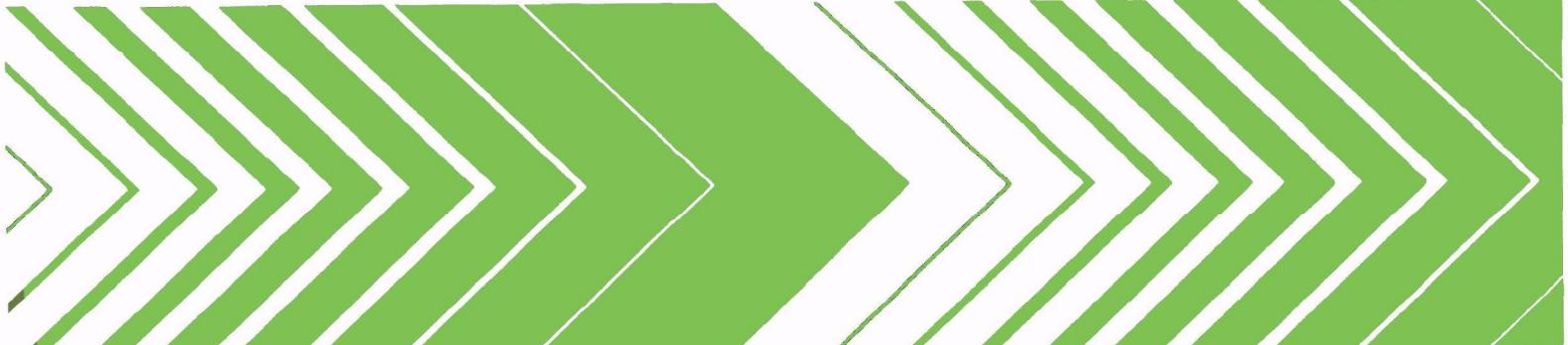




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Distribution of Phytoplankton in Illinois Lakes



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DISTRIBUTION OF PHYTOPLANKTON IN ILLINOIS LAKES

by

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FOREWORD

Protection of the environment requires effective regulatory actions which are based on sound technical and scientific information. This information must include the quantitative description and linking of pollutant sources, transport mechanisms, interactions, and resulting effects on man and his environment. Because of the complexities involved, assessment of specific pollutants in the environment requires a total systems approach which transcends the media of air, water, and land. The Environmental Monitoring and Support Laboratory-Las Vegas contributes to the formation and enhancement of a sound integrated monitoring data base through multidisciplinary, multimedia programs designed to:

- develop and optimize systems and strategies for monitoring pollutants and their impact on the environment
- demonstrate new monitoring systems and technologies by applying them to fulfill special monitoring needs of the Agency's operating programs

This report presents the species and abundance of phytoplankton in the 31 lakes sampled by the National Eutrophication Survey in the State of Illinois, along with results from the calculation of several commonly used biological indices of water quality and community structure. These data can be used to biologically characterize the study lakes, and as baseline data for future investigations. This report was written for use by Federal, State, and local governmental agencies concerned with water quality analysis, monitoring, and/or regulation. Private industry and individuals similarly involved with the biological aspects of water quality will find the document useful. For further information contact the Water and Land Quality Branch, Monitoring Operations Division.



George B. Morgan
Director

Environmental Monitoring and Support Laboratory
Las Vegas

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INTRODUCTION

The collection and analysis of phytoplankton data were included in the National Eutrophication Survey in an effort to determine relationships between algal characteristics and trophic status of individual lakes.

During spring, summer, and fall of 1973, the Survey sampled 250 lakes in 17 States. Over 700 algal species and varieties were identified and enumerated from the 743 water samples examined.

This report presents the species and abundance of phytoplankton in the 31 lakes sampled in the State of Illinois (Table 1). The Nygaard's Trophic State (Nygaard 1949), Palmer's Organic Pollution (Palmer 1969), and species diversity and abundance indices are also included.

TABLE 1. LAKES SAMPLED IN THE STATE OF ILLINOIS

STORET #	LAKE NAME	COUNTY
1703	Lake Bloomington	McLean
1706	Lake Carlyle	Clinton, Fayette, Bond
1708	Lake Charleston	Coles
1711	Coffeen Lake	Montgomery
1712	Crab Orchard Lake	Jackson, Williamson
1714	Lake Decatur	Macon
1725	Long Lake	Lake
1726	Lake Lou Yaeger	Montgomery
1727	Lake Marie	Lake
1733	Pistakee Lake	Lake, McHenry
1735	Rend Lake	Franklin, Jefferson
1739	Lake Shelbyville	Shelby, Moultrie
1740	Highland (Silver Lake)	Madison

(Continued)

TABLE 1. LAKES SAMPLED IN THE STATE OF ILLINOIS (Continued)

STORET #	LAKE NAME	COUNTY
1742	Lake Springfield	Sangamon
1748	Vermilion Lake	Vermilion
1750	Wonder Lake	McHenry
1751	Lake Story	Knox
1752	Depue Lake	Bureau
1753	Lake Sangchris	Christian
1754	Lake Holiday	LaSalle
1755	Fox Lake	Lake
1756	Grass Lake	Lake
1757	East Loon Lake	Lake
1758	Slocum Lake	Lake
1759	Cedar Lake	Lake
1761	Lake We-Ma-Tuk	Fulton
1762	Raccoon Lake	Marion
1763	Baldwin Lake	Randolph
1764	Lake Vandalia	Fayette
1765	Old Ben Mine Reservoir	Franklin
1766	Horseshoe Lake	Madison

MATERIALS AND METHODS

LAKE AND SITE SELECTION

Lakes and reservoirs included in the Survey were selected through discussions with State water pollution agency personnel and U.S. Environmental Protection Agency Regional Offices (U.S. Environmental Protection Agency 1975). Screening and selection strongly emphasized lakes with actual or potential accelerated eutrophication problems. As a result, the selection was limited to lakes:

- (1) impacted by one or more municipal sewage treatment plant outfalls either directly into the lake or by discharge to an inlet tributary within approximately 40 kilometers of the lake;
- (2) 40 hectares or larger in size; and
- (3) with a mean hydraulic retention time of at least 30 days.

Specific selection criteria were waived for some lakes of particular State interest.

Sampling sites for a lake were selected based on available information on lake morphometry, potential major sources of nutrient input, and on-site judgment of the field limnologist (U.S. Environmental Protection Agency 1975). Primary sampling sites were chosen to reflect the deepest portion of each major basin in a test lake. Where many basins were present, selection was guided by nutrient source information on hand. At each sampling site, a depth-integrated phytoplankton sample was taken. Depth-integrated samples were uniform mixtures of water from the surface to a depth of 15 feet (4.6 meters) or from the surface to the lower limit of the photic zone representing 1 percent of the incident light, whichever was greater. If the depth at the sampling site was less than 15 feet (4.6 meters), the sample was taken from just off the bottom to the surface. Normally, a lake was sampled three times in 1 year, providing information on spring, summer, and fall conditions.

SAMPLE PREPARATION

To preserve the sample 4 milliliters (ml) of Acid-Lugol's solution (Prescott 1970) were added to each 130-ml sample from each site at the time of collection. The samples were shipped to the Environmental Monitoring and Support Laboratory, Las Vegas, Nevada, where equal volumes from each site were mixed to form two 130-ml composite samples for a given lake. One composite sample was put into storage and the other was used for the examination.

Prior to examination, the composite samples were concentrated by the settling method. Solids were allowed to settle for at least 24 hours prior to siphoning off the supernate. The volume of the removed supernate and the volume of the remaining concentrate were measured and concentrations determined. A small (8 ml) library subsample of the concentrate was then taken. The remaining concentrate was gently agitated to resuspend the plankton and poured into a capped, graduated test tube. If a preliminary examination of a sample indicated the need for a more concentrated sample, the contents of the test tube were further concentrated by repeating the settling method. Final concentrations varied from 15 to 40 times the original.

Permanent slides were prepared from concentrated samples after analysis was complete. A drop of superconcentrate from the bottom of the test tube was placed in a ring of clear Karo® Corn Syrup with phenol (a few crystals of phenol were added to each 100 ml of syrup) on a glass slide, thoroughly mixed, and topped with a coverglass. After the syrup at the edges of the coverglass had hardened, the excess was scraped away and the mount was sealed with clear fingernail polish. Permanent diatom slides were prepared by drying sample material on a coverglass, heating in a muffle furnace at 400° C for 45 minutes, and mounting in Hyrax®. Finally, the mounts were sealed with clear fingernail polish.

Backup samples, library samples, permanent sample slides, and Hyrax®-mounted diatom slides are being stored and maintained at the Environmental Monitoring and Support Laboratory-Las Vegas.

EXAMINATION

The phytoplankton samples were examined with the aid of binocular compound microscopes. A preliminary examination was performed to precisely identify and list all forms encountered. The length of this examination varied depending on the complexity of the sample. An attempt was made to find and identify all of the forms present in each sample. Often forms were observed which could not be identified to species or to genus. Abbreviated descriptions were used to keep a record of these forms (e.g., lunate cell, blue-green filament, Navicula #1). Diatom slides were examined using a standard light microscope. If greater resolution was essential to accurately identify the diatoms, a phase-contrast microscope was used.

After the species list was compiled, phytoplankton were enumerated using a Neubauer Counting Chamber with a 40X objective lens and a 10X ocular lens. All forms within each field were counted. The count was continued until a minimum of 100 fields had been viewed, or until the dominant form had been observed a minimum of 100 times.

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QUALITY CONTROL

Internal quality control intercomparisons on species identifications and counts were performed on a regular basis among project phycologists at the rate of 7 percent. Although an individual had primary responsibility for analyzing a sample, taxonomic problems were discussed among the phycologists.

Additional quality control checks were performed on the Survey samples by Dr. G. W. Prescott of the University of Montana at the rate of 5 percent. Quality control checks were made on 75 percent of these samples to verify species identifications while checks were made on the remaining 25 percent of the samples to verify genus counts. Presently, the agreement between quality control checks for species identification and genus enumerations is satisfactory.

RESULTS

The Appendix summarizes all of the phytoplankton data collected from the State by the Survey. It is organized by lake, including an alphabetical phytoplankton species list with concentrations for individual species given by sampling date. Results from the application of several indices are presented (Nygaard's Trophic State, Palmer's Organic Pollution, and species diversity and abundance). Each lake has been assigned a four-digit STORET number. [STORET (STOrage and RETrieval) is the U.S. Environmental Protection Agency's computer system which processes and maintains water quality data.] The first two digits of the STORET number identify the State; the last two digits identify the lake.

NYGAARD'S TROPHIC STATE INDICES

Five indices devised by Nygaard (1949) were proposed under the assumption that certain algal groups are indicative of levels of nutrient enrichment. These indices were calculated in order to aid in determining the surveyed lakes' trophic status. As a general rule, Cyanophyta, Euglenophyta, centric diatoms, and members of the Chlorococcales are found in waters that are eutrophic (rich in nutrients), while desmids and many pennate diatoms generally cannot tolerate high nutrient levels and so are found in oligotrophic waters (poor in nutrients).

In applying the indices to the Survey data, the number of taxa in each major group was determined from the species list for each sample. The ratios of these groups give numerical values which can be used as a biological index of water richness. The five indices and the ranges of values established for Danish lakes by Nygaard for each trophic state are presented in Table 2. The appropriate symbol, (E) eutrophic and (O) oligotrophic, follows each calculated value in the tables in the Appendix. A question mark (?) following a calculated value in these tables was entered when that value was within the range of both classifications.

PALMER'S ORGANIC POLLUTION INDICES

Palmer (1969) analyzed reports from 165 authors and developed algal pollution indices for use in rating water samples with high organic pollution. Two lists of organic pollution-tolerant forms were prepared, one containing 20 genera, the other, 20 species (Tables 3 and 4). Each form was assigned a pollution index number ranging from 1 for moderately tolerant forms to 6 for extremely tolerant forms. Palmer based the index numbers on occurrence records and/or where emphasized by the authors as being especially tolerant of organic pollution.

TABLE 2. NYGAARD'S TROPHIC STATE INDICES ADAPTED FROM HUTCHINSON (1967)

Index	Calculation	Oligotrophic	Eutrophic
Myxophycean	<u>Myxophyceae</u> Desmideae	0.0-0.4	0.1-3.0
Chlorophycean	<u>Chlorococcales</u> Desmideae	0.0-0.7	0.2-9.0
Diatom	<u>Centric Diatoms</u> <u>Pennate Diatoms</u>	0.0-0.3	0.0-1.75
Euglenophyte	<u>Euglenophyta</u> Myxophyceae + Chlorococcales	0.0-0.2	0.0-1.0
Compound	Myxophyceae + Chlorococcales + <u>Centric Diatoms + Euglenophyta</u> Desmideae	0.0-1.0	1.2-25

TABLE 3. ALGAL GENUS POLLUTION INDEX
(Palmer 1969)

Genus	Pollution Index
<i>Anacyclis</i>	1
<i>Ankistrodesmus</i>	2
<i>Chlamydomonas</i>	4
<i>Chlorella</i>	3
<i>Closterium</i>	1
<i>Cyclotella</i>	1
<i>Euglena</i>	5
<i>Gomphonema</i>	1
<i>Lepocinclis</i>	1
<i>Melosira</i>	1
<i>Micractinium</i>	1
<i>Navicula</i>	3
<i>Nitzschia</i>	3
<i>Oscillatoria</i>	5
<i>Pandorina</i>	1
<i>Phacus</i>	2
<i>Phormidium</i>	1
<i>Scenedesmus</i>	4
<i>Stigeoclonium</i>	2
<i>Synedra</i>	2

TABLE 4. ALGAL SPECIES POLLUTION INDEX (Palmer 1969)

Species	Pollution Index
<i>Ankistrodesmus falcatus</i>	3
<i>Arthrospira jenneri</i>	2
<i>Chlorella vulgaris</i>	2
<i>Cyclotella meneghiniana</i>	2
<i>Euglena gracilis</i>	1
<i>Euglena viridis</i>	6
<i>Gomphonema parvulum</i>	1
<i>Melosira varians</i>	2
<i>Navicula cryptocephala</i>	1
<i>Nitzschia acicularis</i>	1
<i>Nitzschia palea</i>	5
<i>Oscillatoria chlorina</i>	2
<i>Oscillatoria limosa</i>	4
<i>Oscillatoria princeps</i>	1
<i>Oscillatoria putrida</i>	1
<i>Oscillatoria tenuis</i>	4
<i>Pandorina morum</i>	3
<i>Scenedesmus quadricauda</i>	4
<i>Stigeoclonium tenue</i>	3
<i>Syndra ulna</i>	3

In analyzing a water sample, any of the 20 genera or species of algae present in concentrations of 50 per milliliter or more are recorded. The pollution index numbers of the algae present are totaled, providing a genus score and a species score. Palmer determined that a score of 20 or more for either index can be taken as evidence of high organic pollution, while a score of 15 to 19 is taken as probable evidence of high organic pollution. Lower figures suggest that the organic pollution of the sample is not high, that the sample is not representative, or that some substance or factor interfering with algal persistence is present and active.

SPECIES DIVERSITY AND ABUNDANCE INDICES

"Information content" of biological samples is being used commonly by biologists as a measure of diversity. Diversity in this connection means the degree of uncertainty attached to the specific identity of any randomly selected individual. The greater the number of taxa and the more equal their proportions, the greater the uncertainty, and hence, the diversity (Pielou 1966). There are several methods of measuring diversity, e.g., the formulas given by Brillouin (1962) and Shannon and Weaver (1963). The method which is appropriate depends on the type of biological sample on hand.

Pielou (1966) classifies the types of biological samples and gives the measure of diversity appropriate for each type. The Survey phytoplankton samples are what she classifies as larger samples (collections in Pielou's terminology) from which random subsamples can be drawn. According to Pielou, the average diversity per individual (H) for these types of samples can be estimated from the Shannon-Wiener formula (Shannon and Weaver 1963):

$$H = -\sum_{i=1}^S p_i \log_x p_i$$

where p_i is the proportion of the i th taxon in the sample, which is calculated from n_i/N ; n_i is the number of individuals per milliliter of the i th taxon; N is the total number of individuals per ml; and S is the total number of taxa.

However, Basharin (1959) and Pielou (1966) have pointed out that H calculated from the subsample is a biased estimator of the sample H , and if this bias is to be accounted for, we must know the total number of taxa present in the sample since the magnitude of this bias depends on it.

Pielou (1966) suggests that if the number of taxa in the subsample falls only slightly short of the number in the larger sample, no appreciable error will result in considering S , estimated from the subsample, as being equal to the sample value. Even though considerable effort was made to find and identify all taxa, the Survey samples undoubtedly contain a fair number of rare phytoplankton taxa which were not encountered.

In the Shannon-Wiener formula, an increase in the number of taxa and/or an increase in the evenness of the distribution of individuals among taxa will increase the average diversity per individual from its minimal value of zero. Sager and Hasler (1969) found that the richness of taxa was of minor importance in determination of average diversity per individual for phytoplankton and they concluded that phytoplankton taxa in excess of the 10 to 15 most abundant ones have little effect on H. This was verified by our own calculations. Our counts are in number per milliliter and since logarithms to the base 2 were used in our calculations, H is expressed in units of bits per individual. When individuals of a taxon were so rare that they were not counted, a value of 1/130 per milliliter or 0.008 per milliliter was used in the calculations since at least one individual of the taxon must have been present in the collection.

A Survey sample for a given lake represents a composite of all phytoplankton collected at different sampling sites on a lake during a given sampling period. Since the number of samples (M) making up a composite is a function of both the complexity of the lake sampled and its size, it should affect the richness-of-taxa component of the diversity of our phytoplankton collections. The maximum diversity (MaxH) (i.e., when the individuals are distributed among the taxa as evenly as possible) was estimated from $\log_2 S$, the total diversity (D) was calculated from HN, and the evenness component of diversity (J) was estimated from H/MaxH (Pielou 1966). Also given in the Appendix are L (the mean number of individuals per taxa per milliliter) and K (the number of individuals per milliliter of the most abundant taxon in the sample).

Zand (1976) suggests that diversity indices be expressed in units of "sites", i.e., in logarithms to base S (where S is the total number of taxa in the sample) instead of in "bits", i.e., in logarithms to base 2. Zand points out that the diversity index in sites per individual is a normalized number ranging from 1 for the most evenly distributed samples to 0 for the least evenly distributed samples. Also, it can be used to compare different samples, independent of the number of taxa in each. The diversity in bits per individual should not be used in direct comparisons involving various samples which have different numbers of species. Since MaxH equals $\log_2 S$, the expression in sites is equal to $\log_2 S$, or 1. Therefore diversity in sites per individual is numerically equivalent to J, the evenness component for the Shannon-Wiener formula.

SPECIES OCCURRENCE AND ABUNDANCE

The alphabetic phytoplankton species list for each lake, presented in the Appendix, gives the concentrations of individual species by sampling date. Concentrations are in cells, colonies, or filaments (CEL, COL, FIL) per milliliter. An "X" after a species name indicates the species identified in the preliminary examination was in such a low concentration that it did not appear in the count. A blank space indicates that the organism was not found in the sample collected on that date. Column S is used to designate the examiner's subjective opinion of the five dominant taxa in a sample, based upon relative size and concentration of the organism. The percent column (%C) presents, by abundance, the percentage composition of each taxon.

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APPENDIX. SUMMARY OF PHYTOPLANKTON DATA

This appendix was generated by computer. Because it was only possible to use upper case letters in the printout, all scientific names are printed in upper case and are not italicized.

The alphabetic phytoplankton lists include taxa without species names (e.g., EUNOTIA, EUNOTIA #1, FLAGELLATE, FLAGELLATES, MICROSYSTIS INCERTA ?, CHLOROPHYTAN COCCOID CELLED COLONY). When species determinations were not possible, symbols or descriptive phrases were used to separate taxa for enumeration purposes. Each name on a list, however, represents a unique species different from any other name on the same list, unless otherwise noted, for counting purposes.

Numbers were used to separate unidentified species of the same genus. A generic name listed alone is also a unique species. A question mark (?) is placed immediately after the portion of a name which was assigned with uncertainty. Numbered, questioned, or otherwise designated taxa were established on a lake-by-lake basis; therefore NAVICULA #2 from lake A cannot be compared to NAVICULA #2 from lake B. Pluralized categories (e.g., FLAGELLATES, CENTRIC DIATOMS, SPP.) were used for counting purposes when taxa could not be properly differentiated on the counting chamber.

LAKE NAME: LAKE BLOOMINGTON
STCRET NUMBER: 1703

NYGAARD TROPHIC STATE INDICES

DATE 05 11 73 08 09 73 10 17 73

MYXOPHYCEAN	01/0 E	4.00 E	0.75 E
CHLOROPHYCEAN	02/0 E	6.00 E	1.50 E
EUGLENOPHYTE	0.67 E	0.30 E	0.33 E
DIATOM	2.50 E	5.00 E	02/0 E
COMPOUND	10/0 E	18.0 E	3.50 E

PALMER'S ORGANIC POLLUTION INDICES

DATE 05 11 73 08 09 73 10 17 73

GENUS	01	09	07
SPECIES	00	00	00

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE 05 11 73 08 09 73 10 17 73

AVERAGE DIVERSITY	H	1.98	2.54	0.93
NUMBER OF TAXA	S	18.00	24.00	22.00
NUMBER OF SAMPLES COMPOSITED	M	2.00	2.00	2.00
MAXIMUM DIVERSITY	MAXH	4.17	4.58	4.46
TOTAL DIVERSITY	D	5635.08	12364.72	8347.68
TOTAL NUMBER OF INDIVIDUALS/ML	N	2846.00	4868.00	8976.00
EVENNESS COMPONENT	J	0.47	0.55	0.21
MEAN NUMBER OF INDIVIDUALS/TAXA	L	158.11	202.83	408.00
NUMBER/ML OF MOST ABUNDANT TAXON	K	1563.00	2549.00	7747.00

LAKE NAME: LAKE BLOOMINGTON
STORE NUMBER: 1703

CONTINUED

TAXA	FORM	05 11 73			08 09 73			10 17 73		
		IS	%C	ALGAL UNITS PER ML	IS	%C	ALGAL UNITS PER ML	IS	%C	ALGAL UNITS PER ML
ACTINASTRUM	CEL			X						
ANABAENA	FIL									
APHANIZCHMENON	FIL									
CENTRIC DIATOMS	CEL			4.7			228		3.7	332
CERATIUM HIRUNDINELLA	CEL									
CERATIUM HIRUNDINELLA F. BRACHYCERAS	CEL						X			
CHLOROPHYTAN LUNATE CELL	CEL									
CLOSTERIUM #1	CEL		2.5	70						
CLOSTERIUM #2	CEL					0.8		38		X
CLOSTERIUM ACUTUM	CEL									X
CLOSTERIUM SPP.	CEL									X
COELASTRUM MICROPORUM	COL									
COELASTRUM RETICULATUM	COL					0.8		38		26
CRUCIGENIA CRUCIFERA	CCL									
CRUCIGENIA QUADRATA	COL						X			
CRYPTOMCNAS	CEL	3	4.1	117		3.1		152		179
CYANOPHYTAN FILAMENT	FIL					0.8		38		
CYCLOTELLA MENEGHINIANA	CEL		1.7	47						
CYCLOTELLA STELLIGERA	CEL						X			
DACTYLOCOCCOPSIS	CEL						X			
DINOFLAGELLATE	CEL		0.8	23						
DINOFLAGELLATE #1	CEL			X						
ELAKATOOTHRIX ?	CEL					0.8		38		
EUGLENA	CEL									
EUGLENA #1	CEL									X
EUGLENA #2	CEL									
FLAGELLATE	CEL									
FLAGELLATE #1	CEL	4	9.8	280						
GLENODINIUM GYMNOGINIUM	CEL									
KIRCHNERIELLA	CEL		0.8	23						
MELOSIRA DISTANS	CEL	2	22.9	653		14.1		685		

LAKE NAME: LAKE BLOOMINGTON
STORET NUMBER: 1703

CONTINUED

TAXA	FORM	05 11 73			08 09 73			10 17 73		
		S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML
MELOSIRA GRANULATA	CEL	5	1.7	47	4	4.7	228			X
MELOSIRA ITALICA	CEL			X						
MERISMOPEDIA	COL					3.9	190			
MICROCYSTIS INCERTA	COL				1	52.4	2549			
NAVICULA	CEL			X						
OOCYSTIS	CEL									
CSCILLATORIA	FIL			X						
PANDORINA MORUM	COL			X					1.1	102
PEDIASTRUM DUPLEX	COL									
V. ?	COL								0.3	26
PEDIASTRUM SIMPLEX	COL									
V. DUODENARIUM	CEL						X			X
PHACUS	CEL								0.3	26
SCENEDESMUS DIMORPHUS	COL									X
SCHROEDERIA SETIGERA	CEL					0.8	38			
SPHAEROCYSTIS	COL					0.8	38			
STAURASTRUM	CEL								0.3	26
STEPHANODISCUS	CEL						X			
STEPHANO DISCUS ASTRaea	CEL	1	54.9	1563						
SYNEDRA	CEL		0.8	23						
SYNEDRA ACUS ?	CEL				3	5.5	266			
TRACHELOMONAS	CEL						X			
TRACHELOMONAS #1	CEL			X						X
TRACHELOMONAS URCEOLATA	CEL									
TOTAL				2846			4868		8976	

