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January 1978

Ecological Research Series

DISTRIBUTION AND IMPORTANCE OF PHYTOPLANKTON IN THE ATCHAFALAYA BASIN



Environmental Monitoring and Support Laboratory

Office of Research and Development

U.S. Environmental Protection Agency

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DISTRIBUTION AND IMPORTANCE OF PHYTOPLANKTON
IN THE ATCHAFALAYA BASIN

by

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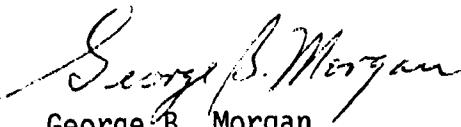
FOREWORD

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 Atchafalaya Basin. The Nygaard's Trophic State Index (Nygaard 1949), Palmer's Organic Pollution Index (Palmer 1969) as well as species diversity and abundance indices are included. These data can be used to biologically characterize the Atchafalaya Basin, and to formulate plans to minimize the environmental impact of hydrological modifications. 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 in the Atchafalaya Basin 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

PREFACE

The Atchafalaya Basin is an area of natural importance which provides extensive natural resources as well as habitat for rare and endangered species. However, the Basin must also serve as a floodway for the lower Mississippi River. To meet the need for flood control, the Army Corps of Engineers has designed a massive channelization project.

In response to a request by the Governor of Louisiana and a joint United States Congressional Resolution, the Environmental Protection Agency, the Army Corps of Engineers, and the Department of Interior are conducting a water and land quality study in the Atchafalaya River Basin. The study's objectives are to assess the potential impact of a massive channelization project proposed by the Corps and to develop alternative land and water management plans, which will accommodate flood flows and maintain an acceptable level of environmental quality for the Atchafalaya Basin.

EPA's monitoring study attempts to define general water quality in the Basin, including the distribution of pesticides, and examines the productivity and energy export of key habitats and the contribution of these to Basin and estuarine productivity.

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INTRODUCTION

The collection and analysis of phytoplankton data were included in the Atchafalaya River Basin Water and Land Study in an effort to determine relationships between algae and productivity in key habitat types.

During 1974 and 1975, 120 stations were sampled in the Atchafalaya Basin; samples from 26 of these were selected for phytoplankton analysis. From 86 samples examined, 287 algal species and varieties were identified and enumerated. Also the National Eutrophication Survey collected phytoplankton data for Lake Verret during the spring, summer, and fall of 1974 (Lambou, et al., in preparation).

This report presents the species and abundance of phytoplankton in the Atchafalaya Basin. The Nygaard's Trophic State Index (Nygaard 1949), Palmer's Organic Pollution Index (Palmer 1969), as well as species diversity and abundance indices are included.

CONCLUSIONS

The following were concluded from this study:

1. Phytoplankton play a minor role in the overall primary productivity of the Basin proper due to the high concentration of suspended sediments in the water.
2. Phytoplankton production was nearly one order of magnitude greater in areas studied outside the Basin than within the Basin.
3. The inlet waters had significantly lower phytoplankton production than the rest of the Basin proper.
4. There are at least 107 genera and 287 species of algae present in the Basin based on 86 samples.
5. Diatoms, particularly centric diatoms, constituted the most abundant algal group in the study.
6. The five genera which contributed dominant constituents, in order of importance, are Melosira, Cryptomonas, Oscillatoria, Skeletonema, and Nitzschia.
7. Diatoms and flagellates were the dominant algal groups within the Basin proper.
8. Flagellates and blue-green algae were the dominant algal groups outside the Basin proper, with diatoms also contributing significantly to the flora.

DESCRIPTION OF BASIN

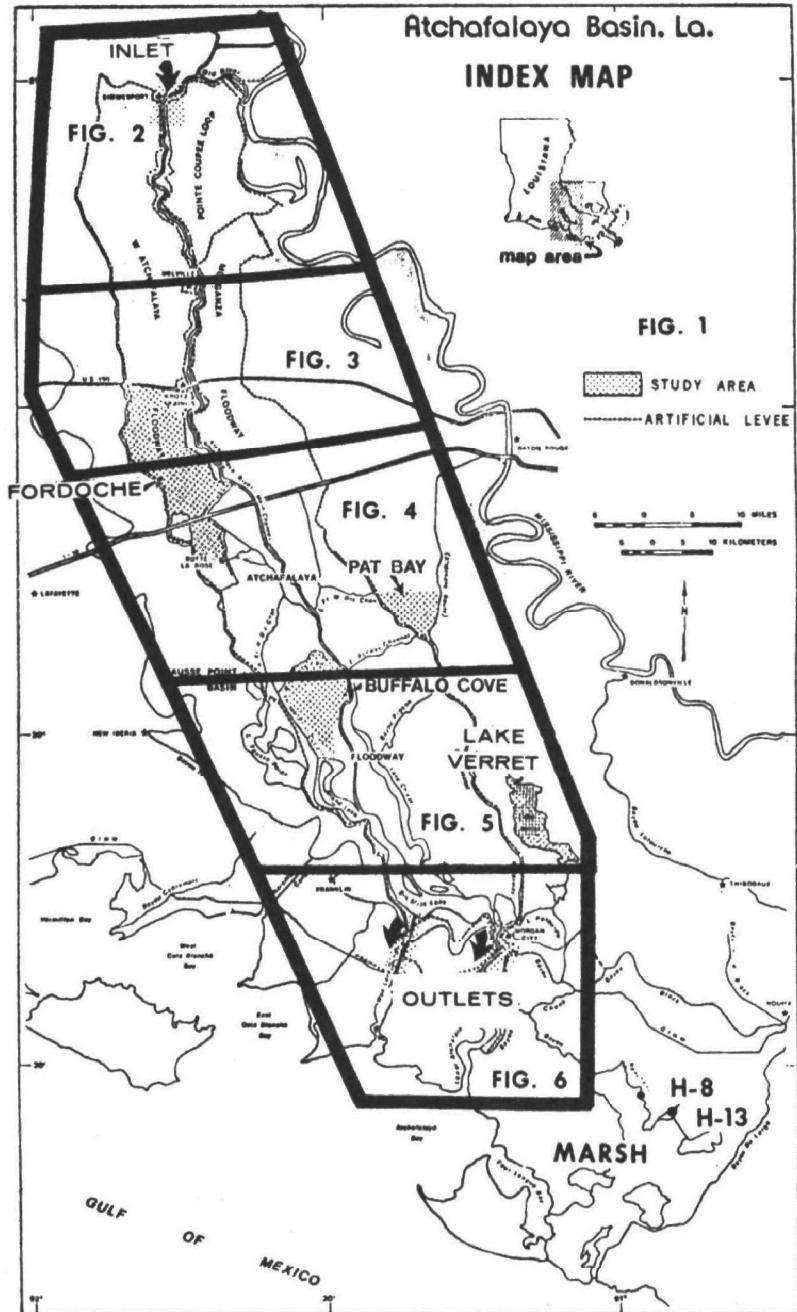
The Atchafalaya Basin is a large shallow depression located within the deltaic plain of the Mississippi River in southern Louisiana (Figures 1-6). It comprises a 4662 square kilometer (km^2) lowland area confined between natural levee ridges that delineate the present and former courses of the Mississippi River. The overall dimensions of the study area are approximately 72 kilometers (km) by 193 km with elevation ranging from about 15 meters (m) to sea level. Maximum channel depths of approximately 49 m below mean sea level occur in scour pools, but the trunk channel of the Atchafalaya River is more typically 12 to 24 m below ground level with natural depths in lakes and bays being about 0.6 to 2.5 m.

Water enters the Basin from two major sources. Approximately 30 percent of the Mississippi River water flows through the Old River control structure which eventually anastomoses with the Red River to form the mainstem of the Atchafalaya River. The Atchafalaya River discharge shows both seasonal and annual variation. The average monthly discharge hydrograph for the Atchafalaya River at Simmesport for the period of 1963-1971 indicates the seasonality of flows (Figure 7). The flow generally begins to increase in December or January and crests in the period between April and early June. The flows normally drop off sharply to their seasonal lows in late summer and early fall. The cyclic nature of flow also describes the typical annual regime of flooding for the entire basin. A hydrograph for the Atchafalaya River at Simmesport is presented in Figure 8 which encompasses the time-frame in which phytoplankton samples were collected (1974-75).

In the upper one-third of the Basin, the channel-levee complex consists of a single, well-defined trunk channel bounded by levee ridges. Stage fluctuations are great but overbank flooding is infrequent in this area. Basically, flooding of this area occurs at high water periods when water "stacks up" and then flows north between the outside east and west protection levees and the inner levees associated with the main channel.

In the middle Basin, the trunk channel and levees lose their identity as they enter a very large depression, where the flow and sediments of the system are no longer confined. This results in a decrease in velocity and an increase in cross-sectional area where velocity losses occur. The stream deposits sedimentary particles forming bars and shoals, forcing the river into a branching pattern. This portion of the Basin is an intricate mosaic of shallow water lakes of various sizes and shapes, bayous, sloughs, channels, and distributaries. In the lower portion of the Basin, the river channel regains its identity. The total river flow, combined with rainfall from within the Basin, passes through two outlets, the lower Atchafalaya River outlet at Morgan City and the Wax Lake outlet.

Extensive swamps and freshwater-to-saline marshes characterize the Atchafalaya complex below Morgan City. The marshes and swamps have an intricate tidal-drainage network dependent upon local runoff and tidal conditions.



Figures 1 - 6. Major study areas and station locations in the Atchafalaya Basin.

FIG. 2

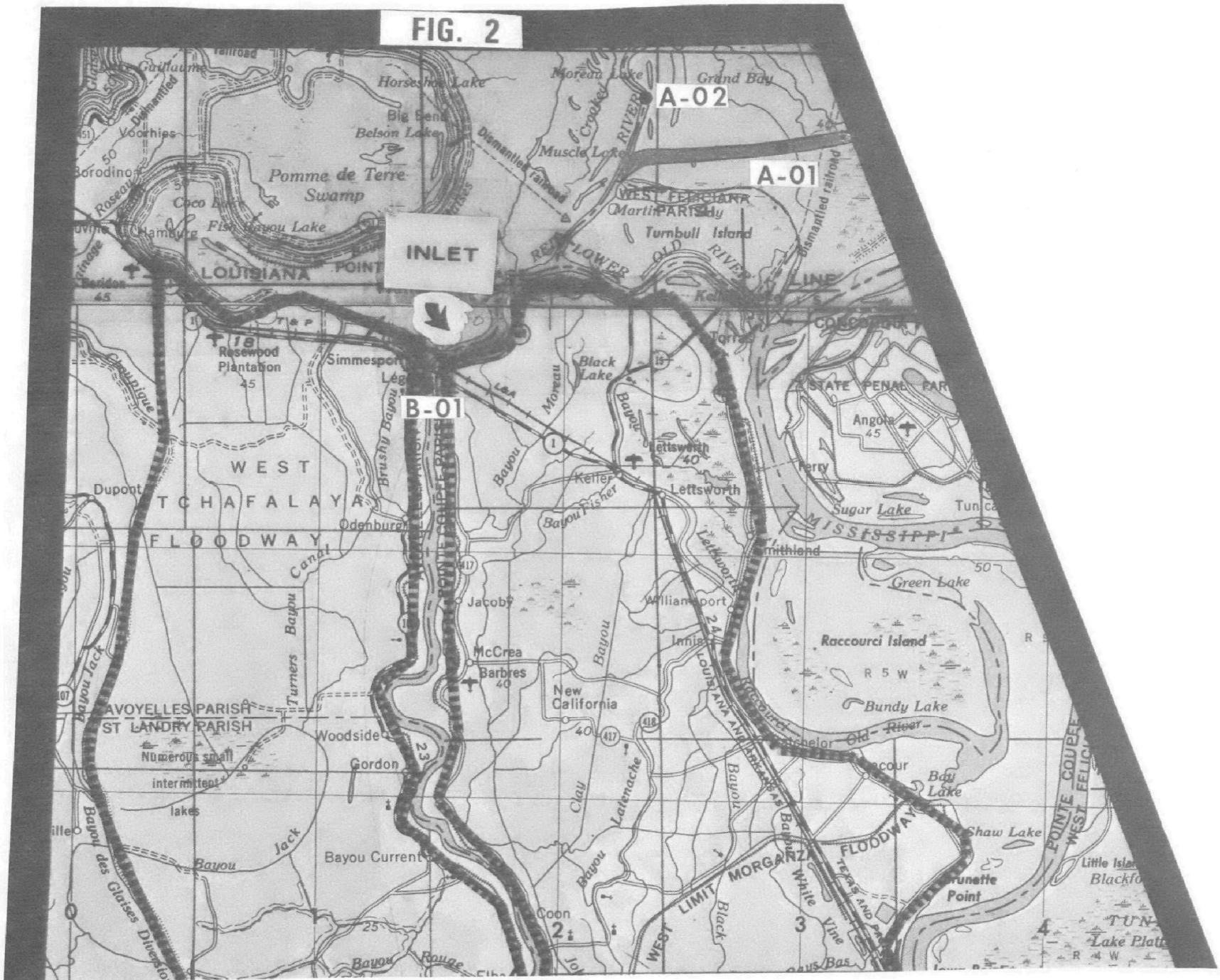
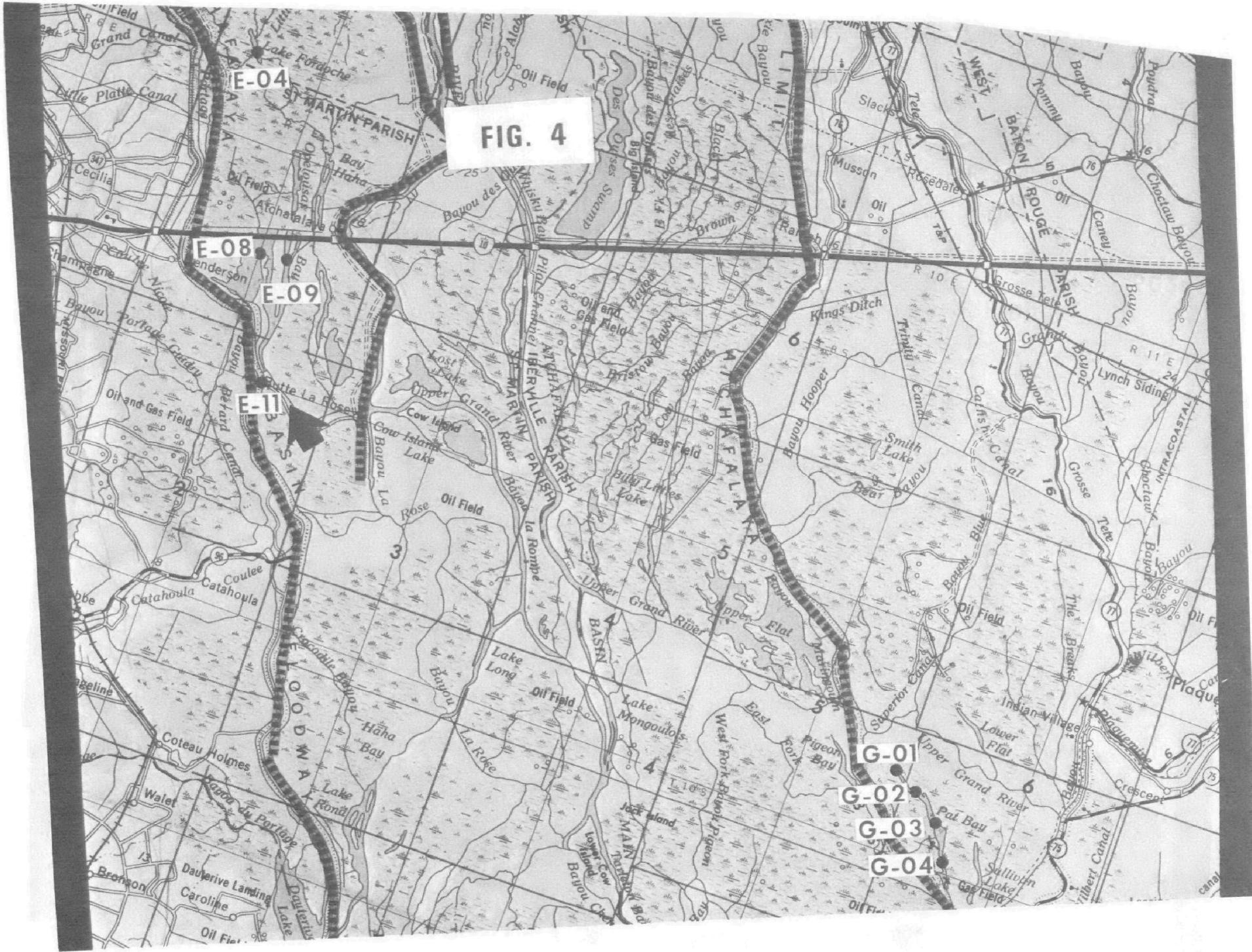
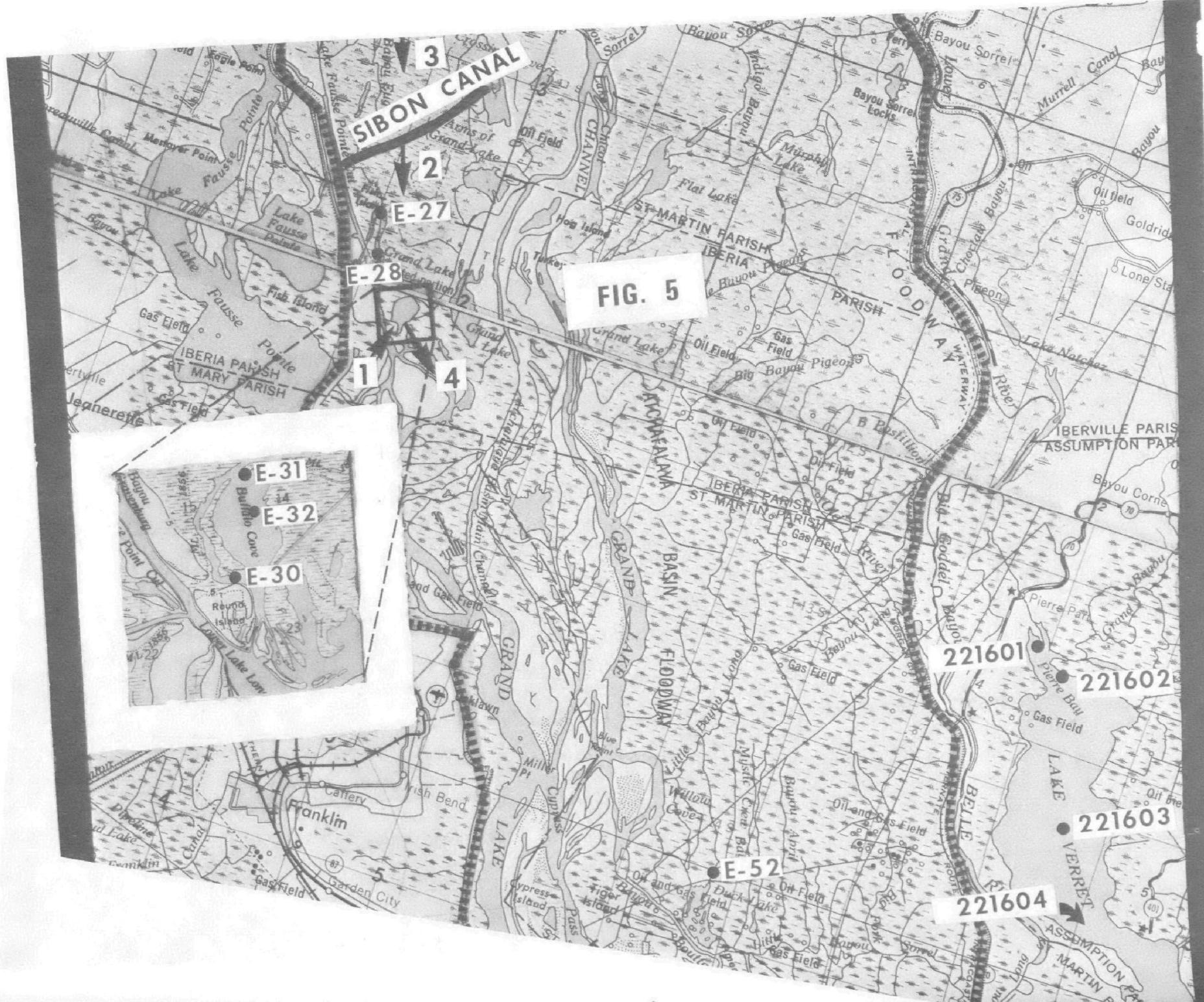


FIG. 3







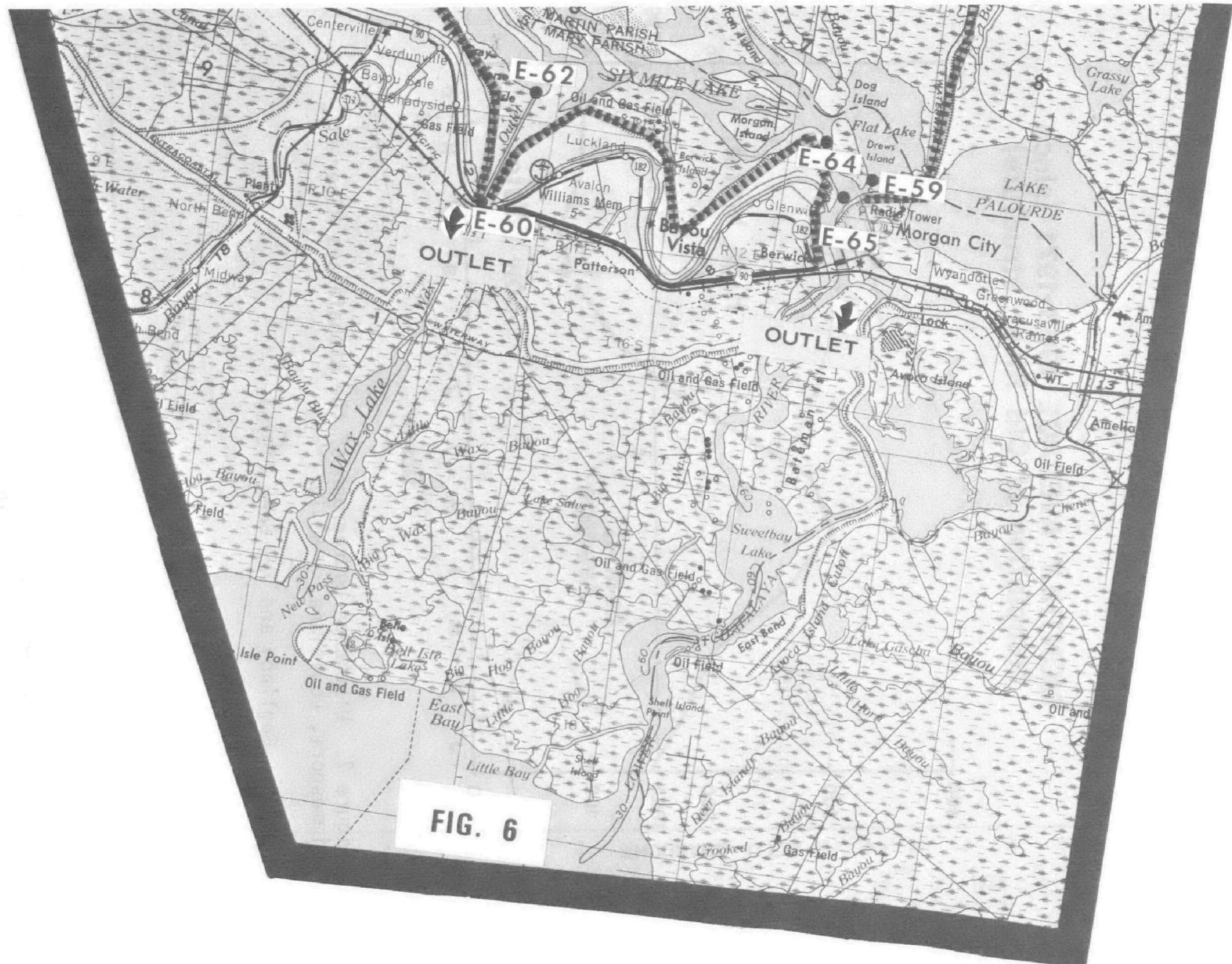


FIG. 6

**MONTHLY AVERAGE 1963-1971 (since
completion of Old River structure)**

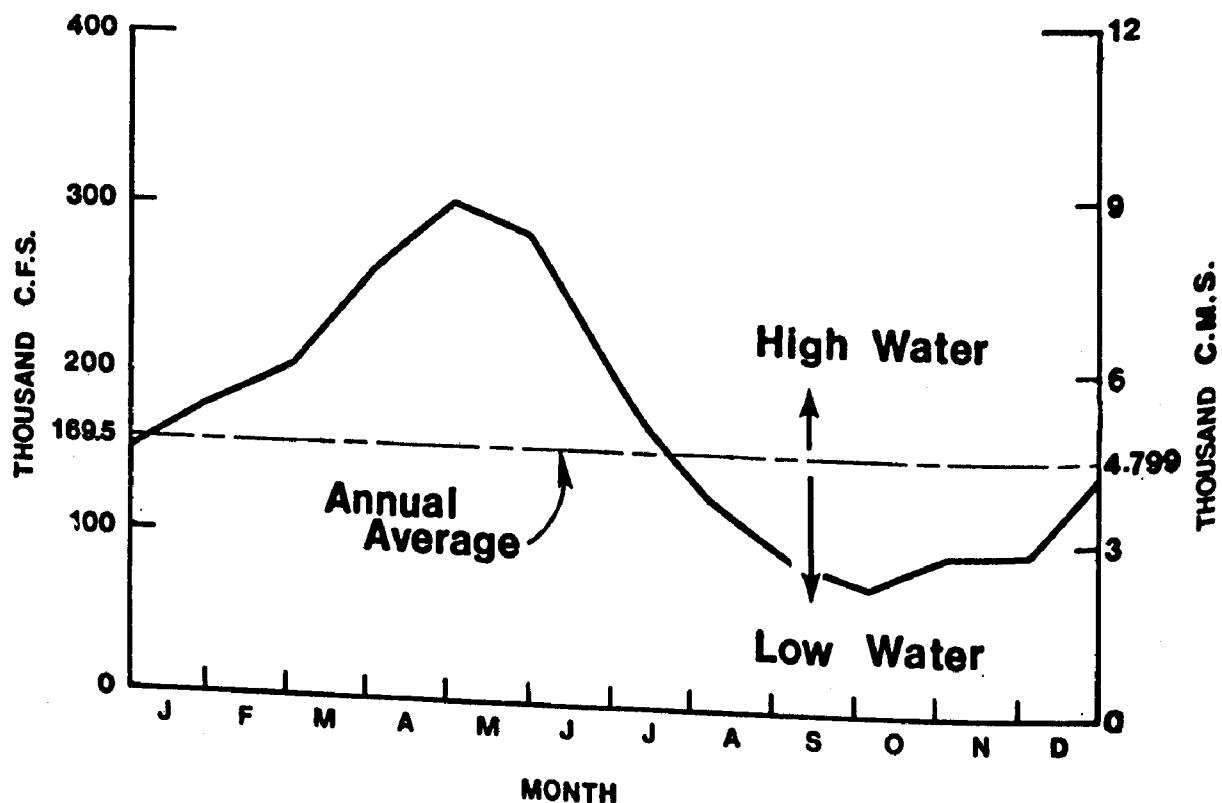


Figure 7. Discharge hydrograph of the Atchafalaya River at Simmesport, Louisiana, 1963-1971.

Source: Gagliano and van Beek (1975).

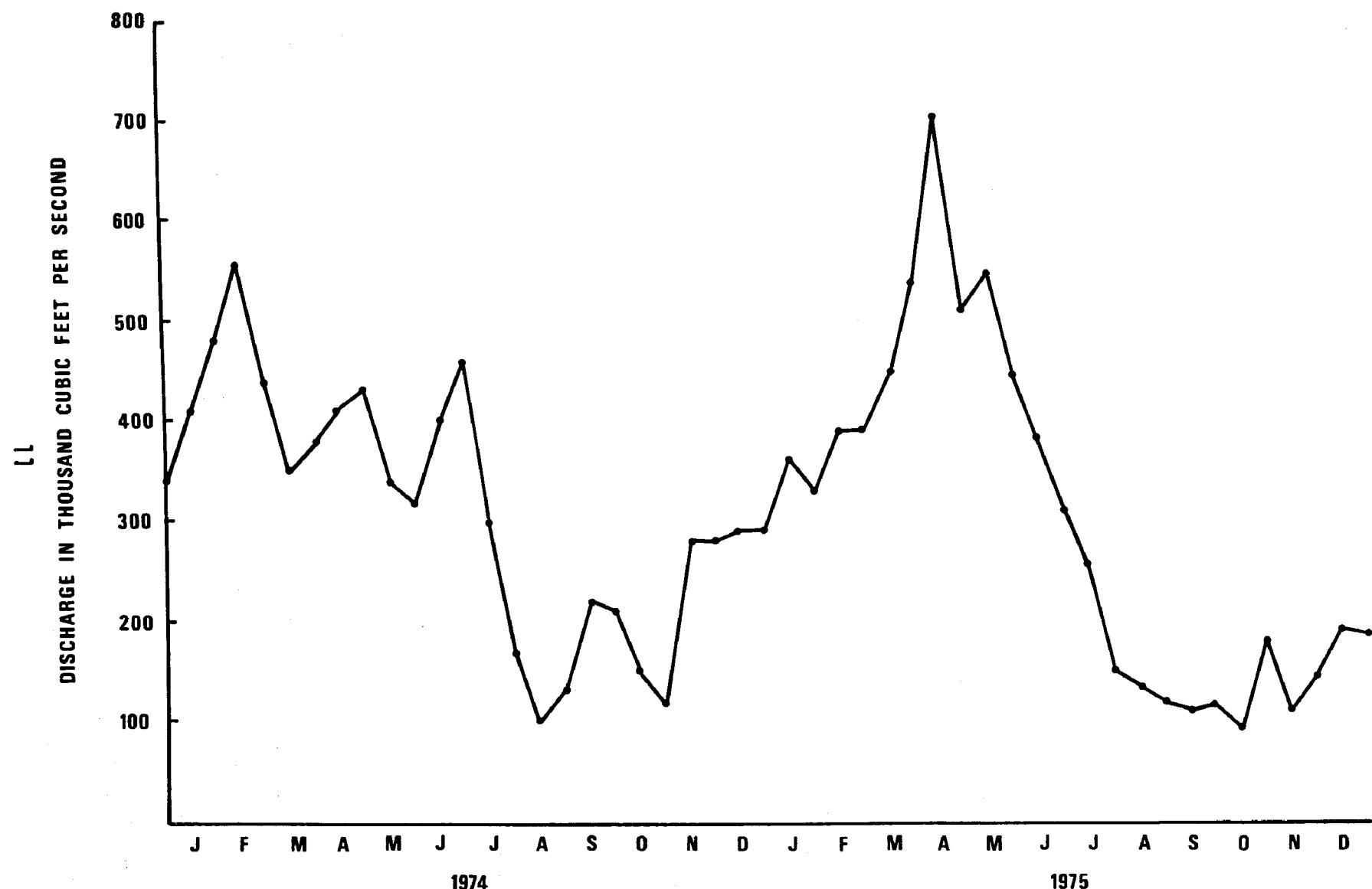


Figure 8. Discharge hydrograph of the Atchafalaya River at Simmesport, Louisiana, 1974-1975.

MATERIALS AND METHODS

SITE SELECTION AND SAMPLE COLLECTION

Stations within seven major areas (inlet, outlet, Buffalo Cove, Fordoche, Pat Bay, Lake Verret, and a fresh-water marsh site) were chosen for phytoplankton analysis (Figures 1-6). These areas were selected to compare various flooding regimes and habitat types in the Atchafalaya Basin and included stations in the inlets and outlets of the Basin.

Table 1 lists the major areas and gives the station numbers within each area, accompanied by a station description, water depth and velocity, and the type of phytoplankton sample taken for each station. Phytoplankton samples were only taken at the surface in fast, well-mixed water, while in slow or still water, the phytoplankton samples represented integrated samples from the compensation point to the surface. However, if the 1 percent light extinction point was not reached because of insufficient depth, the sample was composited from just off the bottom to the surface.

For this study, four stations were sampled to represent the inlet waters (Figures 2 and 3). All of these stations are in fast, well-mixed waters (Table 1). Stations are located in the Old River spillway and the Red River. These waters combine and enter the Atchafalaya Floodway via the main channel of the Atchafalaya River at Simmesport. The combined flow is confined within artificial levees for the first 84 km. Two stations are located in this reach, one at Simmesport and the other at Krotz Springs.

The Bayou Fordoche area covers approximately 220 km² of the Atchafalaya Basin Floodway south of U.S. Highway 190 (Figures 3 and 4). Rigid boundaries delineate the area as a hydrologic unit. East and west boundaries are formed by continuous levees of the Atchafalaya River and the Floodway. U.S. Highway 190 and railroad embankments form the northern boundary, while a natural levee ridge bounds the area to the south. A natural river levee extends along the eastern border of this region; it forms the highest ground and is basically occupied by bottom hardwoods.

The northern two-thirds of the western side is a depression which is covered by swamp and bottomland hardwoods, while the southern one-third contains Henderson Lake.

Local runoff and the Atchafalaya River water contribute to the annual flooding of the Fordoche area. The flooding of the area is a modified back-water flooding regime. Atchafalaya River water, during high water months, enters across the southern boundary through the West Atchafalaya Basin Protection Levee barrow pit after diversion from the river into Bayou Butte La Rose (Figure 4). The water then flows north through Henderson Lake and northern swamps in accordance with the river stage. Introduction of local runoff from outside the Fordoche area occurs across the northern boundary and through the Bayou Courtaleau structure (Figure 3). Dewatering of the Fordoche area occurs by flow through the West Atchafalaya Basin Protection Levee barrow pit at Butte La Rose and it is also dependent on river stages. Five stations were chosen to represent the Fordoche area (Table 1).

TABLE 1. STATIONS SAMPLED FOR PHYTOPLANKTON ANALYSIS

Area	Station Number	Station Description	Maximum Depth (m)	Velocity*	Sample Type
Inlet	A001000	Old River Control Spillway	39.6	Fast	Surface
	A002000	Red River	21.3	Fast	Surface
	B001000	Atchafalaya River at Simmesport	16.8	Fast	Surface
	B002000	Atchafalaya River at Krotz Springs	18.3	Fast	Surface
Fordoche	E001000	Bayou Courtaleau	3.4	Still or slow	Integrated
	E004000	Lake Fordoche	3.7	Still	Integrated
	E008000	Henderson Lake	3.4	Still	Integrated
	E009000	Lake Bigeux	6.1	Still	Integrated
	E011000	Butte La Rose	4.6	Slow or fast	Integrated
Buffalo Cove	E027000	Bayou Gravenburg Northern end	4.3	Still or slow	Integrated
	E028000	Bayou Gravenburg Southern end	1.8	Still or slow	Integrated
	E030000	Buffalo Cove Lake Southeastern end	2.4	Still or slow	Integrated
	E031000	Buffalo Cove Lake Center	2.7	Still or slow	Integrated
	E032000	Buffalo Cove Lake Northern end	3.1	Still or slow	Integrated
	E052000	Unnamed Bayou Northeast of Duck Lake	2.4	Still to slow	Integrated

*Velocity: still - no detectable water movement, slow - less than one meter per minute, fast - greater than one meter per minute.

TABLE 1. STATIONS SAMPLED FOR PHYTOPLANKTON ANALYSIS (Continued)

Area	Station Number	Station Description	Maximum Depth (m)	Velocity*	Sample Type
Outlets:					
Morgan City	E059000	Flat Lake	11.3	Slow to fast	Integrated
	E064000	Stouts Pass	10.7	Fast	Surface
	E065000	Berwick Bay	18.3	Fast	Surface
Wax Lake	E060000	Wax Lake Outlet	18.3	Fast	Surface
	E062000	Six Mile Lake	19.8	Fast	Surface
Marsh below Morgan City	H008000	Bayou Penchant	2.7	Still	Integrated
	H013000	Lake Penchant	1.5	Still	Integrated
Pat Bay	G001000	Pat Bay Northern end	1.8	Still	Integrated
	G002000	Pat Bay Central	1.8	Still	Integrated
	G003000	Pat Bay Southcentral	2.4	Still	Integrated
	G004000	Pat Bay Southern end	2.1	Still	Integrated
Lake Verret**	221601	Lake Verret Northern end	1.8	Still	Integrated
	221602	Lake Verret Northern end	1.8	Still	Integrated
	221603	Lake Verret Central	3.1	Still	Integrated
	221604	Lake Verret Southern end	1.8	Still	Integrated

*Velocity: still - no detectable water movement, slow - less than one meter per minute, fast - greater than one meter per minute.

**The water samples from the four stations in Lake Verret were composited to form one sample for each sampling date.

The Buffalo Cove area, comprising some 230 km², is located 50 km south of the Fordoche area (Figures 1, 4, and 5). The area is bounded by natural levees and spoil-elevated natural levees. The northern one-third has been largely filled in by sediment. The rest of the area is composed of swamps with a few permanent water bodies (e.g., Buffalo Cove Lake, Bayou Gravenburg, Jackass Bay, and arms of Grand Lake).

