabaena circinalis	<1	210	--	--
Merismopedia tenuissima	--	--	41	240
unidentified blue-green algae	2,800	60,000	--	--
PYRROPHYTA				
DINOPHYCEAE (Dinoflagellates)				
Ceratium hirundinella	<1	400	<1	320
	SEPTEMBER 21, 1989			
CHLOROPHYTA				
CHLOROPHYCEAE (Green algae)				
Chlamydomonas sp.	--	--	9.0	5,000
Coelastrum sp.	<1	710	--	--
Oocystis sp.	--	--	9.0	3,900
Pyramimonas sp.	26	1,700	--	--
Scenedesmus quadricauda	--	--	3.3	2,100
Staurastrum c.f. quadricuspidatum	<1	2,400	--	--
Staurastrum sp.	1.4	4,700	1.3	4,600
CHRYSOPHYTA				
BACILLARIOPHYCEAE (Diatoms)				
Centrales				
Melosira distans	--	--	22	150,000
Melosira sp.	16	7,500	--	--
unidentified centric diatoms	--	--	1.6	42,000
Pennales				
Asterionella sp.	<1	11,000	--	--
Fragilaria crotonensis	2.9	1,900	--	--
Surirella sp.	--	--	<1	42
CRYPTOPHYTA				
CRYPTOPHYCEAE (Cryptomonads)				
unidentified cryptophytes	2,400	120,000	--	--
CYANOPHYTA				
CYANOPHYCEAE (Blue-green algae)				
Anacystis marina	--	--	46	120
Lyngbya limnetica	--	--	1.6	97
Merismopedia tenuissima	--	--	1,400	8,200
unidentified blue-green algae	360	7,600	--	--
PYRROPHYTA				
DINOPHYCEAE (Dinoflagellates)				
Ceratium hirundinella	<1	250	<1	120

Table 7.--*Phytoplankton densities and biovolumes in Standley Lake*--Continued

PHYLUM CLASS Order *Genus species*	Site L1 (near dam) Density (cells/mL)	 Biovolume (μm^3/mL)	Site L2 (near center) Density (cells/mL)	 Biovolume (μm^3/mL)
	SEPTEMBER 28, 1989			
CHLOROPHYTA				
CHLOROPHYCEAE (Green algae)				
Chlamydomonas sp.	15	14,000	9.6	5,300
Scenedesmus bijuga	--	--	<1	1,100
Staurastrum c.f. quadricuspidatum	--	--	5.5	19,000
Staurastrum sp.	4.4	3,700	--	--
CHRYSOPHYTA				
BACILLARIOPHYCEAE (Diatoms)				
Centrales				
Melosira sp.	--	--	120	59,000
Pennales				
Fragilaria crotonensis	--	--	<1	110
CRYPTOPHYTA				
CRYPTOPHYCEAE (Cryptomonads)				
unidentified cryptophytes	3,200	160,000	770	38,000
CYANOPHYTA				
CYANOPHYCEAE (Blue-green algae)				
unidentified blue-green algae	46	3,000	160	3,500
PYRROPHYTA				
DINOPHYCEAE (Dinoflagellates)				
Ceratium hirundinella	<1	12,000	<1	170
	OCTOBER 5, 1989			
CHLOROPHYTA				
CHLOROPHYCEAE (Green algae)				
Ankistrodesmus convolutus	--	--	<1	58
Ankistrodesmus nannosolene	--	--	<1	<10
Oocystis sp.	--	--	<1	220
Staurastrum sp.	12	42,000	7.0	24,000
CHRYSOPHYTA				
BACILLARIOPHYCEAE (Diatoms)				
Centrales				
Melosira sp.	47	22,000	67	32,000
Stephanodiscus nigreae	<1	6,400	--	--
unidentified centric diatoms	38	12,000	<1	4,100
Pennales				
Fragilaria crotonensis	--	--	1.0	680
unidentified pennate diatoms	310	550,000	--	--
CRYPTOPHYTA				
CRYPTOPHYCEAE (Cryptomonads)				
unidentified cryptophytes	5,400	260,000	31	1,600
EUGLENOPHYTA (Euglenoids)				
Euglena sp.	38	45,000	--	--
PYRROPHYTA				
DINOPHYCEAE (Dinoflagellates)				
Ceratium hirundinella	<1	760	<1	420

Table 7.--*Phytoplankton densities and biovolumes in Standley Lake*--Continued

PHYLUM CLASS Order *Genus species*	Site L1 (near dam) Density (cells/mL)	 Biovolume (μm^3/mL)	Site L2 (near center) Density (cells/mL)	 Biovolume (μm^3/mL)
	OCTOBER 12, 1989			
CHLOROPHYTA				
CHLOROPHYCEAE (Green algae)				
Coelastrum sphaericum	--	--	2.1	2,900
Pediastrum duplex	2.7	520	--	--
Pediastrum simplex	2.7	480	--	--
Sphaerocystis sp.	--	--	2.0	200
Staurastrum sp.	9.8	34,000	5.4	18,000
CHRYSOPHYTA				
BACILLARIOPHYCEAE (Diatoms)				
Centrales				
Melosira sp.	230	110,000	500	240,000
Pennales				
Fragilaria crotonensis	1.8	1,200	<1	620
unidentified pennate diatoms	38	200,000	--	--
CRYPTOPHYTA				
CRYPTOPHYCEAE (Cryptomonads)				
unidentified cryptophytes	4,700	230,000	4,200	200,000
CYANOPHYTA				
CYANOPHYCEAE (Blue-green algae)				
Anabaena spiroides	13	4,400	--	--
Anabaena sp.	1,700	140,000	--	--
Aphanizomenon sp.	77	48,000	38	24,000
Lyngbya contorta	3.1	270	--	--
Lyngbya limnetica	1,700	98,000	--	--
Merismopedia punctata	8.2	74	--	--
Oscillatoria sp.	<1	70	--	--
unidentified blue-green algae	7,800	170,000	1,000	21,000
PYRROPHYTA				
DINOPHYCEAE (Dinoflagellates)				
Ceratium hirundinella	<1	840	1.5	1,500
	OCTOBER 19, 1989			
CHLOROPHYTA				
CHLOROPHYCEAE (Green algae)				
Pediastrum simplex	<1	96	--	--
Staurastrum sp.	<1	290	<1	880
CHRYSOPHYTA				
BACILLARIOPHYCEAE (Diatoms)				
Centrales				
Melosira sp.	3,200	1,500,000	660	310,000
unidentified centric diatoms	--	--	<1	4,100
Pennales				
Fragilaria crotonensis	--	--	1.4	900
unidentified pennate diatoms	--	--	39	25,000
CRYPTOPHYTA				
CRYPTOPHYCEAE (Cryptomonads)				
unidentified cryptophytes	3,800	190,000	11,000	540,000
CYANOPHYTA				
CYANOPHYCEAE (Blue-green algae)				
Dactylococcopsis sp.	--	--	77	6,000
unidentified blue-green algae	92	6,000	15,000	320,000
PYRROPHYTA				
DINOPHYCEAE (Dinoflagellates)				
Ceratium hirundinella	<1	21,000	--	--

Table 7.--*Phytoplankton densities and biovolumes in Standley Lake*--Continued

PHYLUM CLASS Order *Genus species*	Site L1 (near dam) Density (cells/mL)	 Biovolume (μm^3/mL)	Site L2 (near center) Density (cells/mL)	 Biovolume (μm^3/mL)
	OCTOBER 27, 1989			
CHLOROPHYTA				
CHLOROPHYCEAE (Green algae)				
Staurastrum sp.	<1	1,200	<1	880
CHRYSOPHYTA				
BACILLARIOPHYCEAE (Diatoms)				
Centrales				
Melosira sp.	380	180,000	690	330,000
unidentified centric diatoms	310	180,000	1.6	36,000
Pennales				
Achnanthes minutissima	77	29,000	--	--
Fragilaria construens	--	--	<1	510
Fragilaria crotonensis	<1	620	38	25,000
unidentified pennate diatoms	77	49,000	--	--
CRYPTOPHYTA				
CRYPTOPHYCEAE (Cryptomonads)				
unidentified cryptophytes	18,000	890,000	100,000	5,100,000
CYANOPHYTA				
CYANOPHYCEAE (Blue-green algae)				
Dactylococcopsis sp.	--	--	38	3,000
unidentified blue-green algae	5,100	390	1,700	37,000
PYRROPHYTA				
DINOPHYCEAE (Dinoflagellates)				
Ceratium hirundinella	<1	920	<1	420
	NOVEMBER 14, 1989			
CHLOROPHYTA				
CHLOROPHYCEAE (Green algae)				
Chlamydomonas sp.	120	3,900	<1	32
Oocystis sp.	310	130,000	--	--
Pediastrum duplex	5.4	1,000	--	--
Staurastrum sp.	<1	880	<1	200
Tetraedron muticum	--	--	<1	<10
CHRYSOPHYTA				
BACILLARIOPHYCEAE (Diatoms)				
Centrales				
Melosira islandica	--	--	1,400	9,200,000
Melosira sp.	1,400	650,000	--	--
Stephanodiscus nigreae	--	--	<1	430
unidentified centric diatoms	43	92,000	--	--
Pennales				
Fragilaria crotonensis	2.1	1,400	--	--
unidentified pennate diatoms	160	280,000	--	--
CRYPTOPHYTA				
CRYPTOPHYCEAE (Cryptomonads)				
unidentified cryptophytes	6,100	300,000	1,700	85,000
CYANOPHYTA				
CYANOPHYCEAE (Blue-green algae)				
unidentified blue-green algae	350	7,400	1,200	76,000
PYRROPHYTA				
DINOPHYCEAE (Dinoflagellates)				
Ceratium hirundinella	--	--	<1	12,000

Table 7.--*Phytoplankton densities and biovolumes in Standley Lake*--Continued

PHYLUM CLASS Order *Genus species*	Site L1 (near dam) Density (cells/mL)	 Biovolume (μm^3/mL)	Site L2 (near center) Density (cells/mL)	 Biovolume (μm^3/mL)
	DECEMBER 8, 1989			
CHLOROPHYTA				
CHLOROPHYCEAE (Green algae)				
Chlorella sp.	--	--	15	6,200
Staurastrum sp.	--	--	<1	700
CHRYSOPHYTA				
BACILLARIOPHYCEAE (Diatoms)				
Centrales				
Melosira sp.	--	--	150	73,000
unidentified centric diatoms	--	--	16	9,000
Pennales				
Asterionella sp.	--	--	1.0	44,000
Cymbella sp.	--	--	<1	51
Fragilaria crotonensis	--	--	15	10,000
Nitzschia sp.	--	--	<1	27
unidentified pennate diatoms	--	--	46	83,000
CRYPTOPHYTA				
CRYPTOPHYCEAE (Cryptomonads)				
unidentified cryptophytes	--	--	3,000	150,000
CYANOPHYTA				
CYANOPHYCEAE (Blue-green algae)				
Anacystis marina	--	--	2,800	7,500
Aphanizomenon sp.	--	--	<1	300
	MARCH 21, 1990			
CHLOROPHYTA				
CHLOROPHYCEAE (Green algae)				
Scenedesmus dimorphus	<1	22	--	--
CHRYSOPHYTA				
BACILLARIOPHYCEAE (Diatoms)				
Centrales				
Melosira sp.	7.0	3,300	1.6	740
Stephanodiscus nigreae	3.7	46,000	1.8	23,000
unidentified centric diatoms	--	--	24	7,700
Pennales				
Asterionella formosa	3,800	160,000,000	3,000	130,000,000
Cymbella sp.	--	--	<1	91
Fragilaria construens	1.2	1,900	1.1	1,700
Fragilaria crotonensis	23	15,000	14	9,400
Nitzschia sigmoidea	--	--	<1	2,400
Surirella sp.	<1	130	--	--
unidentified pennate diatoms	--	--	<1	140
CRYPTOPHYTA				
CRYPTOPHYCEAE (Cryptomonads)				
unidentified cryptophytes	3,800	180,000	2,600	130,000
CYANOPHYTA				
CYANOPHYCEAE (Blue-green algae)				
unidentified blue-green algae	5,100	340,000	4,700	310,000

Table 7.--*Phytoplankton densities and biovolumes in Standley Lake*--Continued

PHYLUM CLASS Order *Genus species*	Site L1 (near dam) Density (cells/mL)	 Biovolume (μm^3/mL)	Site L2 (near center) Density (cells/mL)	 Biovolume (μm^3/mL)
	APRIL 20, 1990			
CHLOROPHYTA				
CHLOROPHYCEAE (Green algae)				
Chlamydomonas sp.	24	23,000	53	50,000
CHRYSOPHYTA				
BACILLARIOPHYCEAE (Diatoms)				
Centrales				
Melosira sp.	74	35,000	870	410,000
Stephanodiscus nigreae	<1	12,000	1.6	20,000
Pennales				
Asterionella formosa	3,400	150,000,000	4,300	180,000,000
Fragilaria construens	--	--	3.1	4,700
Fragilaria crotonensis	16	11,000	28	18,000
Navicula sp.	--	--	<1	12
Nitzschia sigmoidea	--	--	<1	2,600
Nitzschia sp.	--	--	26	21,000
Surirella sp.	<1	260	26	64,000
unidentified pennate diatoms	--	--	26	140,000
CRYPTOPHYTA				
CRYPTOPHYCEAE (Cryptomonads)				
unidentified cryptophytes	5,000	240,000	2,200	110,000
CYANOPHYTA				
CYANOPHYCEAE (Blue-green algae)				
unidentified blue-green algae	6,600	430,000	4,000	260,000
	MAY 17, 1990			
CHLOROPHYTA				
CHLOROPHYCEAE (Green algae)				
Chlorella sp.	25	10,000	--	--
CHRYSOPHYTA				
BACILLARIOPHYCEAE (Diatoms)				
Centrales				
Melosira sp.	660	310,000	--	--
Stephanodiscus nigreae	1.5	19,000	--	--
Pennales				
Asterionella formosa	2,200	96,000,000	--	--
Fragilaria crotonensis	25	16,000	--	--
Nitzschia sp.	5.1	4,100	--	--
unidentified pennate diatoms	77	400,000	--	--
CRYPTOPHYTA				
CRYPTOPHYCEAE (Cryptomonads)				
unidentified cryptophytes	2,500	120,000	--	--
CYANOPHYTA				
CYANOPHYCEAE (Blue-green algae)				
unidentified blue-green algae	4,500	300,000	--	--

Table 7.--*Phytoplankton densities and biovolumes in Standley Lake*--Continued

PHYLUM CLASS Order *Genus species*	Site L1 (near dam) Density (cells/mL)	 Biovolume (μm^3/mL)	Site L2 (near center) Density (cells/mL)	 Biovolume (μm^3/mL)
	JUNE 12, 1990			
CHLOROPHYTA				
CHLOROPHYCEAE (Green algae)				
Chlamydomonas sp.	62	58,000	32	30,000
Pediastrum boryanum	--	--	<1	130
Pediastrum duplex	--	--	2.2	430
Scenedesmus abundans	--	--	<1	21
Scenedesmus quadricauda	--	--	32	1,200
Staurastrum sp.	--	--	<1	30
CHRYSOPHYTA				
BACILLARIOPHYCEAE (Diatoms)				
Centrales				
Melosira sp.	--	--	<1	330
Stephanodiscus nigreae	--	--	<1	1,300
unidentified centric diatoms	--	--	16	25,000
Pennales				
Asterionella formosa	680	29,000,000	750	32,000,000
Fragilaria crotonensis	18	12,000	22	14,000
Navicula pupula	31	82,000	--	--
Synedra sp.	--	--	<1	39
unidentified pennate diatoms	--	--	64	180,000
CRYPTOPHYTA				
CRYPTOPHYCEAE (Cryptomonads)				
unidentified cryptophytes	3,100	150,000	2,400	120,000
CYANOPHYTA				
CYANOPHYCEAE (Blue-green algae)				
Anabaena spiroides	--	--	<1	190
unidentified blue-green algae	2,000	130,000	2,500	160,000
PYRROPHYTA				
DINOPHYCEAE (Dinoflagellates)				
Ceratium hirundinella	<1	16,000	<1	17,000
	JULY 3, 1990			
CHLOROPHYTA				
CHLOROPHYCEAE (Green algae)				
Chlamydomonas sp.	400	370,000	17	16,000
Dictyosphaerium sp.	64	6,200	--	--
Staurastrum sp.	<1	120	<1	130
CHRYSOPHYTA				
BACILLARIOPHYCEAE (Diatoms)				
Centrales				
Melosira sp.	2.2	1,000	17	7,900
Pennales				
Asterionella formosa	7.1	310,000	--	--
Asterionella sp.	--	--	4.2	180,000
Fragilaria crotonensis	64	42,000	32	21,000
Pinnularia sp.	--	--	<1	450
Synedra sp.	--	--	<1	41
unidentified pennate diatoms	32	62,000	--	--
CRYPTOPHYTA				
CRYPTOPHYCEAE (Cryptomonads)				
unidentified cryptophytes	2,900	140,000	1,100	55,000
CYANOPHYTA				
CYANOPHYCEAE (Blue-green algae)				
Anabaena sp.	--	--	<1	61
Merismopedia punctata	--	--	1.2	<10
unidentified blue-green algae	2,500	170,000	800	53,000
PYRROPHYTA				
DINOPHYCEAE (Dinoflagellates)				
Ceratium hirundinella	<1	21,000	<1	20,000
Gymnodinium sp.	--	--	17	100,000

Table 7.--*Phytoplankton densities and biovolumes in Standley Lake*--Continued

PHYLUM CLASS Order *Genus species*	Site L1 (near dam) Density (cells/mL)	 Biovolume (μm^3/mL)	Site L2 (near center) Density (cells/mL)	 Biovolume (μm^3/mL)
	JULY 18, 1990			
CHLOROPHYTA				
CHLOROPHYCEAE (Green algae)				
Chlamydomonas sp.	240	130,000	110	100,000
Staurastrum sp.	<1	120	<1	210
CHRYSOPHYTA				
BACILLARIOPHYCEAE (Diatoms)				
Centrales				
Melosira sp.	2.6	1,200	1.5	720
Stephanodiscus nigreae	<1	2,200	--	--
Pennales				
Asterionella formosa	--	--	<1	14,000
Asterionella sp.	<1	11,000	--	--
Fragilaria crotonensis	6.1	4,000	7.4	4,900
Nitzschia acicularis	<1	25	--	--
unidentified pennate diatoms	32	62,000	16	33,000
CRYPTOPHYTA				
CRYPTOPHYCEAE (Cryptomonads)				
unidentified cryptophytes	1,200	59,000	1,600	80,000
CYANOPHYTA				
CYANOPHYCEAE (Blue-green algae)				
unidentified blue-green algae	180	11,000	190	12,000
PYRROPHYTA				
DINOPHYCEAE (Dinoflagellates)				
Ceratium hirundinella	<1	24,000	<1	19,000
	JULY 31, 1990			
CHLOROPHYTA				
CHLOROPHYCEAE (Green algae)				
Chlamydomonas sp.	48	45,000	48	45,000
Closterium sp.	<1	160	--	--
Pediastrum boryanum	2.2	500	--	--
Staurastrum sp.	<1	90	<1	120
CHRYSOPHYTA				
BACILLARIOPHYCEAE (Diatoms)				
Centrales				
Melosira distans	1.2	8,500	--	--
Melosira sp.	8.8	4,200	2.6	1,200
unidentified centric diatoms	160	140,000	--	--
Pennales				
Achnanthes minutissima	79	4,800	--	--
Achnanthes sp.	240	48,000	--	--
Amphora sp.	240	290,000	--	--
Asterionella sp.	4.5	200,000	6.1	260,000
Fragilaria crotonensis	39	26,000	51	34,000
Navicula sp.	<1	100	--	--
Nitzschia sp.	2.3	1,800	--	--
unidentified pennate diatoms	3,300	13,000,000	32	170,000
CHRYSOPHYCEAE (Golden-brown algae)				
Dinobryon sp.	<1	11	<1	<10
CRYPTOPHYTA				
CRYPTOPHYCEAE (Cryptomonads)				
unidentified cryptophytes	13,000	630,000	780	38,000
CYANOPHYTA				
CYANOPHYCEAE (Blue-green algae)				
unidentified blue-green algae	17,000	1,100,000	860	56,000
PYRROPHYTA				
DINOPHYCEAE (Dinoflagellates)				
Ceratium hirundinella	<1	12,000	<1	39,000

Table 7.--*Phytoplankton densities and biovolumes in Standley Lake*--Continued

PHYLUM CLASS Order *Genus species*	Site L1 (near dam) Density (cells/mL)	 Biovolume (μm^3/mL)	Site L2 (near center) Density (cells/mL)	 Biovolume (μm^3/mL)
	AUGUST 14, 1990			
CHLOROPHYTA				
CHLOROPHYCEAE (Green algae)				
Chlamydomonas sp.	95	90,000	130	120,000
Staurastrum sp.	<1	240	<1	250
CHRYSOPHYTA				
BACILLARIOPHYCEAE (Diatoms)				
Centrales				
Melosira sp.	16	7,500	7.7	3,600
Stephanodiscus nigreae	--	--	<1	1,400
Pennales				
Asterionella sp.	11	470,000	33	1,400,000
Fragilaria crotonensis	--	--	620	410,000
Fragilaria sp.	130	71,000	--	--
CHRYSOPHYCEAE (Golden-brown algae)				
Dinobryon sp.	16	220	150	2,100
CRYPTOPHYTA				
CRYPTOPHYCEAE (Cryptomonads)				
unidentified cryptophytes	1,400	66,000	2,100	100,000
CYANOPHYTA				
CYANOPHYCEAE (Blue-green algae)				
Merismopedia sp.	570	22,000	2,600	100,000
unidentified blue-green algae	1,500	96,000	1,700	110,000
PYRROPHYTA				
DINOPHYCEAE (Dinoflagellates)				
Ceratium hirundinella	<1	22,000	<1	45,000
	AUGUST 28, 1990			
CHLOROPHYTA				
CHLOROPHYCEAE (Green algae)				
Chodatella sp.	--	--	79	23,000
Closterium sp.	--	--	<1	79
Pediastrum boryanum	--	--	4.2	970
Pediastrum duplex	--	--	4.2	800
Staurastrum sp.	<1	300	<1	150
Tetraedron caudatum	--	--	240	86,000
CHRYSOPHYTA				
BACILLARIOPHYCEAE (Diatoms)				
Centrales				
Melosira sp.	42	20,000	8.0	3,800
Pennales				
Asterionella sp.	91	3,900,000	53	2,300,000
Fragilaria construens	1.6	2,400	--	--
Fragilaria crotonensis	45	30,000	12	7,700
Pleurosigma sp.	--	--	3.8	14,000
Synedra sp.	--	--	3.7	7,000
CHRYSOPHYCEAE (Golden-brown algae)				
Dinobryon sp.	160	2,200	1.6	22
CRYPTOPHYTA				
CRYPTOPHYCEAE (Cryptomonads)				
unidentified cryptophytes	15,000	740,000	14,000	670,000
CYANOPHYTA				
CYANOPHYCEAE (Blue-green algae)				
Anacystis marina	--	--	37,000	98,000
Aphanizomenon sp.	--	--	1,100	430,000
Gomphosphaeria aponii	--	--	650	33,000
Merismopedia punctata	--	--	640	2,700
Merismopedia sp.	7,000	270,000	61,000	2,300,000
unidentified blue-green algae	10,000	670,000	6,000	390,000
PYRROPHYTA				
DINOPHYCEAE (Dinoflagellates)				
Ceratium hirundinella	<1	48,000	2.1	140,000

Table 7.--*Phytoplankton densities and biovolumes in Standley Lake*--Continued

PHYLUM CLASS Order *Genus species*	Site L1 (near dam) Density (cells/mL)	 Biovolume (μm^3/mL)	Site L2 (near center) Density (cells/mL)	 Biovolume (μm^3/mL)
	SEPTEMBER 4, 1990			
CHLOROPHYTA				
CHLOROPHYCEAE (Green algae)				
Staurastrum sp.	--	--	<1	300
CHRYSOPHYTA				
BACILLARIOPHYCEAE (Diatoms)				
Centrales				
Melosira sp.	33	16,000	26	12,000
Stephanodiscus nigreae	1.0	13,000	<1	6,600
Pennales				
Asterionella sp.	71	3,100,000	120	5,200,000
Fragilaria crotonensis	19	12,000	18	12,000
CHRYSOPHYCEAE (Golden-brown algae)				
Dinobryon sp.	2.1	30	--	--
CRYPTOPHYTA				
CRYPTOPHYCEAE (Cryptomonads)				
unidentified cryptophytes	6,300	310,000	9,400	460,000
CYANOPHYTA				
CYANOPHYCEAE (Blue-green algae)				
Gomphosphaeria aponii	--	--	1,900	96,000
Merismopedia sp.	320	12,000	--	--
unidentified blue-green algae	5,400	350,000	8,600	570,000
PYRROPHYTA				
DINOPHYCEAE (Dinoflagellates)				
Ceratium hirundinella	<1	24,000	<1	48,000
	SEPTEMBER 13, 1990			
CHLOROPHYTA				
CHLOROPHYCEAE (Green algae)				
Actinastrum hantzschii	--	--	<1	55
Pediastrum boryanum	1.4	320	--	--
Pediastrum duplex	7.0	1,300	--	--
Staurastrum sp.	<1	300	<1	750
CHRYSOPHYTA				
BACILLARIOPHYCEAE (Diatoms)				
Centrales				
Melosira sp.	61	29,000	640	300,000
Stephanodiscus nigreae	<1	4,400	1.4	18,000
Pennales				
Asterionella sp.	70	3,000,000	75	3,200,000
Fragilaria crotonensis	44	29,000	24	16,000
Pleurosigma sp.	2.4	8,600	--	--
CHRYSOPHYCEAE (Golden-brown algae)				
Dinobryon sp.	5.2	74	2.8	39
CRYPTOPHYTA				
CRYPTOPHYCEAE (Cryptomonads)				
unidentified cryptophytes	15,000	720,000	4,500	220,000
CYANOPHYTA				
CYANOPHYCEAE (Blue-green algae)				
Anacystis marina	--	--	26,000	68,000
Merismopedia glauca	--	--	6,700	60,000
Merismopedia sp.	43,000	1,700,000	16,000	630,000
Raphidiopsis sp.	560	9,800	--	--
unidentified blue-green algae	31,000	2,000,000	4,100	270,000
PYRROPHYTA				
DINOPHYCEAE (Dinoflagellates)				
Ceratium hirundinella	<1	36,000	<1	48,000

Table 7.--*Phytoplankton densities and biovolumes in Standley Lake*--Continued

PHYLUM CLASS Order *Genus species*	Site L1 (near dam) Density (cells/mL)	 Biovolume (μm^3/mL)	Site L2 (near center) Density (cells/mL)	 Biovolume (μm^3/mL)
	SEPTEMBER 18, 1990			
CHLOROPHYTA				
CHLOROPHYCEAE (Green algae)				
Staurastrum sp.	<1	300	--	--
CHRYSOPHYTA				
BACILLARIOPHYCEAE (Diatoms)				
Centrales				
Melosira sp.	40	19,000	1,600	750,000
Stephanodiscus nigreae	--	--	<1	8,800
Pennales				
Asterionella sp.	75	3,300,000	100	4,400,000
Fragilaria crotonensis	38	25,000	25	16,000
Surirella sp.	--	--	<1	430
CHRYSOPHYCEAE (Golden-brown algae)				
Dinobryon sp.	320	4,500	19	270
CRYPTOPHYTA				
CRYPTOPHYCEAE (Cryptomonads)				
unidentified cryptophytes	10,000	510,000	8,400	410,000
CYANOPHYTA				
CYANOPHYCEAE (Blue-green algae)				
Anabaena sp.	--	--	14	1,100
Gomphosphaeria aponii	--	--	2,500	120,000
Merismopedia sp.	350	13,000	--	--
unidentified blue-green algae	5,400	350,000	4,800	320,000
PYRROPHYTA				
DINOPHYCEAE (Dinoflagellates)				
Ceratium hirundinella	<1	36,000	1.2	85,000
	SEPTEMBER 25, 1990			
CHLOROPHYTA				
CHLOROPHYCEAE (Green algae)				
Actinastrum hantzschii	<1	55	--	--
Staurastrum sp.	--	--	<1	300
CHRYSOPHYTA				
BACILLARIOPHYCEAE (Diatoms)				
Centrales				
Melosira distans	<1	2,400	<1	3,600
Melosira sp.	160	75,000	200	96,000
Stephanodiscus nigreae	1.0	13,000	4.4	55,000
Pennales				
Asterionella sp.	110	4,800,000	150	6,500,000
Fragilaria crotonensis	48	32,000	60	39,000
Surirella sp.	--	--	<1	860
unidentified pennate diatoms	80	420,000	--	--
CHRYSOPHYTA				
CHRYSOPHYCEAE (Golden-brown algae)				
Dinobryon sp.	1.6	22	10	140
CRYPTOPHYTA				
CRYPTOPHYCEAE (Cryptomonads)				
unidentified cryptophytes	8,800	440,000	5,600	280,000
CYANOPHYTA				
CYANOPHYCEAE (Blue-green algae)				
Gomphosphaeria aponii	5,500	280,000	4,600	230,000
unidentified blue-green algae	13,000	870,000	7,400	480,000
PYRROPHYTA				
DINOPHYCEAE (Dinoflagellates)				
Ceratium hirundinella	2.8	190,000	2.6	180,000

Table 7.--*Phytoplankton densities and biovolumes in Standley Lake*--Continued

PHYLUM CLASS Order *Genus species*	Site L1 (near dam) Density (cells/mL)	 Biovolume (μm^3/mL)	Site L2 (near center) Density (cells/mL)	 Biovolume (μm^3/mL)
	OCTOBER 2, 1990			
CHLOROPHYTA				
CHLOROPHYCEAE (Green algae)				
Staurastrum sp.	--	--	<1	150
CHRYSOPHYTA				
BACILLARIOPHYCEAE (Diatoms)				
Centrales				
Melosira sp.	1,800	820,000	400	190,000
Stephanodiscus nigreae	<1	8,800	1.4	18,000
Pennales				
Asterionella sp.	16	680,000	3.5	150,000
Fragilaria crotonensis	3.2	2,100	12	8,000
unidentified pennate diatoms	480	1,000,000	--	--
CRYPTOPHYTA				
CRYPTOPHYCEAE (Cryptomonads)				
unidentified cryptophytes	9,300	460,000	8,600	430,000
CYANOPHYTA				
CYANOPHYCEAE (Blue-green algae)				
Gomphosphaeria aponii	6,000	300,000	5,000	250,000
Merismopedia sp.	--	--	2,200	85,000
unidentified blue-green algae	11,000	710,000	9,700	630,000
PYRROPHYTA				
DINOPHYCEAE (Dinoflagellates)				
Ceratium hirundinella	3.2	220,000	3.0	210,000
	OCTOBER 10, 1990			
CHLOROPHYTA				
CHLOROPHYCEAE (Green algae)				
Pediastrum duplex	8.4	1,600	--	--
Staurastrum sp.	<1	600	--	--
CHRYSOPHYTA				
BACILLARIOPHYCEAE (Diatoms)				
Centrales				
Melosira sp.	1,800	820,000	960	450,000
Stephanodiscus nigreae	7.7	97,000	--	--
unidentified centric diatoms	160	80,000	--	--
Pennales				
Achnanthes sp.	--	--	400	79,000
Asterionella sp.	8.9	390,000	13	570,000
Fragilaria crotonensis	14	9,100	4.2	2,800
unidentified pennate diatoms	<1	3,100	--	--
CRYPTOPHYTA				
CRYPTOPHYCEAE (Cryptomonads)				
unidentified cryptophytes	15,000	740,000	11,000	550,000
CYANOPHYTA				
CYANOPHYCEAE (Blue-green algae)				
Gomphosphaeria aponii	13,000	670,000	3,200	160,000
unidentified blue-green algae	2,100	140,000	7,400	480,000
PYRROPHYTA				
DINOPHYCEAE (Dinoflagellates)				
Ceratium hirundinella	2.4	170,000	1.6	110,000