LAKE NAME: LAKE CARLYLE
STORET NUMBER: 1706

NYGAARD TROPHIC STATE INDICES

DATE	05 08 73	08 10 73	10 18 73
MYXOPHYCEAN	0.01 C	1.00 E	5.00 E
CHLOROPHYCEAN	12.0 E	5.00 E	7.00 E
EUGLENOPHYTE	0.33 E	1.33 E	6.17 ?
DIATOM	1.14 E	1.00 E	1.33 E
COMPOUND	24.0 E	18.0 E	18.0 E

PALMER'S ORGANIC POLLUTION INDICES

DATE	05 08 73	08 10 73	10 18 73
GENUS	10	04	09
SPECIES	09	03	00

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE	05 08 73	08 10 73	10 18 73
AVERAGE DIVERSITY	H	3.00	3.06
NUMBER OF TAXA	S	36.00	27.00
NUMBER OF SAMPLES COMPOSITED	M	3.00	3.00
MAXIMUM DIVERSITY	MAXH	5.17	4.75
TOTAL DIVERSITY	D	20400.00	9626.76
TOTAL NUMBER OF INDIVIDUALS/ML	N	6800.00	3146.00
EVENNESS COMPONENT	J	0.58	0.64
MEAN NUMBER OF INDIVIDUALS/TAXA	L	188.89	116.52
NUMBER/ML OF MOST ABUNDANT TAXON	K	1892.00	833.00
			707.00

LAKE NAME: LAKE CARLYLE
STORET NUMBER: 1706

CONTINUED

TAXA		05 08 73			08 10 73			10 18 73		
	FORM	S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML
ACTINASTRUM GRACILIMUM ?	CEL			X						
ANKISTRODESmus FALCATUS	CEL		0.9	64		3.6	114			
ASTERICNELLA FORMOSA	CEL			X						
V. GRACILLIMA ?	CEL			X						
CHLAMYDOMONAS ?	CEL			X						
CLOSTERIUM	CEL			X						
CLCSTERIUM CERATIUM	CEL			X						
COCCOID CELL	CEL			X						
CRUCIGENIA APICULATA	COL		0.3	21		1 26.5	833			
CRUCIGENIA TETRAPEDIA	COL		0.6	42		5 4.8	152			
CRYPTOMONAS	CEL			X						
CRYPTOMONAS OVATA	CEL	3	8.4	574		2 16.8	530			
CYCLOTELLA	CEL			X						
CYCLOTELLA MENEGHINIANA	CEL		0.9	64						
DICTYOSPHAERIUM PULCHELLUM	COL			X						
DINOBRYCN	CEL			X						
EUGLENA	CEL			X						
EUGLENA #1	CEL			X						
EUGLENA #2	CEL			X						
EUGLENA ACUS	CEL			X						
EUGLENA GRACILIS	CEL			X						
FLAGELLATE ?	CEL			X						
FLAGELLATE #1	CEL	1	27.8	1892		4.8	152			
GLENODINIUM	CEL		0.9	64						
GOLENKINIA	CEL			X						
GCMPHONEMA	CEL			X						
GCMPHONEMA ?	CEL		0.6	42						
KIRCHNERIELLA	CEL			X						
MALLCMNAS	CEL			X						
MELOSIRA #4	CEL	5	9.4	638	3	15.6	492			
MELOSIRA DISTANS	CEL	4	16.9	1148				1	18.9	465
MELOSIRA DISTANS ?	CEL			X						

LAKE NAME: LAKE CARLYLE
STORET NUMBER: 1706

CONTINUED

TAXA	FORM	05 08 73			08 10 73			10 18 73		
		S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML
MELOSIRA GRANULATA	CEL	0.9	64	2.4	76					X
MELOSIRA GRANULATA	CEL	0.6	42							
V. ANGUSTISSIMA	CEL									
MELOSIRA GRANULATA	CEL	0.6	42							
V. ANGLSTISSIMA F. SPIRALIS	CEL									
MELOSIRA VARIANS	CEL	0.6	42							
MERISMOPEDIA	COL									
MERISMOPEDIA TENUISSIMA	COL									
MICROCYSTIS INCERTA	COL									
NAVICULA	CEL									
NITZSCHIA	CEL									
NITZSCHIA #1	CEL	0.6	42							
NITZSCHIA HOLSATICA	CEL									
CSCILLATORIA	FIL									
PEDIASTRUM SIMPLEX	COL									
PENNATE DIATOMS	CEL									
PHACUS #1	CEL									
PHACUS #2	CEL									
PHACUS ACUMINATUS	CEL									
PHACUS PYRUM	CEL	0.3	21							
PHACUS SPP.	CEL									
RAPHIDIOPSIS CURVATA	FIL									
SCENEDESMUS	CEL									
SCENEDESMUS #1	COL	0.9	64							
SCENEDESMUS ABUNDANS	COL	0.3	21							
SCENEDESMUS BICAUDATUS	COL									
SCENEDESMUS BIJUGA	COL	0.3	21	1.2	39	15	3.8	93		
SCENEDESMUS DIMORPHUS	COL									
SCENEDESMUS INTERMEDIUS	COL									
V. BICAUDATUS	COL	0.3	21							
SCENEDESMUS QUADRICAUDA	COL	0.9	64							
STEPHANODISCUS	CEL									

LAKE NAME: LAKE CARLYLE
STORET NUMBER: 1706

CONTINUED

TAXA	FORM	05 08 73			08 10 73			10 18 73		
		S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML
STEPHANODISCUS ASTRAEA	CEL	2	23.1	1573						
V. MINUTULA	CEL				1.2		38			
SYNEDRA ?	CEL						X			
SYNEDRA #1	CEL									
SYNEDRA ACUS	CEL			X						
SYNEDRA DELICATISSIMA	CEL		3.7	255						
SYNEDRA ULNA	CEL			X						
TETRAEDRON MINIMUM	CEL									
TETRASTRUM	CEL		0.3	21						
TETRASTRUM ?	COL			X						
TETRASTRUM STAUROGENIAEFORME	COL									
TRACHELOMONAS PULCHELLA	CEL						X			
TRACHELOMONAS SCABRA	CEL									
V. ?	CEL			X						
TRACHELOMONAS URCEOLATA	CEL						X			
TOTAL				6800			3146			2458

CO

LAKE NAME: LAKE CHARLESTON
STORET NUMBER: 1708

NYGAARD TRCPHIC STATE INDICES

	DATE	05 07 73	08 09 73	10 08 73
MYXOPHYCEAN		01/0 E	02/0 E	02/0 E
CHLOROPHYCEAN		0/0 0	03/0 E	01/0 E
EUGLENOPHYTE		1.00 E	1.00 E	2.00 E
DIATOM		0.20 ?	0.80 E	1.50 E
COMPOUND		03/0 E	14/0 E	12/0 E

PALMER'S ORGANIC POLLUTION INDICES

	DATE	05 07 73	08 09 73	10 08 73
GENUS		10	06	20
SPECIES		03	01	00

SPECIES DIVERSITY AND ABUNDANCE INDICES

	DATE	05 07 73	08 09 73	10 08 73
AVERAGE DIVERSITY	H	2.61	2.02	2.38
NUMBER OF TAXA	S	10.00	24.00	16.00
NUMBER OF SAMPLES COMPOSITED	M	2.00	2.00	2.00
MAXIMUM DIVERSITY	MAXH	3.32	4.58	4.00
TOTAL DIVERSITY	D	1832.22	9803.06	21372.40
TOTAL NUMBER OF INDIVIDUALS/ML	N	702.00	4853.00	8980.00
EVENNESS COMPONENT	J	0.79	0.44	0.60
MEAN NUMBER OF INDIVIDUALS/TAXA	L	70.20	202.21	561.25
NUMBER/ML OF MOST ABUNDANT TAXON	K	282.00	2775.00	5010.00

LAKE NAME: LAKE CHARLESTON
STCRET NUMBER: 1708

CONTINUED

TAXA	FORM	05 07 73			08 09 73			10 08 73		
		S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML
ACTINASTRUM	CEL				2.1		104			
ANKISTRICHOESMUS	CEL							1.3		120
CHLAMYDOMONAS	CEL							4	6.1	550
CHLOROPHYTAN CELL	CEL						X			
CRYPTOMONAS EROSA	CEL	1	40.2	282			X			
CYANOPHYTAN FILAMENT	FIL						X			
CYCLOTELLA	CEL		4.0	28			X			
CYCLOTELLA MENEGHINIANA	CEL						X			
CYCLOTELLA PSEUDOSTELLIGERA	CEL						X			
DACTYLOCOCOPSIS	CEL				1.1		52			
DACTYLOCOCOPSIS FASCICULARIS	CEL							2.7		240
ELAKATOTHRIX	COL						X			
EUGLENA	CEL	3	8.0	56				1	55.8	5010
EUGLENA ACUS ?	CEL				1.1		52			
EUGLENA GRACILIS	CEL				2	5.9	285			
EUGLENA OXYURIS ?	CEL						X			
FLAGELLATE #1	CEL		12.0	84		1.1	52			
FLAGELLATES	CEL				1	57.2	2776			
GLENODINIUM EDAX ?	CEL					0.5	26			
GCMPHONEMA	CEL						X			
GYROSIGMA KUTZINGII	CEL			X						
KIRCHNERIELLA	CEL						X			
LEPOCINCLIS	CEL							1.3		120
LYNGBYA	FIL		8.0	56						
MELOSIRA	CEL							1.3		120
MELOSIRA ? GRANULATA	CEL									X
MELOSIRA #4	CEL									
NAVICULA VIRUDULA ?	CEL	4	8.0	56		10.2	493			
NITZSCHIA	CEL						X			
NITZSCHIA HOLSATICA ?	CEL						X			
OSCILLATORIA	FIL							1.3		120
PENNATE DIATOM	CEL							5	4.1	370

LAKE NAME: LAKE CHARLESTON
STORE NUMBER: 1709

CONTINUED

TAXA		05 07 73			08 09 73			10 08 73		
	FORM	IS	%C	ALGAL UNITS PER ML	IS	%C	ALGAL UNITS PER ML	IS	%C	ALGAL UNITS PER ML
PHACUS #1	CEL									X
PHACUS #2	CEL								2.8	250
PHACUS LONGICAUDA	CEL								1.3	120
PHACUS PYRUM	CEL								3	490
PINNULARIA	CEL	5	8.0	56						X
PSEUDOUVELLA AMERICANA	CEL									
SPERMATOGZOOPSIS	CEL					1.1				
STEPHANODISCUS	CEL				3	18.2	52			
SURIRELLA	CEL						882	2	12.9	1160
SURIRELLA OVATA ?	CEL								3.5	310
SYNECRA	CEL			X						
SYNECRA ULNA	CEL	2	12.0	84				X		
TRACHELOMONAS PULCHELLA ?	CEL				5	1.6	79			
TRACHELOMONAS URCEOLATA ?	CEL							X		
TOTAL					702			4853		8980

LAKE NAME: COFFEEN LAKE
STORET NUMBER: 1711

NYGAARD TROPHIC STATE INDICES

	DATE	05 07 73	08 10 73	10 18 73
MYXOPHYCEAN	01/0 E	6.00 E	1.00 E	
CHLOROPHYCEAN	03/0 E	3.00 E	2.33 E	
EUGLENOPHYTE	0/04 ?	0.33 E	0.10 ?	
DIATOM	1.00 E	0.50 E	0.67 E	
COMPOUND	07/0 E	15.0 E	4.33 E	

PALMER'S ORGANIC POLLUTION INDICES

	DATE	05 07 73	08 10 73	10 18 73
GENUS		16	13	11
SPECIES		00	06	05

SPECIES DIVERSITY AND ABUNDANCE INDICES

	DATE	05 07 73	08 10 73	10 18 73
AVERAGE DIVERSITY	H	1.14	1.68	2.97
NUMBER OF TAXA	S	14.00	25.00	20.00
NUMBER OF SAMPLES COMPOSITED	M	3.00	3.00	3.00
MAXIMUM DIVERSITY	MAXH	3.81	4.64	4.32
TOTAL DIVERSITY	D	10865.34	7445.76	2215.62
TOTAL NUMBER OF INDIVIDUALS/ML	N	9531.00	4432.00	746.00
EVENNESS COMPONENT	J	0.30	0.36	0.69
MEAN NUMBER OF INDIVIDUALS/TAXA	L	680.79	177.29	37.30
NUMBER/ML OF MOST ABUNDANT TAXON	K	7837.00	2825.00	204.00

LAKE NAME: COFFEEN LAKE
STORET NUMBER: 1711

CONTINUED

TAXA	FORM	05 07 73			08 10 73			10 18 73		
		S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML
ANABAENA	FIL					0.4	18		3.6	27
ANKISTRODES MUS FALCATUS	CEL							2	15.4	115
CENTRIC DIATOMS	CEL	4	3.0	282						
CHLAMYDOMONAS	CEL		0.7	71						
CHLOROPHYTAN LUNATE CELL	CEL	5	2.6	247						
CLUSTERIUM	CEL							2.4		18
COCCONEIS	CEL			X			X			
COESMARIUM #1	CEL									X
COESMARIUM #2	CEL					0.4	18			X
CRUCIGENIA TETRAPEDIA	COL								1.2	9
CRYPTOMNAS	CEL		0.4	35		0.8	35		1.2	9
CYCLOTELLA MENEGHINIANA	CEL					1.2	53	1	27.3	204
CYCLOTELLA STELLIGERA	CEL			X						
CYMBELLA	CEL						X			
DACTYLOCOPCOPSIS	CEL					4	4.0	177		
EUGLENA	CEL						X			
EUGLENA GRACILIS	CEL								2.4	18
FLAGELLATE #1	CEL	3	6.7	635						
FRAGILARIA CAPUCINA	CEL		0.4	35						
GLENCDINIUM EDAX	CEL						X			
LEPOCINCLIS ACUTA	CEL						X			
LYNGBYA LIMNETICA	FIL							5	10.7	80
MELOSIRA #4	CEL						X			
MELOSIRA DISTANS ?	CEL									X
MELOSIRA GRANULATA										
V. ANGUSTISSIMA F. SPIRALIS	CEL					0.8	35			
MERISMOPEDIA TENUISSIMA	COL						X			
NAVICULA	CEL						X			
NITZSCHIA	CEL	1	82.2	7837				4	16.6	124
NITZSCHIA #1	CEL							5.9		44
NITZSCHIA #2	CEL						X			
NITZSCHIA #3	CEL				2	20.3	900			

LAKE NAME: COFFEEN LAKE
STORET NUMBER: 1711

CONTINUED

TAXA

NITZSCHIA TRYBLIONELLA ?
CSCILLATORIA
OSCILLATORIA LIMNETICA
PEDIASTRUM DUPLEX
PEDIASTRUM SIMPLEX
PEDIASTRUM SIMPLEX
V. DUODENARIUM
PERIDINIUM INCONSPICUUM
PINNULARIA
RAPHIDIOPSIS CURVATA
SCENEDESMUS ABUNDANS
SCENEDESMUS DIMORPHUS
SCENEDESMUS INTERMEDIUS
SCENEDESMUS INTERMEDIUS
V. BICAUCATUS
SCENEDESMUS QUADRICAUDA
SCENEDESMUS SPP.
STEPHANODISCUS ASTRaea
TETRAEDRON MINIMUM
TETRASTRUM STAURGENIAEFCRME
TRACHELMONAS PULCHELLA

24

TOTAL

05 07 73 08 10 73 10 18 73

FORM	ALGAL UNITS PER ML			ALGAL UNITS PER ML			ALGAL UNITS PER ML		
	S	%C		S	%C		S	%C	
CEL						X			
FIL	2	1.9	177	1	63.7	2825	3	11.9	89
FIL						X			
COL						X			
COL									X
COL						X			
CEL						X			
FIL				3	6.8	300			
COL									X
COL									X
COL								1.2	9
COL			X						
COL				5	1.6	71			
COL	0.7	71							
CEL			X						
CEL									X
COL	1.5	141				X			
CEL									

9531

4432

746

LAKE NAME: CRAB ORCHARD LAKE
STCRET NUMBER: 1712

NYGAARD TROPHIC STATE INDICES

DATE 05 08 73 08 08 73 10 19 73

MYXOPHYCEAN	07/0 E	4.50 E	4.00 E
CHLOROPHYCEAN	06/0 E	5.50 E	4.50 E
EUGLENOPHYTE	0.08 ?	0.15 ?	0.29 E
DIATOM	0.67 E	1.67 E	0.83 E
COMPOUND	18/0 E	14.0 E	13.5 E

PALMER'S ORGANIC POLLUTION INDICES

DATE 05 08 73 08 08 73 10 19 73

GENUS	21	21	23
SPECIES	09	09	06

SPECIES DIVERSITY AND ABUNCANCE INDICES

DATE 05 08 73 08 08 73 10 19 73

AVERAGE DIVERSITY	H	2.70	3.41	2.67
NUMBER OF TAXA	S	29.00	40.00	39.00
NUMBER OF SAMPLES COMPOSITED	M	3.00	3.00	3.00
MAXIMUM DIVERSITY	MAXH	4.86	5.32	5.29
TOTAL DIVERSITY	D	72422.10	375993.42	185420.82
TOTAL NUMBER OF INDIVIDUALS/ML	N	26823.00	110262.00	69446.00
EVENNESS COMPONENT	J	0.56	0.64	0.50
MEAN NUMBER OF INDIVIDUALS/TAXA	L	924.93	2756.55	1780.67
NUMBER/ML OF MOST ABUNDANT TAXON	K	12226.00	30614.00	33481.00

LAKE NAME: CRAB ORCHARD LAKE
STORET NUMBER: 1712

CONTINUED

92

TAXA	FORM	05 08 73			08 08 73			10 19 73				
		I	S	%C	ALGAL UNITS PER ML	I	S	%C	ALGAL UNITS PER ML	I	S	%C
ACTINASTRUM GRACILIMUM	CEL				X							
ANABAENA	FIL		0.4		97		1.2		1316		0.5	
ANKISTRODESmus FALCATUS	CEL		0.7		194		1.4		1491			X
APIANIZCMENON FLOS-AQUAE	FIL						0.1		88			X
ARTHRODESmus	CEL											
ASTERICNELLA FORMOSA	CEL				X							
CHRYSOPHYTAN COCCOID CELL	CEL	4	9.2		2474							
CHRYSOPHYTAN FLAGELLATE	CEL											
CICSTERIUM	CEL											
COCCOID CELL	CEL											
COCCOID COLONIES	COL											
COSMARIAH	CEL											
CRYPTOMONAS	CEL		2.5		679							
CRYPTOMONAS ?	CEL						0.3		351			
CRYPTOMONAS EROSA	CEL											
CRYPTOMONAS OVATA	CEL											
CYCLOTELLA	CEL											
CYCLOTELLA MENEGHINIANA	CEL	1	45.6		12226	4	6.6		7281		3.8	
DACTYLOCOCOPSIS	CEL	5	2.9		776	2	19.9		21930			
DACTYLOCOCOPSIS IRREGULARIS	CEL											
DICTYOSPHAERIUM EHRENBURGIANUM	COL											
EUGLENA	CEL											
EUGLENA #1	CEL		0.4		97		0.2		175			
EUGLENA #2	CEL											X
EUGLENA #3	CEL											X
EUGLENA GRACILIS ?	CEL											
EUGLENA SPP.	CEL											
FLAGELLATE	CEL											
FLAGELLATE #1	CEL		2.9		776		0.2		175		0.7	
GLENODINIUM EDAX	CEL										1.6	
LYNGBYA LIMNETICA	FIL						3.4		3772			
MELOSIRA #4	CEL	2	14.1		3778							X

LAKE NAME: CRAB ORCHARD LAKE
STCRET NUMBER: 1712

CONTINUED

TAXA

MELOSIRA DISTANS
MELOSIRA DISTANS ?
MELOSIRA GRANULATA
MELOSIRA GRANULATA
V. ANGUSTISSIMA F. SPIRALIS
MERISMOPEDIA GLAUCA
MERISMOPEDIA TENUISSIMA
MICROCYSTIS INCERTA
NAVICULA #1
NAVICULA #2
NAVICULA #3
NITZSCHIA
NITZSCHIA ?
NITZSCHIA ACICULARIS
NITZSCHIA HOLSATICA
NITZSCHIA HOLSATICA ?
OSCILLATORIA
OSCILLATORIA #1
OSCILLATORIA LIMNETICA
PEDIASTRUM DUPLEX
PEDIASTRUM TETRAS
V. TETRAODON
PENNATE DIATOM
PENNATE DIATOMS
RAPHIDIOPSIS CURVATA
SCENEDESMUS ACUTUS
SCENEDESMUS BERNARDII
SCENEDESMUS BICAUDATUS
SCENEDESMUS BIJUGA
SCENEDESMUS DIMORPHUS
SCENEDESMUS ECORNIS
V. DISCIFORMIS

05 08 73 08 08 73 10 19 73

FORM	ALGAL UNITS			ALGAL UNITS			ALGAL UNITS		
	S	%C	PER ML	S	%C	PER ML	S	%C	PER ML
CEL	3	12.8	3445		0.2	175		2.4	1656
CEL		1.3	340		2.9	3158		1.7	1196
CEL					1.0	1140			X
COL									X
COL		0.4	57	X	1.9	2105		2.4	1656
COL					4.1	4561		5.8	4047
CEL							X		X
CEL								0.3	184
CEL									X
CEL									X
CEL								1.3	920
FIL		0.5	146						
FIL				11	27.8	30614	X	10.6	7358
FIL									X
COL									
COL					0.1	88			
CEL		1.1	291						
CEL				5	6.6	7281		6.0	4139
FIL					3.8	4211		1.3	920
COL									X
COL					0.4	439			
COL		0.4	97				X		X
COL							X		
COL		0.2	49		0.2	175			X
COL							X		

LAKE NAME: CRAB ORCHARD LAKE
STORET NUMBER: 1712

CONTINUED

TAXA

SCENEDESMUS INTERMEDIUS
SCENEDESMUS QUADRICAUDA
SCHROEDERIA SETIGERA
SYNEDRA #1
TETRAEDRON MINIMUM
TETRASTRUM HETERACANTHUM ?
TRACHELMONAS
TRACHELMONAS PULCHELLA
TRACHELMONAS URCEOLATA ?
TRACHELMONAS VELVCCINA

05 08 73 08 08 73 10 19 73

FORM	ALGAL UNITS PER ML			ALGAL UNITS PER ML			ALGAL UNITS PER ML		
	S	%C		S	%C		S	%C	
COL				0.8		877			X
COL		1.8	485		0.4	439		0.3	184
CEL						X		0.4	276
CEL		1.4	388		2.3	2544			
CEL						X			
COL		1.4	388						
CEL									
CEL									X
CEL						X			X
CEL									X
TOTAL			26823			110262			69446

LAKE NAME: LAKE DECATUR
STORET NUMBER: 1714

NYGAARD TROPHIC STATE INDICES

DATE 05 08 73 08 09 73 10 18 73

MYXOPHYCEAN	02/0 E	5.00 E	4.00 E
CHLOROPHYCEAN	01/0 E	14.0 E	10.0 E
EUGLENOPHYTE	0.33 E	0.21 E	0.29 E
DIATOM	0.67 E	2.00 E	1.00 E
COMPOUND	08/0 E	31.0 E	25.0 E

PALMER'S ORGANIC POLLUTION INDICES

DATE 05 08 73 08 09 73 10 18 73

GENUS	13	21	19
SPECIES	00	03	01

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE 05 08 73 08 09 73 10 18 73

AVERAGE DIVERSITY	H	3.28	3.64	3.32
NUMBER OF TAXA	S	19.00	44.00	36.00
NUMBER OF SAMPLES COMPOSITED	M	3.00	3.00	3.00
MAXIMUM DIVERSITY	MAXH	4.25	5.46	5.17
TOTAL DIVERSITY	D	3673.60	18458.44	21513.60
TOTAL NUMBER OF INDIVIDUALS/ML	N	1120.00	5071.00	6480.00
EVENNESS COMPONENT	J	0.77	0.67	0.64
MEAN NUMBER OF INDIVIDUALS/TAXA	L	58.95	115.25	180.00
NUMBER/ML OF MOST ABUNDANT TAXON	K	256.00	1166.00	1855.00