Annual flooding of Buffalo Cove Basin is normally dependent upon three openings. These are the entrance channel to Buffalo Cove Lake, the Sibon Canal, and Bayou Eugene, and are labeled with arrows and designated 1, 2, and 3 respectively on Figure 5. Dewatering occurs to some extent through Sibon Canal and the entrance channel to Buffalo Cove Lake, but mainly through a channel in the southeastern portion of Buffalo Cove Lake (labeled by arrow Number 4 on Figure 5) which connects to Mud Lake. The connections to Buffalo Cove Lake and Mud Lake always function, while the Sibon Canal and Bayou Eugene flows only function during periods of medium to high river stage.

The overall flooding regime of the Buffalo Cove Basin can be described as flowthrough to semi-backwater flooding, dependent on Basin and river stage. During high water periods, water enters through Bayou Eugene and flowthrough is maintained from north to south in the deep swamps of the western portion of the Buffalo Cove area. During lower stages the flow of Bayou Eugene is eliminated, flowthrough is only maintained south of the Sibon Canal. With further reductions in stage, both Bayou Eugene and Sibon Canal cease to function and the area north of Buffalo Cove Lake is then considered a backwater regime. The source of water to Buffalo Cove Lake is through the entrance channel while the lake is dewatered through the channel to Mud Lake. During extreme low water periods, no flow can be perceived. Five stations were chosen to represent the Buffalo Cove area (Table 1).

Station E052000 lies near Duck Lake in the southeastern portion of the Atchafalaya Basin, northwest of Morgan City, Louisiana (Figure 5). At high river stages a moderate current of muddy water flows southward through Duck Lake and exits at the southeast portion of the lake, eventually draining into Six Mile Lake. The station is not in any of the major study areas but is representative of the southeastern portion of the Basin (Table 1).

Dewatering of the entire Atchafalaya Basin occurs through two major outlets. South of the Buffalo Cove area, the flow diverges into numerous channels, swamps, bayous, and sloughs until it exits the Floodway either at Wax Lake outlet or the lower Atchafalaya River at Morgan City. The water at either outlet is constricted as the river regains its identity. Approximately 30 percent of the flow leaves the Basin proper at the Wax Lake outlet while 70 percent is discharged through the Morgan City outlet. At either outlet the water is fast and well-mixed (Table 1). Two sites are located at the Wax Lake outlet while three sites are located in the outlet waters of the lower Atchafalaya River (Figure 6).

Three areas of study were located outside the Atchafalaya Basin proper for comparison analysis. They are a fresh-water marsh area located south of Morgan City, and Pat Bay and Lake Verret located to the east of the Atchafalaya Basin.

Two stations (H-8, H-13) are located in the fresh-water marsh environment (Figure 1). This area mainly receives water from local runoff from east of the Basin. The two stations representing this area are located in Bayou Penchant and Lake Penchant (Table 1).

Hydrologically, Pat Bay and Lake Verret are part of the Verret Basin contained between the east Atchafalaya Basin Protection Levee and the natural levees of the Mississippi River, Bayou Lafourche and Bayou Black (Figure 1). Both are entirely dependent upon local runoff consisting partially of agricultural drainage.

Lake Verret at an estimated elevation of 0.9 m has a surface area of 57 km² and an average depth of 1.5 m (Figure 5). The shoreline development is minimal; only a few camps are located on the south and west shores. However, there are extensive oil and gas fields on the east side of the lake, and several wells in the lake proper.

At an estimated elevation of 1.5 m Pat Bay has a surface area of 1.5 km² and an estimated average depth of 1.2 m (Figure 4). Only minimal shoreline development has occurred on Pat Bay. Pat Bay and Lake Verret each contain four sampling locations (Table 1).

STATION CODING

Each sampling station has been assigned a seven-digit alphanumeric STORET number (E032000). STORET (STOrage and RETrieval) is the U.S. EPA computer system which processes and maintains water quality data. The first letter of a STORET number identifies a geographic area of the Basin as follows:

- A. North of U.S. Highway 1 and Simmesport, Louisiana.
- B. The mainstem of the Atchafalaya River between Simmesport and Krotz Springs, Louisiana.
- C. Areas not considered in this report.
- D. Areas not considered in this report.
- E. The Atchafalaya Floodway, bounded by the East and West Protection Levee and by U.S. Highway 190 on the north and U.S. Highway 90 on the south.
- F. Areas not considered in this report.
- G. All areas east of the East Protection Levee and north of U.S. Highway 90 and south of U.S. Highway 190.

H. All areas of the Basin south of U.S. Highway 90.

The next three digits designate the primary station number within a given geographic area. The final three digits are used to establish substations of the primary station. Substations are located geographically near already established primary stations. No substation numbers were utilized for this report.

Lake Verret (part of the National Eutrophication Survey) was assigned a four-digit STORET number (2216). The first two digits of the STORET number identify the state of Louisiana; the last two digits identify the lake.

In Figures 1 through 6 abbreviated station numbers were utilized because of space requirements, e.g. A-01 instead of A001000, etc.

SAMPLE PREPARATION

Four milliliters (ml) of Acid-Lugol's solution (Prescott 1970) were added to each 130-ml sample from each site at the time of collection for preservation. 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 Lake Verret. One composite sample was put into storage and the other was used for the examination. Samples from the other stations in the Basin were not composited and no backup samples are available.

Prior to examination, the 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.

Library samples, permanent sample slides and Hyrax-mounted diatom slides are being stored and maintained at the U.S. EPA's 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, etc.). 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.

QUALITY CONTROL

Internal quality control checks on species identifications and counts were performed on a regular basis between 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 samples to verify genus counts. Presently, the agreement between quality control checks for species identifications and genus enumerations is satisfactory.

WATER QUALITY INDICES

The following biologically based water quality indices were routinely calculated for each sample with the aid of a computer. Although most are well known and widely used, the results should be interpreted carefully because the indices were applied to each sample without regard to season, geographical area or nature of pollutant impact.

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 station or 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).

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>Anacystis</i>	1
<i>Anksitrodesmus</i>	2
<i>Chlamydomonas</i>	4
<i>Chlorella</i>	3
<i>Closterium</i>	1
<i>Cyclotella</i>	1
<i>Euglena</i>	5
<i>Comphonema</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>Chyclotella 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>Nitzchia acicularis</i>	1
<i>Nitzchia 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>Synedra ulna</i>	3

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. A question mark (?) was entered when the calculated 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.

In analyzing a water sample, any of the 20 genera or species of algae present in concentrations of 50 per ml 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 9 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. Our phytoplankton samples are what she classifies as larger samples (collections in Pielou's terminology) from which random subsamples can be drawn. According to Pielou (1966), the average diversity per individual 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 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 ml 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 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 , which was verified by our own calculations. Our counts are in number per ml 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 ml or 0.008 per ml was used in the calculations since at least one individual of the taxon must have been present in the collection.

The Lake Verrette (National Eutrophication Survey) samples represent a composite of all phytoplankton collected at the four different sampling stations on the lake; however, samples from the other stations were not composited. The number of samples, M , making up a composite is given in the appendix. The maximum diversity, $\text{Max}H$, (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 $H/\text{Max}H$ (Pielou 1966). Also given in the appendix are L , the mean number of individuals per taxa per ml, and K , the number of individuals per ml of the most abundant taxon in the sample.

Zand (1976) suggests that diversity indices be expressed in units of "sits", 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 sits 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 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 $\text{Max}H$ equals $\log_2 S$, the expression in sits is equal to $\log_2 S$, or 1. Therefore diversity in sits per individual is numerically equivalent to J , the evenness component of the Shannon-Weaver diversity relationship.

RESULTS

The Appendix summarizes all of the phytoplankton data collected from the Basin. It is organized by station except for Lake Verret which is included at the end of the Appendix. An alphabetic phytoplankton species list for each station and Lake Verret gives the concentrations of individual species by sampling date. Where a station was sampled on more than 3 dates the data summary continues on a second species list identical to the first. Concentrations are in cells, colonies, or filaments (CEL, COL, FIL) per ml. An "X" after a species name indicates the presence of the species on that date in such a low concentration that it did not show up 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 composition (%C) of each taxon, by abundance, is also presented. Each species list is preceded with a summary table of the various water quality indices (Nygaard Trophic State Indices, Palmer's Organic Pollution Indices, and species diversity and abundance indices).

DISCUSSION

GENERAL FINDINGS

In this study 107 genera and 287 species of algae were identified in 86 samples. It is appropriate to compare these results to Bryan et al. (1975), who studied the phytoplankton of the Atchafalaya Basin.

The two generic lists were comparable with 51 genera in common. There were, however, numerous genera unique to each study, e.g., 21 in Bryan's and 56 in ours. These genera were usually rare, occurring in less than 20 percent of the samples. However, there were several interesting exceptions. Asterionella, Skeletonema, Dactylococcopsis, Chroomonas, and Cryptomonas were missing from Bryan's list but were common in occurrence and/or dominant occurrence in our list (dominance was defined as the occurrence of a genus or species which was greater than or equal to 10 percent of the total numerical concentration of a sample).

Bryan et al. (1975) reported the presence of Hyalotheca in approximately 50 percent of the samples they examined, while the genus was totally absent from our samples. Some species of Hyalotheca can be confused with forms of Melosira distans which were common in our samples.

COMPARISON OF MAJOR AREAS

The phytoplankton data were summarized by area and are presented in Table 5. The values given are means, for each category, of all station-date combinations within each area. The table provides area trends for major algal groupings, e.g., diatoms, flagellates, Cyanophyta, Chlorococcales, and others. Similar summaries are given for several indices including total cell concentrations, Shannon-Wiener diversity index (H), evenness component of diversity (J), Palmer's Organic Pollution Index for genus, Nygaard's Compound Index for trophic state, and the mean number of taxa found at each station-date combination. This table provides a format for direct comparison of area trends and illustrates major differences between areas.

Diatoms represented the largest component of the major groupings in the Basin proper, which is in agreement with Bryan et al. (1975). The major groupings listed in decreasing order are: diatoms (49%), flagellates (26%), Cyanophyta (13%), Chlorococcales (8%) and others (3%). Outside the Basin proper, blue-greens and flagellates formed the largest components. The composition was: Cyanophyta (34%), flagellates (28%), diatoms (26%), Chlorococcales (10%), and others (2%).

Average total cell concentrations varied significantly between the two areas as well. The Basin had lower concentrations, 1,200 algal units/ml, while the outside average was 42,000 algal units/ml.

TABLE 5. DATA SUMMARY BY MAJOR AREAS

Area	Station Data		% Composition*						Indices*				
	# of Stations	# of station-date comb.	Diatoms	Flagellates	Cyanophyta	Chlorococcales	Others	Cell Count	# of Taxa	Palmer's Genus Index	Nygaard's Cmpd. Index	H	J
Basin Proper:													
Inlet	4	14	76	13	4	4	3	780**	19	2.2	11	1.90	0.45
Outlet	5	12	48	29	14	8	1	1,000	23	7.2	11	2.78	0.63
Fordoché	5	19	30	40	12	8	10	1,500	22	5.7	14	2.58	0.60
Buffalo Cove	5	15	51	24	10	14	1	1,800	23	5.7	14	2.69	0.59
East-Side	1	3	40	25	27	8	-	750	25	4.3	12	2.24	0.48
Outside:													
Lake Verret	1	3	18	9	62	11	-	90,000	44	21.0	32	2.43	0.48
Pat Bay	4	12	28	56	4	9	3	8,000	34	9.1	20	2.50	0.49
Penchant	2	8	31	20	36	10	3	28,000	48	16.0	18	3.21	0.60
Basin Proper	20	63	49	26	13	8	3	1,200	22	5.0	12	2.44	0.55
Outside	7	23	26	28	34	10	2	42,000	42	15.4	23	2.71	0.52

*Values are means of all station-date combinations within each area.

**The cell count from station A00200 on December 18, 1975 was deleted from the computation due to its extremely high value.

These data, composition and concentration, were indicative of higher primary productivity outside the Atchafalaya Basin than within. This conclusion was further supported by the indices addressed in Table 5, especially Palmer's, Nygaard's, and the number of taxa, where values outside the Basin were two or more times those of the Basin proper.

The evenness component of diversity (J) and the diversity index (H) demonstrated a similar trend in diversity among the major study areas of the Basin (Table 5). Evenness component analyses divided the areas into three groups: inlet ($J = 0.45$), East Side, Lake Verret, and Pat Bay ($J = 0.48-0.49$), and the Fordoche, Buffalo Cove, Penchant, and outlet ($J = 0.59-0.63$). Diversity (H) formed the same groupings but the separation between the second and third was not as obvious. Both indices showed the inlet waters to be the least diverse.

The following comparisons and analyses of specific areas within and outside the Basin proper describe and illustrate the complexity of the Atchafalaya system. The inlet stations were the least productive areas examined, as reflected by low mean total concentrations (780 algal units/ml), as well as the lowest mean diversity ($H = 1.90$). These values reflected the high sediment load of the inlet waters which had been confined within well-defined channels over long distances. The inlet waters also had the lowest average number of Palmer's genus indicator units and for Nygaard's compound trophic state index, and the lowest mean number of taxa per station-date.

Diatoms dominated the flora of the inlet waters, averaging 76 percent of the numerical totals. Flagellates constituted the only subdominant group of any significance although they were the dominating group in two samples, both collected during highwater in April. The overwhelming diatom dominance was associated with relatively low total cell concentrations and algal productivity.

The one exception to the general trend of inlet waters was a bloom of Cyclotella meneghiniana recorded at station A002000 in the Red River on December 18, 1975. C. meneghiniana accounted for 95 percent of the total population and was at a concentration of 35,000 cells/ml.

It is interesting to compare and contrast conditions at the Basin inlet to those of the outlet stations. The algal community of the outlet resembles the inlet more than any other habitat type studied. Most of the water reaching the outlet passes straight through the system with some additions from water moving through swamp areas. The quantity of suspended material at the outlet is similar to that in the inlet.

The mean cell concentration at the outlet was only slightly higher than that of the inlet, although the diversity increased considerably (2.78 vs. 1.90). The other indices were higher at the outlet also, especially Palmer's, with more than three times the number of indicator units than occurred at the inlet.

Although outlet waters were also dominated by diatoms, the degree of dominance was less. Flagellates and blue-green algae increased significantly in relative abundance, 25 percent and 12 percent respectively. The increased diversity of the outlet stations was most likely due to direct input of floral components from the diverse habitats of the entire Basin as the waters recombine before leaving the Basin.

The Fordoche, Buffalo Cove and east-side stations are representative swamp areas within the Basin proper. They have complex and variable water movement patterns but have relatively slow-moving or still water. Consequently, sediment load is reduced compared to mainstem waters, improving light conditions for algal growth.

Indeed, all our indicators of productivity are higher in these areas than in the inlet waters. Phytoplankton concentrations in Fordoche and Buffalo Cove are double that of the inlet value. Evenness component of diversity, Palmer's genus indicators, Nygaard's compound index, and the number of taxa are essentially identical for the two habitats but always at values greater than those of the inlet. Each of the four major algal groups was more equally represented in Fordoche and Buffalo Cove samples than in the inlet samples. However, diatoms were more important in Buffalo Cove than they were in Fordoche.

The east-side station exhibited the same trend but to a lesser degree. It had the lowest mean cell concentration of all habitats. Only three samples were examined from the east-side station and it is not certain that an accurate trend for the area was established.

The remaining three areas, Pat Bay, Lake Verret, and Penchant are located outside the Basin proper. Water supplying these areas originates locally and is not influenced by water passing through the Basin proper. As a consequence the waters are slow-moving and carry less sediment load than waters in other study areas. Therefore, phytoplankton production is not as light-limited due to silts and large algal populations develop.

Pat Bay, averaging 9,000 organisms per milliliter, was the least productive of the three areas, followed by Penchant (28,000/ml) and Lake Verret (90,000/ml). The diversities of Lake Verret and Pat Bay were similar while Penchant proved to be the most diverse of all habitats. The other indices are quite high compared to all habitat values within the Basin proper. The highest value for the Palmer index within the Basin proper was 7.2, while outside, values of 9.1, 16, and 21 were calculated. Likewise, within the Basin proper, the highest Nygaard compound value was 14 while outside values were 18, 21, and 32. The mean number of taxa per station-date followed the same trend e.g., 25 taxa was the highest value within the Basin proper while outside values were 34, 44, and 48.

The greatest differences noted within the three areas were in algal composition. Lake Verret was dominated by blue-green algae, especially filamentous types (Oscillatoria and Lyngbya). Diatoms were second in importance while flagellates and Chlorococcales contributed only about 10 percent each to the flora. Pat Bay, on the other hand, had few blue-green algae but rather was dominated by flagellates, with diatoms forming a strong subdominant group. Penchant had the most evenly distributed composition with diatoms, blue-greens, and flagellates sharing the dominant positions.

PHYTOPLANKTON ABUNDANCE AND OCCURRENCE

A summary of the phytoplankton species and occurrence by major groups is provided in Table 6. The table was compiled from data given in Table 7 and in the Appendix. Table 7 is a computer generated alphabetic species list of the phytoplankton identified in this study. The species list does not include non-specific types as found in the Appendix.

Table 6 gives the number of species, the total number of occurrences and the number of dominant occurrences by major group e.g., Cyanophyta, Pyrrophyta, Euglenophyta, etc. The table considers all samples collected for this study irrespective of geographic location.

Chlorococcales and diatoms had the greatest numbers of species, 85 and 82 respectively. Euglenophyta was third with 47 species and Cyanophyta fourth with 27 species. These four groups accounted for 84 percent of all species identified. The overriding importance of the diatoms is illustrated by examining dominant species occurrence; of the 450 occurrences of diatoms, 119 reached dominance.

The diatoms can be subdivided into two groups, pennate diatom species (64) and centric diatom species (18). Although there are more than $3\frac{1}{2}$ times as many species of pennate diatoms as centrics, the pennates accounted for only 36 percent of the total diatom occurrences. The importance of the relatively few species of centric diatoms is further illustrated by the fact that they were represented as dominants 93 times.

TABLE 6. SUMMARY OF THE NUMBER OF SPECIES, OCCURRENCES AND DOMINANT OCCURRENCES WITHIN MAJOR GROUPINGS

	Number of Species	Total Number of Occurrences	Number of Dominant Occurrences
Cyanophyta	27	112	23
Pyrrophyta	10	39	0
Euglenophyta	47	139	9
Chlorococcales	85	379	20
Pennate Diatoms	64	163	26
Centric Diatoms	18	287	93
Green Flagellates	13	44	6
Chrysophytan Flagellates	10	14	4
Cryptophyceace	6	75	45
Others	7	10	0

TABLE 7. PHYTOPLANKTON SPECIES OCCURRENCE AND ABUNDANCE

Species	\bar{x}^*	n**	%***
<i>Achnanthes lanceolata</i> v. <i>dubia</i>	0	1	1.2
<i>Achnanthes microcephala</i>	233	1	1.2
<i>Actinastrum hantzschii</i>	34	1	1.2
<i>Actinastrum hantzschii</i> v. <i>fluviatile</i>	2	14	16.3
<i>Anabaena plantonica</i>	24	2	2.3
<i>Anabaenopsis circularis</i>	590	4	4.7
<i>Anabaenopsis elenkinii</i>	266	1	1.2
<i>Anabaenopsis philippinensis</i>	2929	1	1.2
<i>Anabaenopsis raciborskii</i>	1574	3	3.5
<i>Ankistrodesmus convolutus</i> ?	0	1	1.2
<i>Ankistrodesmus falcatus</i>	480	21	24.4
<i>Ankistrodesmus falcatus</i> v. <i>mirabilis</i>	337	26	30.2
<i>Aphanizomenon flos-aquae</i>	206	9	10.5
<i>Aphanizomenon gracile</i> ?	570	1	1.2
<i>Aphanocapsa delicatissima</i> ?	0	1	1.2
<i>Aphanocapsa elachista</i>	0	1	1.2
<i>Aphanothece nidulans</i>	0	1	1.2
<i>Asterionella formosa</i>	15	34	39.5
<i>Asterionella formosa</i> v. <i>gracillima</i>	0	2	2.3
<i>Campylodiscus echeneis</i>	0	1	1.2
<i>Carteria cordiformis</i>	163	2	2.3
<i>Ceratium hirundinella</i> f. <i>brachyceras</i>	0	2	2.3
<i>Ceratium hirundinella</i> f. <i>furcoides</i>	0	1	1.2
<i>Chaetoceros elmorei</i>	0	1	1.2
<i>Chilomonas paramaecium</i>	215	2	2.3
<i>Chlamydomonas cienkowskii</i>	651	1	1.2
<i>Chlamydomonas globosa</i>	77	7	8.1
<i>Chlorogonium elongatum</i>	0	2	2.3
<i>Chlorogonium minimum</i>	0	1	1.2
<i>Chroomonas acuta</i>	312	1	1.2
<i>Chroomonas nordstedtii</i>	522	3	3.5
<i>Chrysococcus</i> ? <i>rufescens</i>	0	1	1.2
<i>Closterium kutzingii</i>	0	1	1.2
<i>Coccconeis placentula</i>	63	10	11.6
<i>Coccconeis placentula</i> v. <i>euglypta</i>	0	2	2.3

* \bar{x} = Mean algal units per ml** n = Number of occurrences (e.g., *Achnanthes microcephala* occurred in 1 sample)*** % = Percent occurrence (e.g., *Achnanthes microcephala* occurred in 1.2 percent of the samples analyzed)

TABLE 7. PHYTOPLANKTON SPECIES OCCURRENCE AND ABUNDANCE (Continued)

Species	\bar{x}^*	n**	%***
<i>Cocconeis placentula</i> v. <i>lineata</i>	0	1	1.2
<i>Coelastrum cambricum</i>	0	1	1.2
<i>Coelastrum cambricum</i> v. <i>intermedium</i>	183	3	3.5
<i>Coelastrum microporum</i>	20	8	9.3
<i>Coelastrum sphaericum</i>	37	4	4.7
<i>Coscinodiscus denarius</i>	0	1	1.2
<i>Coscinodiscus lacustris</i>	44	4	4.7
<i>Coscinodiscus rothii</i> v. <i>subsalsa</i>	20	15	17.4
<i>Crucigenia apiculata</i>	22	2	2.3
<i>Crucigenia crucifera</i>	0	1	1.2
<i>Crucigenia fenestrata</i>	77	8	9.3
<i>Crucigenia quadrata</i>	56	4	4.7
<i>Crucigenia rectangularis</i>	0	1	1.2
<i>Crucigenia tetrapedia</i>	68	14	16.3
<i>Cryptomonas erosa</i>	234	31	36.0
<i>Cryptomonas marssonii</i>	275	22	25.6
<i>Cryptomonas reflexa</i>	13	16	18.6
<i>Cyclotella bodanica</i> ?	0	1	1.2
<i>Cyclotella glomerata</i>	244	1	1.2
<i>Cyclotella meneghiniana</i>	1289	32	37.2
<i>Cyclotella michiganiana</i>	0	1	1.2
<i>Cymatopleura solea</i>	30	1	1.2
<i>Cymbella turgida</i>	0	1	1.2
<i>Cymbella ventricosa</i>	55	1	1.2
<i>Dactylococcopsis irregularis</i>	1929	10	11.6
<i>Diatoma vulgare</i>	8	4	4.7
<i>Dictyosphaerium ehrenbergianum</i>	27	3	3.5
<i>Dictyosphaerium pulchellum</i>	188	4	4.7
<i>Dinobryon bavaricum</i>	0	1	1.2
<i>Dinobryon cylindricum</i>	0	1	1.2
<i>Dinobryon divergens</i>	0	1	1.2
<i>Dinobryon sertularia</i>	0	2	2.3
<i>Diploneis interrupta</i> ?	34	1	1.2
<i>Diploneis puella</i>	0	1	1.2
<i>Diploneis smithii</i>	84	1	1.2
	0	1	1.2

* \bar{x} = Mean algal units per ml

** n = Number of occurrences

*** % = Percent occurrence

TABLE 7. PHYTOPLANKTON SPECIES OCCURRENCE AND ABUNDANCE (Continued)

Species	\bar{x}^*	n**	%***
<i>Elakatothrix gelatinosa</i>	29	6	7.0
<i>Epithemia turgida</i>	0	1	1.2
<i>Euastrum denticulatum</i>	0	2	2.3
<i>Eudorina elegans</i>	0	1	1.2
<i>Euglena acus</i> ?	0	1	1.2
<i>Euglena gracilis</i>	6	7	8.1
<i>Euglena oxyuris</i>	0	6	7.0
<i>Euglena oxyuris</i> v. <i>minor</i>	0	1	1.2
<i>Euglena subehrenbergii</i> ?	0	1	1.2
<i>Euglena tripteris</i>	0	8	9.3
<i>Eunotia curvata</i>	0	5	5.8
<i>Eunotia pectinalis</i> v. <i>minor</i>	0	1	1.2
<i>Fragilaria construens</i>	0	1	1.2
<i>Fragilaria construens</i> v. <i>subsalina</i>	0	1	1.2
<i>Fragilaria crotonensis</i>	10	5	5.8
<i>Franceia droescheri</i>	0	1	1.2
<i>Franceia ovalis</i>	0	1	1.2
<i>Frustulia rhomboides</i>	0	1	1.2
<i>Glenodinium gymnodinium</i>	0	1	1.2
<i>Glenodinium gymnodinium</i> v. <i>biscutelliforme</i>	0	1	1.2
<i>Glenodinium oculatum</i>	14	11	12.8
<i>Gloeocystis planctonica</i>	28	1	1.2
<i>Golenkinia radiata</i>	109	2	2.3
<i>Gomphonema acuminatum</i> v. <i>trigonocephala</i>	15	1	1.2
<i>Gomphonema angustatum</i>	0	1	1.2
<i>Gomphonema angustatum</i> v. <i>producta</i>	0	2	2.3
<i>Gomphonema constrictum</i>	0	1	1.2
<i>Gomphonema olivaceum</i>	3	5	5.8
<i>Gomphonema parvulum</i>	9	3	3.5
<i>Gonium pectorale</i>	0	1	1.2
<i>Gymnodinium album</i>	47	10	11.6
<i>Gymnodinium ordinatum</i>	73	5	5.8
<i>Gyrosigma kutzningii</i>	0	1	1.2
<i>Gyrosigma macrum</i>	0	1	1.2
<i>Gyrosigma scalpoides</i>	0	4	4.7

* \bar{x} = Mean algal units per ml

** n = Number of occurrences

*** % = Percent occurrence

TABLE 7. PHYTOPLANKTON SPECIES OCCURRENCE AND ABUNDANCE (Continued)

Species	\bar{x}^*	n**	%***
<i>Hantzschia amphioxys</i>	0	2	2.3
<i>Kirchneriella lunaris</i>	0	1	1.2
<i>Lagerheimia subsalsa</i>	28	1	1.2
<i>Lepocinclis acuta</i>	0	2	2.3
<i>Lepocinclis fusiformis</i>	0	1	1.2
<i>Lepocinclis glabra f. minor</i>	150	1	1.2
<i>Lyngbya circularis</i>	0	1	1.2
<i>Lyngbya lagerheimii</i>	5300	2	2.3
<i>Lyngbya limnetica</i>	5956	4	4.7
<i>Mallomonas akrokomos</i> ?	51	1	1.2
<i>Mallomonas alpina</i>	0	1	1.2
<i>Mallomonas caudata</i>	0	1	1.2
<i>Mastogloia braunii</i>	0	1	1.2
<i>Melosira distans</i>	229	69	80.2
<i>Melosira granulata</i>	272	38	44.2
<i>Melosira granulata</i> v. <i>angustissima</i>	89	23	26.7
<i>Melosira granulata</i> v. <i>angustissima</i> f. <i>spiralis</i>	51	8	9.3
<i>Melosira islandica</i>	198	1	1.2
<i>Melosira italica</i>	113	4	4.7
<i>Melosira varians</i>	40	19	22.1
<i>Merismopedia glauca</i>	277	1	1.2
<i>Merismopedia minima</i>	179	2	2.3
<i>Merismopedia punctata</i>	219	2	2.3
<i>Merismopedia tenuissima</i>	357	21	24.4
<i>Mesostigma viridis</i>	29	7	8.1
<i>Micractinium pusillum</i>	36	1	1.2
<i>Microcystis aeruginosa</i>	0	2	2.3
<i>Microcystis incerta</i>	236	13	15.1
<i>Navicula cascadiensis</i>	0	1	1.2
<i>Navicula cincta</i>	0	1	1.2
<i>Navicula cuspidata</i> ?	0	1	1.2
<i>Navicula exigua</i>	0	1	1.2
<i>Navicula gastrum</i>	0	1	1.2
<i>Navicula radiosha</i>	42	1	1.2
<i>Navicula vulpina</i>	0	1	1.2

* \bar{x} = Mean algal units per ml

** n = Number of occurrences

*** % = Percent occurrence

TABLE 7. PHYTOPLANKTON SPECIES OCCURRENCE AND ABUNDANCE (Continued)

Species	\bar{x}^*	n**	%***
<i>Navicula zanoni</i>	0	1	1.2
<i>Neidium iridis</i>	0	1	1.2
<i>Nitzschia acicularis</i>	87	9	10.5
<i>Nitzschia actinastroides</i>	105	1	1.2
<i>Nitzschia angustata</i>	0	1	1.2
<i>Nitzschia filiformis</i>	11	5	5.8
<i>Nitzschia hantzschiana</i>	0	1	1.2
<i>Nitzschia holsatica</i>	9	3	3.5
<i>Nitzschia lorenziana</i> ?	43	2	2.3
<i>Nitzschia palea</i>	34	3	3.5
<i>Nitzschia paradoxa</i>	0	1	1.2
<i>Nitzschia reversa</i> ?	272	1	1.2
<i>Nitzschia sigmoidea</i>	0	1	1.2
<i>Nitzschia tryblionella</i>	0	1	1.2
<i>Nitzschia tryblionella</i> v. <i>levidensis</i>	0	1	1.2
<i>Oocystis borgei</i>	0	1	1.2
<i>Oocystis citriformis</i>	0	1	1.2
<i>Oocystis pusilla</i>	0	2	2.3
<i>Ophiocytium capitatum</i> v. <i>longispinum</i>	107	3	3.5
<i>Oscillatoria amphibia</i>	0	1	1.2
<i>Oscillatoria angusta</i>	0	1	1.2
<i>Oscillatoria geminata</i> ?	68499	1	1.2
<i>Oscillatoria limnetica</i>	68	21	24.4
<i>Oscillatoria splendida</i>	0	2	2.3
<i>Oscillatoria subbrevis</i>	0	1	1.2
<i>Pandorina morum</i>	7	4	4.7
<i>Pediastrum biradiatum</i>	0	3	3.5
<i>Pediastrum biradiatum</i> v. <i>longecornutum</i>	0	1	1.2
<i>Pediastrum boryanum</i>	0	3	3.5
<i>Pediastrum duplex</i>	0	7	8.1
<i>Pediastrum duplex</i> v. <i>clathratum</i>	40	3	3.5
<i>Pediastrum duplex</i> v. <i>reticulatum</i>	36	4	4.7
<i>Pediastrum simplex</i>	6	5	5.8
<i>Pediastrum simplex</i> v. <i>duodenarium</i>	0	3	3.5
<i>Pediastrum tetras</i>	7	4	4.7

* \bar{x} = Mean algal units per ml

** n = Number of occurrences

*** % = Percent occurrence

TABLE 7. PHYTOPLANKTON SPECIES OCCURRENCE AND ABUNDANCE (Continued)

Species	\bar{x}^*	n**	%***
<i>Pediastrum tetras</i> v. <i>tetraodon</i>	59	7	8.1
<i>Peridinium pusillum</i>	73	1	1.2
<i>Peridinium quadridens</i>	70	2	2.3
<i>Peridinium umbonatum</i>	26	5	5.8
<i>Phacus acuminatus</i>	5	3	3.5
<i>Phacus anomalus</i>	0	2	2.3
<i>Phacus caudatus</i>	0	2	2.3
<i>Phacus curvicauda</i>	0	6	7.0
<i>Phacus glaber</i>	0	3	3.5
<i>Phacus helikoides</i>	0	4	4.7
<i>Phacus longicauda</i>	8	6	7.0
<i>Phacus megalopsis</i>	0	7	8.1
<i>Phacus nordstedtii</i>	33	1	1.2
<i>Phacus orbicularis</i>	0	2	2.3
<i>Phacus pleuronectes</i>	0	1	1.2
<i>Phacus pseudonordstedtii</i>	0	2	2.3
<i>Phacus pyrum</i>	0	3	3.5
<i>Phacus suecicus</i>	0	2	2.3
<i>Phacus tortus</i>	8	4	4.7
<i>Phacus trimarginatus</i>	0	1	1.2
<i>Pinnularia gentilis</i>	0	1	1.2
<i>Pinnularia gibba</i>	0	1	1.2
<i>Pleurosigma delicatulum</i>	0	1	1.2
<i>Pteromonas angulosa</i>	25	14	16.3
<i>Pteromonas cruciata</i>	0	2	2.3
<i>Raphidiopsis curvata</i>	3948	3	3.5
<i>Rhopalodia gibba</i>	0	2	2.3
<i>Scenedesmus abundans</i>	235	9	10.5
<i>Scenedesmus acuminatus</i>	78	4	4.7
<i>Scenedesmus acutus</i>	0	2	2.3
<i>Scenedesmus anomalous</i>	0	1	1.2
<i>Scenedesmus anomalous</i> v. <i>acaudatus</i>	0	1	1.2
<i>Scenedesmus apiculatus</i>	0	1	1.2
<i>Scenedesmus arcuatus</i>	59	2	2.3
<i>Scenedesmus armatus</i>	143	1	1.2

* \bar{x} = Mean algal units per ml

** n = Number of occurrences

*** % = Percent occurrence

TABLE 7. PHYTOPLANKTON SPECIES OCCURRENCE AND ABUNDANCE (Continued)

Species	\bar{x}^*	n**	%***
<i>Scenedesmus armatus</i> v. <i>bicaudatus</i>	0	1	1.2
<i>Scenedesmus armatus</i> v. <i>boglariensis</i> v. <i>bicaudatus</i>	0	1	1.2
<i>Scenedesmus bicaudatus</i>	18	12	14.0
<i>Scenedesmus bijuga</i>	68	12	14.0
<i>Scenedesmus bijuga</i> f. <i>irregularis</i>	0	1	1.2
<i>Scenedesmus bijuga</i> v. <i>flexuosus</i>	0	1	1.2
<i>Scenedesmus brasiliensis</i>	83	1	1.2
<i>Scenedesmus denticulatus</i>	29	4	4.7
<i>Scenedesmus denticulatus</i> v. <i>linearis</i>	0	1	1.2
<i>Scenedesmus dimorphus</i>	69	42	48.8
<i>Scenedesmus ecornis</i> v. <i>disciformis</i>	51	2	2.3
<i>Scenedesmus intermedius</i>	40	3	3.5
<i>Scenedesmus intermedius</i> v. <i>bicaudatus</i>	57	8	9.3
<i>Scenedesmus obliquus</i>	0	1	1.2
<i>Scenedesmus opoliensis</i>	233	3	3.5
<i>Scenedesmus ovalternus</i>	0	1	1.2
<i>Scenedesmus protuberans</i>	118	10	11.6
<i>Scenedesmus quadricauda</i>	161	34	39.5
<i>Scenedesmus raciborskii</i> f. <i>granulatus</i>	39	1	1.2
<i>Schizochlamys delicatula</i> ?	0	1	1.2
<i>Schroederia setigera</i>	71	12	14.0
<i>Skeletonema potamos</i>	168	47	54.7
<i>Spermatozoopsis exultans</i>	307	1	1.2
<i>Sphaerocystis</i> ? <i>schroeteri</i>	0	1	1.2
<i>Staurastrum cuspidatum</i> ?	28	1	1.2
<i>Staurastrum tetracerum</i>	143	1	1.2
<i>Stephanodiscus astraea</i>	67	15	17.4
<i>Stephanodiscus niagarae</i>	77	7	8.1
<i>Surirella linearis</i>	0	2	2.3
<i>Surirella ovata</i>	0	1	1.2
<i>Synedra acus</i>	18	3	3.5
<i>Synedra gaillonii</i>	0	1	1.2
<i>Synedra ulna</i>	11	14	16.3
<i>Synedra ulna</i> v. <i>oxyphynchus</i>	0	2	2.3
<i>Synedra ulna</i> vars.	0	1	1.2

* \bar{x} = Mean algal units per ml

** n = Number of occurrences

*** % = Percent occurrence

TABLE 7. PHYTOPLANKTON SPECIES OCCURRENCE AND ABUNDANCE (Continued)

Species	\bar{x}^*	n**	%***
<i>Synura uvella</i>	319	5	5.8
<i>Tabellaria fenestrata</i>	0	2	2.3
<i>Tetraedron caudatum</i>	26	2	2.3
<i>Tetraedron caudatum</i> v. <i>longispinum</i>	72	2	2.3
<i>Tetraedron gracile</i>	0	2	2.3
<i>Tetraedron minimum</i>	26	10	11.6
<i>Tetraedron minimum</i> v. <i>scrobiculatum</i>	499	4	4.7
<i>Tetraedron muticum</i>	111	5	5.8
<i>Tetraedron muticum</i> f. <i>punctulatum</i>	0	1	1.2
<i>Tetraedron pentaedricum</i>	0	1	1.2
<i>Tetraedron regulare</i>	84	3	3.5
<i>Tetraedron regulare</i> v. <i>granulata</i>	15	2	2.3
<i>Tetraedron regulare</i> v. <i>incus</i>	32	4	4.7
<i>Tetraedron trigonum</i>	4	1	1.2
<i>Tetraedron trigonum</i> v. <i>gracile</i>	0	3	3.5
<i>Tetraedron tumidulum</i>	16	2	2.3
<i>Tetrastrum elegans</i>	31	6	7.0
<i>Tetrastrum glabrum</i>	71	4	4.7
<i>Tetrastrum heteracanthum</i>	37	4	4.7
<i>Tetrastrum staurogeniaeforme</i>	74	20	23.3
<i>Thorakomonas</i> ? <i>fedlmanii</i>	0	1	1.2
<i>Trachelomonas abrupta</i>	61	1	1.2
<i>Trachelomonas caudata</i> ?	0	1	1.2
<i>Trachelomonas crebea</i>	0	2	2.3
<i>Trachelomonas cylindrica</i>	285	1	1.2
<i>Trachelomonas fluviatilis</i>	0	2	2.3
<i>Trachelomonas gibberosa</i>	24	1	1.2
<i>Trachelomonas hispida</i>	20	5	5.8
<i>Trachelomonas hispida</i> v. <i>punctata</i>	26	2	2.3
<i>Trachelomonas intermedia</i>	35	18	20.9
<i>Trachelomonas lacustris</i>	0	2	2.3
<i>Trachelomonas longicauda</i>	0	1	1.2
<i>Trachelomonas oblonga</i>	0	1	1.2
<i>Trachelomonas plantonica</i>	0	2	2.3
<i>Trachelomonas playfairii</i>	0	1	1.2
<i>Trachelomonas pulcherrima</i>	0	1	1.2

* \bar{x} = Mean algal units per ml

** n = Number of occurrences

*** % = Percent occurrence

TABLE 7. PHYTOPLANKTON SPECIES OCCURRENCE AND ABUNDANCE (Continued)

Species	\bar{x}^*	n**	%***
<i>Trachelomonas rotundata</i>	0	1	1.2
<i>Trachelomonas schauinslandii</i>	2	2	2.3
<i>Trachelomonas sparse-setulosa</i> ?	32	1	1.2
<i>Trachelomonas urceolata</i>	0	1	1.2
<i>Trachelomonas verrucosa</i>	0	1	1.2
<i>Trachelomonas volgensis</i>	0	1	1.2
<i>Trachelomonas volvocina</i>	94	14	16.3
<i>Treubaria setigerum</i>	0	1	1.2
<i>Treubaria triappendiculata</i>	89	2	2.3
<i>Volvox tertius</i>	0	1	1.2

* \bar{x} = Mean algal units per ml

** n = Number of occurrences

*** % = Percent occurrence

Although diatoms numerically dominated the flora of the inlet water, the species involved were not restricted to that habitat. No diatom achieving dominant status was found only in inlet waters; in fact, most were widespread and abundant in the other habitats. It appears that diatom dominance in inlets can be attributed to the scarcity of successfully competing non-diatom forms.

