AQUATIC

PRE-OPERATIONAL AQUATIC ECOLOGY MONITORING PROGRAM FOR THE DAVIS-BESSE NUCLEAR POWER STATION, UNIT 1

PROGRESS REPORT
JULY 1 - DECEMBER 31
1976

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CENTER FOR LAKE ERIE AREA RESEARCH
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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

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OBJECTIVE

The purpose of this investigation is to ascertain the existing character of the aquatic ecosystem at Locust Point, Lake Erie prior to operation of the Davis-Besse Nuclear Power Station, Unit 1. Included in the assessment are studies of existing plankton, benthos, and fish populations and water quality and recent trends in these parameters. The report contained herein is for the period 1 July to 31 December 1976.

PROCEDURE

Sampling Station Location

In 1974 and 1975 field data were collected from 25 stations, 18 along 4 transects in the open lake, 2 stations in the intake canal, 2 stations in the marshes, and 3 stations along the shoreline (Fig. 1). Of the 4 transects, one followed the intake conduit, one the discharge conduit, while control transects were set up on the east and west sides of the entire intake and discharge complex. Control west ran due north from the shore-end of the intake conduit with sampling stations located at 500 ft (150 m) (Station 1), 1000 ft (300 m) (Station 2), 2000 ft (610 m) (Station 3), and 3000 ft (910 m) (Station 4) from the shoreline. Sampling stations on the intake were located at 500 ft (150 m) (Station 5), 1000 ft (300 m) (Station 6), 2000 ft (610 m) (Station 7), 3000 ft (910 m) (Station 8, proposed intake), and 4000 ft (1,220 m) (Station 9) from shore. Along the discharge transect sampling stations were at distances of 500 ft (150 m) (Station 10), 1000 ft (300 m) (Station 11), 1500 ft (460 m) (Station 12, proposed discharge), 2000 ft (610 m) (Station 13), and 3000 ft (910 m) (Station 14) from shore. Additional stations were placed 500 ft (150 m) due north of Station 12 (Station 15) and 500 ft (150 m) south of Station 12 (Station 16). Control east ran perpendicular to the shoreline, parallel to the intake, and approximately 2500 ft (760 m) east of the intake. Stations were located 500 ft (150 m) (Station 17) and 1000 ft (300 m) (Station 18) from shore. Station 19 was located in the center of the intake canal, 1000 ft (300 m) from the lake shore. Sampling at Station 20 discontinued when it was drained of all water in 1974. Stations 21 and 22 were located in the northwest and southeast marshes, respectively. Sta-

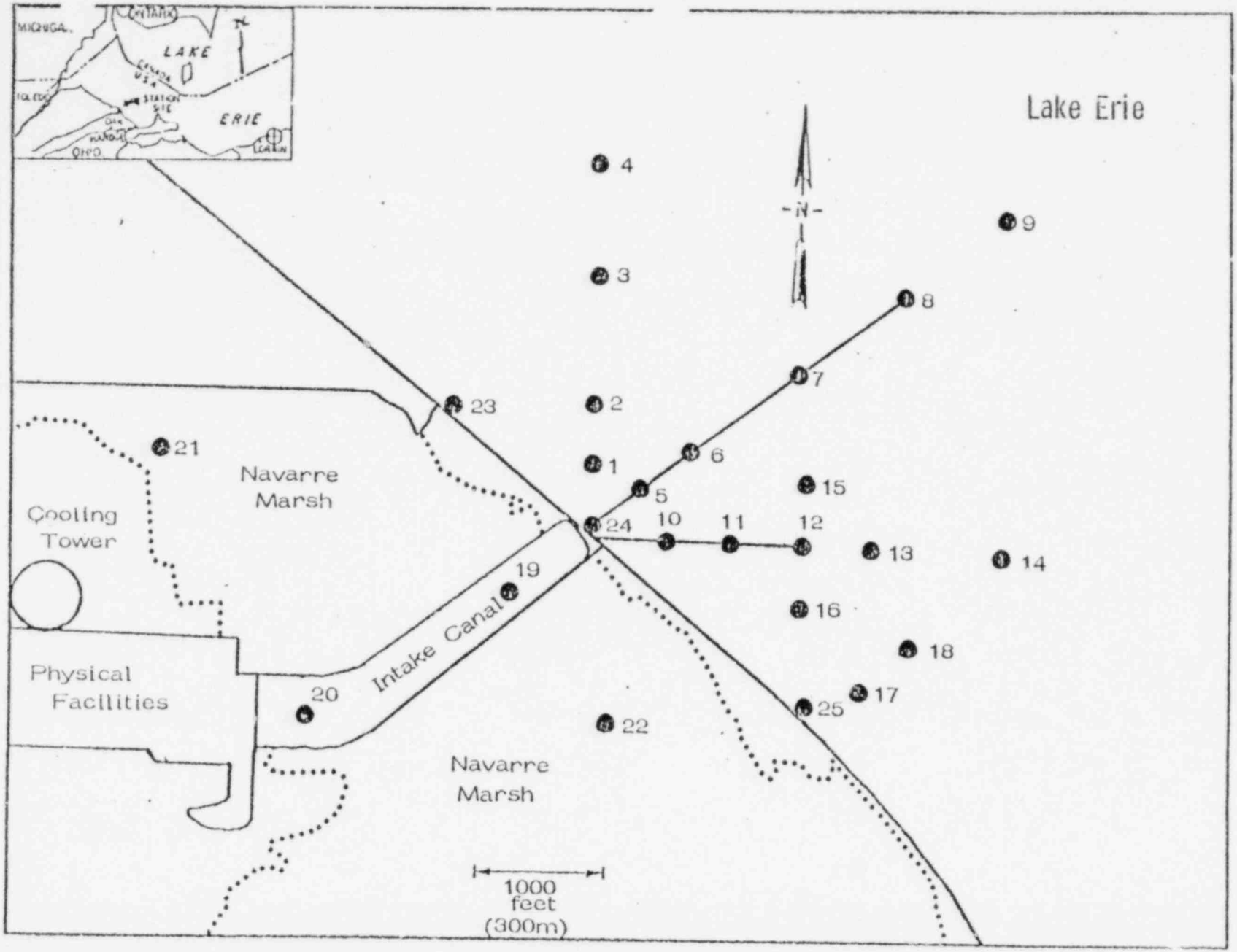


FIGURE 1. BIOLOGICAL SAMPLING STATIONS AT THE DAVIS-BESSE NUCLEAR POWER STATION

tions 23 - 25 were on the shoreline at the intersection of the intake conduit and 1500 ft (460 m) to either side.

In 1976 this sampling format was altered slightly to answer questions which arose following the 1975 field season concerning the intake and discharge (Fig. 2).

This new station arrangement will provide much more valuable information following operation, and, by initiating it in 1976, one year of pre-operational data can be obtained. Stations 2,4,5,10,19 and 20 were eliminated and Station 26 to 29 were added. Station 26 is on the control west transect and located 3800 ft (1,170 m) from its intersection with the shoreline. Station 26 serves as a control station 3000 ft (910 m) northwest of Station 8 (intake) and the same distance offshore as Station 8 (3000 ft). Station 28 is on the discharge transect 4,500 ft (1,380 m) from its intersection with the shoreline. Station 28 also serves as a control station for Station 8 as it is 3000 ft (910 m) southeast of Station 8 and equidistant offshore. Station 27 is the mirror image of Station 18, with respect to the discharge transects and completes a symetrical arrangement of stations around the predicted thermal plume. Station 29 provides a control 3000 ft (910 m) southeast of Station 13 (plume area). Station 3 is the control to the northwest of Station 13. Stations 3, 13, and 29 are approximately equidistant from shore.

Water Quality

Twenty water quality and related parameters were measured routinely (Table 1) during the ice-free period of July to December 1976 (July through November) at three Lake Erie sampling stations (1,8, and 13) in the vicinity of Locust Point (Fig. 2). These parameters and the analytical methods employed for the measurements are listed in Table 2.

Field Measurements. Water quality measurements were made monthly in the field at Stations 1,8, and 13 (Fig. 2). Temperature, dissolved oxygen and conductivity were measured from a small survey boat with submerged sensors and shipboard readout meters. Dissolved oxygen was determined with a YSI model 51 meter and conductivity with a Beckman RB3-3341 solubridge temperature-compensated meter; each meter was equipped with a thermistor for temperature readings.

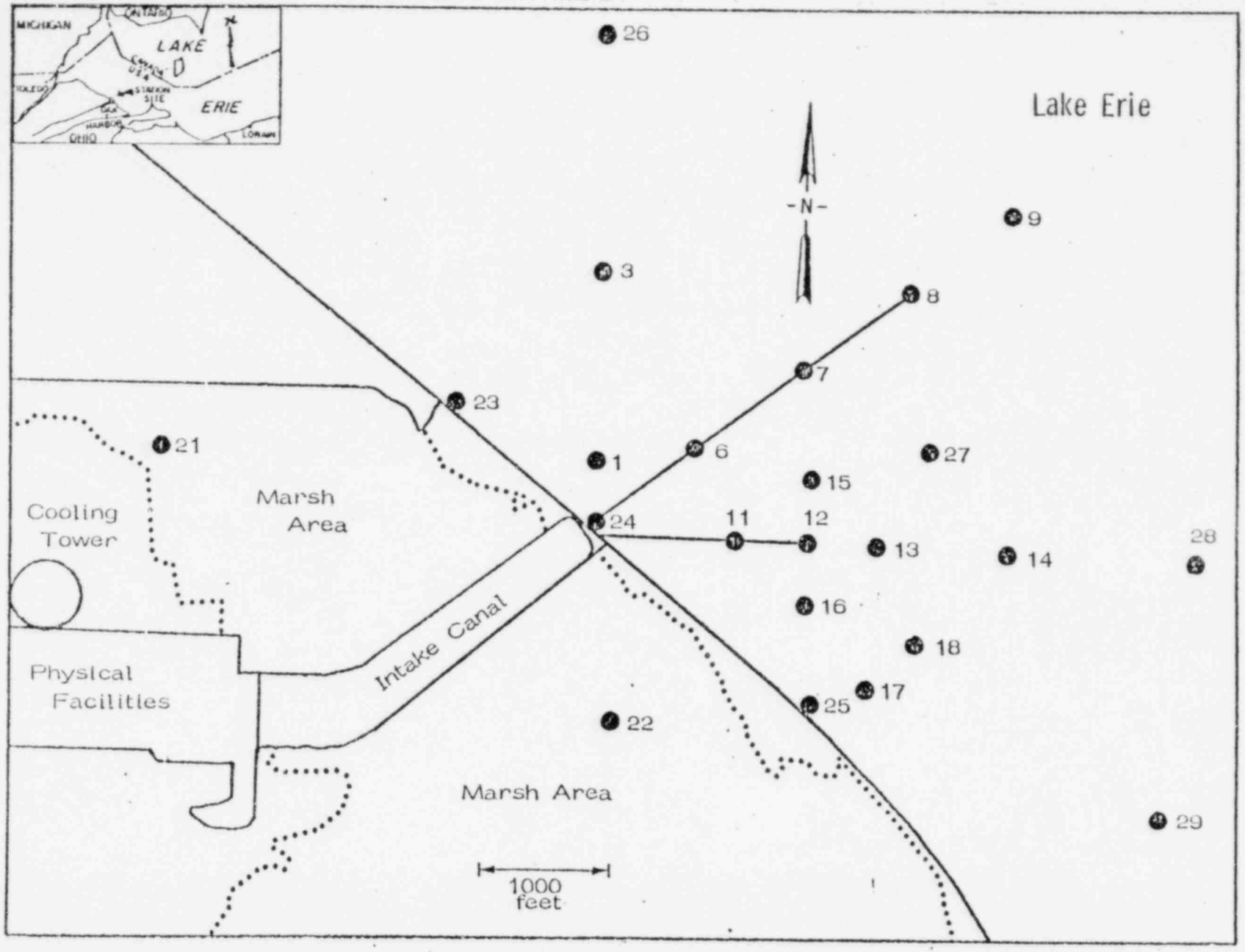


FIGURE 2

REVISED SAMPLING STATIONS AT THE DAVIS-BESSE NUCLEAR POWER STATION

TABLE 1

AQUATIC MONITORING PROGRAM SAMPLING DATES - 1976

SAMPLE	March	April	May	June	July	Aug	Sept	Oct	Nov
PLANKTON	18	14	17	16	20	18	14	19	2
BENTHOS	18	9	4	7	5	5	3	5	1
FISH									
Gill Net		12-13	10-11	14-15	14-15	11-12	30-1		4-5
Shore Seine		6	5	10	7	10	20	15	15
Otter Trawl		19	13	17	16	20	13	12	2
Hoop Net		6-7	5-6	10-11	7-8	9-10	20-21	28-29	
Fry Net		6,14,30	10,17,27	11,17,28	8,23,29	9,20,31			
WATER QUALITY	18	14	17	16	20	18	14	19	2
CURRENTS						18			
SOLAR RADIATION				9	20	4	30	19	1

TABLE 2

ANALYTICAL METHODS FOR WATER QUALITY DETERMINATIONS

Parameter	Units	References for Analytical Methods
1. Temperature	^{o}C	APHA (1971): Sec. 162
2. Dissolved oxygen	ppm	APHA (1971): Sec. 218B
3. Conductivity	umhos/cm (25^{o}C)	ASTM (1973): D1135-64
4. Transparency	meters	Welch (1948): Secchi disk
5. Calcium (Ca)	mg/l	APHA (1971): Sec. 110C
6. Magnesium (Mg)	mg/l	APHA (1971): Sec. 122B
7. Sodium (Na)	mg/l	ASTM (1973): D1428-64
8. Chloride (Cl)	mg/l	APHA (1971): Sec. 112B
9. Nitrate (NO_3)	mg/l	ASTM (1973): D992-71
10. Sulfate (SO_4)	mg/l	ASTM (1973): D516-68C
11. Phosphorus (Total as P)	mg/l	APHA (1971): Sec. 223F
12. Silica (SiO_2)	mg/l	ASTM (1973): D859-68B
13. Alkalinity (Total as $CaCO_3$)	mg/l	APHA (1971): Sec. 102
14. Biochemical oxygen demand	mg/l	APHA (1971): Sec. 219
15. Suspended solids	mg/l	APHA (1971): Sec. 224C
16. Dissolved solids	mg/l	USEPA (1971)
17. Turbidity	F.T.U.	APHA (1971): Sec. 163A
18. Hydrogen-ion conc.	pH units	ASTM (1973): D1293-65
		Field Procedure
19. Solar radiation	μamps	Kahl Scientific Instrument Corp. submarine photometer model 15M2-02
20. Currents	cm/sec	Surface drift drogue

Sensor readings were taken 10 cm below the surface and approximately 50 cm above the bottom. Transparency was determined with a 30 cm diameter Secchi disk lowered on a marked line until it was no longer visible. Solar radiation was measured at four stations with a Kahl Scientific Instrument Corp. submarine photometer, model no. 15M2-02, at the surface and at one-half meter depth intervals. This meter measures the amount of sunlight, expressed as an electrical current, reaching various depths. Surface currents were measured in August at two stations with a drift drogue.

Laboratory Determinations. Surface and bottom (50 cm above) water samples were taken at Stations 1,8, and 13 with a 3-liter Kemmerer sampler at the same time that field measurements were being made. These samples were placed in polyethylene containers and taken to the laboratory for analysis; in most cases, analyses were completed within 24 hours of the sampling time. Fifteen water quality parameters (Table 2) were determined in the laboratory using the procedures prescribed in "Standard Methods for the Examination of Water, 13th Edition" (American Public Health Association, 1971) and in "ASTM Standards, Part 23, Water" (American Society for Testing and Materials, 1973).

Plankton

Plankton was sampled monthly, July through November of 1976 (Table 1), from 12 stations in the vicinity of Locust Point. Duplicate vertical tows, bottom to surface, were taken at each station with a Wisconsin plankton net (12 cm mouth; 0.080 mm mesh). Each sample was concentrated to 50 ml and preserved in 5% formalin. On several occasions, due to large phytoplankton populations, it was necessary to further dilute the sample to insure accurate counting. An equal volume of sugar was added to the formalin which was added to the sample to reduce distortion of zooplankters. The volume of each sample was computed by multiplying the length of the tow by the area of the net mouth. The mean and standard deviation were computed for each station from the duplicates. In previous years the standard deviation was computed using "n" as the divisor. In 1976 "n-1" was used. Chengalath et al. (1971), Collins and Kalinsky (1972), Eddy and Hodson (1964), Ewers (1930), Jahoda (1948), Pennak (1953), Taft and Taft (1971), Torke (1974), and Ward and Whipple (1959) were used in plankton identification.

Phytoplankton. Three 1-ml aliquots were withdrawn from each sample and placed in Sedgewick-Rafter counting cells. Whole organism counts (one colony or filament = 1 organism) were made from 25 random Whipple disk fields from each 1-ml aliquot in the Sedgewick-Rafter counting cell. When filamentous forms numbered 100 filaments or more in 10 Whipple fields, they were not counted in the remaining 15 fields. Identification was generally to the genus level. Results were reported as number of whole organisms/l.

Zooplankton. Three 1-ml aliquots were withdrawn from each sample and placed in Sedgewick-Rafter cells. The entire cell was scanned under a microscope at 60x while counting and identifying all zooplankters. Individuals were generally identified to the genus or species level and reported as number of organisms/l.

Analytical Methods. Correlation coefficients for the Bacillariophyceae, Chlorophyceae, Myxophyceae, total phytoplankton, Rotifera, Copepoda, Cladocera, total zooplankton and several water quality parameters will be computed on an IBM 360 computer using the "Statistical Analysis System" (SAS) program which computes these statistics by the method of least squares (Service, 1972). As in 1975, these and other analyses will be presented in the semi-annual report following the actual field season.

Benthos

Benthos was sampled monthly, July through November (Table 1) from 18 stations in the vicinity of Locust Point. Three replicate samples were taken at each station with a Ponar dredge ($A = 0.052\ m^2$). Samples were sieved through a U.S. #40 sieve, preserved in 10% formalin and returned to the laboratory. Individuals were identified as far as possible (usually to genus; to species where possible). The number of individuals per square meter was calculated for each of the three replicates by multiplying the number counted in the sample by 19.1. The sample mean and standard deviation (n-1 as a divisor) for each station were then computed from the 3 replicates. Brinkhurst (1963), (1964), (1965), Brinkhurst, Hamilton, and Herrington (1968), Klemm (1972), Mason (1973), Pennak (1953), Stein (1962), Usinger (1956), Walter and Burch (1957), and Ward and Whipple (1959) were used for the indentification of benthic macroinvertebrates.

Fish

Fish populations at Locust Point were sampled by 5 methods, gill nets, shore seine, trawl, hoop nets, and fry net, from July through November 1976 (Table 1). All fish captured were weighed, measured, and identified to species (Trautman, 1957 and Bailey et al., 1970). Results were reported as catch per unit effort (CPE).

Gill nets. Experimental gill nets were set parallel to the intake and discharge pipelines at Stations 8 and 13. Each net (125 ft x 6 ft or 38 m x 1.8 m) consisted of five 25 ft x 6 ft (7.6 m x 1.8 m) contiguous panels [1/2"(1.3 cm), 3/4"(1.9 cm), 1"(2.5 cm), 1-1/2"(3.8 cm), 2"(5.1 cm) bar mesh]. The nets were fished for approximately 24 hours monthly. Due to unfavorable weather conditions the nets could only be fished on one occasion during September-October. One unit of effort consisted of one 24-hr set with one of these gill nets. The direction of fish movement or migration was determined by recording the direction from which the fish entered the gill nets. The direction of travel could not be determined for fish which fell out of the net prior to sorting.