LAKE NAME: LAKE DECATUR
STORET NUMBER: 1714

CONTINUED

TAXA	FORM	05 08 73		08 09 73		10 18 73			
		S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML	S	%C
ACTINASTRUM	CEL			0.5	27		0.6	38	
ANKISTRODESmus FALCATUS	CEL			2.7	136				
CENTRIC DIATOMS	CEL			23.0	1166	2	14.0	909	
CHILOMONAS PARAMECIUM	CEL				X				
CHLAMYDOMONAS	CEL	5.7	64						
CHLOROPHYTAN LUNATE CELL	CEL	2.9	32						
CHROOCCCCUS	CEL				X				
CLCSTERIUM	CEL				X		0.6	38	
COELASTRUM CAMBRICUM	COL								X
V. INTERMEDIUM	COL								
COELASTRUM RETICULATUM	COL								
COELASTRUM SPHAERICUM	COL			2.1	109				
CRUCIGENIA QUADRATA	COL			0.5	27				
CRUCIGENIA TETRAPEDIA	COL						1.8	114	
CRYPTOMONAS	CEL	2	14.3	160			1.8	114	
CYANOPHYTAN FILAMENT	FIL	2.9	32						
CYCLOTELLA	CEL	4	14.3	160					
CYCLOTELLA MENEGHINIANA	CEL			X					X
CYCLOTELLA STELLIGERA	CEL				X				X
DACTYLCCCCOPSIS	CEL	5.7	64						
EUGLENA	CEL	5	2.9	32					
EUGLENA #1	CEL				1.1	54			
EUGLENA #2	CEL				4.3	217			
EUGLENA GRACILIS ?	CEL						1.8	118	
FLAGELLATE #1	CEL		2.9	32	2	17.1	868		
FLAGELLATE #9	CEL					X			
FLAGELLATES	CEL								
FRAGILARIA	CEL						6.4	416	
GLENODINIUM EDAX	CEL			1.6	81				
GOLENKINIA	CEL			1.1	54				
KIRCHNERIELLA	CEL			1.1	54				
LAGERHEIMIA	CEL				X				

LAKE NAME: LAKE CECATUR
STCET NUMBER: 1714

CONTINUED

TAXA	FORM	05 08 73			08 09 73			10 18 73		
		S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML
MELOSIRA #4	CEL	1	22.9	256	5	5.3	271	4	6.4	416
MELOSIRA DISTANS	CEL				4	2.1	109	5	5.8	379
MELOSIRA GRANULATA	CEL				4	5.9	298			
MELOSIRA GRANULATA	CEL									
V. ANGUSTISSIMA	CEL									X
MELOSIRA GRANULATA	CEL									
V. ANGUSTISSIMA F. SPIRALIS	CEL						X			
MERISMOPEDIA	COL				2.7		136	3	11.1	719
MICRACTINIUM	COL						X			
MICRCCYSTIS INCERTA	COL				1.6		81			
NAVICULA #1	CEL							1.2		76
NAVICULA #2	CEL									X
NITZSCHIA #1	CEL									X
NITZSCHIA #2	CEL									X
NITZSCHIA #3	CEL									X
NITZSCHIA ACICULARIS	CEL						X			
NITZSCHIA ACTINASTROIDES	CEL									
NITZSCHIA PALEA	CEL									
NITZSCHIA SPP.	CEL									
OSCILLATORIA	FIL									
PECIASTRUM DUPLEX	COL									
V. ?	CEL									
PHACUS	CEL									
PHACUS #1	CEL									
PHACUS LONGICAUDA	CEL									
PTEROMONAS	CEL									
RAPHIDIOPSIS CURVATA	FIL									
RHOICOSPHENIA	CEL									
SCENEDESMUS ARMATUS ?	COL									
SCENEDESMUS BIJUGA	COL									
V. ALTERNANS	COL									
SCENEDESMUS DIMORPHUS	COL	3	14.3	160				0.6		38

LAKE NAME: LAKE CECATUR
STORET NUMBER: 1714

CONTINUED

TAXA	FORM	05 08 73			08 09 73			10 18 73		
		S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML
SCENEDESmus INTERMEDius	COL							0.6		38
SCENEDESmus PROTUBERANS	COL						X			
SCENEDESmus QUADRICauda	COL									
SCENEDESmus spp.	COL			1.6			81			
SCHREDERIA	CEL									
SCHROEDERIA SETIGERA	CEL				0.5		27		1.2	76
SPERMATOZOOPSIS	CEL				1.6		81			
STEPHANODISCUS	CEL						X			
SURIRELLA	CEL									
SYNEDRA #1	CEL	2.9		32						
SYNEDRA #2	CEL			X						
TABELLARIA FENESTRATA	CEL						X			
TETRAEDRCN MINIMUM	CEL									
TETRASTRUM STAUREGENIAEFORME	COL							0.6		38
TRACHELCHONAS	CEL							0.6		38
TOTAL				1120			5071			5480

LAKE NAME: LONG LAKE
STCRET NUMBER: 1725

NYGAARD TROPHIC STATE INDICES

DATE	05 09 73	08 07 73	10 16 73
MYXOPHYCEAN	1.00 E	2.00 E	3.00 E
CHLOROPHYCEAN	1.50 E	1.00 E	4.67 E
EUGLENOPHYTE	0.40 E	0.11 ?	0.22 E
DIATOM	0.75 E	02/0 E	0.67 E
COMPOUND	5.00 E	4.00 E	10.0 E

PALMER'S ORGANIC POLLUTION INDICES

DATE	05 09 73	08 07 73	10 16 73
GENUS	01	01	01
SPECIES	00	00	00

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE	05 09 73	08 07 73	10 16 73
AVERAGE DIVERSITY	H 1.45	2.31	2.96
NUMBER OF TAXA	S 17.00	19.00	43.00
NUMBER OF SAMPLES COMPOSITED	M 2.00	2.00	2.00
MAXIMUM DIVERSITY	MAXH 4.09	4.25	5.43
TOTAL DIVERSITY	D 2608.55	6038.34	7846.96
TOTAL NUMBER OF INDIVIDUALS/ML	N 1799.00	2614.00	2651.00
EVENNESS COMPONENT	J 0.35	0.54	0.55
MEAN NUMBER OF INDIVIDUALS/TAXA	L 105.82	137.58	61.65
NUMBER/ML OF MOST ABUNDANT TAXON	K 1091.00	1205.00	1355.00

Lake Name: LONG LAKE
Storage Number: 1725

CONTINUED

TAXA
ANABAENA
APHANIZCMENON FLCS-AQUAE
ASTERICHELLA FORMOSA
CERATIUM HIRUNDINELLA
CHROOCOCCUS
CHRYSOPHYTAN FLAGELLATE
CLOSTERIOPSIS
CLOSTERIUM
CLOSTERIUM #1
CLOSTERIUM #2
CLOSTERIUM MACILENTUM ?
COCCONEIS ?
COELASTRUM MICROPORUM
CGSMARIUM
CRYPTOMONAS
CRYPTOMONAS EROSA
CYANOPHYTAN FILAMENT
CYMBELLA
DICTYOSPHAERIUM
DINOBRYCN
ELAKATOTHRIX ?
EUGLENA
EUGLENA #1
EUGLENA #2
EUGLENA CYXURIS
v. MINOR
FLAGELLATE #1
FLAGELLATES
FRAGILARIA #1
FRAGILARIA CROTENENSIS
GOMPHOSPHAERIA
MALLOMONAS

LAKE NAME: LONG LAKE
STORET NUMBER: 1725

CONTINUED

TAXA	FORM	05 09 73		08 07 73		10 16 73				
		S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML
MELOSIRA GRANULATA	CEL			X		1.3	34		1.8	48
MELOSIRA SPP.	CEL	3	13.1	236					2.7	71
MERISMOPEDIA TENUISSIMA	COL				1	45.1	1205		1.9	51
MICROCYSTIS AERUGINOSA	COL								1.3	35
MICROCYSTIS INCERTA	CEL						X		0.7	18
NAVICULA	CEL								0.6	16
OCYCTIS	FIL			X						X
OSCILLATORIA	COL			X						
PEDIASTRUM BORYANUM	COL						X		0.6	17
PEDIASTRUM DUPLEX	COL									
V. RETICULATUM	COL			X						
PEDIASTRUM SIMPLEX	COL	4	1.0	18						
V. DUODENARIUM	CEL									X
PHACUS LONGICAUDA	CEL									X
PHORMIDIUM MUCICOLA	COL					1.3	34			X
SCENEDESMUS BICAUDATUS	COL									X
SCENEDESMUS PERFORATUS	COL									X
SCENEDESMUS PROTUBERANS	COL									X
SCENEDESMUS QUADRICAUDA	COL								0.7	18
SCHROEDERIA	CEL									X
SCHROEDERIA SETIGERA	CEL					3.3	86		0.9	25
SCHROEDERIA SETIGERA ?	CEL								0.7	18
STAUSTRUM	CEL			X						
STEPHANODISCUS ASTREA	CEL	1	60.6	1091	3	13.2	344			
STEPHANODISCUS NIAGARAE	CEL							1	51.1	1355
SYNEDRA	CEL	5	1.0	18						
TRACHELMONAS PULCHELLA	CEL									X
TRACHELMONAS SPP.	CEL								2.3	61
TOTAL					1799		2614		2651	

LAKE NAME: LAKE LOU YAEGER
STORET NUMBER: 1726

NYGAARD TROPHIC STATE INDICES

DATE	05	12	73	08	10	73	10	18	73
MYXOPHYCEAN	0/0	0		02/0	E		02/0	E	
CHLOROPHYCEAN	0/0	0		02/0	E		03/0	E	
EUGLENOPHYTE	01/0	E		1.00	E		0.60	E	
DIATOM	0.50	E		1.00	E		1.20	E	
COMPOUND	04/0	E		12/0	E		14/0	E	

PALMER'S ORGANIC POLLUTION INDICES

DATE	05	12	73	08	10	73	10	18	73
GENUS		00			00			02	
SPECIES		00			00			02	

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE	05	12	73	08	10	73	10	18	73
AVERAGE DIVERSITY	H	2.33		2.22		2.51			
NUMBER OF TAXA	S	13.00		17.00		20.00			
NUMBER OF SAMPLES COMPOSITED	M	4.00		4.00		4.00			
MAXIMUM DIVERSITY	MAXH	3.70		4.09		4.32			
TOTAL DIVERSITY	D	233.00		592.74		2986.90			
TOTAL NUMBER OF INDIVIDUALS/ML	N	100.00		267.00		1190.00			
EVENNESS COMPONENT	J	0.63		0.54		0.58			
MEAN NUMBER OF INDIVIDUALS/TAXA	L	7.69		15.71		59.50			
NUMBER/ML OF MOST ABUNDANT TAXON	K	20.00		94.00		510.00			

LAKE NAME: LAKE LOU YAEGER
STORET NUMBER: 1726

CONTINUED

TAXA	FORM	05 12 73			08 10 73			10 18 73		
		S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML
ANABAENA	FIL						X			X
COCCONEIS ?	CEL									X
COELASTRUM MICROPORUM	COL							1.1		13
COELASTRUM SPHAERICUM ?	COL						X			
CRYPTOMONAS	CEL	1	20.0	20						
CYCLOTELLA MENEGHINIANA	CEL				1	17.6	47	2	16.5	196
EUGLENA #1	CEL			X						
EUGLENA #2	CEL						X			
EUGLENA #3	CEL							1.1		13
FLAGELLATE	CEL	5	20.0	20						
FLAGELLATE #1	CEL			X						
FLAGELLATES	CEL						6.0	16		105
HANTZSCHIA	CEL						X			
LEPOCINCLIS	CEL									X
MELOSIRA #2	CEL							5	3.3	39
MELOSIRA #4	CEL						X	14	4.4	52
MELOSIRA DISTANS	CEL			X	5	6.0	16	X	8.8	105
MELOSIRA GRANULATA	CEL							11	8.8	510
HERISMOPEDIA TENUISSIMA	COL			X				X		
NAVICULA #1	CEL			X						X
NAVICULA #2	CEL			X						
NAVICULA #3	CEL									X
NITZSCHIA	CEL	3	20.0	20						
NITZSCHIA TRYBLIONELLA ?	CEL									X
OSCILLATORIA	FIL									X
PENNATE DIATOM	CEL									X
PENNATE DIATOMS	CEL	4	20.0	20	3	29.2	78	X		
PHACUS PYRUM	CEL									
SCENEDESMUS DIMORPHUS	COL						X			X
SCENEDESMUS PROTUBERANS	COL									
SCHREDERIA SETICERA	CEL				2	35.2	94	1.1		13
STEPHANODISCUS	CEL							3	12.1	144

LAKE NAME: LAKE LOU YAEGER
STORET NUMBER: 1726

CONTINUED

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TAXA

STEPHANODISCUS ASTRAEA
V. MINUTULA
SYNEDRA #1
SYNEDRA #2
TRACHELOMONAS #1
TRACHELOMONAS #2

TOTAL

FORM	05 12 73			08 10 73			10 18 73		
	S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML
CEL			X						
CEL	2	20.0	20				X		
CEL			X				X		
CEL				4	6.0	16			
CEL	1					X			
			100			267			1190

LAKE NAME: LAKE MARIE
STORET NUMBER: 1727

NYGAARD TROPHIC STATE INDICES

	DATE	05 09 73	08 07 73	10 16 73
MYXOPHYCEAN		04/0 E	2.00 E	2.00 E
CHLOROPHYCEAN		11/0 E	2.00 E	3.67 E
EUGLENOPHYTE		0.13 ?	0/12 ?	0.24 E
DIATOM		0.31 E	1.00 E	1.67 E
COMPOUND		22/0 E	4.67 E	8.67 E

PALMER'S ORGANIC POLLUTION INDICES

	DATE	05 09 73	08 07 73	10 16 73
GENUS		10	07	02
SPECIES		00	00	00

SPECIES DIVERSITY AND ABUNDANCE INDICES

	DATE	05 09 73	08 07 73	10 16 73
AVERAGE DIVERSITY	H	2.91	2.28	1.66
NUMBER OF TAXA	S	47.00	21.00	37.00
NUMBER OF SAMPLES COMPOSITED	M	2.00	2.00	2.00
MAXIMUM DIVERSITY	MAXH	5.55	4.39	5.21
TOTAL DIVERSITY	D	15952.62	11429.64	9722.62
TOTAL NUMBER OF INDIVIDUALS/ML	N	5482.00	5013.00	5857.00
EVENNESS COMPONENT	J	0.52	0.52	0.32
MEAN NUMBER OF INDIVIDUALS/TAXA	L	116.64	238.71	158.30
NUMBER/ML OF MOST ABUNDANT TAXON	K	2233.00	2015.00	4294.00

LAKE NAME: LAKE MARIE
STCRET NUMBER: 1727

CONTINUED

TAXA	FORM	05 09 73			08 07 73			10 16 73		
		S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML
AMPHIPRORA ORNATA	CEL			X						
ANABAENA	FIL				4	7.4	371			X
ANKI STRODES MUS	CEL	0.3		14						
APHANIZMENON FLOS-AQUAE	FIL	216.7		918	2	40.2	2015	1	73.3	4294
ASTERICNELLA FORMOSA	CEL	140.7		2233						
ASTERICNELLA FORMOSA V. GRACILLIMA	CEL					0.5	27			
BOTRYOCCCCLS BRAUNII	COL						X			
CERATIUM HIRUNDINELLA	CEL			X		0.51	27	5	1.8	106
CHLOROPHYTAN COLONY	COL									X
CHROOCOCCUS LIMNETICUS	COL						X			
CLOSTERIUM	CEL								0.5	30
COCCONEIS	CEL						X		0.3	15
COCCONEIS PLACENTULA V. ?	CEL			X						
COELASTRUM RETICULATUM	COL									X
COELOSPHAERIUM	COL								0.8	46
COELOSPHAERIUM NAEGELIANUM	COL					1.1		53		
CCSMARIUM	CEL								0.3	15
CRYPTOMONAS	CEL						X		29.9	577
CRYPTOMONAS #1	CEL									
CRYPTOMONAS EROSA	CEL	7.5		00411						
CYCLOTELLA MENEGHINTIANA	CEL	0.5		27					0.8	46
CYMATOPLEURA SOLEA	CEL			X						
CYMBELLA	CEL			X						
CYMBELLA TURGIDA	CEL			X						
DIATOMA TENUE	CEL			X						
V. ELCNGATUM	CEL	1.3		69						
DICTYOSPHAERIUM PULCHELLUM	COL			X		0.5		27		
DINOBRYCN	CEL	411.3		617						X
DINOBRYON BAVARICUM	CEL	0.7		41						
DINOBRYCN DIVERGENS	CEL			X						

LAKE NAME: LAKE MARIE
STORE NUMBER: 1727

CONTINUED

TAXA		05 09 73			08 07 73			10 16 73		
	FORM	S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML
EUGLENA	CEL			X						X
FLAGELLATE	CEL		2.0	110						
FLAGELLATE #1	CEL		4.0	219						
FLAGELLATE #2	CEL									X
FLAGELLATES	CEL					4.8	239		1.6	91
FRAGILARIA	CEL									X
FRAGILARIA CROTCNENSIS	CEL					X				
FRAGILARIA LEPTOSTAURON	CEL					X				
GCMPHONEMA	CEL									
LEPOCINCLIS	CEL									
LEPOCINCLIS ACUTA ?	CEL								0.5	30
MELOSIRA	CEL									X
MELOSIRA #2	CEL									
MELOSIRA GRANULATA	CEL									
MELOSIRA GRANULATA v. ANGUSTISSIMA	CEL									X
MELOSIRA ITALICA	CEL	3	5.5	301						
MICROCYSTIS AERUGINOSA	COL		0.3	14	5	2.1	106	3	2.6	152
NAVICULA	CEL					X				
NITZSCHIA	CEL		0.3	14						
OOCYSTIS	CEL		1.5	82						
OOCYSTIS PARVA	CEL					2.1	106		2.6	152
OPEPHORA	CEL									X
OSCILLATORIA	FIL		1.0	55						
OSCILLATORIA #1	FIL				1	33.3	1670			
OSCILLATORIA #2	FIL									X
PANDORINA MORUM	COL					X				
PEDIASTRUM BORYANUM	COL					X				
PEDIASTRUM DUPLEX	COL					X				
PEDIASTRUM DUPLEX v. CLATHRATUM	COL									X
PEDIASTRUM SIMPLEX	COL		0.3	14						X

LAKE NAME: LAKE MARIE
STORET NUMBER: 1727

CONTINUED

TAXA	FORM	05 09 73			08 07 73			10 16 73		
		S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML
PEDIASTRUM SIMPLEX	COL									X
V. DUODENARIUM	COL		0.3	14						
PEDIASTRUM TETRAS	CEL		0.3	14						
PENNATE DIATOM	CEL			X						X
PHACUS HELIKOIDES	CEL			X						
PHACUS LONGICAUDA	CEL			X						X
PHORMIDIUM MUCICOLA	COL			X						
PINNULARIA	CEL			X						X
PINNULARIA NOBILIS	CEL			X						
QUADRIGULA LACUSTRIS ?	COL			X						
SCENEDESMUS ACUTUS	COL									
V. ALTERNANS	COL		0.3	14						
SCENEDESMUS BICAUDATUS	COL									
SCENEDESMUS DIMORPHUS	COL									
SCENEDESMUS QUADRICAUDA	COL		0.7	41						
SPHAEROCYSTIS ?	COL									
SPHAEROCYSTIS SCHROETERI	CEL									
STAURASTRUM	CEL									
STEPHANODISCUS ASTRAEA	CEL		2.2	123						
STEPHANODISCUS ASTRAEA	CEL									
V. MINUTULA	CEL		2.5	137		0.5	27			
SURIRELLA	CEL			X						
SYNEDRA	CEL			X						
TETRASTRUM STAURGENIAEFORME	COL			X						X
TOTAL				54.82			5013			5857

LAKE NAME: PISTAKEE LAKE
STORET NUMBER: 1733

NYGAARD TROPHIC STATE INDICES

	DATE	05 09 73	08 07 73	10 16 73
MYXOPHYCEAN		3.00 E	2.00 E	2.25 E
CHLOROPHYCEAN		6.50 E	6.00 E	2.75 E
EUGLENOPHYTE		0.26 E	0.17 ?	0.25 E
DIATOM		0.50 E	0.50 E	0.57 E
COMPOUND		15.0 E	10.3 E	7.25 E

PALMER'S ORGANIC POLLUTION INDICES

	DATE	05 09 73	08 07 73	10 16 73
GENUS		20	06	07
SPECIES		07	00	00

SPECIES DIVERSITY AND ABUNDANCE INDICES

	DATE	05 09 73	08 07 73	10 16 73
AVERAGE DIVERSITY	H	4.16	2.75	2.18
NUMBER OF TAXA	S	52.00	46.00	46.00
NUMBER OF SAMPLES COMPOSITED	M	2.00	2.00	2.00
MAXIMUM DIVERSITY	MAXH	5.70	5.52	5.52
TOTAL DIVERSITY	D	31054.40	24695.00	18874.44
TOTAL NUMBER OF INDIVIDUALS/ML	N	7465.00	8980.00	8658.00
EVENNESS COMPONENT	J	0.73	0.50	0.39
MEAN NUMBER OF INDIVIDUALS/TAXA	L	143.56	195.22	188.22
NUMBER/ML OF MOST ABUNDANT TAXON	K	1275.00	3769.00	5618.00

LAKE NAME: PISTAKEE LAKE
STORET NUMBER: 1733

CONTINUED

TAXA	FORM	05 09 73			08 07 73			10 16 73		
		S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML
ACTINASTRUM	CEL		0.5	41			X			
AMPHIPRORA CRNATA	CEL			X						X
ANABAENA	FIL				5	5.2	471			
ANABAENA SPIROIDES	FIL									
ANKISTRODESMUS	CEL		0.3	21						
ANKISTRODESMUS FALCATUS	CEL			X						
APHANIZOMENON FLOS-AQUAE	FIL		1.1	82	11	42.0	3769	12	11.5	995
ASTERICNELLA FORMOSA	CEL	2	9.9	740						
ATTHEYA	CEL									X
CHLAMYDOMONAS	CEL									X
CHLORELLA ?	CEL		0.3	21						
CHLOROPHYTAN COCCOID CELL	CEL									
CHROOCCCUS	COL									
CHRYSOPHYTAN FLAGELLATE	CEL		2.8	206						
CLOSTERIUM	CEL									
COCCONEIS	CEL			X						
COELASTRUM CAMBRICUM	COL									
V. INTERMEDIUM	COL									
COELASTRUM MICROPORUM	COL									
COELASTRUM RETICULATUM	CCL									
COELASTRUM SPP.	COL									
COSCINODISCUS LACUSTRIS	CEL			X						
COSMARIA	CEL		0.8	62						
CRUCIGENIA QUADRATA	COL		1.1	82			X			
CRUCIGENIA RECTANGULARIS	COL									
CRUCIGENIA TETRAPEDIA	COL									
CRYPTOMONAS	CEL	5	8.8	658						
CRYPTOMONAS EROSA	CEL			X						
CYANOPHYTAN COCCOID CELLED COLONY	COL		0.5	41						
CYCLOTELLA	CEL	1	17.1	1275						
CYCLOTELLA MENEGHINIANA	CEL						X			
CYNATOPLEURA	CEL			X						

LAKE NAME: PISTAKEE LAKE
STORET NUMBER: 1733

CONTINUED

TAXA		05 09 73			08 07 73			10 16 73		
	FORM	IS	%C	ALGAL UNITS PER ML	IS	%C	ALGAL UNITS PER ML	IS	%C	ALGAL UNITS PER ML
CYMATOPLEURA OVATA ?	CEL			X						
CYMATOPLEURA SOLEA	CEL									
CYMBELLA	CEL			X						
DICTYOSPHAERIUM PULCELLUM	COL									
DINGBYRON	CEL	4	9.4	699		2.4	220			
EPITHEMIA	CEL									
EPITHEMIA TURGIDA	CEL			X			X			
EUGLENA	CEL		0.5	41						
EUGLENA GRACILIS	CEL						X			
EUGLENA OXYURIS	CEL									
V. MINOR	CEL									
FLAGELLATE #1	CEL		1.9	146		0.3	31			
FLAGELLATE #9	CEL			X			X			
FRAGILARIA CROTONENSIS	CEL			X						
GLENODINIUM	CEL									
GLENODINIUM GYMNOBINUM	CEL									
GLENODINIUM GYMNOBINUM	CEL									
V. BISCUTELLIFCRME	CEL						X			
GOMPHOSPHAERIA	CEL									
KIRCHNERIELLA	CEL		0.5	41						
LEPCCINCLIS	CEL		5.5	411						
LEPCCINCLIS ACUTA	CEL			X						
LYNGBYA	FIL		2.2	164		2.1	188			
MALLCMCNAS	CEL		0.3	21						
MELOSIRA	CEL	3	9.1	678						
MELOSIRA DISTANS	CEL		0.8	62						
MELOSIRA GRANULATA	CEL		1.9	144	2	22.0	1979			
MELOSIRA SPP.	CEL									
MELOSIRA VARIANS	CEL									
MERISMOPEDIA TENUISSIMA	COL						X			
MICROCYSTIS AERUGINOSA	COL									
MICROCYSTIS INCERTA	COL		0.8	62	1	2.8	251	3	3.7	322
					1	2.8	251	1	1.7	146