Centric diatoms predominated over pinnate diatoms in abundance and accounted for 78 percent of all dominant diatom occurrences (Table 6). Most often they were species of the genera Melosira, Stephanodiscus, Skeletonema, and Cyclotella (Table 8). As a group, centric diatoms are associated with high nutrient water. Indeed, Melosira granulata, M. varians, Cyclotella meneghiniana, Stephanodiscus astraea, and Skeletonema potamos, all common to Atchafalaya (Table 7), are known to be indicator species of eutrophic waters and/or organic pollution (Hutchinson 1967, Palmer 1969, Weber 1970).

Melosira is of special interest since it was the most successful genus encountered in terms of dominance within the Atchafalaya Basin. It was represented by seven species and varieties, six of which attained dominance in at least one sample. The genus was excluded as a dominant form from the floras of Lake Verret and Pat Bay, both outside the Basin proper. Melosira was most important during the months immediately following minimum water levels, around December, and again at maximum water levels around April.

Melosira distans, the most common species in the study was most prominent from November through January, just after low water. Another period of prominence occurred during March and April, just before the high water maximum. Lowe (1974) classifies M. distans as an oligotrophic-dystrophic form, which is interesting because the Atchafalaya has a substantial nutrient load. However, due most probably to sediment load, light is not available to stimulate high primary production by algae. Wang (1974) noted this same phenomenon in the Illinois River. Melosira granulata and M. granulata var. angustissima, both eutrophic indicators, did not become dominant during the same low water periods as did M. distans, but together they peaked four times during the period of high water, extending from March through June.

Melosira varians, a noted indicator of eutrophic water (Lowe 1974), occurred as a dominant three times in three separate areas. It occurred in the east-side site (January), Buffalo Cove (April), and the Inlet (December), and during periods of low but rising water, and high water. The incidents are isolated with no apparent trends.

Skeletonema potamos, due to its fifteen occurrences as a major constituent of the flora, is of special interest. Weber (1970), using the species name Microsiphona potamos, found it to be widely distributed in rivers of the EPA Water Pollution Surveillance System but abundant only in alkaline streams receiving organic and/or inorganic enrichment. In his study, the organism was found to occur in large numbers from late May to December in Little Miami River, Cincinnati, Ohio. In our studies S. potamos attained dominance in December during low water at the inlet stations; in swamp areas it became important during high water periods in April and June as well.

TABLE 8. PHYTOPLANKTON GENUS OCCURRENCE AND DOMINANT OCCURRENCE

Genus	Occurrence	Dominant Occurrence	Genus	Occurrence	Dominant Occurrence
<i>Achnanthes</i>	7	-	<i>Cryptomonas</i>	66	32
<i>Actinastrum</i>	22	-	<i>Cyanophyta*</i>	13	4
<i>Amphora</i>	1	-	<i>Cyclotella</i>	43	12
<i>Anabaena</i>	23	1	<i>Cylindrospermum ?</i>	1	-
<i>Anabaenopsis</i>	3	-	<i>Cymatopluera</i>	2	-
<i>Ankistrodesmus</i>	50	10	<i>Cymbella</i>	13	-
<i>Aphanizomenon</i>	8	-	<i>cyst*</i>	3	-
<i>Aphanocapsa</i>	3	-	<i>Dactylococcopsis</i>	33	4
<i>Aphanothecce</i>	1	-	<i>Diatoma</i>	5	-
<i>Arthrosphaira</i>	1	-	<i>Dictyosphaerium</i>	9	-
<i>Asterionella</i>	35	2	<i>Dinobryon</i>	7	-
<i>Campylodiscus</i>	1	-	<i>dinoflagellate*</i>	1	-
<i>Carteria</i>	11	-	<i>Diploneis</i>	2	-
centric diatom*	27	14	<i>Elakatothrix</i>	7	-
<i>Ceratium</i>	4	-	<i>Epithemia</i>	4	-
<i>Chaetoceras</i>	1	-	<i>Euastrum</i>	1	-
<i>Chilomonas</i>	3	-	<i>Eudorina</i>	1	-
<i>Chlamydomonas</i>	24	5	<i>Euglena</i>	53	1
<i>Chlorella</i>	1	-	<i>Eunotia</i>	9	-
<i>Chlorococcales*</i>	5	-	<i>flagellate*</i>	42	26
<i>Chlorogonium</i>	4	-	<i>Fragilaria</i>	6	-
<i>Chlorophyta*</i>	6	2	<i>Franceia</i>	2	-
<i>Chroococcus</i>	2	-	<i>Frustulia</i>	1	-
<i>Chroomonas</i>	16	10	<i>Glenodinium</i>	13	-
<i>Chrysococcus</i>	2	-	<i>Gloeocystis</i>	3	-
<i>Chrysophyta*</i>	1	-	<i>Golenkinia</i>	3	-
<i>Closterium</i>	31	-	<i>Gomphonema</i>	25	-
coccoid*	4	1	<i>Gonium</i>	1	1
<i>Cocconeis</i>	23	-	<i>Gymnodinium</i>	15	-
<i>Coelastrum</i>	16	1	<i>Gyrosigma</i>	15	-
<i>Coscinodiscus</i>	16	3	<i>Hantzchia</i>	5	-
<i>Cosmarium</i>	2	-	<i>Kirchneriella</i>	9	-
<i>Crucigenia</i>	19	-	<i>Lagerheimia</i>	1	-

TABLE 8. PHYTOPLANKTON GENUS OCCURRENCE AND DOMINANT OCCURRENCE (Continued)

Genus	Occurrence	Dominant Occurrence	Genus	Occurrence	Dominant Occurrence
<i>Lepocinclis</i>	15	-	<i>Planktonema</i>	2	-
<i>Lunate*</i>	6	3	<i>Pleurosigma</i>	2	-
<i>Lyngbya</i>	10	4	<i>Pteromonas</i>	15	1
<i>Mallomonas</i>	5	-	<i>Pyrrophyta*</i>	1	-
<i>Mastogloia</i>	1	-	<i>Raphidiopsis</i>	5	1
<i>Melosira</i>	77	35	<i>Rhophalodia</i>	1	-
<i>Merismopedia</i>	20	-	<i>Rivularia</i>	1	-
<i>Mesostigma</i>	5	-	<i>Scenedesmus</i>	62	5
<i>Micractinium</i>	3	-	<i>Schizochlamys</i>	1	-
<i>Microcystis</i>	14	2	<i>Schroederia</i>	10	1
<i>Mougeotia</i>	1	-	<i>Skeletonema</i>	42	15
<i>Navicula</i>	35	5	<i>Spermatozoopsis</i>	7	-
<i>Neidium</i>	2	-	<i>Sphaerocystis</i>	2	-
<i>Nephrocystium</i>	2	-	<i>Staurastrum</i>	1	-
<i>Nitzschia</i>	51	15	<i>Stauroneis</i>	1	-
<i>Ochromonas</i>	1	1	<i>Stephanodiscus</i>	42	14
<i>Oocystis</i>	12	1	<i>Surirella</i>	11	-
<i>Ophiocystium</i>	2	-	<i>Synedra</i>	34	1
<i>Oscillatoria</i>	53	18	<i>Synura</i>	4	3
<i>palmelloid*</i>	4	-	<i>Tabellaria</i>	2	-
<i>Pandorina</i>	5	-	<i>Tetraedron</i>	21	-
<i>Pediastrum</i>	17	-	<i>Tetrastrum</i>	23	1
<i>pennate diatom*</i>	19	6	<i>Thorakomonas</i>	1	-
<i>Peridinium</i>	8	-	<i>Trachelomonas</i>	44	7
<i>Phacus</i>	33	1	<i>Treubaria</i>	6	-
<i>Phormidium</i>	5	1	<i>Ulothrix</i>	2	-
<i>Pinnularia</i>	2	-	<i>Volvox</i>	1	-

* Summary category of forms not identified to genus.

Throughout the Atchafalaya Basin, except in the inlet waters, a wide variety of flagellates attained dominant and subdominant positions. The Cryptophyceae (flagellates) ranked second in importance to the centric diatoms in providing major component species to the samples. This is especially interesting since only six species were identified in the Atchafalaya samples (Table 6).

The four major genera of flagellates in order of importance were Cryptomonas, Chroomonas, Trachelomonas, and Chlamydomonas. These and others can be considered associates of the swamps and backwater areas. As with the diatoms discussed previously, the genera and species observed represent forms reported to prefer organically enriched water.

Three species of Cryptomonas were identified in Atchafalaya samples and all attained dominance. Members of the genus achieved dominance on thirty-two occasions, making it second only to Melosira in importance in the Basin. Only two dominant occurrences were recorded in inlet samples and none in Lake Verret. The genus occurred widely in all other areas, with no apparent seasonal restrictions.

Although numerous genera (19) and species (85) of Chlorococcales occurred commonly (Table 7), they rarely became dominant constituents of samples. Most dominant occurrences within the group were attributable to Ankistrodesmus and Scenedesmus with 10 and 5 such occurrences respectively. All of the dominant Ankistrodesmus species occurrences appeared in non-inlet/outlet samples, particularly in the Fordoche-Buffalo Cove and Lake Verret-Pat Bay areas. Scenedesmus species was restricted as a dominant to inlet stations.

The blue-green algae (Cyanophyta) ranked fourth, both in the number of species present and in total number of occurrences. They ranked third, however, behind diatoms and Cryptophyceae in dominant occurrence. At times blue-green algae were quite prominent, totally dominating the flora of samples (e.g., Appendix; Lake Verret, 2216, 5-29-74). They did particularly well in swamp areas and Lake Verret. Oscillatoria species were more successful than any other blue-green alga.

IMPORTANCE OF PHYTOPLANKTON PRODUCTIVITY

The National Eutrophication Survey (NES) sampled 250 lakes in 17 southeastern States during 1973 (U.S. EPA 1975). In the selection of lakes for this study, strong emphasis was placed on those faced with actual or potential accelerated eutrophication problems. Chemical, physical, and biological data were collected in a similar manner as in the Atchafalaya River Basin Study, thereby making the two studies directly comparable.

Table 9 presents average algal units per milliliter, total phosphorus and inorganic nitrogen (Nitrite-Nitrate-N + Ammonia-N) concentrations, and Secchi disc values for both studies. The phosphorus and inorganic nitrogen levels encountered in both studies were extremely high.

The highest mean total phosphorus concentration occurred in the Basin proper, although it possessed the lowest mean algal count. This apparent anomaly (high nutrients and low algal counts) can best be explained by examining the light penetration data. The study areas immediately outside the Basin and the Basin proper had identical Secchi disc means. However, the data suggest that within the Basin the low light penetration is a cause of the low phytoplankton standing crop, whereas outside the Basin the low light penetration is a result of high algal production. In the inside system suspended sediments severely reduce light penetration and reduce algal production.

Also, the minor role that phytoplankton play in the productivity of the Basin proper can be demonstrated by the fact that mean algal counts were 15 times less in the Basin than in 1973 NES lakes and 35 times less than in those waters studied immediately outside the Basin.

TABLE 9. COMPARISON OF ALGAL UNITS PER MILLILITER,
NUTRIENTS AND LIGHT PENETRATION IN THE
ATCHAFALAYA BASIN AND THE 1973 NATIONAL
EUTROPHICATION SURVEY LAKES

Parameter	National Eutrophication Survey 1973	Atchafalaya Basin Proper	Outside
Mean algal units per milliliter	17,600	1,200	42,000
Mean total phosphorus (micrograms/liter)	143	194	148
Mean inorganic nitrogen (micrograms/liter)	742	613	590
Mean Secchi disc (inches)	48	13	13

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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, EUNOTIA ?, 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.

ATCHAFALAYA
STCRET NUMBER: A001000

NYGAARD TROPHIC STATE INDICES

	DATE	11 18 74	12 09 74	01 14 75
MYXOPHYCEAN		3.00 E	04/0 E	03/0 E
CHLOROPHYCEAN		4.00 E	04/0 E	05/0 E
EUGLENOPHYTE		0.14 ?	0.25 E	0/08 ?
DIATOM		1.40 E	0.83 E	0.46 E
COMPOUND		15.0 E	15/0 E	14/0 E

PALMER'S ORGANIC POLLUTION INDICES

	DATE	11 18 74	12 09 74	01 14 75
GENLS		06	01	01
SPECIES		00	00	00

SPECIES DIVERSITY AND ABUNDANCE INDICES

	DATE	11 18 74	12 09 74	01 14 75
AVERAGE DIVERSITY	H	2.22	2.91	1.33
NUMBER OF TAXA	S	22.00	24.00	29.00
NUMBER OF SAMPLES COMPOSITED	M	1.00	1.00	1.00
MAXIMUM DIVERSITY	MAXH	4.46	4.58	4.86
TOTAL DIVERSITY	C	885.78	3870.30	1067.99
TOTAL NUMBER OF INDIVIDUALS/ML	N	399.00	1330.00	803.00
EVENNESS COMPONENT	J	0.50	0.64	0.27
MEAN NUMBER OF INDIVIDUALS/TAXA	L	18.14	55.42	27.69
NUMBER/ML OF MOST ABUNDANT TAXON	K	167.00	318.00	581.00

ATCHAFALAYA
STORET NUMBER: A001000

CONTINUED

TAXA	FORM	11 18 74			12 09 74			01 14 75		
		S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML
ACHNANTHES #1	CEL									X
ACTINASTRUM HANTZSCHII	CEL	4	8.3	33						
V. FLUVIATILE							X			
ANABAENA	FIL						X			
ANKISTRODESMUS ?	CEL									
ANKISTRODESMUS FALCATUS	CEL			X						
ANKISTRODESMUS FALCATUS	CEL									
V. MIPABILIS	CEL				2.2		29	4	2.7	22
ASTERICNELLA FORMCSA	CEL			X			X			
CENTRIC DIATOM	CEL			X	15	8.7	116			
CENTRIC DIATOMS	CEL									
CHLAMYDOMCNAS GLCBOZA	CEL				2.2		29			
CHLOROPHYTAN COLONY	CCL									
CHRCOCOCCUS	CEL									
CHRCMCNAS	CEL									
CLOSTERIUM	CEL			X						
CCCOID CELL	CEL									
COCCONEIS	CEL									
CCELASTRUM	COL									
CCSCINODISCUS DENARIUS	CEL									
COSCINODISCUS LACUSTRIS	CEL									
CCSCINCCDISCUS ROTHIT	CEL									
V. SUBSALSA	CEL	3	8.3	33						X
CRUCIGENIA QUADRATA	COL									
CRYPTOMCNAS	CEL									
CRYPTOMCNAS ?	CEL	5	8.3	33						
CRYPTOMCNAS EROSA	CEL									
CRYPTOMCNAS REFLEXA	CEL				4.4		58			
CYANOPHYTAN FILAMENT	FIL									
CYCLOTELLA	CEL									
CYCLOTELLA MENENGHINIANA	CEL	2	41.9	167						
CYMATOPLEURA SOLEA	CEL									

ATCHAFALAYA
STC RET NUMBER: A001000

CONTINUED

11 18 74

12 09 74

01 14 75

TAXA	FORM	IS	%C	ALGAL UNITS PER ML	IS	%C	ALGAL UNITS PER ML	IS	%C	ALGAL UNITS PER ML
CYBELLA	CEL						X			X
DACTYLOCOPPSIS IRREGULARIS	CEL				2.2		29			
DIATOMA VULGARE	CEL									X
DINOBRYON SERTULARIA	CEL									
EUGLENA	CEL			X						
EUGLENA #1	CEL						X			
EUGLENA ACUS	CEL									
FRAGILARIA	CEL									
FRAGILARIA CROTONENSIS	CEL						X			X
FRUSTULIA RHOMBOIDES	CEL									X
GCMPHONEMA	CEL			X						
GYRGSIGMA	CEL									
GYRGSIGMA SCALPROIDES	CEL									X
MELOSIRA	CEL			X						
MELOSIRA #1	CEL							2	11.1	89
MELOSIRA DISTANS	CEL			X	3	23.9	318	3	11.1	89
MELOSIRA GRANULATA	CEL									
MELOSIRA ITALICA	CEL									X
MELOSIRA ITALICA ?	CEL				2	17.4	231			
MELOSIRA VARIANS	CEL									X
MICROCYSTIS INCERTA	CGL									
NAVICULA	CEL			X						
NAVICULA #1	CEL									X
NAVICULA #2	CEL									X
NAVICULA ZANONI	CEL									
NEIDIUM	CEL									X
NEIDIUM IRIDIS	CEL						X			
NITZSCHIA	CEL						X			
NITZSCHIA #1	CEL									
NITZSCHIA #2	CEL									X
NITZSCHIA TRYBLICHELLA ?	CEL									
OSCILLATORIA	FIL						X			

ATCHAFALAYA
STORET NUMBER: A001000

CONTINUED

11 18 74

12 09 74

01 14 75

TAXA	FORM	ALGAL UNITS PER ML		ALGAL UNITS PER ML		ALGAL UNITS PER ML	
		S	%C	S	%C	S	%C
OSCILLATORIA #1	FIL	11	25.1	100			
OSCILLATORIA #2	FIL		8.3	33			
OSCILLATORIA LIMNETICA	FIL			X			X
PALMELLCID COLONY	COL					X	
PECIASTRUM BORYANUM	COL						
PECIASTRUM DUPLEX	COL						
V. RETICULATUM	COL						
PENNATE	CEL						
PTEROMONAS ANGULOSA	CEL						
SCENEDESMUS ACUMINATUS	COL						
SCENEDESMUS BICAUDATUS	CCL			X			
SCENEDESMUS DIMORPHUS	CEL					X	
SCENEDESMUS INTERMEDIUS	COL						
V. BICAUDATUS	COL						
SCENEDESMUS OPOLIENSIS	COL						X
SCENEDESMUS PROTUBERANS	COL						X
SCENEDESMUS QUADRICAUDA	CCL			X			
SKELETONEMA POTAMOS	CEL			X			
STEPHANODISCUS	CEL			4	19.5	260	
STEPHANODISCUS ASTRAEA	CEL			1	15.2	262	
STEPHANODISCUS NIAGARAE	CEL					1	72.4
SURIRELLA	CEL						581
SYNEDRA	CEL			X			
SYNEDRA GAILLONII	CEL			X			
SYNEDRA ULNA	CEL						X
TRACHELOMENAS	CEL						
TRACHELOMENAS INTERMEDIA	CEL				2.2	29	
TOTAL				399		1330	803

ATCHAFALAYA
STCRET NUMBER: A001000

CONTINUED

NYGAARD TROPHIC STATE INDICES

DATE	04 17 75	06 10 75	12 18 75
HYXOPHYCEAN	0/01 0	02/0 E	02/0 E
CHLOROPHYCEAN	4.00 E	04/0 E	02/0 E
EUGLENOPHYTE	0.50 E	0.33 E	0.25 E
DIATOM	2.25 E	0.57 E	0.86 E
COMPOUND	15.0 E	12/0 E	11/0 E

PALMER'S ORGANIC POLLUTION INDICES

DATE	04 17 75	06 10 75	12 18 75
GENUS	01	01	05
SPECIES	00	00	00

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE	04 17 75	06 10 75	12 18 75
AVERAGE DIVERSITY	H	2.74	2.36
NUMBER OF TAXA	S	27.00	20.00
NUMBER OF SAMPLES COMPOSITED	M	1.00	1.00
MAXIMUM DIVERSITY	MAXH	4.75	4.32
TOTAL DIVERSITY	D	1394.66	908.60
TOTAL NUMBER OF INDIVIDUALS/ML	N	509.00	385.00
EVENNESS COMPONENT	J	0.58	0.55
MEAN NUMBER OF INDIVIDUALS/TAXA	L	18.85	19.25
NUMBER/ML OF MOST ABUNDANT TAXON	K	169.00	129.00
			166.00

ATCHAFALAYA
STCRET NUMBER: A001000

CONTINUED

TAXA	FORM	04 17 75			06 10 75			12 18 75		
		IS	%C	ALGAL UNITS PER ML	IS	%C	ALGAL UNITS PER ML	IS	%C	ALGAL UNITS PER ML
ACHMANTHES #1	CEL									
ACTINASTRUM HANTZSCHII	CEL			X						
V. FLUVIATILE	FIL						X			
ANABAENA	CEL				8.3		32			
ANKISTRODESmus ?	CEL									
ANKISTRODESmus FALCATUS	CEL									
ANKISTRODESmus FALCATUS	CEL									
V. MIRABILIS	CEL									
ASTERIONELLA FORMOSA	CEL			X	3	16.6	64			
CENTRIC DIATOM	CEL									
CENTRIC DIATOMS	CEL	6.7		34						
CHLAMYDOMONAS GLOBOSA	CEL			X						
CHLOROPHYTAN COLONY	CCL									
CHROOCOCCUS	CEL									
CHROMCNAS	CEL	1	33.2	169						
CLUSTERIUM	CEL	6.7		34						
COCCIC CELL	CEL						X			
COCCONEIS	CEL			X						
COELASTRUM	CCL									
COSCINODISCUS DENARIUS	CEL			X						
COSCINODISCUS LACUSTRIS	CEL			X			X			
COSCINODISCUS ROTHII	CEL									
V. SUBSALSA	CEL			X				3.8	30	
CRUCIGENIA QUADRATA	CCL			X						
CRYPTOMCNAS	CEL	2	13.4	68						
CRYPTOMONAS ?	CEL									
CRYPTOMONAS EROSA	CEL			X						
CRYPTOMONAS REFLEXA	CEL			X						
CYANOPHYTAN FILAMENT	FIL									
CYCLOTELLA	CEL							3	11.6	91
CYCLOTELLA MENEGHINIANA	CEL			X				3.8	30	
CYMATOPLEURA SOLEA	CEL									

ATCHAFALAYA
STORET NUMBER: A001000

CONTINUED

04 17 75 06 10 75 12 18 75

TAXA	FORM		IS	%C	ALGAL UNITS PER ML		IS	%C	ALGAL UNITS PER ML		IS	%C	ALGAL UNITS PER ML
CYMBELLA	CEL										3.8		30
EACTYLOCOCOPSIS IRREGULARIS	CEL										1.9		15
DIATOMA VULGARE	CEL												
DINCBRYCN SERTULARIA	CEL		6.7		34								
EUGLENA	CEL					X							
EUGLENA #1	CEL												
EUGLENA ACUS	CEL									X			
FRAGILARIA	CEL										3.8		30
FRAGILARIA CROTONEENSIS	CEL												
FRLSTULIA RHOMBOIDES	CEL												
GCMPHONEMA	CEL												
GYROSIGMA	CEL					X							
GYFOSIGMA SCALPRICES	CEL												
MELOSIRA	CEL												
MELOSIRA #1	CEL												
MELOSIRA DISTANS	CEL	4	13.4		68						2	17.4	136
MELOSIRA GRANULATA	CEL	3	13.4		68	2	24.9		96				
MELOSIRA ITALICA	CEL											3.8	30
MELOSIRA ITALICA ?	CEL												
MELCSIRA VARIANS	CEL												
MICROCYSTIS INCERTA	COL									X			
NAVICULA	CEL												
NAVICULA #1	CEL												
NAVICULA #2	CEL												
NAVICULA ZANONI	CEL									X			
NEIDIUM	CEL												
NEIDIUM IRIDIS	CEL												
NITZSCHIA	CEL						5	8.3	32				
NITZSCHIA #1	CEL									X		3.8	30
NITZSCHIA #2	CEL									X		3.8	30
NITZSCHIA TRYBLIONELLA ?	CEL											3.8	30
OSCILLATORIA	FIL												

ATCHAFALAYA
STORET NUMBER: A001000

CONTINUED

54

TAXA	FORM	04 17 75			06 10 75			12 18 75		
		S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML
OSCILLATORIA #1	FIL									
OSCILLATORIA #2	FIL									
OSCILLATORIA LIMNETICA	FIL									
PALPELLCID COLONY	CCL									
PEDIASTRUM BORYANUM	COL									
PEDIASTRUM DUPLEX										
V. RETICULATUM	COL									
PENNATE	CEL									
PTEROMCNAS ANGULCSA	CEL			X						
SCENEDESMUS ACUMINATUS	COL			X						
SCENEDESMUS BICAUDATUS	COL									
SCENEDESMUS DIMORPHUS	CEL			X			X			
SCENEDESMUS INTERMEDIUS										
V. BICALCATUS	COL									
SCENEDESMUS OPOLIENSIS	COL									
SCENEDESMUS PROTUBERANS	COL									
SCENEDESMUS QUADRICAUDA	CCL									
SKELETONEMA POTAMOS	CEL			X						
STEPHANODISCUS	CEL			X						
STEPHANODISCUS ASTRAEA	CEL									
STEPHANODISCUS NIAGARAE	CEL									
SURIRELLA	CEL									
SYNEDRA	CEL									
SYNECRA GAILLONII	CEL									
SYNEDRA ULNA	CEL									
TRACHELOMCNAS	CEL	5	6.7	34	1	33.5	129	1	21.2	166
TRACHELOMCNAS INTERMEDIA	CEL									
TOTAL				509			385			783

ATCHAFALAYA
STORET NUMBER: AC02000

NYGAARD TROPHIC STATE INDICES

	DATE	11	18	74	12	09	74	01	14	75
MYXOPHYCEAN		0/01	0		1.00	E		0/01	C	
CHLOROPHYCEAN		0/01	0		2.00	E		1.00	E	
EUGLENOPHYTE		0/0	?		0.33	E		2.00	E	
DIATOM				2.00	E		02/0	E	1.00	E
COMPCUND				2.00	E		6.00	E	6.00	E

PALMER'S ORGANIC POLLUTION INDICES

51

	DATE	11	18	74	12	09	74	01	14	75
GENUS				03			01		00	
SPECIES				00			00		00	

SPECIES DIVERSITY AND ABUNDANCE INDICES

	DATE	11	18	74	12	09	74	01	14	75
AVERAGE DIVERSITY	H		0.01		1.36		1.85			
NUMBER OF TAXA	S		5.00		9.00		12.00			
NUMBER OF SAMPLES COMPOSITED	M		1.00		1.00		1.00			
MAXIMUM DIVERSITY MAXH			2.32		3.17		3.58			
TOTAL DIVERSITY	D		0.65		584.80		414.40			
TOTAL NUMBER OF INDIVIDUALS/ML	N		65.00		430.00		224.00			
EVENNESS COMPONENT	J		0.00		0.43		0.52			
MEAN NUMBER OF INDIVIDUALS/TAXA	L		13.00		47.78		18.67			
NUMBER/ML OF MOST ABUNDANT TAXON	K		65.00		215.00		96.00			

ATCHAFALAYA
STCRET NUMBER: A002000

CONTINUED

11 18 74

12 09 74

01 14 75

TAXA	FORM	ALGAL UNITS PER ML			ALGAL UNITS PER ML			ALGAL UNITS PER ML		
		S	%C		S	%C		S	%C	
ANABAENA	FIL									
ANABAENA PLANCTONICA	FIL									
ANKISTRODESMUS ?	CEL									
CENTRIC DIATOM	CEL							1	42.9	96
CERATIUM FIRUNDINELLA										
F. FURCOIDES	CEL									
CHLAMYDOMONAS	CEL							X		
CHLOROPHYTAN CYST	CEL							X		
CLCSTERIUM	CEL			X						
CRUCIGENIA QUADRATA	COL									
CRYPTOMCNAS MARSSONII	CEL							X		
CYANOPHYTAN FILAMENT	FIL			3	10.0		43			
CYCLOTELLA	CEL									
CYCLOTELLA MENENGHINIANA	CEL									
CYMBELLA	CEL									
CYST ?	CEL									
CACTYLOCOCOPSIS	CEL									
DACTYLCCCCPSIS IRREGULARIS	CEL									
DICTYOSPHAERIUM EHRENBURGIANUM	COL									
ELAKATCTHRIX GELATINOSA	CEL									
EPITHEMIA	CEL									
EUCORINA ELEGANS	COL									
EUGLENA #1	CEL									
EUGLENA #2	CEL									
EUGLENA GRACILIS	CEL									
EUGLENA TRIPTERIS	CEL									
EUNOTIA	CEL									
FLAGELLATE #1	CEL			X						
FLAGELLATE #3	CEL									
FLAGELLATES	CEL							3	14.3	32
GLENDOINIUM OCULATUM	CEL									X

ATCHAFALAYA
STCRET NUMBER: A002000

CONTINUED

TAXA	FORM	11 18 74			12 09 74			01 14 75		
		IS	%C	ALGAL UNITS PER ML	IS	%C	ALGAL UNITS PER ML	IS	%C	ALGAL UNITS PER ML
GONIUM PECTORALE	COL									
GYMNOCLIDIUM ALBULUM	CEL									
GYROSIGMA SCALPRAEIDES	CEL									
LYNGBYA ?	FIL									
MELOSIRA	CEL									
MELCSIRA DISTANS	CEL				2	40.0	172			X
MELOSIRA GRANULATA	CEL			X	1	50.0	215			X
MELCSIRA VARIANS	CEL									
MICROCYSTIS INCERTA	COL									
NAVICULA	CEL	1	100.	65						
NITZSCHIA #1	CEL									
NITZSCHIA #2	CEL									
NITZSCHIA #3	CEL									
NITZSCHIA ACICULARIS	CEL									
NITZSCHIA LORENZIANA ?	CEL									
OOCYSTIS	COL									
OSCILLATORIA	FIL									
OSCILLATORIA ?	FIL									
OSCILLATORIA LIMNETICA	FIL									
PALMELLIO COLONY	CEL									
PECIASTRUM DUPLEX	COL									
PENNATE	CEL									
PERIDINIUM UMBONATUM	CEL									
PHACUS	CEL									
PHACUS CERVICAUCA	CEL									
SCENEDESmus	COL									
SCENEDESmus DIMORPHUS	COL									
SCENEDESmus QUADRICAUDA	COL									
SKELETOMIMA POTAMOS	CEL									
STAURASTRUM	CEL									
STEPHANODISCUS	CEL			X						X
SYNECRA	CEL									

ATCHAFALAYA
STORET NUMBER: AC02000 CONTINUED

TAXA	FORM	11 18 74			12 09 74			01 14 75		
		S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML
SYNEDRA ACUS	CEL									X
TABELLARIA FENESTRATA	CEL									
TETRAEDRON MINIMUM	CEL									
TETRASTRUM	COL									X
TETRASTRUM STAUROGENIAEFORME	COL									
TRACHELMONAS	CEL	1	1							
TRACHELMONAS CAUDATA ?	CEL									
TRACHELMONAS CREBEA	CEL									
TRACHELMONAS INTERMEDIA ?	CEL									
VOLVOX TERTIUS	COL	1	1							
TOTAL				65			430			224

ATCHAFALAYA
STCRET NUMBER: A002000

CONTINUED

NYGAARD TROPHIC STATE INDICES

	DATE	04 17 75	06 10 75	12 18 75
MYXOPHYCEAN		3.00 E	04/0 E	4.00 E
CHLOROPHYCEAN		2.00 E	02/0 E	6.00 E
EUGLENOPHYTE		0.60 E	0.33 E	0.50 E
DIATOM		1.00 E	0.80 E	0.67 E
COMPOUND		10.0 E	12/0 E	19.0 E

PALMER'S ORGANIC POLLUTION INDICES

	DATE	04 17 75	06 10 75	12 18 75
GENUS		01	02	07
SPECIES		00	00	00

65

SPECIES DIVERSITY AND ABUNDANCE INDICES

	DATE	04 17 75	06 10 75	12 18 75
AVERAGE DIVERSITY	H	1.59	2.24	0.46
NUMBER OF TAXA	S	19.00	19.00	32.00
NUMBER OF SAMPLES COMPOSITED	M	1.00	1.00	1.00
MAXIMUM DIVERSITY MAXH		4.25	4.25	5.00
TOTAL DIVERSITY	D	1793.52	4744.32	16949.16
TOTAL NUMBER OF INDIVIDUALS/ML	N	1128.00	2118.00	36846.00
EVENNESS COMPONENT	J	0.37	0.53	0.09
MEAN NUMBER CF INDIVIDUALS/TAXA	L	59.37	111.47	1151.44
NUMBER/ML OF MOST ABUNDANT TAXON	K	752.00	1059.00	35015.00

ATCHAFALAYA

SECRET NUMBER: A002000

CONTINUED

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ATCHAFALAYA
STCET NUMBER: A002000

CONTINUED

TAXA	FORM	04 17 75			06 10 75			12 18 75		
		S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML
GENIUM PECTORALE	COL			X						
GYMNOBINIUM ALBULUM	CEL							0.1		43
GYROSIGMA SCALPROIDES	CEL						X			
LYNGBYA ?	FIL						X			
MELOSIRA	CEL									
MELOSIRA DISTANS	CEL	2	16.7	188	1	50.0	1059	3	0.7	255
MELOSIRA GRANULATA	CEL						X			
MELOSIRA VARIANS	CEL									X
MICROCYSTIS INCERTA	COL				2.1		44			
NAVICULA	CEL			X				2	0.9	340
NITZSCHIA #1	CEL									X
NITZSCHIA #2	CEL								0.2	85
NITZSCHIA #3	CEL						X			
NITZSCHIA ACICULARIS	CEL								0.2	85
NITZSCHIA LORENZIANA ?	COL				4.2		88			
OOCYSTIS	FIL			X						
CSCILLATORIA	FIL						X			
OSCILLATORIA ?	FIL									
CSCILLATORIA LIMNETICA	FIL	4.2		47						X
PALMELLOIC COLONY	CEL							4	0.3	128
PECIASTRUM DUPLEX	COL						X			
PENNATE	CEL						X			
PERIDINIUM UMBONATUM	CEL				2.1		44			
PHACUS	CEL			X						
PHACUS CURVICAUDA	CEL									
SCENEDESmus	COL									
SCENEDESmus DIMORPHLS	CCL									X
SCENEDESmus QUADRICAUDA	COL									X
SKELETOMA POTAMOS	CEL								C.5	170
STAURASTRUM	CEL			X	3	12.5	265	X		
STEPHANCISCUS	CEL							0.1		43
SYNEDRA	CEL									

ATCHAFALAYA
STORET NUMBER: A002000

CONTINUED

62

TAXA	FORM	04 17 75			06 10 75			12 18 75			
		I	S	%C	I	S	%C	I	S	%C	ALGAL UNITS PER ML
SYNEDRA ACUS	CEL										
TABELLARIA FENESTRATA	CEL				X						
TETRAECRCN MINIMUM	CEL										
TETRASTRUM	COL										
TETRASTRUM STAUROGENIAEFORME	COL										
TRACHELMONAS	CEL										
TRACHELMONAS CAUDATA ?	CEL				2	12.5		265			
TRACHELMONAS CREBEA	CEL										
TRACHELMONAS INTERMEDIA ?	CEL				X						
VOLVOX TERTIUS	COL				X						
TOTAL					1128			2118			36846