Shore seine. Shore seining was accomplished monthly with a 100-ft (30.5 m) bag seine (1/4" or 6 mm bar mesh) at Stations 23, 24, and 25. The seine was stretched perpendicular to the shoreline until the shore brail was at the water's edge. The far brail was then dragged through a 90° arc back to shore. Two hauls were made at each station. One unit of effort consisted of two hauls with the above mentioned seine.

Trawl. A 16-ft (4.9 m) trawl was used to collect fish for CPE estimates of abundance and to obtain live fish for stomach analysis. Four 5-min tows between the intake (Station 8) and the discharge (Station 12) were completed monthly. All four trawls were considered to be one unit o effort. Stomachs were taken from a representative number of these ish and preserved in 5-10% formalin prior to analysis.

Hoop nets. Hoop nets, 2.5 ft (0.8 m) diameter with 1 in (2.5 cm) bar mesh, were set at Station 21 and 22 in the northwest and southeast marshes. The nets were fished for approximately 24 hours monthly. One unit of effort consisted of a 24-hr set with one net. These fish were identified, weighed, measured and released. Ice in the marsh prevented sampling in November.

Fry net. A 0.75-m diameter oceanographic plankton net (no. 00, 0.76 mm mesh) was used to capture ichthyoplankton (fish larvae or fry, and eggs). Five-min circular tows, surface and near-bottom, around

Stations 3, 8 (intake), 13 (plume area), 26, 28 and 29 were completed 3 times per month in July and August. Sampling was terminated at the end of August after two sampling dates yielded a total of 4 larvae. Additional 5-min tows, surface and near-bottom, were made on 5 occasions during July and August at Toussaint Reef (Fig. 3). One 5-min tow constituted one unit of effort. The net was equipped with a flow meter to allow computation of the volume of water filtered. Although results were presented to CPE to be comparable with previous results, knowledge of the volume filtered will allow computations of larvae per unit volume of water. Ichthyoplankton was preserved in 5% formalin and analyzed under a dissecting microscope. Individuals were identified as far as possible (generally species) using Fish (1932) and Norden (unpublished).

RESULTS

Water Quality

The results of the monthly water quality determinations at Stations 1,8, and 13 are given in Tables 3-7. Solar radiation measurements for Stations 3,8,13 and 14 are given in Table 8 and current measurements at Stations 8 and 13 are listed in Table 9. The mean values and ranges of water quality determinations for March through June and July through November 1976 are shown in Table 10.

Plankton

Phytoplankton. Phytoplankters collected March through November 1976 were divided into 91 taxa, generally to the genus level (Table 11). Twenty-seven taxa were placed in Bacillariophyceae, 41 in Chlorophyceae, 2 in Chrysophyceae, 4 in Dinophyceae, and 16 in Myxophyceae. One taxa was also placed in Protozoa because it was counted in the Whipple fields with the phytoplankters.

Monthly mean phytoplankton populations ranged from 1,604/l in June to 103,209/l in April (Table 12). The mean population from all samples collected during 1976 was 47,871/l. Population pulses were observed in April, July-August, and October (Fig. 4). The April pulse (103,209/l) and the October pulse (70,129/l) were dominated by Bacillariophyceans, while the July-August pulse (87,260 and 83,846/l) was dominated by Myxophyceans (Fig. 5). Individual station populations ranged from 1,000/l at Station 14 in June to 149,117/l at Station 1 in July (Table 12).

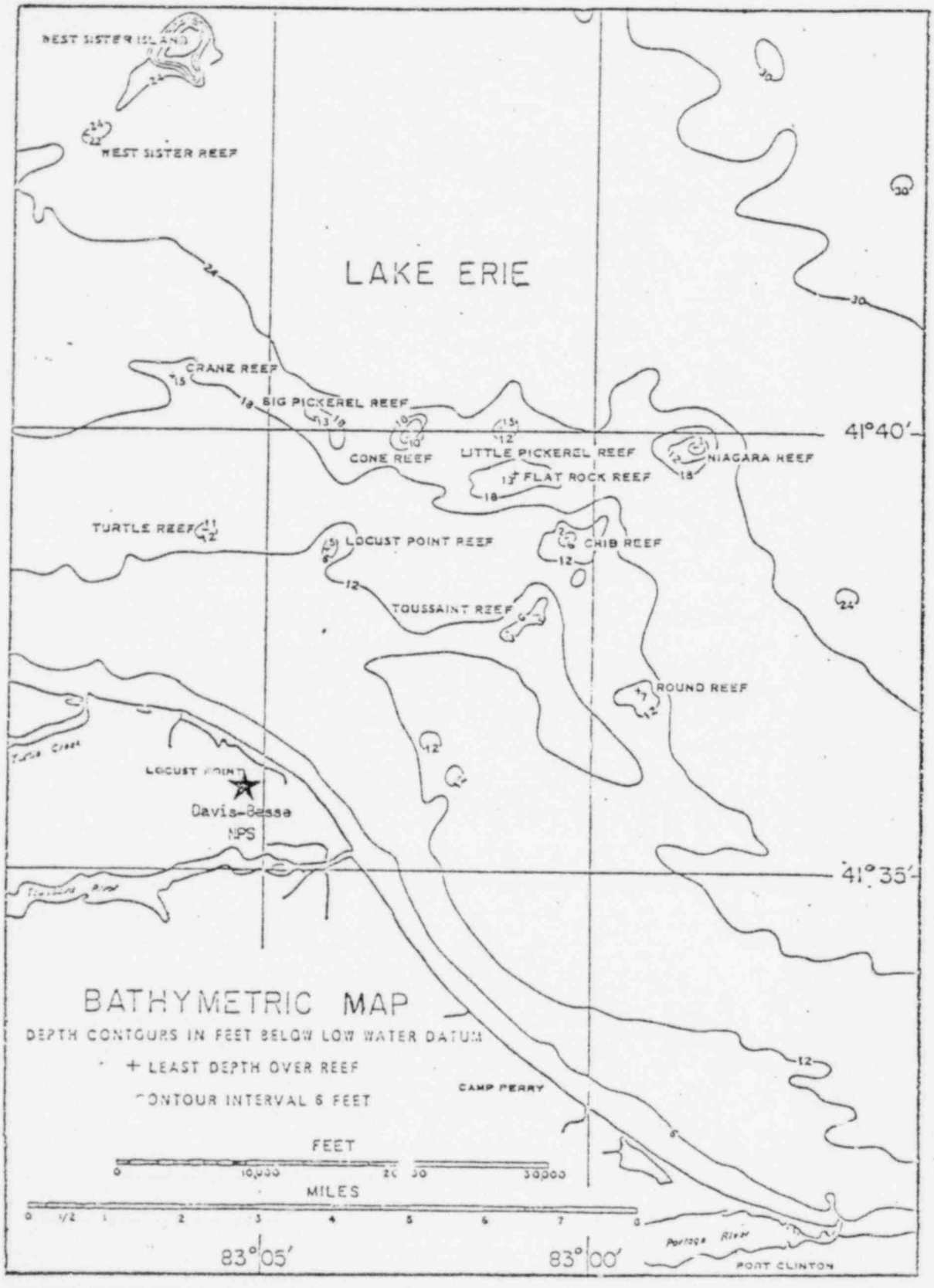


FIGURE 3. REEFS NEAR LOCUST POINT.
(From Herdendorf and Hair, 1972)

TABLE 3

LAKE ERIE WATER QUALITY ANALYSES FOR JULY 1976

Dates:
Field 20 July 1976
Laboratory 21 July 197

Parameters	Station No. 1		Station No. 8		Station No. 13		Range	Mean	Standard Deviation
	Surface	Bottom	Surface	Bottom	Surface	Bottom			
Field Measurements:									
Temperature (^{o}C)	22.0	22.0	22.0	22.0	22.0	22.0	0	22.0	0.0
Dissolved Oxygen (ppm)	7.7	5.0	7.2	6.4	7.7	7.0	5.0-7.7	6.8	1.02
Conductivity (umhos/cm)	280	280	275	275	275	275	275-280	277	2.6
Transparency (m)	0.75		1.10		0.95		0.75-1.10	0.93	0.18
Depth (m)		2.0		4.1		3.2	2.0-4.1	3.1	1.1
Laboratory Determinations:									
Calcium (mg/l)	33.6	34.0	33.2	34.4	33.2	33.2	33.2-34.4	33.6	0.5
Magnesium (mg/l)	10.1	9.8	10.3	9.1	9.8	9.4	9.1-10.3	9.8	0.4
Sodium (mg/l)	12.1	12.1	12.1	11.9	12.1	12.1	11.9-12.1	12.1	0.08
Chloride (mg/l)	20.8	20.8	20.0	19.5	20.3	20.0	19.5-20.8	20.2	0.5
Nitrate (mg/l)	6.1	5.1	5.5	5.1	5.5	4.8	4.8-6.1	5.4	0.5
Sulfate (mg/l)	28.0	28.0	29.0	26.5	26.0	26.0	26.0-29.0	27.3	1.3
Phosphorus (mg/l)	1.30	0.05	0.04	0.06	0.05	0.05	0.04-1.30	0.26	0.51
Silica (mg/l)	0.33	0.30	0.44	0.40	0.30	0.33	0.30-0.44	0.35	0.06
Total Alkalinity (mg/l)	94	97	92	92	91	92	91-97	93	2
B.O.D. (mg/l)	4	4	4	4	3	3	3-4	3.7	0.5
Suspended Solids (mg/l)	2	1	2	1	4	3	1-4	2.2	1.2
Dissolved Solids (mg/l)	160	162	158	162	142	146	142-162	155	8.7
Turbidity (F.T.U.)	6	5	3	3	6	7	3-7	5	1.7
pH	8.9	8.6	8.7	8.7	8.8	8.6	8.6-8.9	8.7	0.1
Conductivity (umhos/cm)	315	315	305	305	302	300	300-315	307	6.5

TABLE 4

LAKE ERIE WATER QUALITY ANALYSES FOR AUGUST 1976

Dates:
Field 18 August 1976
Laboratory 19 August 1976

Parameters	Station No. 1		Station No. 8		Station No. 13		Range	Mean	Standard Deviation
	Surface	Bottom	Surface	Bottom	Surface	Bottom			
Field Measurements:									
Temperature (^{o}C)	22.0	22.0	22.0	22.0	22.0	22.0	0	22.0	0
Dissolved Oxygen (ppm)	8.0	8.0	8.0	6.0	8.0	8.0	6.0-8.0	7.7	0.8
Conductivity (umhos/cm)			240	240	240	240	0	240	0
Transparency (m)	0.75		1.30		0.95		0.75-1.30	1.0	0.28
Depth (m)		2.3		4.6		3.4	2.3-4.6	3.4	1.2
Laboratory Determinations:									
Calcium (mg/l)	31.2	31.2	31.2	31.2	31.2	31.6	31.2-31.6	31.3	0.2
Magnesium (mg/l)	7.2	7.2	7.2	7.2	7.2	7.2	0	7.2	0
Sodium (mg/l)	10.0	10.0	10.1	9.0	9.2	9.0	9.0-10.1	9.6	0.5
Chloride (mg/l)	15.8	16.3	16.3	15.8	15.8	15.8	15.8-16.3	16.0	0.3
Nitrate (mg/l)	0.6	0.6	0.3	0.3	0.3	0.3	0.3-0.6	0.4	0.2
Sulfate (mg/l)	22.0	21.0	21.0	21.0	23.0	22.0	21.0-23.0	21.7	0.8
Phosphorus (mg/l)	0.02	0.02	0.02	0.03	0.02	0.02	0.02-0.03	0.022	0.004
Silica (mg/l)	0.47	0.44	0.44	0.44	0.40	0.44	0.40-0.47	0.44	0.02
Total Alkalinity (mg/l)	90	89	88	89	89	88	88-90	88.8	0.8
B.O.D. (mg/l)	4	4	3	3	3	3	3-4	3.3	0.5
Suspended Solids (mg/l)	9	8	5	8	6	8	5-9	7.3	1.5
Dissolved Solids (mg/l)	144	148	142	152	144	150	142-152	147	4
Turbidity (F.T.U.)	8	8	5	7	6	8	5-8	7	1.3
pH	8.9	8.7	9.0	8.8	8.8	8.0	8.0-9.0	8.7	0.4
Conductivity (umhos/cm)	255	255	265	250	260	275	250-275	260	9

TABLE 5

LAKE ERIE WATER QUALITY ANALYSES FOR SEPTEMBER 1976

Dates:
Field 14 September 1976
Laboratory 15 September 1976

Parameters	Station No. 1		Station No. 8		Station No. 13		Range	Mean	Standard Deviation
	Surface	Bottom	Surface	Bottom	Surface	Bottom			
Field Measurements:									
Temperature (^{o}C)	19.5	18.0	19.5	18.0	19.5	18.0	18.0-19.5	18.8	0.8
Dissolved Oxygen (ppm)	9.5	9.3	9.4	8.6	9.2	8.4	8.4-9.5	9.1	0.5
Conductivity (umhos/cm)	250	250	250	250	250	250	0	250	0
Transparency (m)	0.55		0.80		0.65		0.55-0.80	0.67	0.13
Depth (m)		1.9		4.4		3.3	1.9-4.4	3.2	1.3
Laboratory Determinations:									
Calcium (mg/l)	32.0	32.0	32.0	32.0	32.0	32.0	0	32.0	0
Magnesium (mg/l)	7.7	7.7	7.7	7.7	7.7	7.7	0	7.7	0
Sodium (mg/l)	10.1	10.5	10.5	10.2	10.2	10.2	10.1-10.5	10.3	0.2
Chloride (mg/l)	16.0	15.0	16.0	16.0	16.5	16.0	16.0-16.5	16.08	0.2
Nitrate (mg/l)	0.3	0.6	0.9	0.3	0.6	0.9	0.3-0.9	0.6	0.3
Sulfate (mg/l)	20.0	20.0	20.5	20.5	20.0	20.0	20.0-20.5	20.2	0.3
Phosphorus (mg/l)	0.01	0.15	0.01	0.02	0.01	0.01	0.01-0.15	0.04	0.06
Silica (mg/l)	0.13	0.06	0.10	0.06	0.06	0.06	0.06-0.13	0.08	0.03
Total Alkalinity (mg/l)	100	100	102	104	90	96	90-104	99	5
B.O.D. (mg/l)	4	4	3	3	3	3	3-4	3.3	0.5
Suspended Solids (mg/l)	7	9	4	6	6	10	4-10	7	2
Dissolved Solids (mg/l)	198	210	170	214	170	170	170-214	189	21
Turbidity (F.T.U.)	9	7	7	10	7	10	7-10	8.3	1.5
pH	8.4	8.3	8.2	8.3	8.5	8.3	8.2-8.5	8.3	0.1
Conductivity (umhos/cm)	255	255	255	255	255	255	0	255	0

TABLE 6

LAKE ERIE WATER QUALITY ANALYSES FOR OCTOBER 1976

Dates:
Field 19 October 1976
Laboratory 20 October 1976

Parameters	Station No. 1		Station No. 8		Station No. 13		Range	Mean	Standard Deviation
	Surface	Bottom	Surface	Bottom	Surface	Bottom			
Field Measurements:									
Temperature (°C)	8.5	8.5	9.0	9.0	8.5	8.5	8.5-9.0	8.7	0.3
Dissolved Oxygen (ppm)	11.6	11.6	11.6	11.2	11.6	11.6	11.2-11.6	11.5	0.2
Conductivity (umhos/cm)	270	270	255	255	260	260	255-270	262	7
Transparency (m)	0.65		0.80		0.65		0.65-0.80	0.70	0.09
Depth (m)		1.7		4.3		2.3	1.7-4.3	2.8	1.4
Laboratory Determinations:									
Calcium (mg/l)	32.8	33.2	31.6	31.6	33.2	32.0	31.6-33.2	32.4	0.8
Magnesium (mg/l)	7.7	7.4	7.7	7.4	7.4	8.2	7.4-8.2	7.6	0.3
Sodium (mg/l)	10.0	10.0	9.0	9.0	9.0	9.0	9.0-10.0	9.3	0.5
Chloride (mg/l)	17.3	17.5	16.0	15.8	16.5	16.8	15.8-17.5	16.7	0.7
Nitrate (mg/l)	0.5	0.8	1.2	0.5	0.3	0.5	0.3-1.2	0.6	0.3
Sulfate (mg/l)	22.5	21.5	20.5	22.0	21.5	22.5	20.5-22.5	21.8	0.8
Phosphorus (mg/l)	0.02	0.04	0.04	0.04	0.02	0.06	0.02-0.06	0.04	0.02
Silica (mg/l)	0.06	0.06	0.06	0.10	0.10	0.10	0.06-0.10	0.08	0.02
Total Alkalinity (mg/l)	90	90	88	90	90	92	88-92	90	1.3
B.O.D. (mg/l)	4	4	2	2	3	4	2-4	3.2	1.0
Suspended Solids (mg/l)	20	27	12	9	17	26	9-27	18.5	7.3
Dissolved Solids (mg/l)	177	174	160	168	162	176	160-177	169.5	7.3
Turbidity (F.T.U.)	8	9	6	7	9	9	6-9	8	1.3
pH	8.8	8.9	8.8	8.8	8.9	8.7	8.7-8.9	8.8	0.08
Conductivity (umhos/cm)	240	249	228	233	233	238	228-249	237	7.3

TABLE 7

LAKE ERIE WATER QUALITY ANALYSES FOR NOVEMBER 1976

Dates:
Field 2 November 1976
Laboratory 3 November 1976

Parameters	Station No. 1		Station No. 8		Station No. 13		Range	Mean	Standard Deviation
	Surface	Bottom	Surface	Bottom	Surface	Bottom			
Field Measurements:									
Temperature (°C)	6.0	6.0	5.0	5.0	5.0	5.0	5.0-6.0	5.3	0.5
Dissolved Oxygen (ppm)	12.2	12.2	12.0	12.1	12.2	12.2	12.0-12.2	12.15	0.08
Conductivity (umhos/cm)	240	240	240	240	240	240	0	240	0
Transparency (m)	0.35		0.50		0.60		0.35-0.60	0.48	0.13
Depth (m)		1.5		4.0		2.2	1.5-4.0	2.6	1.3
Laboratory Determinations:									
Calcium (mg/l)	31.2	31.2	31.2	31.2	31.2	31.2	0	31.2	0
Magnesium (mg/l)	7.7	7.7	7.7	7.7	7.7	7.7	0	7.7	0
Sodium (mg/l)	7.6	7.6	7.1	7.1	7.1	7.1	7.1-7.6	7.3	0.3
Chloride (mg/l)	13.6	13.0	13.0	13.0	12.5	13.0	12.5-13.6	13.02	0.4
Nitrate (mg/l)	1.2	1.2	1.2	1.5	2.1	0.9	0.9-2.1	1.4	0.4
Sulfate (mg/l)	20.0	19.0	19.0	19.0	19.0	19.0	19.0-20.0	19.2	0.4
Phosphorus (mg/l)	0.04	0.04	0.04	0.02	0.02	0.02	0.02-0.04	0.03	0.01
Silica (mg/l)	0.08	0.05	0.03	0.03	0.03	0.03	0.03-0.08	0.04	0.02
Total Alkalinity (mg/l)	92	93	91	90	89	90	89-93	91	1.5
B.O.D. (mg/l)	3	3	2	2	2	2	2-3	2.3	0.5
Suspended Solids (mg/l)	39	41	18	23	24	19	18-41	27	10
Dissolved Solids (mg/l)	136	146	142	140	140	142	136-146	141	3
Turbidity (F.T.U.)	23	19	15	13	17	13	13-23	16.7	3.9
pH	8.2	7.9	8.1	8.1	8.2	8.4	7.9-8.4	8.2	0.2
Conductivity (umhos/cm)	248	248	230	230	230	230	230-248	236	9.3

TABLE 8

SOLAR RADIATION MEASUREMENTS[a] AT LOCUST POINT

Depth	Sta 3	Sta 8	Sta 13	Sta 14
Date: 4 August 1976; 1111-1235 hrs.				
Deck	1320	4600	3100	
Surface[b]	500	4400	2720	
0.5	475	3200	1800	
1.0	375	1900	1200	
1.5	280	900	550	
2.0	173	420	200	
2.5	127.5	175	80	
3.0	73	97.5		
Date: 30 September 1976; 1243-1442 hrs.				
Deck	3000	2680	2100	3920
Surface[b]	1880	1610	1500	3200
0.5	840	810	680	1500
1.0	400	430	290	720
1.5	179	184	100	360
2.0	84	86	43	70
2.5	40	46	16	31
3.0	14.9	19.8		13
3.5	7.3	11.4		
4.0		6.0		
Date: 19 October 1976; 1135-1203 hrs.				
Deck		2020	3400	
Surface[b]		1350	2000	
0.5		900	750	
1.0		380	190	
1.5		177	80	
2.0		85	20	
2.5		40	7.5	
3.0		16.5	3.0	
3.5		8.5		
4.0		4.5		

TABLE 8 (CON'T.)