LAKE NAME: PISTAKEE LAKE
STORET NUMBER: 1733

CONTINUED

LAKE NAME: PISTAKEE LAKE
STCRET NUMBER: 1733

CONTINUED

TAXA	FORM	05 09 73			08 07 73			10 16 73		
		S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML
SCENEDESMUS OPOLIENSIS	COL						X			
SCENEDESMUS PROTUBERANS	COL						X			
SCENEDESMUS QUADRICAUDA	COL	2.2		164		0.3				
SCHROEDERIA SETIGERA	CEL									
SPHAEROCYSTIS SCHRETERI	COL	0.3		21			31		1.7	
STAURASTRUM	CEL			X			X		0.3	
STAURASTRUM LEPTOCLADUM	CEL									
V. CORNUTUM	CEL									
STAURASTRUM PARADOXUM	CEL									
STEPHANODISCUS	CEL	8.3		617		3	11.2		1005	
STEPHANODISCUS NIAGARAE	CEL								0.3	
SURIRELLA	CEL									
SYNECRA	CEL									
SYNEDRA ULNA	CEL	2.8		206						
TETRAEDRON CAUDATUM	CEL			X						
TETRAEDRON MUTICUM	CEL									
TETRASTRUM STAURGENIAEFORME	COL						X			
TRACHELMONAS	CEL						X			
TOTAL				7465			8980		8658	

LAKE NAME: REND LAKE
STORET NUMBER: 1735

NYGAARD TROPHIC STATE INDICES

DATE	05 08 73	08 08 73	10 19 73
MYXOPHYCEAN	1.67 E	8.00 E	5.00 E
CHLOROPHYCEAN	3.00 E	8.00 E	11.0 E
EUGLENOPHYTE	0.21 E	0.44 E	0.25 E
DIATOM	0.75 E	0.75 E	01.0 E
COMPOUND	5.67 E	26.0 E	21.0 E

PALMER'S ORGANIC POLLUTION INDICES

DATE	05 08 73	08 08 73	10 19 73
GENUS	28	28	14
SPECIES	04	00	04

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE	05 08 73	08 08 73	10 19 73
AVERAGE DIVERSITY	H 3.31	3.83	3.43
NUMBER OF TAXA	S 42.00	38.00	29.00
NUMBER OF SAMPLES COMPOSITED	M 4.00	4.00	4.00
MAXIMUM DIVERSITY	MAXH 5.39	5.25	4.86
TOTAL DIVERSITY	D 52059.68	33972.10	29203.02
TOTAL NUMBER OF INDIVIDUALS/ML	N 15728.00	8870.00	8514.00
EVENNESS COMPONENT	J 0.61	0.73	0.71
MEAN NUMBER OF INDIVIDUALS/TAXA	L 374.48	233.42	293.59
NUMBER/ML OF MOST ABUNDANT TAXON	K 6826.00	1428.00	2230.00

LAKE NAME: REND LAKE
STCRET NUMBER: 1735

CONTINUED

TAXA	FORM	05 08 73			08 08 73			10 19 73		
		S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML
APHANIZCMENON FLOS-AQUAE	FIL					0.3	23			
APHANOTHECE	CEL					1.1	94			
CARTERIA	CEL			X	1	16.1	1428		0.9	75
CERATIUM HIRUNDINELLA	CEL								0.4	38
CHLAMYDOMNAS PARAMAECIUM	CEL	2.4		382						
CHLAMYDOMNAS	CEL	1.7		273						X
CHLAMYDOMNAS DINOBRYONII	CEL			X						
CHLAMYDOMNAS GLC8CSA ?	CEL			X						
CHLAMYDOMNAS SNCWII	CEL									
CHLAMYDOMNAS SPP.	CEL				2	12.7	X			
CHLOROCENIUM	CEL					0.8	1124			
CHROOCOCCUS	COL	1.4		218			70		0.4	38
CLUSTERIUM	CEL	1.7		273			X		1.6	132
COELASTRUM MICROPORUM	COL					2.6	234		0.3	26
COELOSPHAERIUM	COL					0.3	23			
COSMARIUM	CEL	0.3		55						
CRUCIGENIA	COL					0.8	70			
CRUCIGENIA IRREGULARIS	COL								2.0	170
CRUCIGENIA TETRAPEDIA	COL								1.3	113
CRYPTOMNAS EROSA	CEL					2.9	258			
CRYPTOMNAS REFLEXA ?	CEL	3	5.9	928						
CYCLOCTELLA	CEL				4	10.6	936			
CYCLOTELLA STELLIGERA	CEL	2	8.7	1365						
DACTYLOCOPPIS	CEL							3	14.6	1247
DICTYOSPHAERIUM	COL		0.3	55						
DINOBYRON	CEL			X						
DINOFLAGELLATE	CEL									X
EUGLENA	CEL		0.3	55					2.7	227
EUGLENA PISCIFORMIS	CEL			X						
EUGLENA SPP.	CEL					2.1	187			
FLAGELLATE	CEL							2	26.2	2230
FLAGELLATE #1	CEL	4	5.9	928	5	8.2	726			

LAKE NAME: REND LAKE
STCRET NUMBER: 1735

CONTINUED

TAXA	FORM	05 08 73			08 08 73			10 19 73		
		S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML
FLAGELLATE #9	CEL		1.4	218						
GLENODINIUM	CEL					0.3	23			
GONIUM ?	COL		0.7	109						
GYMNODINIUM	CEL		2.1	328						
GYMNODINIUM ORDINATUM	CEL			X						
KIRCHNERIELLA	CEL		2.8	437		0.3	23		7.8	661
LYNGBYA	FIL		0.7	109						
PALLCMONAS	CEL		0.3	55						
MELOSIRA	CEL			X						
MELOSIRA DISTANS	CEL					5.5	492			
MELOSIRA GRANULATA	CEL	11	43.4	6826					2.0	170
MERISMOPEDIA TENUISSIMA	COL					1.8	164		5.5	472
MICRACTINIUM	COL		0.7	109						
MICROCYSTIS INCERTA	COL		2.4	382	3	13.7	1217		17.5	1493
NAVICULA	CEL		3.1	492						
NAVICULA SPP.	CEL					6.6	585			
NITZSCHIA PILLIFORMIS	CEL			X						
CCHRCMONAS	CEL			X						
OSCILLATORIA	FIL		1.0	164		5.5	491		0.2	19
PALMELLOID COLONY	COL					1.3	117			
PANDCRINA	COL						X			
PEDIASTRUM DUPLEX	COL									
V. RETICULATUM	COL								0.4	38
PEDIASTRUM OBTUSUM	COL						X			
PEDIASTRUM TETRAS	COL									
PEDIASTRUM TETRAS	COL			X						
V. TETRAODON	COL								0.2	19
PHACUS #1	CEL								1.1	95
PHACUS #2	CEL								4.7	397
PHACUS LONGICAUDA	CEL						X		0.3	26
PHACUS SPP.	CEL					1.3	117			
PTERCMONAS	CEL									X

LAKE NAME: REND LAKE
STORET NUMBER: 1735

CONTINUED

TAXA	FORM	05 08 73			08 08 73			10 19 73		
		S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML
RAPHIDIOPSIS	FIL	5	5.6	874			X			
RAPHIDIOPSIS CURVATA	FIL				1.8		164			
SCENEDESMUS ABUNDANS	COL						X			
SCENEDESMUS ARCUATUS	COL									
V. PLATYDISCA	COL							0.4		38
SCENEDESMUS DIMORPHUS	COL							1.8		151
SCENEDESMUS QUADRICAUDA	COL		2.8	437		1.3	117	5	5.3	450
SCENEDESMUS SPP.	COL									
STAURASTRUM TETRACERUM	CEL			X						
SYNEDRA	CEL				1.3		117			
SYNEDRA ACUS	CEL									
V. RADIANA	CEL			X						
SYNEDRA RUMPENS	CEL			X						
SYNEDRA SPP.	CEL		1.0	164						
SYNEDRA ULNA	CEL						X			
TETRAEDRON GRACILE	CEL									
TETRAEDRON MINIMUM	CEL			X						
TETRAEDRON TRIGONUM	CEL						X			
TETRAEDRON TRIGONUM ?	CEL			X						
TETRASTRUM	COL							2.2		189
TETRASTRUM STAURGENIAEFORME	COL		0.3	55			X			
TRACHELMONAS	CEL		2.8	437	0.5		47			
TRACHELMONAS PULCHELLA ?	CEL						X			
TRACHELMONAS URCECLATA ?	CEL				0.3		23			
TOTAL				15728			8870			8514

LAKE NAME: LAKE SHELBYVILLE
STORET NUMBER: 1739

NYGAARD TROPHIC STATE INDICES

	DATE	05	08	73	08	09	73	10	18	73
MYXOPHYCEAN		01/0	E		5.00	E		3.00	E	
CHLOROPHYCEAN		01/0	E		8.00	E		6.50	E	
EUGLENOPHYTE		1.00	E		0.23	E		0.26	E	
DIATOM		1.00	E		1.00	E		1.20	E	
COMPOUND		13/0	E		21.0	E		15.0	E	

PALMER'S ORGANIC POLLUTION INDICES

	DATE	05	08	73	08	09	73	10	18	73
GENUS					08			07		05
SPECIES					01			02		00

SPECIES DIVERSITY AND ABUNDANCE INDICES

	DATE	05	08	73	08	09	73	10	18	73
AVERAGE DIVERSITY	H		2.57		3.18		3.55			
NUMBER OF TAXA	S		27.00		31.00		42.00			
NUMBER OF SAMPLES COMPOSITED	M		6.00		6.00		6.00			
MAXIMUM DIVERSITY	MAXH		4.75		4.95		5.39			
TOTAL DIVERSITY	D	20973.77		14157.36		5112.00				
TOTAL NUMBER OF INDIVIDUALS/ML	N	8161.00		4452.00		1440.00				
EVENNESS COMPONENT	J	0.54		0.64		0.66				
MEAN NUMBER OF INDIVIDUALS/TAXA	L	302.26		143.61		34.29				
NUMBER/ML OF MOST ABUNDANT TAXON	K	2475.00		963.00		365.00				

LAKE NAME: LAKE SHELBYVILLE
STORET NUMBER: 1739

CONTINUED

TAXA	FORM	05 08 73			08 09 73			10 18 73		
		S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML
ACHNANTHES LANCEOLATA	CEL			X						
ACHNANTHES MICROCEPHALA	CEL				1	21.6	963			X
ANABAENA #1	FIL						X			
ANABAENA #2	FIL									X
ANKISTRODESMUS	CEL									X
APHANIZCMENON ?	FIL				3.1		140			
APHANIZCMENON FLCS-AQUAE	FIL							3	9.8	141
ASTERIONELLA FORMOSA	CEL	1.2		102						
V. GRACILLIMA	CEL	5	30.3	2476						
CENTRIC DIATOM	CEL									
CERATIUM HIRUNDINELLA	CEL									
F. BRACHYCERAS	COL									
CLUSTERIUM #1	COL									
CLOSTERIUM #2	COL									
COLONY	COL			X						
CRUCIGENIA APICULATA	COL									
CRUCIGENIA TETRAPEDIA	COL									
CRYPTOMCNAS	CEL				5	7.2	321			
CYCLOTELLA MENEGHINIANA	CEL					2.2	98			
CYMBELLA	CEL						X			
CYMBELLA VENTRICCSA	CEL			X						
DACTYLOCOPOPSIS	CEL	1.5		119						
DINOFLAGELLATE	CEL									
DINOFLAGELLATE #1	CEL									
DINOFLAGELLATES	CEL									
EUGLENA	CEL									
EUGLENA GRACILIS	CEL	3	3.1	256			X			
EUGLENA OXYURIS	CEL									X
V. MINOR	CEL									
FLAGELLATES	CEL	2	30.1	2459	2	21.0	935			
FRANCEIA DROESCHERI	CEL									X
GLENODINIUM	CEL		0.8	68						

LAKE NAME: LAKE SHELBYVILLE
STORE NUMBER: 1739

CONTINUED

TAXA	FORM	05 08 73			08 09 73			10 18 73		
		S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML
GYMNODINIUM	CEL			X						
LEPOCINCLIS	CEL						X			X
MALLCMCNAS	CEL			X						
MELCSIRA #4	CEL	1.7	137		0.6	28				X
MELOSIRA DISTANS	CEL	8.6	700			X		1	25.3	365
MELOSIRA GRANULATA	CEL	4	2.3	188	0.9	42		4	8.2	118
MELOSIRA GRANULATA V. ANGUSTISSIMA	CEL		0.4	34						
MELOSIRA GRANULATA V. ANGLSTISSIMA F. SPIRALIS	CEL			X						X
MELOSIRA VARIANS	CEL				2.2		98			
MERISMOPEDIA	COL						X			
MERISMOPEDIA TENUISSIMA	COL							3.3		47
MESOSTIGMA VIRIDIS	CEL							1.7		24
MICROCYSTIS INCERTA	COL				0.9		42			
NAVICULA #1	CEL			X						
NAVICULA #2	CEL									X
NITZSCHIA	CEL			X	4	10.3	460			X
NITZSCHIA ?	CEL			X						X
OOCYSTIS PUSILLA	CEL						X			
OSCILLATORIA #1	FIL							0.8		12
PEDIASTRUM SIMPLEX										
V. DUODENARIUM	COL						X			X
PENNATE #1	CEL							0.8		12
PHACUS	CEL							0.8		X
PHACLS ACUMINATUS ?	CEL							0.8		12
SCENEDESMUS #1	CCL									X
SCENEDESMUS #2	COL									X
SCENEDESMUS BICAUDATUS	COL							3.3		47
SCENEDESMUS DENTICULATUS	COL									X
SCENEDESMUS DIMORPHUS	COL	0.2		17			X	1.7		24
SCENEDESMUS INTERMEDIUS	CCL									X

LAKE NAME: LAKE SHELBYVILLE
STCRET NUMBER: 1739

CONTINUED

55

TAXA

SCENEDESMUS INTERMEDIUS
v. BICAUCATUS
 SCENEDESMUS OPOLIENSIS
 SCENEDESMUS PROTUBERANS
 STAURASTRUM
 STEPHANODISCUS
 STEPHANODISCUS ASTRAEA
 STEPHANODISCUS ASTRAEA
v. MINUTULA
 SURIRELLA ANGUSTATA
 SYNEDRA #1
 SYNEDRA #2
 SYNEDRA ACUS
 SYNEDRA DELICATISSIMA
 TETRAEDRON MINIMUM
v. SCROBICULATUM
 TETRASTRUM STAUROGENIAEFORME
 TRACHELOMONAS
 TREUBARIA

TOTAL

05 08 73 08 09 73 10 18 73

FORM	ALGAL UNITS PER ML		ALGAL UNITS PER ML		ALGAL UNITS PER ML	
	S	%C	S	%C	S	%C
COL					X	
COL			0.3		14	
COL					X	
CEL			3	17.2	767	
CEL					5	9.8
CEL						141
CEL	1	17.8	1451	X		
CEL						
CEL			6.3		279	
CEL					X	
CEL	0.2		17			
CEL	1.7		137			
CEL						x
CEL						
CEL			3.8		167	
COL						
CEL			0.3		14	
CEL						
			8161		4452	
						1440

LAKE NAME: HIGHLAND LAKE
STCRET NUMBER: 1740

NYGAARD TROPHIC STATE INDICES

DATE	05 07 73	08 10 73	10 17 73
MYXOPHYCEAN	02/0 E	5.00 E	4.00 E
CHLOROPHYCEAN	03/0 E	2.00 E	4.00 E
EUGLENOPHYTE	1.40 E	0.86 E	1.00 E
DIATOM	2.00 E	2.00 E	1.33 E
COMPOUND	14/0 E	17.0 E	24.0 E

PALMER'S ORGANIC POLLUTION INDICES

DATE	05 07 73	08 10 73	10 17 73
GENUS	00	02	02
SPECIES	00	00	00

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE	05 07 73	08 10 73	10 17 73
AVERAGE DIVERSITY	H	2.07	2.91
NUMBER OF TAXA	S	21.00	25.00
NUMBER OF SAMPLES COMPOSITED	M	3.00	3.00
MAXIMUM DIVERSITY	MAXH	4.39	4.64
TOTAL DIVERSITY	D	3519.00	5761.80
TOTAL NUMBER OF INDIVIDUALS/ML	N	1700.00	1980.00
EVENNESS COMPONENT	J	0.47	0.63
MEAN NUMBER OF INDIVIDUALS/TAXA	L	80.95	79.20
NUMBER/ML OF MOST ABUNDANT TAXON	K	880.00	469.00
			1378.00

LAKE NAME: HIGHLAND LAKE
STCRET NUMBER: 1740

CONTINUED

TAXA	FORM	05 07 73			08 10 73			10 17 73			
		I	S	%C	I	S	%C	I	S	%C	ALGAL UNITS PER ML
ACTINASTRUM	CEL										
ANABAENA	FIL										X
ANKISTRODESMUS	CEL					2.1					
APHANIZOMENON FLOS-AQUAE	FIL										
CENTRIC DIATOM	CEL										
CENTRIC DIATOMS	CEL										
CERATIUM HIRUNDINELLA	CEL										
CHLORELLA VULGARIS	CEL										
CHLOROPHYTAN CELL	CEL										
CLOSTERIUM	CEL										
CRUCIGENIA	COL										
CRYPTOMONAS	CEL										
CRYPTOMONAS OVATA	CEL	1	25.9		440						
CRYPTOMONAS REFLEXA	CEL					X					
CYANOPHYTAN COLONY	COL										
CYANOPHYTAN FILAMENT	FIL										
CYCLOTELLA STELLIGERA	CEL					23.7					
CYMBELLA VENTRICOSA	CEL					5	12.4				
DACTYLOCYCOPSIS	CEL										
DICTYOSPHAERIUM PULCHELLUM	COL		1.7		29						
EUDORINA	CEL										
EUGLENA	CEL										
EUGLENA #1	CEL										
EUGLENA #2	CEL										
EUGLENA ACUS	CEL	3	1.7		29						
EUGLENA ACUS ?	CEL										
EUGLENA GRACILIS	CEL										
EUGLENA GRACILIS ?	CEL										
EUGLENA CXYURIS	CEL										
EUGLENA CXYURIS V. MINOR	CEL										
FLAGELLATE	CEL										

LAKE NAME: HIGHLAND LAKE
STORET NUMBER: 1740

CONTINUED

TAXA	FORM	05 07 73			08 10 73			10 17 73		
		S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML
FLAGELLATE #1	CEL			X			X			
FLAGELLATES	CEL	21	51.8	880	14	19.6	388			
GLENODINIUM	CEL	14	8.6	147						
GLCEOXYSTIS	COL									X
HANTZSCHIA ?	CEL									X
LEPOCINCLIS ?	CEL						X			
MELCSIRA #4	CEL							1.4		44
MELOSIRA DISTANS	CEL				7.2		143	13	12.0	374
MELOSIRA GRANULATA	CEL				2.1		41			X
MELOSIRA GRANULATA	CEL									
V. ANGUSTISSIMA	CEL						X			X
MERISMOPEDIA	COL									X
MERISMOPEDIA TENUISSIMA	COL				3	19.6	388			X
NAVICULA	CEL									X
OOCYSTIS	CEL									X
OSCILLATORIA	FIL			X						
OSCILLATORIA CHLORINA	FIL				11	1.0	20			
PANDCRINA ?	COL						X			
PENNATE DIATOM	CEL						X			
PHACUS	CEL		1.7	29						
PHACUS HELIKOIDES	CEL			X			X			
PINNULARIA	CEL									X
SCENEDESMUS	COL		1.7	29						
SCHROEDERIA SETIGERA	CEL					4.1	82		0.5	15
STEPHANODISCUS	CEL		1.7	29						X
SURIRELLA	CEL									
SYNEDRA	CEL						X			
SYNEDRA ?	CEL								0.4	12
TRACHELOMONAS	CEL					2.1	41			
TRACHELOMONAS #2	CEL								0.5	15
TRACHELOMONAS PULCHELLA ?	CEL					6.2	122	15	4.4	138
TRACHELOMONAS SCABRA	CEL									
V. ?	CEL	15	3.5	59						

LAKE NAME: HIGHLAND LAKE
STORET NUMBER: 1760

CONTINUED

TAXA	05 07 73			08 10 73			10 17 73			
	FORM	S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML
TRACHELOMONAS SCABRA V. OVATA ?	CEL			X						
TRACHELOMONAS VOLVOCINA ?	CEL							1.9		59
TOTAL				1700			1980			3112

LAKE NAME: LAKE SPRINGFIELD
STORET NUMBER: 1742

NYGAARD TROPHIC STATE INDICES

DATE	05 01 73	08 09 73	10 18 73
MYXOPHYCEAN	03/0 E	6.00 E	03/0 E
CHLOROPHYCEAN	10/0 E	7.00 E	10/0 E
EUGLENOPHYTE	0.15 ?	0.46 E	0.23 E
DIATOM	2.67 E	3.50 E	2.00 E
COMPOUND	23/0 E	26.0 E	20/0 E

PALMER'S ORGANIC POLLUTION INDICES

DATE	05 01 73	08 09 73	10 18 73
GENUS	01	09	10
SPECIES	00	00	00

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE	05 01 73	08 09 73	10 18 73
AVERAGE DIVERSITY	H	2.69	2.74
NUMBER OF TAXA	S	29.00	35.00
NUMBER OF SAMPLES COMPOSITED	M	5.00	5.00
MAXIMUM DIVERSITY	MAXH	4.86	5.13
TOTAL DIVERSITY	D	3276.42	10354.46
TOTAL NUMBER OF INDIVIDUALS/ML	N	1218.00	3779.00
EVENNESS COMPONENT	J	0.55	0.53
MEAN NUMBER OF INDIVIDUALS/TAXA	L	42.00	107.97
NUMBER/ML OF MOST ABUNDANT TAXON	K	325.00	1553.00
			19252.86
			5646.00
			0.71
			201.64
			1540.00

LAKE NAME: LAKE SPRINGFIELD
STORET NUMBER: 1742

CONTINUED

TAXA	FORM	05 01 73			08 09 73			10 18 73		
		S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML
ACTINASTRUM	CEL			X				0.5		30
ANABAENA	FIL						X			
ANKISTRODESmus	CEL			0.6			23			
APHANIZOMENON ?	FIL						X			
CARTERIA	CEL									
CENTRIC DIATOM	CEL	4.4		54	2	21.5	812			
CENTRIC DIATOMS	CEL				0.6		23			
CHLOROPHYTAN LUNATE CELL	CEL				0.6		23			
CLCSTERIUM	COL				0.6		23			
COELASTRUM MICROPORUM	COL				0.6		23			
CRUCIGENIA TETRAPEDIA	CEL	2	26.7	325		2.5	93		2.1	121
CRYPTOMONAS	CEL			X			X			
CYCLOTELLA MENEGHINIANA	CEL			X						
CYCLOTELLA STELLIGERA	CEL			X						
DACTYLOCYCOPSISIS	CEL	4	4.4	54						
EUGLENA	CEL			X				1.1		60
EUGLENA #1	CEL						X			
EUGLENA #2	CEL	4	11.1	135	1	1.9	70			
FLAGELLATE #1	CEL				2.5		93		2.1	121
GLENODINIUM	COL			X						
GCNIUM	COL									X
GYROSIGMA	CEL			X						
KIPCHNERIELLA	CEL			X						
MELOSIRA #4	CEL	1	26.7	325	5	3.7		X	5	8.0
MELOSIRA DISTANS	CEL	1	26.7	325	5	3.7	139		1	27.3
MELOSIRA GRANULATA	CEL	3	15.6	190	3	12.9	487		6.4	362
MELOSIRA GRANULATA	CEL			X	1	41.1	1553		6.4	362
V. ANGUSTISSIMA	CEL						X			
MELOSIRA ITALICA	CEL			X						
MERISMOPEDIA	COL			X		1.9	70		5.3	302
MESOSTIGMA VIRIDIS	CEL					1.2	46		4.3	242
MICRACTINIUM	COL			X						

LAKE NAME: LAKE SPRINGFIELD
STORET NUMBER: 1742

CONTINUED

TAXA

MICROCYSTIS INCERTA
NITZSCHIA ACICULARIS
NITZSCHIA ACTINASTROIDES ?
NITZSCHIA SPP.
OSCILLATORIA
PEDIASTRUM DUPLEX
V. ?
PEDIASTRUM TETRAS
PENNATE DIATOM #1
PHACLS #1
PHACUS LUNGICAUDA
PHACUS PYRUM
RAPHIODIOPSIS
SCENEDESMUS ABUNDANS
SCENEDESMUS ACUMINATUS
SCENEDESMUS BICAUDATUS ?
SCENEDESMUS BIJUGA
SCENEDESMUS DIMORPHUS
SCENEDESMUS INTERMEDIUS
SCENEDESMUS INTERMEDIUS
V. BICAUDATUS
SCENEDESMUS QUADRICAUDA
SCHROEDERIA SETIGERA
SPERMATOZOOPSIS
STEPHANODISCUS
SYNEDRA
TETRAEDRON
TETRASTRUM STAUROGENIAEFORME
TRACHELOMONAS #1
TRACHELOMONAS #2
TRACHELOMONAS URCEOLATA