ATCHAFALAYA
STCRET NUMBER: 8001000

NYGAARD TROPHIC STATE INDICES

DATE 12 09 74

MYXOPHYCEAN	03/0 E
CHLOROPHYCEAN	02/0 E
EUGLENOPHYTE	0/05 ?
DIATOM	0.80 E
COMPOUND	09/0 E

PALMER'S ORGANIC POLLUTION INDICES

DATE 12 09 74

GENUS	01
SPECIES	02

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE 12 09 74

AVERAGE DIVERSITY	H	1.40
NUMBER OF TAXA	S	16.00
NUMBER OF SAMPLES COMPOSITED	M	1.00
MAXIMUM DIVERSITY MAXH		4.00
TOTAL DIVERSITY	D	1033.20
TOTAL NUMBER OF INDIVIDUALS/ML	N	738.00
EVENNESS COMPONENT	J	0.35
MEAN NUMBER OF INDIVIDUALS/TAXA	L	46.13
NUMBER/ML OF MOST ABUNDANT TAXON	K	510.00

ATCHAFALAYA
STORET NUMBER: B001000

CONTINUED

12 09 74

TAXA	FCRM	I	S	%C	ALGAL UNITS PER ML
ACTINASTRUM HANTZSCHII	CEL				X
V. FLUVIALE	CEL				X
ANKISTRODESMUS	CEL				X
ASTERICNELLA FORMOSA	CEL				X
CHLAMYCCMONAS GLOBOSA	CEL		3	3.4	25
CHRCCMCNAS	CEL		4	6.9	51
DACTYLCOCCOPSIS IRREGULARIS	CEL				X
MELCSIRA DISTANS	CEL				X
MELCSIRA GRANULATA	CEL				X
MELOSIRA VARIANS	CEL		1	69.1	510
NITZSCHIA #1	CEL				X
NITZSCHIA #2	CEL				X
CSCILLATORIA	FIL				X
CSCILLATORIA LIMNETICA	FIL				X
PENNATE	CEL		5	3.4	25
STEPHANODISCUS	CEL		2	17.2	127
SYNEDRA ULNA	CEL				X
TOTAL					738

ATCHAFALAYA
STCRET NUMBER: BC02000

NYGAARD TROPHIC STATE INOICES

DATE 12 17 75

MYXOPHYCEAN	01/0	E
CHLOROPHYCEAN	03/0	E
EUGLENOPHYTE	0.25	E
DIATOM	1.25	E
COMPCUND	10/0	E

PALMER'S ORGANIC POLLUTION INDICES

DATE 12 17 75

GENUS	01
SPECIES	00

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE 12 17 75

AVERAGE DIVERSITY	H	2.37
NUMBER OF TAXA	S	16.00
NUMBER OF SAMPLES COMPOSITED	M	1.00
MAXIMUM DIVERSITY	MAXH	4.00
TOTAL DIVERSITY	D	2803.71
TOTAL NUMBER OF INDIVIDUALS/ML	N	1183.00
EVENNESS COMPONENT	J	0.59
MEAN NUMBER OF INDIVIDUALS/TAXA	L	73.94
NUMBER/ML OF MOST ABUNDANT TAXON	K	423.00

ATCHAFALAYA
STCRET NUMBER: 8002000

CONTINUED

12 17 75

TAXA	FORM	S	%C	ALGAL UNITS PER ML
ASTERICNELLA FORMOSA	CEL			X
CERATIUM HIRUNDINELLA	CEL			X
F. BRACHYCERAS	CEL	3	3.6	42
EUGLENA GRACILIS	CEL	2	17.81	211
GYROSIGMA	CEL	2	35.81	423
MELOSIRA DISTANS	CEL	1	3.6	42
MELOSIRA ITALICA	CEL			X
NITZSCHIA	FIL			X
CCCYSTIS PUSILLA	COL			X
CSCILLATORIA	COL	5	3.6	42
SCENEDESMUS ACUMINATUS	CEL	4	14.3	169
SCENEDESMUS QUADRICAUDA	CEL			X
SKELETONEMA POTAMOS	CEL			X
STEPHANOCYCTIS ASTRaea	CEL			X
STEPHANOCTIS NIAGARAE	CEL	1	21.5	254
STEPHANOCTIS SPP.	CEL			X
SYNEDRA ULNA				
TOTAL				1183

ATCHAFALAYA
STORET NUMBER: E001000

NYGAARD TROPHIC STATE INDICES

DATE	03 19 74	12 09 74	01 15 75
MYXOPHYCEAN	4.00 E	02/0 E	1.00 E
CHLOROPHYCEAN	1.00 E	02/0 E	1.00 E
EUGLENOPHYTE	1.00 E	1.25 E	0/02 ?
DIATOM	0.75 E	1.67 E	0.60 E
COPPCUND	13.0 E	14/0 E	5.00 E

PALMER'S ORGANIC POLLUTION INDICES

DATE	03 19 74	12 09 74	01 15 75
GENUS	00	04	03
SPECIES	00	00	00

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE	03 19 74	12 09 74	01 15 75
AVERAGE DIVERSITY	H	3.35	3.03
NUMBER OF TAXA	S	20.00	29.00
NUMBER OF SAMPLES COMPOSITED	M	1.00	1.00
MAXIMUM DIVERSITY MAXH		4.32	4.86
TOTAL DIVERSITY	D	710.20	2802.75
TOTAL NUMBER OF INDIVIDUALS/ML	N	212.00	925.00
EVENNESS COMPONENT	J	0.78	0.62
MEAN NUMBER OF INDIVIDUALS/TAXA	L	10.60	31.90
NUMBER/ML OF MOST ABUNDANT TAXON	K	66.00	240.00
			29.60
			206.00

ATCHAFALAYA
STORET NUMBER: E001000

CONTINUED

03 19 74

12 09 74

01 15 75

ATCHAFALAYA
STC RET NUMBER: E001000

CONTINUED

TAXA	FCRM	03 19 74			12 09 74			01 15 75		
		IS	%C	ALGAL UNITS PER ML	IS	%C	ALGAL UNITS PER ML	IS	%C	ALGAL UNITS PER ML
FLAGELLATE	CEL		1.9	4						
FLAGELLATE #1	CEL						X			
FLAGELLATE #3	CEL						X			
FLAGELLATES	CEL				1	25.9	240			
GLENODINIUM OCULATUM	CEL									
GYMNOCLIDIUM ORDINATUM	CEL					3.7	34			
GYROSIGMA ?	CEL									X
LEFOCIINCLIS	CEL						X			
MELOSIRA	CEL									X
MELOSIRA DISTANS	CEL	14	8.5	18			X			
MELOSIRA GRANULATA	CEL									
MELOSIRA GRANULATA										
V. ANGLTISSIMA	CEL									
MELOSIRA GRANULATA										
V. ANGLTISSIMA F. SPIRALIS	CEL						X			
MELOSIRA VARIANS	CEL		1.9	4			X			
MERISMOPEDIA PUNCTATA	CEL		4.2	9			X			
MERISMOPEDIA TENUISSIMA	COL						X			
MESOSTIGMA VIRICIS	CEL						X			
NAVICULA	CEL		1.9	4						
NAVICULA #1	CEL							14	7.7	34
NAVICULA #2	CEL							15	7.7	34
NITZSCHIA ?	CEL		1.9	4						
NITZSCHIA #1	CEL									
NITZSCHIA #2	CEL									
NITZSCHIA #3	CEL									
NITZSCHIA PALEA	CEL									
NITZSCHIA SPP.	CEL									
OCCILLATORIA	FIL	15	4.2	9						
OCCILLATORIA #1	FIL									
OCCILLATORIA #2	FIL									
OCCILLATORIA LIMNETICA	FIL		1.9	4						

ATCHAFALAYA
STORET NUMBER: ECO1000

CONTINUED

TAXA		03 19 74			12 09 74			01 15 75		
	FORM	IS	%C	ALGAL UNITS PER ML	IS	%C	ALGAL UNITS PER ML	IS	%C	ALGAL UNITS PER ML
PANCORINA	COL									
PENNATE	CEL		1.9	4						
PHACUS	CEL		1.9	4						
PHACUS #1	CEL						X			
PHACUS TORTUS	CEL									
PTEROMCNAS ANGULOSA	CEL					3.7				
PTEROMCNAS CRUCIATA	CEL						34			
SCENEDESMUS INTERMEDIUS	COL						X			
SCENEDESPUS PROTUBERANS ?	COL									
SCENEDESMUS SPP.	COL									
SCHROEDERIA SETIGERA	CEL									
SKELETNEMA POTAMOS	CEL									
SYNEDRA	CEL									
SYNURA UVELLA	CEL									
TETRAEDRON MINIMUM	CEL									
TETRAEDRON REGULARE	CEL									
V. GRANULATA	CEL									
TETRAECRON TRIGONUM	CEL		1.9	4						
TRACHELMONAS	CEL	13	8.5	18						
TRACHELOMNAS INTERMEDIA	CEL						X			
TRACHELOMNAS SCHALINSKII	CEL		1.9	4						
TRACHELOMNAS VOLVCCINA	CEL						X			
TREUBARIA	CEL									
TOTAL				212			925			444

ATCHAFALAYA
STC RET NUMBER: E001000

CONTINUED

NYGAARD TROPHIC STATE INDICES

	DATE	04 14 75	06 11 75
HYXOPHYCEAN		02/0 E	04/0 E
CHLOROPHYCEAN		01/0 E	08/0 E
EUGLENOPHYTE		0/03 ?	0.58 E
DIATOM		4.00 E	1.25 E
COMPOUND		07/0 E	24/0 E

PALMER'S ORGANIC POLLUTION INDICES

	DATE	04 14 75	06 11 75
GENUS		01	12
SPECIES		00	00

SPECIES DIVERSITY AND ABUNDANCE INDICES

	DATE	04 14 75	06 11 75
AVERAGE DIVERSITY	H	1.85	2.90
NUMBER OF TAXA	S	11.00	37.00
NUMBER OF SAMPLES COMPOSITED	M	1.00	1.00
MAXIMUM DIVERSITY MAXH		3.46	5.21
TOTAL DIVERSITY	D	1657.60	3004.40
TOTAL NUMBER OF INDIVIDUALS/ML	N	896.00	1036.00
EVENNESS COMPONENT	J	0.53	0.56
MEAN NUMBER OF INDIVIDUALS/TAXA	L	81.45	28.00
NUMBER/ML OF MOST ABUNDANT TAXON	K	474.00	303.00

ATCHAFALAYA
STCET NUMBER: E001000

CONTINUED

04 14 75 06 11 75

TAXA	FORM	ALGAL UNITS			ALGAL UNITS		
		IS	%C	PER ML	IS	%C	PER ML
ACTINASTRUM HANTZSCHII	CCL						
ANABAENA	FIL						
ANABAENA #1	FIL						
ANABAENA #2	FIL						
ANKISTOCOESMUS	CEL						
APHANOCAPSA	COL	51	5.9	53			
ASTERICNELLA FORMOSA	CEL						
CARTERIA	CEL						
CENTRIC DIATOM	CEL	3	17.6	158			
CENTRIC DIATOMS	CEL						
CHLAMYDOMONAS	CEL						
CLCSTERIUM	CEL						
COCCINEIS	CEL						
CRUCIGENIA FENESTRATA	COL						
CRUCIGENIA TETRAPEDIA	COL						
CRYPTOMONAS EROSA	CEL	2	17.6	158			
CRYPTOMONAS MARSSONII	CEL						
CRYPTOMONAS REFLEXA ?	CEL						
CRYPTOMONAS SPP.	CEL						
CYANOPHYTAN FILAMENT	FIL	4	5.9	53			
CYCLCTELLA #1	CEL						
CYCLOTELLA MENENGHINIANA	CEL						
CYCLOTELLA SPP.	CEL				2	16.7	173
CACTYLCCCCOPSIS	CEL						
CACTYLOCOCOPSIS IRREGULARIS	CEL						
CINCBRYCN	CEL						
CINCBRYCN BAVARICUM	CEL						
CINCBRYCN DIVERGENS	CEL						
EUGLENA	CEL						
EUGLENA #1	CEL						
EUGLENA ACUS	CEL						
EUGLENA TRIPTERIS	CEL						

ATCHAFALAYA
STORET NUMBER: E001000

CONTINUED

04 14 75 06 11 75

TAXA	FORM	IS	%C	ALGAL UNITS PER ML	IS	%C	ALGAL UNITS PER ML
FLAGELLATE	CEL						
FLAGELLATE #1	CEL	1	52.9	474			X
FLAGELLATE #3	CEL						
FLAGELLATES	CEL						
GLENODINIUM OCULATUM	CEL						
GYPNODINIUM ORDINATUM	CEL						
GYROSIGMA ?	CEL						
LEPOCINCLIS	CEL						
MELCSIRA	CEL						
MELOSIRA DISTANS	CEL						
MELCSIRA GRANULATA	CEL			X			
MELOSIRA GRANULATA	CEL						
V. ANGSTISSIMA	CEL						
MELCSIRA GRANULATA	CEL			X			
V. ANGSTISSIMA F. SPIRALIS	CEL						
MELOSIRA VARIANS	CEL						
MERISMOPEDIA PUNCTATA	CEL						
PERISMOPEDIA TENUISSIMA	COL						
XESOSTIGMA VIRIDIS	CEL						
NAVICULA	CEL						
NAVICULA #1	CEL						
NAVICULA #2	CEL						
NITZSCHIA ?	CEL						
NITZSCHIA #1	CEL						X
NITZSCHIA #2	CEL						X
NITZSCHIA #3	CEL						X
NITZSCHIA PALEA	CEL						
NITZSCHIA SPP.	CEL				14	8.3	86
CSCILLATORIA	FIL						
CSCILLATORIA #1	FIL						X
CSCILLATORIA #2	FIL				3	12.5	130
CSCILLATORIA LIMNETICA	FIL						

ATCHAFALAYA
STORET NUMBER: E001000

CONTINUED

04 14 75

06 11 75

TAXA	FORM	S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML
PANDORINA	COL						X
PENNATE	CEL						X
PHACUS	CEL						
PHACUS #1	CEL			5	8.3		86
PHACUS TORTUS	CEL						X
PTEROMONAS ANGULCSA	CEL			X			
PTEROMONAS CRUCIATA	CEL						
SCENEDESMUS INTERMEDIUS	COL						X
SCENEDESMUS PROTUBERANS ?	COL						X
SCENEDESMUS SPP.	COL			4.2			43
SCHROEDERIA SETIGERA	CEL			X	4.2		43
SKELETOMEMA POTAMOS	CEL			11	29.2		303
SYNEDRA	CEL			X			
SYNURA UVELLA	CEL						
TETRAEDRON MINIMUM	CEL						
TETRAEDRON REGULARE	CEL						X
V. GRANULATA	CEL						
TETRAEDRON TRIGONUM	CEL						X
TRACHELomonas	CEL						X
TRACHELomonas INTERMEDIA	CEL						
TRACHELomonas SCHAUINSLANDII	CEL						
TRACHELomonas VELVCCINA	CEL						X
TREUBARIA	CEL						
TOTAL				896			1036

ATCHAFALAYA
STORET NUMBER: E004000

NYGAARD TROPHIC STATE INDICES

DATE 11 19 74 04 17 75 06 11 75

MYXOPHYCEAN	6.00	E	02/0	E	04/0	E
CHLOROPHYCEAN	7.00	E	01/0	E	0/0	C
EUGLENOPHYTE	1.23	E	1.00	E	0.25	E
DIATOM	2.00	E	0/02	?	0/01	?
COMPOUND	33.0	E	06/0	E	05/0	E

PALMER'S ORGANIC POLLUTION INDICES

DATE 11 19 74 04 17 75 06 11 75

GENUS	07		05		00	
SPECIES	03		00		00	

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE 11 19 74 04 17 75 06 11 75

AVERAGE DIVERSITY	H	2.64	2.07	0.95
NUMBER OF TAXA	S	40.00	10.00	7.00
NUMBER OF SAMPLES COMPOSITED	M	1.00	1.00	1.00
MAXIMUM DIVERSITY	MAXH	5.32	3.32	2.81
TOTAL DIVERSITY	C	1623.60	815.58	2852.85
TOTAL NUMBER OF INDIVIDUALS/ML	N	615.00	394.00	3003.00
EVENNESS COMPONENT	J	0.50	0.62	0.34
MEAN NUMBER OF INDIVIDUALS/TAXA	L	15.38	39.40	429.00
NUMBER/ML OF MOST ABUNDANT TAXON	K	219.00	169.00	1914.00

ATCHAFALAYA
STORET NUMBER: ECO4000

CONTINUED

TAXA	FORM	11 19 74			04 17 75			06 11 75		
		S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML
ANKISTODESMUS ?	CEL									
ANKISTODESMUS FALCATUS	CEL						X			
ANKISTODESMUS FALCATUS V. MIRABILIS	CEL	14	17.9	110						
ARTHROSPIRA	FIL									
ASTERICNELLA FORMOSA	CEL									
CHLAMYCCMONAS GLCBOSA	CEL									
CHLOROPHYTAN CELL	CEL				14	21.6	85			
CHFCCMCNAS	CEL									
CHRYSOCCCCUS ? RUFESCENTS	COL									
CLCSTERIUM #1	CEL			X						
COCCCNELIS PLACENTULA	CEL						X			
CRYPTOMCNAS EROSA	CEL									
CRYPTOMCNAS MARSSONII	CEL	11	35.6	219						
CRYPTOMCNAS REFLEXA	CEL	12	7.2	44						
CYANOPHYTAN COCCOID CELLED COLONY	COL			X						
CYANOPHYTAN FILAMENT	FIL							2	36.3	1089
CYCLOTELLA GLOMERATA	CEL									
CACTYLOCOCOPSIS IRREGULARIS	CEL			X						
ELAKATCTHRIX GELATINCIA	CEL			X						
EUGLENA	CEL			X						
EUGLENA #1	CEL									
EUGLENA #2	CEL									
EUGLENA #3	CEL									
EUGLENA ACUS	CEL	15	3.6	22	13	7.1	X			
EUGLENA CXYURIS	CEL			X			28			
EUGLENA TRIPTERIS	CEL			X						
EUNCTIA CURVATA	CEL			X						
FLAGELLATE	CEL			X						
GLENODINIUM CCULATUM	CEL									
GYMNOODINIUM ALBULUM	CEL									
GYRCSIGMA	CEL									

ATCHAFALAYA
STC RET NUMBER: E004000

CONTINUED

11 19 74

04 17 75

06 11 75

TAXA

LEFOCINCLIS ACUTA
LEPOCINCLIS FUSIFORMIS
LUNATE CELLED COLONY
MELOSIRA DISTANS
MELOSIRA GRANULATA
V. ANCISTRISSIMA
MELOSIRA ITALICA
MELOSIRA VARIANS
PERISMOPEDIA TENUISSIMA
NAVICULA #1
NAVICULA #2
NAVICULA RADIOSA
NITZSCHIA
NITZSCHIA #1
CSCILLATORIA
CSCILLATORIA #1
OSCILLATORIA LIMNETICA
PEDIASTRUM BIRADIATUM
PEDIASTRUM DUPLEX
PEDIASTRUM TETRAS
PHACLS CURVICAUDA
PHACUS FELIKOIDES
PHACUS LONGICAUDA
PHACUS PYRUM
PHACUS TRIMARGINATUS
PHORMIDIUM
SCENEDESMUS DENTICULATUS
SCENEDESMUS DIMORPHUS
SCENEDESMUS QUADRICAUDA
SCHIZOCHLAMYS DELICATULA ?
SKELETNEMA POTAMCS
STEPHANOGLYPSUS

FORM	ALGAL UNITS PER ML			ALGAL UNITS PER ML			ALGAL UNITS PER ML		
	S	%C		S	%C		S	%C	
CEL	1								
CEL	1		X						
COL	1			15	14.2		56	1	63.7
CEL	1		X						
CEL	1								
CEL	1		X						
CEL	1								
COL	1		X						
CEL	1								
CEL	1								
CEL	1		X						
CEL	1								
FIL	1		X						
FIL	1		X						
FIL	14.3		88	1	42.9		169		
CCL	1		X						
COL	1		X						
COL	1		X						
CEL	1		X						
CEL	1		X						
CEL	1		X						
CEL	1		X						
CEL	1		X						
COL	1		X						
COL	1		X						
COL	1		X						
CEL	1		X						
CEL	1		7.2	1	44				
CEL	1		7.2	1	44				

ATCHAFALAYA
STORET NUMBER: E004000

CONTINUED

TAXA	FORM	11 19 74			04 17 75			06 11 75		
		IS	%C	ALGAL UNITS PER ML	IS	%C	ALGAL UNITS PER ML	IS	%C	ALGAL UNITS PER ML
SYNEDRA	CEL			X						
SYNECRA ULNA	CEL									
TABELLARIA FENESTRATA	CEL									
TETRASTRUM STAUROGENIAEFORME	COL		7.21	44						
TRACHELMONAS	CEL			X						
TRACHELOMONAS CORDATA ?	CEL			X						
TRACHELMONAS CREBEA	CEL									
TRACHELMONAS FLUVIATILIS	CEL			X						
TRACHELMONAS INTERMEDIA	CEL									
TRACHELMONAS LACUSTRIS	CEL			X						
TRACHELMONAS PLANCTONICA	CEL			X						
TRACHELMONAS ROTUNDATA	CEL			X						
TRACHELMONAS VELVCCINA	CEL				1214.21		56			X
TOTAL				615			394			3003

ATCHAFALAYA
STORET NUMBER: E004000

CONTINUED

NYGAARD TROPHIC STATE INDICES

DATE 12 19 75

NYXOPHYCEAN	3.00	E
CHLOROPHYCEAN	4.00	E
EUGLENOPHYTE	1.14	E
DIATOM	0.56	E
COMPOUND	20.0	E

PALMER'S ORGANIC POLLUTION INDICES

DATE 12 19 75

GENUS	10
SPECIES	00

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE 12 19 75

AVERAGE DIVERSITY	H	2.30
NUMBER OF TAXA	S	37.00
NUMBER OF SAMPLES COMPOSITED	M	1.00
MAXIMUM DIVERSITY MAXH		5.21
TOTAL DIVERSITY	D	5411.90
TOTAL NUMBER OF INDIVIDUALS/ML	N	2353.00
EVENNESS COMPONENT	J	0.44
MEAN NUMBER OF INDIVIDUALS/TAXA	L	63.59
NUMBER/ML OF MOST ABUNDANT TAXON	K	1313.00

ATCHAFALAYA
STC RET NUMBER: E004000

CONTINUED

12 19 75

TAXA	FORM	I	S	%C	ALGAL UNITS PER ML
ANKISTRODESMUS ?	CEL			1.3	31
ANKISTRODESMUS FALCATUS	CEL				
ANKISTRODESMUS FALCATUS V. MIRABILIS	CEL				
ARTHROSPIRA	FIL				
ASTERICNELLA FORMOSA	CEL				X
CHLAMYCCMONAS GLOBOSA	CEL		4	3.9	92
CHLOROPHYTAN CELL	CEL				
CHROMOMONAS	CEL		2	13.0	305
CHRYSOCCCUS ? RUFESCENS	COL				X
CLUSTERIUM #1	CEL				X
COCCONEIS PLACENTULA	CEL				
CRYPTOMONAS EROSA	CEL		1	55.8	1313
CRYPTOMONAS MARSSONII	CEL			2.6	61
CRYPTOMONAS REFLEXA	CEL				
CYANOPHYTAN COCCOID CELLED COLONY	COL				
CYANOPHYTAN FILAMENT	FIL				
CYCLOTELLA GLOMERATA	CEL		3	10.4	244
DACTYLCCCCOPSIS IRREGULARIS	CEL			1.3	31
ELAKATTHRICE GELATINCIA	CEL				X
EUGLENA	CEL				
EUGLENA #1	CEL				
EUGLENA #2	CEL				X
EUGLENA #3	CEL				X
EUGLENA ACUS	CEL				
EUGLENA CYURIS	CEL				X
EUGLENA TRIPTERIS	CEL				
EUNOTIA CURVATA	CEL				X
FLAGELLATE	CEL				X
GLENODINIUM CILIATUM	CEL				
GYMNODINIUM ALBULUM	CEL			3.9	92
GYPSIGMA	CEL				X

ATCHAFALAYA
STC RET NUMBER: E004000

CONTINUED

12 19 75

TAXA	FORM	IS	%C	ALGAL UNITS PER ML
LEPOCINCLIS ACUTA	CEL			X
LEPOCINCLIS FUSIFORMIS	CEL			
LURATE CELLED COLONY	COL			
MELCSIRA DISTANS	CEL			X
MELCSIRA GRANULATA				
V. ANGLSTISSIMA	CEL			X
MELOSIRA ITALICA	CEL			
MELOSIRA VARIANS	CEL			X
MERISMOPEDIA TENUISSIMA	COL			
NAVICULA #1	CEL		2.6	61
NAVICULA #2	CEL			
NAVICULA RACIOSA	CEL			X
NITZSCHIA	CEL			X
NITZSCHIA #1	CEL			X
OSCILLATORIA	FIL		1.3	31
CSCILLATORIA #1	FIL			X
OSCILLATORIA LIMNETICA	FIL			
PEDIASTRUM BIRACIATUM	CCL			
PEDIASTRUM DUPLEX	COL			
PEDIASTRUM TETRAS	CCL			
PHACUS CURVICAUDA	CEL			
PHACUS FELIKOIDES	CEL			
PHACUS LENGICAUDA	CEL			
PHACUS PYRUM	CEL			
PHACUS TRIMARGINATUS	CEL			
PHCRMIDIUM	FIL			
SCENEDESMUS DENTICULATUS	COL			
SCENEDESMUS DIMCRPHUS	CCL			X
SCENEDESMUS QUADRICALDA	CCL		1.3	31
SCHIZOCHLAMYX DELICATULA ?	CEL			
SKELETOMEMA POTAMCS	CEL			
STEPHANOCDISCUS	CEL			X

ATCHAFALAYA
STC RET NUMBER: E004000

CONTINUED

12 19 75

82

TAXA	FORM	IS	%C	ALGAL UNITS PER ML
SYNEDRA	CEL		5	2.6 61
SYNEDRA ULNA	CEL			X
TABELLARIA FENESTRATA	CEL			
TETRASTRUM STAURGENIAEFORME	COL			
TRACHELOMONAS	CEL			
TRACHELOMONAS CORDATA ?	CEL			
TRACHELOMONAS CREBEA	CEL			X
TRACHELOMONAS FLUVIATILIS	CEL			
TRACHELOMONAS INTERMEDIA	CEL			X
TRACHELOMONAS LACUSTRIS	CEL			
TRACHELOMONAS PLANCTONICA	CEL			X
TRACHELOMONAS ROTUNCATA	CEL			
TRACHELOMONAS VELVCCINA	CEL			X
TOTAL				2353

ATCHAFALAYA
STORET NUMBER: E00800

NYGAARD TROPHIC STATE INDICES

DATE	03 19 74	01 23 75	04 17 75
MYXOPHYCEAN	01/0 E	03/0 E	01/0 E
CHLOROPHYCEAN	0/0 0	07/0 E	06/0 E
EUGLENOPHYTE	0/01 ?	0/10 ?	0.43 E
DIATOM	4.00 E	0.67 E	2.00 E
COMPCUND	05/0 E	12/0 E	16/0 E

PALMER'S ORGANIC POLLUTION INDICES

DATE	03 19 74	01 23 75	04 17 75
GENUS	00	17	04
SPECIES	00	01	00

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE	03 19 74	01 23 75	04 17 75
AVERAGE DIVERSITY	H	2.66	3.24
NUMBER OF TAXA	S	10.00	22.00
NUMBER OF SAMPLES COMPOSITED	M	1.00	1.00
MAXIMUM DIVERSITY	MAXH	3.32	4.46
TOTAL DIVERSITY	D	524.02	5508.00
TOTAL NUMBER OF INDIVIDUALS/ML	N	197.00	1700.00
EVENNESS COMPONENT	J	0.80	0.73
MEAN NUMBER OF INDIVIDUALS/TAXA	L	19.70	77.27
NUMBER/ML OF MOST ABUNDANT TAXON	K	63.00	312.00
			11972.78
			4418.00
			210.38
			1562.00

ATCHAFAHALAYA
SECRET NUMBER: E008000

CONTINUED

03 19 74

01 23 75

04 17 75

TAXA	FORM	ALGAL UNITS PER ML		ALGAL UNITS PER ML		ALGAL UNITS PER ML	
		IS	%C	IS	%C	IS	%C
ACTINASTRUM	COL						
ANABAENA	FIL						
ANKISTRODESMUS ?	CEL						
ANKISTRODESMUS FALCATUS	CEL						
ANKISTRIDESMUS FALCATUS	CEL						
V. MIRABILIS	CEL					X	
APHANOcapsa ELACHISTA	COL						
ASTERICNELLA FORMOSA	CEL					X	
CARTERIA CORDIFORMIS	CEL						
CENTRIC DIATOM	CEL	4	10.7	21			
CHLAMYDOMCNAS	CEL		2.0	4			
CHLAMYDOMONAS SPP.	CEL			5	10.2	173	
CHROMCMNAS ACUTA	CEL			3	18.4	312	
CHROOMCNAS NORSTEDTII ?	CEL				10.4	176	
COCCIC CELL	CEL	2	23.4	46			
COCCNEIS	CEL					X	
COCCNEIS PLACENTULA	CEL						
V. EUGLYPTA	CEL						
COELASTRUM CAMBRICUM	COL						
V. INTERMEDIUM	COL					X	
CRICIGENIA FENESTRATA	COL					X	
CRYPTOMCNAS	CEL	1	32.0	63			
CRYPTOMCNAS EROSA	CEL			2	12.2	208	
CRYPTOMCNAS MARSSONII	CEL			1	14.3	243	
CYCLOTELLA MENENGHINIANA	CEL						
DIACTYLCCCCOPSIS	CEL			4.1		69	
DIATOMA	CEL					X	
DICTYOSPHAERIUM PULCELLUM	COL						
DINCBRYCN DIVERGENS	CEL						
CINOFLAGELLATE	CEL						
FUGLENA	CEL						
FUGLENA ACUS	CEL						

ATCHAFALAYA
STORET NUMBER: E008000

CONTINUED

03 19 74

01 23 75

04 17 75

TAXA	FORM	IS	%C	ALGAL UNITS PER ML	IS	%C	ALGAL UNITS PER ML	IS	%C	ALGAL UNITS PER ML
EUGLENA CXYURIS	CEL									
V. MINOR	CEL									
EUNOTIA	CEL									
FLAGELLATE #1	CEL									
FLAGELLATE #2	CEL									
GLENODINIUM OCULATUM	CEL									
GLGEOCYSTIS	COL		2.0	4						
GYMNODINIUM ALBULUM	CEL									
LEPOCINCLIS	CEL									
MELOSIRA	CEL									
MELOSIRA DISTANS	CEL									
MELOSIRA GRANULATA	CEL									
MELOSIRA GRANULATA	CEL									
V. ANGSTISSIMA	CEL	5	10.7	21						
MELOSIRA VARIANS	CEL		2.0	4						
MERISMOPEDIA TENUISSIMA	COL									
MICROCYSTIS INCERTA	COL									
NEPHROCYTUM ?	COL									
NITZSCHIA	CEL									
NITZSCHIA ACICULARIS	CEL									
OSCILLATORIA	FIL		8.6	17						
OSCILLATORIA #1	FIL									
PENNATE	CEL									
PHACUS	CEL									
PHACUS LONGICAUDA	CEL									
PHACUS ORBICULARIS	CEL									
PHACUS SUECICUS	CEL									
SCENEDESMUS ARCUATUS	CCL									
SCENEDESMUS BIJUGA	COL									
SCENEDESMUS INTERMEDIUS	COL									
V. BICALDATUS	CCL									
SCENEDESMUS QUADRICAUDA	COL									

ATCHAFALAYA
STCRET NUMBER: EC08000

CONTINUED

03 19 74 01 23 75 04 17 75

TAXA	FORM	ALGAL UNITS			ALGAL UNITS			ALGAL UNITS		
		S	%	PER ML	S	%	PER ML	S	%	PER ML
SCHROEDERIA SETIGERA	CEL					4.1	69			
SKELETNCEMA POTAMOS	CEL								X	
SPHAEROCYSTIS	COL								X	
STEPHANODISCUS NIAGARAE	CEL	3	8.6	17						
SYNEDRA	CEL			X						
TETRAEDRON TUMIDULUM	CEL						X			
TRACHELMONAS	CEL									
TRACHELMONAS SPARSE-SETULOSA ?	CEL							0.9	38	
TRACHELMONAS VOLVOCINA	CEL									
TOTAL				197			1700		4418	

ATCHAFALAYA
STCREF NUMBER: E008000

CONTINUED

NYGAARD TROPHIC STATE INDICES

DATE 06 12 75

MYXOPHYCEAN	04/0 E
CHLOROPHYCEAN	03/0 E
EUGLENOPHYTE	1.29 E
DIATOM	0.33 E
COMPUND	17/0 E

PALMER'S ORGANIC POLLUTION INDICES

DATE 06 12 75

GENUS	03
SPECIES	00

78

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE 06 12 75

AVERAGE DIVERSITY	H	2.81
NUMBER OF TAXA	S	26.00
NUMBER OF SAMPLES COMPOSITED	M	1.00
MAXIMUM DIVERSITY	MAXH	4.70
TOTAL DIVERSITY	D	4791.05
TOTAL NUMBER OF INDIVIDUALS/ML	N	1705.00
EVENNESS COMPONENT	J	0.60
MEAN NUMBER OF INDIVIDUALS/TAXA	L	65.58
NUMBER/ML OF MOST ABUNDANT TAXON	K	515.00

AT CHAFALAYA
STC RET NUMBER: E008000

CONTINUED

06 12 75

88

TAXA	FORM	S	ZC	ALGAL UNITS PER ML
ACTINASTRUM	COL		1.9	32
ANABAENA	FIL	2	5.7	97
ANKISTRODESMUS ?	CEL			
ANKISTRODESMUS FALCATUS	CEL		1.9	32
ANKISTRODESMUS FALCATUS V. MIRABILIS	CEL			
APHANOcapsa ELACHISTA	COL			X
ASTERIONELLA FORMOSA	CEL			X
CARTERIA CORDIFCRMIS	CEL			
CENTRIC DIATOM	CEL			
CHLAMYDOMNAS	CEL			
CHLAMYDOPCNAS SPP.	CEL			
CHROOMCNAS ACUTA	CEL			
CHROCMCNAS NORSTEDTII ?	CEL			
COCCOID CELL	CEL			
CCCCNEIS	CEL			
CCCCNEIS PLACENTULA V. EUGLYPTA	CEL			X
CCELASTRUM CAMBRICUM V. INTERMEDIUM	COL			
CRUCIGENIA FENESTRATA	COL			
CRYPTOMCNAS	CEL	3	20.8	354
CRYPTOMCNAS EROSA	CEL			
CRYPTOMCNAS MARSSONII	CEL			
CYCLOTELLA MENEGHINIANA	CEL			
CACTYLOCOPPSIS	CEL			
DIATOMA	CEL			
DICTYOSPHEARIUM FULCELLUM	CCL			
DINOBRYCN DIVERGENS	CEL			X
DINFLAGELLATE	CEL		1.9	32
EUGLENA	CEL			X
EUGLENA ACUS	CEL			X

ATCHAFALAYA
STORET NUMBER: E008000

CONTINUED

06 12 75

TAXA	FORM	IS	%C	ALGAL UNITS PER ML
EUGLENA OXYURIS	CEL			X
V. MINCE	CEL			
EUROTIA	CEL			
FLAGELLATE #1	CEL		3.8	64
FLAGELLATE #2	CEL	4	30.2	515
GLENODINIUM OCULATUM	CEL			X
GLGEOCYSTIS	COL			
GYMNODINIUM ALBULUM	CEL			
LEPOGCINCLIS	CEL			X
MELCSIRA	CEL			X
MELOSIRA DISTANS	CEL			
MELOSIRA GRANULATA	CEL			
MELGSIRA GRANULATA	CEL			
V. ANGLSTISSIMA	CEL			
MELCSIRA VARIANS	CEL			
MERISMOPEDIA TENUISSIMA	COL			
MICROCYSTIS INCERTA	COL			
NEPHRCYTIUM ?	COL		1.9	32
NITZSCHIA	CEL		7.6	129
NITZSCHIA ACICULARIS	CEL			
CSCILLATORIA	FIL			X
CSCILLATORIA #1	FIL			X
PENNATE	CEL			
PHACLS	CEL			
PHACUS LCNIGICAUDA	CEL	15	1.9	32
PHACUS CRBICULARIS	CEL			X
PHACUS SUECICUS	CEL			X
SCENEDESMUS ARCUATUS	COL			
SCENEDESMUS BI JUGA	COL			
SCENEDESMUS INTERMEDIUS	COL			
V. BICALCATUS	COL			
SCENEDESMUS QUADRICAUDA	COL			

ATCHAFALAYA
STCRET NUMBER: E00800

CONTINUED

06 12 75

TAXA	FORM	S	%C	ALGAL UNITS PER ML
SCHREDERIA SETIGERA	CEL			
SKELETNEMA POTAMOS	CEL			
SPHAEROCYSTIS	COL			
STEPHANODISCUS NIAGARAE	CEL			
SYNECRA	CEL			
TETRAECRCA TUMICULUM	CEL			
TRACHELOMONAS	CEL			
TRACHELOMONAS SPARSE-SETULOSA ?	CEL	1.9		32
TRACHELOMONAS VELVOCINA	CEL	1120.8		354
TOTAL				1705