SOLAR RADIATION MEASUREMENTS [a] AT LOCUST POINT

Depth	Sta 3	Sta 8	Sta 13	Sta 14
Date: 1 November 1976; 1115-1230 hrs.				
Deck [b]	630	770	700	
Surface	620	720	670	
0.5	280	540	300	
1.0	148	320	162	
1.5	70	180	70	
2.0	15.6	125	17	
2.5	4.5	62	4.2	
3.0	1.0	27		
3.5		13		
4.0		5.8		

a measurements taken with a Kahl Scientific Instrument Corp. submarine photometer, model no. 15M2-02 with readings expressed in microamps (μamps)

b Photocell awash, approximately 1 cm depth

TABLE 9

SURFACE CURRENT MEASUREMENTS IN LAKE ERIE
AT LOCUST POINT
AUGUST 1976

Date/Time	Station No.	Velocity (cm/sec)	Direction (compass°)
8-18-76/1100	13	9.2	180
8-18-76/1215	8	10.9	180

TABLE 10

MEAN VALUES AND RANGES FOR WATER QUALITY PARAMETERS
TESTED IN 1976

PARAMETER	March-June 1976		July-November 1976		Units
	Mean	Range	Mean	Range	
Temperature	11.3	1.5-22.0	15.4	5.0-22.0	°C
Dissolved oxygen	10.2	6.7-12.5	9.5	5.0-12.2	ppm
Conductivity	288	250-360	254	240-280	µmhos-cm
Transparency	0.4	0.1-1.0	0.76	0.35-1.30	m
Calcium	40.8	33.2-54.8	32.1	31.2-34.4	mg/l
Magnesium	8.8	6.2-11.5	8.0	7.2-10.5	mg/l
Sodium	11.2	10.0-14.8	9.7	7.1-12.1	mg/l
Chloride	19.0	15.5-22.0	16.4	12.5-20.8	mg/l
Nitrate	10.7	5.8-20.3	1.7	0.3-6.1	mg/l
Sulfate	32.3	20.0-51.0	22.0	19.0-29.0	mg/l
Phosphorus	0.09	0.02-0.28	0.08	0.01-1.3	mg/l
Silica	1.5	0.00-5.6	0.2	0.03-0.47	mg/l
Total alkalinity	100	90-113	92	88-104	mg/l
BOD	2.3	1-4	3.2	2-4	mg/l
Suspended solids	60	10-177	12	1-41	mg/l
Dissolved solids	216	154-326	160	136-214	mg/l
Turbidity	50.9	5-150	9	3-23	F.T.U.
Hydrogen-ions	8.2	7.8-8.5	8.5	7.9-9.0	pH

TABLE 11

MONTHLY MEAN POPULATIONS* OF INDIVIDUAL PHYTOPLANKTON TAXA AT LOCUST POINT - 1976

TAXA	March 18 **	April 14	May 17	June 16	July 20	August 18	Sept. 14	Oct. 19	Nov. 2	Grand Mean
BACILLARIOPHYCEAE (Diatoms)						1				0.1
Asterionella formosa						1	19	337	949	145
A. gracillima										
A. sp.	2166	16889	77	9	9					2128
Centric diatom	14	837	4		3					95
Coscinodiscus sp.							6			1
Cyclotella glomerata									2	0.2
C. sp.						9	40	71	20	16
Cymatopleura sp.					1	13				2
Cymbella sp.										
Diatoma elongata										
D. vulgare					2					0.2
D. sp.	2776	18682	4113							2841
Fragilaria crotenensis					223	252	1906	787	741	434
F. spp.	584	8552	2406	7	63	854	6588	373	2772	2850
Gyrosigma sp.					1		2			0.3
Melosira granulata						26	606	59	8	78
M. islandica						862	6138	5140	329	1385
M. sp.	840	24168	1509	71	72					2962
Naviculoid					9	84	2			11
Nitzchia sp.							1			0.1
Pleurosigma sp.							4			0.4
Stephanodiscus binderanus	15869	26389	401	1		1018	1912	24119	3023	8081
S. tenuis						23	85	52	3	18
S. sp					2					0.2
Surirella sp.		4								0.4
Synedra sp.	101	1150	113		10		2	5	3	154
Tabellaria sp.	57	6231	2686	2	11			22	148	1017
Subtotal	22404	102830	11414	90	403	3172	17383	34023	7993	22150
CHLOROPHYCEAE (Green Algae)										
Actinastrum sp.			30		11	9		180	8	26
Ankistrodesmus sp							2	2	1	1
Binuclearia sp.	8	4	146	57	98	39	801	1796	724	353
Closterium longissima					16		6	85		12
Closterium sp.		28	75		1		75	356	152	76

TABLE 11 CON'T.

MONTHLY MEAN POPULATIONS* OF INDIVIDUAL PHYTOPLANKTON TAXA AT LOCUST POINT - 1976

TAXA	March 15**	April 14	May 17	June 16	July 20	August 18	Sept. 14	Oct. 19	Nov. 2	Grand Mean
Coelastrum reticulata					19	27				5
Coelastrum sp.		4		5		10	39	71	5	15
Coelosphaerium sp.							20	59	11	10
Cosmarium sp.					6	10	4			2
Crucigenia sp.							2			0.2
Dictyosphaerium sp.		16	1			3			2	102
Errerella bornhemiensis								10		1
Eudorina sp.						17				2
Colenkinia sp.						3	4	22		3
Gomphonema sp.							1	2		0.3
Kirchneriella sp.				5			2	4		1
Lagerheimia sp.							2			0.2
Micractinium sp.			1				3	98	20	11
Microspora sp.					19	8				3
Mougeotia sp.		153	902	1	670	70	704	16000	10296	3000
Oedogonium sp.			18	31						5
Oocystis sp.			1	5	22	17	12	103	2	18
Pandorina sp.					1					0.1
Pediastrum biradiata						37	66	337	117	62
P. duplex					291	101	81	1084	89	184
P. simplex					660	1081	3503	2369	290	870
P. sp.	24		88	1381						166
Planktosphaeria (gelatinosa)								9		2
Scenedesmus acuminata								2		0.2
S. denticulatus							2			0.2
S. quadricauda							15	79		10
S. sp.		5	16		7	5	3	4		4
Schroederia setigera					1					
Selenastrum (Westii)								60		7
S. bibraianum								3		0.3
Sphaerocystis sp.								16	4	2
Staurastrum paradoxum					24	1	46	31		11
S. sp.				5				4		1
Tetrastrum sp.								4		0.4
Westella sp.					3					0.3
Unknown green algae							13			1
Subtotal	32	210	1273	1491	1847	1435	4907	21872	11744	4979

TABLE 11 CON'T.

MONTHLY MEAN POPULATIONS* OF INDIVIDUAL PHYTOPLANKTON TAXA AT LOCUST POINT - 1976

TAXA	March 18**	April 14	May 17	June 16	July 20	August 18	Sept. 14	Oct. 19	Nov. 2	Grand Mean
CHRYSOPHYCEAE										
(Brown Algae)										
Dinobryon sp.		85	131							24
Tribonema sp.						1				0.1
Subtotal		85	131			1				24
DINOPHYCEAE										
(Dinoflagellates)						4				0.4
Ceratium hirundinella					101	53	131	32	2	35
Ceratium sp.			3	12						2
Glenodinium sp.					1					0.1
Peridinium sp.		4			6	21				3
Subtotal	0	4	3	12	107	78	131	32	2	41
MYXOPHYCEAE										
(Blue-green Algae)										
Anabaena spiroides					12	164	30	17	18	27
A. sp.					27	24	17	37	4	12
Aphanizomenon sp.					83387	76563	874	1063	109	18000
Aphanizomenon/Oscillatoria			100	1						11
Aphanocapsa sp.					482	567	167	52		141
Aphanothece sp.					8	23	3	4		4
Chroococcus limneticus					10		6	13		3
C. sp.					20	18	38	10		10
Coelosphaerium sp.						59				7
Gomphosphaeria sp.						13	3			2
Gloeothece sp.							7			1
Lyngbya sp.						31	7			4
Merismopedia sp.					14					2
Microcystis incerta					77	271	103	34	6	55
M. sp.					626	373	178	44	2	136
Oscillatoria sp.	82	81		12	242	1056	2419	12873	2442	2134
Subtotal	82	81	100	13	84001	78161	3848	14203	2578	20552
PROTOZOA										
Saccate protozoan							763		7	86
TOTAL	22517	103209	12021	1604	87260	83846	27032	70128	22324	47871

* Expressed as no. of whole organisms/l and computed from duplicate vertical tows (bottom to surface) with a Wisconsin plankton net (12 cm diameter, 0.080 mm mesh) from 12 sampling stations on dates indicated.

** Only stations 1, 8, and 13 were sampled on this date.

TABLE 12

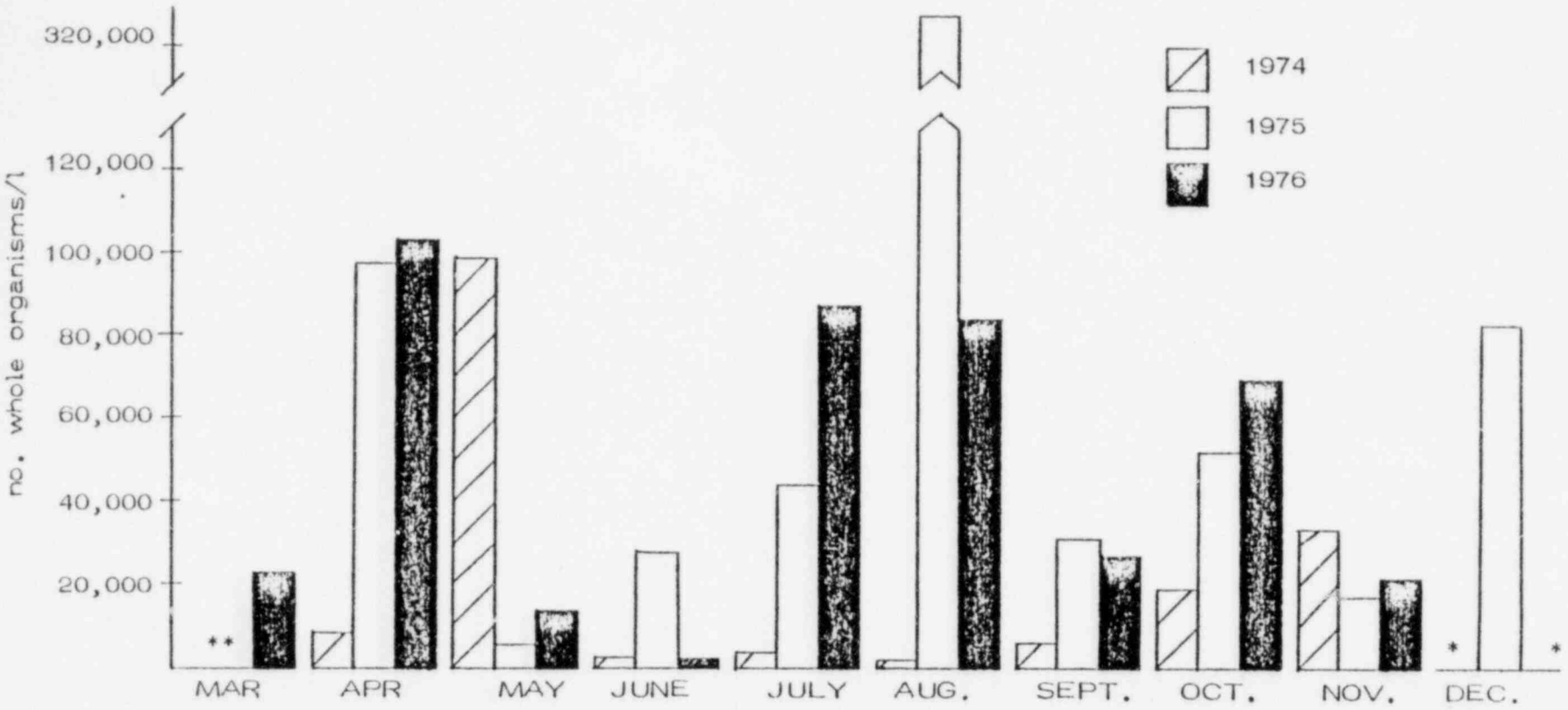
MONTHLY MEAN PHYTOPLANKTON POPULATIONS*
FROM SAMPLING STATIONS AT LOCUST POINT, LAKE ERIE - 1976

Date / Station	March 18	April 14	May 17	June 16	July 20	August 18	Sept. 14	Oct. 19	Nov. 2	Grand Mean
1	23558	112926	21163	2064	149117	49702	42784	122966	36167	62272
3	**	104261	12931	1607	113803	114372	27850	61120	14243	56279
6	**	135279	13285	1981	119667	112208	33446	68640	21931	63304
8	22747	89470	8705	1348	80734	112114	25488	52375	15181	45351
9	**	**	**	**	65916	**	23100	**	**	44508
12	**	103913	17988	1909	104391	81540	35260	113881	49442	63541
13	21247	113846	14294	1597	51393	91760	24936	98873	13995	47993
14	**	110837	11685	1000	62226	130016	23382	57700	16485	51666
18	**	100856	11712	1508	53939	71180	26484	69941	16485	44013
26	**	82940	9797	2118	124613	60381	22235	42279	21063	45678
27	**	100133	9841	1514	70364	69196	20118	51493	15510	42271
28	**	87765	10191	1119	66845	26076	20423	53610	24514	36318
29	**	96284	13455	1488	71370	87603	15996	48669	22991	44732
Grand Mean	22517	103209	12921	1604	87260	83846	26269	70129	22324	47787

* Data presented as no. of whole organisms/l and computed from duplicate vertical tows (bottom to surface) with a Wisconsin plankton net (12 cm diameter, 0.080 mm mesh) at each station.

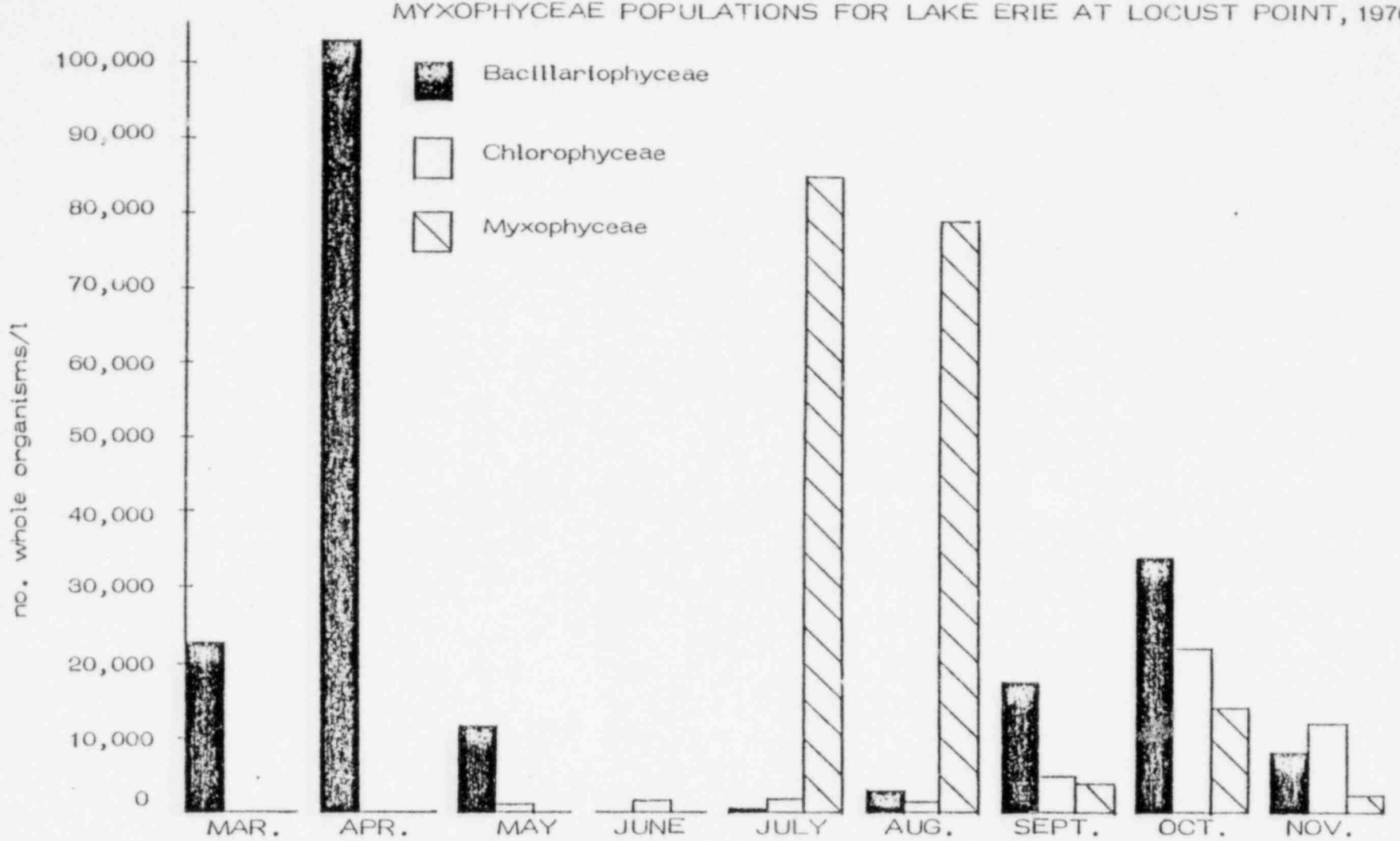
** No sample was collected

FIGURE 4. MONTHLY MEAN PHYTOPLANKTON POPULATIONS FOR LAKE ERIE AT LOCUST POINT, 1974 - 1976



* No sample collected

FIGURE 5. MONTHLY MEAN BACILLARIOPHYCEAE, CHLOROPHYCEAE, AND MYXOPHYCEAE POPULATIONS FOR LAKE ERIE AT LOCUST POINT, 1976.



Monthly mean Bacillariophycean populations ranged from 90/l in June to 102,830/l in April (Table 11). The mean population from all samples collected in 1976 was 22,190/l or 46% of the entire phytoplankton population. The dominant diatom taxa were Stephanodiscus binderanus in March, April, August, October and November; Diatoma sp. in May; Melosira sp. in June; Fragilaria crotenensis in July; and Fragilaria spp. in September. Stephanodiscus binderanus had the largest annual mean population, 8,081/l. Diatoms were the dominant algal group in the Locust Point vicinity from March to May and in September and October when they composed 99%, 99%, 88%, 64% and 49%, respectively, of the entire monthly phytoplankton population. In contrast to this, diatoms constituted only 0.5% of the July phytoplankton population.