FORM	05 01 73		08 09 73		10 18 73				
	S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML
COL			1.2	46		5.3	302		
CEL				X					
CEL				X					
CEL			5.5	209	16.0	906			
FIL	2.2		27	X					
COL				X					
CEL							X		
CEL	5	6.7	81	0.6	23				
CEL				X			X		
CEL									
FIL			0.6	23	2.7	151			
COL			X				X		
COL			X						
COL			0.6	23					
COL			X			0.5	30		
COL			X				X		
COL				X					
COL				X					
CEL									
CEL			X						
CEL				X					
CEL									
CEL	2.2		27	X	4	8.6	483		
CEL									
CEL									
CEL									
CEL									
TOTAL				1218	3779	5646			

LAKE NAME: VERMILION LAKE
STCRET NUMBER: 1748

NYGAARD TROPHIC STATE INDICES

DATE	05 11 73	08 08 73	10 17 73
MYXOPHYCEAN	03/0 E	05/0 E	04/0 E
CHLOROPHYCEAN	05/0 E	04/0 E	05/0 E
EUGLENOPHYTE	0.37 E	0.44 E	0.33 E
DIATOM	0.38 E	0.80 E	1.00 E
COMPOUND	16/0 E	17/0 E	14/0 E

PALMER'S ORGANIC POLLUTION INDICES

DATE	05 11 73	08 08 73	10 17 73
GENUS	12	10	21
SPECIES	00	00	00

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE	05 11 73	08 08 73	10 17 73
AVERAGE DIVERSITY	H 2.90	3.00	2.93
NUMBER OF TAXA	S 36.00	27.00	22.00
NUMBER OF SAMPLES COMPOSITE	M 2.00	2.00	2.00
MAXIMUM DIVERSITY MAXH	5.17	4.75	4.46
TOTAL DIVERSITY	D 3888.90	7242.00	54562.46
TOTAL NUMBER OF INDIVIDUALS/ML	N 1341.00	2414.00	18622.00
EVENNESS COMPONENT	J 0.56	0.63	0.66
MEAN NUMBER OF INDIVIDUALS/TAXA	L 37.25	89.41	846.45
NUMBER/ML OF MOST ABUNDANT TAXON	K 534.00	776.00	8643.00

LAKE NAME: VERMILION LAKE
STCET NUMBER: 1748

CONTINUED

TAXA	FORM	05 11 73			08 08 73			10 17 73		
		S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML
ACTINASTRUM	CEL			X						
ANABAENA	FIL			X						
ANKISTRODESmus FALCATUS	CEL			X						
V. MIRABILIS	FIL			X						
APHANIZCMENON FLOS-AQUAE	CEL			X						
ASTERIONELLA FORMOSA	CEL			X						
CARTERIA	CEL			X						
CHLAMYDCHMONAS	CEL			X						
CHLOROGCNIUM	CEL			X						
CHRCMULINA ? GLOBOSA	CEL			X						
CHRYSOPHYTAN CELL	CEL			X						
CHRYSOPHYTAN FLAGELLATE	CEL			X						
CRUCIGENIA TETRAPEDIA	COL			X						
CRYPTOMONAS	CEL	5	8.2	110						
CRYPTOMONAS EROSA	CEL			X						
CYANOPHYTAN FILAMENT	FIL			X						
CYCLOTELLA	CEL			X						
CYCLOTELLA MENEGHINIANA	CEL			X						
CYCLOTELLA SPP.	CEL		1.3	18						
CYCLOTELLA STELLIGERA	CEL			X						
DACTYLOCOCCOPSIS	CEL			X						
DINCBRYON SERTULARIA	CEL			X						
EUGLENA	CEL		4.1	55						
FLAGELLATE #1	CEL	3	9.6	129		8.9	216		8.0	1493
GYMPHONEMA	CEL	4	4.1	55						
GYMNODINIUM	CEL			X			X			
GYROSIGMA	CEL			X			X			
KIRCHNERIELLA	CEL			X						
LYNGBYA	FIL		1.3	18						
MALLCMCNAS ACAROIDES	CEL			X						
MELOSIRA	CEL			X						
MELOSIRA #4	CEL	1	39.8	534		1.8	43		1.3	236

LAKE NAME: VERMILION LAKE
STORET NUMBER: 1748

CONTINUED

TAXA	FORM	05 11 73			08 08 73			10 17 73		
		S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML
MELOSIRA DISTANS	CEL						X			
MELOSIRA GRANULATA	CEL			X			X			
MERISMOPEDIA	COL				2	16.1				
MERISMOPEDIA SPP.	COL						388			
MERISMOPEDIA TENUISSIMA	COL						X			
NAVICULA	CEL	1	1.3	18		7.1	172			
NITZSCHIA	CEL						X			
NITZSCHIA #1	CEL		2.8	37						
NITZSCHIA #2	CEL			X						
NITZSCHIA ACICULARIS	CEL		1.3	18						
OSCILLATORIA	FIL			X						
PANDORINA MCRUM	COL			X						
PENNATE DIATOM	CEL									
PHACUS	CEL			X						
PHACUS ACUMINATUS	CEL									
PHACUS LUNGICAUDA	CEL									
RHICOSPHEНИA CURVATA	CEL									
SCENEDESmus	COL			X						
SCENEDESmus ACUMINATUS	COL			X						
SCENEDESmus ACUTUS	COL			X						
SCENEDESmus BICAUDATUS	COL				1.8		43			
SCENEDESmus DIMORPHUS	COL				1.8		43			
SCENEDESmus PROTUBERANS	COL						X			
SCENEDESmus QUADRICAUDA	COL			X			X			
STEPHANOdiscus	CEL	2	2.8	37						
SURIRELLA	CEL		1.3	18						
SYNEDRA	CEL									
SYNEDRA #1	CEL		2.8	37						
SYNEDRA #2	CEL			X						
SYNEDRA #3	CEL	2	17.8	239						
SYNEDRA ULNA	CEL						X			
SYNEDRA ULNA ?	CEL			X						

LAKE NAME: VERMILION LAKE
STORET NUMBER: 1748

CONTINUED

TAXA	FORM	05 11 73			08 08 73			10 17 73		
		S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML
TETRASTRUM STAURGENIAEFORME	COL									X
TRACHELOMONAS	CEL									X
TRACHELOMONAS URCEOLATA	CEL		1.3	18			X			
TOTAL				1341			2414			18622

LAKE NAME: WONDER LAKE
STORET NUMBER: 1750

NYGAARD TROPHIC STATE INDICES

DATE	05 09 73	08 07 73	10 16 73
MYXOPHYCEAN	5.00 E	1.33 E	1.00 E
CHLOROPHYCEAN	9.00 E	4.57 E	16.0 E
EUGLENOPHYTE	0.14 ?	0.22 E	0.29 E
DIATOM	0.21 ?	1.00 E	0.43 E
COMPOUND	19.0 E	8.00 E	25.0 E

PALMER'S ORGANIC POLLUTION INDICES

DATE	05 09 73	08 07 73	10 16 73
GENUS	15	13	06
SPECIES	07	04	04

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE	05 09 73	08 07 73	10 16 73	
AVERAGE DIVERSITY	H	3.70	2.83	2.00
NUMBER OF TAXA	S	39.00	34.00	36.00
NUMBER OF SAMPLES COMPOSITED	M	2.00	2.00	2.00
MAXIMUM DIVERSITY	MAXH	5.29	5.09	5.17
TOTAL DIVERSITY	D	15947.00	17851.64	15094.00
TOTAL NUMBER OF INDIVIDUALS/ML	N	4310.00	6308.00	7547.00
EVENNESS COMPONENT	J	0.70	0.56	0.39
MEAN NUMBER OF INDIVIDUALS/TAXA	L	110.51	185.53	209.64
NUMBER/ML OF MOST ABUNDANT TAXON	K	979.00	3155.00	4791.00

LAKE NAME: WONDER LAKE
STREET NUMBER: 1750

CONTINUED

ACTINASTRUM
ACTINASTRUM HANTZSCHII ?
v. FLUVIATILE
AMPHIPORA
AMPHIPORA CRNATA
ANKISTRODE SMUS
APHANIZMENON ?
ASTERICHELLA FORMOSA
CHROOCOCCUS
CHROCMCNAS
CHRYSOPHYTAN FLAGELLATE
CLOCSTERIUM
COELASTRUM
COELASTRUM CAMBRICUM
COELASTRUM CAMBRICUM
v. INTERMEDIUM
COELASTRUM RETICULATUM
COSMARIA
CPUCIGENIA TETRAPEDIA
CRYPTOMONAS
CRYPTOMCNAS EROSA
CYCLOTELLA
CYMBELLA
DICTYOSPHAERIUM
DINOBRYON
ELAKATOTHR IX
EUGLENA
EUGLENA ACUS ?
EUGLENA SPP.
FLAGELLATE #1
FRAGILARIA
FRAGILARIA CAPUCINA ?

88

LAKE NAME: WONDER LAKE
STORE NUMBER: 1750

CONTINUED

TAXA

GLENODINIUM GYMNODINIUM
 GLENODINIUM GYMNODINIUM
 V. BISCUTELLIFORME
 GCMPHONEMA
 LYNGBYA
 MALLOMONAS
 MELOSIRA GRANULATA
 MELOSIRA ISLANDICA
 PERISMOPEDIA TENUISSIMA
 MICROCYSTIS ?
 MICROCYSTIS INCERTA
 NAVICULA
 NAVICULA CRYPTOCEPHALA
 NAVICULA RHYNCHOCEPHALA
 NITZSCHIA
 OCHROMONAS ?
 OCOCYSTIS
 OCOCYSTIS BORGEI ?
 OCOCYSTIS SUBMARINA
 OSCILLATORIA
 PALMELLOID COLONY #1
 PALMELLOID COLONY #2
 PEDIASTRUM BORYANUM
 PEDIASTRUM DUPLEX
 PEDIASTRUM DUPLEX
 V. GRACILIPUM
 PEDIASTRUM SIMPLEX
 PEDIASTRUM SIMPLEX
 V. DUODENARIUM
 PHACUS
 PHACUS LONGICAUDA
 PHACUS SPP.

	05 09 73			08 07 73			10 16 73		
FORM	IS	%C	ALGAL UNITS PER ML	IS	%C	ALGAL UNITS PER ML	IS	%C	ALGAL UNITS PER ML
CEL				5	3.8	237			
CEL						X			
CEL	0.3	11							
FIL	5.1	221							
CEL	0.5	21							
CEL	1.20.7	894	1	50.0	3155		4.5	339	
CEL									X
COL						X			
COL	0.3	11							
COL				4	4.4	276			
CEL	0.5	21						0.6	42
CEL	1.0	42							
CEL	1.5	63							
CEL	1.2	53							X
CEL									X
CEL				1.9		118		1.1	85
CEL									X
CEL						X			
FIL	0.5	21							
COL				0.6		39			
COL				1.9		118			
COL				1.9		118			
COL	1.5	63		0.6		39		0.6	42
COL						X			
COL	0.7	32		0.6		39			X
COL						X			
CEL				1.9		118		0.6	42
CEL				0.6		39			
CEL						X			

LAKE NAME: WONDER LAKE
STORET NUMBER: 1750

CONTINUED

TAXA

PENNULARIA
RAPHIDIOPSIS
RHICOSPHEНИA CURVATA
SCENEDESMUS ABUNDANS
SCENEDESMUS ACUMINATUS
SCENEDESMUS BICAUDATUS
SCENEDESMUS BIJUGA
V. FLEXUOSUS
SCENEDESMUS DIMORPHUS
SCENEDESMUS OPOLIENSIS
SCENEDESMUS PROTUBERANS
SCENEDESMUS QUADRICAUDA
SCHROEDERIA
SCHROEDERIA SETIGERA
STAURASTRUM
STEPHANODISCUS
STEPHANODISCUS NIAGARAE
SURIRELLA
SURIRELLA OVATA
SYNECRA
SYNEDRA ULNA
TRACHELMONAS
TRICHISCIA RETICULARIS ?

FORM	05 09 73			08 07 73			10 16 73		
	S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML
CEL		0.3	11						
FIL			X		1.3	79			
CEL			X						
COL		0.5	21						
COL		0.3	11						
COL						X		0.6	42
COL							X		
COL							X		
COL					1.9	118			
COL	5	5.9	253		1.3	79		1.1	85
CEL			X	3	3.8	237	4	4.0	299
CEL		1.0	42						
CEL									
CEL					0.6	39			
CEL	2	22.7	979	12	15.0	947	1	63.5	4791
CEL									
CEL					1.3	79			
CEL		1.2	53						
CEL									
CEL									
CEL		1.2	53						
CEL									
CEL		0.5	21						
CEL									
TOTAL				4310		6308		7547	

LAKE NAME: LAKE STORY
STORET NUMBER: 1751

NYGAARD TROPHIC STATE INDICES

	DATE	05	12	73	08	09	73	10	17	73
MYXOPHYCEAN		1.00	E		4.00	E		3.00	E	
CHLOROPHYCEAN		2.00	E		5.00	E		2.50	E	
EUGLENOPHYTE		0/03	?		0/09	?		0.18	?	
DIATOM		0.75	E		0/01	?		4.00	E	
COMPOUND		9.00	E		9.00	E		8.50	E	

PALMER'S ORGANIC POLLUTION INDICES

	DATE	05	12	73	08	09	73	10	17	73
GENUS					03			08		
SPECIES					00			00		

SPECIES DIVERSITY AND ABUNDANCE INDICES

	DATE	05	12	73	08	09	73	10	17	73
AVERAGE DIVERSITY	H		2.51		2.95		2.59			
NUMBER OF TAXA	S		24.00		14.00		27.00			
NUMBER OF SAMPLES COMPOSITED	M		2.00		2.00		2.00			
MAXIMUM DIVERSITY	MAXH		4.58		3.81		4.75			
TOTAL DIVERSITY	D	10293.51		3259.75		13234.90				
TOTAL NUMBER OF INDIVIDUALS/ML	N	4101.00		1105.00		5110.00				
EVENNESS COMPONENT	J		0.55		0.77		0.55			
MEAN NUMBER OF INDIVIDUALS/TAXA	L	170.88		78.93		189.26				
NUMBER/ML OF MOST ABUNDANT TAXON	K	1491.00		360.00		2524.00				

LAKE NAME: LAKE STORY
STORET NUMBER: 1751

CONTINUED

TAXA	FORM	05 12 73			08 09 73			10 17 73		
		S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML
ANABAENA	FIL	13	14.0	576			X	13	8.4	431
ANKISTRODESMUS	CEL	1	1					1	1.2	62
APHANIZCHENON FLOS-AQUAE	FIL							1	49.4	2524
ASTERICNELLA FORMOSA	CEL	1	36.4	1491						
CERATIUM HIRUNDINELLA										
F. GRACILIS	CEL									
CHLAMYDOMONAS	CEL									
CHLOROPHYTAN CELL	CEL									
CHLOROPHYTAN COCCOID CELL	CEL									
CLUSTERIUM	CEL									
COCCOID CELL	CEL									
COCCINEIS PLACENTULA										
V. ?	CEL									
COELASTRUM	COL									
COELASTRUM MICROPORUM	COL									
COELASTRUM RETICULATUM	COL									
COELASTRUM SPP.	COL									
DICTYOSPHAERIUM	COL									
COSMARIA #1	CEL									
CRUCIGENIA	COL									
CRYPTOMONAS	CEL									
CRYPTOMONAS EROSA	CEL									
CYCLOTELLA MENEGHINIANA	CEL									
CYCLOTELLA STELLIGERA	CEL									
CYMATOPLEURA	CEL									
DICTYOSPHAERIUM PULCHELLUM	COL									
DINOBRYON DIVERGENS	CEL									
EUDORINA ELEGANS	CEL									
EUGLENA	CEL									
FLAGELLATE	CEL	1	0.8	34						
FLAGELLATE #1	CEL	1	1.7	68				2.4	123	
FLAGELLATE #2	CEL	1	1	X						

LAKE NAME: LAKE STORY
STORET NUMBER: 1751

CONTINUED

TAXA	FORM	05 12 73			08 09 73			10 17 73		
		S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML
FRAGILARIA	CEL			X						
GLENODINIUM EDAX	CEL				2.4		26			
LAGERHEIMIA SUBSALSA	CEL				2.4		26			
MALLOMONAS ACARCIDES	CEL				4.6		51			
MELOSIRA GRANULATA	CEL	5	7.4	305				5	4.8	246
MELOSIRA GRANULATA V. ANGLSTISSIMA	CEL	4	12.4	508	X					
MICRACТИUM PUSILLUM	COL									
MICROCYSTIS AERUGINOSA	COL									
MICROCYSTIS INCERTA	COL									
NAVICULA	CEL			X						
OOCYSTIS	CEL				4	7.0	77		0.6	31
OSCILLATORIA #1	FIL				3	18.6	206	X		
OSCILLATORIA #2	FIL									X
PEDIASTRUM SIMPLEX	COL									X
V. DUODENARIUM	CEL									
PENNATE DIATOM	CEL			X					0.6	31
RHCICOSPHENIA CURVATA	CEL									
STAURASTRUM	CEL									
STEPHANODISCUS ASTRAEA	CEL	2	22.3	915						
STEPHANODISCUS ASTRAEA V. MINUTULA	CEL									
STEPHANODISCUS NIAGARAE	CEL		1.7	68						
STEPHANODISCUS NIAGARAE ?	CEL									
SYNECRA #1	CEL									
SYNEDRA DELICATISSIMA	CEL									
SYNEDRA ULNA	CEL		1.7	68						
TETRAEDRON MINIMUM	CEL			X						
TRACHELEMONAS PULCHELLA	CEL									X
TOTAL				4101			1105		5110	

LAKE NAME: DEPUE LAKE
STORET NUMBER: 1752

NYGAARD TROPHIC STATE INDICES

	DATE	08 07 73	10 16 73
MYXOPHYCEAN		6.00 E	05/0 E
CHLOROPHYCEAN		12.0 E	14/0 E
EUGLENOPHYTE		0.44 E	0.42 E
DIATOM		0.62 E	0.83 E
COMPOUND		31.0 E	32/0 E

PALMER'S ORGANIC POLLUTION INDICES

	DATE	08 07 73	10 16 73
GENUS		23	18
SPECIES		04	04

SPECIES DIVERSITY AND ABUNDANCE INDICES

	DATE	08 07 73	10 16 73
AVERAGE DIVERSITY	H	3.73	3.56
NUMBER OF TAXA	S	46.00	46.00
NUMBER OF SAMPLES COMPOSITED	M	1.00	1.00
MAXIMUM DIVERSITY	MAXH	5.52	5.52
TOTAL DIVERSITY	D	45796.94	30947.08
TOTAL NUMBER OF INDIVIDUALS/ML	N	12278.00	8693.00
EVENNESS COMPONENT	J	0.58	0.64
MEAN NUMBER OF INDIVIDUALS/TAXA	L	266.91	188.98
NUMBER/ML OF MOST ABUNDANT TAXON	K	3469.00	3065.00

LAKE NAME: CEPUE LAKE
STORET NUMBER: 1752

CCNTINUED

08 07 73 10 16 73

TAXA

ACTINASTRUM
ACTINASTRUM HANTZSCHII
CARTERIA
CHLAMYDOMONAS
CHLAMYDOMONAS ?
CHROOCCCUS
CHRYSOPHYTAN FLAGELLATE
CLUSTERIOPSIS
CLOSTERIUM CERATIUM
COCCONEIS
CCELASTRUM MICROPORUM
CRUCIGENIA TETRAPEDIA
CRYPTOMONAS EROSA
CYCLOTELLA
CYCLOTELLA MENEGHINIANA
CYCLOTELLA STELLIGERA
CYTBELLA
DACTYLOCOPPSIS
DICTYOSPHAERIUM
DINOBRYCN
EUGLENA #1
EUGLENA GRACILIS
EUGLENA SPP.
EUGLENA TRIPTERIS
FLAGELLATE
FRAGILARIA
GLOEOSTYSTIS
GLOEOSTYSTIS ?
KIRCHNERIELLA
LEPOCINCLIS
LEPOCINCLIS ACUTA
LEPOCINCLIS OVUM ?

FORM	ALGAL UNITS			ALGAL UNITS		
	IS	%C	PER ML	IS	%C	PER ML
CEL	15	9.4	1157	15	5.8	504
CEL						X
CEL		0.6	68			
CEL			X			
CEL					0.5	42
COL		2.5	306		1.0	84
CEL			X			
CEL					1.0	84
CEL		3.0	374			
CEL		0.3	34			
COL		0.8	102		0.5	42
COL		0.3	34		0.5	42
CEL		2.2	272	3	8.9	777
CEL	14	13.6	1667		3.6	315
CEL			X			
CEL						X
CEL						X
CEL		3.3	408			
COL					0.2	21
CEL		0.3	34		1.0	84
CEL			X			
CEL						X
CEL	11	28.3	3469	11	35.3	3065
CEL						X
CEL		2.2	272			
CEL					1.0	84
CEL					0.2	21
COL						X
COL						X
CEL		0.8	102		0.5	42
CEL		1.4	170			
CEL			X		1.9	168
CEL						

LAKE NAME: DEPUE LAKE
STCRET NUMBER: 1752

CONTINUED

TAXA

LYNGBYA
MELOSIRA GRANULATA
MELOSIRA ITALICA
MERISMOPEDIA
MERISMOPEDIA TENUISSIMA
NAVICULA
NAVICULA SCUTELLOIDES
NAVICULA SPP.
NITZSCHIA
NITZSCHIA PALEA
NITZSCHIA SIGMA
OOCYSTIS
OSCILLATORIA
PEDIASTRUM DUPLEX
PEDIASTRUM DUPLEX
V. RETICULATUM
PEDIASTRUM SIMPLEX
PENNATE DIATOM
PHACUS
PHACUS #1
PHACUS #2
PHACUS ACUMINATUS
PHACUS LUNGICAUDA
PHACUS PLEURONECTES
PHACUS PLEURONECTES ?
PHACUS SPP.
PTEROMONAS
RAPHIDIOPSIS
RAPHIDIOPSIS CURVATA
SCENEDESMUS BICAUDATUS
SCENEDESMUS DIMORPHUS
SCENEDESMUS INTERMEDIUS
V. BICAUDATUS

08 07 73 10 16 73

FCRM	ALGAL UNITS			ALGAL UNITS		
	IS	%C	PER ML	IS	%C	PER ML
FIL				4.6	399	
CEL	0.8		102	1.9	168	
CEL			X		X	
COL	0.3		34			
COL			X	1.0	84	
CEL			X			
CEL				0.5	42	
CEL				8.0	693	
CEL			X			X
CEL			X			
CEL			X			
CEL	1.1		136			
FIL	1.7		204	0.2	21	
COL	0.3		34			
COL						X
COL			X			
COL	2.5		00306			
CEL	3.4.4		544			
CEL						X
CEL						X
CEL						X
CEL	0.8		102			
CEL			X			X
CEL						X
CEL			X			X
CEL				11.6	1008	
CEL						X
FIL	1.1		136			
FIL				2.2	189	
COL	0.6		68	0.5	42	
COL				0.7	63	
COL			X			

LAKE NAME: DEPUE LAKE
STCRET NUMBER: 1752

CONTINUED

TAXA	FCRM	08 07 73			10 16 73		
		S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML
SCENEDESMUS PROTUBERANS	COL			X		0.7	63
SCENEDESMUS QUADRICAUDA	COL		0.8	102		1.9	168
SCHROEDERIA	CEL		1.9	238		1.9	168
STEPHANODISCUS	CEL	2	1.6	1429		0.7	63
SYNEDRA	CEL		1.9	238			
SYNEDRA ULNA	CEL					0.2	21
TABELLARIA FENESTRATA	CEL		0.6	68			
TETRAEDRON MINIMUM	CEL					0.5	42
TRACHELEMONAS PULCHELLA	CEL		0.6	68			
TRACHELEMONAS URCEOLATA	CEL					1.0	84
TOTAL				12278		8693	

LAKE NAME: LAKE SANGCHRIS
STORET NUMBER: 1753

NYGAARD TROPHIC STATE INDICES

DATE	05 07 73	08 10 73	10 18 73
MYXOPHYCEAN	1.00 E	6.00 E	3.50 E
CHLOROPHYCEAN	2.00 E	5.00 E	5.00 E
EUGLENOPHYTE	0.67 E	0.45 E	0.12 ?
DIATOM	0.71 E	0.70 E	0.80 E
COMPCUND	10.0 E	23.0 E	13.5 E