06

ATCHAFALAYA
STCRET NUMBER: E009000

NYGAARD TROPHIC STATE INDICES

DATE 11 19 74 12 18 75

MYXOPHYCEAN	02/0 E	02/0 E
CHLOROPHYCEAN	04/0 E	08/0 E
EUGLENOPHYTE	0.67 E	0.70 E
DIATOM	4.00 E	0.71 E
COMPOUND	14/0 E	22/0 E

PALMER'S ORGANIC POLLUTION INDICES

DATE 11 19 74 12 18 75

GENUS	09	09
SPECIES	00	04

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE 11 19 74 12 18 75

AVERAGE DIVERSITY	H	3.08	2.58
NUMBER OF TAXA	S	18.00	31.00
NUMBER OF SAMPLES COMPOSITED	M	1.00	1.00
MAXIMUM DIVERSITY MAXH		4.17	4.95
TOTAL DIVERSITY	D	4339.72	9306.06
TOTAL NUMBER OF INDIVIDUALS/ML	N	1409.00	3607.00
EVENNESS COMPONENT	J	0.74	0.52
MEAN NUMBER OF INDIVIDUALS/TAXA	L	78.28	116.35
NUMBER/ML OF MOST ABUNDANT TAXON	K	392.00	1012.00

ATCHAFALAYA
STORET NUMBER: E009000

CONTINUED

TAXA	FORM	11 19 74			12 18 75		
		S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML
ACTINASTRUM HANTZSCHII	CEL			X			
V. FLUVIATILE	CEL				1	25.4	917
ANKISTRIDESMUS ?	CEL						X
CENTRIC DIATOM	CEL						X
CRUCIGENIA FENESTRATA	COL						
CRUCIGENIA TETRAPEDIA	COL					1.7	63
CRYPTOMCNAS	CEL						X
CRYPTOMCNAS EROSA	CEL	1	11.1	157			
CYCLOTELLA MENENGHINIANA	CEL			X	3	26.3	949
DACTYLOCOPOPSIS	CEL		2.8	39			
ELAKATCTHRIX GELATINCIA	CCL				4	2.6	95
EUGLENA #1	CEL		2.8	39			X
EUGLENA ACUS	CEL						X
EUGLENA ACUS ?	CEL			X			
FLAGELLATE #1	CEL	5	27.8	392			
GOMPHOREMA OLIVACEUM	CEL						X
LEPOCINCLIS	CEL			X			
LEPOCINCLIS FUSIFORMIS ?	CEL						X
MELCSIRA DISTANS	CEL		8.3	117			X
MELCSIRA GRANULATA	CEL			X			X
MERISMOPEDIA TENUISSIMA	COL					2.6	95
MCUGEOITIA	FIL						X
NAVICULA VULPINA	CEL						X
NITZSCHIA	CEL	2	8.3	117			X
NITZSCHIA #1	CEL					0.9	32
COCYSTIS	CEL			X			
OSCILLATORIA	FIL		11.1	157			
OSCILLATORIA LIMNETICA	FIL						X
PHACUS ACUMINATUS	CEL						X
PTEROMONAS ANGULCSA	CEL	4	8.3	117			
SCENEDESMUS DIMORPHUS	COL					0.9	32
SCENEDESMUS INTERMEDIUS							
V. BICALCATUS	CCL					2.6	95

ATCHAFALAYA
STC RET NUMBER: E009000

CONTINUED

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11 19 74

12 18 75

TAXA	FORM	ALGAL UNITS PER ML			ALGAL UNITS PER ML		
		S	%C		S	%C	
SCENEDESMUS QUADRICAUDA	COL			X		2.6	95
SCENEDESMUS RACIBORSKII	COL		2.8	39			
F. GRANULATUS	CEL				5	5.3	190
SKELETNCEMA POTAMOS	CEL		2.8	39			
STEPHANCCISCUS	CEL						
SURIRELLA	CEL						X
SURIRELLA LINEARIS ?	CEL						X
SYNECRA	CEL				2	28.1	1012
TETRAEDRON MINIMUM	CEL					0.9	32
TRACHELOMNAS HISPICA	CEL						X
TRACHELOMNAS SCHAUINSLANDII	CEL						X
TRACHELOMNAS VERRUCCSA	CEL						X
TRACHELOMNAS VOLVCCINA	CEL	13	13.9	196			
TOTAL					1409		3607

ATCHAFALAYA
STCRET NUMBER: E011000

NYGAARD TROPHIC STATE INOICES

DATE 11 19 74 01 23 75 06 21 75

MYXOPHYCEAN	01/0 E	03/0 E	04/0 E
CHLOROPHYCEAN	01/0 E	04/0 E	02/0 E
EUGLENOPHYTE	0.50 E	0.29 E	1.67 E
DIATOM	1.00 E	1.00 E	0.50 E
COMPOUND	05/0 E	14/0 E	17/0 E

PALMER'S ORGANIC POLLUTION INDICES

DATE 11 19 74 01 23 75 06 21 75

GENUS	01	07	07
SPECIES	00	03	00

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE 11 19 74 01 23 75 06 21 75

AVERAGE DIVERSITY	H	1.52	3.28	2.28
NUMBER OF TAXA	S	7.00	28.00	23.00
NUMBER OF SAMPLES COMPOSITED	M	1.00	1.00	1.00
MAXIMUM DIVERSITY MAXH		2.81	4.81	4.52
TOTAL DIVERSITY	O	357.20	6540.32	3347.04
TOTAL NUMBER OF INDIVIDUALS/ML	N	235.00	1994.00	1468.00
EVENNESS COMPONENT	J	0.54	0.68	0.50
MEAN NUMBER OF INDIVIDUALS/TAXA	L	33.57	71.21	63.83
NUMBER/ML OF MOST ABUNDANT TAXON	K	94.00	518.00	778.00

ATCHAFALAYA
STCRET NUMBER: E011000

CONTINUED

11 19 74

01 23 75

06 21 75

TAXA	FORM	ALGAL UNITS PER ML		ALGAL UNITS PER ML		ALGAL UNITS PER ML	
		S	ZC	S	ZC	S	ZC
ANABAENA	FIL						
ANABAENA #1	FIL						X
ANABAENA #2	FIL						X
ANKISTRODESmus ?	CEL					2.0	30
ANKISTRODESmus FALCATUS	CEL						
V. MIRABILIS	CEL	5	4.0	80		2.0	30
ASTERICNELLA FORMOSA	CEL		X				X
CARTERIA	CEL			14	8.0		
CHLAMYDOMONAS	CEL			11	16.0	319	
CLCSTERIUM	CEL						
CCSC INCODISCUS RCTHII	CEL						
V. SUBSALSA	CEL						
CRUCIGENIA FENESTRATA	COL					X	
CRYPTOMONAS	CEL						
CRYPTOMCNAS EROSA	CEL	3	10.0	199		4	4.1
CRYPTOMCNAS MARSSONII	CEL			4.0	80		60
CYCLOTELLA	CEL						
CYMBELLA	CEL						
DACTYLOCOPCOPSIS	CEL			2.0	40		
DIATOMA VULGARE	CEL						
EUGLENA	CEL						X
EUGLENA #1	CEL						
EUGLENA ACUS	CEL						X
EUNOTIA	CEL			4.0	80		
FLAGELLATE	CEL						
FLAGELLATE #2	CEL			6.0	120	5	4.1
GLENODINIUM OCCLATUM	CEL						X
GYMPHONEMA	CEL						
GYMNODINIUM	CEL						
GYMNODINIUM ALBULUM	CEL					X	
GYMNODINIUM ORDINATUM	CEL					X	
LEFCCINCILIS	CEL						X

ATCHAFALAYA
SECRET NUMBER: E011000

CONTINUED

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TAXA				11 19 74	01 23 75	06 21 75
	FORM	IS	%C	ALGAL UNITS PER ML	ALGAL UNITS PER ML	ALGAL UNITS PER ML
LUNATE CELLED COLONY	COL					
LYNGBYA	FIL			4.0	80	
MELCSIRA	CEL					
MELCSIRA DISTANS	CEL				X	
MELCSIRA GRANULATA	CEL	1	40.0	94	X	
MELCSIRA GRANULATA V. ANGLTISSIMA	CEL				X	
MICROCYSTIS	COL			10.0	199	
NITZSCHIA	CEL					
NITZSCHIA #1	CEL			2.0	40	
NITZSCHIA FILIFORMIS	CEL				X	
OCHROMCNAS	CEL			226.0	518	
OOCYSTIS	CEL					
OSCILLATORIA	FIL			X		
OSCILLATORIA LIMNETICA	FIL					180
PENNATE	CEL					4.1
PHACLS #1	CEL					2.0
PHACUS ANOMALUS	CEL					
PHACUS HELIKIDES	CEL					
PHACLS MEGALOPSIS	CEL					
PHACLS SUECICUS	CEL					
PTEROMCNAS ANGULCSA	CEL			4.0	80	
SCENEDESMUS BICAUDATUS	COL					
SCENEDESMUS BIJUGA						
F. IRREGULARIS	COL				X	
SCENEDESMUS DIMORPHUS	COL					
SCENEDESMUS INTERMEDIUS						
V. BICALDATUS	CCL					
SCENEDESMUS PROTUBERANS	COL					
SCENEDESMUS QUADRICAUDA	CCL					
SKELETONEMA POTAMOS	CEL				X	
SPHAERCCYSTIS ? SCHRETERI	COL					

ATCHAFALAYA
STC RET NUMBER: EC110CO

CONTINUED

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TAXA	FORM	11 19 74			01 23 75			06 21 75		
		S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML
STEPHANODISCUS	CEL	12	40.0	94						
SYNEDRA ULNA	CEL						X			
TETRAECRUM TRIGONUM	CEL									
V. GRACILE	CEL						X			
TETRASTRUM STAUROGENIAEFORME	COL									
TRACHELOMONAS	CEL	13	20.0	47						
TRACHELOMONAS HISPIDA	CEL									
TRACHELOMONAS INTERMEDIA	CEL						X			
TRACHELOMONAS VOLVOCINA	CEL							11	14.3	210
TOTAL				235			1994			1468

ATCHAFALAYA
STC RET NUMBER: E011000

CONTINUED

NYGAARD TROPHIC STATE INDICES

DATE 12 15 75

MYXOPHYCEAN	3.00	E
CHLOROPHYCEAN	9.00	E
EUGLENOPHYTE	0.33	E
DIATOM	2.00	E
COMPOUND	22.0	E

PALMER'S ORGANIC POLLUTION INDICES

DATE 12 15 75

GENUS	10
SPECIES	03

86

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE 12 15 75

AVERAGE DIVERSITY	H	3.19
NUMBER OF TAXA	S	28.00
NUMBER OF SAMPLES COMPOSITED	M	1.00
MAXIMUM DIVERSITY	MAXH	4.81
TOTAL DIVERSITY	D	5314.54
TOTAL NUMBER OF INDIVIDUALS/ML	N	1666.00
EVENNESS COMPONENT	J	0.66
MEAN NUMBER OF INDIVIDUALS/TAXA	L	59.50
NUMBER/ML OF MOST ABUNDANT TAXON	K	378.00

ATCHAFALAYA
STC RET NUMBER: E011000

CONTINUED

12 15 75

TAXA	FORM	IS	%C	ALGAL UNITS PER ML
ANABAENA	FIL			X
ANABAENA #1	FIL			
ANABAENA #2	FIL			
ANKISTRODES MUS ?	CEL			
ANKISTRODES MUS FALCATUS	CEL	5	13.6	227
V. MIRABILIS	CEL		2.3	38
ASTERIGNELLA FORMOSA	CEL			
CARTERIA	CEL			
CHLAMYDOMONAS	CEL			X
CLUSTERIUM	CEL		2.3	38
CGSCINC DISCUS RCTHII	CEL			
V. SUBSALSA	CEL			X
CRUCIGENIA FENESTRATA	COL			
CRYPTOMCNAS	CEL			
CRYPTOMCNAS EROSA	CEL			
CRYPTOMCNAS MARSSONII	CEL			
CYCLOTELLA	CEL			
CYMBELLA	CEL			
CACTYLCCCCOPSIS	CEL			
DIATOMA VULGARE	CEL			
EUGLENA	CEL			X
EUGLENA #1	CEL			X
EUGLENA ACUS	CEL			X
EUNCTIA	CEL			
FLAGELLATE	CEL			
FLAGELLATE #2	CEL			
GLEACDINUM OCELLATUM	CEL			
GYMPHONEMA	CEL			
GYMNDINUM	CEL			
GYMNODINIUM ALBULUM	CEL			X
GYMNODINIUM ORDINATUM	CEL			
LEFCCIACLIS	CEL			

ATCHAFALAYA
STORET NUMBER: EC11000

CONTINUED

12 15 75

100

LUNATE CELLED COLONY
LYNGBYA
MELOSIRA
MELOSIRA DISTANS
MELOSIRA GRANULATA
MELOSIRA GRANULATA
V. ANGLTISSIMA
MICROCYSTIS
NITZSCHIA
NITZSCHIA #1
NITZSCHIA FILIFORMIS
OCHROMENAS
OCCYSTIS
CSCILLATORIA
CSCILLATORIA LIMNETICA
PENNATE
PHACUS #1
PHACUS ANCIMALUS
PHACUS FELIKOIDES
PHACUS MEGALCPSIS
PHACUS SUECICUS
PTEROMONAS ANGULOSA
SCENEDESMUS BICAUCATUS
SCENEDESMUS BIJUGA
F. IRREGULARIS
SCENEDESMUS DIMORPHUS
SCENEDESMUS INTERMEDIUS
V. BICALCATUS
SCENEDESMUS PROTUBERANS
SCENEDESMUS QUADRICAUDA
SKELETNCEMA POTAMOS
SPHAEROCYSTIS ? SCHRCETERI

TAXA	FORM	S	%C	ALGAL UNITS PER ML
	COL			
	FIL			
	CEL		4.6	76
	CEL	2	18.2	303
	CEL		2.3	38
	CEL			
	CCL			
	CEL	4	11.3	189
	CEL			
	CCL			
	CEL		4.6	76
	FIL			X
	FIL			X
	CEL			
	COL			
	CCL			
	COL			
	CCL		2.3	38
	COL		2.3	38
	CEL	3	11.3	189
	CCL			X

ATCHAFALAYA
STC RET NUMBER: E011000

CONTINUED

12 15 75

TAXA	FORM	ALGAL UNITS PER ML		
		IS	%C	
STEPHANODISCUS	CEL	1	22.7	378
SYNEDRA ULNA	CEL			
TETRAECRCN TRIGONUM	CEL			
V. GRACILE	CEL			
TETRASTRUM STAURGENIAEFORME	COL		2.3	38
TRACHELOMONAS	CEL			
TRACHELOMONAS HISPIDA	CEL			
TRACHELOMONAS INTERMEDIA	CEL			X
TRACHELOMONAS VOLVOCINA	CEL			
TOTAL				1666

101

ATCHAFALAYA
STORET NUMBER: E027000

NYGAARD TROPHIC STATE INDICES

	DATE	01	16	75	06	13	75	12	12	75
MYXOPHYCEAN		0/0	0		4.00	E		0/01	0	
CHLOROPHYCEAN		01/0	E		8.00	E		5.00	E	
EUGLENOPHYTE		0/01	?		0.42	E		1.40	E	
DIATOM		0.80	E		0.71	E		1.50	E	
COMPOUND		05/0	E		22.0	E		18.0	E	

PALMER'S ORGANIC POLLUTION INDICES

	DATE	01	16	75	06	13	75	12	12	75
GENUS				04			05			13
SPECIES				00			00			03

SPECIES DIVERSITY AND ABUNDANCE INDICES

	DATE	01	16	75	06	13	75	12	12	75
AVERAGE DIVERSITY	H		2.13		3.39		3.10			
NUMBER OF TAXA	S		12.00		33.00		28.00			
NUMBER OF SAMPLES COMPOSITED	M		1.00		1.00		1.00			
MAXIMUM DIVERSITY	MAXH		3.58		5.04		4.81			
TOTAL DIVERSITY	C	553.80		5000.25		29834.40				
TOTAL NUMBER OF INDIVIDUALS/ML	N	260.00		1475.00		9624.00				
EVENNESS COMPONENT	J	0.59		0.67		0.64				
MEAN NUMBER OF INDIVIDUALS/TAXA	L	21.67		44.70		343.71				
NUMBER/ML OF MOST ABUNDANT TAXON	K	104.00		241.00		2156.00				

ATCHAFALAYA
STORE NUMBER: E027000

CONTINUEC

103

ATCHAFALAYA
STCET NUMBER: E027000

CONTINUED

TAXA	FORM	01 16 75			06 13 75			12 12 75		
		S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML
GYMNOCLIDIUM ALBULUM	CEL			X						
KIRCHNERIELLA	CEL						X			
LEPOCINCLIS ACUTA	CEL									X
LYNGBYA	FIL				14.0		206			
MELOSIRA	CEL					X				
MELOSIRA DISTANS	CEL	3	20.0		52		206			
MELOSIRA GRANULATA	CEL				11	14.0			3.8	368
MELOSIRA GRANULATA	CEL				11	16.3				
V. ANGLTISSIMA	CEL							4.9		473
MELCSIRA VARIANS	CEL					2.3		34		
MERISMOPEDIA TENUISSIMA	COL					2.3		34		
PESOSTIGMA VIRIDIS	CEL								0.6	53
NAVICULA	CEL						X			
NITZSCHIA	CEL	2	20.0		52		X			
NITZSCHIA ACICULARIS	CEL								1.1	
NITZSCHIA ACTINASTROIDES	CEL									105
NITZSCHIA HOLSATICA	CEL						X			
NITZSCHIA SPP.	CEL								2	14.8
PENNATE	CEL								0.6	53
PHACUS CAUCATUS	CEL									
PHACUS LENGICAUDA	CEL									
PHACUS PYRUM	CEL									
SCENEDESMUS BICAUDATUS	COL					2.3		34		
SCENEDESMUS BIJUGA	COL							X		
SCENEDESMUS DIMORPHUS	COL					2.3		34		
SCENEDESMUS QUADRICAUDA	COL					2.3		34		
SKELETOMEMA POTAMOS	CEL								2.2	210
SPERMATOCOPSIS	CEL								2.2	210
STAURONEIS	CEL						X			
STEPHANOCDISCUS	CEL					3	7.0	103		
SYNEDRA ACUS	CEL								0.6	53
TETRASTRUM STAUROGENIAEFORME	CCL								1.1	105
TRACHELOMONAS PULCHERRIMA	CEL						X			
TRACHELOMONAS SPP.	CEL					4	7.0	103		
TREUBARIA	CEL									X
TOTAL					260			1475		9624

ATCHAFALAYA
STORET NUMBER: E028000

NYGAARD TROPHIC STATE INDICES

	DATE	11	20	74	04	16	75	06	13	75
MYXOPHYCEAN		4.00	E		02/0	E		2.00	E	
CHLOROPHYCEAN		12.0	E		01/0	E		3.00	E	
EUGLENOPHYTE		0/16	?		0.67	E		0.40	E	
DIATOM		0.80	E		0.60	E		1.33	E	
COMPOUND		20.0	E		08/0	E		11.0	E	

PALMER'S ORGANIC POLLUTION INDICES

	DATE	11	20	74	04	16	75	06	13	75
GENUS		11			00			00		
SPECIES		04			00			00		

SPECIES DIVERSITY AND ABUNDANCE INDICES

	DATE	11	20	74	04	16	75	06	13	75
AVERAGE DIVERSITY	H	3.61			2.06			2.16		
NUMBER OF TAXA	S	28.00			16.00			18.00		
NUMBER OF SAMPLES COMPOSITED	M	1.00			1.00			1.00		
MAXIMUM DIVERSITY	MAXH	4.81			4.00			4.17		
TOTAL DIVERSITY	D	2613.64			1079.44			622.08		
TOTAL NUMBER OF INDIVIDUALS/ML	N	724.00			524.00			288.00		
EVENNESS COMPONENT	J	0.75			0.52			0.52		
MEAN NUMBER OF INDIVIDUALS/TAXA	L	25.86			32.75			16.00		
NUMBER/ML OF MOST ABUNDANT TAXON	K	149.00			218.00			108.00		

ATCHAFALAYA
STCET NUMBER: E028000

CONTINUED

11 20 74

04 16 75

06 13 75

TAXA	FORM	IS	%C	ALGAL UNITS PER ML	IS	%C	ALGAL UNITS PER ML	IS	%C	ALGAL UNITS PER ML
ACTINASTRUM	CEL	15	3.5	25						X
ASTERICNELLA FORGSA	CEL									
CHLORELLA	CEL		6.9	50						
CLOSTERIUM	CEL			X						X
COCCOCNEIS PLACENTULA	CEL									
COELASTRUM MICROPORUM	COL	21	3.5	25						
CRYPTOMONAS EROSA	CEL	11	13.8	100						
CRYPTOMONAS MARSSONII	CEL				41	8.4	44			
CRYPTOMONAS REFLEXA	CEL									
CRYPTOMONAS SPP.	CEL							1	37.5	108
CYCLOTELLA	CEL			X						
DACTYLCYCOPSIS	CEL		3.5	25						
DICTYOSPHAERIUM	COL	3	3.5	25						
EUGLENA #1	CEL							2	12.5	36
EUGLENA #2	CEL									X
FLAGELLATE #1	CEL			X						
GOMPHONEMA	CEL									
HANTZSCHIA	CEL									
KIRCHNERIELLA	CEL		3.5	25						
LYNGBYA	FIL		6.9	50						
MELOSIRA DISTANS	CEL	20.6	149							
MELOSIRA GRANULATA	CEL			X						
MELOSIRA GRANULATA V. ANGUSTISSIMA	CEL									
MELOSIRA VARIANS	CEL									
NAVICULA #1	CEL		3.5	25						
NAVICULA #2	CEL		6.9	50						
KITZSCHIA	CEL			X						
OSCILLATORIA	FIL									
OSCILLATORIA #1	FIL			X	3	8.4	44			
OSCILLATORIA #2	FIL			X						
OSCILLATORIA SPLENDIDA	FIL									

ATCHAFALAYA
STCET NUMBER: E028000

CONTINUED

11 20 74

04 16 75

06 13 75

TAXA	FORM	ALGAL UNITS PER ML			ALGAL UNITS PER ML			ALGAL UNITS PER ML		
		S	%C		S	%C		S	%C	
PEDIASTRUM DUPLEX	COL			X						
PENNATE #1	CEL									
PENNATE #2	CEL									
PENNATE #3	CEL									
PENNATES	CEL				1	41.6		218		
PHACLS	CEL							X		
PHACLS MEGALCPSIS	CEL							X		
PLEUROSIGMA DELICATULUM	CEL			X						
PTEROMONAS ANGULOSA	CEL				5	16.6		87		
SCENEDESMUS	COL									
SCENEDESMUS BIJUGA	COL	3.5		25						
SCENEDESMUS DIMORPHUS	COL	3.5		25						
SCENEDESMUS DIMCRPHUS ?	COL									
SCENEDESMUS PROTURERANS	COL			X						
SCENEDESMUS QUADRICAUZA	COL	6.9		50						
SCHROEDERIA SETIGERA	CEL							X		
SKELETOMA POTAMOS	CEL				2	25.0		131		
STEPHANOCISCUS	CEL			X						
SYNEDRA	CEL			X						
TETRAECRUM MINIMUM	CEL			X						
TETRASTRUM STAUREGENIAEFORME	CCL	4	10.41	75						
TOTAL					724			524		288

ATCHAFALAYA
STCRET NUMBER: E030000

NYGAARD TROPHIC STATE INDICES

DATE 12 12 75

MYXOPHYCEAN	2.00	E
CHLOROPHYCEAN	15.0	E
EUGLENOPHYTE	0.24	E
CIATGM	1.50	E
COMPOUND	27.0	E

PALMER'S ORGANIC POLLUTION INDICES

DATE 12 12 75

GENUS	06
SPECIES	00

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE 12 12 75

AVERAGE DIVERSITY	H	2.82
NUMBER OF TAXA	S	37.00
NUMBER OF SAMPLES COMPOSITED	M	1.00
MAXIMUM DIVERSITY MAXH		5.21
TOTAL DIVERSITY	D	5434.14
TOTAL NUMBER OF INDIVIDUALS/ML	N	1927.00
EVENNESS COMPONENT	J	0.54
MEAN NUMBER OF INDIVIDUALS/TAXA	L	52.08
NUMBER/ML OF MOST ABUNDANT TAXON	K	535.00

ATCHAFALAYA
STC RET NUMBER: E030000

CONTINUED

12 12 75

TAXA	FORM	IS	ZC	ALGAL UNITS PER ML
ACTINASTRUM	CEL			X
ANABAENA	FIL			X
ANKISTODESMUS	CEL			X
ANKISTODESMUS CONVOLUTUS ?	CEL			X
ANKISTODESMUS FALCATUS				
V. MIRABILIS	CEL			X
ASTERIONELLA FORMOSA	CEL			X
CLCSTERIUM	CEL			X
CRYPTOMONAS EROSA	CEL			X
CRYPTOMONAS REFLEXA	CEL			X
CYCLCTELLA MENENGHINTANA	CEL	4	5.6	107
DICTYOSPHAERIUM	CCL			X
EUGLENA #1	CEL			X
EUGLENA #2	CEL			X
FLAGELLATE #2	CEL			X
FLAGELLATE #3	CEL			X
FLAGELLATES	CEL	3	16.7	321
FRANCEIA CROESCHERI	CEL			X
KIRCHNERIELLA	CEL		5.6	107
MELCSIRA DISTANS	CEL	2	25.9	500
MELCSIRA GRANULATA	CEL		3.7	71
MELCSIRA GRANULATA				
V. ANGSTISSIMA	CEL			X
MICRACTINIUM PUSILLUM	COL		1.9	36
NITZSCHIA	CEL			X
NITZSCHIA #4	CEL			X
CCCYSTIS	CEL			X
CSCILLATCRIA	FIL			X
PENNATE	CEL		1.9	36
PHACLS CAUDATUS	CEL			X
PHACUS MEGALOPSIS	CEL			X
SCENEDESMUS DIMORPHUS	COL		3.7	71

ATCHAFALAYA
STCPCET NUMBER: EC30000

CONTINUED

12 12 75

TAXA

FORM	IS	%C	ALGAL UNITS PER ML
COL			X
CCL			X
CEL	1	27.8	535
CEL	1	1.91	36
COL	5	5.61	107
COL			X
COL			X

SCENEDESmus OVALTERNUS ?
SCENEDESMLS QUADRICAUDA
SKELETOMEMA POTAMOS
STEPHANOCISCUS
TETRASTRUM
TETRASTRUM ELEGANS
TETRASTRUM STAURGENIAEFORME

TOTAL

1927

ATCHAFALAYA
STORET NUMBER: E031000

NYGAARD TROPHIC STATE INDICES

	DATE	11 20 74	06 13 75
MYXOPHYCEAN		3.00 E	2.00 E
CHLOROPHYCEAN		3.00 E	11.0 E
EUGLENOPHYTE		0.17 ?	0.31 E
CIATCM		1.00 E	1.75 E
COMPOUND		10.0 E	24.0 E

PALMER'S ORGANIC POLLUTION INDICES

	DATE	11 20 74	06 13 75
GENUS		00	01
SPECIES		00	00

SPECIES DIVERSITY AND ABUNDANCE INDICES

	DATE	11 20 74	06 13 75
AVERAGE DIVERSITY	H	2.26	3.07
NUMBER OF TAXA	S	15.00	33.00
NUMBER OF SAMPLES COMPOSITED	M	1.00	1.00
MAXIMUM DIVERSITY	MAXH	3.91	5.04
TOTAL DIVERSITY	D	458.78	3073.07
TOTAL NUMBER OF INDIVIDUALS/ML	N	203.00	1001.00
EVENNESS COMPONENT	J	0.58	0.61
MEAN NUMBER OF INDIVIDUALS/TAXA	L	13.53	30.33
NUMBER/ML OF MOST ABUNDANT TAXON	K	67.00	250.00

ATCHAFALAYA
STORET NUMBER: E031000

CONTINUED

11 20 74

06 13 75

TAXA	FORM	ALGAL UNITS PER ML			ALGAL UNITS PER ML		
		S	%C		S	%C	
ACHNANTHES	CEL						X
ACTINASTRUM	CEL						X
ACTINASTRUM HANTZSCHII							
V. FLUVIATILE	CEL			X			
ANABAENA	FIL	2	16.7	34			
ANKISTRODESMUS	CEL						X
ANKISTRODESMUS FALCATUS							
V. MIRABILIS	CEL						X
ASTERICNELLA FORMOSA	CEL			X			
CENTRIC DIATOM	CEL			X			
CENTRIC DIATOMS	CEL				5	10.7	107
CHLOROPHYTAN FILAMENT	FIL					3.6	36
CHYTRIDIUM ?	CEL			X			
CLADSTERIUM	CEL					3.6	36
CLADSTERIUM ?	CEL			X			
COCCINEIS	CEL						X
COELASTRUM MICROPORUM	COL					3.6	36
COSCINCODISCUS ROTHII							
V. SUBSALSA	COL						X
CRUCIGENIA CRUCIFERA	COL						X
CRUCIGENIA TETRAPECIA	COL						X
CRYPTOMENAS EROSA	CEL						X
CYANOPHYTAN FILAMENT	FIL						X
CYCLOCTELLA MENENCHINIANA	CEL						X
DACTYLOCOCCOPSIS	CEL	3	33.0	67			
EUGLENA	CEL			X			X
EUGLENA TRIPTERIS	CEL						X
EUNOTIA	CEL						X
GOMPHONEMA	CEL						X
MELOSIRA	CEL			X			
MELOSIRA #1	CEL				1	25.0	250
MELOSIRA CISTANS	CEL			X	3	17.8	178

ATCHAFALAYA
STC RET NUMBER: EC31000

CONTINUED

113

TAXA	FCRM	11 20 74			06 13 75		
		IS	%C	ALGAL UNITS PER ML	IS	%C	ALGAL UNITS PER ML
MELCSIRA GRANULATA	CEL				14	10.7	107
V. ANGLTISSIMA	FIL	11	16.7	34		3.6	36
CSCILLATORIA	CCL						X
PEDIASTRUM BIRACIATUM	COL					3.6	36
FEDIASTRUM DUPLEX	CEL						
V. CLATHRATUM	CEL			X			
PENNATE	CEL	14	16.7	34			
PENNATE #1	CEL						
PHACLS	CEL						X
SCENEDESMUS DENTICULATUS	COL						X
SCENEDESMUS DIMORPHUS	COL			X			X
SCENEDESMUS SPP.	COL					3.6	36
SCHROEDERIA SETIGERA	CEL	15	16.7	34			
SKELETCNEMA POTAMOS	CEL				12	14.3	143
SPERMATOZOOPSIS	CEL						X
TETRASTRUM ELEGANS	COL						X
TRACHELEMENAS INTERMEDIA	CEL						X
TOTAL				203			1001

ATCHAFALAYA
SECRET NUMBER: EC32000

NYGAARD TROPHIC STATE INDICES

	DATE	03 19 74	01 20 75	04 16 75
MYXOPHYCEAN	0/0	0	06/0 E	0.50 E
CHLOROPHYCEAN	0/0	0	03/0 E	1.50 E
EUGLENOPHYTE	0/0	?	0/09 ?	0/04 ?
DIATOM	0/0	?	0.83 E	1.20 E
COMPOUND	0/0	0	14/0 E	5.00 E

PALMER'S ORGANIC POLLUTION INDICES

	DATE	03 19 74	01 20 75	04 16 75
GENUS		00	•	12
SPECIES		00	04	07
			02	

SPECIES DIVERSITY AND ABUNDANCE INDICES

	DATE	03 19 74	01 20 75	04 16 75
AVERAGE DIVERSITY	H	0.00	3.25	3.03
NUMBER OF TAXA	S	0.00	25.00	21.00
NUMBER OF SAMPLES COMPOSED	M	1.00	1.00	1.00
MAXIMUM DIVERSITY MAXH		0.00	4.64	4.39
TOTAL DIVERSITY	D	0.00	5908.50	2963.34
TOTAL NUMBER OF INDIVIDUALS/ML	N	0.00	1818.00	978.00
EVENNESS COMPONENT	J	0.00	0.70	0.69
MEAN NUMBER OF INDIVIDUALS/TAXA	L	0.00	72.72	46.57
NUMBER/ML OF MOST ABUNDANT TAXON	K	0.00	445.00	235.00

114

ATCHAFALAYA
STORE NUMBER: EC32000

CONTINUED

115

ATCHAFAHALAYA
SECRET NUMBER: E032000

CONTINUED

03 19 74

01 20 75

04 16 75

ATCHAFALAYA
STORE NUMBER: E032000

CONTINUED

03 19 74

01 20 75

04 16 75

TAXA	FORM	IS	%C	ALGAL UNITS PER ML	IS	%C	ALGAL UNITS PER ML	IS	%C	ALGAL UNITS PER ML
NITZSCHIA REVERSA ?	CEL									
NITZSCHIA SPP.	CEL									
COCYSTIS CITRIFORMIS	CEL									
OSCILLATORIA	FIL				15	3.8				
OSCILLATORIA SPLENDIDA	FIL									
PALMELLIO CHLAMYDOMONAS	CEL									
PECIASTRUM TETRAS	COL									
PENNATE	CEL									
PENNATE #1	CEL									
PENNATE #2	CEL									
PHACUS MEGALOPSIS	CEL									
PHCRMIDIUM	CEL									
PLANTCNEMA	FIL									
PTERCMCNAS	FIL									
RAFHIDICPSIS	CEL									
RIVULARIA	FIL									
SCENEDESMUS ABUNCANS	COL									
SCENEDESMUS BIJUGA	COL									
SCENEDESMUS DIMORPHUS	COL									
SCENEDESMUS DIMORPHUS ?	CCL									
SCENEDESMUS INTERMEDIUS	COL									
SCENEDESMUS PROTUBERANS	COL									
SCENEDESMUS QUADRICALDA	CCL									
SCHROEDERIA SETIGERA	CEL									
SKELETNEMA POTAMOS	CEL									
STEPHANODISCUS	CEL									
STEPHANODISCUS ASTRaea	CEL									
SURIRELLA LINEARIS	CEL									
SYNECRA ULNA	CEL									
TETFASTRUM STAUREGENIAEFORME	COL									
TRACHELMONAS SPP.	CEL									
TOTAL				0			1818			978

ATCHAFALAYA
STCRET NUMBER: E032000

CONTINUED

NYGAARD TROPHIC STATE INDICES

DATE	06	13	75	12	12	75	12	18	75
MYXOPHYCEAN	2.00	E		3.00	E		3.00	E	
CHLOROPHYCEAN	5.00	E		9.00	E		8.00	E	
EUGLENOPHYTE	0.14	?		0.58	E		0.09	?	
DIATOM	2.00	E		0.36	E		1.20	E	
COMPOUND	12.0	E		23.0	E		18.0	E	

PALMER'S ORGANIC POLLUTION INDICES

DATE	06	13	75	12	12	75	12	18	75
GENUS				03			14		10
SPECIES				03			09		00

SPECIES DIVERSITY AND ABUNCANCE INDICES

DATE	06	13	75	12	12	75	12	18	75
AVERAGE DIVERSITY	H		2.68		3.92		2.90		
NUMBER OF TAXA	S		16.00		42.00		28.00		
NUMBER OF SAMPLES COMPOSITED	M		1.00		1.00		1.00		
MAXIMUM DIVERSITY	MAXH		4.00		5.39		4.81		
TOTAL DIVERSITY	C	2146.68		11466.00		11933.50			
TOTAL NUMBER OF INDIVIDUALS/ML	N	801.00		2925.00		4115.00			
EVENNESS COMPONENT	J	0.67		0.73		0.60			
MEAN NUMBER OF INDIVIDUALS/TAXA	L	50.06		69.64		146.96			
NUMBER/ML OF MOST ABUNDANT TAXON	K	229.00		630.00		1372.00			

ATCHAFALAYA
STCET NUMBER: E032000

CONTINUED

611

TAXA	FORM	06 13 75			12 12 75			12 18 75		
		IS	%C	ALGAL UNITS PER ML	IS	%C	ALGAL UNITS PER ML	IS	%C	ALGAL UNITS PER ML
ACHNANTHES	CEL									
ACTINASTRUM	CEL			X						X
ANABAENA	FIL			X						
ANKISTRODESMUS FALCATUS	CEL	14	17.9	143		1.2	34			
ANKISTRODESMUS FALCATUS										
V. MIRABILIS	CEL									X
ASTERICNELLA FORMOSA	CEL						X			X
ASTERICNELLA FORMOSA										
V. GRACILLIMA	CEL									
CARTERIA	CEL									
CENTRIC DIATOM	CEL	21	14.2	114						
CENTRIC DIATOMS	CEL									
CHLAMYDOMONAS	CEL						X			
CHROOMCNAS	CEL							1	33.3	1372
CLCSTERIUM	CEL			X			X			
CLCSTERIUM #1	CEL							1.1		46
CLCSTERIUM #2	CEL									
CCCCOIC CHLOROPHYTAN	CEL									
COELASTRUM MICROPORUM	COL			X						
CCSCINCODISCUS ROTHTI										
V. SUBSALSA	CEL									
CRUCIGENIA TETRAPECIA	COL									X
CRYPTOMCNAS	CEL							4	3.3	137
CRYPTOMCNAS EROSA	CEL						X			
CRYPTOMCNAS MARSSONII	CEL									
CRYPTOMCNAS SPP.	CEL					6.4	187			
CYANOPHYTAN FILAMENT	FIL									
CYCLCTELLA	CEL									
CYCLCTELLA MENENGHINIANA	CEL							10.0		412
CYMBELLA	CEL									
CACTYLOCOCOPSIS	CEL									
DICTYOSPHAERIUM	CCL					1.2	34			X