Monthly mean Chlorophycean populations ranged from 32/l in March to 21,872/l in October (Table 11). The mean from all samples collected in 1976 was 4,979/l or 10% of the entire phytoplankton population. The dominant Chlorophycean taxa were Pediastrum sp. in March and June; Mougeotia sp. in April, May, July, October and November; and Pediastrum simplex in August and September. Mougeotia sp. had the largest annual mean population, 3,098/l or 62% of the Chlorophycean total. Chlorophyceans were the dominant algal group only in November when they constituted 53% of the entire phytoplankton population. In contrast to this, green algae constituted only 0.1% of the March phytoplankton population.

The class Chrysophyceae was represented by only 2 taxa, Dinobryon sp. and Tribonema sp., and occurred in April, May and August (Table 11). Dinobryon sp. constituted 1% of the May phytoplankton population.

The Dinophyceae were represented by 4 taxa (Table 11). The monthly mean population ranged from 0/l in April to 131/l in September when they represented 0.5% of the entire phytoplankton population.

Monthly mean Myxophycean populations ranged from 13/l in June to 84,901/l in July (Table 11). The mean Myxophycean population from all samples collected in 1976 was 20,552/l or 43% of the entire phytoplankton population. The dominant Myxophycean taxa were Oscillatoria sp. in March, April, June, September, October and November; Aphanizomenon/Oscillatoria in May; and Aphanizomenon sp. in July and August. Aphanizomenon sp. had the largest annual mean population, 18,000/l. Myxophyceans were the dominant algal group in July and August when they constituted 97% and 94%, respectively, of the phytoplankton population.

Values from individual sampling stations and dates from July-November 1976 are contained in Appendix A.

Zooplankton. Zooplankters collected March through November 1976 were placed in 72 taxa, generally to the species level (Table 13). Thirty-two taxa were grouped under Rotifera, 22 under Copepoda, 13 under Cladocera, and 5 under Protozoa.

Monthly mean populations ranged from 32/l in March to 1168/l in July. The mean population from all samples collected in 1976 was 625/l. Zooplankton populations from individual sampling stations ranged from 30/l at Station 8 in March to 1,493/l at Station 1 in November (Table 14).

Monthly mean rotifer populations ranged from 27/l in March to 681/l in October (Table 13). The annual mean rotifer population from all samples collected during 1976 was 298/l or 48% of the entire zooplankton population. The dominant rotifer taxa during 1976 were Synchaeta spp. in March and August; Notholca spp. in April; Keratella quadrata in May, June, October, and November; Brachionus angularis in July; and Trichocerca multicrinis in September. Synchaeta sp. had the largest annual mean population, 89/l. Rotifera was the dominant zooplankton group in March, April, May, August, October, and November composing 84%, 81%, 57%, 72%, 82%, and 79%, respectively, of the entire zooplankton population. In contrast to this, rotifers constituted only 5% of the July zooplankton population.

Monthly mean copepod populations ranged from 5/l in March to 283/l in June (Table 13). The mean copepod population from all samples collected during 1976 was 110/l or 18% of the entire zooplankton population. The dominant copepod stages were cyclopoid nauplii from March through May and from August through November, immature cyclopoids in June and immature Cyclops vernalis in July, Cyclopoid nauplii had the largest annual mean population, 49/l. Copepoda was never the dominant zooplankton group, but reached its greatest significance in June when it constituted 40% of the entire zooplankton population. The abrupt pulse in May and June was largely due to immature cyclor .d forms.

Monthly mean cladoceran populations ranged from 0.2/l in March to 335/l in June (Table 13). The mean cladoceran population from all samples collected during 1976 was 90/l or 14% of the entire zooplankton population. Cladoceran populations were dominated by Daphnia retrocurva in March, April, and June and by Eubosmina coregoni in May and from July through November. Eubosmina coregoni had the largest annual

TABLE 13

MONTHLY MEAN POPULATIONS* OF INDIVIDUAL ZOOPLANKTON TAXA AT LOCUST POINT - 1976

TAXA	March 18	April 14	May 17	June 16	July 20	August 18	Sept. 14	Oct. 19	Nov. 2	Grand Mean
ROTIFERA										
Asplanchna (giroldii)									0.04	0.0
A. priodonta		0.1	40.5	0.1	5.8		6.8	4.6	1.5	6.6
A. spp.						25.1		0.3		2.8
Bipalpus hudsoni					0.1	0.1		0.1		0.03
Brachionus angularis	0.9	1.4	2.1	3.4	18.3	19.7	0.5	0.3		5.2
B. calyciflorus	0.2	3.0	2.2		1.1	2.9	0.1	10.2	7.5	3.0
B. diversicornus					0.1	0.9	6.0	2.1		1.0
B. havanaensis					0.9			0.1		0.1
B. urceolaris		0.1	0.2		0.1				0.03	0.05
Chromogaster ovalis					0.1					0.01
Conochiloides sp.			4.3	44.9	0.1			0.1	1.4	5.6
Filinia longiseta									0.1	0.01
F. terminalis	0.4	0.6	6.4	.03	0.1				0.2	0.9
Gastropus stylifer									0.03	0.0
Kellicottia longispina	0.1	1.7	14.8	7.9	0.8	0.3	0.6	0.3	1.8	3.1
Keratella cochlearis	1.2	5.5	27.2	10.8	2.0	2.7	6.9	102.0	157.1	35.0
K. quadrata	1.0	0.7	268.7	92.0	1.2	1.2	6.0	200.0	170.7	82.4
K. serrulata					1.0	0.8	17.4	61.0	7.6	9.8
K. valga					0.1					0.01
Notholca labis									0.04	0.0
N. squamula									0.2	0.02
N. spp.	0.8	123.7	2.7	0.03	0.1					14.1
Pleosoma lenticulare							0.2	1.0	0.6	0.2
P. sp.								0.1		0.01
Polyarthra spp.	6.3	6.5	69.5	9.6	3.0	30.6	26.4	195.0	35.7	42.5
Pompholyx sulcata				0.2	7.3		11.9	7.0		2.8
Synchaeta spp.	16.5	18.7	14.1		10.4	504.0	0.4	109.0	128.1	89.0
Testudinella spp.		0.02			0.1					0.01
Trichocerca cylindrica						0.1		1.0	0.2	0.1
T. multicrinis			0.3	1.5	0.3	1.3	35.2	1.0	0.2	4.4
Trichotria tetractis					0.3		0.8	0.2		0.2
Unknown					0.1	2.0		0.1		0.2
Subtotal	27.2	161.7	452.6	87.3	53.2	591.7	110.0	681.0	513.0	298.0

TABLE 13 CON'T.

MONTHLY MEAN POPULATIONS OF INDIVIDUAL ZOOPLANKTON TAXA AT LOCUST POINT - 1976

TAXA	March 18 ++	April 14	May 17	June 16	July 20	August 18	Sept. 14	Oct. 19	Nov. 2	Grand Mean
COPEPODA										
Calanoid Copepods										
Diaptomus minutus							0.1			0.01
D. oregonensis		1.2			0.8	0.1	0.5			0.3
D. sicilis										
D. sicilloides					0.6	0.1	0.7	0.1	0.2	0.3
D. spp.			4.8	2.5						0.8
Immatures, Diaptomus		0.4	16.7	2.4						2.2
Epischura lacustris			0.02			0.1				0.01
Eurytemora affinis			0.9	0.1						0.12
Immatures, E. affinis			2.8	1.0						0.44
Limnocalanus macrurus									0.7	0.11
Skistodiaptomus oregonensis									0.1	0.01
Immatures, Calanoid					4.7	0.4			3.9	1.4
Nauplii, Calanoid	0.2	14.2	32.5	12.9	10.6	2.9	1.1	15.7	8.2	10.9
Unidentified, Calanoid							0.1			0.01
Cyclopoid										
Cyclops bicuspidatus thomasi		0.9	6.1	0.2	0.2	0.1	0.2		0.9	1.0
Immature, C.b.t.						0.7	6.6	12.3	20.1	4.4
C. vernalis		0.04	4.4	70.8	10.4	0.3	3.3	0.2	1.2	10.1
Immatures, C. vernalis					17.7	3.6	11.6	3.8	14.5	5.7
Mesocyclops edax				0.03						0.0
Tropocyclops prasinus			0.03				0.1	0.2	0.2	0.06
Immatures, Cyclopoid	0.5	0.9	57.6	110.2	13.6	0.1				20.3
Nauplii, Cyclopoid	4.1	20.0	146.3	73.7	8.8	24.6	29.7	67.4	69.4	49.3
Subtotal	4.9	37.7	271.9	282.5	67.5	32.6	65.8	105.3	119.2	109.7

TABLE 13 CON'T.

MONTHLY MEAN POPULATIONS* OF INDIVIDUAL ZOOPLANKTON TAXA AT LOCUST POINT - 1976

TAXA	March 18**	April 14	May 17	June 16	July 20	August 18	Sept. 14	Oct. 19	Nov. 2	Grand Mean
CLADOCERA										
Alona affinis				0.2						0.02
Bosmina longirostris	0.1	0.1	16.4	99.2	0.3		0.1	1.9	1.5	13.3
Ceriodaphnia sp.			0.2	0.1						0.03
Chydorus sphaericus		0.03	1.9	3.1	1.8	0.7	55.4	10.8	3.1	8.5
Daphnia galeata mendota				1.2	1.0	0.1	0.1			0.24
D. parvula				0.2						0.02
D. pulex			0.04						0.02	0.0
D. retrocurva	0.1	0.8	3.9	137.7	69.3	0.1	41.0	0.4	0.3	28.2
Diaphanosoma leuchtenbergianum			0.1	0.4	0.8	0.6	6.4			0.9
Eubosmina coregoni		0.2	20.5	92.7	106.4	1.0	95.7	12.7	7.1	37.3
Holopedium gibberum			0.1							0.01
Leptodora kindtii			0.02	0.04	0.4		1.7			0.27
Unknown							0.1			0.01
Subtotal	0.2	1.1	43.0	334.7	180.1	2.4	204.7	25.9	16.9	89.9
PROTOZOA										
Centropyxis sp.						11.0				1.2
Difflugia sp.	0.1		19.7	2.2	93.2	2.9	36.3	18.9	1.0	19.4
Saccate Protozoan					705.6	184.0				98.8
Unidentified Protozoan A					68.8					7.6
Unidentified Protozoan B										
Subtotal	0.1	0.0	19.7	2.2	867.6	198.1	36.3	18.9	1.0	127.1
TOTAL	32.4	200.4	787.2	706.7	1168.2	824.8	425.6	830.6	650.0	625.1

* Expressed as no./l and computed from duplicate vertical tows (bottom to surface) with a Wisconsin plankton net (12 cm diameter; 0.080 mm mesh) from 12 sampling stations, on the dates indicated.

** Only stations 1, 8, and 13 were sampled.

TABLE 14

MONTHLY MEAN ZOOPLANKTON POPULATIONS*
FROM SAMPLING STATIONS AT LOCUST POINT, LAKE ERIE - 1976

Date / Station	March 18	April 14	May 17	June 16	July 20	August 18	Sept. 14	Oct. 19	Nov. 2	Grand Mean
1	34	311	763	1083	563	842	866	1170	1493	792
3	**	218	1007	759	454	731	410	855	520	619
6	**	209	768	718	467	559	441	883	512	570
8	30	127	846	678	248	435	243	513	489	401
9	**	**	**	**	370	**	357	**	**	364
12	**	189	740	910	520	1152	611	1323	986	804
13	33	219	781	803	387	793	417	984	569	554
14	**	219	744	501	325	413	369	982	529	510
18	**	197	662	527	250	924	461	867	512	550
26	**	164	917	723	262	430	340	446	543	501
27	**	198	842	590	156	453	367	545	536	461
28	**	186	761	565	357	233	251	413	450	402
29	**	171	615	622	461	745	400		661	583
Grand Mean	32	200	787	707	395	630	426	831	650	518

* Data presented as no. of organisms/l and computed from duplicate vertical tows (bottom to surface) with a Wisconsin plankton net (12 cm diameter, 0.080 mm mesh) at each station. Protozoans other than Difflugia sp. were not included.

** No sample was collected.

mean population, 37/l. Cladocera was the dominant zooplankton group in June when it constituted 47% of the entire zooplankton population. Were it not for large Protozoan populations in July, Cladocera would have dominated, for it constituted 60% of the total for the remaining zooplankton groups. Cladocerans composed only 0.2% of the August zooplankton population.

Monthly mean protozoan populations ranged from 0/l in April to 868/l in July (Table 13). Protozoans were most abundant in July and August when they constituted 74% and 24%, respectively, of the entire zooplankton population.

Values from individual sampling stations and dates from July through November 1976 are contained in Appendix B.

Benthos

Benthic macroinvertebrates collected March through November 1976 were grouped in 51 taxa, generally to the genus or species level, within 4 phyla (Table 15). Two taxa were in Coelenterata, 17 in Annelida, 21 in Arthropoda, and 11 in Mollusca.

Monthly mean benthic macroinvertebrate populations ranged from 127/m^2 in March to 3,753/m^2 in September with an annual mean population of 1,801/m^2. These populations were strongly dominated by Annelids and Arthropods. Populations at individual sampling stations along the 4 sampling transects appear to increase with distance offshore (Fig. 6 and Table 16). Population densities at the intake (Station 8) and discharge (Station 12) structures appear to be reduced.

Monthly mean Annelid populations ranged from 113/m^2 in March to 2,715/m^2 in September with an annual mean for all samples collected in 1976 of 1,330/m^2 or 74% of the entire benthic macroinvertebrate population (Table 15). Immature Oligochaeta was always the dominant group in Annelida ranging from 113/m^2 in March to 2,309/m^2 in September. Annelida was always the dominant group in the benthos.

Monthly mean Arthropod populations ranged from 11/m^2 in March to 1,035/m^2 in September with an annual mean of 439/m^2 (Table 15). The dominant Arthropod taxa were Gammarus fasciatus in March; Cryptochironomus sp. in April; Chironomus sp. in May, June, and November; Leptodora kindtii from July through September; and Tanytarsus sp. in October. Leptodora kindtii had the largest annual mean population, 241/m^2.

TABLE 15

MONTHLY MEAN POPULATIONS* OF INDIVIDUAL BENTHIC MACROINVERTEBRATE TAXA AT LOCUST POINT - 1976

TAXA	March 18**	April 9	May 4	June 7	July 5	August 5	Sept. 3	Oct. 5	Nov. 1	Grand Mean
COELENTERATA										
Hydra sp. (budding polyp)		0.4	21.6	57.3	2.8		1.1	58.0	2.5	16.0
Hydra sp. (single polyp)		2.5	29.0	52.7	2.1	0.4	0.7	13.8	3.2	11.6
Subtotal		2.8	50.6	110.0	5.0	0.4	1.8	71.8	5.8	27.6
ANNELIDA										
Hirudinea										
Dina sp.							0.4	1.1		0.2
Helobdella elongata						1.1				0.1
H. fusca		0.4	0.6							0.1
H. lineata				0.4						0.04
H. stagnalis		2.1	1.0		3.9	1.4	0.4		0.4	1.0
Placobdella montifera					1.1	1.1	0.4	0.7	0.7	0.4
Oligochaeta										
Immatures (hair setae)		0.4	0.6	2.8			14.5	0.7		2.1
Immatures (no hair setae)	112.5	470.4	366.4	553.9	1233.4	1792.9	2308.9	2002.0	1443.8	1142.7
Branchiura sowerbyi		3.9	3.5	5.7	13.8	21.6	23.0	14.5	20.9	11.9
Limnodrilus cervix		3.9	7.8	9.9	5.3	23.3	29.0	6.0	8.1	10.4
L. claperdeianus		3.2	1.0	6.4	1.4	0.7	5.0	4.6	0.7	2.6
L. claperdeianus-cervix				1.1	1.8	0.7	0.7	0.7		0.6
L. maumeensis		3.2	5.0	7.5	3.9	5.7	9.9	8.5	3.5	5.2
L. profundicola					1.1	3.7	0.7	0.7		0.7
L. udekemianus		1.8	2.8	6.7	1.9	4.3	13.4	3.2		3.8
Ophidonais serpentina				95.5	156.5	318.7	293.9	177.6	159.9	133.6
Potamothrix moldaviensis		13.4	5.7	21.6	29.4	45.6	15.9	6.0		15.3
Subtotal	112.5	505.8	368.2	708.8	1416.8	2211.6	2715.3	2225.9	1704.5	1330.0
ARTHROPODA										
Cladocera										
Leptodora kindtii			22.6	28.7	902.5	309.1	731.4	77.1	8.5	241.1
Amphipoda										
Crangonyx sp.						0.7	1.1			0.2
Gammarus fasciatus	8.4	5.6	14.5	20.4	13.1	16.6	11.7	12.4	22.3	14.7
Hyalella azteca				1.8						0.2
Isopoda										
Asellus militaris					0.5			0.4		0.1
Diptera-Chironomidae										
Chironomus sp.		7.4	44.9	333.5	40.7	61.2	37.1	48.3	65.8	71.0

TABLE 15 CON'T.

MONTHLY MEAN POPULATIONS* OF INDIVIDUAL BENTHIC MACROINVERTEBRATE TAXA AT LOCUST POINT - 1976

TAXA	March 18**	April 9	May 4	June 7	July 5	August 5	Sept. 3	Oct. 5	Nov. 1	Grand Mean
Chironomus pupa				1.1	1.1	2.1	2.1			0.7
Cryptochironomus sp.	4.2	15.6	27.9	8.9	18.7	6.4	46.3	32.5	47.8	23.1
Cryptochironomus pupa							0.4			0.04
Glyptotendipes sp.					0.5		7.4	12.0	42.8	7.0
Polypedilum sp.					69.0	66.8	56.2	30.4	36.4	28.8
Procladius sp.		0.4		8.1	4.6	71.5	57.7	44.6	12.4	22.1
Procladius pupa						2.5	2.1	0.4		0.6
Tanytarsus sp.		1.8	0.6	1.4	0.7	11.3	71.5	101.9	30.4	
Tanytarsus pupa							12.8	2.5		1.7
Xenochironomus sp.					0.5	2.5	5.7		0.4	1.0
Ephemeroptera										
Caenis sp.			0.7	3.5	3.2	4.6	1.1	2.1	4.9	2.2
Trichoptera										
Cheumatopsyche sp.						0.7	0.4	364.0	0.7	40.6
Polycentropus sp.			1.0							0.1
Potamyia sp.		0.4	0.7							0.1
Psychomyia sp.										
Subtotal	10.6	31.1	111.1	420.2	1145.6	559.5	1034.9	364.0	272.3	438.8
MOLLUSCA										
Gastropoda										
Bithnia tentaculata			0.7							0.1
Gontobasis sp.				0.4						0.04
Lymnaea sp.			0.6							0.1
Physa sp.										
Pelecypoda										
Amblema sp.	2.1	0.7		0.4						0.4
Fusconaia flava				0.7						0.1
Lampsilis sp.			0.6		0.7	0.4			0.4	0.2
Ligumia sp.				0.4		0.7		0.4		0.2
Proptera sp.			0.6					0.4		0.1
Quadrula sp.	2.1			0.4						0.3
Immatures							0.4	0.4		0.1
Subtotal	4.2	0.7	1.8	2.1	0.7	1.1	0.4	1.1	0.4	1.4
TOTAL	127.8	540.1	558.5	1245.4	2559.2	2781.9	3752.6	2663.4	1962.5	1801.2

* Expressed as no./m^2 and computed from 3 grabs with a Ponar dredge (A=0.052 m^2) from each of 18 sampling stations on the dates indicated.