PALMER'S ORGANIC POLLUTION INDICES

DATE	05 07 73	08 10 73	10 18 73
GENUS	03	18	11
SPECIES	00	02	04

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE	05 07 73	08 10 73	10 18 73
AVERAGE DIVERSITY	H	1.68	1.27
NUMBER OF TAXA	S	23.00	42.00
NUMBER OF SAMPLES COMPOSITED	M	4.00	4.00
MAXIMUM DIVERSITY	MAXH	4.52	5.39
TOTAL DIVERSITY	D	5826.24	98041.46
TOTAL NUMBER OF INDIVIDUALS/ML	N	3468.00	77198.00
EVENNESS COMPONENT	J	0.37	0.24
MEAN NUMBER OF INDIVIDUALS/TAXA	L	150.78	1838.05
NUMBER/ML OF MOST ABUNDANT TAXON	K	2473.00	52083.00
			32396.00
			9968.00
			0.60
			237.33
			3589.00

LAKE NAME: LAKE SANGCHRIS
STORET NUMBER: 1753

CONTINUED

TAXA	FORM	ALGAL UNITS PER ML		ALGAL UNITS PER ML		ALGAL UNITS PER ML	
		S	%C	S	%C	S	%C
ANABAENA	FIL					X	
ANABAENOPSIS	FIL						X
ANKISTRODESmus FALCATUS	CEL						X
APHANIZCHENIA FLCS-AQUAE	FIL					X	
ASTERIONELLA FORMOSA	CEL						
CENTRIC DIATOMS	CEL						
CHLOROPHYTAN COLONY	COL	0.7	24				
CHRYSOPHYTAN CELL	CEL		X				
CHRYSOPHYTAN COCCOID CELL #1	CEL	4	4.9	171			
CLOSTERIUM	CEL	0.7	24				
COCCONEIS	CEL					X	
COELASTRUM CAMBRICUM	COL					X	
COLONY	COL						
COSMARIUM	CEL					X	
CRYPTOMONAS ?	CEL						
CRYPTOMONAS EROSA	CEL	2.1	73	3	0.9	694	
CYANOPHYTAN FILAMENT	FIL						
CYCLOTELLA MENEGHINIANA	CEL	0.7	24	0.3	00231		
CYCLOTELLA MICHIGANIANA	CEL			0.2	116		
CYCLOTELLA STELLIGERA	CEL					X	
CYMBELLA	CEL						
DACTYLOCOCCOPSIS	CEL			X			
DIATOMA	CEL			2	27.7	21412	
EUGLENA	CEL			X			
EUGLENA GRACILIS	CEL					X	
EUGLENA CYTURIS	CEL			X			
V. MINOR	CEL					X	
FLAGELLATE	CEL					X	
FLAGELLATE #1	CEL	0.7	24			X	
FLAGELLATES	CEL						
FRANCEIA DROSCHFERT	CEL					X	
GLENODINIUM	CEL					X	

LAKE NAME: LAKE SANGCHRIS
STOREY NUMBER: 1753

CONTINUED

TAXA	FORM	05 07 73			08 10 73			10 18 73		
		S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML
GLENODINIUM EDAX	CEL						X			
GLENODINIUM GYMNODINIUM	CEL						X			
V. BISCUTELLIFORME	CEL						X			
GOLENKINIA RADIATA	CEL						X			
GYROSIGMA SCALPRIDES	CEL						X			
MALLCMCNAS	CEL						X			
MELOSIRA ?	CEL	3	7.1	245						
MELOSIRA #4	CEL							0.2		21
MELOSIRA DISTANS	CEL							0.2		21
MELOSIRA DISTANS	CEL							36.0		3589
V. LIMNETICA	CEL	1	71.3	2473						
MELOSIRA GRANULATA	CEL			X				1.0		102
MELOSIRA ITALICA	CEL						X	2	9.3	923
MERISMOPEDIA	COL							5	7.8	779
MERISMOPEDIA TENUISSIMA	COL						X		1.2	123
MESOSTIGMA VIRIDIS	CEL							0.6		61
MICROCYSTIS INCERTA	COL			0.4			347	1.2		123
NAVICULA	CEL									X
NAVICULA #1	CEL									X
NITZSCHIA #2	CEL		0.7	24		0.2	116			
NITZSCHIA #3	CEL							0.4		41
NITZSCHIA #4	CEL									
NITZSCHIA #5	CEL									
NITZSCHIA HOLSATICA ?	CEL									
NITZSCHIA SPP.	CEL									
NITZSCHIA TRYBLICNELLA ?	CEL									
OSCILLATORIA #1	FIL									
OSCILLATORIA LIMNETICA	FIL									
PEDIASTRUM DUPLEX	COL									
PECIASTRUM SIMPLEX	COL									
PEDIASTRUM SIMPLEX	COL									
V. DUODENARIUM	COL						X			X

LAKE NAME: LAKE SANGCHRIS
STORET NUMBER: 1753

CONTINUED

18

TAXA	FORM	05 07 73			08 10 73			10 18 73				
		I	S	%C	ALGAL UNITS PER ML	I	S	%C	ALGAL UNITS PER ML	I	S	%C
PENNATE DIATOM	CEL				0.2	116			3.9	390		
PENNATE DIATOMS	CEL					X						
PERIDINIUM INCONSPICUUM	CEL					X						
PHACUS ACUMINATUS	CEL								0.2	21		
PHACUS PYRUM	CEL								2.5	246		
RAPHIDIOPSIS CURVATA	FIL								0.2	21		
SCENEDESMUS	COL								0.2	21		
SCENEDESMUS ARMATUS ?	COL								0.2	21		
SCENEDESMUS DENTICULATUS	COL								0.4	41		
SCENEDESMUS DIMORPHUS	COL								1.2	123		
SCENEDESMUS QUADRICAUDA	COL				0.3				0.2	21		
SCENEDESMUS spp.	COL								0.2	21		
STAURASTRUM TETRACERUM	CEL											
STEPHANODISCUS	CEL											
STEPHANODISCUS ASTREA	CEL				0.4							
STEPHANODISCUS ASTREA	CEL											
V. MINUTULA	CEL	2	7.6		264							
SURIELLA	CEL				X							
SURIELLA #1	CEL											
SYNEDRA #1	CEL	5	2.8		98							
SYNEDRA ACUS	CEL											
SYNEDRA RADIANA	CEL											
SYNEDRA RUMPENS	CEL											
SYNEDRA ULNA	CEL											
TETRAEDRON	CEL											
TETRASTRUM HETEROCANTHUM	COL											
TETRASTRUM STAUROGENIAEFORME	COL											
TRACHELOMONAS PULCHELLA	CEL		0.7		24		0.21		116			
TOTAL					3468				77198			9968

LAKE NAME: LAKE HOLIDAY
STORET NUMBER: 1754

NYGAARD TROPHIC STATE INDICES

	DATE	05 09 73	08 07 73	10 16 73
MYXOPHYCEAN		03/0 E	0.50 E	1.50 E
CHLOROPHYCEAN		0/0 O	5.50 E	5.50 E
EUGLENOPHYTE		0.33 E	0.50 E	0.29 E
DIATOM		0.35 E	0.67 E	1.00 E
COMPOUND		10/0 E	11.0 E	10.5 E

PALMER'S ORGANIC POLLUTION INDICES

	DATE	05 09 73	08 07 73	10 16 73
GENUS		03	04	18
SPECIES		00	02	00

SPECIES DIVERSITY AND ABUNDANCE INDICES

	DATE	05 09 73	08 07 73	10 16 73
AVERAGE DIVERSITY	H	3.47	2.03	2.65
NUMBER OF TAXA	S	31.00	34.00	29.00
NUMBER OF SAMPLES COMPOSITED	M	2.00	2.00	2.00
MAXIMUM DIVERSITY	MAXH	4.95	5.09	4.86
TOTAL DIVERSITY	D	3171.58	29400.49	13255.30
TOTAL NUMBER OF INDIVIDUALS/ML	N	914.00	14483.00	5002.00
EVENNESS COMPONENT	J	0.70	0.40	0.55
MEAN NUMBER OF INDIVIDUALS/TAXA	L	29.48	425.97	172.48
NUMBER/ML OF MOST ABUNDANT TAXON	K	160.00	9415.00	2620.00

LAKE NAME: LAKE HOLIDAY
STORE NUMBER: 1754

CONTINUED

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TAXA

ACHNANTES LANCEOLATA
v. DUBIA
ANABAENA
ANKISTRODESMUS
APHANIOPHIS MONFLCS-AQUAE
CERATIUM HIRUNDINELLA
CHRYSOPHYTAN CYST
CLOSTERIUM
CLOSTERIUM CERATIUM
COCCONEIS PLACENTULA
v. EUGLYPTA
COELASTRUM
COELASTRUM CAMBRICUM
v. INTERMEDIUM
COELASTRUM MICRORPORA
COELASTRUM RETICULATUM
COELASTRUM SPHAERICUM
CCSMARIUM
CRUCIGENIA APICULATA
CRUCIGENIA QUADRATA
CRYPTOMCNAS
CRYPTOMCNAS ?
CRYPTOMCNAS EROSA
CYANOPHYTAN FILAMENT
CYCLOTELLA
CYCLOTELLA MENEGHINIANA
CYMBELLA
CYMBELLA PROSTRATA
CACTYLCCCCOPSIS ?
DIATOMA
DIATOMA VULGARE ?
DINOBYCN

LAKE NAME: LAKE HOLIDAY
STORE NUMBER: 1754

CONTINUED

48

TAXA
EUGLENA
EUGLENA SPIROIDES
EUGLENA SPP.
FLAGELLATE #1
FRAGILARIA CROTONENSIS
FRAGILARIA INTERMEDIA ?
GLENODINIUM
GLENODINIUM GYMNODINIUM
GYMNOHENA
GYROSIGMA
GYROSIGMA SCALPROIDES
KIRCHNERIELLA
LEPOCINCLIS ?
MELOSIRA
MELOSIRA DISTANS
MELOSIRA GRANULATA
MELOSIRA GRANULATA #2
MELOSIRA VARIANS
MERIDION CIRCULARE ?
MICROCYSTIS
NAVICULA
NAVICULA #1
NAVICULA #3
NITZSCHIA #1
OOCYSTIS
OSCILLATORIA
PANDORINA
PECIASTRUM BORYANUM
PECIASTRUM DUPLEX
PECIASTRUM DUPLEX
V. RETICULATUM
PECIASTRUM SIMPLEX

LAKE NAME: LAKE HOLIDAY
STORET NUMBER: 1754

CONTINUED

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TAXA	FORM	05 09 73			08 07 73			10 16 73				
		I	S	%C	ALGAL UNITS PER ML	I	S	%C	ALGAL UNITS PER ML	I	S	%C
PEDIASTRUM SIMPLEX	COL								X			
V. DUDDENARIUM	CEL					0.3			45			
PHACUS ACUMINATUS	CEL					0.3			45			
PHACUS HELIKOIDES	CEL					1.2			179			
PHACUS LEMMERMANII ?	CEL									0.5		
PHACUS LCNIGICAUDA	CEL									26		
PHACUS PLEURONECTES	CEL									X		
PHACUS SPP.	CEL									79		
RAPHIDIOPSIS	FIL									0.5		
RHOICOSPHENIA CURVATA	CEL				X					26		
SCENEDESMUS BICAUDATUS	COL								X			
SCENEDESMUS DIMORPHUS	COL									X		
SCHROEDERIA	CEL											
SCHRÖDERIA SETIGERA	CEL					0.3			45			
SPHAEROCYSTIS SCHROETERI	COL								X			
STAURASTRUM TETRACERUM	CEL								X			
STEPHANODISCUS	CEL	14	10.0		91					3.1		157
STEPHANODISCUS ASTREA	CEL											
V. MINUTULA	CEL											
SURIABELLA	CEL											
SYNECRA	CEL											
SYNEDRA ULNA	CEL											
TETRASTRUM GLABRUM	CEL											
TRACHELOMONAS	COL								X			
	CEL								X			
TOTAL					914				14483			5002

LAKE NAME: FOX LAKE
STORET NUMBER: 1755

NYGAARD TROPHIC STATE INDICES

DATE	05 09 73	08 07 73	10 16 73
MYXOPHYCEAN	7.00 E	2.50 E	2.67 E
CHLOROPHYCEAN	14.0 E	3.25 E	6.00 E
EUGLENOPHYTE	0.29 E	0.13 ?	0.19 ?
DIATOM	0.35 E	0.75 E	1.33 E
COMPOUND	34.0 E	7.25 E	13.0 E

PALMER'S ORGANIC POLLUTION INDICES

DATE	05 09 73	08 07 73	10 16 73
GENUS	19	08	12
SPECIES	06	02	06

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE	05 09 73	08 07 73	10 16 73
AVERAGE DIVERSITY	H	3.57	2.77
NUMBER OF TAXA	S	65.00	40.00
NUMBER OF SAMPLES COMPOSITED	M	2.00	2.00
MAXIMUM DIVERSITY	MAXH	6.02	5.32
TOTAL DIVERSITY	D	33129.60	17218.32
TOTAL NUMBER OF INDIVIDUALS/ML	N	9280.00	5216.00
EVENNESS COMPONENT	J	0.59	0.52
MEAN NUMBER OF INDIVIDUALS/TAXA	L	142.77	155.40
NUMBER/ML OF MOST ABUNDANT TAXON	K	2025.00	2631.00
			98.25
			1470.00

LAKE NAME: FOX LAKE
STORET NUMBER: 1755

CONTINUED

TAXA

ACTINASTRUM HANTZSCHII ?
AMPHIPORA
ANABAENA
ANABAENA #1
ANABAENA #2
ANABAENA #7
ANKISTRODESMUS #1
ANKISTRODESMUS #2
APHANIZCMENON FLCS-AQUAE
APHANOCAPSA ELACHISTA
ASTERIONELLA FORMOSA
CHLAMYDOMONAS
CHROOCOCCUS LIMNETICUS ?
CLOSTERIUM
CLCSTERIUM #1
COCCONEIS PLACENTULA
V. LINEATA
COELASTRUM CAMBRICUM
COELASTRUM CAMBRICUM
V. INTERMEDIUM
COELASTRUM MICROPORUM
COELASTRUM SPHAERICUM
CCELOSPHAERIUM NAEGLIANUM
COSCINODISCUS
COSMARIUM #1
CCSMARIUM #2
CRUCIGENIA APICULATA
CRYPTOMCNAS
CRYPTOMCNAS CURVATA
CRYPTOMONAS EROSA
CYCLOTELLA MENEGHINIANA
CYMBELLA CISTULA ?

18

05 09 73

08 07 73

10 16 73

FORM	ALGAL UNITS PER ML		ALGAL UNITS PER ML		ALGAL UNITS PER ML	
	S	%	S	%	S	%
CEL		X				
CEL		X				
FIL			1.7		108	
FIL		X	2.1		129	
FIL				X		
FIL						
CEL	1.3	118				
CEL		X				
FIL	3.8	353	142.3		2631	311.8
COL		X				
CEL	12.9	1201				
CEL	0.8	71				
COL			0.4		X	
COL				22	X	
CEL						X
CEL						X
CEL		X				
COL					X	
COL						0.3
COL						6.3
COL						18
COL						18
CEL		X				
CEL		X			X	
CEL		X				X
CEL			0.4		22	
CEL						X
CEL	8.6	800				
CEL		X				
CEL						
CEL						
CEL	5	8.5	800	1.0	65	142.4
CEL						127
CEL						309
CEL						X

LAKE NAME: FOX LAKE
STORET NUMBER: 1755

CONTINUED

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TAXA				05 09 73			08 07 73			10 16 73
	FORM	S	%C	ALGAL UNITS PER ML			ALGAL UNITS PER ML			ALGAL UNITS PER ML
CYMBELLA TRIANGULUM	CEL			X						
CACTYLOCOPCOPSIS	CEL								0.31	18
DIATOMA TENUAE										
V. ELONGATUM	CEL		1.3	118						
DICTYOSPHAERIUM PULCHELLUM	COL		0.3	24						
DINOBRYON	CEL	21	21.8	2025			X			X
DINOBRYON DIVERGENS	CEL			X						
DINOFLAGELLATE	CEL		0.3	24						
DINOFLAGELLATE #1	CEL				0.4		22			
DINOFLAGELLATE #2	CEL								0.31	18
EPITHENIA	CEL			X			X			
EUGLENA	CEL		0.3	24			X			
EUGLENA #1	CEL								0.71	36
EUGLENA #2	CEL								0.31	18
EUGLENA ACUS	CEL			X						
EUGLENA GRACILIS	CEL			X						
EUNOTIA	CEL			X						
FLAGELLATE #1	CEL		3.0	283						
FLAGELLATE #9	CEL			X						
FLAGELLATES	CEL		4.3	400		0.4	22		4.51	236
FRAGILARIA	CEL			X						
FRAGILARIA CROTCNENSIS	CEL			X						
GLENODINIUM GYMNODINIUM	CEL				1.7		108			
GOMPHONEMA	CEL			X						
GOMPHONEMA ACUMINATUM	CEL									
V. ELONGATUM	CEL			X						
GOMPHOSPHAERTA LACUSTRIS	COL			X		1.7	108			X
GYROSIGMA ATTENUATUM	CEL			X						
LEPOCINCLIS	CEL			X						
MELOSIRA #4	CEL		1.5	141					1.71	91
MELOSIRA DISTANS	CEL								2.11	109
MELOSIRA GRANULATA	CEL		3.8	353	16.3		1014		2.11	109

LAKE NAME: FOX LAKE
STORET NUMBER: 1755

CONTINUED

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TAXA	FORM	05 09 73			08 07 73			10 16 73		
		S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML
MELOSIRA GRANULATA	CEL							1	28.2	1470
V. ANGUSTISSIMA	CEL							2	17.1	889
MELOSIRA ITALICA	CEL			X						X
MELOSIRA VARIANS	CEL							0.3		18
MESOSTIGMA VIRIDIS	CEL									
MICRACТИUM PUSILLUM	CCL			X						
MICROCYSTIS AERUGINOSA	COL			X	4	4.9	302		5.2	272
MICROCYSTIS INCERTA	COL	0.3		24		0.4	22			X
NAVICULA	CEL			X						
NITZSCHIA	CEL	0.3		24						
OOCYSTIS	CEL			X						
OSCILLATORIA	FIL	0.8		71	5	4.2	259		5.9	309
PANDORINA MORUM	COL			X						X
PEDIASTRUM BORYANUM	COL			X						X
PEDIASTRUM DUPLEX	COL			X				0.3		18
PEDIASTRUM DUPLEX	COL									
V. RETICULATUM	COL						X			X
PEDIASTRUM SIMPLEX	COL									
V. DUODENARIUM	COL						X			X
PEDIASTRUM TETRAS	COL						X			X
PENNATE DIATOM	CEL	0.5		47			X			
PENNATE DIATOMS	CEL							1.4		73
PHACUS	CEL			X			X			
PHACUS ACUMINATUS ?	CEL									X
PHACUS HELIKOIDES	CEL						X			X
PHACUS PYRUM	CEL			X						X
PHARMIDIUM MUCICELLA	COL									
SCENEDESMUS	COL			X						
SCENEDESMUS ABUNDANS	COL									
SCENEDESMUS ACUTUS	COL			X						
SCENEDESMUS ACUTUS	COL									
V. ALTERNANS	COL			X						

LAKE NAME: FOX LAKE
STCRET NUMBER: 1755

CONTINUED

TAXA	FORM	05 09 73			08 07 73			10 16 73		
		S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML
SCENEDESMUS BIJUGA	COL						X			
V. FLEXUOSUS	COL									
SCENEDESMUS DENTICULATUS	COL			X				1.0		54
SCENEDESMUS DIMORPHUS	COL									
SCENEDESMUS INTERMEDIUS	COL						X	0.3		18
V. BICAUDATUS	COL									
SCENEDESMUS OPOLIENSIS	COL									
SCENEDESMUS PROTUBERANS	COL			0.4			22			
SCENEDESMUS QUADRICauda	COL	1.3		118						
SCHROEDERIA SETIGERA	CEL							1.7		91
SPHAEROCYSTIS SCHROETERI	COL			0.7			43	0.7		36
STAURASTRUM #1	CEL									
STAURASTRUM #2	CEL						X			
STEPHANO-DISCUS	CEL	4	10.2	942						
STEPHANO-DISCUS ASTRAEA	CEL	11	13.2	1224	3	16.0	992	5	3.5	181
SURIRELLA	CEL									
SURIRELLA OVATA	CEL			X						
SYNEDRA	CEL									
SYNEDRA #1	CEL			0.4			22			
SYNEDRA #2	CEL							0.7		36
SYNEDRA DELICATISSIMA	CEL			X						
SYNEDRA RADIANA	CEL			X						
SYNEDRA ULNA	CEL	0.8		71						
V. AMPHIRHYNCHUS	CEL		0.3	24						
TETRAEDRON LIMNETICUM	CEL						X			
TETRAEDRON MUTICUM	CEL									
TETRASTRUM	COL								0.3	
TETRASTRUM STAURGENIAEFORME	COL			X						18
TOTAL				9280			6216			5207

LAKE NAME: GRASS LAKE
STORET NUMBER: 1756

NYGAARD TROPHIC STATE INDICES

DATE	05 09 73	08 07 73	10 16 73
MYXOPHYCEAN	1.50 E	4.50 E	1.33 E
CHLOROPHYCEAN	5.00 E	8.50 E	3.00 E
EUGLENOPHYTE	0.15 ?	0.23 E	0.62 E
DIATOM	0.27 ?	0.43 E	0.23 ?
COMPOUND	9.50 E	19.0 E	9.00 E

PALMER'S ORGANIC POLLUTION INDICES

DATE	05 09 73	08 07 73	10 16 73
GENUS	25	20	18
SPECIES	06	06	04

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE	05 09 73	08 07 73	10 16 73
AVERAGE DIVERSITY H	3.39	3.04	3.15
NUMBER OF TAXA S	50.00	62.00	69.00
NUMBER OF SAMPLES COMPOSITED M	2.00	2.00	2.00
MAXIMUM DIVERSITY MAXH	5.64	5.95	6.11
TOTAL DIVERSITY D	34805.13	78821.12	56003.85
TOTAL NUMBER OF INDIVIDUALS/ML N	10267.00	25928.00	17779.00
EVENNESS COMPONENT J	0.60	0.51	0.52
MEAN NUMBER OF INDIVIDUALS/TAXA L	205.34	418.19	257.67
NUMBER/ML OF MOST ABUNDANT TAXON K	2723.00	10253.00	4048.00

LAKE NAME: GRASS LAKE
STORET NUMBER: 1755

CONTINUED

TAXA	FORM	05 09 73			08 07 73			10 16 73		
		S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML
AMPHIPRORA ORNATA	CEL									X
ANABAENA	FIL									X
ANKISTRODESmus FALCATUS	CEL	2.4	246		0.4	99				
APHANIZCMENON FLOS-AQUAE	FIL				1.9	493				
ASTERIONELLA FORMOSA	CEL	0.2	22					0.9	159	
CALONEIS LEWISII	CEL									X
CENTRIC DIATOM	CEL							22.8	4048	
CHLICMONAS PARAMAECIUM	CEL	1.5	156							
CHLAMYDOMONAS #1	CEL			X						
CHLAMYDOMONAS #2	CEL			X						
CHLAMYDOMONAS SPHAGNICOLA	CEL	0.4	45							
CHLOROGONIUM	CEL			X						
CHLOROPHYTAN COCCOID CELL	CEL	217.6	1808							X
CHLOROPHYTAN COCCOID CELLED COLONY	COL				0.6	148				
CHLOROPHYTAN FLAGELLATE	CEL					X				
CHROMONAS ?	CEL			X						
CHROMONAS ? NORDSTEDTII ?	CEL									X
CHRYSOPHYTAN COCCOID CELL	CEL	1.1	112							
CLCSTERIOPSIS LONGISSIMA	CEL			X						
COCCOID COLONY	COL				0.2	49				
COCCONEIS	CEL					X				
COCCONEIS #2	CEL					X				
COCCONEIS SCUTELLUM	CEL			X						
COELASTRUM	COL				0.2	49				
COELASTRUM MICROPORUM	COL			X						
COELASTRUM SPAERICUM	COL				0.8	197				
COSCINODISCUS LACUSTRIS	CEL			227.4	7098					
COSMARIUM	CEL					X				
CCSMARIUM #2	CEL						0.2	40		
CRUCIGENIA TETRAPEDIA	COL			X	0.6	148				
CRYPTOMONAS CURVATA	CEL				2.5	641				X
CRYPTOMONAS EROSA	CEL	4.1	424							X

LAKE NAME: GRASS LAKE
STORET NUMBER: 1756

CONTINUED

TAXA

CRYPTOMENAS SPP.
CYCLOTELLA MENEGHINIANA
CYMATOPLEURA SOLEA
CYMBELLA
DACTYLOCOPOPSIS
DIATOMA
DIATOMA ELCNGATUM
DIATOMA TENUE
V. ELCNGATUM
DICTYOSPHAERIUM PULCHELLUM
DINOBYRON BAVARICUM
DINOBYRON SERTULARIA
DINCBYRON SPP.
EPITHEMIA #1
EPITHEMIA TURGIDA
EUGLENA #1
EUGLENA #2
EUGLENA ACUS
EUGLENA GRACILIS
EUNOTIA
EUNOTIA #1
EUNOTIA #2
FLAGELLATE #1
FRAGILARIA CROTONENSIS
GLENODINIUM
GLENODINIUM PENARDIFORME ?
GOMPHONEMA #5
GOMPHONEMA ACUMINATUM ?
GOMPHONEMA PARVULUM
GYMNOBINUM ORDINATUM
GYROSIGMA
LEPOCINCLIS