ATCHAFALAYA
STORET NUMBER: E032000

CONTINUED

TAXA	FORM	06 13 75			12 12 75			12 18 75		
		IS	%C	ALGAL UNITS PER ML	IS	%C	ALGAL UNITS PER ML	IS	%C	ALGAL UNITS PER ML
ELAKATOTHRIX GELATINOSA	COL						1.2	34		
EUGLENA #1	CEL									X
EUGLENA CXYURIS	CEL							X		
EUGLENA SPP.	CEL				13	4.1	119			
EUGLENA TRIPTERIS	CEL							X		
FLAGELLATE #1	CEL									
FLAGELLATE #2	CEL							X		
FLAGELLATE #3	CEL								4.4	183
FLAGELLATES	CEL							X		
FRAGILARIA CROTONENSIS	CEL	5	14.2	114						
GOMPHONEMA	CEL							X		
GYMNODINIUM ALBULUM	CEL						1.7	51		
GYRSIGMA	CEL							X		
LEPOCIACLIS SPP.	CEL						2.3	68		
LYNGBYA	FIL							X		
MALLOMENAS	CEL							X		
MASTOGLOIA BRAUNII	CEL									X
MELOSIRA #1	CEL	1	28.6	229						
MELOSIRA DISTANS	CEL				1	21.5	630			
MELOSIRA GRANULATA	CEL				2	7.0	204	2	24.4	1006
MELOSIRA GRANULATA V. ANGSTISSIMA	CEL				3		102	3	6.7	274
MELCSERA VARIANS	CEL									
MICRCCYSTIS	COL									
MICRCCYSTIS INCERTA	CCL									
NAVICULA	CEL							X		
NITZSCHIA	CEL									
NITZSCHIA #1	CEL									X
NITZSCHIA #2	CEL								1.1	46
NITZSCHIA ACICULARIS	CEL							X		
NITZSCHIA ANGUSTATA	CEL							X		
NITZSCHIA PALEA	CEL						3.5	102		

ATCHAFALAYA
STORET NUMBER: E032000

CONTINUED

06 13 75 12 12 75 12 18 75

TAXA	FORM	ALGAL UNITS PER ML			ALGAL UNITS PER ML			ALGAL UNITS PER ML		
		S	%C		S	%C		S	%C	
NITZSCHIA REVERSA ?	CEL				14	9.3	272			
NITZSCHIA SPP.	CEL					7.6	221			
OOCYSTIS CITRIFORMIS	CEL						X			
CSCILLATORIA	FIL									
CSCILLATORIA SPLENDIDA	FIL			X						
PALMELLIO CHLAMYDOMONAS	CEL									
PECIASTRUM TETRAS	CCL	3.6		29						X
PENNATE	CEL									
PENNATE #1	CEL	3.6		29						
PENNATE #2	CEL	3.6		29						
PHACUS MEGALOPSIS	CEL						X			
PHCRMIDIUM	FIL									
PLANCTCNEMA	FIL					1.2	34			
PTERCMENAS	CEL									
RAPHIDICPSIS	FIL					4.1	119			
RIVULARIA	FIL									
SCENEDESMUS ABUNDANS	COL									X
SCENEDESMUS BIJUGA	COL									
SCENEDESMUS DIMCRPHUS	COL				X					
SCENEDESPUS DIMCRPHUS ?	COL					2.3	68			
SCENEDESMUS INTERMEDIUS	COL									X
SCENEDESMUS PROTUBERANS	COL									
SCENEDESMUS QUADRICAUDA	CCL									
SCHROEDERIA SETICERA	CEL									
SKELETNEMA POTAMCS	CEL	3	14.2	114		8.1	238			
STEPHANODISCUS	CEL									
STEPHANOCISCUS ASTREA	CEL					2.9	85			
SURIRELLA LINEARIS	CEL									X
SYNECRA ULNA	CEL									X
TETRASTRUM STAURGENIAEFORME	COL					0.6	17			
TRACHELOMONAS SPP.	CEL					1.2	34			
	CEL					1.7	51			91

TOTAL

801

2925

4115

ATCHAFALAYA
STCRET NUMBER: EC52000

NYGAARD TROPHIC STATE INDICES

	DATE	11	21	74	01	20	75	12	15	75
MYXOPHYCEAN		01/0	E		04/0	E		03/0	E	
CHLOROPHYCEAN		01/0	E		03/0	E		04/0	E	
EUGLENOPHYTE		2.50	E		0.14	?		0.14	?	
DIATOM		1.00	E		0.71	E		0.58	E	
COMPOUND		09/0	E		13/0	E		15/0	E	

PALMER'S ORGANIC POLLUTION INDICES

	DATE	11	21	74	01	20	75	12	15	75
GENUS				05			00			08
SPECIES				00			00			00

SPECIES DIVERSITY AND ABUNDANCE INDICES

	DATE	11	21	74	01	20	75	12	15	75
AVERAGE DIVERSITY	H		1.36		1.94		3.41			
NUMBER OF TAXA	S		14.00		22.00		38.00			
NUMBER OF SAMPLES COMPOSITED	M		1.00		1.00		1.00			
MAXIMUM DIVERSITY	MAXH		3.81		4.46		5.25			
TOTAL DIVERSITY	D		497.76		211.46		5953.86			
TOTAL NUMBER OF INDIVIDUALS/ML	N		366.00		109.00		1746.00			
EVENNESS COMPONENT	J		0.36		0.43		0.65			
MEAN NUMBER OF INDIVIDUALS/TAXA	L		26.14		4.95		45.95			
NUMBER/ML OF MOST ABUNDANT TAXON	K		203.00		43.00		295.00			

ATCHAFALAYA
STORET NUMBER: EC52000

CONTINUED

TAXA	FORM	11 21 74			01 20 75			12 15 75		
		S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML
ACHNANTHES	CEL									X
ANABAENA	FIL									X
ANKISTRODESmus FALCATUS	CEL									
V. MIRABILIS	CEL			X	13	20.2	22			X
ASTERICNELLA FORMOSA	CEL									
ASTERICNELLA FORMOSA	CEL									
V. GRACILLIMA	CEL									X
CARTERIA	CEL									X
CENTRIC DIATOMS	CEL							15	10.8	188
CHLAMYDOMNAS	CEL									X
CHROMCNAS #1	CEL							2	16.9	295
CHROMCNAS NORDSTEOTII	CEL								9.2	161
COCCONEIS	CEL							X		X
GOSCINDISCUS ROTHII	CEL									X
V. SUBSALSA	CCL									X
CRUCIGENIA APICULATA	CEL									X
CRYPTOMCNAS EROSA	CEL									
CRYPTOMCNAS MARSSONII	CEL	11	33.3	122				X		54
CRYPTOMCNAS REFLEXA	CEL							X		
CYANOPHYTA FILAMENT	FIL								1.5	27
CYCLOTELLA PENENGHINIANA	CEL							X		X
CYCLOTELLA MICHIGANIANA	CEL								3.1	54
DACTYLCCCCOPSIS	CEL							X		X
EUGLENA	CEL									
EUGLENA #1	CEL									
EUGLENA ACUS	CEL			X						
EUGLENA GRACILIS	CEL			X						
EUGLENIC CYST	CEL			X						
EUNOTIA CURVATA	CEL							X		
FLAGELLATE	CEL								10.8	188
GOMPHONEMA	CEL			X						X
MALLCMCNAS ALPINA	CEL									

ATCHAFALAYA
STC RET NUMBER: E052000

CONTINUED

11 21 74

01 20 75

12 15 75

TAXA	FORM	ALGAL UNITS PER ML			ALGAL UNITS PER ML			ALGAL UNITS PER ML		
		IS	%C		IS	%C		IS	%C	
MELOSIRA	CEL			X						
MELOSIRA CISTANS	CEL			X						
MELOSIRA GRANULATA	CEL							X		
MELOSIRA GRANULATA	CEL							X		
V. ANGLTISSIMA	CEL									
MELOSIRA VARIANS	CEL				1	39.4			4	7.7
MESOSTIGMA VIRIDIS	CEL							43		
MICROCYSTIS INCERTA	COL									
NAVICULA	CEL							X		
NAVICULA #1	CEL							X		
NAVICULA #2	CEL	3	11.2	X	41					
NITZSCHIA #1	CEL					2	20.2			
NITZSCHIA #2	CEL							22		
NITZSCHIA #3	CEL									
NITZSCHIA ACICULARIS	CEL									
NITZSCHIA PARADXA	CEL							X		
NITZSCHIA SIGMOIDEA	CEL							X		
NITZSCHIA SPP.	CEL							X		
OSCILLATORIA	FIL									
OSCILLATORIA AMPHIBIA	FIL							X		
OSCILLATORIA LIMNETICA	FIL	2	55.5		203	4	20.2		X	
PANDORINA MORUM	COL							22		
FECIASTRUM DUPLEX	COL								1.5	
PHACLS FLEURONECTES	CEL			X						
PLEUROSIGMA	CEL									
PTEROMENAS ANGULCSA	CEL									
PYRROPHYTAN CYST	CEL			X						
SCENEDESmus BIJUGA	COL									
SCENEDESMLS DIMORPHUS	COL									
SCENEDESMLS DIMORPHUS ?	CCL									
SKELETICREMA POTAMOS	CEL								3.1	
STEPHANODISCUS	CEL							X	10.8	188

ATCHAFALAYA
STORY NUMBER: E052000

CONTINUED

11 21 74

01 20 75

12 15 75

TAXA

STEPHANODISCUS NIAGARAE
SURIRELLA OVATA
SYNEDRA ULNA
TRACHELEMONAS VOLVOCINA

FORM	ALGAL UNITS			ALGAL UNITS			ALGAL UNITS		
	IS	%C	PER ML	IS	%C	PER ML	IS	%C	PER ML
CEL	-	-	-	-	-	-	-	-	X
CEL	-	-	-	-	-	-	X	-	-
CEL	-	-	-	-	-	-	X	-	-
CEL	-	-	-	-	-	-	-	-	-

TOTAL

366

109

1746

ATCHAFALAYA
STCET NUMBER: E059000

NYGAARD TROPHIC STATE INDICES

	DATE	11 22 74	12 11 74	01 18 75
MYXOPHYCEAN		03/0 E	2.00 E	01/0 E
CHLOROPHYCEAN		02/0 E	5.00 E	02/0 E
EUGLENOPHYTE		0/05 ?	0/07 ?	0/C3 ?
DIATOM		1.00 E	0.57 E	1.00 E
COMPOUND		09/0 E	11.0 E	07/0 E

PALMER'S ORGANIC POLLUTION INDICES

	DATE	11 22 74	12 11 74	01 18 75
GENUS		C8	06	00
SPECIES		00	04	00

SPECIES DIVERSITY AND ABUNDANCE INDICES

	DATE	11 22 74	12 11 74	01 18 75
AVERAGE DIVERSITY	H	2.50	3.07	0.87
NUMBER OF TAXA	S	14.00	22.00	15.00
NUMBER OF SAMPLES COMPOSITED	M	1.00	1.00	1.00
MAXIMUM DIVERSITY	MAXH	3.81	4.46	3.91
TOTAL DIVERSITY	D	880.00	3039.30	417.60
TOTAL NUMBER OF INDIVIDUALS/ML	N	352.00	990.00	480.00
EVENNESS COMPONENT	J	0.66	0.69	0.22
MEAN NUMBER OF INDIVIDUALS/TAXA	L	25.14	45.00	32.00
NUMBER/ML OF MOST ABUNDANT TAXON	K	88.00	198.00	392.00

ATCHAFALAYA

SECRET NUMBER: E0590C0

CONTINUED

121

ATCHAFALAYA
STC RET NUMBER: EC59000

CONTINUED

11 22 74

12 11 74

01 18 75

TAXA	FORM	IS	%C	ALGAL UNITS PER ML	IS	%C	ALGAL UNITS PER ML	IS	%C	ALGAL UNITS PER ML
GOMPHONEMA ANGUSTATUM	CEL									
V. PRODUCTA	CEL									
GOMPHONEMA PARVULUM	CEL									
GOMPHONEMA SPP.	CEL									
GYROSIGMA KUTZINGII	CEL									
GYROSIGMA SCALPROIDES	CEL									
HANTZSCHIA AMPHICXYS	CEL			X						
KIRCHNERIELLA	CEL									
MALLEOMORAS	CEL									
MELOSIRA #1	CEL									
MELOSIRA CISTANS	CEL									
MELOSIRA GRANULATA	CEL									
MELOSIRA GRANULATA	CEL									
V. ANCILLISSIMA	CEL									
MELOSIRA ISLANDICA	CEL									
MELOSIRA VARIANS	CEL									
NAVICULA	CEL									
NITZSCHIA	CEL									
NITZSCHIA #1	CEL	12.5		44						
NITZSCHIA #2	CEL	512.5		44						
NITZSCHIA FILIFORMIS	CEL									
CCCYSTIS BORGII	CEL									
OSCILLATORIA	FIL									
OSCILLATORIA #1	FIL									
OSCILLATORIA #2	FIL	325.0		88						
PEDIASTRUM BIRADIATUM	CCL									
PHACUS LONGICAUDA	CEL									
PTEROMORAS ANGULESA	CEL									
RAPHIDIOPSIS	FIL	225.0		88						
SCENEDESMUS BICAUCATUS	COL									
SCENEDESMUS BIJUGA	COL	112.5		44						
SCENEDESMUS DIMORPHUS	COL									

ATCHAFALAYA
STCET NUMBER: EC59000

CONTINUED

11 22 74

12 11 74

01 18 75

TAXA	FORM	ALGAL UNITS PER ML			ALGAL UNITS PER ML			ALGAL UNITS PER ML		
		S	%C		S	%C		S	%C	
SCENEDESPUS PROTUBERANS	COL									
SCENEDESPUS QUACRICAUDA	COL				13	6.7		2	9.2	
SKELETNEMA POTAMOS	CEL									
STEPHANODISCUS	CEL	14	12.5	44						
STEPHANODISCUS ASTRAEA	CEL							X		
SYNECRA ULNA	CEL							X		
TETRASTRUM STAUROGENIAEFORME	COL							X		
TRACHELCPNCAS INTERMEDIA	CEL									
TOTAL				352			990		480	

ATCHAFALAYA
STORET NUMBER: E059000

CONTINUED

NYGAARD TROPHIC STATE INDICES

	DATE	04 15 75	06 14 75
MYXOPHYCEAN		03/0 E	01/0 E
CHLOROPHYCEAN		05/0 E	05/0 E
EUGLENOPHYTE		0/08 ?	0.50 E
DIATOM		0.62 E	07/0 E
COMPOUND		13/0 E	16/0 E

PALMER'S ORGANIC POLLUTION INDICES

	DATE	04 15 75	06 14 75
GENLS		13	05
SPECIES		00	00

SPECIES DIVERSITY AND ABUNDANCE INDICES

	DATE	04 15 75	06 14 75
AVERAGE DIVERSITY	H	3.37	2.30
NUMBER OF TAXA	S	26.00	18.00
NUMBER OF SAMPLES COMPOSITED	M	1.00	1.00
MAXIMUM DIVERSITY	MAXH	4.70	4.17
TOTAL DIVERSITY	C	4549.50	811.90
TOTAL NUMBER OF INDIVIDUALS/ML	N	1350.00	353.00
EVENNESS COMPONENT	J	0.72	0.55
MEAN NUMBER OF INDIVIDUALS/TAXA	L	51.92	19.61
NUMBER/ML OF MOST ABUNDANT TAXON	K	300.00	97.00

ATCHAFALAYA

STORE NUMBER: E059000

CONTINUEC

04 15 75

06 14 75

TAXA	FORM	ALGAL UNITS PER ML			ALGAL UNITS PER ML		
		S	%C	S	%C		
ACTINASTRUM HANTZSCHII	CEL						
V. FLUVIATILE	FIL						
ANABAENA	CEL						X
ANKISTRODESMUS ? SP. RALIS	CEL						
ANKISTRODESMUS FALCATUS	CEL						
V. MIRABILIS	CEL	2.2		30			
APHANIZOMENON FLCS-AQUAE	FIL						
ASTERICNELLA FORMOSA	CEL						
CENTRIC DIATOMS	CEL					218.1	64
CLUSTERIUM	CEL						
COCCOID CELL	CEL						
COCCONEIS	CEL						
COCCONEIS PLACENTULA	CEL	4.4		60			
COELASTRUM	COL						
COELASTRUM MICROPORUM	COL					318.1	64
COELASTRUM SPHAERICUM	COL						
CRYPTOMMAS	CEL	3	8.9	120	14	18.1	64
CRYPTOMMAS EROSA	CEL						
CRYPTOMMAS MARSSONII	CEL						
CRYPTOMMAS REFLEXA	CEL						
CRYPTOMMAS SPP.	CEL						
CYANOPHYTAN FILAMENT	FIL	4.4		60			
CYCLCTELLA	CEL						
CYCLOTELLA MENENGHINIANA	CEL						X
CYMBELLA	CEL						
CACTYLCCCCOPSIS	CEL						
EUGLENA TRIPTERIS	CEL						X
FLAGELLATE #1	CEL						
FLAGELLATE #2	CEL						X
FLAGELLATE #3	CEL	1	22.2	300			
GOMPHONEMA	CEL						
GOMPHONEMA ANGUSTATUM	CEL					X	

ATCHAFALAYA

STCRET NUMBER: E059000

CONTINUED

04 15 75

06 14 75

TAXA	FORM	ALGAL UNITS PER ML			ALGAL UNITS PER ML		
		S	%C		S	%C	
GOMPHONEMA ANGUSTATUM	CEL			X			
V. PRODUCTA	CEL						
GOMPHONEMA PARVULUM	CEL						
GOMPHONEMA SPP.	CEL	4	17.8	240			
GYROSIGMA KUTZINGII	CEL						
GYROSIGMA SCALPRIDES	CEL						
HANTZSCHIA AMPHIOXYS	CEL						
KIRCHNERIELLA	CEL			X			
MALLOMCNAS	CEL			X			
MELOSIRA #1	CEL						
MELOSIRA DISTANS	CEL		8.9	120			X
MELOSIRA GRANULATA	CEL						
MELOSIRA GRANULATA	CEL						
V. ANGLSTISSIMA	CEL						X
MELOSIRA ISLANDICA	CEL						X
MELOSIRA VARIANS	CEL			X			
NAVICULA	CEL		4.4	60			
NITZSCHIA	CEL						
NITZSCHIA #1	CEL	5	6.7	90			
NITZSCHIA #2	CEL			X			
NITZSCHIA FILIFORMIS	CEL						
OOCYSTIS BORGEI	CEL						
CSCILLATORIA	FIL	2	4.4	60	5	18.1	64
OSCILLATORIA #1	FIL						
CSCILLATORIA #2	FIL						
PEDIASTRUM BIRADIATUM	COL						X
PHACLS LONGICAUDA	CEL						X
PTEROMCNAS ANGULOSA	CEL						
RAPHIDICPSIS	FIL						
SCENEDESMUS BICALDATUS	COL			X			X
SCENEDESMUS BIJUGA	COL						
SCENEDESMUS DIMORPHUS	COL						X

ATCHAFALAYA
STCET NUMBER: EC59000

CONTINUED

04 15 75

06 14 75

TAXA	FORM	ALGAL UNITS PER ML			ALGAL UNITS PER ML		
		S	%C		S	%C	
SCENEDESMUS PROTUBERANS	COL						
SCENEDESMUS QUADRICAUDA	COL			X			
SKEL ET CNEMA POTAMOS	CEL	1	6.7	90	1	27.5	97
STEPHANO DISCUS	CEL						X
STEPHANO DISCUS ASTRAEA	CEL		2.2	30			
SYNEDRA ULNA	CEL						
TETRASTRUM STAURGENIAEFORME	CCL			X			
TRACHELMONAS INTERMEDIA	CEL						X
TOTAL				1350			353

ATCHAFALAYA
STORET NUMBER: EC6COCO

NYGAARD TROPHIC STATE INDICES

	DATE	11 21 74	12 16 75
MYXOPHYCEAN	03/0 E	1.00 E	
CHLOROPHYCEAN	03/0 E	5.00 E	
EUGLENOPHYTE	0.33 E	0.33 E	
DIATOM	2.00 E	0.78 E	
COMPCUND	14/0 E	15.0 E	

PALMER'S ORGANIC POLLUTION INDICES

	DATE	11 21 74	12 16 75
GENUS		07	05
SPECIES		04	00

SPECIES DIVERSITY AND ABUNDANCE INDICES

	DATE	11 21 74	12 16 75
AVERAGE DIVERSITY	H	3.01	3.35
NUMBER OF TAXA	S	19.00	29.00
NUMBER OF SAMPLES COMPOSITED	M	1.00	1.00
MAXIMUM DIVERSITY	MAXH	4.25	4.86
TOTAL DIVERSITY	D	4177.88	3115.50
TOTAL NUMBER OF INDIVIDUALS/ML	N	1388.00	930.00
EVENNESS COMPONENT	J	0.71	0.69
MEAN NUMBER OF INDIVIDUALS/TAXA	L	73.05	32.07
NUMBER/ML OF MOST ABUNDANT TAXON	K	430.00	169.00

ATCHAFALAYA
STORET NUMBER: E060000

CONTINUED

11 21 74

12 16 75

TAXA

TAXA	FORM	ALGAL UNITS PER ML			ALGAL UNITS PER ML		
		S	%C		S	%C	
ANKISTROCESMUS FALCATUS	CEL					3.0	28
ASTERINELLA FORMOSA	CEL			X			X
CELL	CEL					3.0	28
CLUSTERILM	CEL						X
COSCINODISCUS ROTHII	CEL						
V. SUPSALSA	CEL			X	4	12.2	113
CRYPTOMENAS	CEL	3	11.9	165		3.0	28
CYANOPHYTA FILAMENT	FIL		9.5	132			
CYCLOTELLA MENENGHINIANA	CEL	5	9.5	132	3	15.2	141
CYMBELLA TURGIDA	CEL			X			
CACTYLCCCCOPSIS	CEL			X			
EUGLENA	CEL					3.0	28
FLAGELLATE #1	CEL					12.2	113
FLAGELLATE #2	CEL	1	31.0	430			
GLENODINIUM OCULATUM	CEL					3.0	28
GCMPHONEMA	CEL						X
GCMPHONEMA OLIVACEUM	CEL				1		X
GYRCSIGMA	CEL						X
HANTZSCHIA	CEL						X
MELCSIRA	CEL						X
MELCSIRA DISTANS	CEL					18.2	169
MELCSIRA GRANULATA	CEL			X	2	3.0	28
MELCSIRA GRANULATA	CEL			X			
V. ANGLSTISSIMA	CEL						X
MERISMOPEDIA TENUISSIMA	CGL		4.8	66			
NAVICULA	CEL				5	12.2	113
NITZSCHIA	CEL			X			X
CSCILLATORIA	FIL						X
PECIASTRUM BORYANUM	COL						X
PENNATE	CEL						X
PHACLS NORSTEDTII	CEL		2.4	33			
PHACUS TORTUS	CEL		2.4	33			

ATCHAFALAYA
STORET NUMBER: E060000

CONTINUED

11 21 74 12 16 75

TAXA	FORM	IS	%C	ALGAL UNITS PER ML	IS	%C	ALGAL UNITS PER ML
SCENEDESmus ACUTUS	COL	1	1				X
SCENEDESmus DIMORPHUS	COL	1	1	2.4	33		X
SCENEDESmus QUADRICAUDA	COL	14	7.1	99		3.0	28
SKELETNEMA POTAMOS	CEL	1	1	4.8	66		X
STEPHANOdiscus ASTRAEA	CEL	12	14.3	199			
STEPHANOdiscus NIAGARAE	CEL	1	1			9.1	85
SURIRELLA	CEL	1	1				X
TETRAEDRON MINIMUM	CEL	1	1		X		
TRACHELEMENAS	CEL	1	1				X
TOTAL				1388			930

ATCHAFALAYA
STC RET NUMBER: E062C00

NYGAARD TROPHIC STATE INDICES

DATE 01 18 75 06 14 75

MYXOPHYCEAN	3.00	E	5.00	E
CHLOROPHYCEAN	1.00	E	7.00	E
EUGLENOPHYTE	0/04	?	0.25	E
DIATOM	0.62	E	1.25	E
COMPCUND	9.00	E	20.0	E

PALMER'S ORGANIC POLLUTION INDICES

DATE 01 18 75 06 14 75

GENUS	13		10	
SPECIES	04		00	

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE 01 18 75 06 14 75

AVERAGE DIVERSITY	H	3.67	2.94
NUMBER OF TAXA	S	23.00	26.00
NUMBER OF SAMPLES COMPOSITED	M	1.00	1.00
MAXIMUM DIVERSITY MAXH		4.52	4.70
TOTAL DIVERSITY	D	6323.41	1743.42
TOTAL NUMBER OF INDIVIDUALS/ML	N	1723.00	593.00
EVENNESS COMPONENT	J	0.81	0.63
MEAN NUMBER OF INDIVIDUALS/TAXA	L	74.91	22.81
NUMBER/ML OF MOST ABUNDANT TAXON	K	203.00	174.00

ATCHAFALAYA
STORET NUMBER: E062000

CONTINUED

01 18 75

06 14 75

TAXA	FORM	ALGAL UNITS PER ML			ALGAL UNITS PER ML		
		IS	%C		IS	%C	
ANABAENA	FIL						X
ANABAENOPSIS RACIBORSKII	FIL	1					X
ANKISTRODESMUS	CEL	1					X
APHANIZCMENON FLOS-AQUAE	FIL	1		X			X
ASTERIONELLA FORMOSA	CEL	13	8.8	152			X
CHROOMONAS	CEL	1	8.8	152			
CLCSTERIUM	CEL	1		X			
CLCSTERIUM KUTZINGII	CEL	1					X
COELASTRUM MICROPORUM	COL	1			5	5.9	35
CGSCINODISCUS LACUSTRIS	CEL	1			12	29.3	174
CRYPTOMENAS EROSA	CEL	1	11.8	203			
CRYPTOMENAS MARSSONII	CEL	2	11.8	203			
CYCLCTELLA	CEL	1	5.9	101			
CYMBELLA	CEL	1		X			
CYST	CEL	1	5.9	101			
DACTYLOCOPPSIS	CEL	1	5.9	101			
EUGLENA	CEL	1					X
EUGLENA TRIPTERIS ?	CEL	1					X
FRAGILARIA CROTCHENSIS	CEL	1	3.0	51			
HANTZSCHIA AMPHIGXYS	CEL	1		X			
MELCSIRA DISTANS	CEL	5	11.8	203	1	5.9	35
MELOSIRA GRANULATA	CEL	1		X	11	23.4	139
MELCSIRA GRANULATA V. ANGSTISSIMA	CEL	1		X	13	5.9	35
PERISMOPEDIA	COL	1					X
NAVICULA	CEL	1	5.9	101			X
NITZSCHIA	CEL	1					X
NITZSCHIA #1	CEL	1	3.0	51			
NITZSCHIA #2	CEL	1		X			
OSCILLATORIA #1	FIL	1			1	5.9	35
OSCILLATORIA #2	FIL	1			14	5.9	35
PANCORINA MCRUM	COL	1			1		X

ATCHAFALAYA
STORET NUMBER: E062000

CONTINUED

01 18 75 06 14 75

TAXA

FHCRMIDIUM
PTERCMCNAS
SCENEDESMUS BICAUDATUS
SCENEDESMUS BI JUGA
 V. FLEXUOSUS
SCENEDESMUS DIMORPHUS
SCENEDESMUS QUADRICAUDA
SCIROEDERIA SETIGERA
SKELETCREMA POTAMOS
STEPHANOIDSUS
SYNECRA
SYNEDRA ULNA
TRACHELOMONAS

FORM	ALGAL UNITS PER ML			ALGAL UNITS PER ML		
	IS	%C		IS	%C	
FIL	1	5.9	101	1		
CEL	1		X			
COL	1			5.9		35
COL						X
COL						X
CCL		3.0	51	5.9		35
CEL	1			5.9		35
CEL						X
CEL	14	8.8	152			
CEL	1		X			X
CEL	1					X

TOTAL

1723

593

ATCHAFALAYA
STORET NUMBER: E064000

NYGAARD TROPHIC STATE INDICES

DATE 01 18 75

MYXOPHYCEAN	2.00	E
CHLOROPHYCEAN	2.00	E
EUGLENOPHYTE	0.12	?
DIATOM	0.53	E
COMPOUND	9.00	E

PALMER'S ORGANIC POLLUTION INDICES

DATE 01 18 75

GENUS	08
SPECIES	00

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE 01 18 75

AVERAGE DIVERSITY	H	3.13
NUMBER OF TAXA	S	44.00
NUMBER OF SAMPLES COMPOSED	M	1.00
MAXIMUM DIVERSITY MAXH		5.46
TOTAL DIVERSITY	D	4479.03
TOTAL NUMBER OF INDIVIDUALS/ML	N	1431.00
EVENNESS COMPONENT	J	0.57
MEAN NUMBER OF INDIVIDUALS/TAXA	L	32.52
NUMBER/ML OF MOST ABUNDANT TAXON	K	348.00

ATCHAFALAYA
STCET NUMBER: E064000

CONTINUED

01 18 75

TAXA

ANKISTRODESMUS
ANKISTRODESMUS FALCATUS
APHANIZOMENON FLOS-AQUAE
ASTERIONELLA FORMOSA
CARTERIA ?
CHRYSOPHYTAN COCCOID CELL
CLUSTERIUM
COCCONEIS PLACENTULA
COSCINODISCUS ROTHII
V. SUBSALSA
CRYPTOMENAS
CYANOPHYTAN FILAMENT
CYCLOCTELLA BODANICA ?
CYCLOTELLA MENENGHINIANA
CYMBELLA
CACTYLOCOPPSIS
DIATOMA VULGARE
EPITHEMIA ?
FRAGILARIA CROTONENSIS
GYPHONEMA OLIVACEUM
GYMNODINIUM ORDINATUM ?
GYRCSIGMA
LUNATE CELL
MELOSIRA DISTANS
MELOSIRA GRANULATA
MELCSIRA GRANULATA
V. ANGSTISSIMA
MELOSIRA VARIANS
NAVICULA #2
NAVICULA EXIGUA
NITZSCHIA ? #1
NITZSCHIA #2

FORM	IS	%C	ALGAL UNITS PER ML
CEL			X
CEL			X
FIL			X
CEL			X
CEL		2.3	33
CEL			X
CEL			X
CEL			X
CEL		1.2	17
CEL	13	9.2	132
FIL		12.7	182
CEL			X
CEL	15	4.7	67
CEL			X
CEL			X
CEL		1.2	17
CEL			X
CEL			X
CEL		1.2	17
CEL			X
CEL			X
CEL		1.2	17
CEL	1	24.3	348
CEL			X
CEL		3.5	50
CEL			X
CEL		3.5	50
CEL			X
CEL			X

ATCHAFALAYA
STC RET NUMBER: E064000

CONTINUED

01 18 75

TAXA	FORM	ALGAL UNITS PER ML		
		IS	%C	
NITZSCHIA #4	CEL			X
NITZSCHIA SPP.	CEL		4.6	66
NITZSCHIA TRYBLICNELLA				
V. LEVIDENSIS	CEL			X
OSCILLATORIA	FIL			X
SCENEDESMUS DIMORPHUS	COL			X
SCENEDESMUS QUADRICAUDA	COL			X
SKELETCHEMA POTAMOS	CEL			X
STAURASTRUM	CEL			X
STEPHANODISCUS ASTRAEA	CEL	2	23.5	336
SURIRELLA #1	CEL			X
SURIRELLA #2	CEL			X
SYNEURA ULNA VARS.	CEL			X
SYNURA	CEL			X
TRACHELEMNAS INTERMEDIA	CEL	14	6.9	99

TOTAL

1431

ATCHAFALAYA
STORET NUMBER: E065000

NYGAARD TROPHIC STATE INDICES

	DATE	01 18 75	04 18 75
HYXOPHYCEAN		1.00 E	03/0 E
CHLOROPHYCEAN		2.00 E	01/0 E
EUGLENOPHYTE		0/03 ?	0.75 E
DIATOM		2.00 E	0.60 E
COMPOUND		9.00 E	10/0 E

PALMER'S ORGANIC POLLUTION INDICES

	DATE	01 18 75	04 18 75
GENUS		04	07
SPECIES		00	00

SPECIES DIVERSITY AND ABUNDANCE INDICES

	DATE	01 18 75	04 18 75
AVERAGE DIVERSITY	H	2.67	2.51
NUMBER OF TAXA	S	15.00	19.00
NUMBER OF SAMPLES COMPOSITED	M	1.00	1.00
MAXIMUM DIVERSITY	MAXH	3.91	4.25
TOTAL DIVERSITY	D	1775.55	4121.42
TOTAL NUMBER OF INDIVIDUALS/ML	N	665.00	1642.00
EVENNESS COMPONENT	J	0.68	0.59
MEAN NUMBER OF INDIVIDUALS/TAXA	L	44.33	86.42
NUMBER/ML OF MOST ABUNDANT TAXA	K	212.00	441.00

ATCHAFALAYA
STCRET NUMBER: E065000

CONTINUED

01 18 75

04 16 75

TAXA	FORM	ALGAL UNITS PER ML			ALGAL UNITS PER ML		
		S	%C		S	%C	
ASTERIONELLA FORMOSA	CEL	11	15.9	106			
CENTRIC DIATOMS	CEL	3	15.9	106			
CHLAMYDOMONAS	CEL				2	26.9	441
CLCSTERIUM	CEL		4.1	27			
CCCCCNEIS	CEL					4.9	80
COSCINODISCUS RTHII	CEL						
V. SUBSALSA	CEL			X			
CRUCIGENIA TETRAPECIA	COL						X
CRYPTOMONAS	CEL			X			
CRYPTOMONAS EROSA	CEL				1	24.4	401
CYCLOTELLA MENEGHINIANA	CEL			X			
CYMBELLA	CEL						X
CACTYLCCCCOPSIS	CEL					21.9	360
FLAGELLATE #1	CEL	15	12.0	80	5	9.7	160
GCFPHONEMA	CEL			X			
GYROSIGMA SCALP RIDES	CEL						X
LEPCCINCLIS	CEL						X
MELCSIRA	CEL			X			
MELCSIRA DISTANS	CEL	2	31.9	212			X
NITZSCHIA	CEL	14	12.0	80			
NITZSCHIA ACICULARIS	CEL						X
NITZSCHIA FILIFORMIS	CEL						X
NITZSCHIA SPP.	CEL				4	7.3	120
CSCILLATORIA	FIL		4.1	27			X
PEDIASTRUM BORYANUM	CCL			X			
FHCRMICUM	FIL						X
SCENEDESMUS ACUMINATUS	CCL		4.1	27			
STEPHANODISCUS	CEL			X	3	4.9	80
STEPHANODISCUS ASTRaea	CEL						X
TRACHELMONAS URCEOLATA	CEL						X
TRACHELMONAS VOLVOCINA	CEL						X

TOTAL

665

1642

ATCHAFALAYA
STORET NUMBER: 6001000

NYGAARD TROPHIC STATE INDICES

DATE	01 22 74	11 20 74	06 12 75
MYXOPHYCEAN	01/0 E	0/0 D	04/0 E
CHLOROPHYCEAN	04/0 E	04/0 E	13/0 E
EUGLENOPHYTE	0.80 E	1.75 E	0.53 E
DIATOM	1.00 E	3.00 E	1.00 E
COMPOUND	13/0 E	14/0 E	30/0 E

PALMER'S ORGANIC POLLUTION INDICES

DATE	01 22 74	11 20 74	06 12 75
GENUS	10	06	15
SPECIES	03	00	07

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE	01 22 74	11 20 74	06 12 75	
AVERAGE DIVERSITY	H	2.24	1.81	2.86
NUMBER OF TAXA	S	31.00	17.00	44.00
NUMBER OF SAMPLES COMPOSITED	M	1.00	1.00	1.00
MAXIMUM DIVERSITY MAXH		4.95	4.09	5.46
TOTAL DIVERSITY	D	21194.88	17687.32	32203.60
TOTAL NUMBER OF INDIVIDUALS/ML	N	9462.00	9772.00	11260.00
EVENNESS COMPONENT	J	0.45	0.44	0.52
MEAN NUMBER OF INDIVIDUALS/TAXA	L	305.23	574.82	255.91
NUMBER/ML OF MOST ABUNDANT TAXON	K	5135.00	4703.00	5376.00