Table 7.--*Phytoplankton densities and biovolumes in Standley Lake*--Continued

PHYLUM CLASS Order *Genus species*	Site L1 (near dam) Density (cells/mL)	 Biovolume (μm^3/mL)	Site L2 (near center) Density (cells/mL)	 Biovolume (μm^3/mL)
	OCTOBER 16, 1990			
CHLOROPHYTA				
CHLOROPHYCEAE (Green algae)				
Pediastrum duplex	4.8	910	--	--
Staurastrum sp.	<1	590	--	--
CHRYSOPHYTA				
BACILLARIOPHYCEAE (Diatoms)				
Centrales				
Melosira sp.	1,600	760,000	950	450,000
Stephanodiscus nigreae	28	350,000	20	260,000
Pennales				
Asterionella sp.	13	580,000	14	630,000
Fragilaria crotonensis	--	--	8.0	5,300
Surirella sp.	--	--	<1	430
CRYPTOPHYTA				
CRYPTOPHYCEAE (Cryptomonads)				
unidentified cryptophytes	9,300	460,000	14,000	750,000
CYANOPHYTA				
CYANOPHYCEAE (Blue-green algae)				
Gomphosphaeria aponii	--	--	6,400	320,000
unidentified blue-green algae	6,100	1,000,000	11,000	720,000
PYRROPHYTA				
DINOPHYCEAE (Dinoflagellates)				
Ceratium hirundinella	3.6	3,500	<1	61,000
	OCTOBER 23, 1990			
CHLOROPHYTA				
CHLOROPHYCEAE (Green algae)				
Pediastrum boryanum	2.0	470	--	--
Pediastrum duplex	--	--	2.0	410
Pediastrum sp.	--	--	2.9	540
CHRYSOPHYTA				
BACILLARIOPHYCEAE (Diatoms)				
Centrales				
Melosira sp.	6,000	2,800,000	2,700	1,300,000
Stephanodiscus nigreae	24	300,000	39	500,000
Pennales				
Asterionella sp.	7.8	340,000	4.8	210,000
Fragilaria crotonensis	7.1	4,700	30	20,000
unidentified pennate diatoms	--	--	77	160,000
CRYPTOPHYTA				
CRYPTOPHYCEAE (Cryptomonads)				
unidentified cryptophytes	7,800	380,000	11,000	520,000
CYANOPHYTA				
CYANOPHYCEAE (Blue-green algae)				
Gomphosphaeria aponii	7,200	360,000	920	46,000
unidentified blue-green algae	11,000	1,900,000	6,300	1,100,000
PYRROPHYTA				
DINOPHYCEAE (Dinoflagellates)				
Ceratium hirundinella	<1	840	1.9	1,800

Table 7.--*Phytoplankton densities and biovolumes in Standley Lake*--Continued

PHYLUM CLASS Order *Genus species*	Site L1 (near dam) Density (cells/mL)	 Biovolume (μm^3/mL)	Site L2 (near center) Density (cells/mL)	 Biovolume (μm^3/mL)
	OCTOBER 30, 1990			
CHLOROPHYTA				
CHLOROPHYCEAE (Green algae)				
Pediastrum boryanum	--	--	4.1	940
Staurastrum sp.	--	--	<1	590
CHRYSOPHYTA				
BACILLARIOPHYCEAE (Diatoms)				
Centrales				
Melosira sp.	9,400	4,400,000	1,800	870,000
Stephanodiscus nigreae	2.1	26,000	3.2	41,000
Pennales				
Asterionella sp.	5.2	230,000	4.4	190,000
Fragilaria construens	--	--	2.0	3,100
Fragilaria crotonensis	14	9,000	16	10,000
unidentified pennate diatoms	--	--	150	810,000
CRYPTOPHYTA				
CRYPTOPHYCEAE (Cryptomonads)				
unidentified cryptophytes	7,800	390,000	10,000	510,000
CYANOPHYTA				
CYANOPHYCEAE (Blue-green algae)				
unidentified blue-green algae	16,000	1,000,000	11,000	1,900,000
PYRROPHYTA				
DINOPHYCEAE (Dinoflagellates)				
Ceratium hirundinella	3.3	230,000	1.0	1,000

Table 8.--*Zooplankton densities in Standley Lake*

[--, species not found in sample; <, less than; ---, no sample]

PHYLUM CLASS Order *Genus species*	Density (organisms per liter) Site L1 (near dam)	 Site L2 (near center)
JUNE 21, 1989		
ARTHROPODA		
CRUSTACEA		
Cladocera		
Bosmina coregoni	21	9.0
Daphnia galeata mendotae	--	1.5
Daphnia similis	2.0	--
unidentified immature cladocerans	<1	--
Copepoda		
Cyclops bicuspidatus thomasi	2.0	4.5
Diaptomus shoshone	4.5	4.0
nauplii	36	48
ROTATORIA		
Asplanchna priodonta	1.5	--
Kellicottia longispina	4.5	3.5
Keratella cochlearis var. *macracantha*	49	26
Keratella quadrata	1.5	--
Monostyla galeata	<1	--
Polyarthra vulgaris	94	66
unidentified rotifers	<1	--
JULY 20, 1989		
ARTHROPODA		
CRUSTACEA		
Cladocera		
Bosmina coregoni	6.5	1.5
Daphnia galeata mendotae	4.5	3.5
unidentified immature cladocerans	3.5	<1
Copepoda		
Cyclops bicuspidatus thomasi	10	4.0
Diaptomus shoshone	8.5	3.0
nauplii	59	38
ROTATORIA		
Conochilus unicornis	--	1.0
Kellicottia longispina	2.0	2.0
Keratella cochlearis var. *macracantha*	92	100
Keratella quadrata	<1	--
Polyarthra vulgaris	86	50

Table 8.--*Zooplankton densities in Standley Lake--Continued*

PHYLUM CLASS Order *Genus species*	Density (organisms per liter) Site L1 (near dam)	 Site L2 (near center)
	AUGUST 3, 1989	
ARTHROPODA		
CRUSTACEA		
Cladocera		
Bosmina coregoni	4.0	1.5
Daphnia galeata mendotae	10	18
Diaphanosoma leutchtenberganium	1.0	2.0
Copepoda		
Cyclops bicuspidatus thomasi	18	16
Diaptomus shoshone	26	18
nauplii	150	170
ROTATORIA		
Conochilus unicornis	<1	--
Kellicottia longispina	2.0	1.0
Keratella cochlearis var. *macracantha*	<1	<1
Polyarthra vulgaris	1.0	--
	AUGUST 18, 1989	
ARTHROPODA		
CRUSTACEA		
Cladocera		
Bosmina coregoni	--	1.0
Daphnia galeata mendotae	1.5	3.0
Daphnia similis	6.0	10
Diaphanosoma leutchtenberganium	<1	1.5
unidentified immature cladocerans	--	<1
Copepoda		
Cyclops bicuspidatus thomasi	6.0	9.5
Diaptomus shoshone	43	20
nauplii	100	100
ROTATORIA		
Conochilus unicornis	--	<1
Kellicottia longispina	2.5	<1
Polyarthra vulgaris	3.5	1.5
	AUGUST 21, 1989	
ARTHROPODA		
CRUSTACEA		
Cladocera		
Daphnia similis	14	---
Diaphanosoma leutchtenberganium	1.0	---
Copepoda		
Cyclops bicuspidatus thomasi	8.0	---
Diaptomus shoshone	10	---
nauplii	93	---
ROTATORIA		
Kellicottia longispina	1.0	---
Polyarthra vulgaris	1.0	---

Table 8.--*Zooplankton densities in Standley Lake--Continued*

PHYLUM CLASS Order *Genus species*	Density (organisms per liter) Site L1 (near dam)	 Site L2 (near center)
SEPTEMBER 1, 1989		
ARTHROPODA		
CRUSTACEA		
Cladocera		
Daphnia galeata mendotae	<1	--
Daphnia similis	10	23
Diaphanosoma leutchtenberganium	2.0	--
unidentified immature cladocerans	<1	3.5
Copepoda		
Cyclops bicuspidatus thomasi	14	12
Diaptomus shoshone	22	22
nauplii	57	60
ROTATORIA		
Kellicottia longispina	--	<1
Polyarthra vulgaris	1.5	--
SEPTEMBER 5, 1989		
ARTHROPODA		
CRUSTACEA		
Cladocera		
Bosmina coregoni	--	<1
Daphnia similis	7.5	8.5
Diaphanosoma leutchtenberganium	1.5	1.0
unidentified immature cladocerans	--	2.5
Copepoda		
Cyclops bicuspidatus thomasi	12	8.5
Diaptomus shoshone	18	16
nauplii	63	84
ROTATORIA		
Conochilus unicornis	<1	1.0
Kellicottia longispina	--	<1
Polyarthra vulgaris	1.5	1.0
SEPTEMBER 14-15, 1989		
ARTHROPODA		
CRUSTACEA		
Cladocera		
Daphnia similis	5.5	6.0
Diaphanosoma leutchtenberganium	--	<1
unidentified immature cladocerans	<1	--
Copepoda		
Cyclops bicuspidatus thomasi	14	8.5
Diaptomus shoshone	7.0	7.0
nauplii	69	77
ROTATORIA		
Conochilus unicornis	3.5	2.5
Kellicottia longispina	1.5	2.0
Keratella cochlearis var. *macracantha*	<1	--
Polyarthra vulgaris	9.5	5.5

Table 8.--*Zooplankton densities in Standley Lake--Continued*

PHYLUM CLASS Order *Genus species*	Density (organisms per liter) Site L1 (near dam)	 Site L2 (near center)
SEPTEMBER 21, 1989		
ARTHROPODA		
CRUSTACEA		
Cladocera		
Daphnia similis	5.5	3.0
Diaphanosoma leutchtenberganium	--	<1
Copepoda		
Cyclops bicuspidatus thomasi	7.0	7.0
Diaptomus shoshone	1.0	3.0
nauplii	33	32
ROTATORIA		
Conochilus unicornis	1.5	4.5
Kellicottia longispina	--	2.0
Keratella cochlearis var. *macracantha*	3.5	6.0
Polyarthra vulgaris	24	54
SEPTEMBER 28, 1989		
ARTHROPODA		
CRUSTACEA		
Cladocera		
Daphnia galeata mendotae	1.0	3.0
Daphnia similis	9.5	20
Copepoda		
Cyclops bicuspidatus thomasi	7.0	5.0
Diaptomus shoshone	<1	1.0
nauplii	43	80
ROTATORIA		
Conochilus unicornis	8.5	19
Kellicottia longispina	3.0	4.0
Keratella cochlearis var. *macracantha*	7.0	13
Polyarthra vulgaris	54	100
OCTOBER 5, 1989		
ARTHROPODA		
CRUSTACEA		
Cladocera		
Daphnia galeata mendotae	3.2	--
Daphnia similis	4.8	6.4
unidentified immature cladocerans	1.1	2.4
Copepoda		
Cyclops bicuspidatus thomasi	5.9	4.9
Diaptomus shoshone	<1	<1
nauplii	33	36
ROTATORIA		
Asplanchna priodonta	<1	<1
Conochilus unicornis	<1	--
Kellicottia longispina	8.4	4.9
Keratella cochlearis var. *macracantha*	11	10
Polyarthra vulgaris	76	58

Table 8.--*Zooplankton densities in Standley Lake--Continued*

PHYLUM CLASS Order *Genus species*	Density (organisms per liter) Site L1 (near dam)	 Site L2 (near center)
OCTOBER 12, 1989		
ARTHROPODA		
CRUSTACEA		
Copepoda		
Cyclops bicuspidatus thomasi	<1	<1
nauplii	<1	<1
ROTATORIA		
Conochilus unicornis	--	<1
Kellicottia longispina	<1	1.2
Keratella cochlearis var. *macracantha*	60	18
Polyarthra vulgaris	--	14
OCTOBER 19, 1989		
ARTHROPODA		
CRUSTACEA		
Cladocera		
Daphnia galeata mendotae	<1	--
Daphnia similis	2.7	3.7
unidentified immature cladocerans	<1	<1
Copepoda		
Cyclops bicuspidatus thomasi	4.4	4.9
Diaptomus shoshone	<1	<1
nauplii	48	43
ROTATORIA		
Asplanchna priodonta	<1	<1
Conochilus unicornis	--	<1
Kellicottia longispina	15	8.6
Keratella cochlearis var. *macracantha*	12	7.0
Polyarthra vulgaris	39	62
OCTOBER 27, 1989		
ARTHROPODA		
CRUSTACEA		
Cladocera		
Bosmina coregoni	<1	--
Daphnia galeata mendotae	1.3	3.3
Daphnia similis	2.3	2.9
Diaphanosoma leutchtenberganium	<1	--
unidentified immature cladocerans	<1	<1
Copepoda		
Cyclops bicuspidatus thomasi	6.8	5.1
Diaptomus shoshone	<1	1.3
nauplii	50	54
ROTATORIA		
Asplanchna priodonta	<1	--
Conochilus unicornis	--	<1
Kellicottia longispina	9.5	12
Keratella cochlearis var. *macracantha*	21	29
Polyarthra vulgaris	26	25

Table 8.--*Zooplankton densities in Standley Lake--Continued*

PHYLUM CLASS Order *Genus species*	Density (organisms per liter) Site L1 (near dam)	 Site L2 (near center)
	NOVEMBER 14, 1989	
ARTHROPODA		
CRUSTACEA		
Cladocera		
Daphnia galeata mendotae	<1	<1
Daphnia similis	1.7	<1
unidentified immature cladocerans	<1	<1
Copepoda		
Cyclops bicuspidatus thomasi	2.5	3.6
Diaptomus shoshone	2.1	1.3
nauplii	58	64
ROTATORIA		
Asplanchna priodonta	17	9.8
Conochilus unicornis	<1	13
Kellicottia longispina	8.9	6.9
Keratella cochlearis var. *macracantha*	27	17
Keratella quadrata	1.1	5.6
Monostyla galeata	--	7.6
Polyarthra vulgaris	13	8.2
	DECEMBER 8, 1989	
ARTHROPODA		
CRUSTACEA		
Cladocera		
Daphnia galeata mendotae	---	<1
Daphnia similis	---	2.9
unidentified immature cladocerans	---	<1
Copepoda		
Cyclops bicuspidatus thomasi	---	2.9
Diaptomus shoshone	---	1.6
nauplii	---	64
ROTATORIA		
Asplanchna priodonta	---	44
Conochilus unicornis	---	<1
Kellicottia longispina	---	29
Keratella cochlearis var. *macracantha*	---	12
Keratella quadrata	---	<1
Polyarthra vulgaris	---	4.7

Table 8.--*Zooplankton densities in Standley Lake--Continued*

PHYLUM CLASS Order *Genus species*	Density (organisms per liter) Site L1 (near dam)	 Site L2 (near center)
MARCH 21, 1990		
ARTHROPODA		
CRUSTACEA		
Cladocera		
Bosmina coregoni	--	<1
Daphnia similis	<1	1.2
unidentified immature cladocerans	<1	--
Copepoda		
Cyclops bicuspidatus thomasi	1.6	2.7
Diaptomus shoshone	<1	<1
nauplii	39	67
ROTATORIA		
Asplanchna priodonta	18	17
Kellicottia longispina	250	360
Keratella cochlearis var. *macracantha*	55	43
Keratella quadrata	14	22
Polyarthra vulgaris	17	16
APRIL 20, 1990		
ARTHROPODA		
CRUSTACEA		
Cladocera		
Daphnia galeata mendotae	--	1.6
Daphnia similis	1.2	3.3
Copepoda		
Cyclops bicuspidatus thomasi	1.1	3.1
Diaptomus shoshone	--	<1
nauplii	18	25
ROTATORIA		
Asplanchna priodonta	2.8	2.7
Kellicottia longispina	130	200
Keratella cochlearis var. *macracantha*	19	27
Keratella quadrata	8.4	9.6
Polyarthra vulgaris	9.6	30
unidentified rotifers	<1	--

Table 8.--*Zooplankton densities in Standley Lake--Continued*

PHYLUM CLASS Order *Genus species*	Density (organisms per liter) Site L1 (near dam)	 Site L2 (near center)
	MAY 17, 1990	
ARTHROPODA		
CRUSTACEA		
Cladocera		
Bosmina coregoni	<1	---
Daphnia galeata mendotae	1.2	---
unidentified immature cladocerans	1.2	---
Copepoda		
Cyclops bicuspidatus thomasi	5.7	---
Diaptomus shoshone	<1	---
nauplii	24	---
ROTATORIA		
Asplanchna priodonta	12	---
Kellicottia longispina	140	---
Keratella cochlearis var. *macracantha*	15	---
Keratella quadrata	4.4	---
Polyarthra vulgaris	130	---
	JUNE 12, 1990	
ARTHROPODA		
CRUSTACEA		
Cladocera		
Bosmina coregoni	14	34
Daphnia galeata mendotae	6.8	14
Daphnia similis	2.1	5.7
unidentified immature cladocerans	<1	1.8
Copepoda		
Cyclops bicuspidatus thomasi	3.2	6.8
Diaptomus shoshone	2.8	11
nauplii	53	81
ROTATORIA		
Asplanchna priodonta	5.9	4.3
Conochilus unicornis	<1	<1
Kellicottia longispina	49	76
Keratella cochlearis var. *macracantha*	2.5	2.5
Keratella quadrata	<1	--
Polyarthra vulgaris	8.5	6.8
unidentified rotifers	<1	--

Table 8.--*Zooplankton densities in Standley Lake--Continued*

PHYLUM CLASS Order *Genus species*	Density (organisms per liter) Site L1 (near dam)	 Site L2 (near center)
	JULY 3, 1990	
ARTHROPODA		
CRUSTACEA		
Cladocera		
Bosmina coregoni	7.1	2.1
Daphnia galeata mendotae	5.5	5.5
Diaphanosoma leutchtenberganium	<1	1.3
Copepoda		
Cyclops bicuspidatus thomasi	5.7	3.4
Diaptomus shoshone	2.8	--
nauplii	58	51
ROTATORIA		
Conochilus unicornis	<1	--
Kellicottia longispina	40	30
Keratella cochlearis var. *macracantha*	3.0	1.3
Polyarthra vulgaris	<1	1.7
	JULY 18, 1990	
ARTHROPODA		
CRUSTACEA		
Cladocera		
Bosmina coregoni	2.3	1.1
Daphnia galeata mendotae	3.7	--
Daphnia similis	4.0	--
Diaphanosoma leutchtenberganium	<1	1.9
unidentified immature cladocerans	1.3	--
Copepoda		
Cyclops bicuspidatus thomasi	4.7	<1
Diaptomus shoshone	1.3	<1
nauplii	73	24
ROTATORIA		
Kellicottia longispina	36	36
Keratella cochlearis var. *macracantha*	--	1.1
Polyarthra vulgaris	5.8	3.6

Table 8.--*Zooplankton densities in Standley Lake--Continued*

PHYLUM CLASS Order *Genus species*	Density (organisms per liter) Site L1 (near dam)	 Site L2 (near center)
	JULY 31, 1990	
ARTHROPODA		
CRUSTACEA		
Cladocera		
Bosmina coregoni	2.3	1.1
Daphnia galeata mendotae	1.0	1.7
Daphnia similis	<1	1.1
unidentified immature cladocerans	<1	--
Copepoda		
Cyclops bicuspidatus thomasi	7.5	6.7
Diaptomus shoshone	2.2	3.0
nauplii	57	84
ROTATORIA		
Conochilus unicornis	--	<1
Kellicottia longispina	69	70
Polyarthra vulgaris	4.7	5.3
	AUGUST 14, 1990	
ARTHROPODA		
CRUSTACEA		
Cladocera		
Daphnia galeata mendotae	7.7	<1
Daphnia similis	<1	2.7
Copepoda		
Cyclops bicuspidatus thomasi	5.0	5.1
Diaptomus shoshone	4.0	5.7
nauplii	52	55
ROTATORIA		
Kellicottia longispina	38	56
Polyarthra vulgaris	19	13
	AUGUST 28, 1990	
ARTHROPODA		
CRUSTACEA		
Cladocera		
Daphnia galeata mendotae	--	<1
Daphnia similis	2.0	2.9
Copepoda		
Cyclops bicuspidatus thomasi	2.5	9.2
Diaptomus shoshone	1.8	2.0
nauplii	48	57
ROTATORIA		
Conochilus unicornis	1.8	<1
Kellicottia longispina	42	41
Keratella cochlearis var. *macracantha*	--	1.0
Keratella quadrata	<1	--
Polyarthra vulgaris	8.2	10

Table 8.--*Zooplankton densities in Standley Lake--Continued*

PHYLUM CLASS Order *Genus species*	Density (organisms per liter) Site L1 (near dam)	 Site L2 (near center)
SEPTEMBER 4, 1990		
ARTHROPODA		
CRUSTACEA		
Cladocera		
Daphnia galeata mendotae	1.7	--
Daphnia similis	1.7	2.9
Copepoda		
Cyclops bicuspidatus thomasi	3.8	8.2
Diaptomus shoshone	1.3	<1
nauplii	41	45
ROTATORIA		
Conochilus unicornis	5.2	<1
Kellicottia longispina	11	17
Keratella cochlearis var. *macracantha*	<1	--
Polyarthra vulgaris	11	8.8
SEPTEMBER 13, 1990		
ARTHROPODA		
CRUSTACEA		
Cladocera		
Daphnia galeata mendotae	--	1.3
Daphnia similis	1.7	--
Diaphanosoma leutchtenberganium	--	<1
Copepoda		
Cyclops bicuspidatus thomasi	6.9	6.9
Diaptomus shoshone	<1	2.9
nauplii	46	57
ROTATORIA		
Conochilus unicornis	<1	2.9
Kellicottia longispina	6.3	7.1
Keratella cochlearis var. *macracantha*	1.1	<1
Polyarthra vulgaris	23	15

Table 8.--*Zooplankton densities in Standley Lake--Continued*

PHYLUM CLASS Order *Genus species*	Density (organisms per liter) Site L1 (near dam)	 Site L2 (near center)
	SEPTEMBER 18, 1990	
ARTHROPODA		
CRUSTACEA		
Cladocera		
Daphnia galeata mendotae	3.0	5.8
Daphnia similis	3.8	<1
Diaphanosoma leutchtenberganium	--	<1
unidentified immature cladocerans	1.7	1.8
Copepoda		
Cyclops bicuspidatus thomasi	8.4	16
Diaptomus shoshone	2.3	1.6
nauplii	49	53
ROTATORIA		
Conochilus unicornis	1.9	3.3
Kellicottia longispina	8.8	15
Keratella cochlearis var. *macracantha*	<1	<1
Polyarthra vulgaris	17	11
	SEPTEMBER 25, 1990	
ARTHROPODA		
CRUSTACEA		
Cladocera		
Daphnia galeata mendotae	5.5	6.2
Daphnia similis	--	5.1
unidentified immature cladocerans	1.7	--
Copepoda		
Cyclops bicuspidatus thomasi	16	18
Diaptomus shoshone	1.5	2.7
nauplii	54	64
ROTATORIA		
Conochilus unicornis	1.3	--
Kellicottia longispina	12	16
Keratella cochlearis var. *macracantha*	<1	4.4
Polyarthra vulgaris	5.5	5.6

Table 8.--*Zooplankton densities in Standley Lake--Continued*

PHYLUM CLASS Order *Genus species*	Density (organisms per liter) Site L1 (near dam)	 Site L2 (near center)
	OCTOBER 2, 1990	
ARTHROPODA		
CRUSTACEA		
Cladocera		
Daphnia galeata mendotae	5.1	6.2
Daphnia similis	<1	1.3
unidentified immature cladocerans	<1	<1
Copepoda		
Cyclops bicuspidatus thomasi	14	10
Diaptomus shoshone	1.2	3.1
nauplii	53	69
ROTATORIA		
Conochilus unicornis	2.5	2.7
Kellicottia longispina	12	10
Keratella cochlearis var. *macracantha*	2.3	2.2
Polyarthra vulgaris	--	<1
	OCTOBER 10, 1990	
ARTHROPODA		
CRUSTACEA		
Cladocera		
Daphnia galeata mendotae	2.9	2.2
Copepoda		
Cyclops bicuspidatus thomasi	8.4	8.9
Diaptomus shoshone	1.9	<1
nauplii	46	40
ROTATORIA		
Conochilus unicornis	4.4	<1
Kellicottia longispina	7.8	13
Polyarthra vulgaris	3.6	6.7
	OCTOBER 16, 1990	
ARTHROPODA		
CRUSTACEA		
Cladocera		
Bosmina coregoni	<1	--
Daphnia galeata mendotae	<1	1.1
Daphnia similis	<1	<1
unidentified immature cladocerans	<1	--
Copepoda		
Cyclops bicuspidatus thomasi	8.0	13
Diaptomus shoshone	4.6	6.2
nauplii	39	46
ROTATORIA		
Conochilus unicornis	<1	<1
Kellicottia longispina	6.3	6.9
Keratella cochlearis var. *macracantha*	4.0	1.8
Polyarthra vulgaris	15	11

Table 8.--*Zooplankton densities in Standley Lake--Continued*

PHYLUM CLASS Order *Genus species*	Density (organisms per liter) Site L1 (near dam)	 Site L2 (near center)
OCTOBER 23, 1990		
ARTHROPODA		
CRUSTACEA		
Cladocera		
Daphnia galeata mendotae	<1	1.1
Daphnia similis	3.0	2.7
unidentified immature cladocerans	<1	--
Copepoda		
Cyclops bicuspidatus thomasi	6.9	6.0
Diaptomus shoshone	<1	<1
nauplii	35	33
ROTATORIA		
Conochilus unicornis	<1	2.9
Kellicottia longispina	14	15
Keratella cochlearis var. *macracantha*	4.6	14
Polyarthra vulgaris	30	33
OCTOBER 30, 1990		
ARTHROPODA		
CRUSTACEA		
Cladocera		
Daphnia galeata mendotae	<1	--
Daphnia similis	<1	1.4
Copepoda		
Cyclops bicuspidatus thomasi	8.2	4.5
Diaptomus shoshone	6.8	3.1
nauplii	44	36
ROTATORIA		
Conochilus unicornis	1.9	2.0
Kellicottia longispina	20	41
Keratella cochlearis var. *macracantha*	5.5	9.2
Polyarthra vulgaris	34	38

Table 9.--*Periphyton biomass on artificial substrates suspended in the water column*

[--, no sample; <, less than;]

Depth (inches)	Periphyton biomass, in micrograms per square centimeter			
	Site L3 (near spillway)	Site L7 (near Woman Creek inlet)	Site L9 (near Last Chance Ditch inlet)	Site L10 (near Farmers Highline and Croke Canals inlet)
		AUGUST 10-30, 1989		
12	--	8.1	23	40
24	<1	5.6	11	14
108	6.0	--	--	--
		SEPTEMBER 7-26, 1989		
12	10	21	5.1	--
24	6.4	35	17	--
36	1.9	31	17	--
108	6.0	--	--	--
		OCTOBER 5-25, 1989		
12	--	19	--	14
24	12	15	--	--
108	3.2	--	--	--

Table 10.--*Periphyton density on selected artificial substrates in Standley Lake*

[--, species not identified in sample; ---, no sample]

PHYLUM CLASS Order *Genus species*	Density, in cells per square centimeter Site L3 (near spillway)	Site L7 (near Woman Creek inlet)	Site L9 (near Last Chance Ditch inlet)	Site L10 (near Farmers Highline and Croke Canals inlet)
	AUGUST 30, 1989			
Depth, in inches	108	24	24	24
CHLOROPHYTA				
CHLOROPHYCEAE (Green algae)				
Geminella interrupta	52,000	--	--	--
Mougeotia sp.	--	--	400	810
Scenedesmus acutus	--	--	1,600	--
Spirogyra sp.	2,000	--	--	--
Stigeoclonium nanum	--	--	3,600	13,000
Ulothrix sp.	--	500	--	--
CHRYSOPHYTA				
BACILLARIOPHYCEAE (Diatoms)				
Centrales				
Melosira ambigua	--	--	130	--
Melosira italica	--	--	130	--
Melosira varians	550	900	--	720
Stephanodiscus alpinus	2,200	1,800	--	--
Pennales				
Achnanthes affinis	5,500	43,000	--	310
Achnanthes deflexa	--	--	--	100
Achnanthes lanceolata var. *dubia*	--	43,000	1,200	100
Achnanthes lanceolata var. *lanceolata*	--	--	390	--
Achnanthes linearis	--	--	770	100
Achnanthes linearis cf. curta	2,200	--	--	--
Achnanthes microcephala	2,200	--	390	100
Achnanthes minutissima	440,000	5,700,000	27,000	35,000
Amphipleura pellucida	28,000	43,000	2,300	610
Asterionella formosa	2,200	--	130	--
Caloneis amphisbaena	--	--	260	--
Caloneis sp.	--	--	130	--
Cymatopleura solea	--	--	1,000	100
Cymbella cistula	--	--	130	--
Cymbella microcephala	12,000	72,000	130	--
Cymbella minuta var. *minuta*	--	43,000	900	100
Cymbella minuta var. *silesiaca*	--	14,000	1,300	510
Cymbella pusilla	--	--	640	510
Cymbella triangulum	--	--	130	--
Cymbella tumida	--	--	1,200	--
Diploneis oblongella	--	--	900	410
Entomoneis ornata	--	--	130	--
Epithemia sorex	--	900	--	51
Fragilaria construens var. *binodis*	--	--	130	--
Fragilaria crotonensis	5,500	140,000	900	100
Fragilaria leptostauron var. *dubia*	--	--	130	--
Fragilaria pinnata var. *intercedens*	--	--	260	--
Fragilaria pinnata var. *pinnata*	--	--	260	--
Fragilaria vaucheriae	4,400	130,000	900	2,800
Fragilariasp.	--	520,000	--	--
Gomphonema angustatum	--	330,000	390	1,200
Gomphonema olivaceum	5,500	--	--	--
Gomphonema subclavatum	--	--	130	510
Hannaea arcus	--	--	130	--
Hantzschia amphioxys	--	--	130	51
Navicula cryptocephala var. *veneta*	1,100	29,000	1,500	720
Navicula disjuncta	--	--	130	--
Navicula exigua	--	--	130	--
Navicula gysingensis	--	--	640	--

Table 10.--*Periphyton density on selected artificial substrates in Standley Lake*--Continued

PHYLUM CLASS Order *Genus species*	Density, in cells per square centimeter Site L3 (near spillway)	Site L7 (near Woman Creek inlet)	Site L9 (near Last Chance Ditch inlet)	Site L10 (near Farmers Highline and Croke Canals inlet)
	AUGUST 30, 1989--Continued			
Depth, in inches	108	24	24	24
CHRYSOPHYTA--Continued				
BACILLARIOPHYCEAE (Diatoms)--Continued				
Pennales--Continued				
Navicula heufleri	--	--	--	100
Navicula lanceolata	--	--	770	--
Navicula menisculus	1,100	--	130	--
Navicula minima	--	--	130	100
Navicula minuscula	--	--	1,300	--
Navicula notha	--	14,000	130	--
Navicula pelliculosa	--	--	--	200
Navicula protracta	1,100	--	--	--
Navicula pupula var. *capitata*	--	--	130	510
Navicula pupula var. *pupula*	--	--	510	100
Navicula radiosa	--	--	--	200
Navicula radiosa var. *tenella*	1,100	--	260	--
Navicula rhynchocephala	1,100	--	--	--
Navicula subminuscula	1,100	--	260	510
Navicula tripunctata var. *schizonemoides*	--	--	130	100
Navicula tripunctata var. *tripunctata*	--	--	260	300
Navicula viridula var. *avenacea*	--	--	130	--
Navicula viridula var. *linearis*	--	--	260	--
Navicula sp.	3,300	--	260	100
Neidium binode	--	3,600	--	200
Nitzschia acicularis	--	--	260	100
Nitzschia acula	--	--	640	510
Nitzschia agnewii	4,400	29,000	390	--
Nitzschia amphibia	--	--	--	100
Nitzschia dissipata	4,400	29,000	260	200
Nitzschia frustulum	4,400	--	390	310
Nitzschia gracilis	1,100	--	770	--
Nitzschia kuetzingiana	19,000	43,000	5,500	1,800
Nitzschia latens	--	--	130	100
Nitzschia linearis	--	--	--	100
Nitzschia lorenziana	--	--	130	100
Nitzschia microcephala	--	--	510	--
Nitzschia palea	3,300	--	3,200	1,100
Nitzschia paleacea	--	--	770	100
Nitzschia rufitorrentis	--	1,800	--	--
Nitzschia vermicularis	--	--	260	--
Nitzschia sp.	--	--	130	--
Rhopalodia gibba	550	7,200	640	100
Surirella angusta	--	--	--	100
Surirella linearis	--	--	130	--
Surirella ovata	1,100	--	770	200
Surirella patella	--	--	130	--
Surirella suecica	--	--	--	100
Synedra acus	--	1,800	--	--
CYANOPHYTA				
CYANOPHYCEAE (Blue-green algae)				
Anabaena sp.	30,000	52,000	--	600
Aphanothece sp.	--	--	--	10,000
Chroococcus minimus	--	--	1,200	1,200
Lyngbya limnetica	900,000	7,500,000	360,000	190,000
Lyngbya nana	--	--	--	16,000
Merismopedia tenuissima	--	--	--	2,600
Oscillatoria nigra	--	--	--	5,400
Oscillatoria subtilissima	36,000	--	--	--
Phormidium fragile	--	--	--	810
Phormidium sp.	--	--	110,000	4,000