** Only stations 1, 8, and 13 were sampled.

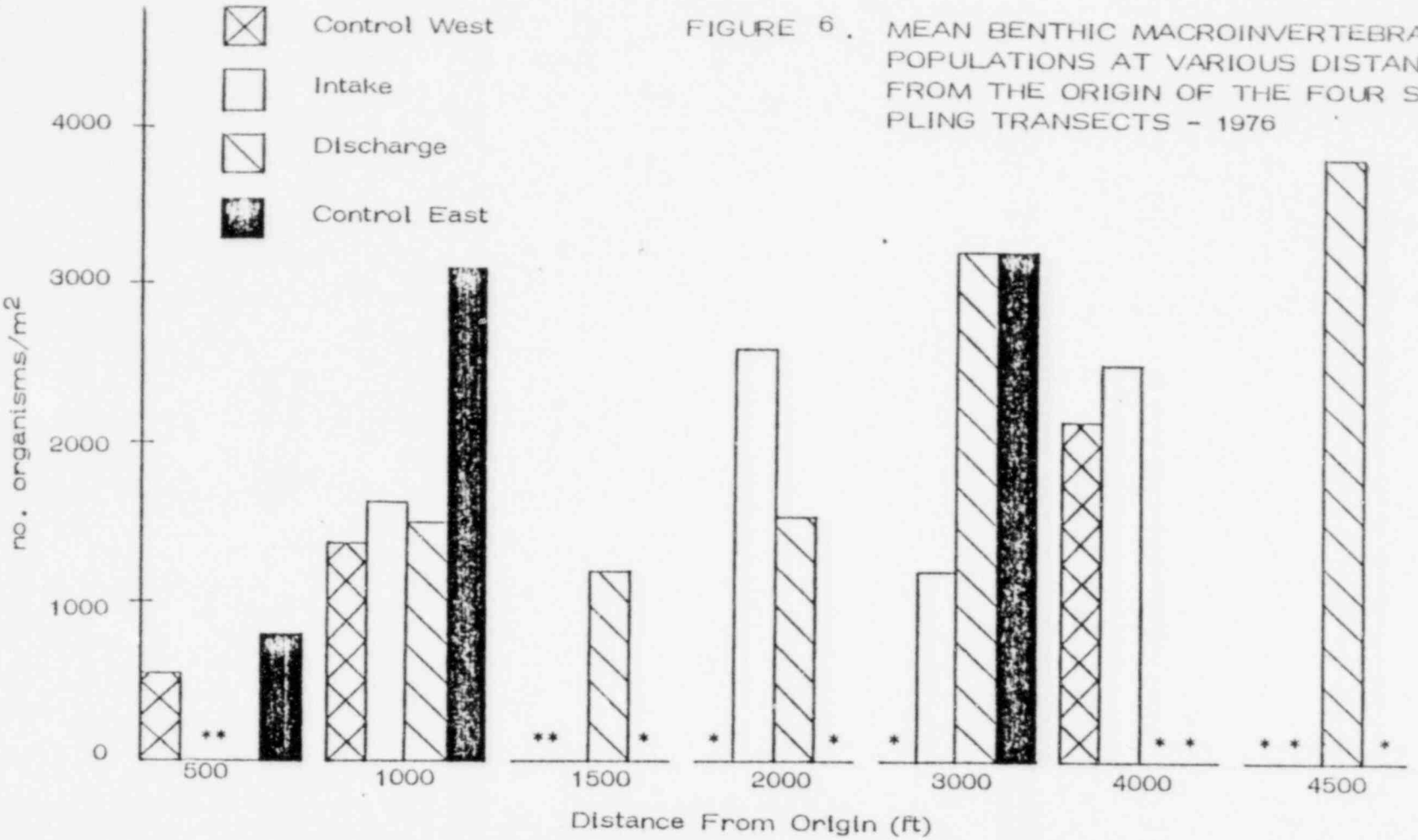


FIGURE 6. MEAN BENTHIC MACROINVERTEBRATE POPULATIONS AT VARIOUS DISTANCES FROM THE ORIGIN OF THE FOUR SAMPLING TRANSECTS - 1976

* No sampling station at this distance on this transect.

TABLE 16

MONTHLY MEAN BENTHIC MACROINVERTEBRATE POPULATIONS*
FROM SAMPLING STATIONS AT LOCUST POINT, LAKE ERIE - 1976

Date / Station	March 18	April 9	May 4	June 7	July 5	August 5	Sept. 3	Oct. 5	Nov. 1	Grand Mean
1	134	13	337	662	942	599	509	548	1184	548
3	**	172	388	1554	3565	210	2540	2006	1573	1376
6	**	490	579	923	2349	2990	3627	376	1961	1662
7	**	2197	350	528	2782	5023	4756	4565	509	2589
8	57	64	872	1598	1834	758	2992	2604	172	1217
9	**	178	1560	3725	2470	4807	5175	1993	242	2519
11	**	89	312	968	974	1751	6252	783	981	1514
12	**	57	522	439	1331	1267	2272	2547	1165	1200
13	191	83	280	624	4138	2101	3795	5100	382	1555
14	**	1178	784	2171	3731	6067	4476	2190	5160	3220
15	**	26	229	592	2649	3062	3432	3457	670	1765
16	**	64	229	121	490	1261	2368	376	248	645
17	**	267	191	108	592	1738	2814	363	446	815
18	**	458	185	452	5539	4164	5768	3534	4565	3083
26	**	573	987	3132	1614	1127	2547	3928	3368	2160
27	**	3082	497	2566	6494	5494	4463	4769	4425	3974
28	**	528	1598	1655	2655	4253	7793	4590	7225	3787
29	**	204	83	599	1916	3400	1967	4215	1413	1725
Grand Mean	127	540	559	1245	2559	2782	3753	2663	1983	1801

* Data presented as no/m^2 and computed from 3 grabs with a Ponar dredge (A = 0.052 m^2) at each station on the dates indicated.

** No sample was collected.

Values for individual sampling stations and dates from July through November 1976 are contained in Appendix C.

Fish

Of the 47 species reported from the Locust Point vicinity since 1963, 25 were captured in 1976 (Table 17). The 5 fishing methods employed yielded 78,217 fish (Table 18). The combined results of the gill nets, shore seines, and trawls (methods used to capture juveniles and adults in the lake proper) indicated that alewife (Alosa pseudoharengus), gizzard shad (Dorosoma cepedianum), white bass (Morone chrysops), emerald shiners (Notropis atherinoides), spottail shiners (N. hudsonius), and yellow perch (Perca flavescens) were the dominant species in the Locust Point vicinity (Table 19).

Gill Nets. Gill nets set from April to November yielded 2,397 fish (catch per unit effort [CPE] = 171) representing 17 species or 3% of the total 1976 catch (Table 18). The monthly catch ranged from 111 fish (CPE = 56) of 12 species in June to 623 fish (CPE = 312) of 13 species in September-October. Station 13 produced 69% of the total catch. Results for individual species on each sampling date, July-November, and at each station are presented in Appendix D.

Shore Seines. Shore seining in 1976 yielded 60,746 fish (CPE = 2531) of 17 species, 75% of the total catch in 1976 (Table 18). Of these, 93% (56,594 - CPE = 18,865) were collected in July. Young-of-the-year alewife accounted for 53% (30,251) of the July catch, while young-of-the-year gizzard shad represented 44% of this collection. In contrast to this only 128 fish (CPE = 43) of 6 species were collected in April. Additional results are contained in Appendix D.

Trawl. Trawling from April-November yielded 1,217 fish (CPE = 152) representing 16 species (Table 18). Monthly CPE results ranged from 6 fish of 2 species in May to 497 fish of 9 species in August. Additional results from July-November are contained in Appendix D.

Hoop Nets. Hoop nets, used only within the marshes, yielded 24 fish (CPE = 1.7) of 5 species in 1976 (Table 18). Additional results collected from July-October are contained in Appendix D.

Fry Net. Fry netting from April through August of 1976 yielded 16,721 larvae and 4,838 eggs (Table 20). Over 72% of the larvae and 92% of the eggs collected were captured at the surface. No eggs were collected in July or August, and only 4 larvae were captured during the last 2 collection periods in August. The number of surface larvae collected tended to increase from east to west and shoreward. Concen-

TABLE 17

SPECIES FOUND IN THE LOCUST POINT AREA 1963 - 1976[1]

1972	1973	1974	1975	1976	Scientific Name[2]	Common Name
					Amiidae	
*		*	*		Amia calva	bowfin
					Atherinidae	
		*	*	*	Labidesthes sicculus	brook silversides
					Catostomidae	
*				*	Carpiodes cyprinus	quillback carpsucker
*	*	*	*	*	Catostomus commersoni	common white sucker
		*			Minytrema melanops	spotted sucker
*					Moxostoma erythrurum	golden redhorse
*					Ictiobus cyprinellus	bigmouth buffalo fish
				*	Hypentelium nigricans	hog sucker
					Centrarchidae	
		*			Ambloplites rupestris	northern rockbass
	*	*	*		Lepomis cyanellus	green sunfish
		*	*		L. gibbosus	pumpkinseed sunfish
	*	*			L. humilis	orangespotted sunfish
		*	*		L. macrochirus	northern bluegill sunfish
	*				L. microlophus	redear sunfish
*	*	*			Micropterus dolomieui	smallmouth bass
	*	*			M. salmoides	largemouth bass
	*	*	*	*	Pomoxis annularis	white crappie
*	*	*	*	*	P. nigromaculatus	black crappie
					Clupeidae	
*	*	*	*	*	Alosa pseudoharengus	alewife
*	*	*	*	*	Dorosoma cepedianum	gizzard shad
					Cyprinidae	
*	*	*	*	*	Carassius auratus	goldfish
*	*				C. auratus x Cyprinus carpio	carp x goldfish hybrid
*	*	*	*	*	Cyprinus carpio	carp
	*	*	*	*	Hybopsis storeriana	silver chub
*	*	*	*	*	Notropis atherinoides	emerald shiner
*	*	*	*	*	N. hudsonius	spottail shiner

TABLE 17CON'T.
SPECIES FOUND IN THE LOCUST POINT AREA 1963 - 1976[1]

1972	1973	1974	1975	1976	Scientific Name[2]	Common Name
	*		*	*	N. spilopterus	spotfin shiner
	*		*		N. volucellus	mimic shiner
			*		Pimephales promelas	fathead minnow
					Esocidae	
					Esox lucius	northern pike
					Ictaluridae	
		*	*		Ictalurus melas	black bullhead
*	*	*			I. natalis	yellow bullhead
*	*	*	*	*	I. nebulosus	brown bullhead
*	*	*	*	*	I. punctatus	channel catfish
					Noturus flavus	stonecat madtom
					Lepisosteidae	
		*		*	Lepisosteus osseus	longnose gar
					Osmeridae	
*	*	*	*	*	Osmerus mordax	rainbow smelt
					Percidae	
			*		Etheostoma nigrum	johnny darter
*	*	*	*	*	Perca flavescens	yellow perch
	*	*	*	*	Percina caprodes	logperch darter
			*	*	Stizostedion canadense	sauger
*	*	*	*	*	S. v. vitreum	walleye
					Percichthyidae	
*	*	*	*	*	Morone chrysops	white bass
					Percopsidae	
	*	*	*	*	Percopsis omiscomaycus	trutperch
					Petromyzontidae	
		*			Petromyzon marinus	sea lamprey
					Salmonidae	
*		*			Oncorhynchus kisutch	coho salmon
					Sciaenidae	
*	*	*	*	*	Aplodinotus grunniens	freshwater drum
23	28	34	30	25		

1 Including those collected on Federal Aid Project F-41-R.
2 Bailey et al. (1970)

TABLE 18

NUMBER OF FISH COLLECTED AT LOCUST POINT FROM APRIL-NOVEMBER 1976 WITH EQUAL MONTHLY EFFORT[1] WITH EACH PIECE OF FISHING EQUIPMENT

METHOD OF CAPTURE	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER		OCTOBER		NOVEMBER		TOTAL	
	No. of Fish	No. of Species	No. of Fish	No. of Species	No. of Fish	No. of Species	No. of Fish	No. of Species	No. of Fish	No. of Species	No. of Fish	No. of Species	No. of Fish	No. of Species	No. of Fish	No. of Species	No. of Fish	No. of Species
Gill Net[3]	295	8	391	13	149	12	412	10	416	9	622	13	No Sample		150	4	2436	17
Shore Seine[4]	128	8	1134	7	189	8	56594	10	1408	8	262	6	375	8	506	2	60746	17
Trawl[5]	52	6	6	2	15	5	12	4	497	9	345	11	91	9	109	5	1217	16
Hoop Net[6]	3	2	1	1	1	1	5	2	0	0	11	3	3	2	No Sample		24	5
Fry Net[7]	553	3	230	6	12054	13	3763	5	121	4	No Sample		No Sample		No Sample		16721	13
TOTAL	1031	12	1761	16	12370	18	57898	14	2502	11	1241	17	469	11	945	6	81144	25

1 These values represent the sum of the CPE results from all stations at which each piece of fishing equipment was used each month.

2 The nets were set on September 30 and pulled on October 1.

3 Six units of effort/month.

4 Three units of effort/month.

5 One unit of effort/month.

6 Two units of effort/month.

7 Thirty-six units of effort/month. Only larvae are reported.

TABLE 19

MONTHLY CATCH OF INDIVIDUAL FISH SPECIES AT LOCUST POINT WITH EQUAL EFFORT* USING GILL NETS, SHORE SEINES, AND TRAWLS - 1976 (EXPRESSED AS NUMBER OF INDIVIDUALS)

SPECIES COLLECTED	April	May	June	July	August	Sept.	Oct.	Nov.	Mean
Alosa pseudoharengus		36	9	30266	921	453	957	262	4032
Aplodinotus grunniens		4	24	45	19	2	2		12
Carassius auratus	5	7	7			1	1		3
Cyprinus carpio	73	11	36	19	24	4	5		22
Dorosoma cepedianum	20	4	16	24786	582	345	460	61	3284
Hybopsis storeriana			1						0.1
Ictalurus nebulosus		4				2	1		1
I. punctatus			9	9		2	1		3
Labidesthes sicculus					1				0.1
Morone chrysops	1	5	4	1500	487	93	11		263
Notropis atherinoides	25	1112	137	58	33	39	61	595	258
N. hudsonius	109	266	31	58	161	108	66	25	118
N. spilopterus				7					1
Osmerus mordax		1				3	1		1
Perca flavescens	143	42	70	249	147	169	164	1	123
Percina caprodes				2		1	1		1
Percopsis omiscomaycus	1	2	1				1		1
Pomoxis annularis			1		4	1	1		1
P. nigromaculatus	3	2				2	1		1
Stizostedion canadense		3	1	2		1	1		1
S. v. vitreum	2			17	2	4	3		5
Number of Species	11	15	15	13	11	17	18	5	21
TOTAL	477	1533	352	57018	2381	1230	1088	944	8128

* Two units of effort (gill net), 3 units of effort (shore seine), and 1 unit of effort (trawl) per month.

** During September-October gill nets were fished once on 30 Sept-1 Oct. The total catch was entered in both September and October.

TABLE 20

SUMMARY OF ICHTHYOPLANKTON CATCH PER UNIT EFFORT[a] RESULTS AT LOCUST POINT
JULY - AUGUST 1976

Date	Depth[b]	Catch[c]	Station 3	Station 13	Station 29	Station 26	Station 8	Station 28	Total
8 July 1976	S	L	200	910	420	357	630	470	2987
	S	E							0
	B	L	12	4	11	6	10	9	52
	B	E							0
23 July 1976	S	L	173	31	17	179	116	59	575
	S	E							0
	B	L	2		1	120			123
	B	E							0
29 July 1976	S	L	12	4	3	5	2		26
	S	E							0
	B	L							0
	B	E							0

TABLE 20

SUMMARY OF ICHTHYOPLANKTON CATCH PER UNIT EFFORT[a] RESULTS AT LOCUST POINT
JULY - AUGUST 1976

Date	Depth[b]	Catch[c]	Station 3	Station 13	Station 29	Station 26	Station 8	Station 28	Total
9 August 1976	S	L	9	10	17	19	6	53	114
	S	E							0
	B	L	1		2				3
	B	E							0
20 August 1976	S	L							0
	S	E							0
	B	L							0
	B	E							0
31 August 1976	S	L			1	3			4
	S	E							0
	B	L							0
	B	E							0

TABLE 20

SUMMARY OF ICHTHYOPLANKTON CATCH PER UNIT EFFORT[a] RESULTS AT LOCUST POINT
JULY - AUGUST 1976

Date	Depth[b]	Catch[c]	Station 3	Station 13	Station 29	Station 26	Station 8	Station 28	Total
Subtotal April - June	S	L	3452	1322	1030	1646	461	443	8354
	S	E	1	292	1920	926	605	693	4437
	B	L	600	1200	1122	744	534	279	4479
	B	E	20	82			299		401
Subtotal July - August	S	L	394	955	458	563	754	582	3706
	S	E							0
	B	L	15	4	14	126	10	9	178
	B	E							0
TOTAL	S	L	3846	2277	1488	2209	1215	1025	12060
	S	E	1	292	1920	926	605	693	4437
	B	L	615	1204	1136	870	544	288	4657
	B	E	20	82			299		401

a One 5-minute tow with a 0.75-m diameter heavy-duty oceanographic plankton net (no. 00, 0.76 mm mesh) at the surface and bottom of each station on each date.

b S = Surface; B = Bottom

c L = Larvae; E = Eggs

trations of larvae at the bottom also increased shoreward. Of the eggs collected in the bottom tows, 95% were collected either at Station 8 (intake) or Station 13 (plume area).

Over 99.9% of the eggs were collected in June (Table 21). Emerald shiners (Notropis atherinoides), gizzard shad (Dorosoma cepedianum), and yellow perch (Perca flavescens), respectively, were the most abundant larvae. No larvae were collected until April 30. Larvae populations were dominated by perch from April 30-May 27, gizzard shad from June 11-17, and emerald shiners from June 28-August 31.

No eggs were collected at Toussaint Reef (Table 22). Species composition was similar to that at Locust Point but the concentrations were lower.

Raw data from ichthyoplankton collections at Locust Point in July and August are contained in Appendix E.

Food Habits

The food habits of the fish in the Locust Point vicinity from July-November are presented in Table 23. Raw data are contained in Appendix F. Zooplankton appears to be the most common food source at Locust Point.