ATCHAFALAYA
STCRET NUMBER: 60010CO

CONTINUED

TAXA	FORM	01 22 74			11 20 74			06 12 75		
		S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML
ACTINASTRUM	CEL						X			
ACTINASTRUM HANTZSCHII	CEL									
V. FLUVIATILE	CEL			X						
ANKISTRODESMUS ?	CEL					0.6	61			
ANKISTRODESMUS FALCATUS	CEL									
ANKISTRODESMUS FALCATUS	CEL									
V. MIRABILIS	CEL	2.4		228						
APPANOTHECE	CCL									
CARTERIA	CEL	1.1		101						
CENTRIC DIATOM	CEL	0.3		25						
CENTRIC DIATOM #1	CEL	0.5		51						
CENTRIC DIATOM #2	CEL			X						
CHILOMONAS PARAMAECIUM	CEL	4	4.5	430						
CHLAMYDOMONAS GLOBOSA	CEL									
CHLOROPHYCCALEAN COCCOID CELL	CEL									
CHLOROGCNM	CEL			X						
CHLOROPHYTAN COCCOID CELL	CEL									
CHROMOMONAS NORDSTEDTII	CEL	5	2.9	278						
COCCONEIS PLACENTULA	CEL			X						
CRYPTOMONAS EROSA	CEL									
CRYPTOMONAS MARSSONII	CEL	12	13.4	1265						
CRYPTOMONAS REFLEXA	CEL			76						
CYMATOPLEURA	CEL			X						
CACTYLCCCCOPSIS	CEL									
CACTYLCCCCOPSIS IRREGULARIS	CEL			25						
CICLYOSPFAERIUM	COL									
CINCBBRYCN CYLINDRICUM	CEL			X						
ELAKATOTHRIX GELATINOSA	CEL									
EUGLENA	CEL		0.5	51						
EUGLENA #2	CEL			X						
EUGLENA #3	CEL									
EUGLENA #4	CEL									

ATCHAFALAYA

STORE NUMBER: 6001000

CONTINUED

01 22 74

11 20 74

06 12 75

ATCHAFALAYA
STORET NUMBER: G001000

CONTINUED

TAXA	FORM	01 22 74			11 20 74			06 12 75		
		IS	%C	ALGAL UNITS PER ML	IS	%C	ALGAL UNITS PER ML	IS	%C	ALGAL UNITS PER ML
SCENEDESmus QUACRICAUDA	COL							0.9		102
SKELETNEMA POTAMOS	CEL				4	1.9	183		0.9	102
SPERMATOZOOPSIS EXULTANS	CEL							2.7		307
SYNEDRA	CEL							0.5		51
SYNLRA UVELLA	CEL	3	15.8	1493						
TETRAEDRCN CAUDATUM	CEL							0.5		51
TETRAEDRCN MUTICUM	CEL			X						
TETRAEDRON REGULARE ?	CEL									
V. INCUS	CEL							0.9		102
TETRASTRUM GLABRUM	COL									X
TETRASTRUM HETERACANTHUM	COL			X						
TRACHELCMONAS	CEL						X			
TRACHELCMONAS ABRUPTA	CEL				0.6		61			
TRACHELCMONAS HISPIDA	CEL			X					0.5	51
V. PUNCTATA	CEL									
TRACHELCMONAS INTERMEDIA	CEL			0.6			61			
TRACHELCMONAS OBLONGA	CEL			X						
TOTAL					9462		9772		11260	

ATCHAFALAYA
STCRET NUMBER: GC02000

NYGAARD TROPHIC STATE INDICES

DATE 01 22 75 06 12 75

MYXOPHYCEAN	0/0	0	4.00	E
CHLOROPHYCEAN	03/0	E	15.0	E
EUGLENOPHYTE	1.00	E	0.53	E
DIATOM	01/0	E	1.00	E
COMPCUND	07/0	E	32.0	E

PALMER'S ORGANIC POLLUTION INDICES

DATE 01 22 75 06 12 75

GENUS	04	10
SPECIES	00	00

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE 01 22 75 06 12 75

AVERAGE DIVERSITY	H	1.73	2.63
NUMBER OF TAXA	S	22.00	48.00
NUMBER OF SAMPLES COMPOSITED	M	1.00	1.00
MAXIMUM DIVERSITY	MAXH	4.46	5.58
TOTAL DIVERSITY	D	24963.90	7840.03
TOTAL NUMBER OF INDIVIDUALS/ML	N	14430.00	2981.00
EVENNESS COMPCNENT	J	0.39	0.47
MEAN NUMBER OF INDIVIDUALS/TAXA	L	655.91	62.10
NUMBER/ML OF MOST ABUNDANT TAXON	K	7854.00	922.00

ATCHAFALAYA
STC RET NUMBER: G002000

CONTINUED

01 22 75

06 12 75

TAXA

ACTINASTRUM HANTZSCHII
 V. FLUVIATILE
 ANKISTREDESUS ?
 ANKISTFDESUS FALCATUS
 ANKISTFDESUS FALCATUS
 V. MIRABILIS
 CARTERIA
 CHLAMYDOMONAS
 CHLOROGNIMUM MINIMUM
 CHROOCOCCUS
 CHROMonas
 CLCSTERIUM
 COCCONEIS
 CGELASTRUM SPHAERICUM
 CRYPTOMCNAS EROSA
 CRYPTOMCNAS MARSSONII
 CRYPTOMCNAS REFLEXA
 CRYPTOMCNAS SPP.
 CYCLCTELLA PENERGINIANA
 DINOBRYCN
 EUGLENA
 EUGLENA TRIPTERIS
 FLAGELLATE #1
 FLAGELLATES
 GLENODINTIUM CCULATUM
 LEPOCINCLIS
 LUNATE CELL
 MELOSIRA DISTANS
 PERISMCPEDIA TENUISSIMA
 NITZSCHIA
 COCYSTIS
 OSCILLATORIA #1

FORM	ALGAL UNITS PER ML			ALGAL UNITS PER ML		
	S	%		S	%	
CEL						X
CEL				5	9.3	277
CEL						X
CEL	0.2		31			
CEL	15	1.5	218		3.1	92
CEL	14	3.5	499		2.0	61
CEL			X			
COL						X
CEL	12	54.4	7854			
CEL						X
CEL						X
COL						X
CEL			X			X
CEL			X			X
CEL			X			X
CEL	1	28.3	4083	1	30.9	922
CEL				3	19.6	584
CEL						X
CEL						X
CEL	0.2		31		1.0	31
CEL						X
CEL						X
CEL				2	24.8	738
CEL			X			
CEL			X			
CEL	0.7		94			
CEL						X
COL						X
CEL					2.0	61
CEL						X
FIL	1					X

ATCHAFALAYA
STORET NUMBER: G002000

CONTINUED

01 22 75

06 12 75

TAXA	FORM	ALGAL UNITS PER ML			ALGAL UNITS PER ML		
		S	%C		S	%C	
CSCILLATORIA ANGUSTA	FIL						X
PANDORINA MORUM	COL						X
PEDIASTRUM TETRAS							
V. TETRAODON	COL						X
PENNATE	CEL				3.1	92	
PHACUS #1	CEL						X
PHACUS GLABER	CEL						X
PHACUS LONGICAUDA	CEL						X
PTEROMONAS ?	CEL						X
PTEROMONAS ANGULOSA	CEL			X			X
SCENEDESMUS ABUNDANS	COL						X
SCENEDESMUS BICALDATUS	COL						X
SCENEDESMUS DIMORPHUS	COL			X			X
SCENEDESMUS ECORNIS							
V. DISCIIFORMIS	COL						X
SCENEDESMUS PROTUBERANS	COL						X
SCHREDERIA SETIGERA	CEL						X
SKELETONEMA POTAMOS	CEL	0.4	62				X
SYNURA #1	CEL			X			
SYNURA SPP.	CEL	3	10.6	1527			
SYNURA UVELLA	CEL			X			
TETRAECRIN CAUDATUM	CEL						X
TETRAECRIN REGULARE	CEL			X			
TETRAECRIN TUNICULUM	CEL				1.0	31	
THCRACKMONAS ? FELDMANII	CEL			X			
TRACHELMONAS #1	CEL						X
TRACHELMONAS #2	CEL						X
TRACHELMONAS #3	CEL						X
TRACHELMONAS INTERMEDIA	CEL	0.2	31		3.1	92	
TRACHELMONAS SPP.	CEL						X
TRACHELMONAS VELVACCINA	CEL						X
TREUBARIA	CEL						X

TOTAL

14430

2981

151

ATCHAFALAYA
SECRET NUMBER: C003000

NYGAARD TROPHIC STATE INDICES

	DATE	01	21	75	04	15	75	06	12	75
MYXOPHYCEAN		0/0	C		3.00	E		06/0	E	
CHLOROPHYCEAN		02/0	E		11.0	E		12/0	E	
EUGLENOPHYTE		0.50	E		0.79	E		0.44	E	
DIATOM		0/0	?		0.50	E		1.25	E	
COMPOUND		03/0	E		28.0	E		31/0	E	

PALMER'S ORGANIC POLLUTION INDICES

	DATE	01	21	75	04	15	75	06	12	75
GENUS				00			08			14
SPECIES				00			03			00

SPECIES DIVERSITY AND ABUNDANCE INDICES

	DATE	01	21	75	04	15	75	06	12	75
AVERAGE DIVERSITY	H		0.68		3.27		4.34			
NUMBER OF TAXA	S		6.00		43.00		45.00			
NUMBER OF SAMPLES COMPOSITED	M		1.00		1.00		1.00			
MAXIMUM DIVERSITY	MAXH		2.58		5.43		5.49			
TOTAL DIVERSITY	C	295.80		5516.49		13605.90				
TOTAL NUMBER OF INDIVIDUALS/ML	N	435.00		1687.00		3135.00				
EVENNESS COMPONENT	J	0.26		0.60		0.79				
MEAN NUMBER OF INDIVIDUALS/TAXA	L	72.50		39.23		69.67				
NUMBER/ML OF MOST ABUNDANT TAXON	K	392.00		628.00		420.00				

ATCHAFALAYA
STC RET NUMBER: GC0300

CONTINUED

TAXA	FORM	01 21 75			04 15 75			06 12 75		
		S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML
ACTINASTRUM	CEL							15	5.7	180
ACTINASTRUM HANTZSCHII										
V. FLUVIATILE	CEL						X			
ANABAENA	FIL						X			
ANABAENA PLANCTONICA	FIL									X
ANKISTRODESMUS	CEL		2.1	9						
ANKISTRODESMUS FALCATUS	CEL						X	1.4		45
ANKISTRODESMUS FALCATUS	CEL									
V. MIRABILIS	CEL					8.6	145			
CARTERIA	CEL							1.0		30
CENTRIC DIATOM	CEL						X			
CERATIUM HIRUNDINELLA	CEL									
F. BRACHYCERAS	CEL									X
CHLAMYDOMONAS	CEL					2.8	48			
CHLAMYDOMONAS GLCBOGA	CEL						X			
CHLAMYDOMONAS SPP.	CEL									
CHLOROPHYTAN COLCNY	COL					4.3	72			
CLCSTERIUM	CEL						X			
COCCONEIS PLACENTULA	CEL						X			
COELASTRUM CAMBRICUM	COL									
V. INTERMEDIUM	COL							1.9		60
COELASTRUM MICROPORUM	COL									
CRUCIGENIA	COL								0.5	15
CRUCIGENIA TETRAPEDIA	CGL						X			
CRYPTOMONAS REFLEXA	CEL									
CRYPTOMONAS SPP.	CEL					1137.2	628	1	9.6	300
CYCLOTELLA	CEL								0.5	15
CYCLOTELLA MENENCHINIANA	CEL									
DICTYOSPHAERIUM EHRENBERGIANUM	COL									
ELAKATOTRIX	CEL									
EUGLENA	CEL	12	3.0	13			X			
EUGLENA #1	CEL	1		4.3			72			

ATCHAFALAYA
STORET NUMBER: 6003000

CONTINUED

01 21 75 04 15 75 06 12 75

TAXA	FORM	ALGAL UNITS PER ML			ALGAL UNITS PER ML			ALGAL UNITS PER ML		
		S	%C	S	%C	S	%C	S	%C	S
EUGLENA #2	CEL									X
EUGLENA ACUS	CEL					1.4	24			
EUGLENA CXYURIS	CEL						X			
EUGLENA SPP.	CEL									
FLAGELLATE #1	CEL					4.3	72	2	4.8	150
FLAGELLATE #2	CEL							1.9	60	
FLAGELLATES	CEL	1	90.1	392				4.8	150	
GLENKINIA	CEL							0.5	15	
GCPHONEMA	CEL						X			
GCPHONEMA ACUMINATUM	CEL							0.5	15	
V. TRIGONOCEPHALA	CEL									
GYPNODINIUM ALBULUM	CEL									
GYMNODIALUM ORDINATUM	CEL					1.4	24			
KIRCHNERIELLA	CEL									
LAGERHEIMIA	CEL					8.6	145	1.0	30	
LEFOCIKLIS	CEL								X	
LEFOCIKLIS FUSIFORMIS ?	CEL					1.4	24			
LEFOCIKLIS GLABRA	CEL						X			
F. MINCA	CEL							4.8	150	
LYRBYA	FIL							10.0	315	
MALLCMENAS	CEL							1.9	00060	
MELOSIRA	CEL									
MELOSIRA DISTANS	CEL			2	11.4	193		4.8	150	
MELOSIRA GRANULATA	CEL								X	
MELOSIRA GRANULATA V. ANGLISSIMA F. SPIRALIS	CEL									
MELOSIRA VARIANS	CEL						X			
MERISMOPEDIA MINIMA	COL									
MERISMOPEDIA TENUISSIMA	CGL							5.3	165	
MESOSTIGMA VIRIDIS	CEL									
NAVICULA	CEL					1.4	24			
NITZSCHIA	CEL						X			

ATCHAFALAYA
STORET NUMBER: 6003000

CONTINUED

TAXA	FORM	01 21 75			04 15 75			06 12 75		
		IS	%C	ALGAL UNITS PER ML	IS	%C	ALGAL UNITS PER ML	IS	%C	ALGAL UNITS PER ML
NITZSCHIA #1	CEL									
NITZSCHIA ACICULARIS	CEL									X
NITZSCHIA FILIFERMIS	CEL									X
NITZSCHIA SPP.	CEL									
COCYSTIS	CEL									
OPHIODCYTIUM CAPITATUM	CEL									
V. LONGISPINUM	FIL									
CSCILLATERIA	FIL									
OSCILLATORIA LIMNETICA	CEL									
PENNATE	CEL									
PENNATES	CEL	5	3.0	13						
PERIDINIUM UMBONATUM	CEL									
PHACUS	CEL									
PHACUS ACUMINATUS	CEL									
PHACUS FELIKOIDES	CEL									
PHACUS LUNGICAUCA	CEL									
PHACUS MEGALOPSIS	CEL									
PLANCTONEMA ?	FIL									
PTEROMORAS ANGULCSA	CEL	3	0.9	4						
PTEROMORAS CRUCIATA	CEL									
RAPHIDIOPSIS	FIL									
RAPHIDIOPSIS CURVATA	FIL									
SCENEDESMUS	COL	4	0.9	4						
SCENEDESMUS ABUNCANS	CCL									
SCENEDESMUS BICAUDATUS	COL									
SCENEDESMUS BIJUGA	COL									
SCENEDESMUS DIMORPHUS	COL									
SCENEDESMUS INTERMEDIUS	COL									
SCENEDESMUS INTERMEDIUS	COL									
V. BICALCATUS	COL									
SCENEDESMUS QUADRICAUDA	COL									
SKELETONEMA POTAMCS	CEL									

ATCHAFALAYA
STORET NUMBER: G003000

CONTINUED

TAXA	FORM	01 21 75			04 15 75			06 12 75		
		IS	%C	ALGAL UNITS PER ML	IS	%C	ALGAL UNITS PER ML	IS	%C	ALGAL UNITS PER ML
SPERMATOZOOPSIS	CEL							0.5	15	
STEPHANODISCUS	CEL							6.7	210	
SYNEDRA	CEL						X			X
TETRAEDRON	CEL						X			
TETRAEDRON MINIMUM	CEL									X
TETRAEDRON REGULARE	CEL									
V. GRANULATA	CEL							1.0	30	
TETRAEDRON TRIGONUM ?	CEL						X			
TETRAEDRON TRIGONUM	CEL									
V. GRACILE	CEL									
TETRASTRUM GLABRUM	COL									
TETRASTRUM STAUROGENIAEFCRME	COL				2.8		48			
TRACHELMONAS #1	CEL									
TRACHELMONAS #2	CEL									X
TRACHELMONAS GIBBERCSA	CEL				15	1.4	24			
TRACHELMONAS HISPICA	CEL				31	4.3	72			X
TRACHELMONAS LONGICAUDA	CEL									X
TRACHELMONAS SPP.	CEL							13	5.7	180
TRACHELMONAS VELVCCINA	CEL									
TREUBARIA	CEL									
ULCIMIX	FIL				1.4		24			
TOTAL				435			1687		3135	

ATCHAFALAYA
STCRET NUMBER: G003000

CONTINUED

NYGAARD TROPHIC STATE INDICES

DATE 12 12 75

MYXOPHYCEAN	2.00	E
CHLOROPHYCEAN	12.0	E
EUGLENOPHYTE	0.36	E
DIATOM	2.50	E
COMPCUND	24.0	E

PALMER'S ORGANIC POLLUTION INDICES

DATE 12 12 75

GENUS	15
SPECIES	03

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE 12 12 75

AVERAGE DIVERSITY	H	3.06
NUMBER CF TAXA	S	40.00
NUMBER OF SAMPLES COMPOSITED	M	1.00
MAXIMUM DIVERSITY MAXH		5.32
TOTAL DIVERSITY	D	49914.72
TOTAL NUMBER OF INDIVIDUALS/ML	N	16312.00
EVENNESS CCMPCNENT	J	0.58
MEAN NUMBER OF INDIVIDUALS/TAXA	L	407.80
NUMBER/ML CF MOST ABUNCANT TAXON	K	5034.00

ATCHAFALAYA
STORET NUMBER: G003000

CONTINUED

12 12 75

TAXA	FORM	IS	ZC	ALGAL UNITS PER ML
ACTINASTRUM	CEL			
ACTINASTRUM HANTZSCHII	CEL			
V. FLUVIATILE	FIL			
ANABAENA	FIL			
ANABAENA PLANCTONICA	FIL			
ANKISTRODESMUS	CEL			
ANKISTRODESMUS FALCATUS	CEL	3	13.8	2255
ANKISTRODESMUS FALCATUS V. MIRABILIS	CEL			
CARTERIA	CEL			X
CENTRIC DIATOM	CEL			
CERATIUM HIRUNDINELLA	CEL			
F. BRACHYCERAS	CEL			
CHLAMYDCMONAS	CEL			
CHLAMYCCMONAS GLCBOZA	CEL			
CHLAMYDCMONAS SPP.	CEL		1.7	282
CHLOROPHYTAN COLCNY	COL			
CLCSTERICM	CEL			X
COCCONEIS PLACENTULA	CEL			
COELASTRUM CAMBRICUM V. INTERMEDIUM	COL			
COELASTRUM MICROPORUM	COL			X
CRUCIGENIA	COL			
CRUCIGENIA TETRAPEDIA	COL		0.5	81
CRYPTOMCNAS REFLEXA	CEL			X
CRYPTOMCNAS SPP.	CEL	4	4.4	725
CYCLOTELLA	CEL			
CYCLCTELLA PENERGHINIANA	CEL		2.0	322
DICTYOSPHAERIUM EHRENBURGIANUM	COL		0.5	81
ELAKATCTRIX	CEL			X
EUGLENA	CEL			X
EUGLENA #1	CEL			

ATCHAFALAYA
STORY NUMBER: 6003000

CONTINUED

12 12 75

TAXA	FORM	IS	%C	ALGAL UNITS PER ML
EUGLENA #2	CEL			
EUGLENA ACUS	CEL			
EUGLENA CYTURIS	CEL			
EUGLENA SPP.	CEL			
FLAGELLATE #1	CEL			
FLAGELLATE #2	CEL			X
FLAGELLATES	CEL			
GLENKINIA	CEL	2	25.2	4108
GOMPHONEMA	CEL			
GOMPHONEMA ACUMINATUM	CEL			
V. TRICNOCEPHALA	CEL			
GYMNOCLIDIUM ALBULUM	CEL			
GYMNOCLIDIUM ORDINATUM	CEL		1.5	242
KIRCHNERIELLA	CEL			
LAGERHEIMIA	CEL			
LEFCCINCLIS	CEL			
LEPOCINCLIS FUSIFORMIS ?	CEL			
LEFCCINCLIS GLABRA	CEL			
F. MINCF.	CEL			
LYNGBYA	FIL			
MALLCMNAS	CEL			
MELOSIRA	CEL			
MELOSIRA DISTANS	CEL		1.5	242
MELOSIRA GRANULATA	CEL	15	5.4	886
MELOSIRA GRANULATA	CEL			
V. ANCLISSIMA F. SPIRALIS	CEL			X
MELOSIRA VARIANS	CEL			
MERISMOPEDIA MINIMA	CCL		0.5	81
MERISMOPEDIA TENUISSIMA	COL			
MESOSTIGMA VIRICIS	CEL		0.2	40
NAVICULA	CEL			
NITZSCHIA	CEL			

ATCHAFALAYA
STC RET NUMBER: GC03000

CONTINUED

12 12 75

TAXA	FORM	IS	%C	ALGAL UNITS PER ML
NITZSCHIA #1	CEL			X
NITZSCHIA ACICULARIS	CEL			X
NITZSCHIA FILIFORMIS	CEL			
NITZSCHIA SPP.	CEL	1	30.9	5034
OCCYSTIS	CEL			
CPHICCYTIUM CAPITATUM	CEL			
V. LONGISPINUM				
CSCILLATORIA	FIL			X
OSCILLATORIA LIMNETICA	FIL			
PENNATE	CEL			
PENNATES	CEL			
PERIDINIUM UMBONATUM	CEL			
PHACUS	CEL			X
PHACUS ACUMINATUS	CEL			
PHACUS FELIKOIDES	CEL			
PHACUS LONGICAUDA	CEL			
PHACUS MEGALOPSIS	CEL			X
PLANCTONEMA ?	FIL		0.5	81
PTEROMONAS ANGULOSA	CEL			X
PTEROMONAS CRUCIATA	CEL			X
RAPHIDIOPSIS	FIL			
RAPHIDIOPSIS CURVATA	FIL			
SCENEDESmus	COL			
SCENEDESmus ABUNDANS	CCL		0.2	40
SCENEDESmus BICAUDATUS	COL			
SCENEDESmus BIJUGA	COL			
SCENEDESmus DIMORPHUS	COL		1.7	282
SCENEDESmus INTERMEDIUS	COL		0.7	121
SCENEDESmus INTERMEDIUS V. BICALCATUS	COL		0.7	121
SCENEDESmus QUADRICAUDA	CCL			
SKELETONEMA POTAMOS	CEL		4.7	765

ATCHAFALAYA
STORE NUMBER: 6003000

CONTINUED

12 12 75

TAXA	FORM	ALGAL UNITS PER ML		
		S	%C	
SPERMATOZOOPSES	CEL	0.2	40	
STEPHANOCISCUS	CEL			
SYNEDRA	CEL			
TETRAECRDN	CEL			
TETRAEDRCN MINIMUM	CEL			
TETRAEDRCN REGULARE	CEL			
V. GRANULATA	CEL			
TETRAECRDN TRIGONUM ?	CEL			
TETRAECRDN TRIGONUM V. GRACILE	CEL			X
TETRASTRUM GLABRUM	COL	1.7	282	
TETRASTRUM STAURGENIAEFORME	COL			
TRACHELCMCNAS #1	CEL	1.0	161	
TRACHELCMCNAS #2	CEL			
TRACHELCMCNAS GIBBEROSA	CEL			
TRACHELCMCNAS HISPICA	CEL			
TRACHELCMONAS LONGICAUDA	CEL			
TRACHELCMCNAS SPP.	CEL			
TRACHELCMONAS VOLVOCINA	CEL	0.2	40	
TREUBARIA	CEL			X
ULCTHR IX	FIL			
TOTAL			16312	

ATCHAFALAYA
STCRET NUMBER: GC04000

NYGAARD TROPHIC STATE INDICES

DATE	11	20	74	12	18	74	12	11	75
MYXOPHYCEAN	2.00	E	6.00	E	5.00	E			
CHLOROPHYCEAN	3.00	E	4.00	E	13.0	E			
EUGLENOPHYTE	0.40	E	0.90	E	0.61	E			
DIATOM	1.75	E	1.25	E	0.50	E			
COMPCUND	14.0	E	24.0	E	33.0	E			

PALMER'S ORGANIC POLLUTION INDICES

DATE	11	20	74	12	18	74	12	11	75
GENUS	00			15			12		
SPECIES	00			00			10		

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE	11	20	74	12	18	74	12	11	75
AVERAGE DIVERSITY	H	1.22		3.11		2.75			
NUMBER OF TAXA	S	23.00		38.00		50.00			
NUMBER OF SAMPLES COMPOSITED	M	1.00		1.00		1.00			
MAXIMUM DIVERSITY	MAXH	4.52		5.25		5.64			
TOTAL DIVERSITY	D	1775.10		34253.54		34938.75			
TOTAL NUMBER OF INDIVIDUALS/ML	N	1455.00		11014.00		12705.00			
EVENNESS COMPONENT	J	0.27		0.59		0.49			
MEAN NUMBER OF INDIVIDUALS/TAXA	L	63.26		289.84		254.10			
NUMBER/ML OF MOST ABUNDANT TAXON	K	1141.00		3004.00		5789.00			

ATCHAFALAYA
STORET NUMBER: G004000

CONTINUED

TAXA	FORM	11 20 74			12 18 74			12 11 75		
		S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML
ANKISTRODESMUS ?	CEL			X	4	8.4	921			
ANKISTRODESMUS FALCATUS	CEL									X
ANKISTRODESMUS FALCATUS	CEL									
V. MIRABILIS	FIL					0.4	40	2	16.6	2110
APHANIZOMENA FLOS-AQUAE	CCL									
APHANOCAPSA DELICATISSIMA ?	CEL				3	11.3	1242			X
CENTRIC DIATOM	CEL	4	5.4	79						
CENTRIC DIATOMS	CEL				2	26.2	2884	3	9.3	1177
CHROOMCNAS	CEL						X			X
CLUSTERIUM	CEL									X
COCCONEIS	CEL									X
COCCONEIS #1	CEL									X
COCCONEIS PLACENTULA	CEL									
V. LINEATA	CEL									
COELASTRUM MICROPORUM	COL									
COSCINODISCUS LACUSTRIS	CEL									X
COSMARIUM	CEL									
CRUCIGENIA TETRAPEDIA	COL									
CRYPTOMCNAS EROSA	CEL									
CRYPTOMCNAS REFLEXA	CEL	2	2.7	39		2.5	280	4	7.3	932
CYANOPHYTA FILAMENT	FIL					X	X			X
CYCLOTELLA MENEGHINIARA	CEL									
CYST	CEL									
DACTYLOCOCOPSIS	CEL									
DACTYLOCOCOPSIS ?	CEL									
DACTYLOCOCOPSIS IRREGULARIS	CEL				39	5.8	X			
DICTYOSPHAERIUM PULCHELLUM	COL						641			
EUGLENA	CEL									
EUGLENA #1	CEL									X
EUGLENA #2	CEL									X
EUGLENA #3	CEL									X
EUGLENA ACUS	CEL						X			X

ATCHAFALAYA
STCRET NUMBER: GC04000

CONTINUED

TAXA	FORM	11 20 74			12 18 74			12 11 75		
		S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML
EUGLENA GRACILIS	CEL						X			X
EUGLENA CYTURIS	CEL						X			X
EUGLENA SUBEHRENBURGII ?	CEL									X
FLAGELLATE	CEL				5	4.0	441		1.2	147
FLAGELLATES	CEL	178.4	1141							
GLENODIUM OCULATUM	CEL						X			
GOMPHONEMA	CEL			X						
GYMNOCLIDINUM ALBULUM	CEL				0.4		40			
HANTZSCHIA	CEL			X						
LEPOCINCLIS ACUTA ?	CEL						X			
LUNATE CCLENY	COL									X
MALLOMCNAS CAUDATA	CEL									X
MELOSIRA DISTANS	CEL			X	2.5		280		5.4	687
MELOSIRA GRANULATA	CEL			X					0.4	49
MELOSIRA GRANULATA V. ANGLTISSIMA F. SPIRALIS	CEL			X						
MELOSIRA ITALICA ?	CEL				3.3		361			
MERISMOPEDIA TENUISSIMA	COL				1.1		120		0.4	49
MESOSTIGMA VIRICIS	CEL								0.4	49
MICROCYSTIS	COL									X
MICROCYSTIS AERUGINOSA	COL						X			
MICRCCYSTIS INCERTA	COL				0.4		40			
NITZSCHIA	CEL				0.7		80			
NITZSCHIA #1	CEL									X
NITZSCHIA #2	CEL									X
NITZSCHIA #3	CEL						X		1.5	196
NITZSCHIA TRYBLICNELLIA	CEL						X			
OSCILLATORIA	FIL									X
CSCILLATORIA LIMNETICA	FIL				1.1		120			
PECIASTRUM TETRAS	COL									X
PENNATE	CEL							1	45.6	5789
PENNATES	CEL	5	8.1	118	11	27.3	3004			

ATCHAFALAYA
STORET NUMBER: GC04000

CONTINUED

TAXA	FORM	11 20 74			12 18 74			12 11 75		
		IS	%C	ALGAL UNITS PER ML	IS	%C	ALGAL UNITS PER ML	IS	%C	ALGAL UNITS PER ML
PERIDIUM UMBONATUM	CEL		3	2.7	39					1
PHACLS CURVICAUCA	CEL						X			X
PHACUS ORBICULARIS	CEL						X			
PHACUS PSEUDONORDSTEDTII	CEL						X			
PHACUS TORTUS	CEL				X					
RHCPALOCIA GIBBA	CEL									X
SCENEDESMUS APICULATUS	COL									X
SCENEDESMUS APICULATUS ?	COL									X
SCENEDESMUS BIJUGA	COL						0.7		0.8	98
SCENEDESMUS DIMORPHUS	COL						80		C.8	98
SCENEDESMUS INTERMEDIUS	COL								1.2	147
V. BICALCATUS	COL									
SCENEDESMUS PROTUBERANS	COL			X					0.8	98
SCENEDESMUS QUADRICAUDA	COL									X
SKELETOMA POTAMCS	CEL				0.7		80		0.8	98
STEPHANODISCUS	CEL			X					1.5	196
STEPHANODISCUS NIAGARAE	CEL				2.5		280			
SURIRELLA #1	CEL									X
SYNECRA	CEL									
SYNECRA ULNA	CEL						X		C.8	98
SYNURA UVELLA	CEL						X			
TETRAECRUM TRIGRUM	CEL									X
V. GRACILE	CEL									
TETRASTRUM GLABRUM	COL			X			X		1.2	147
TETRASTRUM STAURGENIAEFORME	COL									
TRACHELMONAS FLUVIATILIS	CEL									X
TRACHELMONAS INTERMEDIA	CEL				0.4		40		1.5	196
TRACHELMONAS LACISTRIS	CEL						X			
TOTAL					1455			11014		12705

ATCHAFALAYA
STORET NUMBER: HC080C0

NYGAARD TROPHIC STATE INDICES

	DATE	11	22	74	12	10	74	01	17	75
MYXOPHYCEAN		3.00	E		4.00	E		05/0	E	
CHLOROPHYCEAN		7.00	E		6.00	E		05/0	E	
EUGLENOPHYTE		0.20	?		0.10	?		0.10	?	
DIATOM		1.00	E		0.67	E		0.89	E	
COPPCUND		15.0	E		17.0	E		19/0	E	

PALMER'S ORGANIC POLLUTION INDICES

	DATE	11	22	74	12	10	74	01	17	75
--	------	----	----	----	----	----	----	----	----	----

GENUS		05		09		10			
SPECIES		00		04		00			

SPECIES DIVERSITY AND ABUNDANCE INDICES

	DATE	11	22	74	12	10	74	01	17	75
--	------	----	----	----	----	----	----	----	----	----

AVERAGE DIVERSITY	H	2.84		2.49		3.43			
NUMBER OF TAXA	S	24.00		31.00		32.00			
NUMBER OF SAMPLES COMPOSITED	M	1.00		1.00		1.00			
MAXIMUM DIVERSITY	MAXH	4.58		4.95		5.00			
TOTAL DIVERSITY	D	1207.00		1869.99		18950.75			
TOTAL NUMBER OF INDIVIDUALS/ML	N	425.00		751.00		5525.00			
EVENNESS COMPONENT	J	0.62		0.50		0.69			
MEAN NUMBER OF INDIVIDUALS/TAXA	L	17.71		24.23		172.66			
NUMBER/ML CF MOST ABUNDANT TAXA	K	113.00		278.00		1519.00			

ATCHAFALAYA
STORE NUMBER: H008000

CONTINUED

11 22 74

12 10 74

01 17 75

TAXA	FORM	ALGAL UNITS PER ML		ALGAL UNITS PER ML		ALGAL UNITS PER ML	
		S	%C	S	%C	S	%C
ACTINASTRUM HANTZSCHII	CEL			X		X	
V. FLUVIALE	FIL						
ANABAENA							
ANKISTRODESMUS FALCATUS	CEL			X			
V. MIRABILIS	FIL					X	
APHANIZOMENON FLOS-AQUAE							X
ASTERIONELLA FORMOSA	CEL						
CHLAMYDOMONAS	CEL						
CHROOMONAS	CEL	6.6		28	3	18.5	
CHROMONAS SPP.	CEL					139	
CLOSTERIUM	CEL			X			
COCCONEIS	CEL					X	
COCCONEIS PLACENTULA	CEL					X	
V. SUBSALSA							
CRUCIGENIA APICULATA	CEL						X
CRUCIGENIA FENESTRATA	COL						
CRYPTOMONAS EROSA	COL						
CRYPTOMONAS MARSSCII	CEL	5	6.6	28			
CRYPTOMONAS REFLEXA	CEL					X	
CRYPTOMONAS SPP.	CEL						
CYCLCTELLA	CEL						
CYCLOTELLA MENENGHINIANA	CEL						
CYMATOPLEURA	CEL					X	
CYMBELLA	CEL						
CACTYLOCOPPSIS	CEL						
CACTYLOCOPPSIS IRREGULARIS	CEL	3	26.6	113			
DIFLONEIS INTERRUPTA ?	CEL					3.7	
DIFLONEIS PUELLA	CEL					28	
EPITHEMIA	CEL						
EPITHEMIA ?	CEL						
EUGLENA	CEL			X			

ATCHAFALAYA
STORE NUMBER: H008000

CONTINUED

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ATCHAFALAYA
STORET NUMBER: HC080CO

CONTINUED

11 22 74

12 10 74

01 17 75

TAXA	FORM	ALGAL UNITS PER ML		ALGAL UNITS PER ML		ALGAL UNITS PER ML	
		S	ZC	S	ZC	S	ZC
NITZSCHIA spp.	CEL						
OOCYSTIS	CEL	2	13.4	57		X	
OOCYSTIS PUSILLA	CEL			X			
OSCILLATORIA	FIL					X	
OSCILLATORIA LIMNETICA	FIL		13.4	57	137.0	278	
PALMELLID COLONY	COL						
PEDIASTRUM DUPLEX	COL						
PEDIASTRUM DUPLEX							
V. CLATHRATUM	COL			X			
PEDIASTRUM SIMPLEX	COL					X	
PERICINUM UMBONATUM	CEL			X			
PHACUS CURVICAUDA	CEL			X			
PHCRMIDIUM	FIL						
PINNULARIA ?	CEL					X	
PINNULARIA GIBBA	CEL						
PTEROMONAS	CEL						
RAPHIDIOPSIS	FIL						
SCENEDESMUS ABUNDANS	COL						
SCENEDESMUS BICAUDATUS	COL						
SCENEDESMUS BIJUGA	COL		6.6	28			
SCENEDESMUS DENTICLATUS	COL					X	
SCENEDESMUS DIMORPHUS	COL			X			
SCENEDESMUS PROTUBERANS	COL					X	
SCENEDESMUS QUADRICAUDA	COL			X	11.1	83	0.8
SCHROEDERIA SETIGERA	CEL						
SKELETONEMA POTAMOS	CEL	4	13.4	57	18.5	139	5
STEPHANOGLISCUS	CEL					9.2	506
STEPHANOGLISCUS ASTREA	CEL	1	13.4	57		0.8	42
STEPHANOGLISCUS NIAGARAE	CEL			15	3.7	28	
SURIRELLA	CEL			X		X	
SYNECRA ULNA	CEL						
SYNEDRA ULNA	CEL						
V. OXYRHYNCHUS	CEL					X	

ATCHAFALAYA
STCRET NUMBER: H008000

CONTINUED

TAXA	FORM	11 22 74			12 10 74			01 17 75		
		IS	%C	ALGAL UNITS PER ML	IS	%C	ALGAL UNITS PER ML	IS	%C	ALGAL UNITS PER ML
SYNURA ?	CEL									
TETRAEDRON MINIMUM	CEL									
TETRASTRUM ELEGANS	COL									
TETRASTRUM STAUROGENIAEFORME	COL									
TRACHELOMONAS INTERMEDIA	CEL									
TOTAL				425			751			5525
								0.8	X	42