Table 10.--*Periphyton density on selected artificial substrates in Standley Lake*--Continued

PHYLUM CLASS Order *Genus species*	Density, in cells per square centimeter Site L3 (near spillway)	Site L7 (near Woman Creek inlet)	Site L9 (near Last Chance Ditch inlet)	Site L10 (near Farmers Highline and Croke Canals inlet)
	SEPTEMBER 26, 1989			
Depth, in inches	108	36	36	---
CHLOROPHYTA				
CHLOROPHYCEAE (Green algae)				
Eutetramorus sp.	--	20,000	--	---
Geminella interrupta	110,000	--	--	---
Gloeocystis sp.	--	10,000	--	---
Microspora tumidula	--	140,000	--	---
Oocystis lacustris	--	15,000	--	---
Stigeoclonium nanum	4,000	--	18,000	---
CHRYSOPHYTA				
BACILLARIOPHYCEAE (Diatoms)				
Centrales				
Cyclotella stelligera var. *tenuis*	2,300	37,000	3,800	---
Melosira ambigua	10,000	110,000	19,000	---
Melosira granulata var. *angustissima*	--	15,000	--	---
Melosira italica	--	15,000	--	---
Melosira varians	--	1,800	960	---
Stephanodiscus alpinus	--	920	960	---
Pennales				
Achnanthes clevei	--	7,300	--	---
Achnanthea exigua	--	920	--	---
Achnanthes lanceolata var. *dubia*	1,200	15,000	14,000	---
Achnanthes lanceolata var. *lanceolata*	--	11,000	--	---
Achnanthes linearis	1,200	44,000	19,000	---
Achnanthes linearis cf. curta	--	--	1,900	---
Achnanthes microcephala	--	--	5,800	---
Achnanthes minutissima	400,000	290,000	330,000	---
Achnanthes sp.	--	3,700	--	---
Amphipleura pellucida	52,000	210,000	21,000	---
Amphora perpusilla	2,300	3,700	--	---
Amphora submontana	580	--	--	---
Amphora veneta	2,300	11,000	1,900	---
Asterionella formosa	21,000	130,000	1,900	---
Caloneis lewisii	--	--	480	---
Cymbella amphicephala	--	--	960	---
Cymbella cistula	2,300	1,800	1,900	---
Cymbella microcephala	15,000	3,700	5,800	---
Cymbella minuta var. *minuta*	--	18,000	7,700	---
Cymbella minuta var. *silesiaca*	--	7,300	15,000	---
Cymbella pusilla	--	--	17,000	---
Cymbella tumida	--	920	--	---
Diploneis oblongella	--	33,000	3,800	---
Fragilaria capucina	12,000	--	--	---
Fragilaria capucina var. *mesolepta*	--	59,000	--	---
Fragilaria crotonensis	2,300	170,000	14,000	---
Fragilaria leptostauron var. *dubia*	--	140,000	1,900	---
Fragilaria leptostauron var. *leptostauron*	--	920	--	---
Fragilaria pinnata var. *pinnata*	--	37,000	3,800	---
Fragilaria vaucheriae	5,800	44,000	29,000	---
Gomphonema angustatum	24,000	48,000	420,000	---
Gomphonema gracile	6,900	--	3,800	---
Gomphonema olivaceum	--	--	7,700	---
Gomphonema parvulum	--	--	960	---
Gomphonema subclavatum	--	7,300	960	---
Gyrosigma spencerii	--	--	480	---
Navicula arvensis	--	3,700	--	---
Navicula auriculata	--	920	--	---
Navicula capitata	--	7,300	--	---
Navicula cryptocephala	--	3,700	--	---
Navicula cryptocephala var. *veneta*	1,200	1,800	960	---

Table 10.--*Periphyton density on selected artificial substrates in Standley Lake*--Continued

PHYLUM CLASS Order *Genus species*	Density, in cells per square centimeter Site L3 (near spillway)	Site L7 (near Woman Creek inlet)	Site L9 (near Last Chance Ditch inlet)	Site L10 (near Farmers Highline and Croke Canals inlet)
	SEPTEMBER 26, 1989--Continued			
Depth, in inches	108	36	36	---
CHYRYSOPHYTA--Continued				
BACILLARIOPHYCEAE (Diatoms)--Continued				
Pennales--Continued				
Navicula decussis	--	--	960	---
Navicula exigua	1,200	--	--	---
Navicula heufleri	--	1,800	--	---
Navicula laevissima	--	920	--	---
Navicula lanceolata	--	--	1,900	---
Navicula menisculus	--	--	3,800	---
Navicula minuscula	3,500	7,300	7,700	---
Navicula muralis	--	3,700	--	---
Navicula notha	--	1,800	--	---
Navicula pelliculosa	--	11,000	--	---
Navicula pupula var. *pupula*	--	7,300	1,900	---
Navicula radiosa	--	920	--	---
Navicula tripunctata var. *tripunctata*	--	1,800	--	---
Navicula viridula var. *linearis*	--	--	3,800	---
Navicula viridula var. *viridula*	--	920	--	---
Navicula sp.	--	3,700	--	---
Neidium binode	--	--	480	---
Neidium dubium	--	--	960	---
Nitzschia acicularis	--	18,000	--	---
Nitzschia agnewii	3,500	110,000	1,900	---
Nitzschia caledonensis	--	15,000	--	---
Nitzschia communis	1,200	920	--	---
Nitzschia dissipata	--	29,000	12,000	---
Nitzschia frustulum	--	11,000	--	---
Nitzschia gracilis	--	3,700	1,900	---
Nitzschia hungarica	--	920	--	---
Nitzschia kuetzingiana	--	51,000	12,000	---
Nitzschia microcephala	--	11,000	--	---
Nitzschia palea	4,600	58,000	3,800	---
Nitzschia paleacea	--	11,000	1,900	---
Rhopalodia gibba	--	920	1,900	---
Surirella linearis	--	920	--	---
Surirella suecica	--	7,300	--	---
Synedra delicatissima var. *angustissima*	290	--	--	---
Synedra radians	2,300	--	23,000	---
Synedra rumpens var. *familiaris*	--	3,700	--	---
Synedra rumpens var. *rumpens*	580	11,000	--	---
Synedra rumpens var. *scotia*	--	--	5,800	---
Synedra sp.	--	3,700	1,900	---
CYANOPHYTA				
CYANOPHYCEAE (Blue-green algae)				
Chroococcus sp.	--	--	8,100	---
Lyngbya limnetica	160,000	350,000	1,100,000	---
Oscillatoria limnetica	93,000	--	--	---
Oscillatoria nigra	--	--	480	---
Oscillatoria princeps	--	--	240	---
Oscillatoria tenuis	--	5,000	--	---
	OCTOBER 25, 1989			
Depth, in inches	108	24	---	18
CHLOROPHYTA				
CHLOROPHYCEAE (Green algae)				
Chlorella sp.	--	--	---	2,000
Geminella interrupta	2,800	--	---	--
Microspora tumidula	1,200	--	---	--
Stigeoclonium nanum	600	40,000	---	2,000

Table 10.--*Periphyton density on selected artificial substrates in Standley Lake*--Continued

PHYLUM CLASS Order *Genus species*	Density, in cells per square centimeter Site L3 (near spillway)	Site L7 (near Woman Creek inlet)	Site L9 (near Last Chance Ditch inlet)	Site L10 (near Farmers Highline and Croke Canals inlet)
OCTOBER 25, 1989--Continued				
Depth, in inches	108	24	---	18
CHRYSOPHYTA				
BACILLARIOPHYCEAE (Diatoms)				
Centrales				
Cyclotella stelligera var. *tenuis*	700	--	---	1,400
Melosira ambigua	2,100	--	---	2,900
Melosira granulata var. *angustissima*	--	10,000	---	--
Melosira italica	--	39,000	---	--
Melosira varians	22,000	52,000	---	82,000
Pennales				
Achnanthes affinis	2,800	5,200	---	8,700
Achnanthes linearis	700	2,600	---	--
Achnanthes microcephala	--	--	---	1,400
Achnanthes minutissima	180,000	580,000	---	180,000
Amphipleura pellucida	700	18,000	---	12,000
Amphora veneta	1,400	--	---	--
Asterionella formosa	350	10,000	---	1,400
Cymbella affinis	--	2,600	---	--
Cymbella cistula	350	10,000	---	720
Cymbella microcephala	--	--	---	720
Cymbella minuta var. *minuta*	--	13,000	---	12,000
Cymbella minuta var. *silesiaca*	1,400	2,600	---	2,900
Cymbella pusilla	1,400	--	---	1,400
Cymbella tumida	--	29,000	---	5,800
Diploneis oblongella	--	--	---	2,900
Fragilaria capucina	--	--	---	1,400
Fragilaria crotonensis	12,000	55,000	---	28,000
Fragilaria pinnata var. *pinnata*	--	10,000	---	--
Fragilaria vaucheriae	4,200	2,600	---	43,000
Gomphoneis herculeana	--	--	---	720
Gomphonema angustatum	94,000	210,000	---	270,000
Gomphonema gracile	1,400	--	---	7,200
Gomphonema olivaceum	11,000	170,000	---	26,000
Gomphonema parvulum	--	--	---	720
Gomphonema subclavatum	700	31,000	---	5,800
Gomphonema tenellum	--	7,800	---	--
Gomphonema truncatum var. *capitatum*	--	--	---	720
Hannaea arcus	--	--	---	1,400
Navicula cryptocephala var. *veneta*	1,400	--	---	--
Navicula minima	--	--	---	720
Navicula notha	2,100	--	---	--
Navicula sp.	--	2,600	---	--
Neidium binode	180	--	---	--
Nitzschia agnewii	2,800	18,000	---	8,700
Nitzschia dissipata	1,400	--	---	1,400
Nitzschia intermedia	--	2,600	---	--
Nitzschia kuetzingiana	6,300	18,000	---	7,200
Nitzschia microcephala	--	--	---	1,400
Nitzschia palea	--	2,600	---	4,300
Nitzschia paleacea	2,100	16,000	---	1,400
Rhopalodia gibba	2,800	--	---	--
Synedra rumpens var. *rumpens*	700	--	---	4,300
CYANOPHYTA				
CYANOPHYCEAE (Blue-green algae)				
Lyngbya limnetica	49,000	120,000	---	30,000
Oscillatoria limnetica	9,700	24,000	---	16,000
Oscillatoria tenuis	--	8,100	---	--
Phormidium fragile	18,000	--	---	--
Phormidium sp.	--	40,000	---	--
Pseudanabaena sp.	--	16,000	---	--

Table 11.--*Relative density of periphyton on natural substrates collected during 1989*

[****, dominant; XXX, abundant; ++, present; -, absent; --, no sample]

PHYLUM CLASS Order *Genus species*	Site L3 (near spillway)	Site L7 (near Woman Creek inlet)	Site L9 (near Last Chance Ditch inlet)	Site L10 (near Farmers Highline and Croke Canals inlet)	Site L11 (near boat ramp)
		AUGUST 30			
CHLOROPHYTA					
CHAROPHYCEAE (Stoneworts)					
Chara sp.	-	-	-	-	****
CHLOROPHYCEAE (Green algae)					
Chlamydomonas sp.	++	-	-	-	-
Cosmarium sp.	++	-	-	++	-
Mougeotia sp.	XXX	-	XXX	-	-
Pithophora sp.	-	****	-	-	-
Rhizoclonium sp.	++	-	-	-	-
Spirogyra sp.	-	-	-	****	-
unidentified green algae	-	++	-	-	XXX
CHRYSOPHYTA					
BACILLARIOPHYCEAE (Diatoms)					
Centrales					
Melosira distans	++	++	++	-	-
Melosira islandica	++	-	++	-	-
Melosira sp.	-	++	++	-	-
Pennales					
Achnanthes exigua	++	-	-	-	-
Achnanthes inflexa	****	-	-	-	-
Achnanthes minutissima	****	++	++	++	-
Amphora lineolata	++	-	-	-	-
Amphora veneta	++	-	-	-	++
Asterionella formosa	++	-	-	-	-
Cymbella cf. gibba	++	-	-	-	-
Cymbella minuta	++	-	++	++	-
Cymbella ventricosa	++	-	-	-	-
Cymbella sp.	-	-	++	++	-
Eunotia sp.	++	-	-	-	-
Fragillaria construens	++	++	-	++	-
Fragillaria crotonensis	-	XXX	++	-	++
Fragillaria sp.	-	-	-	++	-
Gomphonema lanceolatum	++	-	-	-	-
Navicula cryptocephala	-	-	++	-	-
Navicula radiosa	-	-	++	-	-
Navicula pupula	++	-	++	-	-
Navicula ryncephala	++	-	-	-	-
Navicula tripunctatum	-	-	++	-	-
Navicula sp.	++	-	-	-	-
Nedium sp.	++	-	-	-	-
Nitzschia acicularis	++	-	-	-	-
Nitzschia amphibia	XXX	-	-	-	-
Nitzschia denticula	++	-	++	-	-
Nitzschia palacea	++	-	++	++	-
Nitzschia sp.	++	-	-	++	-
Pinnularia sp.	-	-	++	-	-
Plagiotropis lepidoptera	XXX	++	-	-	-
Rhoicosphenia curvata	++	-	-	++	-
Rhopalodia gibba	++	++	****	-	++
Surirella constatanea	-	-	-	++	-
Surirella ovata	-	-	++	-	-
Surirella sp.	-	-	++	-	-
Synedra acus	++	-	-	-	-
CYANOPHYTA					
MYXOPHYCEAE (Blue-green algae)					
Anabaena sp.	-	-	++	++	-
Lyngbya sp.	-	XXX	-	-	-

Table 11.--*Relative density of periphyton on natural substrates collected during 1989*--Continued

PHYLUM CLASS Order *Genus species*	Site L3 (near spillway)	Site L7 (near Woman Creek inlet)	Site L9 (near Last Chance Ditch inlet)	Site L10 (near Farmers Highline and Croke Canals inlet)	Site L11 (near boat ramp)
		SEPTEMBER 26			
CHLOROPHYTA					
CHAROPHYCEAE (Stoneworts)					
Chara sp.	-	-	****	-	****
CHLOROPHYCEAE (Green algae)					
Spirogyra sp.	-	****	XXX	****	XXX
unidentified green algae	****	-	-	-	-
CHRYSOPHYTA					
BACILLARIOPHYCEAE (Diatoms)					
Centrales					
Melosira distans	-	-	++	++	-
Melosira sp.	-	++	-	-	-
unidentified centric diatoms	-	++	-	-	-
Pennales					
Asterionella formosa	-	++	-	++	-
Fragillaria construens	-	++	-	-	-
Fragillaria crotonensis	-	++	XXX	XXX	-
Gyrosigma sp.	-	++	-	-	-
Navicula sp.	-	-	-	++	-
Nitzschia hungarica	-	-	-	++	-
Nitzschia palacea	-	-	-	++	-
Nitzschia vermicularis	-	-	-	++	-
Pleurosigma sp.	-	++	-	-	-
Rhopalodia gibba	-	++	++	-	-
Surirella ovata	-	-	++	XXX	-
Surirella sp.	-	-	++	XXX	-
		OCTOBER 25			
CHLOROPHYTA					
CHAROPHYCEAE (Stoneworts)					
Chara sp.	--	-	--	-	****
CHLOROPHYCEAE (Green algae)					
Pithophora sp.	--	-	--	****	-
Spirogyra sp.	--	****	--	-	XXX
CHRYSOPHYTA					
BACILLARIOPHYCEAE (Diatoms)					
Centrales					
Melosira distans	--	-	--	XXX	-
Melosira sp.	--	++	--	-	-
Pennales					
Achnanthes sp.	--	-	--	++	-
Cocconeis placentula	--	++	--	-	-
Cymbella sp.	--	-	--	++	++
Fragillaria construens	--	++	--	++	-
Fragillaria crotonensis	--	XXX	--	-	++
Gomphonema cf. acuminatum	--	-	--	++	-
Nitzschia palacea	--	++	--	XXX	-
Pinnularia cf. viridis	--	-	--	++	-
Rhoicosphenia curvata	--	-	--	++	-
Rhopalodia gibba	--	-	--	++	++
Surirella ovata	--	++	--	XXX	-
Surirella sp.	--	-	--	XXX	-
CYANOPHYTA					
MYXOPHYCEAE (Blue-green algae)					
Lyngbya sp.	--	-	--	++	-

Table 12.--*Periphyton density on bottom sediment samples in Standley Lake*

[--, species not identified in sample]

PHYLUM CLASS Order *Genus species*	Density (cells per square centimeter)								
	Site L7 (near Woman Creek inlet)			Site L10 (near Farmers Highline and Croke Canals inlet)			Site L11 (near boat ramp)		
	AUGUST 15, 1990								
Depth, in feet	9	18	27	9	18	27	7	14	21
CHLOROPHYTA									
CHLOROPHYCEAE (Green algae)									
Actinastrum hantzschii	24	--	--	--	--	--	--	--	--
CHRYSOPHYTA									
BACILLARIOPHYCEAE (Diatoms)									
Centrales									
Cyclotella bodanica	--	--	15	--	11	--	--	--	--
Cyclotella meneghiniana	--	--	34	48	48	--	--	--	15
Cyclotella stelligera	--	--	--	--	--	--	1	2	18
Melosira ambigua	290	2,300	1,600	--	16	1,800	--	--	530
Melosira granulata	--	--	200	36	--	--	--	--	--
Melosira granulata var. *angustissima*	--	--	460	--	88	340	31	--	33
Melosira italica	16	360	2,000	48	87	970	41	71	550
Melosira italica var. *tenuissima*	--	--	590	--	--	230	15	220	180
Melosira lirata	81	--	--	--	--	--	--	--	--
Melosira varians	--	--	--	36	11	23	10	--	--
Stephanodiscus alpinus	--	690	520	16	--	360	15	27	140
Stephanodiscus dubius	--	--	--	--	--	9	--	--	--
Pennales									
Achnanthes affinis	--	--	--	--	32	--	--	--	--
Achnanthes clevei	8	48	--	--	--	11	8	--	--
Achnanthes deflexa	16	--	--	--	15	39	190	56	62
Achnanthes detha	8	--	30	13	20	--	13	2	18
Achnanthea exigua	64	140	120	7	--	22	42	21	--
Achnanthes exilis	--	--	--	18	--	--	--	--	--
Achnanthes flexella	--	--	--	--	--	--	5	--	--
Achnanthes lanceolata var. *dubia*	240	410	830	--	--	--	7	--	16
Achnanthes lanceolata var. *lanceolata*	120	140	140	30	94	110	13	6	120
Achnanthes linearis	1,200	270	250	3,100	3,400	1,300	200	580	2,500
Achnanthes marginulata	--	--	--	--	17	--	--	--	--
Achnanthes microcephala	--	--	35	39	37	--	10	--	--
Achnanthes minutissima	540	320	96	550	760	260	25	63	220
Achnanthes sp.	--	18	47	7	--	--	--	--	--
Amphipleura pellucida	--	61	--	22	24	12	75	11	15
Amphipleura solea	--	--	17	--	--	--	--	--	--
Amphora normanii	--	--	--	6	13	--	--	9	54
Amphora ovalis	--	--	--	--	--	--	--	9	--
Amphora ovata	--	--	15	--	--	--	--	--	--
Amphora perpusilla	43	27	110	--	--	22	10	9	35
Amphora submontana	--	--	--	--	--	23	--	--	--
Amphora veneta	--	200	220	12	13	35	41	150	30
Asterionella formosa	43	3,800	7,700	180	1,400	5,800	150	700	3,300
Caloneis amphisbaena	--	--	--	--	--	19	--	18	--
Caloneis bacillum	--	--	--	31	72	--	--	--	--
Caloneis bacillum var. *angusta*	--	--	--	--	--	32	--	--	--
Caloneis ventricosa	--	--	--	--	--	--	--	--	23
Cocconeis placentula	33	--	15	6	26	12	--	--	30
Cymatopleura elliptica	--	27	--	12	--	--	--	--	23
Cymatopleura elliptica var. *nobilis*	--	--	--	--	--	--	--	--	--
Cymatopleura solea	110	220	64	240	74	23	15	61	89

Table 12.--*Periphyton density on bottom sediment samples in Standley Lake*--Continued

PHYLUM CLASS Order *Genus species*	Density (cells per square centimeter)								
	Site L7 (near Woman Creek inlet)			Site L10 (near Farmers Highline and Croke Canals inlet)			Site L11 (near boat ramp)		
	AUGUST 15, 1990--Continued								
Depth, in feet	9	18	27	9	18	27	7	14	21
CHRYSOPHYTA--Continued									
BACILLARIOPHYCEAE (Diatoms)--Continued									
Pennales--Continued									
Cymbella lunata	--	--	17	--	--	--	25	8	--
Cymbella minuta var. *minuta*	110	200	97	380	410	490	66	130	180
Cymbella minuta var. *silesiaca*	48	100	30	200	200	140	10	50	190
Cymbella prostrata	--	73	30	13	--	--	10	18	44
Cymbella sinuata	16	--	--	13	--	57	--	--	--
Cymbella tumida	16	--	--	--	--	--	--	--	--
Cymbella sp.	--	--	--	--	--	23	--	--	--
Diatoma hiemale var. *mesodon*	--	27	--	48	46	12	--	--	45
Diatoma tenue var. *elongatum*	--	--	--	--	--	--	--	2	--
Diatoma vulgare	16	--	--	--	--	--	--	--	--
Diploneis marginestriata	64	61	170	--	--	22	8	8	--
Diploneis peterseni	--	--	--	13	24	--	10	11	8
Diploneis sp.	16	73	--	--	--	--	--	--	--
Entomoneis ornata	--	18	--	26	--	--	--	--	--
Epithemia sorex	--	--	--	19	5	--	--	--	16
Fragilaria brevistriata var. *inflata*	--	110	310	--	--	--	--	--	--
Fragilaria capucina var. *mesolepta*	32	41	--	--	--	23	--	--	--
Fragilaria construens var. *binodis*	1,700	5,200	1,600	20	--	--	--	--	--
Fragilaria construens var. *construens*	--	--	--	--	--	--	--	14	--
Fragilaria construens var. *venter*	1,300	1,000	610	210	210	150	40	120	25
Fragilaria crotonensis	220	570	680	240	230	600	100	130	400
Fragilaria leptostauron	37	--	--	--	--	--	--	12	--
Fragilaria leptostauron var. *leptostauron*	--	--	340	--	43	--	--	--	--
Fragilaria leptostauron var. *rhomboides*	--	--	--	--	--	--	--	--	7
Fragilaria pinnata var. *intercedens*	24	--	320	--	--	--	--	--	--
Fragilaria pinnata var. *pinnata*	4,000	3,700	2,900	18	--	230	--	--	--
Fragilaria vaucheriae	620	570	400	2,000	850	740	180	420	1,400
Fragilaria virescens	--	--	33	--	--	--	--	--	--
Fragilaria sp.	--	--	--	--	--	--	19	--	75
Frustilia vulgaris	--	--	--	--	13	--	--	--	--
Gomphonema acuminatum	--	14	--	--	--	110	--	--	54
Gomphonema angustatum	--	--	--	94	61	120	3	18	110
Gomphonema olivaceum	16	--	35	54	45	82	--	18	54
Gomphonema parvulum	--	--	--	--	--	11	--	--	--
Gyrosigma spencerii	26	14	--	--	11	--	--	--	--
Hannaea arcus	--	--	--	71	85	23	1	2	47
Hantzschia amphioxys	--	27	17	--	--	--	3	3	--
Meridion circulare	16	14	--	--	26	--	--	--	10
Navicula accomoda	--	--	--	--	--	23	--	8	--
Navicula arvensis	--	--	--	--	--	--	--	12	--
Navicula biconica	--	--	--	--	--	--	30	--	--
Navicula capitata	--	--	--	--	5	--	--	--	--
Navicula capitata var. *capitata*	61	66	--	--	--	--	--	--	--
Navicula capitata var. *hungarica*	57	--	--	--	--	--	--	--	--
Navicula cryptocephala var. *cryptocephala*	170	87	200	56	12	30	31	17	30
Navicula cryptocephala var. *veneta*	130	110	--	43	37	--	86	32	41
Navicula cuspidata var. *ambiqua*	--	14	--	--	17	23	--	--	20

Table 12.--*Periphyton density on bottom sediment samples in Standley Lake*--Continued

PHYLUM CLASS Order *Genus species*	Density (cells per square centimeter) Site L7 (near Woman Creek inlet)			Site L10 (near Farmers Highline and Croke Canals inlet)			Site L11 (near boat ramp)		
AUGUST 15, 1990--Continued									
Depth, in feet	9	18	27	9	18	27	7	14	21
CHRYSOPHYTA--Continued									
BACILLARIOPHYCEAE (Diatoms)--Continued									
Pennales--Continued									
Navicula decussis	--	--	--	30	11	--	32	16	93
Navicula elginensis	--	--	--	--	--	--	61	4	--
Navicula excelsa	--	--	--	7	--	--	--	--	--
Navicula exigua	130	88	--	--	--	--	25	--	--
Navicula exigua var. *capitata*	--	--	50	--	--	--	--	18	--
Navicula gastrum	59	66	34	--	--	22	5	10	--
Navicula gregaria	--	--	--	7	--	--	--	9	20
Navicula halophila	--	--	--	--	--	--	5	--	--
Navicula heufleri	21	--	--	13	--	41	13	--	39
Navicula heufleri var. *heufleri*	--	37	--	--	--	--	--	--	--
Navicula heufleri var. *leptocephala*	--	37	--	--	--	--	--	--	--
Navicula indifferens	--	--	--	--	--	--	3	--	--
Navicula laevissima	43	--	--	13	9	12	--	--	25
Navicula lanceolata	21	--	52	18	--	--	13	19	--
Navicula menisculus	32	73	17	86	24	30	74	82	110
Navicula minima	220	78	68	340	260	35	13	22	150
Navicula minuscula	67	15	60	--	49	--	100	37	59
Navicula muralis	--	--	--	6	--	--	1	--	--
Navicula notha	--	--	--	13	5	22	12	20	10
Navicula pelliculosa	--	--	--	18	--	--	--	--	--
Navicula pupula var. *capitata*	64	29	--	60	--	--	170	6	35
Navicula pupula var. *pupula*	180	180	180	30	11	62	79	84	71
Navicula pupula var. *rectangularis*	--	--	--	--	--	--	17	--	15
Navicula radiosa	19	73	33	--	--	--	--	9	--
Navicula rhynchocephala	--	18	17	--	--	--	4	8	--
Navicula subminuscula	--	--	--	170	15	--	--	--	--
Navicula tripunctata var. *schizonemoides*	--	--	--	9	24	--	7	14	--
Navicula tripunctata var. *tripunctata*	40	15	--	30	--	23	19	6	32
Navicula viridula var. *avenacea*	--	--	--	9	--	22	--	--	--
Navicula viridula var. *linearis*	21	46	--	--	16	--	77	17	31
Navicula viridula var. *viridula*	--	--	17	--	--	--	10	10	--
Navicula sp.	24	18	--	32	--	--	6	4	--
Neidium binode	32	--	--	--	--	--	10	24	--
Neidium marginestriata	--	--	--	--	--	--	10	--	--
Neidium sp.	--	--	--	18	17	--	--	12	--
Nitzschia acula	--	75	--	--	35	46	--	77	36
Nitzschia acicularis	11	--	17	33	--	--	20	--	--
Nitzschia acula	16	--	--	220	--	--	260	--	--
Nitzschia agnewii	16	14	--	7	--	19	31	9	--
Nitzschia amphibia	--	--	100	--	--	--	--	--	--
Nitzschia communis	--	--	--	--	--	--	4	--	--
Nitzschia denticula	--	--	--	7	--	--	1	--	--
Nitzschia dissipata	21	--	60	67	28	--	96	26	15
Nitzschia fonticola	16	--	15	13	--	--	13	--	16
Nitzschia frustulum	--	37	--	27	9	--	13	--	--
Nitzschia gracilis	--	43	--	--	--	12	12	16	20
Nitzschia hungarica	21	15	--	--	--	19	--	--	--
Nitzschia inconspicua	--	--	--	6	--	--	--	6	--
Nitzschia kuetzingiana	210	130	60	350	180	60	530	110	87
Nitzschia linearis	37	27	33	24	290	75	3	98	230
Nitzschia lorenziana	--	37	--	--	--	--	--	8	--
Nitzschia microcephala	--	--	--	--	--	--	68	--	--

Table 12.--*Periphyton density on bottom sediment samples in Standley Lake*--Continued

PHYLUM CLASS Order *Genus species*	Density (cells per square centimeter) Site L7 (near Woman Creek inlet)			Site L10 (near Farmers Highline and Croke Canals inlet)			Site L11 (near boat ramp)		
	AUGUST 15, 1990--Continued								
Depth, in feet	9	18	27	9	18	27	7	14	21
CHRYSOPHYTA--Continued									
BACILLARIOPHYCEAE (Diatoms)--Continued									
Pennales--Continued									
Nitzschia obtusa	--	--	--	--	26	--	--	--	--
Nitzschia palea	490	630	380	670	140	220	1,000	550	480
Nitzschia paleacea	--	--	--	7	--	--	7	--	--
Nitzschia sigmoidea	--	--	--	--	11	--	--	--	--
Nitzschia tryblionella	--	37	--	--	--	--	--	--	--
Nitzschia tryblionella var. *levidensis*	--	--	35	--	--	--	--	--	--
Nitzschia umbilica	--	--	35	--	--	--	--	--	--
Nitzschia vermicularis	21	170	220	55	48	260	--	30	130
Nitzschia sp.	--	--	33	--	--	--	31	--	--
Pinnularia borealis	--	--	17	--	--	--	--	--	--
Pinnularia intermedia	--	--	--	--	--	--	--	8	--
Pinnularia stomatophora	--	--	--	--	5	--	--	--	--
Pinnularia sp.	16	14	--	--	--	--	--	--	--
Rhoicosphenia curvata	--	--	--	--	--	--	3	4	--
Rhopalodia gibba	--	--	35	--	35	46	49	9	--
Rhopalodia gibberula	--	--	--	12	--	22	--	--	--
Rhopalodia musculus	--	--	35	--	--	--	--	6	--
Stauroneis sp.	--	--	--	--	5	--	--	--	--
Surirella angusta	59	29	--	100	98	150	4	10	220
Surirella biseriata	59	260	52	450	120	65	51	31	64
Surirella linearis	--	--	--	--	--	--	5	8	--
Surirella ovata var. *crumena*	37	150	--	180	290	230	15	51	120
Surirella ovata var. *ovata*	65	360	160	110	140	290	--	60	360
Surirella suecica	--	--	--	6	--	--	6	8	--
Synedra fasciculata	--	--	--	--	--	--	--	--	8
Synedra pulchella	--	--	--	37	13	--	--	8	--
Synedra rumpens var. *familiaris*	70	--	--	15	11	--	17	--	77
Synedra rumpens var. *rumpens*	--	--	17	6	--	--	--	8	--
Synedra ulna var. *ulna*	--	--	48	7	24	--	--	8	--
Synedra sp.	--	--	33	--	--	--	--	--	--
CYANOPHYTA									
CYNAOPHYCEAE (Blue-green algae)									
Anabaena sp.	--	--	--	--	--	--	120	--	--
Lyngbya limnetica	2,900	5,600	200	710	--	150	930	200	--
Oscillatoria limnetica	490	390	--	--	--	--	--	--	--
Oscillatoria tenuis	10,000	--	1,100	--	780	--	--	--	--

Table 12.--*Periphyton density on bottom sediment samples in Standley Lake*--Continued