DISCUSSION

Water Quality

Seasonal Variations. The quality of the water in the vicinity of the Davis-Besse Nuclear Power Station during the period March through June 1976 was typical for the south shore of western Lake Erie and showed normal seasonal trends. Water temperature rose nearly 20°C during the 3-month period from mid-March to mid-June while the dissolved oxygen level fell 5 ppm (Fig. 7). The turbulence of the early spring period and the corresponding high sediment load are reflected in the high turbidity and suspended solids values and low transparency observed for March (Fig. 8). A 5-fold improvement in the clarity of the water took place during April and May. The biochemical oxygen demand was rather low during the entire period even at the time of high turbidity indicating that the suspended material was largely of an inorganic nature. In a like manner the dissolved substances in the water were highest in the early spring and decreased

TABLE 21

MEAN ICHTHYOPLANKTON CATCH PER UNIT EFFORT* RESULTS FROM THE SURFACE AND BOTTOM OF SIX SAMPLING STATIONS AT LOCUST POINT, LAKE ERIE

SPECIES	April 6	April 14	April 30	May 10	May 17	May 27	June 11	June 17	June 28	July 8	July 23	July 29	August 0	August 20	August 1[illegible]	Grand Mean
Fish Eggs	0.1						0.3	393.3	9.6							26.9
Alosa pseudoharengus					0.2		0.3	2.3			0.1	0.1	0.5			0.2
Aplodinotus grunniens								0.1	0.3	0.6						0.1
Carpiodes cyprinus							0.3									0.02
Catostomus commersoni			0.9	0.5												0.1
Cyprinus carpio									0.9							0.1
Dorosoma cepedianum				0.5	0.1	0.5	47.1	110.0	313.0	1.8	5.8	0.6				32.0
Morone chrysops								0.4		0.8						0.1
Notropis atherinoides							1.1	0.8	525.0	250.1	52.3	1.5	9.2		0.3	56.0
N. hudsonius							0.4									0.03
Osmerus mordax						0.2		0.1								0.02
Perca flavescens			38.3	9.7	6.6	0.7	0.5	0.1								3.7
Pomoxis sp.			6.9						1.3							0.6
Stizostedion v. vitreum				0.1	0.1			0.1								0.02
Unknown							0.4						0.1			0.03
TOTAL (Larvae only)	0.0	0.0	46.1	10.1	7.0	1.4	50.1	113.0	140.5	253.3	58.2	2.2	9.8	0.0	0.3	92.9

* One 5-min tow with a 0.75-in diameter heavy-duty oceanographic plankton net (no. 00, 0.70 mm mesh).

TABLE 22

ICHTHYOPLANKTON CONCENTRATIONS* FROM LAKE ERIE
AT TOUSSAINT REEF
JULY - AUGUST 1976

Date	Species	No. at Surface	No. at Bottom
5 July 1976	Morone chrysops		3
	Notropis atherinoides	394	50
12 July 1976	Aplodinotus grunniens	1	
	Dorosoma cepedianum	6	
	Notropis atherinoides	71	3
28 July 1976	Notropis atherinoides	1	
4 August 1976	Notropis atherinoides	3	2
28 August 1976	None		
	TOTAL	476	58

* No./100m^3. Collected by one 3-minute tow with a 0.75-m diameter oceanographic plankton net (no. 00, 0.76 mm mesh) at the surface and bottom on each date.

TABLE 23

SUMMARY OF FOOD HABITS OF FISH COLLECTED AT LOCUST POINT*
JULY - NOVEMBER 1976

Month	Species	No. Captured	% Containing Food	Length (mm) Mean	Length (mm) Range	Food Items I: Oligochaeta	Hirudinea	Cladocera	Alona sp.	Bosminids	Eubosmina coregoni	Chydorus sphaericus	Daphnia sp.	D. galeata	D. parvula	D. retrocurva	Diaphanosoma sp.	Latona setifera	Leptodora kindtii	Copepoda	Calanoid	Cyclopoid	Ostracoda
July	Aplodinotus grunniens	6	100	137	130-146			6			1			3		41			43			3	
	Ictalurus punctatus	3	100	138	95-200			7			1			1		64			68			1	
	Morone chrysops	2	100	261	260-262																		
	Stizostedion v. vitreum	2	100	242	231-253																		
	Subtotal	12	100																				
August	Aplodinotus grunniens	2	100	165	162-168																		
	Notropis hudsonius	5	80	108	96-168			1			2					1						12	
	Stizostedion v. vitreum	6	67	136	72-179																	66	0.2
	Subtotal	13	82																				
September	Ictalurus nebulosus	2	100	244	212-276			30			23	45				1			289			13	5
	Notropis atherinoides	1	100	4	-						1960	680				4						6	
	Notropis hudsonius	5	100	9	2-24			5			157	15				31			0.4			11	
	Perca flavescens	5	100	57	28-96			1			5	0.4						1	1			9	
	Stizostedion v. vitreum	1	100	62	-																		
	Subtotal	14	100																				

TABLE 23

SUMMARY OF FOOD HABITS OF FISH COLLECTED AT LOCUST POINT*
JULY - NOVEMBER 1976

Month	Species	No. Captured	% Containing Food	Length (mm) Mean	Length (mm) Range	Food Items II: Gammarus sp.	Araneae	Hydracarina	Insecta (larvae)	Diptera	Chironomidae	Chironominae	Chironomus sp.	Cryptochironomus sp.	Glyptotendipes sp.	Parachironomus sp.	Polypedilum sp.	Pseudochironomus sp.	Rheotanytarsus sp.	Xenochironomus sp.	Tanypodinae	Ablabesmyia sp.	Procladius sp.
July	Aplodinotus grunniens	5	100	137	130-146	0.2							0.2										0.2
	Ictalurus punctatus	3	100	138	95-200	0.4							0.2	1			1						0.4
	Morone chrysops	2	100	261	260-262																		
	Stizostedion v. vitreum	2	100	242	231-253																		
	Subtotal	12	100																				
August	Aplodinotus grunniens	2	100	165	162-168	1					1		3				2	1		3			
	Notropis hudsonius	5	80	108	96-168								0.2						0.2				
	Stizostedion v. vitreum	6	67	136	72-179								0.2										
	Subtotal	13	92																				
September	Ictalurus nebulosus	2	100	244	212-276	2					2		3	2		1			1	8		1	
	Notropis atherinoides	1	100	4	-																		
	Notropis hudsonius	5	100	9	2-24			1					0.2										
	Perca flavescens	5	100	57	28-98	1																	1
	Stizostedion v. vitreum	1	100	62	-																		
	Subtotal	14	100																				

TABLE 23

SUMMARY OF FOOD HABITS OF FISH COLLECTED AT LOCUST POINT*
JULY - NOVEMBER 1976

Month	Species	No. Captured	% Containing Food	Length (mm) Mean	Length (mm) Range	Food Items III: Ephemeroptera	Trichoptera	Coleoptera	Insecta (pupae)	Chironomidae	Insecta (adult)	Diptera	Chironomidae	Trichoptera	Hemiptera	Coleoptera	Hymenoptera	Fish eggs	Fish	Dorosoma cepedianum	Notropis sp.	Animal debris**	Plant debris**
July	Aplodinotus grunniens	5	100	137	130-146						0.2			0.2								X	
	Ictalurus punctatus	3	100	138	93-200														2	3	1	X	
	Morone chrysops	2	100	261	260-262															5		X	
	Stizostedion v. vitreum	2	100	242	231-253																		
	Subtotal	12	100																				
August	Aplodinotus grunniens	2	100	165	162-168		1			1												X	X
	Notropis hudsonius	5	80	108	96-168																	X	
	Stizostedion v. vitreum	6	67	136	72-179					0.2													
	Subtotal	13	82																				
September	Ictalurus nebulosus	2	100	244	212-276	1	1			1												X	X
	Notropis atherinoides	1	100	4	-																	X	
	Notropis hudsonius	5	100	9	2-24																	X	
	Perca flavescens	5	100	57	28-98					0.2										1	1		
	Stizostedion v. vitreum	1	100	62	-																		
	Subtotal	14	100																				

* Data presented as mean number of food items per fish.

** "X" indicates the presence of a food item.

TABLE 23

SUMMARY OF FOOD HABITS OF FISH COLLECTED AT LOCUST POINT*
JULY - NOVEMBER 1976

Month	Species	No. Captured	% Containing Food	Length (mm) Mean	Length (mm) Range	Food Items: Oligochaeta	Hirudinea	Cladocera	Alona sp.	bosminids	Eubosmina coregoni	Chydorus sphaericus	Daphnia sp.	D. galeata	D. parvula	D. retrocurva	Diaphanosoma sp.	Latona setifera	Leptodora kindtii	Copepoda	Calanoid	Cyclopoid	Ostracoda
October	Ictalurus nebulosus	1	100	227	-														50			2	
	Morone chrysops	2	100	107	49-165						1					1					8	2	
	Notropis atherinoides	1	100	103	-			20			357	104											
	Notropis hudsonius	5	100	89	73-117	8		2			5					0.2	0.2				1	31	0.4
	Perca flavescens	5	60	155	80-214						0.2	1										1	
	Percopsis omiscomaycus	1	100	75	-																	114	
	Subtotal	15	93																				
November	Notropis atherinoides	2	100	4	1-6						4	1										1	
	Notropis hudsonius	1	100	12	-																		
	Osmerus mordax	1	100	[illegible]	-						13	1				20			14		5	54	
	Subtotal	4	100																				
	TOTAL	92																					

TABLE 23

SUMMARY OF FOOD HABITS OF FISH COLLECTED AT LOCUST POINT*
JULY - NOVEMBER 1976

Month	Species	No. Captured	% Containing Food	Length (mm) Mean	Length (mm) Range	Food Items II: Gammarus sp.	Araneae	Hydracarina	Insecta (larvae)	Diptera	Chironomidae	Chironominae	Chironomus sp.	Cryptochironomus sp.	Glyptotendipes sp.	Parachironomus sp.	Polypedilum sp.	Pseudochironomus sp.	Rheotanytarsus sp.	Xenochironomus sp.	Tanypodinae	Ablabesmyia sp.	Procladius sp.
October	Ictalurus nebulosus	1	100	227	-									2									
	Morone chrysops	2	100	107	49-165	10	1								1			1					
	Notropis atherinoides	1	100	103	-																		
	Notropis hudsonius	5	100	99	73-117	0.4	0.2	2			0.4		0.4					0.2	0.4				
	Perca flavescens	5	60	155	80-214														0.4				
	Percopsis omiscomaycus	1	100	75	-														1				
	Subtotal	15	93																				
November	Notropis atherinoides	2	100	4	1-6		1																
	Notropis hudsonius	1	100	12	-									1									
	Osmerus mordax	1 1	100	2	-																		
	Subtotal	4	100																				
	TOTAL	92																					

TABLE 23

SUMMARY OF FOOD HABITS OF FISH COLLECTED AT LOCUST POINT*
JULY - NOVEMBER 1976

Month	Species	No. Captured	% Containing Food	Length (mm) Mean	Length (mm) Range	Food Items III: Ephemeroptera	Trichoptera	Coleoptera	Insecta (pupae)	Chironomidae	Insecta (adult)	Diptera	Chironomidae	Trichoptera	Hemiptera	Coleoptera	Hymenoptera	Fish eggs	Fish	Dorosoma cepedianum	Notropis sp.	Animal debris**	Plant debris**
October	Ictalurus nebulosus	1	100	227	-						1								1			X	
	Morone chrysops	2	100	107	49-165		62	1				3			1							X	
	Notropis atherinoides	1	100	103	-							4			1	1						X	
	Notropis hudsonius	6	100	99	73-117							0.2	3		0.2	0.4						X	X
	Perca flavescens	5	60	155	80-214					0.2												X	
	Percopsis omiscomaycus	1	100	78	-																	X	
	Subtotal	15	93																				
November	Notropis atherinoides	2	100	4	1-6																	X	
	Notropis hudsonius	1	100	12	-							4										X	
	Osmerus mordax	1 1	100	2	-																		
	Subtotal	4	100																				
	TOTAL	22																					

* Data presented as mean number of food items per fish.
** "X" indicates the presence of a food item.

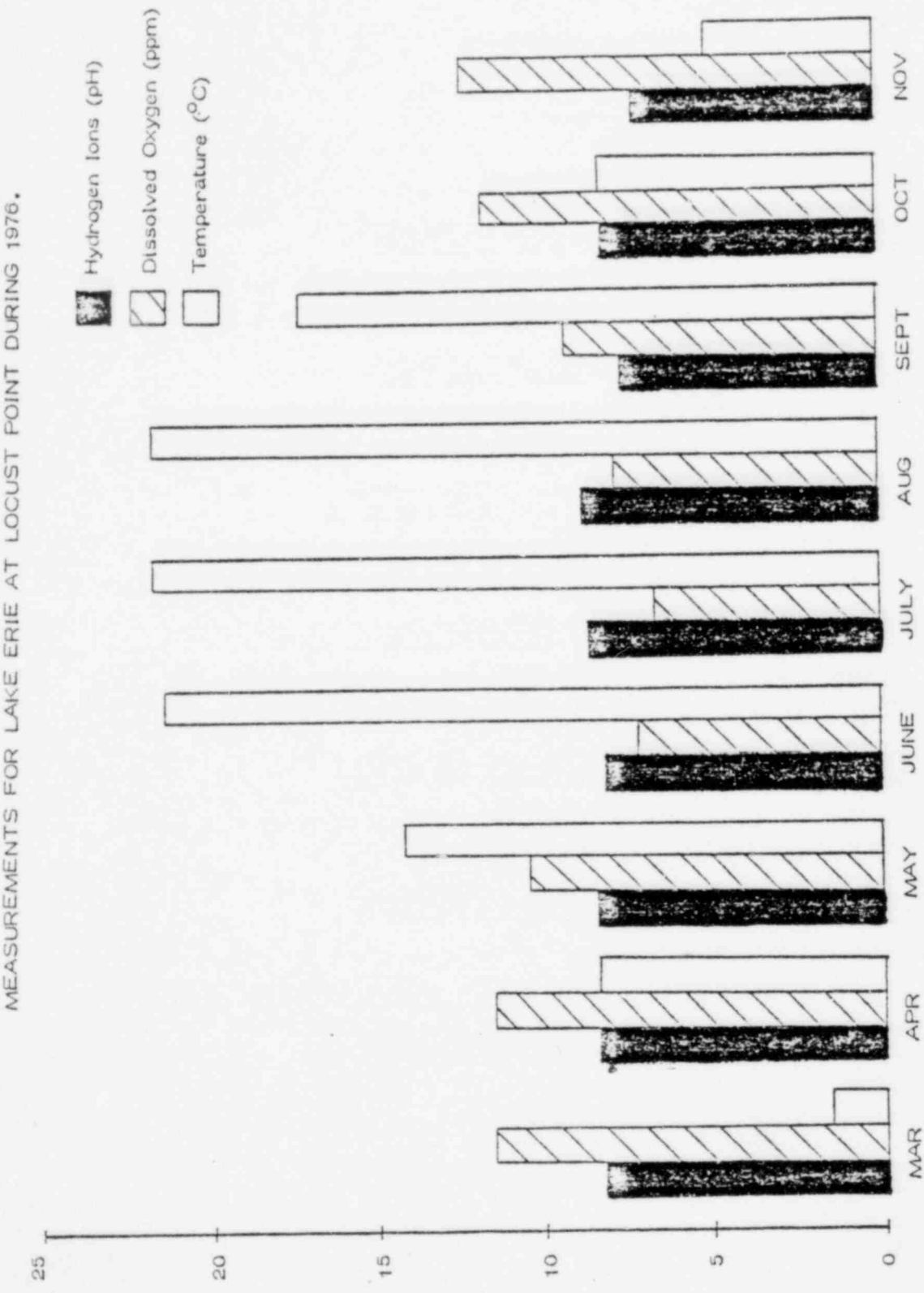
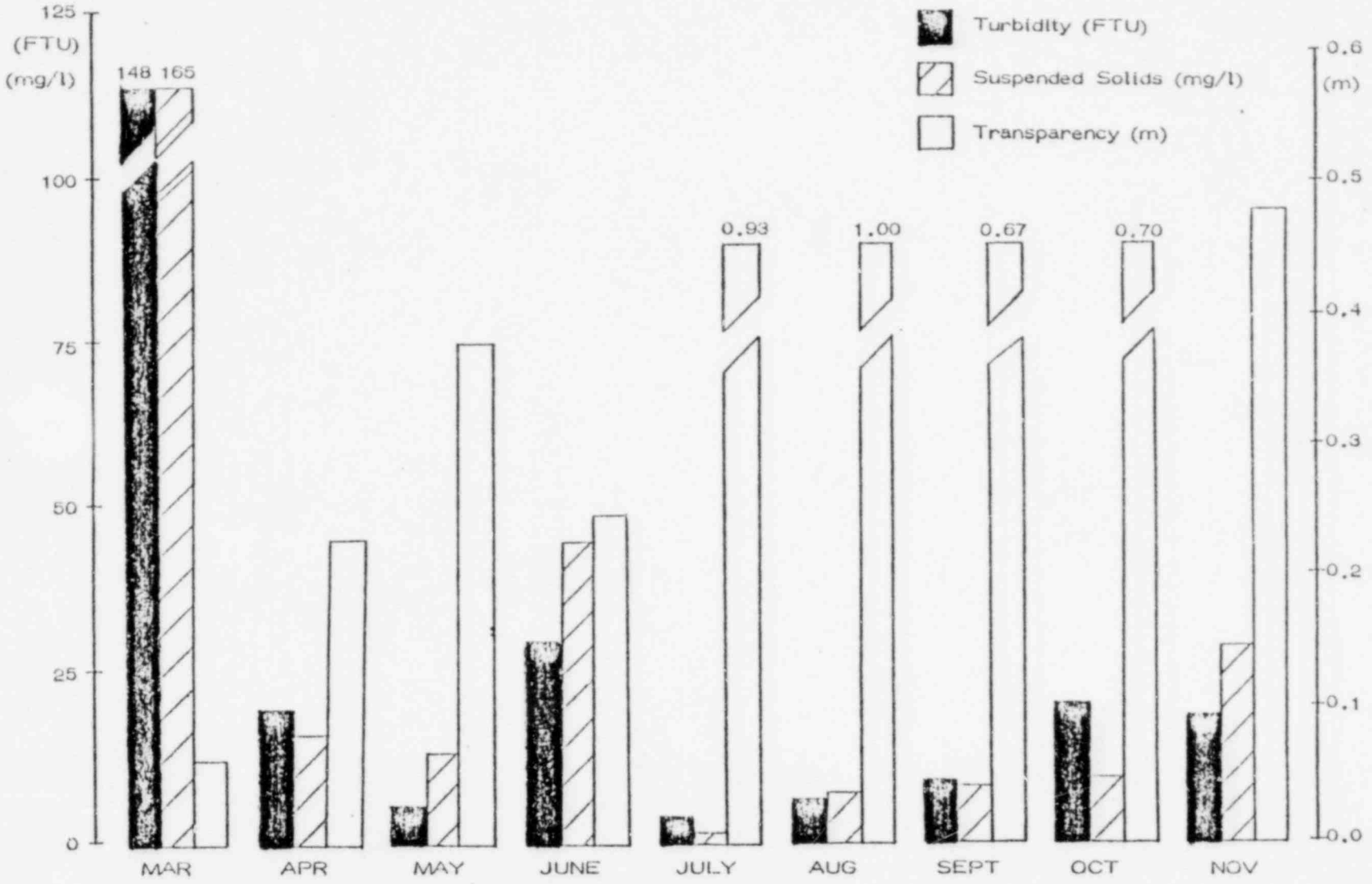


FIGURE 7. MEAN MONTHLY HYDROGEN ION, TEMPERATURE AND DISSOLVED OXYGEN MEASUREMENTS FOR LAKE ERIE AT LOCUST POINT DURING 1976.

FIGURE 8. MEAN MONTHLY TURBIDITY, SUSPENDED SOLIDS AND TRANSPARENCY MEASUREMENTS FOR LAKE ERIE AT LOCUST POINT DURING 1976.



later in the season (Figs. 9-11). Alkalinity and pH remained relatively constant while the major ions such as calcium and sulfate decreased by 30-50 percent. Biological nutrients such as nitrate, phosphorus and silica also showed dramatic decreases as spring algal populations utilized these materials.