ATCHAFALAYA
STORET NUMBER: H008000

CONTINUED

NYGAARD TROPHIC STATE INDICES

DATE 12 11 75

MYXOPHYCEAN	07/0 E
CHLOROPHYCEAN	16/0 E
EUGLENOPHYTE	0.09 ?
DIATOM	0.69 E
CHAMPION	34/0 E

PALMER'S ORGANIC POLLUTION INDICES

DATE 12 11 75

GENUS	24
SPECIES	07

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE 12 11 75

AVERAGE DIVERSITY	H	3.88
NUMBER OF TAXA	S	56.00
NUMBER OF SAMPLES COMPOSITED	M	1.00
MAXIMUM DIVERSITY	MAXH	5.81
TOTAL DIVERSITY	D	64450.68
TOTAL NUMBER OF INDIVIDUALS/ML	N	16611.00
EVENNESS COMPONENT	J	0.67
MEAN NUMBER OF INDIVIDUALS/TAXA	L	296.63
NUMBER/ML OF MOST ABUNDANT TAXON	K	2929.00

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ATCHAFALAYA
STORET NUMBER: H008000

CONTINUED

12 11 75

TAXA	FORM	S	%C	ALGAL UNITS PER ML
ACTINASTRUM HANTZSCHII	CEL			
V. FLUVIATILE	FIL			X
ANABAENA				
ANKISTRIDESMUS FALCATUS	CEL		2.9	481
V. MIRABILIS	FIL		0.8	131
APHANIZOMENON FLOS-AQUAE	CEL			X
ASTERIONELLA FORMOSA	CEL		2.1	350
CHLAMYDOMONAS	CEL			
CHROMONAS	CEL			
CHROCHONAS SPP.	CEL	1	17.6	2929
CLOSTERIUM	CEL			
CCCCNEIS	CEL			
COCCONEIS PLACENTULA	CEL		2.1	350
COSCINODISCUS ROTHII				
V. SUSALSA	CEL			X
CRUCIGENIA APICULATA	COL		0.3	44
CRUCIGENIA FENESTRATA	COL		2.1	350
CRYPTOPONAS EROSA	CEL			X
CRYPTOPONAS MARSSONII	CEL		0.8	131
CRYPTOPONAS REFLEXA	CEL			
CRYPTOPONAS SPP.	CEL	5	2.9	481
CYCLETELLA	CEL			
CYCLETELLA MENENCHINIANA	CEL		3.7	612
CYMATOPLEURA	CEL			X
CYMBELLA	CEL			X
CACTYLCOPSISS	CEL		8.2	1355
CACTYLCOPSISS IRREGULARIS	CEL			
DIFLNEIS INTERRUPTA ?	CEL			X
DIPLONEIS PUELLA	CEL			
EPITHEMIA	CEL			
EPITHEMIA ?	CEL			X
EUGLENA	CEL			

ATCHAFALAYA
STORET NUMBER: H008000

CONTINUED

12 11 75

TAXA	FORM	IS	%C	ALGAL UNITS PER ML
EUGLENA ACUS	CEL			X
EUCLENA GRACILIS	CEL			
FLAGELLATE #1	CEL			
FLAGELLATE #2	CEL			
GLOEOCYSTIS	COL			
GLOEOCYSTIS PLANCTONICA	COL			
GOMPHONEMA	CEL			
GOMPHONEMA CONSTRICTUM	CEL			X
GOMPHONEMA OLIVACEUM	CEL			
GYROSIGMA	CEL			X
KIRCHNERIELLA	CEL		0.3	44
MELCSIRA	CEL			
PELCSIRA DISTANS	CEL	12	13.2	2185
MELOSIRA GRANULATA	CEL		2.61	437
MELOSIRA GRANULATA V. ANGLTISSIMA	CEL			X
MELOSIRA GRANULATA V. ANGLTISSIMA F. SPIRALIS	CEL		0.5	87
MERISMOPEDIA	COL			
MERISMOPEDIA TENUISSIMA	COL		1.6	262
MICRACTINIUM	COL			
MICRCCYSTIS	COL			
MICRCCYSTIS INCERTA	COL		0.8	131
NAVICULA #1	CEL			
NAVICULA #2	CEL			
NAVICULA #3	CEL			
NAVICULA CINCTA	CEL			X
NAVICULA GASTRUM	CEL			
NAVICULA SPP.	CEL		3.21	525
NITZSCHIA	CEL			X
NITZSCHIA #2	CEL			X
NITZSCHIA LORENZIANA ?	CEL			X

ATCHAFALAYA
STORET NUMBER: HC08000

CONTINUED

12 11 75

TAXA	FORM	IS	%C	ALGAL UNITS PER ML
NITZSCHIA SPP.	CEL	14	16.3	2710
OOCYSTIS	CEL			X
OOCYSTIS PUSILLA	CEL			
CSCILLATORIA	FIL	3	9.7	1617
OSCILLATORIA LIMNETICA	FIL			
PALMELLCID COLONY	COL			X
PEDIASTRUM DUPLEX	COL			X
PEDIASTRUM DUPLEX V. CLATHRATUM	COL			
PEDIASTRUM SIMPLEX	COL			X
PERIDINIUM UMBONATUM	CEL			
PHACLS CURVICAUDA	CEL			
PHORMIDIUM	FIL			
PINNULARIA ?	CEL			
PINNULARIA GIBBA	CEL			X
PTEROMONAS	CEL		1.1	175
RAPHIDIOPSIS	FIL		2.6	437
SCENEDESMUS ABUNCANS	COL			X
SCENEDESMUS BICALCATUS	COL			X
SCENEDESMUS BIJUGA	CCL		1.1	175
SCENEDESMUS DENTICULATUS	COL			
SCENEDESMUS DIMORPHUS	COL		0.5	87
SCENEDESMUS PROTUBERANS	COL			
SCENEDESMUS QUADRICauda	COL		0.5	87
SCHROEDERIA SETIGERA	CEL			X
SKELETNCEMA POTAMOS	CEL		1.6	262
STEPHANODISCUS	CEL		0.3	44
STEPHANODISCUS ASTRaea	CEL			X
STEPHANODISCUS NIAGARAE	CEL			
SURIRELLA	CEL			
SYNEDRA ULNA	CEL			
SYNEDRA ULNA	CEL			
V. OXYRHYNCHUS	CEL			

ATCHAFALAYA
STORET NUMBER: H008000

CONTINUED

12 11 75

TAXA	FORM	ALGAL		-----
		IS	ZC	
SYNURA ?	CEL			X
TETRAECRON MINIMUM	CEL			X
TETRASTRUM ELEGANS	CCL		0.3	44
TETRASTRUM STAUREGENIAEFORME	COL		0.31	44
TRACHELOMNAS INTERMEDIA	CEL		0.31	44
TOTAL				16611

ATCHAFALAYA
STCRET NUMBER: H013000

NYGAARD TROPHIC STATE INDICES

	DATE	11	22	74	12	10	74	01	17	75
MYXOPHYCEAN		4.00	E		2.00	E		4.00	E	
CHLOROPHYCEAN		11.0	E		6.40	E		7.50	E	
EUGLENOPHYTE		0.18	?		0.12	?		0.09	?	
DIATOM		1.20	E		0.40	E		0.70	E	
COPPCUND		19.6	E		11.0	E		16.0	E	

PALMER'S ORGANIC POLLUTION INDICES

	DATE	11	22	74	12	10	74	01	17	75
GENUS					14			26		
SPECIES					07			07		

SPECIES DIVERSITY AND ABUNDANCE INDICES

	DATE	11	22	74	12	10	74	01	17	75
AVERAGE DIVERSITY	H		1.73			4.06			3.46	
NUMBER OF TAXA	S		72.00			94.00			38.00	
NUMBER OF SAMPLES COMPOSITED	M		1.00			1.00			1.00	
MAXIMUM DIVERSITY	MAXH		6.17			6.55			5.25	
TOTAL DIVERSITY	D	231122.81	194522.72			18334.54				
TOTAL NUMBER OF INDIVIDUALS/ML	N	133597.00	47912.00			5299.00				
EVENNESS COMPONENT	J	0.28		0.62			0.66			
MEAN NUMBER OF INDIVIDUALS/TAXA	L	1855.51		509.70			135.45			
NUMBER/ML OF MOST ABUNDANT TAXON	K	103507.00	10483.00				1635.00			

ATCHAFALAYA
STCRET NUMBER: H013000

CONTINUED

TAXA	FORM	11 22 74			12 10 74			01 17 75		
		S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML
ACTINASTRUM	COL					0.1	28			
ACTINASTRUM HANTZSCHII	CEL			X						
V. FLUVIATILE	CEL					0.1	28			
AMPHORA	FIL			X						
ANABAENA	FIL		0.4	570						
ANABAENOPSIS CIRCULARIS	FIL		0.2	285						
ANABAENOPSIS RACIBORSKII	CEL		0.3	428		1.3	609		1.0	52
ANKISTRODESMUS FALCATUS	CEL									
ANKISTRODESMUS FALCATUS	CEL									
V. MIRABILIS	CEL		1.3	1711		6.7	3209		1.0	53
APHANIZOMENON GRACILE ?	FIL		0.4	570						
APHANOTHECE NIDILLANS	CCL									
CARTERIA	CEL					0.2	111			
CENTRIC DIATOM	CEL	3	1.6	2139						
CHAETOCEROS ?	CEL		0.1	143						
CHAETOCEROS ELMCREI	CEL									
CHLAMYDOMNAS GLCBOUSA	CEL									
CHLORELLA	CEL									
CHLOROGCNM	CEL									
CHLOROGCNM ELONGATUM	CEL			X						
CHROMCMNAS #1	CEL		0.9	1141						
CHROMCMNAS #2	CEL	2	1.9	2566						
CLUSTERIUM	CEL		0.1	143		0.3	166			
COCCINEIS PLACENTULA	CEL					0.5	221			
COELASTRUM ?	COL									
CESMARIUM	CEL			X						
CRUCIGENIA FENESTRATA	COL					0.1	55			
CRUCIGENIA TETRAPEDIA	COL		0.1	143						
CRYPTOMCNAS	CEL									
CRYPTOMCNAS EROSA	CEL					1.4	664			
CRYPTOMCNAS MARSSONII	CEL					1.0	470			
CYANOPHYTAN FILAMENT	FIL	1	77.5	103507						

ATCHAFAHALAYA
STORET NUMBER: H013000

CONTINUED

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3

TAXA				11 22 74			12 10 74		01 17 75
	FORM	S	%C	ALGAL UNITS PER ML			ALGAL UNITS PER ML		ALGAL UNITS PER ML
CYCLOTELLA MENENGINIANA	CEL		0.4	570		1.6	774		4.0
CYMBELLA VENTRICOSA	CEL					0.1	55		
CACTYLOCOCOPSIS	CEL	4	5.5	7414		4.7	2240		1.5
DICTYOSPHAERIUM	COL					0.8	360		79
DICTYOSPHAERIUM PULCHELLUM	COL		0.5	713					X
DINFLAGELLATE CYST	CEL						X		
DIPLONEIS SMITHII	CEL						X		
EPITHEMIA TURGICA	CEL						X		
EUASTRUM	CEL					0.1	28		
EUGLENA	CEL				X				
EUGLENA #1	CEL						X		
EUGLENA #2	CEL						X		
EUGLENA ACUS	CEL						X		
EUGLENA SPP.	CEL					0.2	83		
EUNOTIA PECTINALIS	CEL								
V. MINOR	CEL						X		
FLAGELLATE #1	CEL					3	4287		
FLAGELLATE #2	CEL					1.5	719		
FLAGELLATE #5	CEL					0.1	28		
FRAGILARIA CONSTRUENS	CEL						X		
FRAGILARIA CONSTRUENS	CEL								
V. SUBSALINA	CEL						X		
GLENKINIA	CEL		0.5	713					
GLENKINIA RADIATA	CEL					0.3	166		
GOMPHONEMA ANGUSTATUM	CEL								
V. PRODUCTA	CEL						X		
GOMPHONEMA PARVULUM	CEL						X		
GOMPHONEMA SPP.	CEL					0.1	28		
GYMNODINIUM ORDINATUM	CEL		0.1	143				0.5	
GYRSIGMA MACRUM	CEL				X				26
KIRCHNERIELLA	CEL					1.7	830		
KIRCHNERIELLA LUNARIS	CEL						X		

ATCHAFAHALAYA
SECRET NUMBER: HC13CC0

CONTINUED

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ATCHAFALAYA
STORET NUMBER: H013000

CONTINUED

TAXA	FORM	11 22 74			12 10 74			01 17 75		
		S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML
PECIASTRUM BIRACIATUM	COL			X						
V. LGAGECORNUTUM	COL						X			
PEDIASTRUM DUPLEX	COL				0.2		83			
PECIASTRUM DUPLEX	CCL	0.1		143						X
V. CLATHRATUM	COL			X	0.1		28			
PEDIASTRUM DUPLEX	COL			X						X
V. RETICULATUM	COL			X						
PECIASTRUM SIMPLEX	COL			X						
PEDIASTRUM SIMPLEX	COL			X						
V. DUCDENARIUM	COL			X						
PEDIASTRUM TETRAS	COL			X						
PEDIASTRUM TETRAS	COL			X	0.1		28			X
V. TETRADON	CEL	0.4		570						
PENNATE #1	CEL	0.1		143						
PENNATE #2	CEL			X						
PENNATE #3	CEL			X						
PHACUS PYRUM	CEL			X						
PINNULARIA GENTILIS	CEL						X			
PTEROMENAS	CEL				0.1		55			
RAFHICICPSIS CURVATA	FIL	5	1.6	2139						
RHCPALOCIA GIBBA	CEL						X			
SCENEDESMUS ABUNCANS	COL		0.3	428		2.1		996		
SCENEDESMUS ACUMINATUS	COL		0.2	285						
SCENEDESMUS ACUTUS	COL						X			
SCENEDESMUS ANOPALUS	COL			X						
SCENEDESMUS ARMATUS	CGL		0.1	143						
SCENEDESMUS ARMATUS	COL			X						
V. BICALDATUS	COL			X						
SCENEDESMUS ARMATUS	COL			X						
V. BOGLARIENSIS F. BICAUDATUS	COL						X			
SCENEDESMUS BICALDATUS	CGL				0.2		111			
SCENEDESMUS BIJUGA	COL			X	0.7		331			

ATCHAFALAYA
STCRET NUMBER: H013000

CONTINUED

TAXA	FORM	11 22 74			12 10 74			01 17 75		
		S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML
SCENEDESMUS BRASILIENSIS	COL					0.2	83			
SCENEDESMUS DENTICULATUS	COL						X			
V. LINEARIS	COL	0.5		713		1.3	609			X
SCENEDESMUS DIMORPHUS	COL			X						
SCENEDESMUS CPOLIENSIS	COL			X						
SCENEDESMUS OVALTERNUS	COL									
SCENEDESMUS PROTUBERANS	COL					0.9	443			
SCENEDESMUS QUADRICAUDA	COL	1.6		2139		1.2	553		2.5	132
SCHROEDERIA SETIGERA	CEL	0.2		285						
SKELETCREMA POTAMCS	CEL	0.3		428		1.3	609	12	13.9	739
SPERMATOZOOPSIS	CEL					0.6	277			
STAURASTRUM #1	CEL					0.1	28			
STAURASTRUM #2	CEL					0.1	28			
STAURASTRUM CUSPIDATUM ?	CEL					0.1	28			
STAURASTRUM TETRACERUM	CEL	0.1		143						
STEPHANODISCUS	CEL									
STEPHANODISCUS ASTRAEA	CEL									
SYNEDRA ACIS	CEL									
SYNEDRA SPP.	CEL									
SYNECRA ULNA	CEL					1.2	553			
V. OXYRHYNCHUS	CEL						X			
TETRAEDRON	CEL						X			
TETRAEDRON CAUDATUM	CEL			X						
V. LONGISPINUM	CEL	0.1		143						
TETRAEDRON GRACILE	CEL						X			
TETRAEDRON MINIMUM	CEL					0.2	111			X
TETRAEDRON MINIMUM	CEL									
V. SCROBICULATUM	CEL	0.3		428						
TETRAEDRON MUTICUM	CEL					0.1	28		0.5	26
TETRAEDRON MUTICUM	CEL			X						
F. PUNCTULATUM	CEL			X						
TETRAEDRON PENTAEDRICUM	CEL									

ATCHAFALAYA
STORET NUMBER: H013000

CONTINUED

11 22 74

12 10 74

01 17 75

TAXA

TETRAEDRON REGULARE
V. INCUS
TETRASTRUM ELEGANS
TETRASTRUM HETERACANTHUM
TETRASTRUM STAUROGENIAEFORME
TRACHELEMONAS CYLINDRICA
TRACHELEMONAS INTERMEDIA
TRACHELEMONAS OBLONGA ?
TRACHELEMONAS PLAYFAIRII
TRACHELEMONAS VOLVOCINA

FORM	ALGAL UNITS PER ML			ALGAL UNITS PER ML			ALGAL UNITS PER ML		
	S	%		S	%		S	%	
CEL			X						
COL	0.1		143						
COL			X						
COL			X	0.8		387		0.5	26
CEL	0.2		285						
CEL			X	0.2		83			
CEL			X						
CEL	0.2		285						
TOTAL			133597			47912			5299

ATCHAFALAYA
STCRET NUMBER: HC13000

CONTINUED

NYGAARD TROPHIC STATE INDICES

	DATE	12 11 75
MYXOPHYCEAN		2.75 E
CHLOROPHYCEAN		5.25 E
EUGLENOPHYTE		0.03 ?
DIATOM		1.00 E
COMPGUND		10.7 E

PALMER'S ORGANIC POLLUTION INDICES

DATE 12 11 75

GENUS	20
SPECIES	07

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE 12 11 75

AVERAGE DIVERSITY	H	3.78
NUMBER OF TAXA	S	33.00
NUMBER OF SAMPLES COMPOSITED	M	1.00
MAXIMUM DIVERSITY	MAXH	5.04
TOTAL DIVERSITY	D	52504.20
TOTAL NUMBER OF INDIVIDUALS/ML	N	13890.00
EVENNESS COMPONENT	J	0.75
MEAN NUMBER OF INDIVIDUALS/TAXA	L	420.91
NUMBER/ML OF MOST ABUNDANT TAXON	K	2685.00

ATCHAFALAYA
STORET NUMBER: H013000

CONTINUED

12 11 75

TAXA	FORM	S	%C	ALGAL UNITS PER ML
ACTINASTRUM	COL			
ACTINASTRUM HANTZSCHII	CEL			
V. FLUVIATILE	CEL			
AMPHORA	FIL			
ANABAENA	FIL			
ANABAENOPSIS CIRCULARIS	FIL			
ANABAENOPSIS RACIBORSKII	FIL			
ANKISTRODESmus FALCATUS	CEL	6.7		934
ANKISTFCDESmus FALCATUS	CEL			
V. MIRABILIS	FIL			
APHANIZOPENEN GRACILE ?	CCL			
APHANOTHECE NIDULANS	CEL			
CARTERIA	CEL			
CENTRIC DIATOM	CEL	3	12.2	1693
CHAETOCEROS ?	CEL			
CHAETOCEROS ELMOREI	CEL			
CHLAMYDOMONAS GLBCSA	CEL			
CHLORELLA	CEL			
CHLOROGCNM	CEL			
CHLOROGCNM ELCNGATUM	CEL			
CHROOMCNAS #1	CEL			
CHRCMCNAS #2	CEL			
CLOSETERIUM	CEL			X
COCCONEIS PLACENTULA	CEL			
CCELASTRUM ?	CCL			
CCSMARIUM	CEL	0.4		58
CRUCIGENIA FENESTRATA	COL	1.3		175
CRUCIGENIA TETRAPEDIA	COL	0.8		117
CRYPTOMCNAS	CEL	7.1		992
CRYPTOMCNAS EROSA	CEL			
CRYPTOMCNAS MARSSONII	CEL			
CYANOPHYTAN FILAMENT	FIL			

ATCHAFALAYA
STORET NUMBER: HC13000

CONTINUED

12 11 75

105

TAXA	FORM	S	%C	ALGAL UNITS PER ML
CYCLOTELLA MENENGHINIANA	CEL			X
CYMBELLA VENTRICOSA	CEL			
CACTYLOCOCOPSIS	CEL		2.9	409
DICTYOSPHAERIUM	COL			
DICTYOSPHAERIUM PULCHELLUM	CCL			
CRYPTOPHYCEA CYST	CEL			
DIPLOCNEIS SMITHII	CEL			
EPITHEMIA TURGIDA	CEL			
EUASTRUM	CEL			
EUGLENA	CEL			
EUGLENA #1	CEL			
EUGLENA #2	CEL			
EUGLENA ACLS	CEL			
EUGLENA SPP.	CEL			
EUROTIA PECTINALIS				
V. MINCR	CEL			
FLAGELLATE #1	CEL		6.7	934
FLAGELLATE #2	CEL			
FLAGELLATE #5	CEL			
FRAGILARIA CONSTRUENS	CEL			
FRAGILARIA CONSTRUENS				
V. SUBSALINA	CEL			
GLENKINIA	CEL			
GOLENKINIA RADIATA	CEL			
GYMPHONEMA ANGUSTATUM				
V. PRCCUTA	CEL			
GYMPHONEMA PARVULUM	CEL			
GYMPHONEMA SPP.	CEL			
GYMNODINIUM ORDINATUM	CEL			
GYRCSIGMA MACRUM	CEL			
KIRCHNERIELLA	CEL			
KIRCHNERIELLA LUNARIS	CEL			

ATCHAFALAYA
STC RET NUMBER: H013000

CONTINUED

12 11 75

TAXA	FORM	IS	%C	ALGAL UNITS PER ML
LAGERHEIMIA SUBSALSA	CEL			
LEPOCINCLIS	CEL			
LYNGBYA	FIL			X
LYNGBYA LAGERHEIMII	FIL		0.8	117
MELOSIRA DISTANS	CEL	2	15.5	2159
MELOSIRA GRANULATA	CEL			X
MELOSIRA GRANULATA V. ANGSTISSIMA	CEL		1.7	233
MELOSIRA GRANULATA V. ANGSTISSIMA F. SPIRALIS	CEL		0.4	58
MERISMOPEDIA GLAUCA	COL			
MERISMOPEDIA MINIMA	CCL			
MERISMOPEDIA PUNCTATA	COL			
MERISMOPEDIA TENUISSIMA	COL		3.4	467
MICRACTINIUM	CCL			
MICROCYSTIS	COL			
MICROCYSTIS INCERTA	COL		1.3	175
NAVICULA	CEL			
NAVICULA CUSPIDATA ?	CEL			
NITZSCHIA	CEL	4	19.3	2685
NITZSCHIA ?	CEL			
NITZSCHIA #1	CEL			
NITZSCHIA #2	CEL			
NITZSCHIA FILIFORMIS	CEL			
NITZSCHIA HANTZSCHIANA	CEL			
NITZSCHIA HOLSATICA	CCL			
NITZSCHIA SPP.	CEL			
COCYSTIS	CEL			
CPFIOCYTUM CAPITATUM	CEL			
V. LONGISPINUM	CEL			
OSCILLATORIA	FIL			
OSCILLATORIA LIMNETICA	FIL			X

ATCHAFALAYA
STORET NUMBER: H013000

CONTINUED

12 11 75

TAXA	FORM	S	%C	ALGAL UNITS PER ML
PEDIASTRUM BIRADIATUM				
V. LONGECORNUTUM	COL			
PEDIASTRUM DUPLEX	COL			X
PEDIASTRUM DUPLEX				
V. CLATHRATUM	COL			
PEDIASTRUM DUPLEX				
V. RETICULATUM	COL			
PEDIASTRUM SIMPLEX	CCL			X
PEDIASTRUM SIMPLEX				
V. DUODENARIUM	COL			
PEDIASTRUM TETRAS	COL			
PEDIASTRUM TETRAS				
V. TETRACON	COL	0.4		58
PENNATE #1	CEL			
PENNATE #2	CEL			
PENNATE #3	CEL			
PHACUS PYRUM	CEL			
PINNULARIA GENTILIS	CEL			
PTEROMCNAS	CEL			
RAPHIDIOPSIS CURVATA	FIL			
RHCPALCIA GIBBA	CEL			
SCENEDESMUS ABUNDANS	CCL	2.5		350
SCENEDESMUS ACUMINATUS	COL			
SCENEDESMUS ACUTUS	CCL			
SCENEDESMUS ANOMALUS	COL			
SCENEDESMUS ARMATUS	CCL			
SCENEDESMUS ARMATUS				
V. BICALEATUS	COL			
SCENEDESMUS ARMATUS				
V. BOGLARIENSIS F. BICAUDATUS	CCL			
SCENEDESMUS BICAUDATUS	COL			
SCENEDESMUS BIJUGA	COL			

ATCHAFALAYA
STC RET NUMBER: HC13000

CONTINUED

12 11 75

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TAXA

SCENEDESMUS BRASILIENSIS
SCENEDESMUS DENTICULATUS
V. LINEARIS
SCENEDESMUS DIMORPHUS
SCENEDESMUS OPOLIENSIS
SCENEDESMUS CVALTERNUS
SCENEDESMUS PROTUBERANS
SCENEDESMUS QUADRICAUDA
SCHRCECERIA SETIGERA
SKELETNEMA POTAMOS
SPERMATOCOOPYSIS
STAURASTRUM #1
STAURASTRUM #2
STAURASTRUM CUSPIDATUM ?
STAURASTRUM TETRACERUM
STEPHANODISCUS
STEPHANODISCUS ASTRAEA
SYNECRA ACUS
SYNECRA SPP.
SYNECRA LLNA
V. OXYRHYNCHUS
TETRAEDRCN
TETRAEDRCN CAUDATUM
V. LONGISPINUM
TETRAEDRCN GRACILE
TETRAEDRCN MINIMUM
TETRAEDRCN MINIMUM
V. SCROBICULATUM
TETRAEDRCN MUTICUM
TETRAEDRCN MUTICUM
F. PUNCTULATUM
TETRAEDRCN PENTAEDRICUM

FORM	ALGAL UNITS PER ML		
	S	%C	
COL			
COL			
CCL	2.9	409	
COL	5.0	700	
COL			
COL			
COL	5.0	700	
CEL			
CEL	1.3	175	
CEL			X
CEL			
CEL	0.8	117	
CEL			
CEL			

ATCHAFALAYA
STC RET NUMBER: HC13000

CONTINUED

12 11 75

TAXA

TETRAECRCN REGULARE
V. INCLS
TETRASTRUM ELEGANS
TETRASTRUM HETERACANTHUM
TETRASTRUM STAURGENIAEFORME
TRACHELOMONAS CYLINDRICA
TRACHELOMOMNAS INTERMEDIA
TRACHELOMGNAS OBLONGA ?
TRACHELOMOMNAS PLAYFAIRII
TRACHELOMOMNAS VCLVCCINA

FORM			ALGAL UNITS PER ML
	I S	% C	
CEL			
COL			X
COL		0.4	58
CCL		0.8	117
CEL			

TOTAL

13890

LAKE NAME: VERRET
STORET NUMBER: 2216

NYGAARD TROPHIC STATE INDICES

DATE 03 20 74 05 29 74 08 21 74

MYXOPHYCEAN	03/0 E	11.0 E	10.0 E
CHLOROPHYCEAN	05/0 E	21.0 E	20.0 E
EUGLENOPHYTE	0.25 E	0.16 ?	0.27 E
DIATOM	1.50 E	0.67 E	1.00 E
COMPOUND	13/0 E	41.0 E	43.0 E

PALMER'S ORGANIC POLLUTION INDICES

DATE 03 20 74 05 29 74 08 21 74

GENLS	14	24	25
SPECIES	03	08	04

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE 03 20 74 05 29 74 08 21 74

AVERAGE DIVERSITY	H	2.77	1.89	2.62
NUMBER OF TAXA	S	18.00	54.00	59.00
NUMBER OF SAMPLES COMPOSITED	M	4.00	3.00	4.00
MAXIMUM DIVERSITY	MAXH	4.17	5.75	5.88
TOTAL DIVERSITY	D	26079.55	253677.69	329098.20
TOTAL NUMBER OF INDIVIDUALS/ML	N	9415.00	134221.00	125610.00
EVENNESS COMPONENT	J	0.66	0.33	0.45
MEAN NUMBER OF INDIVIDUALS/TAXA	L	523.06	2485.57	2128.98
NUMBER/ML OF MOST ABUNDANT TAXON	K	3772.00	93324.00	68499.00

LAKE NAME: VERRET
STCRET NUMBER: 2216

CONTINUED

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TAXA				03 20 74			05 29 74			08 21 74
	FORM	S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML
ANABAENA	CEL					0.2	266			
ANABAENA #1	FIL						X	3	0.9	1139
ANABAENOPSIS	FIL								0.1	163
ANABAENOPSIS CIRCULARIS	FIL							5	1.4	1790
ANABAENOPSIS ELENKINII	FIL					0.2	266			
ANABAENOPSIS PHILIPPINENSIS	FIL								2.3	2929
ANABAENOPSIS RACIBORSKII	FIL				3	3.3	4436			
ANKISTRODESMUS FALCATUS	CEL	3	15.2	1429		1.7	2306			X
APIANIZCMENON FLOS-AQUAE	FIL				5	1.3	1686			
CARTERIA CORDIFORMIS	CEL								0.3	325
CENTRIC DIATOM	CEL					1.5	2040		2.5	3091
CHLAMYDCMONAS #1	CEL									X
CHLAMYDCMONAS CIENKOWSKII	CEL								0.5	651
CHLOROGONIUM	CEL					0.3	355		0.4	488
CLCSTERIDIUM ?	CEL					0.1	89			
COELASTRUM CAMBRICUM	COL								0.4	488
V. INTERMEDIUM	COL									
CCELASTRUM SPHAERICUM	COL					0.1	89			
CGSMARIUM	CEL									X
CRUCIGENIA	COL									X
CRUCIGENIA TETRAPEDIA	COL								0.4	486
CRYPTOMENAS	CEL					0.3	444			
CRYPTOMENAS EROSA	CEL	1.2		110					0.6	814
CYCLOTELLA	CEL	2.3		220			X			X
CYLINDRCSPERMUM ?	FIL								0.5	651
DACTYLOCOPPSIS IRREGULARIS	CEL				2	13.2	17742			
EUASTRUM DENTICULATUM	CEL						X			
EUGLENA	CEL		0.8	73		0.1	177			
EUGLENA ACUS	CEL								0.3	325
FLAGELLATE #1	CEL					0.7	976			
FLAGELLATE #9	CEL								0.1	163
FLAGELLATES	CEL	2	16.7	1575						

LAKE NAME: VERRET
STC RET NUMBER: 2216

CONTINUED

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TAXA	FORM	03 20 74			05 29 74			08 21 74		
		IS	%C	ALGAL UNITS PER ML	IS	%C	ALGAL UNITS PER ML	IS	%C	ALGAL UNITS PER ML
FRANCEIA OVALIS	CEL									X
GLENODINIUM GYMNODINIUM	CEL						X			
GLENODINIUM GYMNODINIUM										
V. BISCUTELLIFORME	CEL									X
GCLENKINIA	CEL				0.1		89		0.1	
GYMNODINIUM ORDINATUM	CEL								163	
GYRCSIGMA	CEL						X			
KIRCHNERIELLA	CEL							1.0		1302
LYNGBYA CIRCULARIS	FIL						X			
LYNGBYA LIMNETICA	FIL	5	3.9	366	4	1.5	1952	2	16.2	20338
MELOSIRA #4	CEL		0.8	73						
MELOSIRA DISTANS	CEL		0.8	73				0.5		651
MELCSIPA GRANULATA	CEL									X
MELOSIRA GRANULATA										
V. ANGSTISSIMA F. SPIRALIS	CEL				0.2		266			
MERISMOEDIA TENUISSIMA	COL		4.7	440		0.7	976		1.8	2278
MICRACTINIUM	CGL									X
MICRECYSTIS	COL							0.6		814
MICROCYSTIS INCERTA	COL		1.2	110		0.1	177			
NAVICULA	CEL				0.1		89		1.2	1464
NAVICULA CASCADENSIS	CEL						X			
NEPHROCYTUM	COL				0.3		355			
NITZSCHIA	CEL					1.9	2573			
NITZSCHIA ACICULARIS	CEL					0.5	710			X
NITZSCHIA HOLSATICA	CEL									X
NITZSCHIA PALEA	CEL									
OSCILLATORIA	FIL				1	69.5	93324			
CSCILLATORIA GEMINATA ?	FIL							1	54.5	68499
PANDORINA MORUM	COL						X			
PECIASTRUM DUPLEX										
V. RETICULATUM							X			
PECIASTRUM SIMPLEX	COL									
V. DUODENARIUM	COL						X			

LAKE NAME: VERRET
STCRET NUMBER: 2216

CONTINUED

TAXA				03 20 74			05 29 74			08 21 74
	FORM	S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML	S	%C	ALGAL UNITS PER ML
PECIASTRUM TETRAS										
V. TETRAODON	COL						X		0.3	325
PENNATE DIATOMS	CEL	1	40.1	3772					0.3	325
PERIDINIUM	CEL									
PERIDINIUM PUSILLUM	CEL		0.8	73		0.1	89			
PERIDINIUM QUADRIDENTS	CEL									
PHACUS ACUMINATUS ?	CEL									
PHACUS ANOMALUS	CEL						X			X
PHACUS GLABER	CEL									X
PHACUS MEGALOPSIS	CEL						X			X
PHACUS PSEUDONORDSTEDTII	CEL									X
RAPHIDIOPSIS CURVATA	FIL							4	7.6	9600
SCENEDESMUS #2	COL								0.1	163
SCENEDESMUS ABUNDANS	COL						X		0.1	163
SCENEDESMUS BICAUDATUS	COL						X			X
SCENEDESMUS DIMORPHUS	COL					0.1	89		0.1	163
SCENEDESMUS OBLIQUUS	COL									X
SCENEDESMUS PROTUBERANS	CEL					0.5	621			
SCENEDESMUS QUADRICAUDA	COL					0.2	266		0.4	488
SCENEDESMUS SPP.	COL	4	9.0	843						
SCHROEDERIA SETIGERA	CEL					0.1	177			
SPERMATZOOPTIS	CEL								1.7	2115
STEPHANOIDS	CEL	1		110						
STEPHANOIDS ASTREA	CEL						X			X
SURIRELLA	CEL		0.4	37						
SURIRELLA LINEARIS	CEL						X		1.6	1952
SYNEDRA	CEL									
TETRAEDRON GRACILE	CEL						X			
TETRAEDRON MINIMUM	CEL		0.4	37						
TETRAEDRON MINIMUM										
V. SCROBICULATUM	CEL					0.6	798		0.5	651
TETRAEDRON MUTICUM	CEL					0.1	177		0.3	325

LAKE NAME: VERRET
STORET NUMBER: 2216

CONTINUED

TAXA

TETRAEDRON REGULARE
TETRAEDRON REGULARE
V. INCUS
TETRASTRUM HETERACANTHUM
TETRASTRUM STAURGENIAEFORME
TRACHELOMONAS
TRACHELOMONAS #1
TRACHELOMONAS VOLGENSIS
TRACHELOMONAS VOLVICINA
TREUBARIA SETIGERUM
TREUBARIA TRIAPPENDICULATA

TOTAL

03 20 74 05 29 74 08 21 74

FORM	ALGAL UNITS PER ML			ALGAL UNITS PER ML			ALGAL UNITS PER ML			
	I	S	%C	I	S	%C	I	S	%C	
CEL					0.1		89		0.1	163
CEL		0.4		37		0.1		89		X
COL					0.1		89		0.1	
COL									0.1	163
CEL		0.4		37						X
CEL										X
CEL							X			
CEL					0.1		177			X
CEL					0.1		177			X
CEL										
					9415			134221		125610

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

1. REPORT NO. EPA-600/07-78-001	2.	3. RECIPIENT'S ACCESSION NO.
4. TITLE AND SUBTITLE DISTRIBUTION AND IMPORTANCE OF PHYTOPLANKTON IN THE ATCHAFALAYA BASIN		5. REPORT DATE January 1978
7. AUTHOR(S) S.C. Hern, W.D. Taylor, L.R. Williams, V.W. Lambou, M.K. Morris, F.A. Morris, J.W. Hilgert		6. PERFORMING ORGANIZATION CODE
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12. SPONSORING AGENCY NAME AND ADDRESS U.S. Environmental Protection Agency--Las Vegas, NV Office of Research and Development Environmental Monitoring and Support Laboratory Las Vegas, Nevada 89114		10. PROGRAM ELEMENT NO. 1BD613A
15. SUPPLEMENTARY NOTES		11. CONTRACT/GRANT NO.
16. ABSTRACT		
<p>This report presents the species and abundance of phytoplankton in the Atchafalaya Basin. From 86 phytoplankton samples examined, 107 genera and 287 species of algae were identified. Occurrence and dominant occurrence of phytoplankton genera and species are listed. The Nygaard's Trophic State Index (Nygaard 1949), Palmer's Organic Pollution Index (Palmer 1969), as well as species diversity and abundance indices are included. Also, study areas inside and outside the Basin were compared and contrasted for chemical, physical and biological characteristics. From the above data the following conclusions were made:</p> <p>1) phytoplankton play a minor role in the overall productivity of the Basin proper due to the high concentration of suspended sediments in the water, 2) phytoplankton production was nearly an order of magnitude greater in areas studied outside the Basin than within the Basin, and 3) diatoms and flagellates were the dominant algal groups within the Basin while flagellates and blue-green algae were the dominant algae groups outside the Basin proper.</p>		
17. KEY WORDS AND DOCUMENT ANALYSIS		
a. DESCRIPTORS	b. IDENTIFIERS/OPEN ENDED TERMS	c. COSATI Field/Group
*aquatic microbiology lake *phytoplankton water quality	Atchafalaya Basin Louisiana Nygaard's trophic indices Palmer's organic pollution indices Species diversity and abundance indices eutrophication	06 C 08 H 13 B
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