PHYLUM CLASS Order *Genus species*	Density (cells per square centimeter)								
	Site L7 (near Woman Creek inlet)			Site L10 (near Farmers Highline and Croke Canals inlet)			Site L11 (near boat ramp)		
	SEPTEMBER 19, 1990								
Depth, in feet	5	11	15	6	11	19	8	16	24
CHLOROPHYTA									
CHLOROPHYCEAE (Green algae)									
Scenedesmus acuminatus	--	--	--	150	--	--	--	--	--
Spirogyra sp.	--	--	--	98	--	--	--	--	--
Staurastrum paradoxum	12	--	6	--	--	--	--	--	--
CHRYSOPHYTA									
BACILLARIOPHYCEAE (Diatoms)									
Centrales									
Cyclotella bodanica	--	--	--	7	8	41	--	--	20
Cyclotella meneghiniana	--	--	--	23	6	26	--	12	10
Cyclotella ocellata	--	--	--	5	--	8	--	--	--
Melosira ambigua	240	1,200	790	83	180	780	71	160	2,700
Melosira distans	--	--	--	--	--	48	--	--	34
Melosira italica	100	--	--	--	8	350	--	99	84
Melosira lirata	--	--	--	--	--	--	--	6	--
Melosira varians	72	54	--	230	58	28	100	12	37
Stephanodiscus alpinus	64	300	20	5	--	93	8	32	150
Pennales									
Achnanthes affinis	--	--	--	--	6	--	--	--	8
Achnanthes clevei	65	93	53	--	6	--	--	--	--
Achnanthes deflexa	--	27	--	15	8	9	120	25	10
Achnanthes detha	--	20	--	150	22	52	--	--	--
Achnanthea exigua	72	41	40	--	--	8	490	76	--
Achnanthes lanceolata var. *dubia*	360	570	510	--	15	16	30	13	10
Achnanthes lanceolata var. *lanceolata*	24	81	150	75	73	56	36	44	49
Achnanthes linearis	650	290	140	2,700	810	2,400	890	2,200	2,500
Achnanthes marginulata	--	--	--	--	--	--	--	6	--
Achnanthes microcephala	22	--	--	55	47	52	--	59	30
Achnanthes minutissima	16	33	80	360	500	56	73	160	50
Achnanthes peragalli	--	--	--	--	--	--	--	17	--
Achnanthes sp.	--	--	--	10	--	--	--	--	--
Amphipleura pellucida	11	--	--	56	47	30	46	45	10
Amphora normanii	--	140	--	16	8	17	--	--	--
Amphora ovalis	--	--	--	--	--	--	16	--	--
Amphora perpusilla	--	40	--	--	--	32	--	--	--
Amphora veneta	60	47	102	14	19	64	760	59	10
Anomoeoneis vitrea	--	--	--	10	--	31	--	13	--
Asterionella formosa	1,200	2,100	2,200	310	350	2,400	650	1,800	3,800
Caloneis bacillum	18	20	--	23	--	--	16	38	17
Caloneis ventricosa	--	--	--	--	15	--	--	--	--
Cocconeis placentula	--	27	--	41	29	50	--	7	30
Cymatopleura elliptica var. *elliptica*	--	--	--	--	--	16	16	--	--
Cymatopleura elliptica var. *nobilis*	--	54	--	10	21	--	--	--	--
Cymatopleura solea	110	27	72	180	77	100	110	110	200
Cymbella affinis	--	--	--	--	--	17	--	--	--
Cymbella amphicephala	--	--	--	--	--	--	8	--	--
Cymbella angustata	--	--	--	--	27	--	--	--	--
Cymbella cymbiformis	--	--	--	--	--	14	--	--	--
Cymbella minuta var. *latens*	--	--	--	15	--	--	--	--	--
Cymbella minuta var. *minuta*	74	99	76	110	160	330	160	280	420
Cymbella minuta var. *silesiaca*	--	--	--	110	100	120	61	25	--

Table 12.--*Periphyton density on bottom sediment samples in Standley Lake*--Continued

PHYLUM CLASS Order *Genus species*	Density (cells per square centimeter) Site L7 (near Woman Creek inlet)			Site L10 (near Farmers Highline and Croke Canals inlet)			Site L11 (near boat ramp)		
	SEPTEMBER 19, 1990--Continued								
Depth, in feet	5	11	15	6	11	19	8	16	24
CHRYSOPHYTA--Continued									
BACILLARIOPHYCEAE (Diatoms)--Continued									
Pennales--Continued									
Cymbella prostrata	--	--	--	10	14	--	32	23	20
Cymbella sinuata	11	--	--	19	8	--	--	--	20
Cymbella triangulum	22	54	--	--	--	--	--	--	--
Diatoma anceps	--	--	--	--	--	55	--	7	--
Diatoma hiemale var. *hiemale*	--	--	--	--	--	--	8	--	--
Diatoma hiemale var. *mesodon*	--	--	--	19	--	--	--	--	--
Diatoma tenue var. *elongatum*	--	--	--	--	--	--	--	--	10
Diatoma vulgare	--	13	--	7	4	--	--	--	--
Diploneis marginestriata	--	130	100	15	--	--	--	6	20
Diploneis peterseni	16	--	53	--	--	28	--	--	--
Entomoneis ornata	--	--	--	--	--	8	16	49	--
Epithemia adnata	16	--	--	--	--	--	--	--	25
Epithemia sorex	--	--	--	27	--	--	--	--	--
Eunotia praerupta	--	--	--	23	--	--	--	--	--
Eunotia trigibba	--	--	--	--	--	--	--	--	10
Fragilaria brevistriata var. *inflata*	180	23	34	--	--	--	--	--	--
Fragilaria capucina var. *mesolepta*	14	20	--	5	--	--	--	13	--
Fragilaria construens	--	--	--	--	100	--	--	--	--
Fragilaria construens var. *binodis*	2,900	3,200	3,300	--	--	47	--	13	20
Fragilaria construens var. *construens*	8	29	--	--	--	7	--	--	--
Fragilaria construens var. *venter*	--	--	--	--	4	--	--	--	--
Fragilaria crotonensis	1,600	1,200	1,200	310	500	830	1,100	1,400	1,300
Fragilaria leptostauron	22	20	76	--	--	23	16	--	10
Fragilaria pinnata var. *pinnata*	6,700	5,800	5,100	150	78	130	37	94	150
Fragilaria vaucheriae	420	150	310	980	620	1,000	410	500	620
Frustulia rhomboides	--	--	--	7	--	--	--	13	--
Gomphonema acuminatum	--	--	--	--	--	9	--	--	--
Gomphonema affine var. *insigne*	--	--	--	10	56	--	--	52	--
Gomphonema angustatum	110	--	--	64	88	150	32	120	210
Gomphonema angustatum var. *obtusatum*	--	--	--	--	3	52	--	--	--
Gomphonema olivaceum	22	--	--	32	4	84	16	57	--
Gomphonema parvulum	--	--	--	5	8	--	--	--	--
Gomphonema subclavatum	--	--	--	--	--	--	--	13	--
Gyrosigma spencerii	--	--	--	--	--	35	22	--	--
Hannaea arcus	28	13	13	62	35	88	--	19	38
Hantzschia amphioxys	--	13	13	--	8	17	--	--	--
Meridion circulare	--	--	--	--	3	--	--	7	--
Navicula accomoda	--	10	--	--	3	--	--	--	--
Navicula capitata	--	--	--	5	--	--	48	--	40
Navicula cincta	--	--	11	--	--	--	66	38	--
Navicula cryptocephala var. *cryptocephala*	--	--	--	34	40	32	66	69	20
Navicula cryptocephala var. *veneta*	--	39	190	15	--	--	380	--	50
Navicula cuspidata var. *ambiqua*	--	--	--	--	--	--	--	6	--
Navicula cuspidata var. *cuspidata*	--	--	--	--	--	9	--	--	--
Navicula decussis	--	--	--	10	--	--	--	--	--
Navicula exigua	--	27	--	7	--	--	430	25	60
Navicula gastrum	28	46	28	--	6	30	47	13	--

Table 12.--*Periphyton density on bottom sediment samples in Standley Lake*--Continued

PHYLUM CLASS Order *Genus species*	Density (cells per square centimeter)								
	Site L7 (near Woman Creek inlet)			Site L10 (near Farmers Highline and Croke Canals inlet)			Site L11 (near boat ramp)		
	SEPTEMBER 19, 1990--Continued								
Depth, in feet	5	11	15	6	11	19	8	16	24
CHRYSOPHYTA--Continued									
BACILLARIOPHYCEAE (Diatoms)--Continued									
Pennales--Continued									
Navicula heufleri	--	--	23	--	--	--	23	26	10
Navicula indifferens	--	--	--	15	4	--	--	--	--
Navicula krasskei	--	--	--	--	4	--	--	--	--
Navicula laevissima	41	--	27	30	--	8	32	13	10
Navicula lanceolata	54	20	45	46	8	7	99	7	30
Navicula menisculus	78	110	50	25	53	65	300	43	70
Navicula minima	60	73	150	120	74	7	88	49	10
Navicula minuscula	--	--	--	40	15	34	280	69	--
Navicula muralis	--	--	--	--	3	--	--	--	--
Navicula mutica	--	--	--	--	8	--	7	--	--
Navicula notha	--	13	--	10	22	17	130	--	--
Navicula pelliculosa	--	--	34	--	--	--	8	--	--
Navicula pupula var. *capitata*	--	--	--	10	14	--	160	7	--
Navicula pupula var. *pupula*	--	79	38	34	99	44	170	99	94
Navicula pupula var. *rectangularis*	58	--	--	--	--	--	16	--	--
Navicula radiosa	--	--	--	--	--	--	8	--	--
Navicula rhynchocephala	27	--	11	--	18	--	95	--	--
Navicula secreta var. *apiculata*	--	13	--	--	--	--	23	--	--
Navicula subminuscula	11	10	--	47	6	23	340	--	--
Navicula tenera	30	--	--	--	--	--	--	--	--
Navicula tripunctata var. *schizonemoides*	--	--	--	--	--	--	30	37	8
Navicula tripunctata var. *tripunctata*	--	74	49	29	11	40	51	12	--
Navicula vaucherie	--	--	14	--	--	--	--	--	--
Navicula viridula var. *avenacea*	--	14	--	--	--	--	14	13	--
Navicula viridula var. *linearis*	38	--	18	10	23	17	200	13	40
Navicula viridula var. *rostellata*	--	10	--	27	3	14	200	--	--
Navicula viridula var. *viridula*	--	--	--	10	3	16	--	--	--
Navicula sp.	--	--	--	14	3	--	--	52	50
Neidium binode	--	--	--	--	--	--	16	7	--
Neidium dubium	--	--	--	10	--	7	--	--	--
Neidium dubium var. *constrictum*	--	--	--	--	6	--	--	--	--
Neidium sp.	--	27	--	15	--	--	--	--	--
Nitzschia acicularis	--	--	--	--	4	--	21	26	--
Nitzschia agnewii	--	54	--	--	--	--	43	6	--
Nitzschia amphibia	--	27	--	--	--	--	--	--	--
Nitzschia angustata	--	--	--	--	--	17	--	--	--
Nitzschia communis	--	--	--	--	3	--	14	65	--
Nitzschia denticula	--	--	--	14	8	--	16	--	--
Nitzschia dissipata	22	--	--	5	29	--	--	36	--
Nitzschia fonticola	16	--	--	--	--	--	16	12	--
Nitzschia frustulum	--	--	11	--	--	16	16	--	--
Nitzschia gandersheimiensis	--	--	--	16	--	33	16	13	--
Nitzschia gracilis	24	27	28	24	14	51	62	52	17
Nitzschia hantzschiana	--	--	--	--	6	--	--	--	--
Nitzschia hungarica	8	49	--	7	--	--	8	--	--
Nitzschia ignorata	16	--	--	10	--	--	14	--	--
Nitzschia inconspicua	--	--	--	10	--	--	--	--	--
Nitzschia intermedia	--	--	--	--	8	--	--	--	20
Nitzschia kuetzingiana	98	40	--	200	66	69	910	30	90
Nitzschia linearis	38	27	13	190	74	110	93	84	140

Table 12.--*Periphyton density on bottom sediment samples in Standley Lake*--Continued

PHYLUM CLASS Order *Genus species*	Density (cells per square centimeter) Site L7 (near Woman Creek inlet)			Site L10 (near Farmers Highline and Croke Canals inlet)			Site L11 (near boat ramp)		
	SEPTEMBER 19, 1990--Continued								
Depth, in feet	5	11	15	6	11	19	8	16	24
CHRYSOPHYTA--Continued									
BACILLARIOPHYCEAE (Diatoms)--Continued									
Pennales--Continued									
Nitzschia microcephala	--	--	--	5	3	--	250	39	--
Nitzschia palea	180	300	350	100	140	270	1,000	330	180
Nitzschia paleacea	16	--	--	43	--	--	30	7	--
Nitzschia sigmoidea	--	--	--	--	--	30	16	--	25
Nitzschia tryblionella	--	20	--	--	--	--	--	--	--
Nitzschia tryblionella var. *tryblionella*	--	--	--	--	--	17	--	--	--
Nitzschia umbonata	--	20	--	--	--	--	--	--	--
Nitzschia vermicularis	120	160	170	20	16	180	45	260	360
Pinnularia biceps	--	--	--	--	--	--	--	--	17
Pinnularia borealis	53	--	--	--	--	--	30	--	30
Pinnularia divergentissima	--	--	--	--	--	31	--	--	--
Pinnularia maior	--	20	--	--	--	--	--	--	--
Pinnularia sp.	--	--	--	10	8	--	--	--	--
Rhoicosphenia curvata	--	--	--	--	--	14	--	--	--
Rhopalodia gibba	--	--	--	10	14	--	120	25	37
Stauroneis obtusa var. *catarinensis*	--	--	--	10	--	--	--	--	--
Surirella angusta	22	--	27	74	92	110	7	26	57
Surirella biseriata	16	68	72	90	73	82	38	43	--
Surirella didyma	16	--	--	--	--	--	16	--	--
Surirella linearis	--	--	--	--	28	--	16	--	--
Surirella ovalis	--	--	14	--	--	16	15	--	10
Surirella ovata var. *crumena*	83	40	34	280	68	190	--	86	180
Surirella ovata var. *ovata*	24	100	72	83	48	190	8	38	155
Surirella ovata var. *pinnata*	--	--	--	--	--	--	--	13	--
Surirella robusta var. *splendida*	110	230	84	370	280	220	93	85	160
Surirella suecica	28	--	--	--	8	17	14	--	--
Synedra delicatissima	--	--	--	--	--	8	--	--	--
Synedra fasciculata	--	--	--	--	--	9	--	--	--
Synedra parasitica	--	--	--	--	--	--	--	32	--
Synedra pulchella	22	41	--	85	6	26	--	13	27
Synedra rumpens var. *familiaris*	11	--	--	5	7	16	--	58	20
Synedra rumpens var. *fragilarioides*	--	--	--	73	41	21	--	--	--
Synedra ulna var. *dancia*	--	--	--	--	--	16	--	--	--
Synedra ulna var. *ulna*	--	--	23	48	6	52	--	--	--
Tabellaria fenestrata	--	--	--	10	--	--	--	--	--
CHRYSOPHYCEAE (Golden-brown algae)									
Dinobryon divergens	--	--	--	--	--	--	24	--	--
CYANOPHYTA									
CYNAOPHYCEAE (Blue-green algae)									
Anabaena sp.	--	--	--	--	--	--	24	--	--
Chroococcus sp.	--	--	--	--	--	--	49	--	--
Coelosphaerium sp.	--	490	--	--	--	--	--	--	--
Lyngbya limnetica	4,800	1,200	6,800	2,700	420	240	1,600	240	2,600
Merismopedia tenuissima	--	--	--	98	--	--	--	--	--
Oscillatoria angustissima	--	--	120	--	2,800	--	390	780	200
Oscillatoria limnetica	730	--	--	290	--	--	--	--	--
Oscillatoria nigra	1,100	--	--	810	--	--	--	12	--
Oscillatoria tenuis	83,000	26,000	--	--	--	--	--	--	--
Phormidum sp.	320	--	--	--	--	--	--	--	--
Pseudanabaena constricta	--	73	--	--	--	--	560	--	--
Synechococcus sp.	24	--	--	--	--	--	--	--	--

Table 12.--*Periphyton density on bottom sediment samples in Standley Lake*--Continued

PHYLUM CLASS Order *Genus species*	Density (cells per square centimeter)								
	Site L7 (near Woman Creek inlet)			Site L10 (near Farmers Highline and Croke Canals inlet)			Site L11 (near boat ramp)		
	OCTOBER 22, 1990								
Depth, in feet	5	9	14	5	10	15	5	10	15
CHLOROPHYTA									
CHLOROPHYCEAE (Green algae)									
Chlorogonium sp.	--	24	--	--	--	--	--	--	--
Scenedesmus intermedius	98	--	--	--	--	--	--	--	--
Spirogyra sp.	98	--	24	--	--	--	--	--	--
Staurastrum paradoxum	--	--	--	12	--	--	--	12	--
CHRYSOPHYTA									
BACILLARIOPHYCEAE (Diatoms)									
Centrales									
Cyclotella bodanica	4	--	--	--	--	--	--	--	--
Cyclotella meneghiniana	--	--	--	11	--	9	--	--	--
Cyclotella ocellata	--	--	--	--	6	--	5	--	--
Cyclotella stelligera	--	--	--	--	--	--	--	--	6
Melosira ambigua	1,000	2,600	3,000	110	170	1,600	450	410	1,300
Melosira distans	--	--	--	58	--	--	--	--	--
Melosira granulata var. *angustissima*	5	--	360	--	--	--	--	--	--
Melosira italica	27	28	34	--	5	27	--	22	23
Melosira varians	--	--	140	43	59	37	47	21	10
Stephanodiscus alpinus	22	120	180	--	--	160	41	39	48
Stephanodiscus tenuis	--	--	--	--	--	--	6	--	--
Pennales									
Achnanthes clevei	--	21	18	--	--	--	--	--	15
Achnanthes deflexa	--	--	--	--	--	19	110	62	8
Achnanthes detha	--	--	--	11	--	48	--	6	--
Achnanthes exigua	26	21	18	--	--	--	--	--	--
Achnanthes lanceolata var. *dubia*	290	510	280	5	--	7	15	29	20
Achnanthes lanceolata var. *lanceolata*	63	37	81	88	34	95	34	34	25
Achnanthes linearis	260	160	97	4,000	3,200	3,600	480	890	1,400
Achnanthes microcephala	--	--	--	69	99	--	--	52	--
Achnanthes minutissima	27	--	--	39	50	33	32	120	250
Achnanthes sp.	34	15	--	33	6	14	180	120	47
Amphipleura pellucida	--	--	--	55	16	19	15	4	25
Amphora normanii	--	7	35	--	25	32	--	--	--
Amphora perpusilla	--	--	--	--	10	7	--	--	8
Amphora veneta	20	15	31	--	--	--	580	640	18
Anomoeoneis vitrea	--	--	--	9	20	14	--	--	11
Asterionella formosa	520	960	2,000	81	230	1,700	270	430	1,300
Caloneis amphisbaena	17	--	--	--	--	--	--	--	--
Caloneis bacillum	--	--	--	9	40	37	--	8	27
Caloneis ventricosa	--	--	40	--	9	--	--	3	--
Caloneis ventricosa var. *minuta*	--	--	--	--	--	--	--	--	10
Cocconeis placentula	--	--	--	--	24	9	--	--	28
Cymatopleura elliptica var. *nobilis*	19	--	--	--	--	--	--	--	10
Cymatopleura solea	28	15	29	62	87	63	--	3	--
Cymbella amphicephala	--	--	--	--	--	--	5	--	--
Cymbella lunata	--	--	--	--	--	--	6	--	11
Cymbella minuta var. *minuta*	10	--	58	520	410	510	140	140	210
Cymbella minuta var. *silesiaca*	28	--	--	18	80	96	10	39	64
Cymbella prostrata	--	--	--	--	18	--	11	11	--
Cymbella sinuata	9	--	--	14	9	14	11	--	8
Cymbella triangulum	--	7	54	--	--	--	--	--	--
Cymbella tumida	--	--	--	--	--	--	--	--	8

Table 12.--*Periphyton density on bottom sediment samples in Standley Lake*--Continued

PHYLUM CLASS Order *Genus species*	Density (cells per square centimeter)								
	Site L7 (near Woman Creek inlet)			Site L10 (near Farmers Highline and Croke Canals inlet)			Site L11 (near boat ramp)		
	OCTOBER 22, 1990--Continued								
Depth, in feet	5	9	14	5	10	15	5	10	15
CHRYSOPHYTA--Continued									
BACILLARIOPHYCEAE (Diatoms)--Continued									
Pennales--Continued									
Cymbella sp.	--	--	--	--	--	--	11	--	--
Denticula elegans var. *valida*	9	--	--	--	--	--	--	--	--
Diatoma anceps	--	--	--	5	5	--	--	--	6
Diatoma hiemale var. *mesodon*	--	--	--	--	5	20	--	--	--
Diatoma tenue var. *elongatum*	--	--	--	--	--	7	--	--	--
Diatoma vulgare	--	--	--	16	--	--	--	--	--
Diploneis marginestriata	55	15	27	--	--	--	9	--	--
Diploneis peterseni	13	--	--	--	--	--	5	19	18
Entomoneis ornata	--	--	--	--	--	--	--	8	4
Epithemia sorex	17	--	--	--	9	--	--	--	--
Eunotia incisa	--	--	--	4	--	--	--	--	--
Fragilaria brevistriata var. *inflata*	110	15	100	--	--	--	--	--	--
Fragilaria capucina var. *mesolepta*	--	--	--	--	11	7	--	--	--
Fragilaria construens var. *binodis*	800	1,500	5,400	--	--	--	--	--	--
Fragilaria construens var. *construens*	--	--	--	51	22	9	--	--	--
Fragilaria construens var. *pumila*	--	140	--	--	--	9	--	--	--
Fragilaria construens var. *venter*	13	--	--	68	51	150	17	12	6
Fragilaria crotonensis	420	510	1,200	250	210	490	390	330	570
Fragilaria leptostauron	28	15	--	9	--	18	--	--	21
Fragilaria pinnata var. *intercedens*	--	--	--	--	--	36	--	--	--
Fragilaria pinnata var. *pinnata*	4,700	3,500	3,800	230	56	210	86	100	150
Fragilaria vaucheriae	80	66	48	1,100	1,000	900	160	410	540
Fragilaria virescens	--	--	--	22	--	--	--	--	--
Fragilaria sp.	--	--	--	--	--	--	45	--	--
Frustulia rhomboides	--	--	--	--	--	9	--	--	11
Gomphonema affine var. *insigne*	--	--	--	--	33	19	--	--	23
Gomphonema angustatum	10	--	--	280	200	320	25	69	47
Gomphonema gracile	--	--	--	--	11	55	--	17	11
Gomphonema olivaceum	--	--	--	23	120	88	22	--	25
Gomphonema subclavatum	--	--	--	--	--	--	--	--	8
Gyrosigma spencerii	--	15	--	--	--	--	--	--	--
Hannaea arcus	--	--	27	46	25	67	5	--	15
Hantzschia amphioxys	--	64	--	9	9	23	--	--	6
Navicula accomoda	9	--	--	--	--	7	10	3	4
Navicula capitata	--	--	--	--	--	--	5	42	--
Navicula capitata var. *capitata*	--	--	--	--	--	--	--	--	20
Navicula capitata var. *hungarica*	--	--	--	--	--	--	--	--	11
Navicula cincta	--	--	--	--	--	--	9	--	4
Navicula contenta var. *biceps*	--	--	--	--	11	--	--	--	--
Navicula cryptocephala var. *cryptocephala*	81	--	18	--	15	33	41	120	39
Navicula cryptocephala var. *veneta*	5	7	--	23	54	--	180	140	14
Navicula cuspidata var. *ambiqua*	--	15	11	--	--	--	--	--	--
Navicula decussis	--	--	--	--	--	--	5	--	--
Navicula disjuncta	--	--	--	--	--	--	5	--	--
Navicula exigua	28	29	--	--	--	--	93	25	13
Navicula gastrum	--	15	--	--	11	7	78	30	8
Navicula gregaria	--	--	--	--	--	--	5	--	--
Navicula halophila	--	--	--	4	--	--	--	--	--

Table 12.--*Periphyton density on bottom sediment samples in Standley Lake*--Continued

PHYLUM CLASS Order *Genus species*	Density (cells per square centimeter) Site L7 (near Woman Creek inlet)			Site L10 (near Farmers Highline and Croke Canals inlet)			Site L11 (near boat ramp)		
	OCTOBER 22, 1990--Continued								
Depth, in feet	5	9	14	5	10	15	5	10	15
CHRYSOPHYTA--Continued									
BACILLARIOPHYCEAE (Diatoms)--Continued									
Pennales--Continued									
Navicula heufleri	4	15	--	37	20	--	27	--	19
Navicula hungarica	--	--	--	--	--	--	6	--	--
Navicula indifferens	--	--	--	--	--	28	--	--	--
Navicula laevissima	--	--	--	40	24	28	11	4	6
Navicula lanceolata	28	14	22	--	--	--	15	19	--
Navicula menisculus	70	79	13	25	10	16	150	110	85
Navicula minima	--	15	--	260	200	100	27	22	62
Navicula minuscula	9	--	13	82	33	19	200	140	10
Navicula monmouthiana-stodderi	--	--	--	9	--	--	--	--	--
Navicula mutica	4	21	--	--	16	18	--	--	10
Navicula notha	17	--	--	7	10	--	21	19	--
Navicula pelliculosa	--	--	--	--	--	--	16	4	--
Navicula pupula var. *capitata*	5	--	--	29	--	--	63	16	--
Navicula pupula var. *pupula*	10	65	--	9	58	82	160	88	78
Navicula pupula var. *rectangularis*	--	--	--	--	--	19	--	11	10
Navicula radiosa	--	--	--	4	--	--	--	--	--
Navicula rhynchocephala	--	--	--	--	11	19	69	120	--
Navicula seminulum	--	--	--	--	--	--	--	--	6
Navicula subminuscula	13	--	--	--	25	48	260	91	18
Navicula symmetrica	--	--	--	--	--	9	15	--	--
Navicula tripunctata var. *schizonemoides*	--	--	--	--	--	--	--	25	--
Navicula tripunctata var. *tripunctata*	--	7	--	10	--	--	37	29	16
Navicula ventosa	--	--	--	--	--	--	--	--	5
Navicula viridula var. *avenacea*	5	--	54	--	--	--	61	15	14
Navicula viridula var. *linearis*	10	43	--	--	--	--	33	16	--
Navicula viridula var. *rostellata*	--	--	--	20	11	27	79	85	16
Navicula viridula var. *viridula*	--	--	--	--	--	--	16	--	--
Navicula sp.	--	--	--	7	--	--	--	--	--
Neidium binode	--	--	--	--	--	26	--	19	--
Neidium dubium	--	29	--	--	16	18	--	11	5
Neidium dubium cf. constrictum	9	--	--	--	--	--	6	--	--
Neidium dubium var. *dubium*	--	--	--	--	--	--	22	--	--
Nitzschia agnewii	4	36	--	--	--	--	26	5	--
Nitzschia amphibia	--	--	--	--	9	--	--	--	--
Nitzschia communis	--	7	13	--	--	37	11	6	--
Nitzschia denticula	--	--	--	--	--	14	--	--	11
Nitzschia dissipata	--	--	--	--	--	--	16	--	--
Nitzschia fonticola	--	--	--	--	--	--	6	4	--
Nitzschia frustulum	--	14	--	--	--	--	8	8	14
Nitzschia gracilis	--	14	9	--	10	27	67	21	27
Nitzschia hantzschiana	17	--	--	--	9	--	5	--	--
Nitzschia hungarica	--	--	--	--	--	--	11	--	10
Nitzschia ignorata	--	--	--	11	--	19	--	16	--
Nitzschia intermedia	--	--	--	--	--	--	11	--	--
Nitzschia kuetzingiana	62	7	--	150	99	120	480	160	26
Nitzschia linearis	45	--	36	100	38	180	31	49	54
Nitzschia microcephala	--	--	--	--	--	--	110	16	--
Nitzschia palea	19	58	44	150	150	240	620	560	250
Nitzschia paleacea	--	--	--	--	--	--	22	25	6
Nitzschia recta	--	29	11	--	--	--	--	43	--

Table 12.--*Periphyton density on bottom sediment samples in Standley Lake*--Continued

PHYLUM CLASS Order *Genus species*	Density (cells per square centimeter) Site L7 (near Woman Creek inlet)			Site L10 (near Farmers Highline and Croke Canals inlet)			Site L11 (near boat ramp)		
OCTOBER 22, 1990--Continued									
Depth, in feet	5	9	14	5	10	15	5	10	15
CHRYSOPHYTA--Continued									
BACILLARIOPHYCEAE (Diatoms)--Continued									
Pennales--Continued									
Nitzschia romana	--	--	--	--	--	25	--	--	--
Nitzschia sigmoidea	--	15	--	4	--	14	9	--	--
Nitzschia tryblionella	26	--	--	--	--	19	--	--	10
Nitzschia umbonata	4	--	--	--	--	--	--	--	--
Nitzschia vermicularis	26	15	85	25	80	180	5	22	150
Pinnularia borealis	--	--	--	11	--	7	--	--	--
Pinnularia intermedia	--	--	--	--	--	14	--	--	--
Pinnularia mesolepta	--	--	--	22	19	19	--	--	--
Rhoicosphenia curvata	--	--	--	--	--	18	--	--	--
Rhopalodia gibba	--	--	--	22	16	14	30	11	6
Rhopalodia musculus	--	--	--	--	--	--	9	--	--
Stauroneis anceps	--	--	--	--	--	14	--	--	--
Surirella angusta	17	--	--	51	51	69	11	--	17
Surirella biseriata	--	--	9	33	11	18	--	11	49
Surirella didyma	--	--	18	--	--	--	--	--	--
Surirella linearis	--	--	35	--	--	--	--	--	--
Surirella ovalis	--	--	27	--	--	--	--	11	29
Surirella ovata var. *crumena*	--	28	--	83	110	300	--	29	15
Surirella ovata var. *ovata*	--	--	13	63	62	140	22	11	29
Surirella robusta var. *splendida*	50	15	71	140	180	340	38	46	100
Surirella suecica	4	--	--	14	6	--	22	--	--
Synedra fasciculata	--	--	--	7	5	--	--	--	--
Synedra parasitica	--	--	--	--	--	9	3	5	20
Synedra pulchella	--	--	--	--	6	7	11	--	--
Synedra rumpens var. *familiaris*	15	--	--	14	16	23	--	--	10
Synedra rumpens var. *fragilarioides*	--	--	--	25	--	--	--	--	--
Synedra ulna var. *longissima*	--	--	--	22	--	--	--	--	--
Synedra ulna var. *ulna*	--	--	--	5	--	37	--	4	8
Tabellaria fenestrata	--	--	--	--	5	--	--	--	--
CHRYSOPHYCEAE (Golden-brown algae)									
Dinobryon divergens	--	12	--	--	--	--	--	--	--
CYANOPHYTA									
CYNAOPHYCEAE (Blue-green algae)									
Anabaena circinalis	--	--	--	--	--	--	320	--	--
Aphanizomenon flos-aquae	--	--	--	--	--	--	120	6	--
Chroococcus sp.	49	--	--	--	--	--	--	--	--
Coelosphaerium sp.	--	150	--	--	--	--	--	--	--
Lyngbya limnetica	2,500	3,800	2,800	1,400	900	610	1,900	200	150
Merismopedia tenuissima	--	--	--	--	200	--	--	--	--
Oscillatoria angustissima	2,000	6,300	--	200	--	--	780	--	--
Oscillatoria geminata	--	560	--	--	--	--	--	--	--
Oscillatoria limnetica	340	1,100	--	73	--	390	220	24	780
Oscillatoria minima	--	240	--	--	--	--	--	--	--
Oscillatoria nigra	660	12,000	--	--	--	--	--	--	--
Oscillatoria sancta	--	--	--	--	--	--	--	490	--
Oscillatoria tenuis	27,000	12,000	7,300	--	--	490	390	--	--
Phormidium sp.	98	1,100	420	--	--	--	590	150	--
Spirulina sp.	150	--	--	--	--	--	--	--	--
EUGLENOPHYTA									
EUGLENOPHYCEAE (Euglenoids)									
Euglena sp.	--	--	--	--	--	--	--	12	--

Table 13.--*Chemical data for bottom sediment samples collected from Standley Lake, July 17, 1989*

[<, less than]