The water quality in the vicinity of the Davis-Besse Nuclear Power Station during the period of July through November 1976 was typical for western Lake Erie and showed normal seasonal trends. Water temperature fell 17°C during the 5-month period while the dissolved oxygen (DO) level rose 5 ppm (Fig. 7). In July 1976 the DO at Station 1 (bottom) dropped to 5.0 ppm, the lowest value recorded during the pre-operational study:

Year	Dissolved Oxygen Range
1974	5.7 - 14.1 ppm
1975	7.2 - 13.6 ppm
1976	5.0 - 12.5 ppm

The International Joint Commission recommends a minimum DO level of 6.0 ppm for Lake Erie water. The high turbulence and sediment load of the lake in early spring improved during the summer as indicated by an approximate 2-fold increase in transparency, 2-fold decrease in suspended solids, and 10-fold decrease in turbidity (Fig. 8). Considerable decrease in water clarity was noted in the fall, particularly in turbidity and solids which increased by 2-fold. Biochemical oxygen demand, which is related to the suspended organic material in the water, was low and nearly constant throughout the year with a slight decrease in the fall. Similarly, dissolved substances in the water were highest in the spring and fall samples; conductivity showed a significant decrease between March and April but remained relatively stable the rest of the year (Fig. 9). Specific ions such as calcium and sulfate were also highest in April and May, whereas other ions such as magnesium, sodium and chloride were fairly stable throughout the year (Fig. 10). The important nutrients, such as nitrate, phosphate and silica, for primary productivity by green and blue-green algae and diatoms, had a peak in the spring, decreased markedly during the summer and then increased in the fall (Fig. 11). The response of phytoplankton production to the availability of the nutrients is also shown on Figure 11. The diatom bloom in April resulted in a sharp decrease in silica, whereas the green and blue-green algae utilized nitrogen in the summer and fall.

The alkalinity and pH of the water remained fairly constant throughout the year (Figs. 7 and 9). Lake Erie is primarily a bicarbonate solution with a corresponding moderately alkaline pH of approximately 8.3.

FIGURE 9. MEAN MONTHLY ALKALINITY, DISSOLVED SOLIDS AND CONDUCTIVITY MEASUREMENTS FOR LAKE ERIE AT LOCUST POINT DURING 1976.

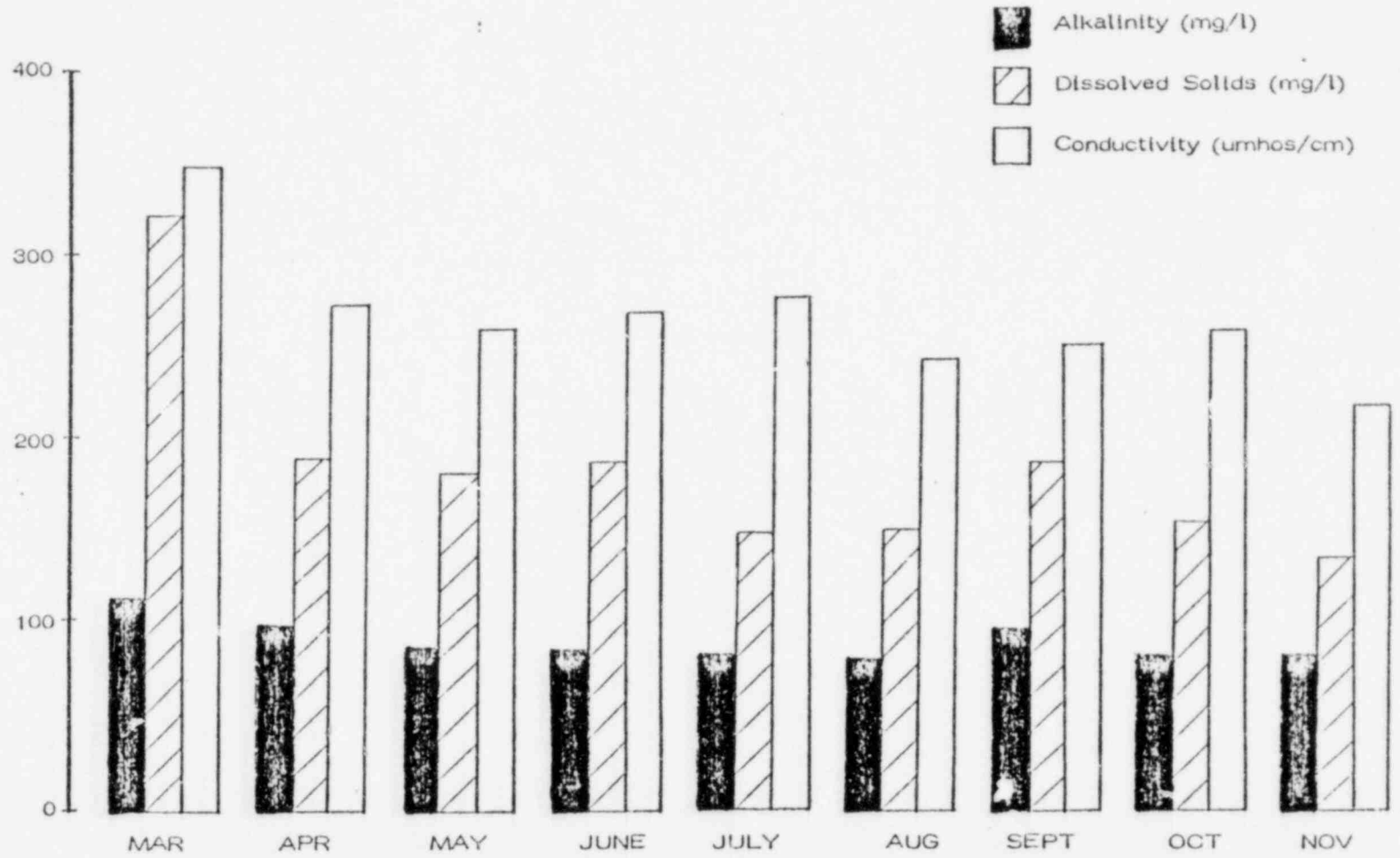


FIGURE 10. MEAN MONTHLY CALCIUM, CHLORIDE AND SULFATE CONCENTRATIONS IN LAKE ERIE AT LOCUST POINT DURING 1976.

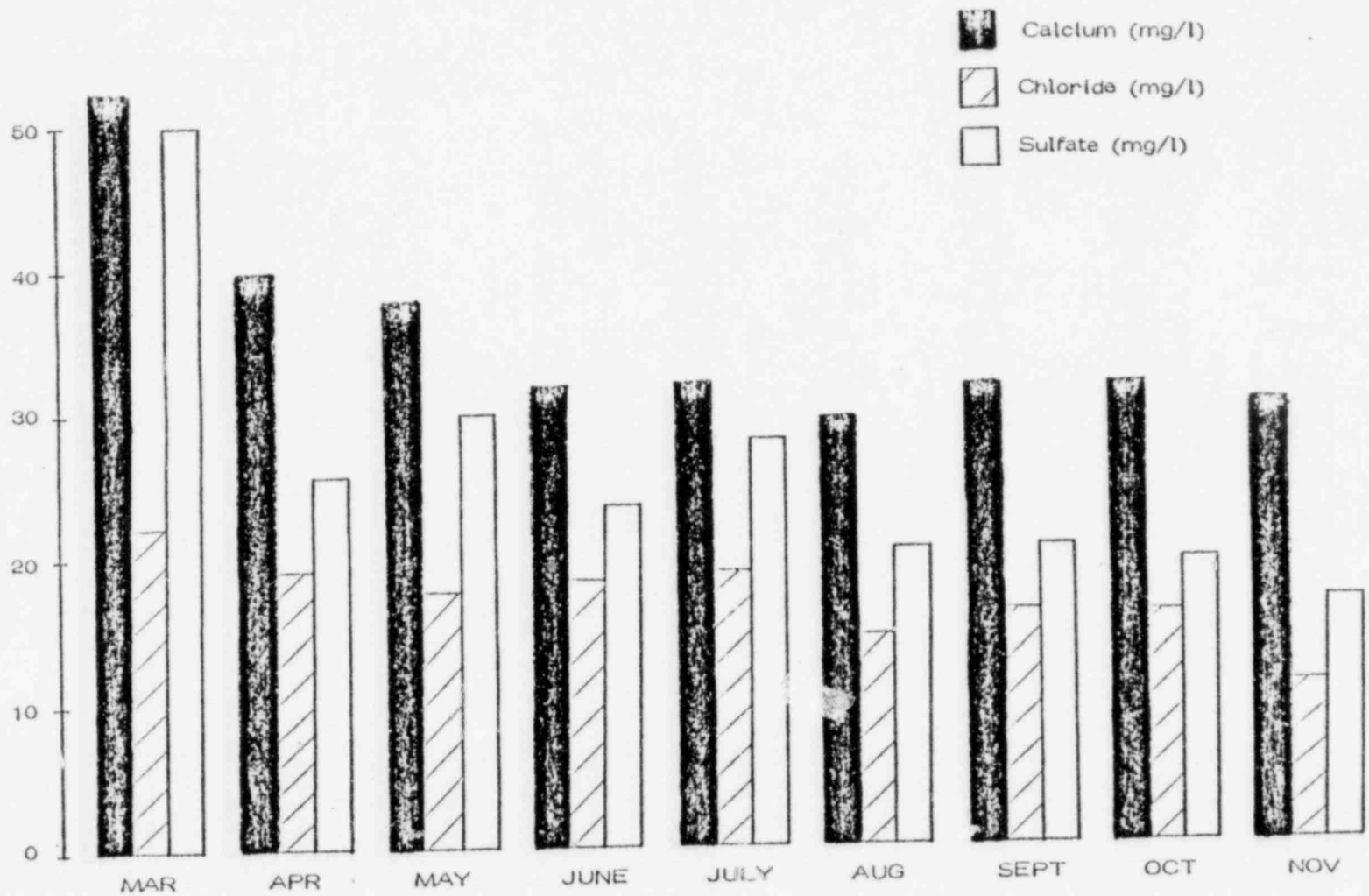
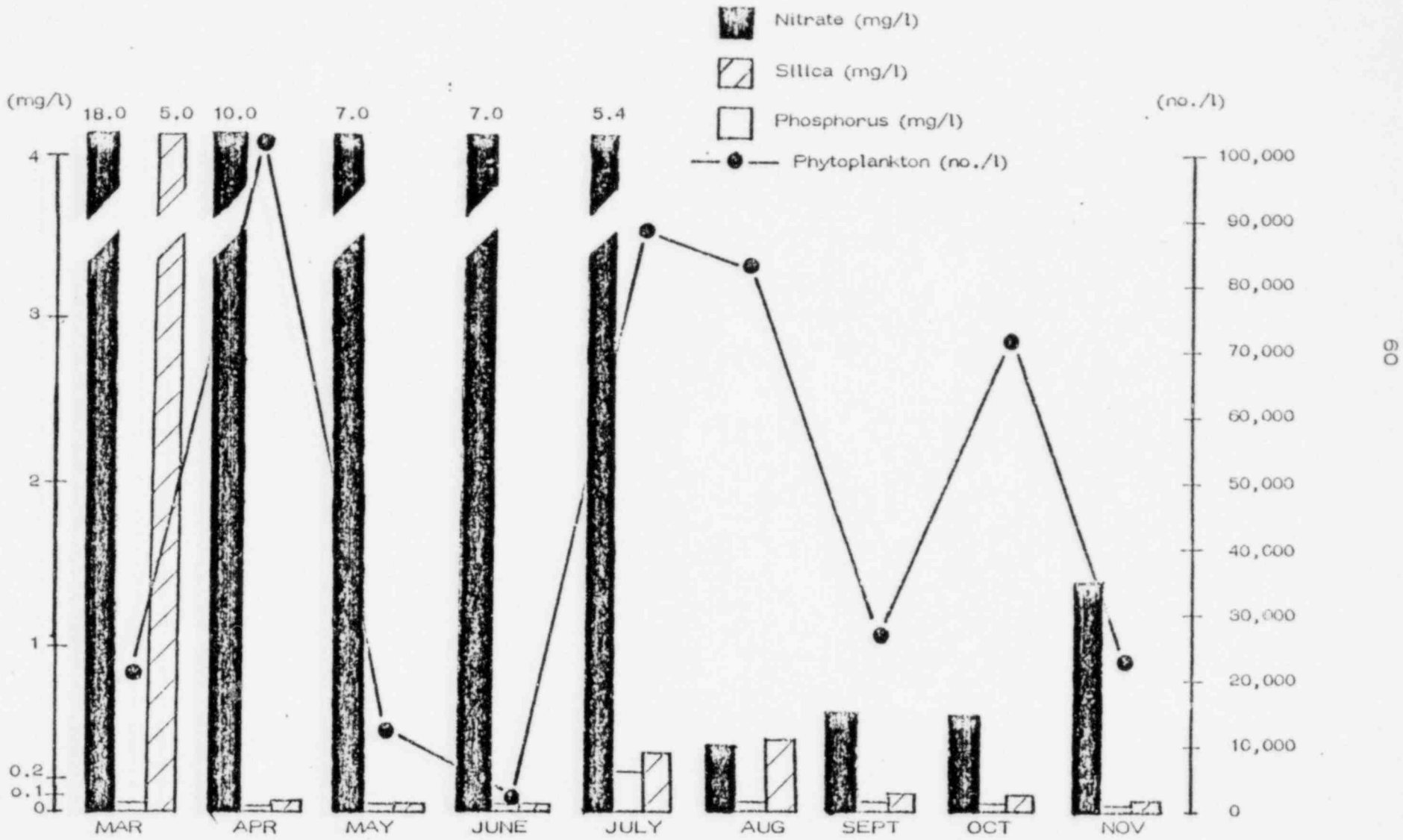


FIGURE 11. MEAN MONTHLY NITRATE, PHOSPHORUS AND SILICA CONCENTRATIONS IN LAKE ERIE AT LOCUST POINT DURING 1976.



The bicarbonate in the water provides an abundant source of carbon for algae production. The pH showed a slight rise in summer (9.0 maximum) which corresponded with the bloom of the blue-green, Aphanizomenon sp.

Station Variations. Stations 1, 8, and 13 are located approximately 500, 3,000, and 1,500 feet offshore respectively. Generally a slight temperature decrease was noted in an offshore direction in the spring. More noticeable decreases were found for such parameters as conductivity, most of the specific ions, alkalinity, B.O.D., suspended and dissolved solids, and turbidity throughout the year. Conversely, transparency increases away from the shore. Station 8 (the farthest offshore) had the best water quality; Station 1 (nearshore) had the poorest quality for most parameters. The differential in water quality values was greatest in spring and fall which may have been related to seasonal storms. During the summer no significant difference was found between the inshore and offshore stations.

Differences between the surface and bottom water quality were slight because of the shallowness of this portion of Lake Erie. Some depression in the level of dissolved oxygen and small increases in the concentrations of dissolved and suspended solids were noted near the bottom, particularly at Station 1.

Water Quality Trends. The Ohio State University, Center for Lake Erie Area Research initiated water quality studies at Locust Point in July 1972. Over the past five years most parameters have shown typical seasonal trends with only small variations from year to year. Trends for eight water quality parameters from that date through November 1976 are shown on Figures 12-14. Temperature and dissolved oxygen show typical seasonal trends for each year with only minor variations from one year to the next. Dissolved oxygen appears to have undergone more depletion in 1976 than in previous years. Hydrogen-ion concentration and alkalinity remained fairly stable over the four-year period. Transparency, turbidity, phosphorus and conductivity values have shown radical variations which are probably due to storms and dredging activities that have disturbed the bottom sediments. In general, no significant deviations from the normal quality of the water in this part of western Lake Erie have been observed in the past five years.

FIGURE 12. TRENDS IN MEAN MONTHLY TEMPERATURE, DISSOLVED OXYGEN, AND HYDROGEN ION MEASUREMENTS FOR LAKE ERIE AT LOCUST POINT FOR THE PERIOD 1972 - 1976.

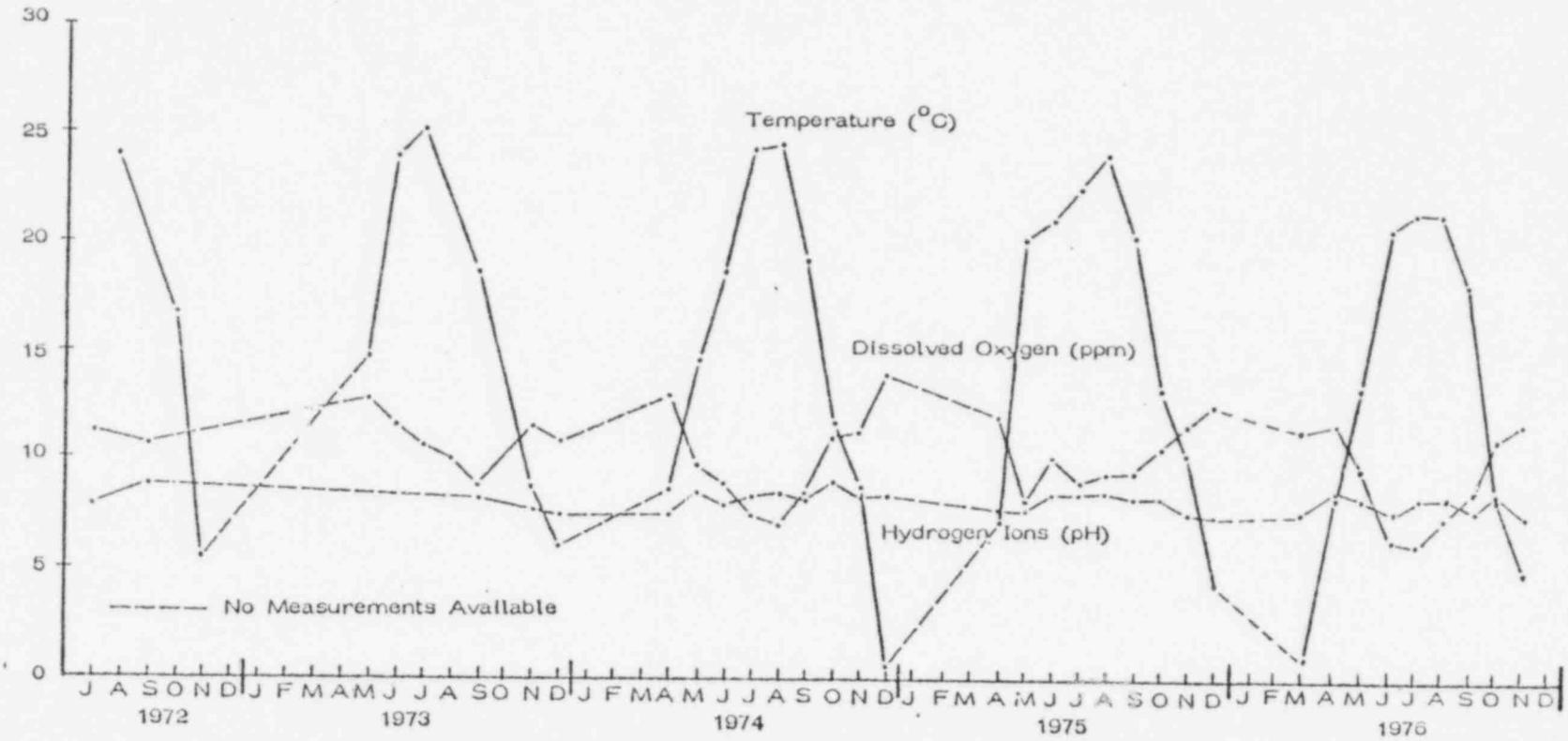


FIGURE 13. TRENDS IN MEAN MONTHLY CONDUCTIVITY, ALKALINITY AND TURBIDITY MEASUREMENTS FOR LAKE ERIE AT LOCUST POINT FOR THE PERIOD 1972 - 1976.