93

05 09 73 08 07 73 10 16 73

FORM	ALGAL UNITS PER ML			ALGAL UNITS PER ML			ALGAL UNITS PER ML		
	S	%C		S	%C		S	%C	
CEL							6.9		1230
CEL	4	13.3	1362	1	39.5	10253	1	22.8	4048
CEL						X			X
CEL					2.5	641		6.0	1071
CEL			X						X
CEL		1.1	112						
COL			X						X
CEL						X			X
CEL	1	26.5	2723					0.2	40
CEL						X			X
CEL							0.2		
CEL						X			X
CEL					0.6	148		0.4	79
CEL						X			X
CEL		1.7	179					0.2	40
CEL			X						
CEL									X
CEL									
CEL	5	8.0	826	1.3		345	3	10.9	1944
CEL			X						X
CEL									X
CEL					2.1	542			
CEL									
CEL									X
CEL									
CEL			X						
CEL									X
CEL									
CEL					0.2	49			

LAKE NAME: GRASS LAKE
STORET NUMBER: 1756

CONTINUED

TAXA	FORM	05 09 73			08 07 73			10 16 73		
		IS	%C	ALGAL UNITS PER ML	IS	%C	ALGAL UNITS PER ML	IS	%C	ALGAL UNITS PER ML
LYNGBYA LIMNETICA	FIL		0.7	67						X
MALLCMCNAS ACAROIDES	CEL						X			
MELOSIRA #4	CEL				3	3.2	838			
MELOSIRA GRANULATA	CEL				4	3.0	789			
MELOSIRA GRANULATA			X							
V. ANGUSTISSIMA	CEL						X			
MELOSIRA ITALICA	CEL				X					X
MELOSIRA SPP.	CEL									
MELOSIRA VARIANS	CEL									
MERISMOPEDIA GLAUCAL ?	COL					0.4	99			
MERISMOPEDIA TENUISSIMA	COL					1.3	345			
MICRACHTINUM PUSILLUM	COL									
MICROCYSTIS AERUGINOSA	COL					0.2	49			
MICROCYSTIS INCERTA	COL					0.8	197			
NAVICULA #1	CEL				X			X		
NAVICULA #2	CEL							X		
NAVICULA #3	CEL				X					X
NAVICULA #4	CEL				X					X
NAVICULA #5	CEL				X					X
NAVICULA #6	CEL		0.9	89						
NAVICULA #7	CEL									X
NITZSCHIA #1	CEL									X
NITZSCHIA #2	CEL		0.7	67						
NITZSCHIA #3	CEL				X					
NITZSCHIA #4	CEL									
NITZSCHIA HOLSATICA ?	CEL						X			
OOCYSTIS	CEL						690			
OSCILLATORIA	FIL		1.3	134			99			
OSCILLATORIA #1	FIL					0.4				
OSCILLATORIA LIMNETICA	FIL		5.9	603			197			
PEDIASTRUM BORYANUM	COL					0.8				
PEDIASTRUM DUPLEX	COL					1.1	296			
V. CLATHRATUM	COL						X			

LAKE NAME: GRASS LAKE
STORET NUMBER: 1756

CONTINUED

TAXA	FORM	05 09 73		08 07 73		10 16 73				
		S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML
PEDIASTRUM DUPLEX	COL						X			
V. RUGULOSUM	COL									
PEDIASTRUM SIMPLEX	CEL				0.8	197				X
PENNATE DIATOM #1	CEL			0.4	99					
PENNATE DIATOM #2	CEL					X				
PHACUS CAUDATUS	CEL			X			X			
PHACUS HELIKOIDES	CEL					X				
PHACUS PYRUM	CEL									X
PHACUS SWIRENKOI	CEL									X
PTEROMONAS	CEL			X						X
SCENEDESMUS ABUNDANS	COL				0.6	148				
SCENEDESMUS ACUTUS	COL									
V. ALTERNANS	COL			X						
SCENEDESMUS BIJUGA	COL	0.2	22							X
SCENEDESMUS DENTICULATUS	COL			X						
SCENEDESMUS DIMORPHUS	COL									X
SCENEDESMUS INTERMEDIUS	COL				1.3	345				X
SCENEDESMUS OBLIGUUS	COL	0.2	22							
SCENEDESMUS OVALTERNUS	COL					X				
SCENEDESMUS PROTUBERANS	COL					X				X
SCENEDESMUS QUADRICauda	COL	0.2	22	1.9	493					
SCENEDESMUS spp.	COL						2.7			476
SCHREDERIA SETIGERA	CEL				0.2	49				
SPHAEROCYSTIS SCHROETERI	COL				0.2	49				
STAURASTRUM	CEL			X			0.2			40
STAURASTRUM #2	CEL									X
STAURASTRUM #3	CEL	0.2	22							
STAURONEIS #1	CEL					X				X
STAURONEIS PHENICENTERON	CEL									
STEPHANODISCUS ?	CEL	3	7.2	736						
STEPHANODISCUS NIAGARAE	CEL					X				
SURIRELLA	CEL	0.2	22				0.7			119
										X

LAKE NAME: GRASS LAKE
STORET NUMBER: 1756

CONTINUED

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TAXA	FORM	05 09 73			08 07 73			10 16 73		
		I	S	ALGAL UNITS PER ML	I	S	ALGAL UNITS PER ML	I	S	ALGAL UNITS PER ML
SYNCRYPTA VOLVOX ?	COL			X						
SYNEDRA #1	CEL		4.1	424						
SYNEDRA #2	CEL									
SYNEDRA #3	CEL									
SYNEDRA ULNA	CEL		0.2	22						
TETRAEDRON CAUDATUM	CEL									
TETRAEDRON TRIGONUM	CEL				0.2		X			
TETRASTRUM STAUROGENIAEFORME	COL					49	X			
TRACHELOMONAS URCEOLATA ?	CEL							0.2		40
TOTAL				10267			25928			17779

LAKE NAME: EAST LOON LAKE
STORET NUMBER: 1757

NYGAARD TROPHIC STATE INDICES

	DATE	08 07 73	10 16 73
MYXOPHYCEAN		3.00 E	8.00 E
CHLOROPHYCEAN		1.67 E	5.00 E
EUGLENOPHYTE		0/14 ?	0.08 ?
DIATOM		0.33 E	0.27 ?
COMPOUND		5.33 E	17.0 E

PALMER'S ORGANIC POLLUTION INDICES

	DATE	08 07 73	10 16 73
GENUS		11	05
SPECIES		02	00

SPECIES DIVERSITY AND ABUNDANCE INDICES

	DATE	08 07 73	10 16 73
AVERAGE DIVERSITY	H	3.30	2.55
NUMBER OF TAXA	S	31.00	35.00
NUMBER OF SAMPLES COMPOSITED	M	1.00	1.00
MAXIMUM DIVERSITY	MAXH	4.95	5.13
TOTAL DIVERSITY	D	32518.20	9284.55
TOTAL NUMBER OF INDIVIDUALS/ML	N	9854.00	3641.00
EVENNESS COMPONENT	J	0.67	0.50
MEAN NUMBER OF INDIVIDUALS/TAXA	L	317.87	104.03
NUMBER/ML OF MOST ABUNDANT TAXON	K	3981.00	2110.00

LAKE NAME: EAST LOON LAKE
STORET NUMBER: 1757

CONTINUED

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08 07 73

10 16 73

TAXA	FORM	ALGAL UNITS			ALGAL UNITS		
		S	%C	PER ML	S	%C	PER ML
ANABAENA	FIL					1.01	36
ANABAENA SPIROIDES	FIL					1.51	54
APHANIZCMENON FLOS-AQUAE	FIL			X	1	58.01	2110
ARTHROSPIRA JENNERI	FIL	2	11.91	1175			
CHROOCOCCUS	COL	5	3.81	379		2.51	90
CHRYOSOPHYTAN FLAGELLATE	CEL		1.91	190			X
CLOSTERIUM	CEL			X			
CLOSTERIUM SPP.	CEL		3.51	341			X
COCCONEIS	CEL						
COELASTRUM CAMBRICUM	COL						
V. INTERMEDIUM	COL						X
COELASTRUM MICROPORUM	COL						
CCELOSPHAERIUM	COL		3.11	303		0.51	18
CRUCIGENIA TETRAPEDIA	COL		3.81	376			
CRYPTOMONAS	CEL		3.11	303	5	3.01	108
CRYPTOMONAS EROSA	CEL						X
CYCLOTELLA ?	CEL		0.41	38			
CYMBELLA	CEL						X
DINOBRYCN	CEL		0.81	76		1.51	54
EUGLENA	CEL					1.01	36
EUNOTIA PECTINALIS	CEL						
V. MINOR	CEL		0.81	76			
FLAGELLATE	CEL					1.01	36
FRAGILARIA	CEL					1.01	36
FRAGILARIA CROTONENSIS	CEL						X
GLENODINIUM	CEL		0.81	76			
GLOEOCYSTIS ?	COL		1.21	114			
GOMPHOSPHAERIA	COL						
GYROSIGMA	CEL						
GYROSIGMA SPENCERII	CEL			X			X
LYNGBYA	FIL	1	40.41	3981		2.51	90
PELOSIRA GRANULATA	CEL		0.81	76	21	9.91	361

LAKE NAME: EAST LOON LAKE
STCRET NUMBER: 1757

CONTINUED

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TAXA	FORM	08 07 73			10 16 73		
		S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML
MELOSIRA VARIANS	CEL					1.0	36
MERISMOPEDIA TENUISSIMA	COL	4	6.9	682	4	5.9	216
MICROCYSTIS	COL	3	5.0	492			
MICROCYSTIS INCERTA	FIL			X			
MOUGEOTIA	CEL		3.5	341			
NAVICULA	CEL						
NAVICULA #1	CEL						X
NAVICULA #2	CEL						X
NAVICULA ANGLICA	CEL			X			
NAVICULA CUSPIDATA ?	CEL				0.5	18	
NAVICULA SPP.	CEL				1.0	36	
NITZSCHIA	CEL						X
OOCYSTIS	CEL						X
OOCYSTIS PARVA	CEL	0.8		76			
OSCILLATORIA	FIL	4.2		417	1.0		36
PENNATE DIATOM	CEL	0.4		38			
PINNULARIA	CEL				0.5	18	
RAPHIDIOPSIS	FIL	1.5		152			
SCENEDESmus	COL			X			
SCENEDESmus ?	COL	0.4		38			
SCENEDESmus ECORNIS	COL						X
V. DISCIIFORMIS	CEL	0.8		76	1.0		36
SCHROEDERIA	CEL			X			
STAURASTRUM	CEL						X
STEPHANODISCUS	CEL						
SYNEDRA	CEL	0.4		38			
SYNURA	CEL				0.5	18	
TABELLARIA FENESTRATA	CEL				0.5	18	
TOTAL				9854			3641

LAKE NAME: SLOCUM LAKE
STORET NUMBER: 1758

NYGAARD TROPHIC STATE INDICES

	DATE	08 07 73	10 16 73
MYXOPHYCEAN		1.67 E	1.00 E
CHLOROPHYCEAN		2.67 E	7.00 E
EUGLENOPHYTE		0/13 ?	0/08 ?
DIATOM		1.00 E	1.33 E
COMPOUND		5.67 E	12.0 E

PALMER'S ORGANIC POLLUTION INDICES

	DATE	08 07 73	10 16 73
GENUS		06	09
SPECIES		00	02

SPECIES DIVERSITY AND ABUNDANCE INDICES

	DATE	08 07 73	10 16 73
AVERAGE DIVERSITY	H	0.67	0.71
NUMBER OF TAXA	S	26.00	16.00
NUMBER OF SAMPLES COMPOSITED	M	1.00	1.00
MAXIMUM DIVERSITY	MAXH	4.70	4.00
TOTAL DIVERSITY	D	20759.28	13551.77
TOTAL NUMBER OF INDIVIDUALS/ML	N	30984.00	19087.00
EVENNESS COMPONENT	J	0.14	0.18
MEAN NUMBER OF INDIVIDUALS/TAXA	L	1191.69	1192.94
NUMBER/ML OF MOST ABUNDANT TAXON	K	28338.00	17189.00

LAKE NAME: SLOCUM LAKE
STCET NUMBER: 1758

CONTINUED

TAXA	FORM	08 07 73			10 16 73		
		S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML
ANKI STRODESMUS	CEL					0.2	39
APHANIZCMENON FLOS-AQUAE	FIL	1	91.5	28338	1	90.1	17189
BOTRYOCOCCUS BRAUNII	COL					X	
CLOSTERIUM	CEL	5	0.6	189	3	1.2	232
COCCONEIS	CEL			X			
CCELOSPHAERIUM	COL		0.4	126			
COSMARIUM	CEL			X			
CRYPTOMNAS EROSA	CEL		0.4	126			
CYCLOTELLA MENEGHINIANA	CEL			X	5	1.4	271
CYMBELLA	CEL					X	
FRUSTULIA RHOMBOIDES	CEL					X	
MALLMONAS	CEL		0.2	63			
MELOSIRA GRANULATA	CEL	2	3.3	1008	4	0.8	155
MELOSIRA GRANULATA V. ANGLISSIMA	CEL				2	4.9	929
MELOSIRA ITALICA	CEL	3	1.4	441			
MERISMOPEDIA GLAUCIA	COL		0.4	126			
MICROCYSTIS	COL			X			
MICROCYSTIS INCERTA	COL	4	0.6	189			
NAVICULA	CEL		0.2	63			
NITZSCHIA ACICULARIS	CEL			X			
OOCYSTIS	CEL		0.4	126			
OCYCSTIS PARVA	CEL			X			
PEDIASTRUM BORYANUM	COL			X			
PEDIASTRUM DUPLEX	COL			X			
PEDIASTRUM SIMPLEX							
V. DUODENARIUM	CCL			X			
SCENEDESMUS ACUMINATUS	COL			X	0.2	39	
SCENEDESMUS BERNARDII	COL					X	
SCENEDESMUS OPOLIENSIS	COL				0.2	39	
SCENEDESMUS PROTUBERANS	COL			X			
SCHROEDERIA	CEL		0.4	126			

LAKE NAME: SLOCUM LAKE
STORET NUMBER: 1758

CONTINUED

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TAXA

SCHROEDERIA SETICERA
STAURASTRUM
STEPHANODISCUS
STEPHANODISCUS ASTRAEA
V. MINUTULA
SYNEDRA
SYNEDRA ULNA
TETRAEDRCN GRACILE

TOTAL

08 07 73

10 16 73

FORM	ALGAL UNITS PER ML			ALGAL UNITS PER ML		
	I	S	%C	I	S	%C
CEL					0.2	39
CEL		0.2		63		
CEL				X		
CEL						
CEL					0.2	39
CEL					0.6	116
CEL				X		
CEL						X
				30984		19087

LAKE NAME: CEDAR LAKE
STORET NUMBER: 1759

NYGAARD TROPHIC STATE INDICES

DATE 08 07 73 10 16 73

MYXOPHYCEAN	07/0	E	07/0	E
CHLOROPHYCEAN	05/0	E	01/0	E
EUGLENOPHYTE	0/12	?	0/08	?
DIATOM	0/06	?	0.33	E
COMPOUND	12/0	E	09/0	E

PALMER'S ORGANIC POLLUTION INDICES

DATE 08 07 73 10 16 73

GENUS	05	06
SPECIES	00	04

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE 08 07 73 10 16 73

AVERAGE DIVERSITY	H	3.76	3.25
NUMBER OF TAXA	S	24.00	15.00
NUMBER OF SAMPLES COMPOSITED	M	1.00	1.00
MAXIMUM DIVERSITY	MAXH	4.58	3.91
TOTAL DIVERSITY	D	4572.16	6337.50
TOTAL NUMBER OF INDIVIDUALS/ML	N	1216.00	1950.00
EVENNESS COMPONENT	J	0.82	0.83
MEAN NUMBER OF INDIVIDUALS/TAXA	L	50.57	130.00
NUMBER/ML OF MOST ABUNDANT TAXON	K	229.00	396.00

LAKE NAME: CEDAR LAKE
STCRET NUMBER: 1759

CONTINUED

TAXA	FORM	08 07 73			10 16 73		
		S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML
ANABAENA	FIL					4.1	79
ANABAENA SPIROIDES	FIL			X			
ANABAENOPSIS	FIL						X
APHANIZOCMENCN	FIL	4.4		53			
APHANIZOMENON FLOS-AQUAE	FIL				21	16.2	316
CERATIUM HIRUNDINELLA	CEL			X			
CHROOCOCCUS	COL	8.7		106	11	12.2	237
COCCONEIS	CEL	4.4		53	11	1.3	26
CRUCIGENIA QUADRATA	COL	1.5		18			
CRYPTOMONAS	CEL	2.9		35			
CRYPTOMONAS EROSA	CEL				5	6.8	132
CYCLOTELLA	CEL					8.1	158
DICTYOSPHAERIUM	COL	2.9		35			
DINOBYRON	CEL	313.0		158	11	20.3	396
DINOFLAGELLATE	CEL	142.9		35			
FLAGELLATE	CEL	5.8		70			
FLAGELLATE #1	CEL						X
FRAGILARIA CROTONENSIS	CEL			X			X
GLENODINIUM	CEL			X			
GCMPHOSPHAERIA	CEL	1118.8		229			
MERISMOPEDIA	COL			X	31	12.2	237
MICROCYSTIS	COL	518.7		106			
MICROCYSTIS AERUGINOSA	COL					5.4	106
MICROCYSTIS INCERTA	COL	217.2		88	14	8.1	158
NAVICULA	CEL					1.3	26
NAVICULA SPP.	CEL		2.9	35			
DOCYSTIS	CEL		1.5	18			
PENNATE DIATOM	CEL			X			
SCENEDESmus BIJUGA	COL		8.7	106			
SCENEDESmus QUADRICAUDA	COL					4.1	79
SCHRÖEDERIA	CEL		1.5	18			
SYNEDRA	CEL		1.5	18			

LAKE NAME: CEDAR LAKE
STORET NUMBER: 1759

CONTINUED

TAXA	08 07 73						10 16 73					
	FORM	IS	%C	ALGAL UNITS PER ML	IS	%C	ALGAL UNITS PER ML	IS	%C	ALGAL UNITS PER ML	IS	%C
SYNURA	CEL	1	1	2.91	35	1	1	1	1	1	1	1
TOTAL				1216				1950				

LAKE NAME: LAKE WE-MA-TUK
STORET NUMBER: 1761

NYGAARD TROPHIC STATE INDICES

	DATE	08 09 73	10 17 73
MYXOPHYCEAN		2.00 E	1.33 E
CHLOROPHYCEAN		1.67 E	2.67 E
EUGLENOPHYTE		0.55 E	0.50 E
DIATOM		1.00 E	3.00 E
COMPOUND		6.67 E	7.00 E

PALMER'S ORGANIC POLLUTION INDICES

	DATE	08 09 73	10 17 73
GENUS		11	07
SPECIES		02	02

SPECIES DIVERSITY AND ABUNDANCE INDICES

	DATE	08 09 73	10 17 73
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AVERAGE DIVERSITY	H	2.81	3.35
NUMBER OF TAXA	S	29.00	34.00
NUMBER OF SAMPLES COMPOSITED	M	2.00	2.00
MAXIMUM DIVERSITY	MAXH	4.86	5.09
TOTAL DIVERSITY	D	10419.48	4981.45
TOTAL NUMBER OF INDIVIDUALS/ML	N	3708.00	1487.00
EVENNESS COMPONENT	J	0.58	0.66
MEAN NUMBER OF INDIVIDUALS/TAXA	L	127.86	43.74
NUMBER/ML OF MOST ABUNDANT TAXON	K	1203.00	368.00

LAKE NAME: LAKE WE-MA-TUK
STORET NUMBER: 1751

CONTINUED

08 09 73 10 17 73

TAXA	FORM	ALGAL UNITS PER ML			ALGAL UNITS PER ML		
		S	%C		S	%C	
ANABAENA	FIL			X			
APHANIZMENON FLOS-AQUAE	FIL		0.7	25		1.3	20
BOTRYOCOCCUS	COL			X			
BOTRYOCOCCUS ?	COL						X
CHLAMYDOMONAS	CEL						X
CHLOROPHYTAN CELL	CEL						X
CHLOROPHYTAN COCCOID CELL	CEL					0.7	10
CHLOROPHYTAN COLONY	COL					0.7	10
CHRYSOPHYTAN COCCOID CELL	CEL					2.0	30
CLOSTERIUM #1	CEL		2.0	00075		0.8	12
CLOSTERIUM #2	CEL		0.7	25		2.2	33
COCCOID COLONY	COL			X			
COELASTRUM MICROPORUM	COL					0.8	12
COELASTRUM RETICULATUM	COL	21	21.6	802		3.8	57
COELOSPHAERIUM COLLINSII	COL			X			
COSMARIA	CEL		0.7	25			
CRUCIGENIA TETRAPEDIA	COL	41	6.8	251			
CRYPTOMONAS EROSA	CEL				41	8.8	131
CYCLOTELLA MENEGHINIANA	CEL	151	5.4	200	22	20.8	309
CYCLOTELLA STELLIGERA	CEL			X			
DINOBYRON DIVERGENS	CEL						X
EUGLENA #1	CEL			X			
EUGLENA #2	CEL			X			
EUGLENA #3	CEL						X
EUGLENA ACUS	CEL		0.7	25			
EUGLENA OXYURIS	CEL						X
V. MINOR	CEL			X			
EUGLENA TRIPTERIS ?	CEL						
FLAGELLATE	CEL		2.0	75		6.1	90
FLAGELLATE #1	CEL					1.5	23
FLAGELLATE #2	CEL						X
GEMPHOSPHAERIA LACISTRIS	COL						

LAKE NAME: LAKE WE-MA-TUK
STORET NUMBER: 1761

CONTINUED

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TAXA

LEPOCINCLIS ?
MELOSIRA GRANULATA
MELOSIRA GRANULATA
V. ANGUSTISSIMA
MERISMOPEDIA TENUISSIMA
NAVICULA
OOCYSTIS
OSCILLATORIA #1
OSCILLATORIA #2
PEDIASTRUM DUPLEX
V. RETICULATUM
PENNATE DIATOM
PERIDINIUM
PHACUS ACUMINATUS
PHACUS PLEURONECTES
PHACUS PYRUM
SCENEDESMUS INTERMEDIUS
V. BICAUDATUS
SCHROEDERIA SETIGERA
SPHAEROCYSTIS SCHROETERI
STAURASTRUM
SYNEDRA #1
SYNEDRA #2
TRACHELMONAS

TOTAL

FORM	08 09 73			10 17 73		
	S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML
CEL					0.8	12
CEL			X		4.1	61
CEL				1	24.7	368
COL	0.7		25			
CEL			X			X
FIL	2.7		100	3	10.4	154
FIL	3	19.6	727	5	6.1	91
COL						X
CEL	0.7		25			
CEL			X			
CEL	1.3		50			
CEL			X			X
CEL						X
COL						X
CEL				4.3		64
COL	1	32.4	1203			
CEL			X			X
CEL	2.0		75			X
				3708		1487

LAKE NAME: RACCOON LAKE
STORET NUMBER: 1762

NYGAARD TROPHIC STATE INDICES

	DATE	05	11	73	08	08	73	10	19	73
MYXOPHYCEAN		0/03	0		07/0	E		6.00	E	
CHLOROPHYCEAN		0.67	?		03/0	E		3.00	E	
EUGLENOPHYTE		3.00	E		0.60	E		0.33	E	
DIATOM		1.33	E		4.00	E		0.50	E	
COMPOUND		4.00	E		20/0	E		16.0	E	

PALMER'S ORGANIC POLLUTION INDICES

	DATE	05	11	73	08	08	73	10	19	73
GENUS					02			09		06
SPECIES					00			05		00

SPECIES DIVERSITY AND ABUNDANCE INDICES

	DATE	05	11	73	08	08	73	10	19	73
AVERAGE DIVERSITY	H		2.41		2.06		3.07			
NUMBER OF TAXA	S		26.00		27.00		27.00			
NUMBER OF SAMPLES COMPOSITED	M		2.00		2.00		2.00			
MAXIMUM DIVERSITY	MAXH		4.70		4.75		4.75			
TOTAL DIVERSITY	D	11276.39		53384.90		14646.97				
TOTAL NUMBER OF INDIVIDUALS/ML	N	4679.00		25915.00		4771.00				
EVENNESS COMPONENT	J	0.51		0.43		0.65				
MEAN NUMBER OF INDIVIDUALS/TAXA	L	179.96		959.81		176.70				
NUMBER/ML OF MOST ABUNDANT TAXON	K	1933.00		16712.00		1195.00				