Property or constituent	Concentration (milligrams per kilogram) in bottom sediment at site (see figure 3 for location)									
	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10
Depth, in feet	86	63	30	29	45	32	6	11	5	7
Chemical oxygen demand	98,000	33,000	14,000	22,000	48,000	40,000	53,000	70,000	26,000	11,000
Nitrite plus nitrate as nitrogen, dissolved	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Ammonia as nitrogen, dissolved	130	46	55	15	17	<10	10	<10	26	24
Phosphorus, total	630	630	170	370	210	320	240	220	280	290
Organic carbon, total	14,600	14,900	4,500	4,000	6,400	7,000	10,900	10,600	9,600	10,600
Arsenic, total	11	13	5	8	4	7	6	6	6	7
Barium, total recoverable	240	160	50	130	<100	<100	100	<100	50	100
Cadmium, total recoverable	5	4	2	1	2	<1	2	<1	2	3
Chromium, total recoverable	10	10	9	8	7	<1	8	6	8	8
Copper, total recoverable	160	130	40	20	50	4	60	20	50	70
Iron, total recoverable	18,000	15,000	7,400	6,900	5,800	90	5,100	5,200	7,900	4,800
Lead, total recoverable	120	100	30	20	50	<10	50	20	50	60
Manganese, total recoverable	1,500	710	420	650	370	65	560	170	830	1,100
Mercury, total recoverable	0.23	0.26	0.06	0.04	0.08	0.06	0.11	0.04	0.12	0.13
Selenium, total	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1

Table 14.--*Chemical data for pore-water samples collected from Standley Lake*

[--, no analysis; <, less than; ---, no sample]

Property or constituent	Units	Lake bottom water	Pore water in bottom sediment at depth interval (centimeters)									
			0 - 1	1 - 2	2 - 3	3 - 4	4 - 5	5 - 6	6 - 7	7 - 8	8 - 9	9 - 10
SITE L1 (near dam) AUGUST 8, 1989												
Porosity	none	--	0.90	0.89	0.90	0.89	0.90	0.89	0.87	0.85	0.86	0.87
pH	units	7.0	7.3	7.3	7.2	7.1	7.2	7.2	7.2	7.0	7.1	7.1
Nitrate as nitrogen, dissolved	mg/L	<0.10	0.19	<0.10	<0.10	0.12	<0.10	0.10	<0.10	<0.10	<0.10	<0.10
Ammonia as nitrogen, dissolved	mg/L	0.06	3.60	4.30	4.60	4.80	4.90	5.30	6.00	6.70	7.00	7.30
Nitrogen, dissolved	mg/L	0.3	4.10	4.50	4.80	5.10	5.00	5.30	5.60	5.60	7.00	7.40
Orthophosphate as phosphorus, dissolved	mg/L	<0.010	0.200	0.410	0.171	0.430	0.710	0.350	0.420	0.510	1.00	0.800
Phosphorus, dissolved	mg/L	0.014	0.320	0.685	0.318	0.464	0.695	0.510	0.438	0.500	0.858	0.663
Barium, dissolved	µg/L	190	140	45	31	41	40	25	29	35	46	56
Cadmium, dissolved	µg/L	5	1	2	2	<1	4	3	<1	<1	3	3
Chromium, dissolved	µg/L	<5	6	<5	<5	<5	<5	<5	<5	<5	<5	<5
Copper, dissolved	µg/L	<10	<10	<10	<10	<10	<10	<10	<10	10	<10	<10
Iron, dissolved	µg/L	260	4,000	7,500	4,500	8,000	8,100	6,200	6,700	8,700	12,000	15,000
Lead, dissolved	µg/L	<10	<10	20	20	10	20	20	<10	<10	20	20
Lithium, dissolved	µg/L	13	18	29	27	18	26	27	17	18	29	26
Manganese, dissolved	µg/L	760	13,000	13,000	11,000	9,600	8,100	7,100	7,000	7,000	6,900	7,200
Silver, dissolved	µg/L	<1	3	1	1	2	1	<1	1	1	1	2
Strontium, dissolved	µg/L	190	330	500	460	340	420	390	290	310	450	450

Table 14.--*Chemical data for pore-water samples collected from Standley Lake*--Continued

Property or constituent	Units	Lake bottom water	Pore water in bottom sediment at depth interval (centimeters) 0 - 1	1 - 2	2 - 3	3 - 4	4 - 5	5 - 6	6 - 7	7 - 8	8 - 9	9 - 10
SITE L2 (near center) AUGUST 9, 1989												
Porosity	none	--	0.94	0.91	0.91	0.91	0.91	0.90	0.90	0.90	0.89	0.90
pH	units	7.0	7.1	7.1	7.1	7.0	7.0	7.0	6.9	6.9	7.0	6.9
Nitrate as nitrogen, dissolved	mg/L	0.14	<0.10	<0.10	<0.10	0.22	0.13	0.30	0.16	<0.10	<0.10	<0.10
Ammonia as nitrogen, dissolved	mg/L	0.09	3.60	4.30	4.40	4.10	4.20	4.80	4.60	6.10	6.90	7.70
Nitrogen, dissolved	mg/L	0.3	3.70	4.50	4.40	4.30	4.30	5.10	4.60	6.00	6.70	7.40
Orthophosphate as phosphorus, dissolved	mg/L	<0.010	0.570	0.171	0.930	0.110	0.190	0.380	0.230	0.560	0.190	1.000
Phosphorus, dissolved	mg/L	0.007	0.685	0.314	1.20	0.165	0.383	0.745	0.434	0.735	0.288	0.915
Barium, dissolved	µg/L	39	30	27	42	20	22	170	200	47	39	53
Cadmium, dissolved	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	1	1	<1
Chromium, dissolved	µg/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Copper, dissolved	µg/L	<10	<10	<10	<10	<10	<10	10	<10	<10	<10	<10
Iron, dissolved	µg/L	36	4,500	4,900	10,000	3,400	5,800	11,000	10,000	13,000	11,000	15,000
Lead, dissolved	µg/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Lithium, dissolved	µg/L	16	18	17	18	17	17	15	17	17	20	19
Manganese, dissolved	µg/L	340	11,000	10,000	8,900	7,100	6,400	6,200	6,100	6,100	6,300	6,600
Silver, dissolved	µg/L	<1	<1	1	2	2	2	1	2	<1	2	<1
Strontium, dissolved	µg/L	180	310	360	370	320	320	330	330	350	360	390
SITE L1 (near dam) OCTOBER 3, 1989												
Porosity	none	--	0.91	0.87	0.88	0.89	0.89	0.88	0.89	0.87	0.88	0.88
pH	units	7.4	7.3	7.3	7.4	7.4	7.4	7.5	--	7.2	7.1	7.1
Nitrate as nitrogen, dissolved	mg/L	0.15	0.11	0.12	0.11	0.10	0.12	--	0.15	0.11	0.12	0.11
Ammonia as nitrogen, dissolved	mg/L	0.03	3.90	4.60	5.10	3.90	4.80	3.90	4.00	4.80	4.60	5.60
Nitrogen, dissolved	mg/L	<0.20	4.30	5.30	5.20	4.80	4.80	4.40	4.40	5.40	5.40	6.30
Orthophosphate as phosphorus, dissolved	mg/L	<0.010	0.041	<0.010	--	<0.010	0.380	<0.010	<0.010	<0.010	0.230	0.030
Phosphorus, dissolved	mg/L	<0.001	0.413	0.101	--	0.306	0.570	0.044	0.055	0.154	0.990	0.299
Barium, dissolved	µg/L	45	42	43	76	48	42	38	41	37	65	48
Cadmium, dissolved	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chromium, dissolved	µg/L	<5	5	<5	<5	<5	<5	<5	5	<5	6	<5
Copper, dissolved	µg/L	10	<10	<10	<10	10	<10	<10	<10	<10	30	<10
Iron, dissolved	µg/L	48	4,800	4,900	12,000	7,100	7,400	3,000	2,200	4,100	6,600	6,800
Lead, dissolved	µg/L	<10	20	10	20	20	<10	<10	10	<10	<10	<10
Lithium, dissolved	µg/L	15	21	21	25	25	24	23	20	23	22	23
Manganese, dissolved	µg/L	230	16,000	16,000	15,000	13,000	12,000	9,900	8,800	8,400	7,900	7,600
Silver, dissolved	µg/L	<1	2	2	3	2	2	2	1	1	2	1
Strontium, dissolved	µg/L	160	340	440	490	460	420	380	380	360	360	360

Table 14.--*Chemical data for pore-water samples collected from Standley Lake*--Continued

Property or constituent	Units	Lake bottom water	Pore water in bottom sediment at depth interval (centimeters) 0 - 1	1 - 2	2 - 3	3 - 4	4 - 5	5 - 6	6 - 7	7 - 8	8 - 9	9 - 10
SITE L2 (near center) OCTOBER 2, 1989												
Porosity	none	--	0.92	0.90	0.90	0.90	0.89	0.89	0.89	0.90	0.89	0.88
pH	units	7.3	7.3	7.4	7.5	7.5	7.7	7.8	--	7.6	7.3	7.4
Nitrate as nitrogen, dissolved	mg/L	<0.10	0.10	<0.10	0.14	0.10	<0.10	0.12	<0.10	0.12	0.10	0.10
Ammonia as nitrogen, dissolved	mg/L	0.05	4.00	5.40	6.70	7.00	5.70	5.60	6.20	6.40	7.60	7.90
Nitrogen, dissolved	mg/L	0.30	4.40	5.80	7.20	7.00	5.90	6.30	6.50	6.70	8.20	8.40
Orthophosphate as phosphorus, dissolved	mg/L	<0.010	0.150	0.050	0.021	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Phosphorus, dissolved	mg/L	0.016	0.825	0.337	0.197	0.155	0.091	0.043	0.049	0.044	0.046	0.029
Barium, dissolved	µg/L	51	65	41	33	170	170	170	210	150	190	190
Cadmium, dissolved	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chromium, dissolved	µg/L	<5	7	8	<5	<5	<5	<5	<5	<5	<5	<5
Copper, dissolved	µg/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Iron, dissolved	µg/L	38	11,000	10,000	11,000	12,000	8,700	5,600	8,900	8,400	11,000	8,900
Lead, dissolved	µg/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Lithium, dissolved	µg/L	22	24	23	25	20	26	22	22	19	19	21
Manganese, dissolved	µg/L	250	13,000	15,000	13,000	12,000	10,000	8,300	7,700	7,300	7,300	7,200
Silver, dissolved	µg/L	<1	1	3	2	2	1	<1	2	<1	<1	<1
Strontium, dissolved	µg/L	180	380	440	480	470	440	420	420	410	430	440
SITE L1 (near dam) MAY 17, 1990												
Porosity	none	--	0.90	0.89	0.86	0.87	---	---	---	---	---	---
pH	units	7.5	9.0	8.0	7.7	7.7	---	---	---	---	---	---
Nitrate as nitrogen, dissolved	mg/L	0.10	<0.10	<0.10	0.10	<0.10	---	---	---	---	---	---
Ammonia as nitrogen, dissolved	mg/L	0.12	1.70	2.00	1.90	1.70	---	---	---	---	---	---
Nitrogen, dissolved	mg/L	0.30	2.30	2.30	1.80	1.70	---	---	---	---	---	---
Orthophosphate as phosphorus, dissolved	mg/L	<0.010	0.100	0.180	0.090	0.300	---	---	---	---	---	---
Phosphorus, dissolved	mg/L	<0.005	0.180	0.212	0.213	0.337	---	---	---	---	---	---
Barium, dissolved	µg/L	54	75	60	57	37	---	---	---	---	---	---
Cadmium, dissolved	µg/L	<1	<1	<1	<1	<1	---	---	---	---	---	---
Chromium, dissolved	µg/L	<5	<5	<5	<5	<5	---	---	---	---	---	---
Copper, dissolved	µg/L	10	<10	<10	20	<10	---	---	---	---	---	---
Iron, dissolved	µg/L	39	1,300	2,900	2,100	1,500	---	---	---	---	---	---
Lead, dissolved	µg/L	<10	<10	<10	<10	<10	---	---	---	---	---	---
Lithium, dissolved	µg/L	31	22	22	23	20	---	---	---	---	---	---
Manganese, dissolved	µg/L	82	9,300	8,800	6,400	4,900	---	---	---	---	---	---
Silver, dissolved	µg/L	2	2	2	1	<1	---	---	---	---	---	---
Strontium, dissolved	µg/L	200	310	300	230	190	---	---	---	---	---	---

Table 14.--*Chemical data for pore-water samples collected from Standley Lake*--Continued

Property or constituent	Units	Lake bottom water	Pore water in bottom sediment at depth interval (centimeters)									
			0 - 1	1 - 2	2 - 3	3 - 4	4 - 5	5 - 6	6 - 7	7 - 8	8 - 9	9 - 10
SITE L2 (near center) MAY 17, 1990												
Porosity	none	--	0.92	0.91	0.90	0.90	---	---	---	---	---	---
pH	units	7.5	7.3	7.2	7.2	7.2	---	---	---	---	---	---
Nitrate as nitrogen, dissolved	mg/L	<0.10	<0.10	0.20	<0.10	0.10	---	---	---	---	---	---
Ammonia as nitrogen, dissolved	mg/L	0.10	3.80	4.10	4.50	5.10	---	---	---	---	---	---
Nitrogen, dissolved	mg/L	0.20	3.50	4.00	4.80	5.60	---	---	---	---	---	---
Orthophosphate as phosphorus, dissolved	mg/L	0.010	0.610	0.910	0.810	0.130	---	---	---	---	---	---
Phosphorus, dissolved	mg/L	0.002	0.596	0.970	0.671	0.163	---	---	---	---	---	---
Barium, dissolved	µg/L	51	33	37	42	35	---	---	---	---	---	---
Cadmium, dissolved	µg/L	<1	<1	<1	<1	<1	---	---	---	---	---	---
Chromium, dissolved	µg/L	<5	<5	<5	<5	<5	---	---	---	---	---	---
Copper, dissolved	µg/L	<10	<10	<10	<10	<10	---	---	---	---	---	---
Iron, dissolved	µg/L	190	4,600	6,100	6,400	5,800	---	---	---	---	---	---
Lead, dissolved	µg/L	<10	<10	<10	<10	10	---	---	---	---	---	---
Lithium, dissolved	µg/L	24	19	21	19	19	---	---	---	---	---	---
Manganese, dissolved	µg/L	120	9,800	9,000	8,000	7,400	---	---	---	---	---	---
Silver, dissolved	µg/L	<1	3	2	2	2	---	---	---	---	---	---
Strontium, dissolved	µg/L	200	290	270	270	280	---	---	---	---	---	---
SITE L4 (north side) MAY 16, 1990												
Porosity	none	--	0.80	0.76	0.73	0.71	---	---	---	---	---	---
pH	units	7.6	8.1	8.4	7.9	8.1	---	---	---	---	---	---
Nitrate as nitrogen, dissolved	mg/L	<0.10	<0.10	<0.10	<0.10	<0.10	---	---	---	---	---	---
Ammonia as nitrogen, dissolved	mg/L	0.04	0.69	0.51	0.61	0.65	---	---	---	---	---	---
Nitrogen, dissolved	mg/L	0.30	--	0.90	0.80	0.80	---	---	---	---	---	---
Orthophosphate as phosphorus, dissolved	mg/L	0.010	<0.010	0.030	0.160	0.030	---	---	---	---	---	---
Phosphorus, dissolved	mg/L	<0.005	<0.005	0.044	0.241	0.046	---	---	---	---	---	---
Barium, dissolved	µg/L	49	56	60	49	66	---	---	---	---	---	---
Cadmium, dissolved	µg/L	<1	<1	<1	<1	<1	---	---	---	---	---	---
Chromium, dissolved	µg/L	<5	<5	<5	<5	<5	---	---	---	---	---	---
Copper, dissolved	µg/L	10	20	<10	<10	10	---	---	---	---	---	---
Iron, dissolved	µg/L	24	880	650	1,700	390	---	---	---	---	---	---
Lead, dissolved	µg/L	<10	10	10	<10	<10	---	---	---	---	---	---
Lithium, dissolved	µg/L	27	16	19	19	22	---	---	---	---	---	---
Manganese, dissolved	µg/L	4	2,600	2,100	1,800	1,900	---	---	---	---	---	---
Silver, dissolved	µg/L	<1	2	<1	<1	2	---	---	---	---	---	---
Strontium, dissolved	µg/L	200	230	220	220	240	---	---	---	---	---	---

Table 14.--*Chemical data for pore-water samples collected from Standley Lake*--Continued

Property or constituent	Units	Lake bottom water	Pore water in bottom sediment at depth interval (centimeters)									
			0 - 1	1 - 2	2 - 3	3 - 4	4 - 5	5 - 6	6 - 7	7 - 8	8 - 9	9 - 10
SITE L5 (near island) MAY 17, 1990												
Porosity	none	--	0.83	0.77	0.67	0.62	---	---	---	---	---	---
pH	units	7.8	7.4	--	--	--	---	---	---	---	---	---
Nitrate as nitrogen, dissolved	mg/L	<0.10	<0.10	<0.10	0.20	0.20	---	---	---	---	---	---
Ammonia as nitrogen, dissolved	mg/L	0.05	1.10	1.30	1.50	0.42	---	---	---	---	---	---
Nitrogen, dissolved	mg/L	0.10	1.40	1.40	1.70	2.10	---	---	---	---	---	---
Orthophosphate as phosphorus, dissolved	mg/L	<0.010	0.290	0.080	0.030	0.300	---	---	---	---	---	---
Phosphorus, dissolved	mg/L	0.015	0.325	0.371	0.015	0.042	---	---	---	---	---	---
Barium, dissolved	µg/L	47	63	49	--	--	---	---	---	---	---	---
Cadmium, dissolved	µg/L	<1	<1	<1	--	--	---	---	---	---	---	---
Chromium, dissolved	µg/L	<5	<5	<5	--	--	---	---	---	---	---	----
Copper, dissolved	µg/L	<10	20	10	--	--	---	---	---	---	---	---
Iron, dissolved	µg/L	31	2,900	1,200	--	--	---	---	---	---	---	---
Lead, dissolved	µg/L	<10	10	10	--	--	---	---	---	---	---	---
Lithium, dissolved	µg/L	26	19	20	--	--	---	---	---	---	---	---
Manganese, dissolved	µg/L	7	3,800	3,200	--	--	---	---	---	---	---	---
Silver, dissolved	µg/L	<1	<1	<1	--	--	---	---	---	---	---	---
Strontium, dissolved	µg/L	200	230	220	--	--	---	---	---	---	---	---
SITE L8 (west side) MAY 16, 1990												
Porosity	none	--	0.90	0.68	0.65	0.63	---	---	---	---	---	---
pH	units	7.9	--	--	--	--	---	---	---	---	---	---
Nitrate as nitrogen, dissolved	mg/L	<0.10	<0.10	--	--	--	---	---	---	---	---	---
Ammonia as nitrogen, dissolved	mg/L	0.03	0.83	--	--	--	---	---	---	---	---	---
Nitrogen, dissolved	mg/L	0.20	1.20	--	--	--	---	---	---	---	---	---
Orthophosphate as phosphorus, dissolved	mg/L	<0.010	0.010	--	--	--	---	---	---	---	---	---
Phosphorus, dissolved	mg/L	0.004	0.013	0.075	0.278	0.071	---	---	---	---	---	---
Barium, dissolved	µg/L	49	--	--	--	--	---	---	---	---	---	---
Cadmium, dissolved	µg/L	<1	--	--	--	--	---	---	---	---	---	---
Chromium, dissolved	µg/L	<5	--	--	--	--	---	---	---	---	---	---
Copper, dissolved	µg/L	10	--	--	--	--	---	---	---	---	---	---
Iron, dissolved	µg/L	42	--	--	--	--	---	---	---	---	---	---
Lead, dissolved	µg/L	<10	--	--	--	--	---	---	---	---	---	---
Lithium, dissolved	µg/L	19	--	--	--	--	---	---	---	---	---	---
Manganese, dissolved	µg/L	8	--	--	--	--	---	---	---	---	---	---
Silver, dissolved	µg/L	<1	--	--	--	--	---	---	---	---	---	---
Strontium, dissolved	µg/L	200	--	--	--	--	---	---	---	---	---	---

Table 14.--*Chemical data for pore-water samples collected from Standley Lake*--Continued

Property or constituent	Units	Lake bottom water	Pore water in bottom sediment at depth interval (centimeters)									
			0 - 1	1 - 2	2 - 3	3 - 4	4 - 5	5 - 6	6 - 7	7 - 8	8 - 9	9 - 10
SITE L10 (near Farmers Highline and Croke Canals inlet) MAY 16, 1990												
Porosity	none	--	0.67	0.60	0.55	0.62	---	---	---	---	---	---
pH	units	8.0	--	--	--	--	---	---	---	---	---	---
Nitrate as nitrogen, dissolved	mg/L	<0.10	<0.10	--	--	<0.10	---	---	---	---	---	---
Ammonia as nitrogen, dissolved	mg/L	0.04	0.18	--	--	0.28	---	---	---	---	---	---
Nitrogen, dissolved	mg/L	0.20	0.30	--	--	0.60	---	---	---	---	---	---
Orthophosphate as phosphorus, dissolved	mg/L	0.010	0.010	--	--	<0.010	---	---	---	---	---	---
Phosphorus, dissolved	mg/L	<0.005	<0.005	0.003	0.008	0.051	---	---	---	---	---	---
Barium, dissolved	µg/L	23	--	--	--	--	---	---	---	---	---	---
Cadmium, dissolved	µg/L	<1	--	--	--	--	---	---	---	---	---	---
Chromium, dissolved	µg/L	<5	--	--	--	--	---	---	---	---	---	---
Copper, dissolved	µg/L	<10	--	--	--	--	---	---	---	---	---	---
Iron, dissolved	µg/L	<3	--	--	--	--	---	---	---	---	---	---
Lead, dissolved	µg/L	<10	--	--	--	--	---	---	---	---	---	---
Lithium, dissolved	µg/L	26	--	--	--	--	---	---	---	---	---	---
Manganese, dissolved	µg/L	8	--	--	--	--	---	---	---	---	---	---
Silver, dissolved	µg/L	<1	--	--	--	--	---	---	---	---	---	---
Strontium, dissolved	µg/L	190	--	--	--	--	---	---	---	---	---	---
SITE L1 (near dam) AUGUST 13, 1990												
Porosity	none	--	0.90	0.89	0.87	0.87	---	---	---	---	---	---
pH	units	7.2	7.9	7.6	7.6	7.5	---	---	---	---	---	---
Nitrate as nitrogen, dissolved	mg/L	0.20	0.01	0.02	<0.01	0.05	---	---	---	---	---	---
Ammonia as nitrogen, dissolved	mg/L	0.50	2.00	3.00	3.20	3.10	---	---	---	---	---	---
Nitrogen, dissolved	mg/L	0.70	2.40	3.60	3.80	3.50	---	---	---	---	---	---
Orthophosphate as phosphorus, dissolved	mg/L	0.009	0.064	0.411	0.205	0.119	---	---	---	---	---	---
Phosphorus, dissolved	mg/L	<0.001	0.638	0.414	0.148	0.024	---	---	---	---	---	---
Barium, dissolved	µg/L	--	--	--	--	--	76	---	---	---	---	---
Cadmium, dissolved	µg/L	--	--	--	--	--	2	---	---	---	---	---
Chromium, dissolved	µg/L	--	--	--	--	--	<5	---	---	---	---	---
Copper, dissolved	µg/L	--	--	--	--	--	20	---	---	---	---	---
Iron, dissolved	µg/L	--	--	--	--	--	3,000	---	---	---	---	---
Lead, dissolved	µg/L	--	--	--	--	--	20	---	---	---	---	---
Lithium, dissolved	µg/L	--	--	--	--	--	36	---	---	---	---	---
Manganese, dissolved	µg/L	--	--	--	--	--	11,000	---	---	---	---	---
Silver, dissolved	µg/L	--	--	--	--	--	<1	---	---	---	---	---
Strontium, dissolved	µg/L	--	--	--	--	--	520	---	---	---	---	---

Table 14.--*Chemical data for pore-water samples collected from Standley Lake*--Continued

Property or constituent	Units	Lake bottom water	Pore water in bottom sediment at depth interval (centimeters)									
			0 - 1	1 - 2	2 - 3	3 - 4	4 - 5	5 - 6	6 - 7	7 - 8	8 - 9	9 - 10
SITE L2 (near center) AUGUST 13, 1990												
Porosity	none	--	0.93	0.91	0.91	0.90	---	---	---	---	---	---
pH	units	7.3	7.5	7.6	7.6	7.5	---	---	---	---	---	---
Nitrate as nitrogen, dissolved	mg/L	0.19	0.08	0.08	0.03	0.03	---	---	---	---	---	---
Ammonia as nitrogen, dissolved	mg/L	0.17	3.60	4.40	4.90	4.90	---	---	---	---	---	---
Nitrogen, dissolved	mg/L	0.40	4.30	5.10	5.40	5.20	---	---	---	---	---	---
Orthophosphate as phosphorus, dissolved	mg/L	0.001	0.599	0.836	0.553	0.047	---	---	---	---	---	---
Phosphorus, dissolved	mg/L	<0.001	0.653	0.890	0.547	0.061	---	---	---	---	---	---
Barium, dissolved	µg/L	52	73	47	39	68	---	---	---	---	---	---
Cadmium, dissolved	µg/L	<1	<2	<1	1	1	---	---	---	---	---	---
Chromium, dissolved	µg/L	5	<0	<5	5	<5	---	---	---	---	---	---
Copper, dissolved	µg/L	<10	<10	<10	<10	<10	---	---	---	---	---	---
Iron, dissolved	µg/L	48	250	5,200	4,600	11,000	---	---	---	---	---	---
Lead, dissolved	µg/L	10	<10	10	<10	<10	---	---	---	---	---	---
Lithium, dissolved	µg/L	19	20	20	21	24	---	---	---	---	---	---
Manganese, dissolved	µg/L	380	4,100	11,000	11,000	11,000	---	---	---	---	---	---
Silver, dissolved	µg/L	<1	<1	1	1	2	---	---	---	---	---	---
Strontium, dissolved	µg/L	200	200	340	370	370	---	---	---	---	---	---
SITE L5 (near island) AUGUST 13, 1990												
Porosity	none	--	0.86	0.80	0.76	0.78	---	---	---	---	---	---
pH	units	7.5	7.5	7.3	7.5	7.6	---	---	---	---	---	---
Nitrate as nitrogen, dissolved	mg/L	0.09	0.08	0.09	0.08	0.19	---	---	---	---	---	---
Ammonia as nitrogen, dissolved	mg/L	0.30	1.70	2.00	1.70	1.60	---	---	---	---	---	---
Nitrogen, dissolved	mg/L	0.40	2.10	2.30	1.80	1.90	---	---	---	---	---	---
Orthophosphate as phosphorus, dissolved	mg/L	0.011	0.234	0.104	0.032	0.019	---	---	---	---	---	---
Phosphorus, dissolved	mg/L	<0.001	0.222	0.127	0.032	0.028	---	---	---	---	---	---
Barium, dissolved	µg/L	47	49	73	73	78	---	---	---	---	---	---
Cadmium, dissolved	µg/L	1	<1	<1	<1	3	---	---	---	---	---	---
Chromium, dissolved	µg/L	<5	<5	8	9	10	---	---	---	---	---	---
Copper, dissolved	µg/L	<10	<10	10	30	20	---	---	---	---	---	---
Iron, dissolved	µg/L	32	20	3,400	1,400	1,300	---	---	---	---	---	---
Lead, dissolved	µg/L	<10	<10	20	20	50	---	---	---	---	---	---
Lithium, dissolved	µg/L	13	27	24	21	30	---	---	---	---	---	---
Manganese, dissolved	µg/L	110	550	6,700	5,200	3,900	---	---	---	---	---	---
Silver, dissolved	µg/L	<1	<1	<1	4	2	---	---	---	---	---	---
Strontium, dissolved	µg/L	170	170	340	330	320	---	---	---	---	---	---

Table 15.--*Chemical data for water samples collected from the microcosm nutrient-limitation experiment*

[Three replicates (1, 2, 3) were used for each control and nutrient addition; --, no analysis; <, less than]

Property or constituent	Units	Site L3		Control			Nitrogen addition			Phosphorus addition			Nitrogen plus phosphorus addition		
		Day 1	Day 5	1	2	3	1	2	3	1	2	3	1	2	3
						JULY 1989									
Alkalinity, lab	mg/L	51.	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrite plus nitrate as nitrogen, dissolved	mg/L	<0.01	<0.01	<0.01	0.01	<0.01	0.98	0.98	1.00	<0.01	<0.01	<0.01	0.87	0.83	0.88
Ammonia as nitrogen, dissolved	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Ammonia plus organic nitrogen as nitrogen, total	mg/L	<0.2	--	0.3	--	0.2	0.5	0.4	0.9	<0.2	<0.2	<0.2	0.5	0.5	1.0
Nitrogen, total	mg/L	0.1	0.1	<0.1	<0.1	<0.1	1.1	1.0	1.0	<0.1	<0.1	0.1	0.9	0.9	1.0
Orthophosphate as phosphorus, dissolved	mg/L	<0.001	<0.001	0.003	<0.001	<0.001	<0.001	<0.001	<0.001	0.093	0.095	0.105	0.072	0.068	0.073
Phosphorus, total	mg/L	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	0.102	0.119	0.110	0.087	0.090	0.095
Chlorophyll *a*	µg/L	0.5	0.5	0.2	0.5	0.3	0.4	0.5	0.7	0.3	0.3	0.3	4.5	3.2	3.4
						AUGUST 1989									
Alkalinity, lab	mg/L	52.	52.	51.	51.	52.	51.	51.	51.	51.	51.	51.	52.	51.	51.
Nitrite plus nitrate as nitrogen, dissolved	mg/L	<0.01	<0.01	0.01	<0.01	<0.01	0.09	0.09	0.9	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Ammonia as nitrogen, dissolved	mg/L	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Ammonia plus organic nitrogen as nitrogen, total	mg/L	<0.2	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.2	0.3	0.2	0.2
Nitrogen, total	mg/L	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	<0.1	<0.1	<0.1
Orthophosphate as phosphorus, dissolved	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.003	<0.001	<0.001	<0.001	<0.001
Phosphorus, total	mg/L	0.004	0.006	0.002	0.002	0.002	0.001	0.002	<0.001	0.009	0.009	0.009	0.006	0.004	0.006
Chlorophyll *a*	µg/L	3.3	3.4	1.1	1.6	0.6	0.9	1.3	0.8	0.9	0.8	0.7	6.4	6.1	5.7
						SEPTEMBER 1989									
Alkalinity, lab	mg/L	53.	53.	53.	54.	54.	54.	54.	54.	54.	53.	54.	54.	53.	54.
Silica	mg/L	2.9	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.7	2.6	2.6	2.5	2.2	2.6
Nitrite plus nitrate as nitrogen, dissolved	mg/L	<0.01	0.01	0.01	<0.01	<0.01	0.08	0.07	0.09	0.01	0.01	<0.01	<0.01	0.02	0.01
Ammonia as nitrogen, dissolved	mg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	0.01	0.01	<0.01
Ammonia plus organic nitrogen as nitrogen, total	mg/L	0.2	<0.2	0.2	<0.2	<0.2	0.2	0.3	0.3	0.3	0.2	0.2	0.3	0.3	0.3
Nitrogen, total	mg/L	0.3	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Orthophosphate as phosphorus, dissolved	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Phosphorus, total	mg/L	0.008	0.005	0.005	0.007	0.006	0.005	0.004	0.004	0.009	0.010	0.009	0.009	0.009	0.010
Chlorophyll *a*	µg/L	2.3	3.1	1.7	2.2	2.9	1.8	2.1	2.5	1.5	0.8	1.0	5.4	5.1	7.3

Table 15.--*Chemical data for water samples collected from the microcosm nutrient-limitation experiment*--Continued

Property or constituent	Units	Site L3		Control			Nitrogen addition			Phosphorus addition			Nitrogen plus phosphorus addition		
		Day 1	Day 5	1	2	3	1	2	3	1	2	3	1	2	3
							OCTOBER 1989								
Alkalinity, lab	mg/L	54.	54.	54.	54.	54.	54.	54.	54.	54.	54.	54.	54.	54.	54.
Nitrite plus nitrate as nitrogen, dissolved	mg/L	<0.01	0.01	0.01	<0.01	<0.01	0.07	0.08	0.10	<0.01	<0.01	0.01	0.03	0.02	0.01
Ammonia as nitrogen, dissolved	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Ammonia plus organic nitrogen as nitrogen, total	mg/L	0.3	<0.2	<0.2	0.3	0.3	0.2	0.3	0.3	<0.2	<0.2	0.2	0.3	<0.2	0.3
Nitrogen, total	mg/L	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1
Orthophosphate as phosphorus, dissolved	mg/L	0.001	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.001	<0.001	0.002	<0.001	0.001	<0.001
Phosphorus, total	mg/L	0.006	0.009	0.009	0.007	0.010	0.011	0.009	0.008	0.013	0.014	0.014	0.012	0.011	0.012
Chlorophyll a	µg/L	2.9	2.6	1.7	1.5	2.0	2.5	2.1	3.3	1.3	1.5	1.6	4.6	4.9	4.6
							AUGUST 1990								
Nitrite plus nitrate as nitrogen, dissolved	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	0.14	0.14	0.14	<0.01	<0.01	<0.01	0.03	0.05	0.03
Ammonia as nitrogen, dissolved	mg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nitrogen, total	mg/L	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Orthophosphate as phosphorus, dissolved	mg/L	0.002	0.004	0.004	0.004	0.003	0.003	0.003	0.003	0.006	0.007	0.007	0.003	0.002	0.003
Phosphorus, total	mg/L	0.004	0.008	0.003	0.003	0.003	0.002	0.001	0.004	0.019	0.021	0.018	0.015	0.024	0.019
Chlorophyll a	µg/L	1.5	1.5	0.9	0.9	1.2	1.8	2.9	2.5	1.0	1.0	0.7	7.9	5.0	6.7
							OCTOBER 1990								
Nitrite plus nitrate as nitrogen, dissolved	mg/L	0.02	0.01	<0.01	<0.01	<0.01	0.16	0.17	0.18	<0.01	<0.01	<0.01	0.11	0.11	0.11
Ammonia as nitrogen, dissolved	mg/L	0.02	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	0.01	0.01	0.01	0.02	0.02	0.02
Nitrogen, total	mg/L	<0.01	<0.1	<0.1	<0.1	<0.1	0.3	0.4	0.3	<0.1	<0.1	<0.1	0.4	0.3	0.3
Orthophosphate as phosphorus, dissolved	mg/L	<0.001	<0.001	0.001	<0.001	0.002	0.002	0.002	0.002	0.003	0.003	0.002	<0.001	0.001	<0.001
Phosphorus, total	mg/L	0.006	0.005	0.004	<0.001	0.002	0.005	0.003	0.004	0.019	0.018	0.013	0.009	0.007	0.009
Chlorophyll a	µg/L	1.1	2.6	1.7	2.2	1.4	2.0	1.8	1.8	1.4	1.8	1.6	3.3	3.3	3.9

Table 16.--*Phytoplankton densities and biovolumes in microcosm nutrient-limitation experiment samples*

[Three replicates (1, 2, 3) were used for each control and nutrient addition; --, species not identified in sample; <, less than]

PHYLUM / CLASS / Order / *Genus species*	Site L3 - day 1 Density (cells/mL)	Site L3 - day 1 Biovolume (μm^3/mL)	Site L3 - day 5 Density (cells/mL)	Site L3 - day 5 Biovolume (μm^3/mL)
	JULY 1989			
CHLOROPHYTA				
CHLOROPHYCEAE (Green algae)				
Chlamydomonas sp.	1.2	42	--	--
Oocystis sp.	1.2	530	15	6,600
Staurastrum c.f. quadricuspidatum	--	--	<1	59
Staurastrum sp.	<1	76	--	--
CHRYSOPHYTA				
BACILLARIOPHYCEAE (Diatoms)				
Centrales				
Melosira granulata	1.2	3,800	--	--
unidentified centric diatoms	<1	550	--	--
Pennales				
Amphora sp.	<1	11	--	--
unidentified pennate diatoms	--	--	1.9	4,000
CYANOPHYTA				
CYANOPHYCEAE (Blue-green algae)				
Anacystis didamaeta	8.7	850	--	--
Anacystis marina	67	180	44	120
Merismopedia tenuissima	130	790	440	2,600
PYRROPHYTA				
DINOPHYCEAE (Dinoflagellates)				
Ceratium hirundinella	1.4	1,400	3.3	3,300
unidentified dinoflagellates	<1	610	--	--

PHYLUM / CLASS / Order / *Genus species*	Control 1 Density (cells/mL)	Control 1 Biovolume (μm^3/mL)	Control 2 Density (cells/mL)	Control 2 Biovolume (μm^3/mL)	Control 3 Density (cells/mL)	Control 3 Biovolume (μm^3/mL)
CHLOROPHYTA						
CHLOROPHYCEAE (Green algae)						
Ankistrodesmus convolutus	--	--	2.3	180	1.4	100
Chlamydomonas sp.	--	--	--	--	<1	32
Coelastrum reticulatum	--	--	--	--	<1	90
Oocystis sp.	8.2	3,500	7.7	3,300	5.6	2,400
Schroderia sp.	--	--	--	--	<1	140
Sphaerocystis sp.	--	--	12	1,200	--	--
Staurastrum c.f. quadricuspidatum	--	--	<1	120	<1	59
CHRYSOPHYTA						
BACILLARIOPHYCEAE (Diatoms)						
Centrales						
Melosira sp.	--	--	--	--	1.1	530
unidentified centric diatoms	--	--	--	--	<1	2,400
Pennales						
Asterionella formosa	--	--	<1	740	<1	16,000
Fragilaria crotonensis	<1	79	--	--	--	--
unidentified pennate diatoms	1.0	2,200	--	--	2.3	4,900
CYANOPHYTA						
CYANOPHYCEAE (Blue-green algae)						
Anacystis marina	--	--	8.5	22	--	--
Merismopedia tenuissima	210	1,200	180	1,000	94	560
PYRROPHYTA						
DINOPHYCEAE (Dinoflagellates)						
Ceratium hirundinella	<1	820	<1	240	1.4	1,400

Table 16.--*Phytoplankton densities and biovolumes in microcosm nutrient-limitation experiment samples*--Continued

PHYLUM / CLASS / Order / *Genus species*	Nitrogen addition 1 Density (cells/mL)	1 Biovolume (μm^3/mL)	2 Density (cells/mL)	2 Biovolume (μm^3/mL)	3 Density (cells/mL)	3 Biovolume (μm^3/mL)
	JULY 1989--Continued					
CHLOROPHYTA						
CHLOROPHYCEAE (Green algae)						
Ankistrodesmus convolutus	--	--	5.1	390	--	--
Oocystis sp.	7.7	3,300	--	--	--	--
Pandorina sp.	--	--	<1	19	--	--
Staurastrum c.f. paradoxum	<1	370	<1	190	<1	94
CHRYSOPHYTA						
BACILLARIOPHYCEAE (Diatoms)						
Centrales						
Melosira sp.	<1	390	2.0	940	<1	80
unidentified centric diatoms	<1	270	--	--	<1	270
Pennales						
Asterionella formosa	<1	5,200	<1	14,000	<1	15,000
Fragilaria crotonensis	<1	110	--	--	--	--
CYANOPHYTA						
CYANOPHYCEAE (Blue-green algae)						
Merismopedia tenuissima	530	3,200	1,100	6,600	580	3,400

PHYLUM / CLASS / Order / *Genus species*	Phosphorus addition 1 Density (cells/mL)	1 Biovolume (μm^3/mL)	2 Density (cells/mL)	2 Biovolume (μm^3/mL)	3 Density (cells/mL)	3 Biovolume (μm^3/mL)
CHLOROPHYTA						
CHLOROPHYCEAE (Green algae)						
Ankistrodesmus convolutus	--	--	<1	58	<1	29
Chlamydomonas sp.	2.3	79	--	--	<1	13
Oocystis sp.	--	--	6.2	2,600	9.6	4,100
Staurastrum c.f. quadricuspidatum	<1	59	--	--	<1	120
CHRYSOPHYTA						
BACILLARIOPHYCEAE (Diatoms)						
Centrales						
Melosira sp.	--	--	--	--	<1	160
unidentified centric diatoms	--	--	--	--	1.6	5,800
Pennales						
Asterionella formosa	--	--	--	--	<1	3,000
Fragilaria crotonensis	--	--	<1	360	--	--
unidentified pennate diatoms	3.1	6,800	6.9	17,000	3.1	6,500
CYANOPHYTA						
CYANOPHYCEAE (Blue-green algae)						
Anacystis didamaeta	--	--	1.9	190	3.8	380
Anacystis marina	--	--	--	--	1.5	<10
Merismopedia punctata	6.2	55	--	--	--	--
Merismopedia tenuissima	3.1	18	39	230	1.5	<10
Oscillatoria sp.	<1	210	--	--	--	--
unidentified blue-green algae	<1	<10	--	--	2.3	200
PYRROPHYTA						
DINOPHYCEAE (Dinoflagellates)						
Ceratium hirundinella	--	--	<1	690	1.8	1,700
Ceratium sp.	<1	520	--	--	--	--
Ceratium hirundinella	1.8	1,800	1.0	1,000	1.2	1,200

Table 16.--*Phytoplankton densities and biovolumes in microcosm nutrient-limitation experiment samples*--Continued

PHYLUM / CLASS / Order / *Genus species*	Nitrogen plus phosphorus addition 1 Density (cells/mL)	1 Biovolume (μm^3/mL)	2 Density (cells/mL)	2 Biovolume (μm^3/mL)	3 Density (cells/mL)	3 Biovolume (μm^3/mL)
	JULY 1989--Continued					
CHLOROPHYTA						
CHLOROPHYCEAE (Green algae)						
Ankistrodesmus convolutus	--	--	1.3	100	--	--
Chlamydomonas sp.	130	4,500	45	1,500	95	3,200
Chlorella sp.	46	19,000	--	--	65	26,000
Coelastrum sphaericum	--	--	11	14,000	--	--
Cosmarium sp.	--	--	2.7	1,900	5.9	47,000
Eudorina sp.	--	--	--	--	77	140,000
Kirchneriella contorta	62	370	--	--	--	--
Oocystis sp.	7.7	3,300	--	--	47	20,000
Scenedesmus quadricauda	--	--	3.0	1,900	--	--
Scenedesmus/Crucigenia sp.	15	4,500	8.0	2,300	--	--
Schroderia sp.	15	4,700	--	--	--	--
Staurastrum c.f. quadricuspidatum	<1	180	--	--	--	--
Staurastrum sp.	--	--	--	--	<1	350
unidentified green algae	--	--	2.7	2,100	--	--
CHRYSOPHYTA						
BACILLARIOPHYCEAE (Diatoms)						
Centrales						
Cyclotella sp.	--	--	--	--	12	110,000
Melosira granulata	54	13,000	2.7	630	--	--
Melosira sp.	19	9,000	2.6	1,200	<1	300
unidentified centric diatoms	47	9,300	17	12,000	5.9	1,900
Pennales						
Amphora sp.	--	--	--	--	<1	82
Amphora veneta	--	--	<1	140	--	--
Asterionella formosa	<1	10,000	<1	18,000	--	--
Cymbella sp.	--	--	--	--	5.9	8,900
Fragilaria crotonensis	7.2	4,800	2.8	1,800	<1	400
Nitzschia sigma	--	--	--	--	<1	27
Nitzschia tryblionelleae	--	--	--	--	<1	490
unidentified pennate diatoms	100	240,000	40	99,000	12	44,000
CRYPTOPHYTA						
CRYPTOPHYCEAE (Cryptomonads)						
unidentified cryptophytes	--	--	--	--	18	870
CYANOPHYTA						
CYANOPHYCEAE (Blue-green algae)						
Anabaena circinalis	--	--	<1	270	--	--
Anabaenopsis raciborski	--	--	3.0	940	--	--
Anacystis didamaeta	--	--	--	--	42	4,100
Anacystis marina	--	--	160	410	--	--
Aphanizomenon sp.	--	--	5.3	3,300	--	--
Lyngbya contorta	--	--	2.7	240	--	--
Lyngbya limnetica	--	--	8.0	470	--	--
Merismopedia punctata	--	--	--	--	1,400	13,000
Merismopedia tenuissima	6,500	38,000	320	1,900	--	--
Nostoc sp.	--	--	13	860	--	--
Oscillatoria sp.	--	--	1.3	360	<1	<10
Spirulina sp.	--	--	--	--	<1	<10
unidentified blue-green algae	--	--	8.0	1,400	160	27,000
PYRROPHYTA						
DINOPHYCEAE (Dinoflagellates)						
Ceratium hirundinella	1.3	1,300	1.3	1,300	1.2	1,200

Table 16.--*Phytoplankton densities and biovolumes in microcosm nutrient-limitation experiment samples*--Continued

PHYLUM CLASS Order *Genus species*	Site L3 - day 1 Density (cells/mL)	 Biovolume (μm^3/mL)	Site L3 - day 5 Density (cells/mL)	 Biovolume (μm^3/mL)
	AUGUST 1989			
CHLOROPHYTA				
CHLOROPHYCEAE (Green algae)				
Chlamydomonas sp.	--	--	31	1,200
Oocystis sp.	270	110,000	--	--
Sphaerocystis sp.	--	--	<1	<10
Staurastrum sp.	<1	140	<1	140
CHRYSOPHYTA				
BACILLARIOPHYCEAE (Diatoms)				
Centrales				
Melosira sp.	1.0	500	--	--
Stephanodiscus nigreae	<1	530	--	--
Pennales				
Cocconeis disculioides	--	--	15	7,100
Fragilaria sp.	--	--	62	34,000
unidentified pennate diatoms	--	--	<1	82
CRYPTOPHYTA				
CRYPTOPHYCEAE (Cryptomonads)				
unidentified cryptophytes	1,800	91,000	1,600	77,000
CYANOPHYTA				
CYANOPHYCEAE (Blue-green algae)				
Anabaena sp.	<1	56	--	--
Merismopedia tenuissima	--	--	3,600	1,800
unidentified blue-green algae	510	34,000	630	41,000
PYRROPHYTA				
DINOPHYCEAE (Dinoflagellates)				
Ceratium hirundinella	1.8	120,000	<1	28,000

Table 16.--*Phytoplankton densities and biovolumes in microcosm nutrient-limitation experiment samples*--Continued

PHYLUM / CLASS / Order / *Genus species*	Control 1 Density (cells/mL)	Control 1 Biovolume (μm^3/mL)	Control 2 Density (cells/mL)	Control 2 Biovolume (μm^3/mL)	Control 3 Density (cells/mL)	Control 3 Biovolume (μm^3/mL)
	AUGUST 1989--Continued					
CHLOROPHYTA						
CHLOROPHYCEAE (Green algae)						
Ankistrodesmus convolutus	--	--	--	--	1.2	93
Scenedesmus/Crucigenia sp.	--	--	--	--	2.0	600
Sphaerocystis sp.	--	--	<1	40	--	--
Staurastrum c.f. quadricuspidatum	--	--	--	--	<1	940
Staurastrum sp.	<1	1,400	<1	820	<1	440
CHRYSOPHYTA						
BACILLARIOPHYCEAE (Diatoms)						
Centrales						
Melosira sp.	46	22,000	9.0	4,300	1.6	770
Stephanodiscus nigreae	--	--	<1	1,700	--	--
unidentified centric diatoms	--	--	77	120,000	<1	1,600
Pennales						
Asterionella formosa	--	--	--	--	<1	8,800
Fragilaria crotonensis	--	--	--	--	<1	140
Pleurosigma sp.	--	--	--	--	<1	360
unidentified pennate diatoms	--	--	--	--	2.0	4,300
CRYPTOPHYTA						
CRYPTOPHYCEAE (Cryptomonads)						
unidentified cryptophytes	1,800	87,000	1,700	82,000	220	11,000
CYANOPHYTA						
CYANOPHYCEAE (Blue-green algae)						
Lyngbya limnetica	--	--	--	--	1.0	60
Merismopedia sp.	4,100	160,000	2,200	85,000	--	--
Merismopedia tenuissima	--	--	--	--	1,400	8,300
Oscillatoria sp.	--	--	--	--	14	4,000
unidentified blue-green algae	520	11,000	660	14,000	--	--
EUGLENOPHYTA (Euglenoids)						
Euglena sp.	--	--	15	18,000	--	--
PYRROPHYTA						
DINOPHYCEAE (Dinoflagellates)						
Ceratium hirundinella	<1	840	<1	910	<1	740

Table 16.--*Phytoplankton densities and biovolumes in microcosm nutrient-limitation experiment samples*--Continued

PHYLUM / CLASS / Order / *Genus species*	Nitrogen addition 1 Density (cells/mL)	1 Biovolume (μm^3/mL)	2 Density (cells/mL)	2 Biovolume (μm^3/mL)	3 Density (cells/mL)	3 Biovolume (μm^3/mL)
	AUGUST 1989--Continued					
CHLOROPHYTA						
CHLOROPHYCEAE (Green algae)						
Ankistrodesmus convolutus	--	--	--	--	<1	58
Chlamydomonas sp.	<1	260	--	--	<1	490
Crucigenia sp.	<1	48	--	--	--	--
Oocystis sp.	--	--	--	--	1.8	760
Pediastrum simplex	--	--	<1	96	--	--
Scenedesmus quadricauda	--	--	--	--	<1	280
Sphaerocystis sp.	--	--	120	12,000	--	--
Staurastrum c.f. quadricuspidatum	<1	1,000	--	--	<1	530
Staurastrum sp.	<1	120	<1	2,200	<1	41
unidentified green algae	--	--	--	--	6.2	4,800
CHRYSOPHYTA						
BACILLARIOPHYCEAE (Diatoms)						
Centrales						
Melosira sp.	5.7	2,700	2.9	1,400	9.0	4,200
unidentified centric diatoms	--	--	--	--	<1	5,000
Pennales						
Asterionella formosa	--	--	--	--	<1	11,000
Cocconeis sp.	--	--	31	15,000	--	--
Fragilaria crotonensis	--	--	--	--	<1	260
unidentified pennate diatoms	<1	320	31	56,000	--	--
CRYPTOPHYTA						
CRYPTOPHYCEAE (Cryptomonads)						
unidentified cryptophytes	2.9	140	2,500	120,000	230	11,000
CYANOPHYTA						
CYANOPHYCEAE (Blue-green algae)						
Anabaenopsis raciborski	--	--	--	--	2.3	730
Anacystis didamaeta	2.5	240	--	--	--	--
Anacystis marina	--	--	--	--	2.6	<10
Merismopedia sp.	--	--	860	33,000	--	--
Merismopedia tenuissima	220	1,300	--	--	350	2,100
Oscillatoria sp.	--	--	31	8,500	3.1	850
unidentified blue-green algae	--	--	1,300	27,000	--	--
PYRROPHYTA						
DINOPHYCEAE (Dinoflagellates)						
Ceratium hirundinella	<1	200	<1	540	<1	270

Table 16.--*Phytoplankton densities and biovolumes in microcosm nutrient-limitation experiment samples*--Continued

PHYLUM / CLASS / Order / *Genus species*	Phosphorus addition 1 Density (cells/mL)	1 Biovolume (μm^3/mL)	2 Density (cells/mL)	2 Biovolume (μm^3/mL)	3 Density (cells/mL)	3 Biovolume (μm^3/mL)
	AUGUST 1989--Continued					
CHLOROPHYTA						
CHLOROPHYCEAE (Green algae)						
Ankistrodesmus convolutus	--	--	4.9	370	--	--
Ankistrodesmus nannosolene	--	--	1.2	<10	--	--
Chlamydomonas sp.	--	--	4.6	2,500	2.3	1,300
Crucigenia crucifera	--	--	--	--	<1	33
Oocystis sp.	--	--	<1	220	1.7	720
Sphaerocystis sp.	<1	33	--	--	--	--
Staurastrum c.f. quadricuspidatum	--	--	<1	940	<1	1,400
Staurastrum sp.	<1	1,800	<1	41	<1	82
unidentified green algae	--	--	17	13,000	--	--
CHRYSOPHYTA						
BACILLARIOPHYCEAE (Diatoms)						
Centrales						
Melosira sp.	<1	270	3.5	1,600	3.6	1,700
Stephanodiscus nigreae	<1	430	--	--	--	--
unidentified centric diatoms	--	--	<1	3,000	<1	4,700
Pennales						
Asterionella formosa	--	--	<1	25,000	--	--
Cocconeis sp.	--	--	1.2	590	--	--
Fragilaria crotonensis	--	--	<1	540	--	--
unidentified pennate diatoms	15	28,000	1.8	5,300	<1	4,500
CRYPTOPHYTA						
CRYPTOPHYCEAE (Cryptomonads)						
unidentified cryptophytes	400	20,000	4.1	200	1.5	80
CYANOPHYTA						
CYANOPHYCEAE (Blue-green algae)						
Anacystis marina	--	--	--	--	2.1	<10
Merismopedia tenuissima	--	--	410	2,400	39	230
unidentified blue-green algae	1,600	34,000	--	--	--	--
EUGLENOPHYTA (Euglenoids)						
Euglena sp.	<1	40	--	--	--	--
PYRROPHYTA						
DINOPHYCEAE (Dinoflagellates)						
Ceratium hirundinella	<1	770	<1	370	<1	540

Table 16.--*Phytoplankton densities and biovolumes in microcosm nutrient-limitation experiment samples*--Continued

PHYLUM / CLASS / Order / Genus species	Nitrogen plus phosphorus addition 1 Density (cells/mL)	1 Biovolume (μm^3/mL)	2 Density (cells/mL)	2 Biovolume (μm^3/mL)	3 Density (cells/mL)	3 Biovolume (μm^3/mL)
	AUGUST 1989--Continued					
CHLOROPHYTA						
CHLOROPHYCEAE (Green algae)						
Chlamydomonas sp.	170	94,000	260	10,000	230	290,000
Oocystis sp.	150	66,000	--	--	130	57,000
Pandorina sp.	45	6,400	--	--	--	--
Scenedesmus bijuga	--	--	--	--	15	1,700
Staurastrum c.f. quadricuspidatum	<1	350	--	--	--	--
Staurastrum sp.	<1	280	<1	440	<1	2,800
CHRYSOPHYTA						
BACILLARIOPHYCEAE (Diatoms)						
Centrales						
Melosira granulata	2.5	7,700	--	--	<1	1,300
Melosira sp.	2.8	1,300	--	--	31	14,000
Stephanodiscus sp.	--	--	<1	850	--	--
unidentified centric diatoms	52	100,000	--	--	7.3	900
Pennales						
Asterionella formosa	<1	12,000	--	--	--	--
CRYPTOPHYTA						
CRYPTOPHYCEAE (Cryptomonads)						
unidentified cryptophytes	160	8,100	370	18,000	280	14,000
CYANOPHYTA						
CYANOPHYCEAE (Blue-green algae)						
MYXOPHYCEAE (Blue-green algae)						
Anacystis marina	270	730	--	--	--	--
Chroococcus sp.	100	40,000	--	--	--	--
Gomphosphaeria aponii	--	--	220	11,000	--	--
Lyngbya limnetica	1.0	60	--	--	--	--
Merismopedia sp.	--	--	12,000	460,000	23,000	880,000
Merismopedia tenuissima	26,000	160,000	--	--	920	5,500
Oscillatoria sp.	7.2	2,000	--	--	--	--
unidentified blue-green algae	--	--	480	31,000	380	8,200
EUGLENOPHYTA (Euglenoids)						
Euglena sp.	1.0	1,200	--	--	--	--
PYRROPHYTA						
DINOPHYCEAE (Dinoflagellates)						
Ceratium hirundinella	<1	270	<1	14,000	<1	240
Gymnodinium sp.	8.6	57,000	--	--	--	--

Table 16.--*Phytoplankton densities and biovolumes in microcosm nutrient-limitation experiment samples*--Continued

PHYLUM CLASS Order *Genus species*	Site L3 - day 1 Density (cells/mL)	Site L3 - day 1 Biovolume (μm^3/mL)	Site L3 - day 5 Density (cells/mL)	Site L3 - day 5 Biovolume (μm^3/mL)
	SEPTEMBER 1989			
CHLOROPHYTA				
CHLOROPHYCEAE (Green algae)				
Ankistrodesmus convolutus	--	--	<1	23
Chlamydomonas sp.	46	25,000	1.2	630
Oocystis sp.	1.5	660	<1	160
Pediastrum simplex	<1	67	--	--
Sphaerocystis sp.	--	--	1.8	180
Spondylosium sp.	--	--	<1	60
Staurastrum sp.	<1	3,000	2.6	9,200
Tetraedron lunula	--	--	<1	12
CHRYSOPHYTA				
BACILLARIOPHYCEAE (Diatoms)				
Centrales				
Melosira sp.	<1	210	17	8,200
unidentified centric diatoms	--	--	<1	830
Pennales				
Fragilaria crotonensis	<1	90	1.1	730
unidentified pennate diatoms	<1	1,100	<1	140
CRYPTOPHYTA				
CRYPTOPHYCEAE (Cryptomonads)				
unidentified cryptophytes	37	1,800	2.8	140
CYANOPHYTA				
CYANOPHYCEAE (Blue-green algae)				
Anacystis marina	20	52	3.5	<10
Merismopedia tenuissima	160	970	9.6	57
Raphidiopsis sp.	<1	<10	--	--
EUGLENOPHYTA (Euglenoids)				
Trachelomonas volvocina	<1	120	--	--
PYRROPHYTA				
DINOPHYCEAE (Dinoflagellates)				
Ceratium hirundinella	<1	270	<1	100

Table 16.--*Phytoplankton densities and biovolumes in microcosm nutrient-limitation experiment samples*--Continued

PHYLUM / CLASS / Order / *Genus species*	Control 1 Density (cells/mL)	Control 1 Biovolume (μm^3/mL)	Control 2 Density (cells/mL)	Control 2 Biovolume (μm^3/mL)	Control 3 Density (cells/mL)	Control 3 Biovolume (μm^3/mL)
	SEPTEMBER 1989--Continued					
CHLOROPHYTA						
CHLOROPHYCEAE (Green algae)						
Chlamydomonas sp.	110	100,000	510	280,000	57	30,000
Oocystis sp.	--	--	--	--	3.6	1,500
Pediastrum duplex	<1	160	--	--	--	--
Staurastrum sp.	<1	640	3.0	10,000	2.8	9,800
CHRYSOPHYTA						
BACILLARIOPHYCEAE (Diatoms)						
Centrales						
Melosira sp.	<1	80	6.3	3,000	5.1	2,400
Stephanodiscus nigreae	<1	2,800	--	--	--	--
unidentified centric diatoms	62	54,000	15	4,800	--	--
Pennales						
Asterionella formosa	--	--	--	--	37	1,600,000
Asterionella sp.	--	--	<1	8,800	--	--
Fragilaria construens	<1	100	--	--	--	--
Fragilaria crotonensis	--	--	4.3	2,800	34	22,000
unidentified pennate diatoms	--	--	15	81,000	--	--
CRYPTOPHYTA						
CRYPTOPHYCEAE (Cryptomonads)						
unidentified cryptophytes	1,300	64,000	1,800	91,000	2.0	100
CYANOPHYTA						
CYANOPHYCEAE (Blue-green algae)						
MYXOPHYCEAE (Blue-green algae)						
Anabaena spiroides	2.4	800	--	--	--	--
Anacystis didamaeta	<1	17	--	--	--	--
Merismopedia sp.	--	--	560	21,000	--	--
Merismopedia tenuissima	--	--	--	--	12	73
unidentified blue-green algae	230	15,000	--	--	--	--
PYRROPHYTA						
DINOPHYCEAE (Dinoflagellates)						
Ceratium hirundinella	--	--	--	--	<1	50

Table 16.--*Phytoplankton densities and biovolumes in microcosm nutrient-limitation experiment samples*--Continued

PHYLUM / CLASS / Order / *Genus species*	Nitrogen addition 1 Density (cells/mL)	1 Biovolume (μm^3/mL)	2 Density (cells/mL)	2 Biovolume (μm^3/mL)	3 Density (cells/mL)	3 Biovolume (μm^3/mL)
	SEPTEMBER 1989--Continued					
CHLOROPHYTA						
CHLOROPHYCEAE (Green algae)						
Chlamydomonas sp.	26	14,000	46	25,000	39	22,000
Oocystis sp.	<1	220	<1	380	<1	160
Sphaerocystis sp.	3.6	360	--	--	--	--
Staurastrum sp.	3.0	10,000	3.2	11,000	3.0	10,000
unidentified green algae	3.1	<10	<1	<10	1.5	<10
CHRYSOPHYTA						
BACILLARIOPHYCEAE (Diatoms)						
Centrales						
Melosira sp.	2.7	1,300	2.4	1,100	2.9	1,400
Pennales						
Asterionella formosa	--	--	<1	3,700	--	--
Fragilaria crotonensis	1.3	850	<1	200	<1	250
unidentified pennate diatoms	--	--	<1	400	--	--
CRYPTOPHYTA						
CRYPTOPHYCEAE (Cryptomonads)						
unidentified cryptophytes	<1	19	1.3	65	--	--
CYANOPHYTA						
CYANOPHYCEAE (Blue-green algae)						
Merismopedia tenuissima	2.1	12	1.8	11	--	--
PYRROPHYTA						
DINOPHYCEAE (Dinoflagellates)						
Ceratium hirundinella	<1	34	<1	17	<1	17

Table 16.--*Phytoplankton densities and biovolumes in microcosm nutrient-limitation experiment samples*--Continued

PHYLUM CLASS Order *Genus species*	Phosphorus addition 1 Density (cells/mL)	 Biovolume (μm^3/mL)	 2 Density (cells/mL)	 Biovolume (μm^3/mL)	 3 Density (cells/mL)	 Biovolume (μm^3/mL)
	SEPTEMBER 1989--Continued					
CHLOROPHYTA						
CHLOROPHYCEAE (Green algae)						
Ankistrodesmus convolutus	--	--	<1	12	--	--
Ankistrodesmus falcatus	--	--	--	--	<1	200
Chlamydomonas sp.	58	32,000	10	5,600	130	72,000
Oocystis sp.	1.9	830	3.4	1,500	4.6	2,000
Pandorina sp.	--	--	1.2	180	--	--
Schroderia sp.	--	--	<1	47	--	--
Staurastrum sp.	2.9	10,000	3.9	13,000	2.7	9,300
unidentified green algae	--	--	<1	<10	6.2	<10
CHRYSOPHYTA						
BACILLARIOPHYCEAE (Diatoms)						
Centrales						
Melosira sp.	2.9	1,400	3.4	1,600	1.5	700
unidentified centric diatoms	--	--	<1	19	--	--
Pennales						
Asterionella formosa	<1	12,000	<1	3,700	--	--
Fragilaria crotonensis	1.0	700	<1	480	<1	580
unidentified pennate diatoms	--	--	<1	320	--	--
CRYPTOPHYTA						
CRYPTOPHYCEAE (Cryptomonads)						
unidentified cryptophytes	20	1,000	15	730	19	950
CYANOPHYTA						
CYANOPHYCEAE (Blue-green algae)						
Anacystis marina	5.4	14	2.2	<10	--	--
Merismopedia tenuissima	--	--	10	63	--	--
PYRROPHYTA						
DINOPHYCEAE (Dinoflagellates)						
Ceratium hirundinella	<1	17	<1	400	--	--

Table 16.--*Phytoplankton densities and biovolumes in microcosm nutrient-limitation experiment samples*--Continued

PHYLUM / CLASS / Order / *Genus species*	Nitrogen plus phosphorus addition 1 Density (cells/mL)	1 Biovolume (μm^3/mL)	2 Density (cells/mL)	2 Biovolume (μm^3/mL)	3 Density (cells/mL)	3 Biovolume (μm^3/mL)
	SEPTEMBER 1989--Continued					
CHLOROPHYTA						
CHLOROPHYCEAE (Green algae)						
Carteria sp.	--	--	5.0	170	--	--
Chlamydomonas sp.	1,400	1,300,000	520	290,000	170	95,000
Oocystis sp.	--	--	50	21,000	3.1	1,300
Pediastrum duplex	--	--	--	--	<1	100
Staurastrum sp.	2.2	1,900	1.9	6,700	4.7	16,000
unidentified green algae	--	--	--	--	<1	<10
CHRYSOPHYTA						
BACILLARIOPHYCEAE (Diatoms)						
Centrales						
Melosira granulata	--	--	40	9,400	--	--
Melosira sp.	<1	210	--	--	23	11,000
unidentified centric diatoms	77	68,000	--	--	--	--
Pennales						
Achnanthes sp.	33,000	6,500,000	--	--	--	--
Asterionella formosa	--	--	--	--	87	3,800,000
Fragilaria crotonensis	--	--	--	--	160	110,000
unidentified pennate diatoms	<1	85	--	--	5.4	14,000
CRYPTOPHYTA						
CRYPTOPHYCEAE (Cryptomonads)						
unidentified cryptophytes	46	2,300	--	--	18	870
CYANOPHYTA						
CYANOPHYCEAE (Blue-green algae)						
Anacystis marina	--	--	590	1,600	--	--
Merismopedia tenuissima	--	--	360	2,100	22	130
unidentified blue-green algae	200	13,000	--	--	--	--
PYRROPHYTA						
DINOPHYCEAE (Dinoflagellates)						
Ceratium hirundinella	<1	2,400	<1	200	<1	34