LAKE NAME: RACCCN LAKE
STORET NUMBER: 1762

CONTINUED

TAXA	FORM	05 11 73			08 08 73			10 19 73		
		S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML
ANABAENA	FIL									
ANKISTRIDESMUS FALCATUS	CEL					1.6	412			
APHANOCAPSA RIVULARIS ?	CEL						X			
CENTRIC DIATOM	CEL	5	9.0	421	3	4.8	1236	3	14.7	702
CHILOMONAS PARAMaecium	CEL					0.9	229			
CHLAMYDOMONAS	CEL			X						
CHLOROPHYTAN CELL	CEL						X			
CHRYSOPHYTAN COCCOID CELL #1	CEL	4	4.3	203						
CHRYSOPHYTAN COCCOID CELL #2	CEL	2	23.3	1091						
CHRYSOPHYTAN CYST	CEL			X						
CLOSTERIUM	CEL			X						
CLOSTERIUM CERATIUM	CEL							0.2		11
COCCOID CELL	CEL		0.3	16						
CRYPTOMONAS	CEL							4.8		230
CRYPTOMONAS EROSA	CEL	3	15.0	701				0.2		11
CYCLOTELLA MENEGHINIANA	CEL					2.7	687			
CYMBELLA	CEL			X						
DACTYLOCOPPSIS	CEL									
DIPLONEIS	CEL				2	9.2	2381	6.9		329
EUGLENA	CEL						X			
EUGLENA ACUS	CEL			X						
EUGLENA GRACILIS	CEL		0.3	16						
EUGLENA GRACILIS ?	CEL						X			
EUGLENA OXYURIS	CEL									
V. MINOR	CEL									
EUGLENA TRIPTERIS	CEL									
FLAGELLATE #1	CEL									
FLAGELLATE #9	CEL	1	41.3	1933			X			
FOUR CELLED COLONY	COL			X						
FRAGILARIA CROTONENSIS	CEL					0.7	183			
GLENODINIUM EDAX	CEL						X			
GLENODINIUM GYMNOdinium	CEL						X			

LAKE NAME: RACCOON LAKE
STORET NUMBER: 1762

CONTINUED

LAKE NAME: RACCOON LAKE
STORET NUMBER: 1762

CONTINUED

TAXA	FORM	05 11 73			08 08 73			10 19 73		
		S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML
SYNEDRA	CEL		1.7	78						
TETRASTRUM	COL		0.7	31						
TETRASTRUM STAURGENIAEFORME	COL									
TRACHELEMOMAS PULCHELLA	CEL				0.9		229			
TRACHELEMOMAS PULCHELLA ?	CEL		2.0	94						
TRACHELEMOMAS URCEOLATA	CEL		0.3	16				X		
TRACHELEMOMAS URCEOLATA ?	CEL									x
TOTAL				4679			25915			4771

LAKE NAME: BALDWIN LAKE
STORY NUMBER: 1753

NYGAARD TROPHIC STATE INDICES

DATE 05 07 73 08 10 73 10 17 73

HYXOPHYCEAN	1.25 E	2.50 E	2.00 E
CHLOROPHYCEAN	3.50 E	3.00 E	6.33 E
EUGLENOPHYTE	0/19 ?	0.18 ?	0.08 ?
DIATOM	0.67 E	0.67 E	4.00 E
COMPGUND	5.25 E	7.50 E	10.3 E

PALMER'S ORGANIC POLLUTION INDICES

DATE 05 07 73 08 10 73 10 17 73

GENUS	10	05	15
SPECIES	04	00	09

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE 05 07 73 08 10 73 10 17 73

AVERAGE DIVERSITY	H	3.31	3.20	3.74
NUMBER OF TAXA	S	36.00	24.00	38.00
NUMBER OF SAMPLES COMPOSITED	M	2.00	2.00	2.00
MAXIMUM DIVERSITY	MAXH	5.17	4.58	5.25
TOTAL DIVERSITY	D	14408.43	11072.00	17458.32
TOTAL NUMBER OF INDIVIDUALS/ML	N	4353.00	3460.00	4668.00
EVENNESS COMPONENT	J	0.64	0.70	0.71
MEAN NUMBER OF INDIVIDUALS/TAXA	L	120.92	144.17	122.84
NUMBER/ML OF MOST ABUNDANT TAXON	K	866.00	877.00	1181.00

LAKE NAME: BALDWIN LAKE
STORET NUMBER: 1763

CONTINUED

TAXA	FORM	05 07 73			08 10 73			10 17 73		
		IS	%C	ALGAL UNITS PER ML	IS	%C	ALGAL UNITS PER ML	IS	%C	ALGAL UNITS PER ML
ACTINASTRUM	CEL									
ANABAENA	FIL						X			
ANKISTRIDESMUS FALCATUS	CEL									
CERATIUM HIRUNDINELLA	CEL			X						
CHILOMONAS PARAMAECIUM	CEL						X			
CHLAMYDOMONAS	CEL									
CHLOROPHYTAN COLONY	CEL	0.6	27							
CHLOROPHYTAN PALMELLOID COLONY	COL			X						
CLCSTERIOPSIS LONGISSIMA	COL									
V. TROPICA	CEL			X						
CLCSTERIUM	CEL			X						
COCCOID COLONY	COL						X			
COELASTRUM	COL									
COELASTRUM RETICULATUM	COL									
COSMARIUM	CEL			1.3			45		0.6	26
CRUCIGENIA FENESTRATA	COL								2.2	105
CRUCIGENIA TETRAPEDIA	COL			X			0.6			
CRYPTOMONAS	CEL			X						
CYCLOTELLA	CEL									
CYCLOTELLA MENEGHINIANA	CEL	0.6	27							
CACTYLLOCOPYSIS	CEL									
DICTYOSPHAERIUM EHRENBURGIANUM	COL	2.5	108		4.5		157		4.5	210
EUASTRUM	CEL			X					1.7	79
EUGLENA	CEL									
FLAGELLATE #1	CEL	5.0	216		2.6		90		0.6	26
FRAGILARIA	CEL			X						
KIRCHNERIELLA	CEL									
LAGERHEIMIA	CEL	2	19.9	866	3.9		135			
LUNATE CELLED COLONY	COL			X						
LYNGBYA LIMNETICA	FIL				4	10.4	360			
MALLOMONAS	CEL			X						
MELOSIRA DISTANS	CEL								5.6	262

LAKE NAME: BALDWIN LAKE
SECRET NUMBER: 1763

CONTINUED

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MELOSIRA GRANULATA
MELOSIRA GRANULATA
V. ANGUSTISSIMA F. SPIRALIS
MERISMOPEDIA
PERISMOPEDIA TENUISSIMA
MICROCYSTIS #2
MICROCYSTIS INCERTA
NITZSCHIA
NITZSCHIA #1
NITZSCHIA HOLSATICA ?
NITZSCHIA TRYBLICNELLA
NITZSCHIA VERMICULARIS
OCYCYSTIS
OSCILLATORIA #2
OSCILLATORIA GEMINATA
CSCILLATORIA SUBREVIS
PEDIASTRUM BIRADIATUM
PEDIASTRUM BORYANUM
PEDIASTRUM DUPLEX
V. ?
PEDIASTRUM DUPLEX
V. RETICULATUM
PEDIASTRUM SIMPLEX
V. DUCDENARIUM
PHACUS
PHACUS SWIRENKOI
RAPHIODIOPSIS
SCENEDESMUS BICAUDATUS
SCENEDESMUS BIJUGA
SCENEDESMUS DENTICULATUS
SCENEDESMUS DIMORPHUS
SCENEDESMUS INTERMEDIUS
V. BICALDATUS

LAKE NAME: BALDWIN LAKE
STORET NUMBER: 1763

CONTINUED

TAXA	FORM	05 07 73			08 10 73			10 17 73		
		S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML
SCENEDESmus PANNONICUS ?	COL		1.2	54						
SCENEDESmus QUADRICAUDA	CCL	5	9.9	433			X		1.7	79
SCHROEDERIA SETIGERA	CEL								2.2	105
SPHAEROCYSTIS	COL								0.6	26
SPIROGYRA	FIL			X						
STAURASTRUM #1	CEL			X						
STAURASTRUM #2	CEL		0.6	27						X
TETRAEDRCN GRACILE	CEL						X			
TETRASTRUM STAURGENIAEFORME	COL	4	14.9	649		0.6		1.1		52
TREUBARIA SETIGERUM	CEL					22				
TOTAL				4353			3460			4668

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LAKE NAME: LAKE VANDALIA
STORET NUMBER: 1764

NYGAARD TROPHIC STATE INDICES

DATE	05 11 73	08 10 73	10 18 73
MYXOPHYCEAN	3.00 E	06/0 E	9.00 E
CHLOROPHYCEAN	1.00 E	02/0 E	11.0 E
EUGLENOPHYTE	0.50 E	0.12 ?	0.10 ?
DIATOM	1.50 E	3.00 E	1.25 E
COMPOUND	9.00 E	12/0 E	27.0 E

PALMER'S ORGANIC POLLUTION INDICES

11

DATE	05 11 73	08 10 73	10 18 73
GENUS	00	02	02
SPECIES	00	02	02

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE	05 11 73	08 10 73	10 18 73
AVERAGE DIVERSITY H	2.65	2.53	3.26
NUMBER OF TAXA S	18.00	16.00	36.00
NUMBER OF SAMPLES COMPOSITED M	3.00	3.00	3.00
MAXIMUM DIVERSITY MAXH	4.17	4.00	5.17
TOTAL DIVERSITY D	1643.00	3989.81	9111.70
TOTAL NUMBER OF INDIVIDUALS/ML N	620.00	1577.00	2795.00
EVENNESS COMPONENT J	0.64	0.63	0.63
MEAN NUMBER OF INDIVIDUALS/TAXA L	34.44	98.56	77.64
NUMBER/ML OF MOST ABUNDANT TAXON K	133.00	712.00	799.00

LAKE NAME: LAKE VANCALIA
STCET NUMBER: 1764

CONTINUED

TAXA	FORM	05 11 73			08 10 73			10 18 73		
		S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML
AMPHIPRCRA	CEL									X
ANABAENA SCHEREMETIEVI	FIL							4	2.1	58
APHANIZCMENON	FIL								1.6	44
APHANIZCMENON FLCS-AQUAE	FIL									
CHILOMONAS	CEL								0.5	15
CHLAMYDOMONAS ?	CEL			X						X
CHRCOCCOCUS ? MINOR	COL									X
CLOSTERIUM	CEL			X						
CLOSTERIUM CERATIUM ?	CEL									X
COCCONEIS	CEL									
COELASTRUM	COL									
COELOSPHAERIUM KUETZINGIANUM	COL									
CCELOSPHAERIUM PALLIDUM	COL									
CRYPTOMONAS EROSA	CEL									
CRYPTOMONAS EROSA ?	CEL			X						
CRYPTOMONAS REFLEXA	CEL									
CRYPTOMONAS SPP.	CEL	2	21.5	133						
CYANOPHYTAN COCCOID CELLED COLONY	CEL			X						
CYANOPHYTAN FILAMENT	FIL									
CYCLOTELLA MENEGHINIANA	CEL									
DACTYLOCOPCOPSIS	CEL	3	21.5	133						
DICTYOSPHAERIUM	COL									
DICTYOSPHAERIUM EHRENBERGIANUM	COL									
DINOBRYON ?	CEL									
EUGLENA	CEL									
EUGLENA CYURIS	CEL									
V. MINOR	CEL			X						
FLAGELLATE	CEL									
FLAGELLATE #1	CEL	5	14.4	89						
GCMPHONEMA	CEL			X						
KIRCHNERIELLA	CEL			X						
LEPOCINCLIS ?	CEL								1.0	29

LAKE NAME: LAKE VANDALIA
STORET NUMBER: 1764

CONTINUED

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TAXA	FORM	05 11 73			08 10 73			10 18 73		
		S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML
LYNGBYA	FIL		7.1	44						
PALLOMONAS	CEL						X			
MELOSIRA	CEL	4	7.1	44						
MELOSIRA DISTANS ?	CEL						X			
MELOSIRA GRANULATA	CEL				2	12.2	192			
MELOSIRA ITALICA	CEL							1.6	44	
MERISMOPEDIA	COL							0.5	15	
MERISMOPEDIA ELEGANS	COL				4	4.9	77			
MERISMOPEDIA PUNCTATA	COL					2.5	39			
MICRACHTINUM	COL							0.5	15	
MICROCYSTIS	COL							2	26.0	727
MICROCYSTIS INCERTA	COL							3	8.8	247
NAVICULA	CEL							0.5	15	
NITZSCHIA	CEL									X
OOCYSTIS	CEL							1.0	29	
OSCILLATORIA	FIL							1.0	29	
PEDIASTRUM	COL									X
PENNATE DIATOM	CEL		7.1	44						
RAPHIDIOPSIS	FIL				1.2		19			
SCENEDESMUS	COL					1.2		1.6	44	
SCENEDESMUS BICAUDATUS	COL									
SCHROEDERIA	CEL					3.7	58			
STAUPCHNEIS ?	CEL							5.2	145	
STEPHANODISCUS	CEL							0.5	15	
STEPHANODISCUS NIAGARAE	CEL									X
TETRAEDRON LINNETICUM	CEL							0.5	15	
TETRASTRUM STAURGENIAEFORME	COL									X
TRACHELomonas	CEL	1	21.5	133				1.6	44	
TOTAL					620		1577		2795	

LAKE NAME: OLD BEN MINE RES.
STORET NUMBER: 1765

NYGAARD TROPHIC STATE INDICES

DATE 08 08 73 10 19 73

MYXOPHYCEAN	3.00	E	3.50	E
CHLOROPHYCEAN	6.00	E	12.0	E
EUGLENOPHYTE	0.44	E	0.45	E
DIATOM	1.00	E	1.00	E
COMPOUND	14.5	E	24.5	E

PALMER'S ORGANIC POLLUTION INDICES

DATE 08 08 73 10 19 73

GENUS	23	24
SPECIES	04	04

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE 08 08 73 10 19 73

AVERAGE DIVERSITY	H	3.63	3.58
NUMBER OF TAXA	S	43.00	65.00
NUMBER OF SAMPLES COMPOSITED	M	1.00	1.00
MAXIMUM DIVERSITY	MAXH	5.43	6.02
TOTAL DIVERSITY	D	109212.18	103512.12
TOTAL NUMBER OF INDIVIDUALS/ML	N	30086.00	28914.00
EVENNESS COMPONENT	J	0.67	0.59
MEAN NUMBER OF INDIVIDUALS/TAXA	L	699.67	444.83
NUMBER/ML OF MOST ABUNDANT TAXON	K	6855.00	7011.00

LAKE NAME: OLD BEN MINE RES.
STC RET NUMBER: 1755

CONTINUED

[2]

TAXA	FORM	08 08 73			10 19 73		
		S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML
ACTINASTRUM GRACILIMUM	COL						X
ANABAENOPSIS ELENKINII	FIL			X			
ANKISTRODESMUS FALCATUS	CEL	0.6		178	0.7		200
CARTERIA	CEL	1.14.5		4362			
CHLOROGNOMUS	CEL	0.9		267			
CHROOCOCCUS	COL				0.7		200
CHRYSOPHYTAN FLAGELLATE	CEL	5.0		1513	0.7		200
CLCSTERIUM #1	CEL			X			X
CLCSTERIUM #2	CEL			X			X
COCCONEIS PLACENTULA	CEL						
V. LINEATA	CEL			X			
COELASTRUM	COL						X
CRUCIGENIA APICULATA	COL			X	0.2		67
CRUCIGENIA TETRAPEDIA	COL	0.3		89	0.7		200
CRYPTOMONAS	CEL				0.9		267
CRYPTOMONAS EROSA	CEL	3	6.2	1870	2	8.5	2471
CYCLOTELLA	CEL						
CYCLOTELLA GLomerata ?	CEL	4	18.0	5429			
CYCLOTELLA MENEGHINIANA	CEL			X			X
CACTYLOCYCOPSIS	CEL	2.4		712	1.2		334
DICTYOSPHAERIUM PULCHELLUM	COL	0.9		267	0.5		134
ELAKATOTHRIX ?	COL				0.2		67
EUGLENA	CEL			X	0.7		200
EUGLENA ACUS	CEL			X			X
EUGLENA ACUS ?	CEL						
EUGLENA GRACILIS	CEL	5	2.7	801	0.2		67
EUGLENA OXYURIS	CEL						
V. MINOR	CEL			X			X
FLAGELLATE #2	CEL				0.2		67
FLAGELLATES	CEL	4.7		1424	412.0		3472
GLENODINIUM	CEL	0.3		89			X
GLENODINIUM EDAX	CEL				0.2		67

LAKE NAME: OLD BEN MINE RES.
STCRET NUMBER: 1755

CCNTINUED

08 08 73 10 19 73

TAXA	FCRM	ALGAL UNITS PER ML			ALGAL UNITS PER ML		
		S	%C		S	%C	
KIRCHNERIELLA	CEL	2.1	623		5	17.6	5075
LEPOCINCLIS	CEL						X
LEPOCINCLIS FUSIFORMIS ?	CEL	0.3	89				
MELOSIRA #4	CEL				1.2	334	
MERISMOPEDIA	COL				0.9	267	
MERISMOPEDIA PUNCTATA ?	COL	0.9	267				
MERISMOPEDIA TENUISSIMA	COL	5.3	1602		3.9	1135	
MESOSTIGMA VIRIDIS ?	CEL		X		0.2	57	
MICROCYSTIS INCERTA	COL		X		0.2	67	
NITZSCHIA	CEL	0.3	89				
NITZSCHIA #1	CEL				0.9	267	
NITZSCHIA #2	CEL				0.9	267	
NITZSCHIA #3	CEL						X
OSCILLATORIA GEMINATA	FIL	22.9	6855				
OSCILLATORIA LIMNETICA	FIL				0.2	67	
PEDIASTRUM BIRADIASTUM	COL						X
PEDIASTRUM TETRAS							
V. TETRAODON	COL						X
PENNATE DIATOM	CEL	0.3	89				
PHACLS	CEL						X
PHACUS ACUMINATUS	CEL		X				
PHACUS ACUMINATUS ?	CEL						X
PHACUS HELIKOIDES	CEL	0.3	89				X
PHACUS LEMMERMANII ?	CEL						X
PHACUS PYRUM	CEL		X		0.7	200	
PTEROMCNAS	CEL	1.5	445		1.8	534	
RAPHIDIOPSIS CURVATA	FIL				0.2	67	
SCENEDESMUS	COL		X				
SCENEDESMUS BICAUDATUS	COL	0.9	267				X
SCENEDESMUS BIJUGA	COL				13	13.9	4005
SCENEDESMUS DENTICULATUS	COL	0.3	89				X
SCENEDESMUS DIMORPHUS	COL				0.5	134	

LAKE NAME: HORSESHOE LAKE
STCET NUMBER: 1766

NYGAARD TROPHIC STATE INDICES

	DATE	05 07 73	08 10 73	10 17 73
MYXOPHYCEAN		7.00 E	6.50 E	16.0 E
CHLOROPHYCEAN		17.0 E	9.50 E	19.0 E
EUGLENOPHYTE		0.04 ?	0.09 ?	0.06 ?
DIATOM		0.40 E	0.50 E	0.67 E
COMPOUND		29.0 E	20.0 E	43.0 E

PALMER'S ORGANIC POLLUTION INDICES

	DATE	05 07 73	08 10 73	10 17 73
GENUS		23	24	25
SPECIES		12	05	10

SPECIES DIVERSITY AND ABUNDANCE INDICES

	DATE	05 07 73	08 10 73	10 17 73
AVERAGE DIVERSITY	H	2.38	2.96	2.93
NUMBER OF TAXA	S	42.00	55.00	56.00
NUMBER OF SAMPLES COMPOSITED	M	2.00	2.00	2.00
MAXIMUM DIVERSITY	MAXH	5.39	5.78	5.81
TOTAL DIVERSITY	D	290007.76	377355.60	255314.34
TOTAL NUMBER OF INDIVIDUALS/ML	N	121852.00	127485.00	87138.00
EVENNESS COMPONENT	J	0.44	0.51	0.50
MEAN NUMBER OF INDIVIDUALS/TAXA	L	2901.24	2317.91	1556.04
NUMBER/ML OF MOST ABUNDANT TAXON	K	53701.00	51017.00	45460.00

LAKE NAME: HORSESHOE LAKE
STCRET NUMBER: 1755

CONTINUED

Lake Name: Horseshoe Lake
Street Number: 1766

CONTINUED

TAXA

DICTYOSPHAERIUM PULCHELLUM
EUGLENA
EUGLENA #1
EUGLENA GRACILIS
FLAGELLATES
FRAGILARIA CONSTRUENS
V. VENTER
GLENODINIUM
GOLENKINIA PAUCISPINA
GOLENKINIA PAUCISPINA ?
GOLENKINIA RADIATA
KIRCHNERIELLA
KIRCHNERIELLA LUNARIS
V. IRREGULARIS
LAGERHEIMIA WRATISLAVIENSIS
LYNGBYA CONTORTA
MELOSIRA #4
MELOSIRA DISTANS
MELOSIRA GRANULATA
MELOSIRA GRANULATA
V. ANGUSTISSIMA
MELOSIRA GRANULATA
V. ANGUSTISSIMA F. SPIRALIS
MERISMOPEDIA #1
MERISMOPEDIA PUNCTATA
MERISMOPEDIA TENUISSIMA
MICRACTINIUM
MICROCYSTIS #1
MICROCYSTIS AERUGINOSA
MICROCYSTIS INCERTA
NAVICULA
NAVICULA #1

Lake Name: Horseshoe Lake
StCret Number: 1756

CONTINUED

TAXA
NAVICULA CAPITATA
NAVICULA CUSPIDATA
V. AMBIGUA
NAVICULA PYGMAEA
NITZSCHIA
NITZSCHIA #2
NITZSCHIA ACICULARIS
NITZSCHIA ACICULARIS ?
NITZ-SCHIA PALEA
COCYSTIS
OSCILLATORIA
OSCILLATORIA LIMNETICA
PEDIASTRUM BORYANUM
PEDIASTRUM DUPLEX
V. RETICULATUM
PEDIASTRUM SIMPLEX
PEDIASTRUM SIMPLEX
V. DUODENARIUM
PEDIASTRUM TETRAS
V. TETRAODON
PENNATE CIATOM
PENNATE DIATOMS
PHACUS PYRUM
PHORMIDIUM ?
RAPHIIDIOPSIS ?
RAPHIIDIOPSIS CURVATA
SCENEDESMUS ABUNDANS
SCENEDESMUS ACUMINATUS
SCENEDESMUS BIJUGA
V. ALTERNANS
SCENEDESMUS DIMORPHUS
SCENEDESMUS INTERMEDIUS

05 07 73 **08 10 73** **10 17 73**

08 10 73

10 17 73

LAKE NAME: HORSESHOE LAKE
STCRET NUMBER: 1766

CONTINUED

TAXA	FORM	05 07 73			08 10 73			10 17 73		
		IS	%C	ALGAL UNITS PER ML	IS	%C	ALGAL UNITS PER ML	IS	%C	ALGAL UNITS PER ML
SCENEDESmus OPOLIENSIS	COL						X			
SCENEDESMLS QUADRICAUDA	COL	0.4		431			X			
SCENEDESmus spp.	COL	1.9		2372		1.6	2071		0.2	164
SCHROEDERIA SETIGERA	CEL			X		0.1	188		1.1	981
SELENASTRUM ?	CEL									
SELENASTRUM GRACILE	COL	0.4		431						
STAURASTRUM TETRACERUM	CEL			X						
STEPHANOIDSUS	CEL	0.7		863			X			
SURIRELLA ANGUSTATA	CEL			X						
SUPIRELLA CVATA ?	CEL									
SYNEDRA DELICATISSIMA	CEL			X						
SYNEDRA DELICATISSIMA ?	CEL	0.7		863						
SYNEDRA RADIANA	CEL									
SYNEDRA RUMPENS	CEL									
TETRAEDRON CAUDATUM	CEL	2	32.9	40114			X			
TETRAEDRON CAUDATUM	CEL									
V. ?	CEL						X			
TETRAEDRON CAUDATUM	CEL									
V. LONGISPINUM	CEL			X						
TETRAEDRON MINIMUM	CEL									
V. SCROBICULATUM	CEL									
TETRASTRUM STAURGENIAEFORME	COL				0.3		377			
TREUBARIA	CEL						X			
	CEL						X			
TOTAL				121852			127485			87138

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TECHNICAL REPORT DATA
(Please read Instructions on the reverse before completing)

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16. ABSTRACT This is a data report presenting the species and abundance of phytoplankton in the 31 lakes sampled by the National Eutrophication Survey in the State of Illinois. Results from the calculation of several water quality indices are also included (Nygaard's Trophic State Index, Palmer's Organic Pollution Index, and species diversity and abundance indices).		
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