Table 16.--*Phytoplankton densities and biovolumes in microcosm nutrient-limitation experiment samples*--Continued

PHYLUM / CLASS / Order / *Genus species*	Site L3 - day 1 Density (cells/mL)	Site L3 - day 1 Biovolume (μm^3/mL)	Site L3 - day 5 Density (cells/mL)	Site L3 - day 5 Biovolume (μm^3/mL)
	OCTOBER 1989			
CHLOROPHYTA				
CHLOROPHYCEAE (Green algae)				
Pediastrum duplex	--	--	<1	100
Staurastrum sp.	9.5	33,000	5.8	20,000
CHRYSOPHYTA				
BACILLARIOPHYCEAE (Diatoms)				
Centrales				
Melosira sp.	46	22,000	37	17,000
unidentified centric diatoms	15	4,800	<1	690
Pennales				
Fragilaria crotonensis	260	170,000	--	--
Pinnularia sp.	<1	41	--	--
Surirella sp.	<1	250	--	--
unidentified pennate diatoms	15	28,000	--	--
CRYPTOPHYTA				
CRYPTOPHYCEAE (Cryptomonads)				
unidentified cryptophytes	2,500	120,000	740	36,000
CYANOPHYTA				
CYANOPHYCEAE (Blue-green algae)				
Merismopedia tenuissima	--	--	93	550
unidentified blue-green algae	46	5,200	--	--
PYRROPHYTA				
DINOPHYCEAE (Dinoflagellates)				
Ceratium hirundinella	<1	400	<1	350

PHYLUM / CLASS / Order / *Genus species*	Control 1 Density (cells/mL)	Control 1 Biovolume (μm^3/mL)	Control 2 Density (cells/mL)	Control 2 Biovolume (μm^3/mL)	Control 3 Density (cells/mL)	Control 3 Biovolume (μm^3/mL)
CHLOROPHYTA						
CHLOROPHYCEAE (Green algae)						
Ankistrodesmus convolutus	<1	53	--	--	--	--
Chlorogonium sp.	2.2	160	--	--	--	--
Cosmarium sp.	--	--	--	--	<1	530
Oocystis sp.	<1	180	--	--	--	--
Pediastrum duplex	<1	100	--	--	--	--
Scenedesmus quadricauda	--	--	--	--	<1	240
Staurastrum sp.	13	46,000	14	12,000	31	100,000
CHRYSOPHYTA						
BACILLARIOPHYCEAE (Diatoms)						
Centrales						
Melosira sp.	79	37,000	<1	130	380	180,000
Stephanodiscus nigreae	--	--	--	--	1.2	15,000
Pennales						
Achnanthes sp.	--	--	--	--	15	5,800
Fragilaria crotonensis	1.7	1,100	--	--	800	530,000
Nitzschia sp.	--	--	--	--	<1	54
unidentified pennate diatoms	--	--	<1	460	--	--
CRYPTOPHYTA						
CRYPTOPHYCEAE (Cryptomonads)						
unidentified cryptophytes	21	1,000	1,300	64,000	5,000	240,000
CYANOPHYTA						
CYANOPHYCEAE (Blue-green algae)						
Merismopedia sp.	--	--	310	12,000	--	--
Merismopedia tenuissima	1.1	<10	--	--	--	--
unidentified blue-green algae	--	--	510	33,000	3,600	76,000
PYRROPHYTA						
DINOPHYCEAE (Dinoflagellates)						
Ceratium hirundinella	<1	470	<1	12,000	1.3	120

Table 16.--*Phytoplankton densities and biovolumes in microcosm nutrient-limitation experiment samples*--Continued

PHYLUM / CLASS / Order / *Genus species*	Nitrogen addition 1 Density (cells/mL)	1 Biovolume (μm^3/mL)	2 Density (cells/mL)	2 Biovolume (μm^3/mL)	3 Density (cells/mL)	3 Biovolume (μm^3/mL)
	OCTOBER 1989--Continued					
CHLOROPHYTA						
CHLOROPHYCEAE (Green algae)						
Scenedesmus quadricauda	<1	240	--	--	--	--
Staurastrum sp.	16	54,000	18	60,000	14	50,000
CHRYSOPHYTA						
BACILLARIOPHYCEAE (Diatoms)						
Centrales						
Melosira sp.	480	220,000	320	150,000	650	300,000
Stephanodiscus nigreae	<1	1,700	<1	430	<1	850
Pennales						
Fragilaria crotonensis	320	210,000	31	20,000	180	120,000
CRYPTOPHYTA						
CRYPTOPHYCEAE (Cryptomonads)						
unidentified cryptophytes	160	7,800	2,900	140,000	2,100	100,000
CYANOPHYTA						
CYANOPHYCEAE (Blue-green algae)						
Dactylococcopsis sp.	15	1,200	15	1,200	--	--
Lyngbya sp.	15	1,400	--	--	--	--
unidentified blue-green algae	2,200	47,000	540	11,000	800	17,000
PYRROPHYTA						
DINOPHYCEAE (Dinoflagellates)						
Ceratium hirundinella	<1	540	<1	400	<1	470

PHYLUM / CLASS / Order / *Genus species*	Phosphorus addition 1 Density (cells/mL)	1 Biovolume (μm^3/mL)	2 Density (cells/mL)	2 Biovolume (μm^3/mL)	3 Density (cells/mL)	3 Biovolume (μm^3/mL)
CHLOROPHYTA						
CHLOROPHYCEAE (Green algae)						
Sphaerocystis sp.	<1	80	1.4	130	1.6	160
Staurastrum sp.	16	56,000	18	62,000	13	45,000
CHRYSOPHYTA						
BACILLARIOPHYCEAE (Diatoms)						
Centrales						
Melosira sp.	660	310,000	520	250,000	650	300,000
Stephanodiscus nigreae	--	--	<1	3,000	<1	2,100
Pennales						
Cocconeis sp.	--	--	--	--	15	7,400
Fragilaria crotonensis	170	110,000	180	120,000	910	600,000
Navicula sp.	<1	100	--	--	--	--
CRYPTOPHYTA						
CRYPTOPHYCEAE (Cryptomonads)						
unidentified cryptophytes	3,900	190,000	1,100	52,000	2,800	140,000
CYANOPHYTA						
CYANOPHYCEAE (Blue-green algae)						
Dactylococcopsis sp.	15	1,200	--	--	--	--
Gomphosphaeria aponii	--	--	--	--	<1	34
Merismopedia sp.	--	--	--	--	250	9,500
unidentified blue-green algae	5,000	100,000	1,700	36,000	1,500	32,000
PYRROPHYTA						
DINOPHYCEAE (Dinoflagellates)						
Ceratium hirundinella	<1	910	<1	770	<1	640

Table 16.--*Phytoplankton densities and biovolumes in microcosm nutrient-limitation experiment samples*--Continued

PHYLUM / CLASS / Order / *Genus species*	Nitrogen plus phosphorus addition					
	1		2		3	
	Density (cells/mL)	Biovolume (μm^3/mL)	Density (cells/mL)	Biovolume (μm^3/mL)	Density (cells/mL)	Biovolume (μm^3/mL)
	OCTOBER 1989--Continued					
CHLOROPHYTA						
CHLOROPHYCEAE (Green algae)						
Ankistrodesmus convolutus	--	--	7.7	580	--	--
Chlamydomonas sp.	4.8	6,000	--	--	15	520
Elakothrix sp.	14	23,000	--	--	--	--
Oocystis sp.	9.6	4,100	--	--	--	--
Pediastrum duplex	<1	52	--	--	--	--
Sphaerocystis sp.	77	7,600	46	4,500	7.3	720
Staurastrum sp.	9.4	33,000	58	200,000	13	45,000
CHRYSOPHYTA						
BACILLARIOPHYCEAE (Diatoms)						
Centrales						
Melosira sp.	770	360,000	350	160,000	690	330,000
Stephanodiscus nigreae	--	--	--	--	<1	3,400
unidentified centric diatoms	<1	270	<1	2,600	--	--
Pennales						
Fragilaria crotonensis	910	600,000	1,400	960,000	2,700	1,800,000
CRYPTOPHYTA						
CRYPTOPHYCEAE (Cryptomonads)						
unidentified cryptophytes	--	--	370	18,000	2,000	100,000
CYANOPHYTA						
CYANOPHYCEAE (Blue-green algae)						
Merismopedia tenuissima	--	--	62	370	--	--
unidentified blue-green algae	--	--	--	--	1,000	95,000
PYRROPHYTA						
DINOPHYCEAE (Dinoflagellates)						
Ceratium hirundinella	<1	320	1.4	1,300	<1	400

PHYLUM / CLASS / Order / *Genus species*	Site L3 - day 1		Site L3 - day 5	
	Density (cells/mL)	Biovolume (μm^3/mL)	Density (cells/mL)	Biovolume (μm^3/mL)
	AUGUST 1990			
CHLOROPHYTA				
CHLOROPHYCEAE (Green algae)				
Staurastrum sp.	<1	300	<1	450
CHRYSOPHYTA				
BACILLARIOPHYCEAE (Diatoms)				
Centrales				
Melosira sp.	1,400	640,000	15	7,100
Stephanodiscus nigreae	<1	8,800	<1	6,600
Pennales				
Asterionella sp.	170	7,300,000	37	1,600,000
Fragilaria crotonensis	60	40,000	66	44,000
Nitzschia sp.	79	64,000	--	--
CHRYSOPHYCEAE (Golden-brown algae)				
Dinobryon sp.	5.4	76	120	1,600
CRYPTOPHYTA				
CRYPTOPHYCEAE (Cryptomonads)				
unidentified cryptophytes	11,000	530,000	5,800	280,000
CYANOPHYTA				
CYANOPHYCEAE (Blue-green algae)				
Aphanizomenon sp.	1.0	400	1.4	540
Merismopedia sp.	1,100	43,000	950	37,000
unidentified blue-green algae	4,900	320,000	8,200	540,000
PYRROPHYTA				
DINOPHYCEAE (Dinoflagellates)				
Ceratium hirundinella	1.0	73,000	<1	48,000

Table 16.--*Phytoplankton densities and biovolumes in microcosm nutrient-limitation experiment samples*--Continued

PHYLUM / CLASS / Order / *Genus species*	Control 1 Density (cells/mL)	Control 1 Biovolume (μm^3/mL)	Control 2 Density (cells/mL)	Control 2 Biovolume (μm^3/mL)	Control 3 Density (cells/mL)	Control 3 Biovolume (μm^3/mL)
	AUGUST 1990--Continued					
CHLOROPHYTA						
CHLOROPHYCEAE (Green algae)						
Scenedesmus quadricauda	32	1,200	--	--	--	--
Staurastrum sp.	<1	390	<1	360	<1	420
CHRYSOPHYTA						
BACILLARIOPHYCEAE (Diatoms)						
Centrales						
Cyclotella sp.	--	--	48	430,000	--	--
Melosira distans	<1	970	--	--	--	--
Melosira sp.	8.9	4,200	20	9,300	24	11,000
Stephanodiscus nigreae	--	--	<1	1,300	<1	2,200
unidentified centric diatoms	--	--	64	100,000	95	30,000
Pennales						
Asterionella sp.	290	12,000,000	--	--	250	11,000,000
Fragilaria construens	--	--	5.1	7,600	<1	1,200
Fragilaria crotonensis	510	340,000	250	170,000	1,400	940,000
Nitzschia sigmoidea	--	--	<1	1,600	--	--
Nitzschia sp.	--	--	<1	140	--	--
Nitzschia tryblionelleae	--	--	<1	160	--	--
Rhopalodia musculus	--	--	<1	54	--	--
Surirella sp.	<1	86	<1	170	--	--
unidentified pennate diatoms	<1	610	--	--	16	29,000
CHRYSOPHYTA						
CHRYSOPHYCEAE (Golden-brown algae)						
Dinobryon sp.	1,000	14,000	700	9,800	1,400	20,000
CRYPTOPHYTA						
CRYPTOPHYCEAE (Cryptomonads)						
unidentified cryptophytes	3,800	190,000	2,200	110,000	2,700	130,000
CYANOPHYTA						
CYANOPHYCEAE (Blue-green algae)						
Anacystis didamaeta	--	--	<1	45	--	--
Coelosphaerium sp.	--	--	2.2	110	--	--
Merismopedia sp.	1,000	39,000	2,400	90,000	4,400	170,000
Nostoc commune	--	--	64	1,200	130	2,500
unidentified blue-green algae	2,000	8,300	1,700	7,300	1,600	6,900
PYRROPHYTA						
DINOPHYCEAE (Dinoflagellates)						
Ceratium hirundinella	<1	14,000	<1	44,000	<1	19,000

Table 16.--*Phytoplankton densities and biovolumes in microcosm nutrient-limitation experiment samples*--Continued

PHYLUM CLASS Order *Genus species*	Nitrogen addition 1 Density (cells/mL)	 Biovolume (μm^3/mL)	 2 Density (cells/mL)	 Biovolume (μm^3/mL)	 3 Density (cells/mL)	 Biovolume (μm^3/mL)
	AUGUST 1990--Continued					
CHLOROPHYTA						
CHLOROPHYCEAE (Green algae)						
Pediastrum duplex	--	--	1.1	210	2.2	430
Staurastrum sp.	<1	210	<1	630	<1	510
CHRYSOPHYTA						
BACILLARIOPHYCEAE (Diatoms)						
Centrales						
Cyclotella sp.	--	--	79	720,000	--	--
Melosira distans	--	--	1.8	12,000	2.6	18,000
Melosira sp.	30	14,000	45	21,000	32	15,000
Stephanodiscus nigreae	--	--	--	--	<1	7,000
Pennales						
Asterionella sp.	350	15,000,000	380	16,000,000	410	18,000,000
Cocconeis sp.	--	--	<1	17	--	--
Fragilaria construens	2.7	4,000	1.9	2,800	3.3	5,000
Fragilaria crotonensis	--	--	430	280,000	190	130,000
Nitzschia sigmoidea	--	--	<1	1,600	--	--
Nitzschia tryblionelleae	--	--	<1	470	--	--
Surirella sp.	--	--	<1	86	<1	86
unidentified pennate diatoms	48	90,000	--	--	48	100,000
CHRYSOPHYTA						
CHRYSOPHYCEAE (Golden-brown algae)						
Dinobryon sp.	2,900	41,000	1,900	27,000	2,300	33,000
CRYPTOPHYTA						
CRYPTOPHYCEAE (Cryptomonads)						
unidentified cryptophytes	2,800	140,000	2,100	100,000	3,800	180,000
CYANOPHYTA						
CYANOPHYCEAE (Blue-green algae)						
Merismopedia sp.	9,300	360,000	9,600	370,000	16,000	600,000
Nostoc commune	--	--	--	--	460	9,000
unidentified blue-green algae	3,500	14,000	1,200	5,100	760	3,200
PYRROPHYTA						
DINOPHYCEAE (Dinoflagellates)						
Ceratium hirundinella	<1	17,000	<1	29,000	<1	68,000
Gymnodinium sp.	--	--	16	100,000	--	--

Table 16.--*Phytoplankton densities and biovolumes in microcosm nutrient-limitation experiment samples*--Continued

PHYLUM / CLASS / Order / *Genus species*	Phosphorus addition 1 Density (cells/mL)	1 Biovolume (μm^3/mL)	2 Density (cells/mL)	2 Biovolume (μm^3/mL)	3 Density (cells/mL)	3 Biovolume (μm^3/mL)
	AUGUST 1990--Continued					
CHLOROPHYTA						
CHLOROPHYCEAE (Green algae)						
Pediastrum duplex	--	--	2.24	430	--	--
Staurastrum sp.	<1	240	<1	180	<1	390
CHRYSOPHYTA						
BACILLARIOPHYCEAE (Diatoms)						
Centrales						
Cyclotella sp.	--	--	--	--	16	140,000
Melosira sp.	3.1	1,500	7.2	3,400	10	5,000
Stephanodiscus nigreae	<1	1,320	<1	1,300	--	--
Pennales						
Asterionella sp.	64	2,800,000	48	2,100,000	240	10,000,000
Fragilaria crotonensis	640	420,000	130	84,000	79	52,000
Rhopalodia musculus	--	--	<1	54	--	--
Surirella sp.	<1	86	--	--	--	--
unidentified pennate diatoms	<1	180	16	29,000	16	34,000
CHRYSOPHYTA						
CHRYSOPHYCEAE (Golden-brown algae)						
Dinobryon sp.	790	11,000	670	9,400	820	12,000
CRYPTOPHYTA						
CRYPTOPHYCEAE (Cryptomonads)						
unidentified cryptophytes	750	37,000	2,000	99,000	1,400	68,000
CYANOPHYTA						
CYANOPHYCEAE (Blue-green algae)						
Merismopedia sp.	190	7,300	700	27,000	760	29,000
unidentified blue-green algae	1,000	4,200	1,400	5,800	1,700	7,300
PYRROPHYTA						
DINOPHYCEAE (Dinoflagellates)						
Ceratium hirundinella	<1	4,800	<1	4,800	--	--
Gymnodinium sp.	16	100,000	--	--	--	--

Table 16.--*Phytoplankton densities and biovolumes in microcosm nutrient-limitation experiment samples*--Continued

PHYLUM / CLASS / Order / *Genus species*	Nitrogen plus phosphorus addition 1 Density (cells/mL)	1 Biovolume (μm^3/mL)	2 Density (cells/mL)	2 Biovolume (μm^3/mL)	3 Density (cells/mL)	3 Biovolume (μm^3/mL)
	AUGUST 1990--Continued					
CHLOROPHYTA						
CHLOROPHYCEAE (Green algae)						
Chlamydomonas sp.	330	310,000	48	45,000	48	45,000
Chlorella sp.	48	19,000	16	6,400	--	--
Pediastrum boryanum	9.5	2,200	5.6	1,300	3.2	740
Pediastrum duplex	--	--	2.2	430	--	--
Pediastrum simplex	2.8	790	--	--	--	--
Staurastrum sp.	<1	240	<1	420	<1	480
CHRYSOPHYTA						
BACILLARIOPHYCEAE (Diatoms)						
Centrales						
Melosira distans	2.4	16,000	<1	5,600	--	--
Melosira sp.	48	22,000	140	67,000	524	250,000
Stephanodiscus nigreae	--	--	<1	3,500	<1	7,000
unidentified centric diatoms	16	2,000	32	10,000	32	10,000
Pennales						
Asterionella sp.	1,500	65,000,000	460	20,000,000	640	28,000,000
Fragilaria construens	1.8	2,700	<1	1,100	--	--
Fragilaria crotonensis	7,400	4,800,000	700	460,000	2,100	1,400,000
Navicula sp.	--	--	--	--	<1	91
Nitzschia sigmoidea	--	--	<1	1,600	<1	4,700
Nitzschia tryblionelleae	--	--	--	--	32	140,000
Surirella sp.	<1	1,900	<1	170	<1	520
unidentified pennate diatoms	--	--	32	120,000	140	430,000
CHRYSOPHYTA						
CHRYSOPHYCEAE (Golden-brown algae)						
Dinobryon sp.	2,600	37,000	820	12,000	1,200	17,000
CRYPTOPHYTA						
CRYPTOPHYCEAE (Cryptomonads)						
unidentified cryptophytes	3,800	190,000	2,500	120,000	2,100	100,000
CYANOPHYTA						
CYANOPHYCEAE (Blue-green algae)						
Anacystis didamaeta	430	42,000	--	--	<1	55
Anacystis marina	--	--	2,500	6,600	--	--
Coelosphaerium sp.	--	--	1.1	55	<1	27
Merismopedia sp.	--	--	17,000	670,000	--	--
Nostoc commune	33,000	650,000	640	12,000	900	18,000
unidentified blue-green algae	410	1,700	190	800	670	2,800
PYRROPHYTA						
DINOPHYCEAE (Dinoflagellates)						
Ceratium hirundinella	<1	14,000	<1	41,000	<1	24,000
Gymnodinium sp.	--	--	16	100,000	16	100,000

Table 16.--*Phytoplankton densities and biovolumes in microcosm nutrient-limitation experiment samples*--Continued

PHYLUM CLASS Order *Genus species*	Site L3 - day 1 Density (cells/mL)	Site L3 - day 1 Biovolume (μm^3/mL)	Site L3 - day 5 Density (cells/mL)	Site L3 - day 5 Biovolume (μm^3/mL)
	OCTOBER 1990			
CHLOROPHYTA				
CHLOROPHYCEAE (Green algae)				
Chlamydomonas sp.	64	34,000	130	67,000
Pediastrum boryanum	--	--	1.5	360
Pediastrum duplex	--	--	1.1	210
Staurastrum sp.	<1	90	<1	60
CHRYSOPHYTA				
BACILLARIOPHYCEAE (Diatoms)				
Centrales				
Melosira distans	<1	6,300	<1	1,400
Melosira granulata	<1	74	--	--
Melosira sp.	1,500	700,000	860	400,000
Stephanodiscus nigreae	79	1,000,000	23	280,000
Pennales				
Asterionella sp.	9.7	420,000	9.1	400,000
Fragilaria construens	<1	320	--	--
Fragilaria crotonensis	3.5	2,300	14	9,200
Surirella sp.	--	--	<1	170
unidentified pennate diatoms	32	67,000	--	--
CHRYSOPHYTA				
CHRYSOPHYCEAE (Golden-brown algae)				
Dinobryon sp.	--	--	<1	<10
CRYPTOPHYTA				
CRYPTOPHYCEAE (Cryptomonads)				
unidentified cryptophytes	4,700	230,000	6,700	330,000
CYANOPHYTA				
CYANOPHYCEAE (Blue-green algae)				
Gomphosphaeria aponii	3,200	160,000	4,900	250,000
Merismopedia sp.	--	--	250	9,800
unidentified blue-green algae	5,500	360,000	6,400	420,000
PYRROPHYTA				
DINOPHYCEAE (Dinoflagellates)				
Ceratium hirundinella	2.5	170,000	<1	58,000

Table 16.--*Phytoplankton densities and biovolumes in microcosm nutrient-limitation experiment samples*--Continued

PHYLUM / CLASS / Order / *Genus species*	Control 1 Density (cells/mL)	Control 1 Biovolume (μm^3/mL)	Control 2 Density (cells/mL)	Control 2 Biovolume (μm^3/mL)	Control 3 Density (cells/mL)	Control 3 Biovolume (μm^3/mL)
	OCTOBER 1990--Continued					
CHLOROPHYTA						
CHLOROPHYCEAE (Green algae)						
Pediastrum duplex	--	--	--	--	3.8	740
Pediastrum simplex	--	--	2.8	500	--	--
Staurastrum sp.	<1	150	<1	150	<1	750
CHRYSOPHYTA						
BACILLARIOPHYCEAE (Diatoms)						
Centrales						
Melosira distans	1.4	9,700	--	--	--	--
Melosira sp.	6,000	2,800,000	5,700	2,700,000	2,200	1,000,000
Stephanodiscus nigreae	34	420,000	40	500,000	38	480,000
Pennales						
Asterionella sp.	42	1,800,000	38	1,700,000	24	1,000,000
Fragilaria crotonensis	38	25,000	36	24,000	71	47,000
Synedra sp.	<1	250	--	--	--	--
unidentified pennate diatoms	79	140,000	79	170,000	--	--
CRYPTOPHYTA						
CRYPTOPHYCEAE (Cryptomonads)						
unidentified cryptophytes	18,000	880,000	14,000	690,000	12,000	580,000
CYANOPHYTA						
CYANOPHYCEAE (Blue-green algae)						
Gomphosphaeria aponii	6,000	300,000	2,000	100,000	4,000	200,000
unidentified blue-green algae	11,000	730,000	5,500	360,000	2,900	190,000
EUGLENOPHYTA (Euglenoids)						
Euglena sp.	79	42,000	--	--	79	42,000
PYRROPHYTA						
DINOPHYCEAE (Dinoflagellates)						
Ceratium hirundinella	2.1	140,000	3.2	220,000	3.2	220,000

PHYLUM / CLASS / Order / *Genus species*	Nitrogen addition 1 Density (cells/mL)	Nitrogen addition 1 Biovolume (μm^3/mL)	Nitrogen addition 2 Density (cells/mL)	Nitrogen addition 2 Biovolume (μm^3/mL)	Nitrogen addition 3 Density (cells/mL)	Nitrogen addition 3 Biovolume (μm^3/mL)
CHLOROPHYTA						
CHLOROPHYCEAE (Green algae)						
Staurastrum sp.	<1	450	<1	150	<1	140
CHRYSOPHYTA						
BACILLARIOPHYCEAE (Diatoms)						
Centrales						
Melosira distans	<1	4,800	--	--	2.0	14,000
Melosira sp.	5,900	2,800,000	2,200	1,000,000	8,500	4,000,000
Stephanodiscus nigreae	48	600,000	42	530,000	51	640,000
Pennales						
Achnanthes sp.	--	--	79	16,000	--	--
Asterionella sp.	79	3,400,000	49	2,100,000	58	2,500,000
Fragilaria crotonensis	36	24,000	--	--	65	43,000
unidentified pennate diatoms	79	420,000	--	--	--	--
CRYPTOPHYTA						
CRYPTOPHYCEAE (Cryptomonads)						
unidentified cryptophytes	17,000	820,000	12,000	610,000	12,000	590,000
CYANOPHYTA						
CYANOPHYCEAE (Blue-green algae)						
Gomphosphaeria aponii	14,000	680,000	7,400	370,000	11,000	570,000
unidentified blue-green algae	18,000	1,200,000	8,600	560,000	3,900	260,000
EUGLENOPHYTA (Euglenoids)						
Euglena sp.	79	42,000	--	--	--	--
PYRROPHYTA						
DINOPHYCEAE (Dinoflagellates)						
Ceratium hirundinella	2.3	160,000	2.8	190,000	1.7	120,000

Table 16.--*Phytoplankton densities and biovolumes in microcosm nutrient-limitation experiment samples*--Continued

PHYLUM CLASS Order *Genus species*	Phosphorus addition 1 Density (cells/mL)	 Biovolume (μm^3/mL)	 2 Density (cells/mL)	 Biovolume (μm^3/mL)	 3 Density (cells/mL)	 Biovolume (μm^3/mL)
	OCTOBER 1990--Continued					
CHLOROPHYTA						
CHLOROPHYCEAE (Green algae)						
Pediastrum boryanum	4.9	1,100	--	--	--	--
Pediastrum duplex	--	--	--	--	6.3	1,200
Scenedesmus dimorphus	1.4	140	--	--	--	--
Staurastrum sp.	--	--	1.2	1,000	<1	150
CHRYSOPHYTA						
BACILLARIOPHYCEAE (Diatoms)						
Centrales						
Melosira distans	--	--	--	--	<1	4,800
Melosira sp.	7,500	3,500,000	7,200	3,400,000	1,800	822,000
Stephanodiscus nigreae	54	680,000	49	620,000	67	850,000
unidentified centric diatoms	79	25,000	--	--	--	--
Pennales						
Asterionella sp.	67	2,900,000	41	1,800,000	25	1,100,000
Fragilaria construens	--	--	--	--	67	100,000
Fragilaria crotonensis	43	28,000	40	26,000	--	--
Rhopalodia musculus	<1	810	--	--	--	--
Surirella sp.	<1	430	--	--	--	--
unidentified pennate diatoms	--	--	79	170,000	--	--
CHRYSOPHYTA						
CHRYSOPHYCEAE (golden-brown algae)						
Dinobryon sp.	400	5,600	--	--	--	--
CRYPTOPHYTA						
CRYPTOPHYCEAE (Cryptomonads)						
unidentified cryptophytes	13,000	650,000	22,000	1,100,000	8,800	430,000
CYANOPHYTA						
CYANOPHYCEAE (Blue-green algae)						
Gomphosphaeria aponii	8,500	430,000	13,000	670,000	--	--
unidentified blue-green algae	13,000	840,000	17,000	1,100,000	8,600	560,000
PYRROPHYTA						
DINOPHYCEAE (Dinoflagellates)						
Ceratium hirundinella	2.8	190,000	3.8	270,000	2.6	180,000

Table 16.--*Phytoplankton densities and biovolumes in microcosm nutrient-limitation experiment samples*--Continued

PHYLUM CLASS Order *Genus species*	Nitrogen plus phosphorus addition 1 Density (cells/mL)	 Biovolume (μm^3/mL)	 2 Density (cells/mL)	 Biovolume (μm^3/mL)	 3 Density (cells/mL)	 Biovolume (μm^3/mL)
	OCTOBER 1990--Continued					
CHLOROPHYTA						
CHLOROPHYCEAE (Green algae)						
Chlamydomonas sp.	160	150,000	--	--	--	--
Scenedesmus dimorphus	--	--	--	--	<1	18
Staurastrum sp.	79	68,000	<1	300	--	--
CHRYSOPHYTA						
BACILLARIOPHYCEAE (Diatoms)						
Centrales						
Melosira sp.	8,000	3,800,000	2,900	1,400,000	6,500	3,100,000
Stephanodiscus nigreae	120	1,500,000	74	930,000	81	1,000,000
Pennales						
Amphiphora sp.	--	--	<1	250	--	--
Asterionella sp.	73	3,200,000	110	4,600,000	120	5,400,000
Fragilaria crotonensis	72	47,000	85	56,000	120	81,000
Surirella sp.	--	--	<1	430	--	--
CHRYSOPHYTA						
CHRYSOPHYCEAE (Golden-brown algae)						
Dinobryon sp.	1.0	15	--	--	--	--
CRYPTOPHYTA						
CRYPTOPHYCEAE (Cryptomonads)						
unidentified cryptophytes	10,000	510,000	13,000	650,000	14,000	680,000
CYANOPHYTA						
CYANOPHYCEAE (Blue-green algae)						
Gomphosphaeria aponii	4,500	230,000	3,700	190,000	3,900	200,000
Merismopedia sp.	--	--	--	--	2,500	94,000
unidentified blue-green algae	6,000	390,000	12,000	750,000	12,000	780,000
PYRROPHYTA						
DINOPHYCEAE (Dinoflagellates)						
Ceratium hirundinella	3.3	230,000	3.7	250,000	3.8	270,000

Table 17.--*Chemical data for water samples collected from the mesocosm nutrient-limitation experiment, October 1990*

[Three replicates (1, 2, 3) were used for each control and nutrient addition; <, less than]

Property or constituent	Units	Site L3			
		Day 1	Day 2	Day 4	Day 8
Nitrite plus nitrate as nitrogen, dissolved	mg/L	0.02	0.02	0.03	0.01
Ammonia as nitrogen, dissolved	mg/L	0.02	0.02	0.02	0.01
Nitrogen, total	mg/L	<0.1	0.1	0.1	<0.1
Orthophosphate as phosphorus, dissolved	mg/L	<0.001	<0.001	0.001	0.001
Phosphorus, total	mg/L	0.006	0.004	0.008	0.007
Chlorophyll a	µg/L	1.1	1.9	1.6	3.3

Table 17.--*Chemical data for water samples collected from the mesocosm nutrient-limitation experiment, October 1990*--Continued

Property or constituent	Units	Control								
		1			2			3		
		Day 2	Day 4	Day 8	Day 2	Day 4	Day 8	Day 2	Day 4	Day 8
Nitrite plus nitrate as nitrogen, dissolved	mg/L	0.02	0.02	<0.01	0.02	0.02	<0.01	0.02	0.02	<0.01
Ammonia as nitrogen, dissolved	mg/L	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.01	<0.01
Nitrogen, total	mg/L	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Orthophosphate as phosphorus, dissolved	mg/L	0.002	<0.001	0.002	0.002	0.001	0.002	0.003	0.001	0.002
Phosphorus, total	mg/L	0.009	0.001	0.004	0.008	0.002	0.009	0.007	0.003	0.008
Chlorophyll a	µg/L	2.0	2.5	1.6	2.1	3.6	2.1	2.0	1.8	1.4

Property or constituent	Units	Nitrogen addition								
		1			2			3		
		Day 2	Day 4	Day 8	Day 2	Day 4	Day 8	Day 2	Day 4	Day 8
Nitrite plus nitrate as nitrogen, dissolved	mg/L	0.23	0.22	0.18	0.25	0.24	0.20	0.24	0.24	0.20
Ammonia as nitrogen, dissolved	mg/L	0.01	0.01	0.02	0.01	<0.01	0.01	0.01	0.01	0.01
Nitrogen, total	mg/L	0.3	0.2	0.2	0.4	0.2	0.3	0.2	0.2	0.2
Orthophosphate as phosphorus, dissolved	mg/L	0.002	0.001	0.001	<0.001	0.002	0.001	<0.001	0.004	0.002
Phosphorus, total	mg/L	0.007	0.007	0.008	0.002	0.006	0.008	0.004	0.007	0.010
Chlorophyll a	µg/L	1.1	2.9	2.4	1.9	2.5	3.6	2.0	3.7	1.9

Property or constituent	Units	Phosphorus addition								
		1			2			3		
		Day 2	Day 4	Day 8	Day 2	Day 4	Day 8	Day 2	Day 4	Day 8
Nitrite plus nitrate as nitrogen, dissolved	mg/L	0.02	<0.01	<0.01	0.02	0.02	<0.01	0.02	<0.01	<0.01
Ammonia as nitrogen, dissolved	mg/L	0.01	0.01	<0.01	0.01	0.01	<0.01	0.01	<0.01	0.01
Nitrogen, total	mg/L	<0.1	<0.1	0.1	0.1	<0.1	0.1	<0.1	<0.1	<0.1
Orthophosphate as phosphorus, dissolved	mg/L	0.014	0.008	0.009	0.015	0.009	0.005	0.014	0.007	0.004
Phosphorus, total	mg/L	0.024	0.021	0.023	0.023	0.022	0.021	0.021	0.019	0.015
Chlorophyll a	µg/L	1.5	2.9	1.5	1.3	3.2	1.4	1.1	2.3	1.0

Property or constituent	Units	Nitrogen plus phosphorus addition								
		1			2			3		
		Day 2	Day 4	Day 8	Day 2	Day 4	Day 8	Day 2	Day 4	Day 8
Nitrite plus nitrate as nitrogen, dissolved	mg/L	0.24	0.23	0.12	0.23	0.23	0.12	0.25	0.23	0.15
Ammonia as nitrogen, dissolved	mg/L	0.02	<0.01	0.01	0.01	<0.01	<0.01	0.01	<0.01	<0.01
Nitrogen, total	mg/L	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.2
Orthophosphate as phosphorus, dissolved	mg/L	0.012	0.010	0.001	0.013	0.011	0.002	0.013	0.014	0.004
Phosphorus, total	mg/L	0.027	0.017	0.012	0.025	0.021	0.021	0.028	0.023	0.024
Chlorophyll a	µg/L	1.3	2.6	3.6	1.5	2.9	4.5	1.5	4.0	5.0

Table 18.--*Phytoplankton densities and biovolumes in mesocosm nutrient-limitation experiment samples, October 1990*

[Three replicates (1, 2, 3) were used for each control and nutrient addition; --, species not identified in sample; <, less than]

PHYLUM CLASS Order *Genus species*	Site L3 - day 1 Density (cells/mL)	 Biovolume (μm^3/mL)	Site L3 - day 2 Density (cells/mL)	 Biovolume (μm^3/mL)
CHLOROPHYTA				
CHLOROPHYCEAE (Green algae)				
Ankistrodesmus nannosolene	--	--	--	--
Chlamydomonas sp.	64	34,000	140	74,000
Pediastrum boryanum	--	--	1.1	250
Staurastrum sp.	<1	90	<1	29
CHRYSOPHYTA				
BACILLARIOPHYCEAE (Diatoms)				
Centrales				
Melosira distans	<1	6,300	<1	3,300
Melosira granulata	<1	74	--	--
Melosira sp.	1,500	700,000	1,600	750,000
Stephanodiscus nigreae	79	1,000,000	62	780,000
unidentified centric diatoms	--	--	--	--
Pennales				
Asterionella sp.	9.7	420,000	8.6	380,000
Fragilaria construens	<1	320	--	--
Fragilaria crotonensis	3.5	2,300	4.2	2,800
Nitzschia sigmoidea	--	--	--	--
Surirella sp.	--	--	--	--
unidentified pennate diatoms	32	67,000	31	65,000
CHRYSOPHYTA				
CHRYSOPHYCEAE (Golden-brown algae)				
Dinobryon sp.	--	--	--	--
CRYPTOPHYTA				
CRYPTOPHYCEAE (Cryptomonads)				
unidentified cryptophytes	4,700	230,000	6,000	290,000
CYANOPHYTA				
CYANOPHYCEAE (Blue-green algae)				
Gomphosphaeria aponii	3,200	160,000	7,400	370,000
Merismopedia sp.	--	--	120	4,700
unidentified blue-green algae	5,500	360,000	3,400	220,000
PYRROPHYTA				
DINOPHYCEAE (Dinoflagellates)				
Ceratium hirundinella	2.5	170,000	1.6	110,000

Table 18.--*Phytoplankton densities and biovolumes in mesocosm nutrient-limitation experiment samples, October 1990*--Continued

PHYLUM CLASS Order *Genus species*	Site L3 - day 4 Density (cells/mL)	 Biovolume (μm^3/mL)	Site L3 - day 8 Density (cells/mL)	 Biovolume (μm^3/mL)
CHLOROPHYTA				
CHLOROPHYCEAE (Green algae)				
Ankistrodesmus nannosolene	--	--	16	21
Chlamydomonas sp.	210	110,000	330	180,000
Pediastrum boryanum	--	--	1.1	260
Staurastrum sp.	<1	60	--	--
CHRYSOPHYTA				
BACILLARIOPHYCEAE (Diatoms)				
Centrales				
Melosira distans	--	--	<1	6,800
Melosira granulata	--	--	--	--
Melosira sp.	2,100	990,000	3,300	1,500,000
Stephanodiscus nigreae	48	600,000	48	600,000
unidentified centric diatoms	16	14,000	--	--
Pennales				
Asterionella sp.	16	690,000	1.7	73,000
Fragilaria construens	<1	520	--	--
Fragilaria crotonensis	6.1	4,000	8.0	5,300
Nitzschia sigmoidea	<1	1,600	--	--
Surirella sp.	<1	86	<1	340
unidentified pennate diatoms	<1	180	16	29,000
CHRYSOPHYTA				
CHRYSOPHYCEAE (Golden-brown algae)				
Dinobryon sp.	--	--	<1	<10
CRYPTOPHYTA				
CRYPTOPHYCEAE (Cryptomonads)				
unidentified cryptophytes	6,500	320,000	5,200	250,000
CYANOPHYTA				
CYANOPHYCEAE (Blue-green algae)				
Gomphosphaeria aponii	190	9,600	700	35,000
Merismopedia sp.	--	--	--	--
unidentified blue-green algae	5,100	330,000	3,100	200,000
PYRROPHYTA				
DINOPHYCEAE (Dinoflagellates)				
Ceratium hirundinella	1.5	100,000	1.8	120,000

Table 18.--*Phytoplankton densities and biovolumes in mesocosm nutrient-limitation experiment samples, October 1990*--Continued

PHYLUM / CLASS / Order / *Genus species*	Control 1 Density (cells/mL)	Control 1 Biovolume (μm^3/mL)	Control 2 Density (cells/mL)	Control 2 Biovolume (μm^3/mL)	Control 3 Density (cells/mL)	Control 3 Biovolume (μm^3/mL)
			DAY 2			
CHLOROPHYTA						
CHLOROPHYCEAE (Green algae)						
Chlamydomonas sp.	160	84,000	40	21,000	750	400,000
Pediastrum boryanum	2.1	480	4.2	970	3.8	890
Staurastrum sp.	<1	370	<1	75	<1	300
CHRYSOPHYTA						
BACILLARIOPHYCEAE (Diatoms)						
Centrales						
Melosira distans	<1	2,400	<1	4,200	<1	3,000
Melosira sp.	1,400	650,000	1,300	600,000	640	300,000
Stephanodiscus nigreae	20	250,000	16	200,000	19	240,000
Pennales						
Asterionella sp.	13	560,000	27	1,200,000	15	670,000
Fragilaria crotonensis	19	12,000	7.5	5,000	16	11,000
Surirella sp.	--	--	--	--	<1	220
unidentified pennate diatoms	--	--	--	--	<1	660
CRYPTOPHYTA						
CRYPTOPHYCEAE (Cryptomonads)						
unidentified cryptophytes	10,000	510,000	8,500	420,000	10,000	500,000
CYANOPHYTA						
CYANOPHYCEAE (Blue-green algae)						
Gomphosphaeria aponii	1,900	98,000	1,900	96,000	1,900	100,000
unidentified blue-green algae	8,800	570,000	15,000	1,000,000	4,200	280,000
PYRROPHYTA						
DINOPHYCEAE (Dinoflagellates)						
Ceratium hirundinella	2.2	150,000	2.5	180,000	2.3	160,000
			DAY 4			
CHLOROPHYTA						
CHLOROPHYCEAE (Green algae)						
Chlamydomonas sp.	400	210,000	130	67,000	120	63,000
Pediastrum boryanum	1.7	390	2.1	480	2.4	570
Pediastrum simplex	<1	99	<1	99	--	--
Staurastrum sp.	<1	270	<1	180	<1	220
CHRYSOPHYTA						
BACILLARIOPHYCEAE (Diatoms)						
Centrales						
Melosira sp.	3,600	1,700,000	1,200	590,000	1,900	900,000
Stephanodiscus nigreae	27	340,000	31	390,000	28	350,000
Pennales						
Asterionella sp.	24	1,100,000	32	1,400,000	37	1,600,000
Fragilaria crotonensis	20	13,000	30	20,000	20	13,000
Surirella sp.	--	--	<1	86	--	--
CRYPTOPHYTA						
CRYPTOPHYCEAE (Cryptomonads)						
unidentified cryptophytes	5,700	280,000	5,100	250,000	7,000	340,000
CYANOPHYTA						
CYANOPHYCEAE (Blue-green algae)						
Gomphosphaeria aponii	3,300	160,000	4,200	210,000	--	--
unidentified blue-green algae	2,300	150,000	2,200	140,000	5,800	380,000
PYRROPHYTA						
DINOPHYCEAE (Dinoflagellates)						
Ceratium hirundinella	2.2	150,000	2.5	170,000	5.7	390,000

Table 18.--*Phytoplankton densities and biovolumes in mesocosm nutrient-limitation experiment samples, October 1990*--Continued

PHYLUM / CLASS / Order / *Genus species*	Control 1 Density (cells/mL)	Control 1 Biovolume (μm^3/mL)	Control 2 Density (cells/mL)	Control 2 Biovolume (μm^3/mL)	Control 3 Density (cells/mL)	Control 3 Biovolume (μm^3/mL)
		DAY 8				
CHLOROPHYTA						
CHLOROPHYCEAE (Green algae)						
Chlamydomonas sp.	40	21,000	400	210,000	40	21,000
Pediastrum boryanum	--	--	6.4	1,500	1.4	320
Staurastrum sp.	<1	300	<1	220	<1	75
CHRYSOPHYTA						
BACILLARIOPHYCEAE (Diatoms)						
Centrales						
Melosira distans	<1	3,000	--	--	--	--
Melosira sp.	1,700	780,000	3,800	1,800,000	2,500	1,200,000
Stephanodiscus nigreae	53	670,000	63	800,000	60	760,000
Pennales						
Asterionella sp.	25	1,100,000	38	1,600,000	16	680,000
Fragilaria crotonensis	30	20,000	43	28,000	31	21,000
unidentified pennate diatoms	<1	220	--	--	--	--
CHRYSOPHYTA						
CHRYSOPHYCEAE (Golden-brown algae)						
Dinobryon sp.	1.3	19	--	--	--	--
CRYPTOPHYTA						
CRYPTOPHYCEAE (Cryptomonads)						
unidentified cryptophytes	13,000	640,000	8,700	430,000	5,000	240,000
CYANOPHYTA						
CYANOPHYCEAE (Blue-green algae)						
Gomphosphaeria aponii	16,000	790,000	9,200	460,000	7,100	360,000
unidentified blue-green algae	9,600	630,000	11,000	750,000	1,600	100,000
PYRROPHYTA						
DINOPHYCEAE (Dinoflagellates)						
Ceratium hirundinella	3.0	210,000	3.6	250,000	--	--

Table 18.--*Phytoplankton densities and biovolumes in mesocosm nutrient-limitation experiment samples, October 1990*--Continued

PHYLUM CLASS Order *Genus species*	Nitrogen addition 1 Density (cells/mL)	 Biovolume (μm^3/mL)	 2 Density (cells/mL)	 Biovolume (μm^3/mL)	 3 Density (cells/mL)	 Biovolume (μm^3/mL)
		DAY 2				
CHLOROPHYTA						
CHLOROPHYCEAE (Green algae)						
Chlamydomonas sp.	--	--	1,100	590,000	160	84,000
Pediastrum boryanum	6.4	1,500	--	--	--	--
Staurastrum sp.	<1	220	--	--	<1	150
CHRYSOPHYTA						
BACILLARIOPHYCEAE (Diatoms)						
Centrales						
Melosira sp.	710	340,000	2,400	1,100,000	1,700	780,000
Stephanodiscus nigreae	16	200,000	14	180,000	19	240,000
Pennales						
Asterionella sp.	37	1,600,000	20	860,000	26	1,200,000
Fragilaria crotonensis	14	9,000	7.5	5,000	14	9,600
unidentified pennate diatoms	79	200,000	--	--	--	--
CHRYSOPHYTA						
CHRYSOPHYCEAE (Golden-brown algae)						
Dinobryon sp.	--	--	<1	<10	--	--
CRYPTOPHYTA						
CRYPTOPHYCEAE (Cryptomonads)						
unidentified cryptophytes	7,800	380,000	26,000	1,300,000	18,000	860,000
CYANOPHYTA						
CYANOPHYCEAE (Blue-green algae)						
Gomphosphaeria aponii	5,700	290,000	8,100	410,000	10,000	520,000
unidentified blue-green algae	3,800	250,000	9,900	650,000	11,000	730,000
PYRROPHYTA						
DINOPHYCEAE (Dinoflagellates)						
Ceratium hirundinella	2.3	160,000	3.2	220,000	2.8	190,000

Table 18.--*Phytoplankton densities and biovolumes in mesocosm nutrient-limitation experiment samples, October 1990*--Continued

PHYLUM / CLASS / Order / *Genus species*	Nitrogen addition 1 Density (cells/mL)	1 Biovolume (μm^3/mL)	2 Density (cells/mL)	2 Biovolume (μm^3/mL)	3 Density (cells/mL)	3 Biovolume (μm^3/mL)
			DAY 4			
CHLOROPHYTA						
CHLOROPHYCEAE (Green algae)						
Chlamydomonas sp.	320	170,000	480	250,000	320	170,000
Staurastrum sp.	<1	150	<1	600	<1	150
CHRYSOPHYTA						
BACILLARIOPHYCEAE (Diatoms)						
Centrales						
Melosira sp.	5,800	2,700,000	2,400	1,100,000	2,400	1,100,000
Stephanodiscus nigreae	37	460,000	23	290,000	30	370,000
Pennales						
Asterionella sp.	38	1,600,000	20	860,000	39	1,700,000
Fragilaria crotonensis	24	16,000	6.5	4,300	19	13,000
Rhopalodia musculus	--	--	--	--	<1	270
CHRYSOPHYTA						
CHRYSOPHYCEAE (Golden-brown algae)						
Dinobryon sp.	--	--	2.1	30	--	--
CRYPTOPHYTA						
CRYPTOPHYCEAE (Cryptomonads)						
unidentified cryptophytes	11,000	550,000	10,000	500,000	23,000	1,100,000
CYANOPHYTA						
CYANOPHYCEAE (Blue-green algae)						
Gomphosphaeria aponii	21,000	1,100,000	13,000	640,000	16,000	810,000
unidentified blue-green algae	4,800	310,000	7,500	490,000	12,000	820,000
PYRROPHYTA						
DINOPHYCEAE (Dinoflagellates)						
Ceratium hirundinella	2.8	190,000	2.8	190,000	3.2	220,000
			DAY 8			
CHLOROPHYTA						
CHLOROPHYCEAE (Green algae)						
Chlamydomonas sp.	480	250,000	640	340,000	480	250,000
Pediastrum boryanum	9.1	2,100	--	--	--	--
Pediastrum simplex	--	--	11	2,000	--	--
Staurastrum sp.	<1	75	--	--	<1	750
CHRYSOPHYTA						
BACILLARIOPHYCEAE (Diatoms)						
Centrales						
Melosira sp.	6,700	3,100,000	2,600	1,200,000	6,000	2,800,000
Stephanodiscus nigreae	45	560,000	54	680,000	35	440,000
Pennales						
Asterionella sp.	58	2,500,000	35	1,500,000	52	2,200,000
Fragilaria crotonensis	45	30,000	31	20,000	26	17,000
unidentified pennate diatoms	--	--	--	--	79	140,000
CRYPTOPHYTA						
CRYPTOPHYCEAE (Cryptomonads)						
unidentified cryptophytes	13,000	650,000	13,000	660,000	12,000	570,000
CYANOPHYTA						
CYANOPHYCEAE (Blue-green algae)						
Gomphosphaeria aponii	24,000	1,200,000	13,000	640,000	24,000	1,200,000
unidentified blue-green algae	5,400	350,000	17,000	1,100,000	5,600	370,000
PYRROPHYTA						
DINOPHYCEAE (Dinoflagellates)						
Ceratium hirundinella	2.1	140,000	2.3	160,000	4.4	300,000

Table 18.--*Phytoplankton densities and biovolumes in mesocosm nutrient-limitation experiment samples, October 1990*--Continued

PHYLUM / CLASS / Order / *Genus species*	Phosphorus addition 1 Density (cells/mL)	1 Biovolume (μm^3/mL)	2 Density (cells/mL)	2 Biovolume (μm^3/mL)	3 Density (cells/mL)	3 Biovolume (μm^3/mL)
			DAY 2			
CHLOROPHYTA						
CHLOROPHYCEAE (Green algae)						
Chlamydomonas sp.	40	21,000	79	42,000	40	21,000
Pediastrum boryanum	--	--	2.1	480	--	--
Staurastrum sp.	<1	150	<1	300	<1	150
CHRYSOPHYTA						
BACILLARIOPHYCEAE (Diatoms)						
Centrales						
Melosira distans	4.2	29,000	--	--	<1	3,000
Melosira sp.	1,500	710,000	1,600	750,000	2,100	970,000
Stephanodiscus nigreae	15	190,000	21	260,000	16	200,000
Pennales						
Asterionella sp.	24	1,000,000	26	1,200,000	14	620,000
Fragilaria crotonensis	7.6	5,000	19	13,000	20	13,000
Surirella sp.	--	--	<1	220	--	--
unidentified pennate diatoms	40	210,000	--	--	--	--
CHRYSOPHYTA						
CHRYSOPHYCEAE (Golden-brown algae)						
Dinobryon sp.	1.0	15	--	--	--	--
CRYPTOPHYTA						
CRYPTOPHYCEAE (Cryptomonads)						
unidentified cryptophytes	11,000	560,000	2,600	130,000	5,000	250,000
CYANOPHYTA						
CYANOPHYCEAE (Blue-green algae)						
Anacystis marina	--	--	3,200	8,500	--	--
Gomphosphaeria aponii	560	28,000	2,900	140,000	790	40,000
unidentified blue-green algae	5,500	360,000	5,400	360,000	7,900	510,000
PYRROPHYTA						
DINOPHYCEAE (Dinoflagellates)						
Ceratium hirundinella	2.7	190,000	2.0	140,000	2.4	170,000

Table 18.--*Phytoplankton densities and biovolumes in mesocosm nutrient-limitation experiment samples, October 1990*--Continued

PHYLUM CLASS Order *Genus species*	Phosphorus addition 1 Density (cells/mL)	 Biovolume (μm^3/mL)	 2 Density (cells/mL)	 Biovolume (μm^3/mL)	 3 Density (cells/mL)	 Biovolume (μm^3/mL)
		DAY 4				
CHLOROPHYTA						
CHLOROPHYCEAE (Green algae)						
Chlamydomonas sp.	--	--	240	130,000	240	130,000
Chlorella sp.	--	--	40	16,000	--	--
Pediastrum boryanum	1.5	340	5.6	1,300	2.1	480
Staurastrum sp.	<1	75	<1	150	--	--
unidentified green algae	--	--	40	2,600	--	--
CHRYSOPHYTA						
BACILLARIOPHYCEAE (Diatoms)						
Centrales						
Melosira distans	1.4	9,700	1.6	11,000	--	--
Melosira sp.	190	90,000	2,200	1,000,000	3,300	1,600,000
Stephanodiscus nigreae	56	700,000	42	520,000	30	380,000
Pennales						
Amphora sp.	--	--	--	--	<1	100
Asterionella sp.	40	1,700,000	50	2,200,000	28	1,200,000
Fragilaria crotonensis	29	19,000	32	21,000	16	11,000
unidentified pennate diatoms	40	210,000	--	--	--	--
CHRYSOPHYTA						
CHRYSOPHYCEAE (Golden-brown algae)						
Dinobryon sp.	1.0	15	--	--	1.2	17
CRYPTOPHYTA						
CRYPTOPHYCEAE (Cryptomonads)						
unidentified cryptophytes	6,100	300,000	7,300	360,000	6,500	320,000
CYANOPHYTA						
CYANOPHYCEAE (Blue-green algae)						
Anacystis marina	210	560	--	--	--	--
Gomphosphaeria aponii	190	9,600	4,900	250,000	2,400	120,000
unidentified blue-green algae	400	26,000	3,500	230,000	3,500	230,000
PYRROPHYTA						
DINOPHYCEAE (Dinoflagellates)						
Ceratium hirundinella	2.8	190,000	3.1	210,000	2.8	190,000

Table 18.--*Phytoplankton densities and biovolumes in mesocosm nutrient-limitation experiment samples, October 1990*--Continued

PHYLUM / CLASS / Order / *Genus species*	Phosphorus addition 1 Density (cells/mL)	1 Biovolume (μm^3/mL)	2 Density (cells/mL)	2 Biovolume (μm^3/mL)	3 Density (cells/mL)	3 Biovolume (μm^3/mL)
			DAY 8			
CHLOROPHYTA						
CHLOROPHYCEAE (Green algae)						
Chlamydomonas sp.	--	--	790	420,000	160	84,000
Mougeotia sp.	--	--	40	1,000,000	--	--
Pediastrum boryanum	2.1	480	4.6	1,000	6.0	1,400
Staurastrum sp.	<1	75	<1	75	<1	300
CHRYSOPHYTA						
BACILLARIOPHYCEAE (Diatoms)						
Centrales						
Melosira distans	1.4	9,700	--	--	5.7	39,000
Melosira sp.	2,100	990,000	6,200	2,900,000	7,000	3,300,000
Stephanodiscus nigreae	76	960,000	93	1,200,000	94	1,200,000
Pennales						
Asterionella sp.	46	2,000,000	49	2,100,000	44	1,900,000
Fragilaria crotonensis	36	23,000	45	30,000	37	24,000
Rhopalodia sp.	--	--	--	--	<1	840
unidentified pennate diatoms	--	--	--	--	<1	590
CHRYSOPHYTA						
CHRYSOPHYCEAE (Golden-brown algae)						
Dinobryon sp.	1.0	15	1.8	26	1.5	21
CRYPTOPHYTA						
CRYPTOPHYCEAE (Cryptomonads)						
unidentified cryptophytes	6,100	300,000	1,300	64,000	7,100	350,000
CYANOPHYTA						
CYANOPHYCEAE (Blue-green algae)						
Anacystis marina	670	1,800	--	--	--	--
Gomphosphaeria aponii	2,100	110,000	6,700	340,000	7,500	380,000
unidentified blue-green algae	320	21,000	3,200	210,000	4,400	290,000
PYRROPHYTA						
DINOPHYCEAE (Dinoflagellates)						
Ceratium hirundinella	2.9	200,000	3.4	240,000	2.4	170,000

Table 18.--*Phytoplankton densities and biovolumes in mesocosm nutrient-limitation experiment samples, October 1990*--Continued

PHYLUM / CLASS / Order / *Genus species*	Nitrogen plus phosphorus addition 1 Density (cells/mL)	1 Biovolume (μm^3/mL)	2 Density (cells/mL)	2 Biovolume (μm^3/mL)	3 Density (cells/mL)	3 Biovolume (μm^3/mL)
		DAY 2				
CHLOROPHYTA						
CHLOROPHYCEAE (Green algae)						
Chlamydomonas sp.	64	34,000	64	34,000	480	250,000
Pediastrum boryanum	--	--	1.1	260	2.9	680
Staurastrum sp.	<1	30	<1	60	<1	60
CHRYSOPHYTA						
BACILLARIOPHYCEAE (Diatoms)						
Centrales						
Melosira distans	--	--	<1	2,900	<1	970
Melosira granulata	--	--	1.3	310	--	--
Melosira sp.	680	320,000	2,100	1,000,000	1,400	650,000
Stephanodiscus nigreae	32	400,000	15	190,000	14	180,000
Pennales						
Achnanthes sp.	--	--	--	--	48	9,500
Asterionella sp.	48	2,100,000	12	510,000	9.8	430,000
Cymbella minuta	--	--	--	--	16	27,000
Fragilaria crotonensis	6.5	4,300	17	11,000	16	11,000
Surirella sp.	--	--	<1	260	<1	86
unidentified pennate diatoms	32	67,000	16	33,000	--	--
CHRYSOPHYTA						
CHRYSOPHYCEAE (Golden-brown algae)						
Dinobryon sp.	--	--	--	--	0.56	<10
CRYPTOPHYTA						
CRYPTOPHYCEAE (Cryptomonads)						
unidentified cryptophytes	4,400	210,000	4,600	220,000	5,700	280,000
CYANOPHYTA						
CYANOPHYCEAE (Blue-green algae)						
Anacystis didamaeta	--	--	--	--	360	36,000
Anacystis marina	--	--	130	340	--	--
Gomphosphaeria aponii	5,800	290,000	4,700	240,000	2,900	140,000
Merismopedia sp.	--	--	--	--	250	9,800
Nostoc commune	--	--	95	1,900	--	--
unidentified blue-green algae	3,100	200,000	4,500	290,000	2,200	140,000
PYRROPHYTA						
DINOPHYCEAE (Dinoflagellates)						
Ceratium hirundinella	1.7	120,000	2.0	140,000	2.4	160,000

Table 18.--*Phytoplankton densities and biovolumes in mesocosm nutrient-limitation experiment samples, October 1990*--Continued

PHYLUM / CLASS / Order / *Genus species*	Nitrogen plus phosphorus addition					
	1		2		3	
	Density (cells/mL)	Biovolume (μm^3/mL)	Density (cells/mL)	Biovolume (μm^3/mL)	Density (cells/mL)	Biovolume (μm^3/mL)
			DAY 4			
CHLOROPHYTA						
CHLOROPHYCEAE (Green algae)						
Chlamydomonas sp.	250	140,000	64	34,000	360	190,000
Pediastrum boryanum	<1	89	--	--	1.1	260
Pediastrum duplex	--	--	1.7	320	--	--
Staurastrum sp.	<1	90	<1	150	<1	210
CHRYSOPHYTA						
BACILLARIOPHYCEAE (Diatoms)						
Centrales						
Melosira distans	--	--	<1	1,000	<1	1,900
Melosira granulata	<1	50	--	--	--	--
Melosira sp.	7,500	3,500,000	2,600	1,200,000	2,800	1,300,000
Stephanodiscus nigreae	79	1,000,000	3.9	49,000	39	490,000
Pennales						
Asterionella sp.	140	6,200,000	300	13,000,000	280	12,000,000
Fragilaria construens	--	--	--	--	<1	470
Fragilaria crotonensis	7.7	5,100	17	11,000	19	12,000
Surirella sp.	--	--	<1	86	<1	600
unidentified pennate diatoms	<1	88	130	320,000	--	--
CRYPTOPHYTA						
CRYPTOPHYCEAE (Cryptomonads)						
unidentified cryptophytes	1,500	76,000	4,600	220,000	7,600	370,000
CYANOPHYTA						
CYANOPHYCEAE (Blue-green algae)						
Gomphosphaeria aponii	2,000	100,000	6,200	310,000	6,400	320,000
Merismopedia punctata	1,500	6,400	--	--	--	--
Merismopedia sp.	--	--	250	9,800	--	--
Nostoc commune	--	--	95	1,900	--	--
unidentified blue-green algae	1,800	120,000	2,000	130,000	2,800	180,000
PYRROPHYTA						
DINOPHYCEAE (Dinoflagellates)						
Ceratium hirundinella	2.8	190,000	3.7	250,000	4.1	280,000

Table 18.--*Phytoplankton densities and biovolumes in mesocosm nutrient-limitation experiment samples, October 1990*--Continued

PHYLUM / CLASS / Order / *Genus species*	Nitrogen plus phosphorus addition					
	1		2		3	
	Density (cells/mL)	Biovolume (μm^3/mL)	Density (cells/mL)	Biovolume (μm^3/mL)	Density (cells/mL)	Biovolume (μm^3/mL)
		DAY 8				
CHLOROPHYTA						
CHLOROPHYCEAE (Green algae)						
Chlamydomonas sp.	300	160,000	360	190,000	220	120,000
Pediastrum boryanum	<1	98	1.1	260	4.6	1,100
Scenedesmus dimorphus	--	--	--	--	<1	29
Scenedesmus quadricauda	--	--	<1	<10	--	--
Staurastrum sp.	<1	170	<1	150	<1	240
CHRYSOPHYTA						
BACILLARIOPHYCEAE (Diatoms)						
Centrales						
Melosira distans	--	--	<1	1,900	<1	6,800
Melosira granulata	<1	99	--	--	--	--
Melosira sp.	9,500	4,500,000	1,600	780,000	1,300	620,000
Stephanodiscus nigreae	79	1,000,000	160	2,000,000	39	490,000
unidentified centric diatoms	--	--	48	30,000	--	--
Pennales						
Achnanthes sp.	--	--	32	6,400	--	--
Asterionella sp.	140	6,200,000	200	8,600,000	300	13,000,000
Fragilaria crotonensis	7.9	5,200	18	12,000	16	10,000
unidentified pennate diatoms	<1	160	--	--	--	--
CRYPTOPHYTA						
CRYPTOPHYCEAE (Cryptomonads)						
unidentified cryptophytes	1,500	76,000	2,400	120,000	4,000	200,000
CYANOPHYTA						
CYANOPHYCEAE (Blue-green algae)						
Gomphosphaeria aponii	2,000	100,000	10,000	510,000	3,800	190,000
Merismopedia punctata	2,100	9,000	--	--	--	--
unidentified blue-green algae	1,800	120,000	1,300	84,000	2,600	170,000
PYRROPHYTA						
DINOPHYCEAE (Dinoflagellates)						
Ceratium hirundinella	3.2	220,000	3.5	240,000	4.0	280,000

Table 19.--*Zooplankton densities at site L3 (near spillway) and in the mesocosms, October 18, 1990*

[--, species not identified; <, less than]

PHYLUM CLASS Order *Genus species*	Site L3	Density (organisms/liter) Control 1	 2	 3	 Nitrogen 1	 2	 3
ARTHROPODA							
CRUSTACEA							
Cladocera							
Daphnia galeata mendotae	1.8	--	--	--	--	--	--
Copepoda							
Cyclops bicuspidatus thomasi	8.9	<1	1.8	3.8	2.0	<1	3.6
Diaptomus shoshone	11	1.9	3.6	7.6	3.1	3.6	1.8
nauplii	68	37	20	28	34	14	21
ROTATORIA							
Conochilus unicornis	3.6	--	<1	--	--	1.8	2.7
Kellicottia longispina	14	22	22	37	22	20	17
Keratella cochlearis var. *macracantha*	6.2	11	9.8	14	4.1	15	12
Polyarthra vulgaris	25	27	14	30	20	32	19

PHYLUM CLASS Order *Genus species*	Density (organisms/liter) Phosphorus 1	 2	 3	 Nitrogen plus phosphorus 1	 2	 3
ARTHROPODA						
CRUSTACEA						
Cladocera						
Daphnia galeata mendotae	--	<1	1.9	--	--	--
Daphnia similis	--	<1	<1	--	--	--
unidentified immature cladocerans	--	--	--	--	--	<1
Copepoda						
Cyclops bicuspidatus thomasi	2.7	8.6	6.7	1.9	--	1.9
Diaptomus shoshone	1.8	4.8	<1	1.9	6.7	1.9
nauplii	28	16	22	18	19	10
ROTATORIA						
Conochilus unicornis	3.6	--	--	--	4.8	--
Kellicottia longispina	13	27	30	28	20	26
Keratella cochlearis var. *macracantha*	14	25	21	7.6	3.8	11
Polyarthra vulgaris	15	28	32	13	10	14

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