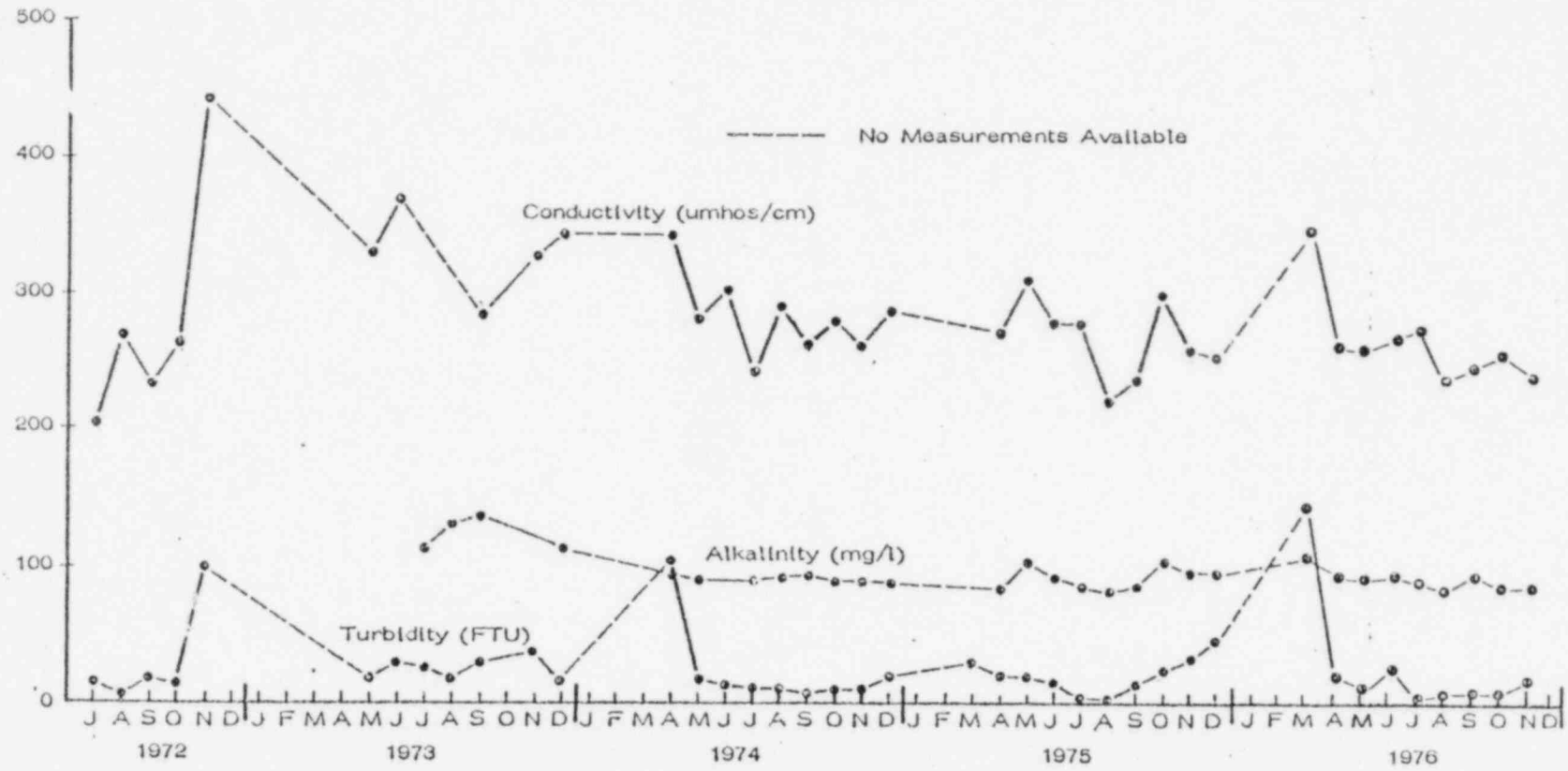
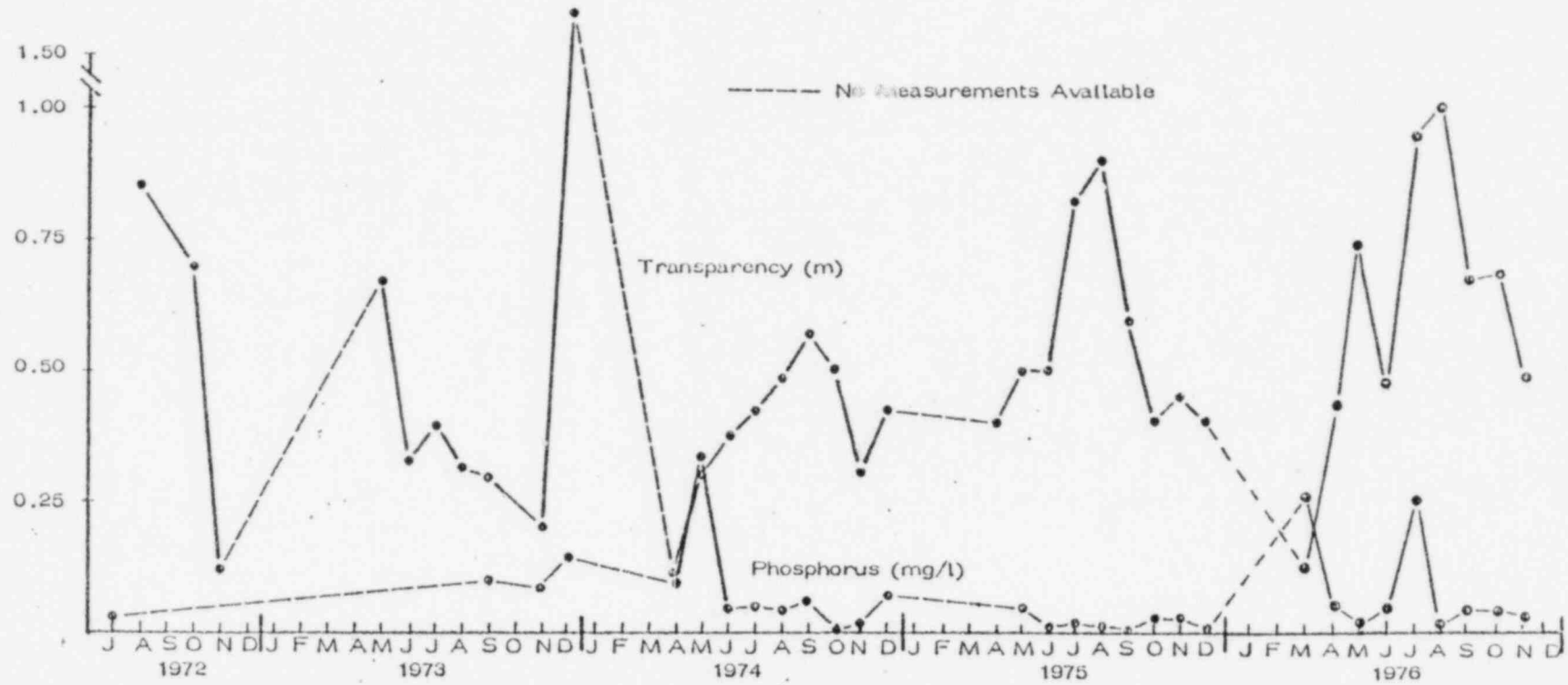


FIGURE 14. TRENDS IN MEAN MONTHLY TRANSPARENCY AND PHOSPHORUS MEASUREMENTS FOR LAKE ERIE AT LOCUST POINT FOR THE PERIOD 1972 - 1976.



Plankton

Phytoplankton. The Center for Lake Erie Area Research has monitored phytoplankton populations at Locust Point since 1974 (Fig. 4). Radical differences were noted between populations in 1974 and 1975, but 77% of the variation was explainable by variation in physical and chemical parameters of water quality (Reutter, 1976). Bacillariophycean and Chlorophycean populations observed in 1974 and 1975 were quite comparable (Figs. 15 and 16). The Myxophycean component of the populations accounted for the differences between the 2 years. No Myxophycean bloom occurred in 1974, whereas a huge Aphanizomenon sp. bloom occurred in August 1975. This bloom was highly correlated with increased transparency (80% greater than in 1974) and decreased turbidity (20% of that observed in 1974) (Reutter, 1976). A correlation of this type was first hypothesized by Chandler and Weeks (1945).

Bacillariophyceae and Chlorophyceae populations in 1976 were similar in size and composition to those observed in 1974 and 1975 (Figs. 5, 15, and 16). The diatom population, especially, was strikingly similar from year to year, with 1976 most resembling 1974. Populations were always greatest in spring and fall, and pulses which begin and end abruptly were commonplace. Chlorophycean populations tended to increase in the fall. A very small pulse was observed in June 1975 which was not observed in 1974 or 1976.

The 1976 Myxophycean population was between the extremes set forth in 1974 and 1975. A bloom of Aphanizomenon sp. occurred in July and August which corresponded well in time of occurrence with the 1975 August bloom, but, though it was slightly longer in peak duration, it was only one third the magnitude of the 1975 bloom and started and ended much more abruptly. Again, these pulses appear to be explainable by variation in transparency and turbidity. Transparency in 1976 was similar to 1975 and much greater than 1974, while turbidity, though more variable than in 1974 or 1975, reached a low in July similar to that observed in 1975 and below that of 1974 (Figs. 13 and 14).

It should be noted that the increased number of taxa in 1976 was mainly due to increased emphasis on identifying specimens to the species level.

Zooplankton. Zooplankton populations at Locust Point have been monitored monthly during ice-free periods since 1972. This was the first year that samples were obtained in March. The monthly mean value for March of 32.4/l was the lowest observed in our years of sampling at Locust Point. However, it was similar to that observed by Reutter and Reutter (1975) during March 1974 at Put-in-Bay, Ohio.

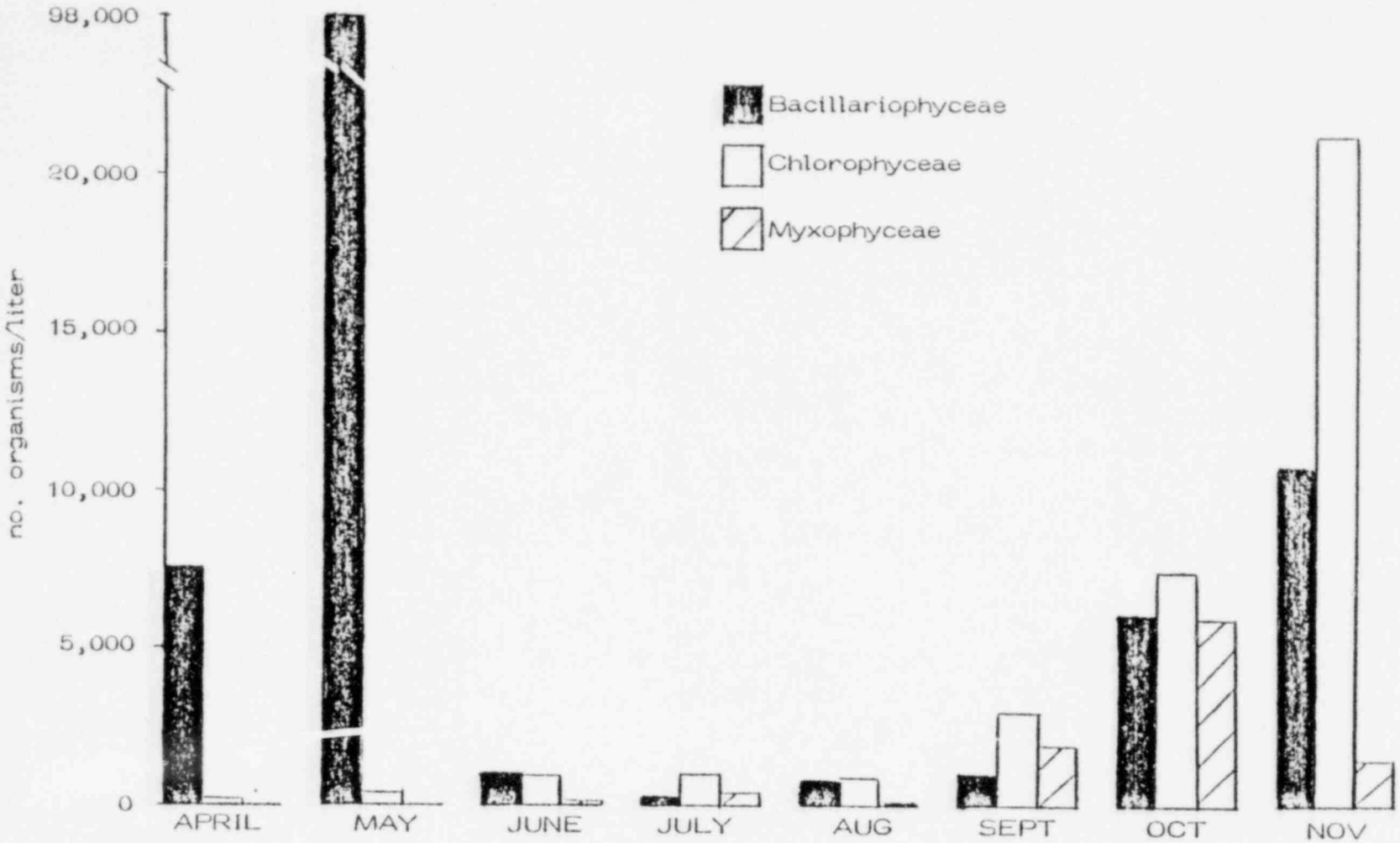


FIGURE 15. MONTHLY MEAN BACILLARIOPHYCEAE, CHLOROPHYCEAE, AND MYXOPHYCEAE POPULATIONS FOR LAKE ERIE AT LOCUST POINT - 1974.

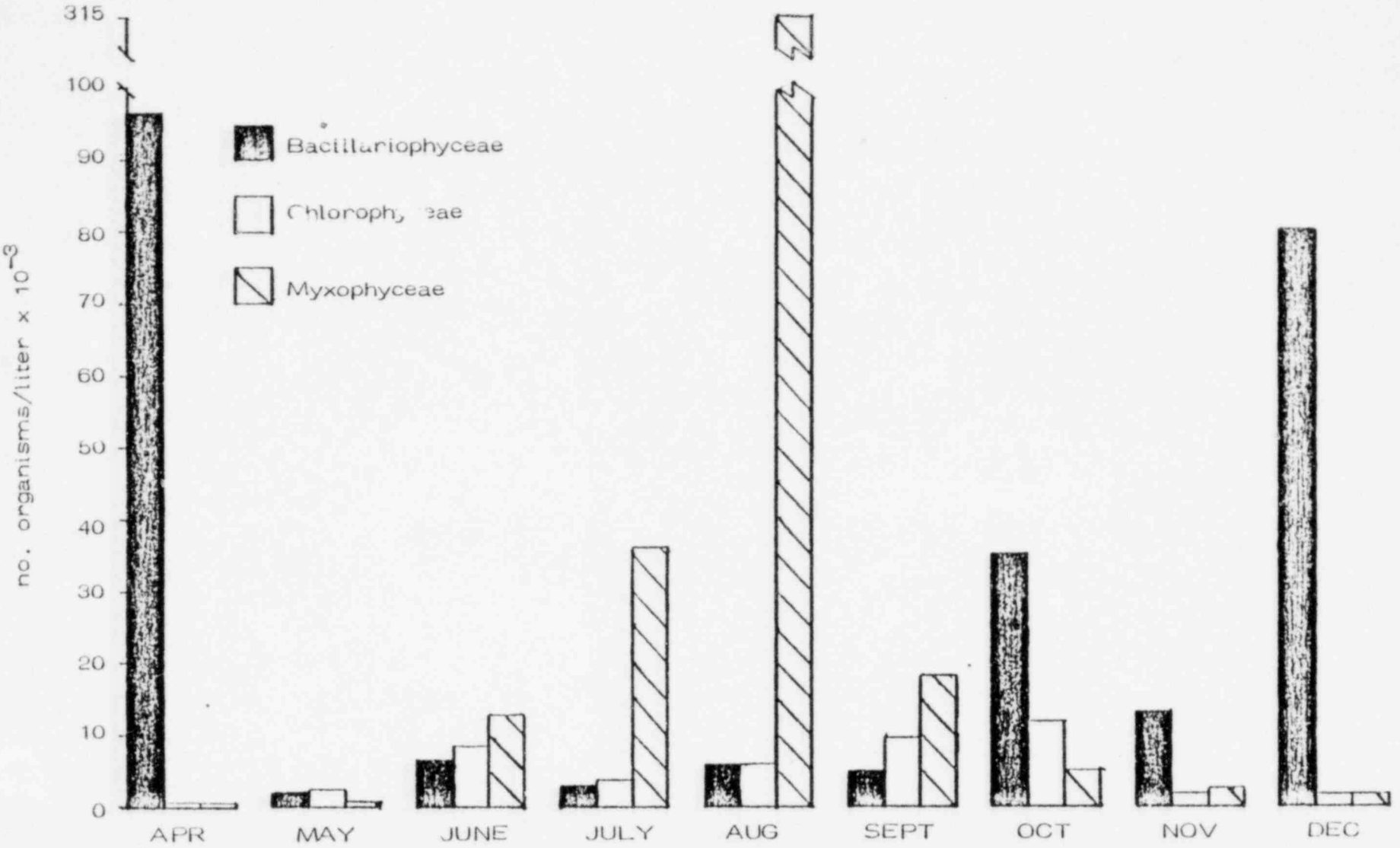


FIGURE 16. MONTHLY MEAN BACILLARIOPHYCEAE, CHLOROPHYCEAE, AND MYXOPHYCEAE POPULATIONS FOR LAKE ERIE AT LOCUST POINT - 1975.

Three new monthly population highs and one new low were established in 1976 (Fig. 17). Zooplankton populations in April, October, and November 1976 were the highest observed for those months since sampling started in 1972. The July population was the lowest observed for that month. However, the population in April 1976 was similar in size to that of April 1975, and the population in July 1976, though less than 50% of the 1974 or 1975 populations, was similar in size to the 1972 and 1973 populations. Results from other months in 1976 fell within the range of values from 1972-1975.

In general, the populations observed at Locust Point in 1974 and 1975 were higher than those observed in 1972 and 1973 (Fig. 17). Populations observed in 1976, as described above, were relatively similar to earlier results, except for October and November, but were more variable and fluctuated more than populations from 1972-1975. There are several plausible explanations for the variation which has occurred. Samples in 1972 were collected with a 3-l Kemmerer water bottle at the surface. From 1973-1976 samples were collected by a vertical tow, bottom to surface, with a Wisconsin plankton net. A brief comparison study in 1973 showed that the vertical tow captured approximately 50 percent more taxa than a 3-l grab (Reutter and Herdendorf, 1974). The stations sampled in 1972 and 1973 were similar to those sampled in 1974 and 1975, but not the same, while those sampled in 1976 were different from all 4 previous years. In 1973 the intake and discharge pipelines were being dredged, and in 1972 tropical storm Agnes affected the weather. Due to the weather, samples were neither collected on the same day of the month each year nor spaced exactly one month apart. Hubschman (1960) pointed out the tremendous differences which occurred between daily samples, and these samples were taken monthly, while Wieber and Holland (1968) showed that even with replication, wide variation can occur due to patchiness in population densities. The high spring populations from 1975 were undoubtedly largely due to early warming and lower turbidity as the total zooplankton population was significantly correlated with both temperature and turbidity ($r = 0.587$ and -0.328, respectively) (Reutter, 1976). Finally, operation of station circulating pumps was common in 1976.

Rotifer populations from 1976 accounted for many of the differences observed between 1976 zooplankton populations and those from 1972-1975. Rotifer populations from April, May, August, October, and November 1976 were the highest observed for those months (Fig. 18). The October rotifer population was approximately 7 times as large as those observed from 1972-1975. The November 1976 population was approximately twice as large as previous populations. These unusually large fall populations were due to sudden p[illegible]ses of Keratella cochlearis, K. quadrata, Polyarthra spp., and Synchaeta sp. (Table 13).

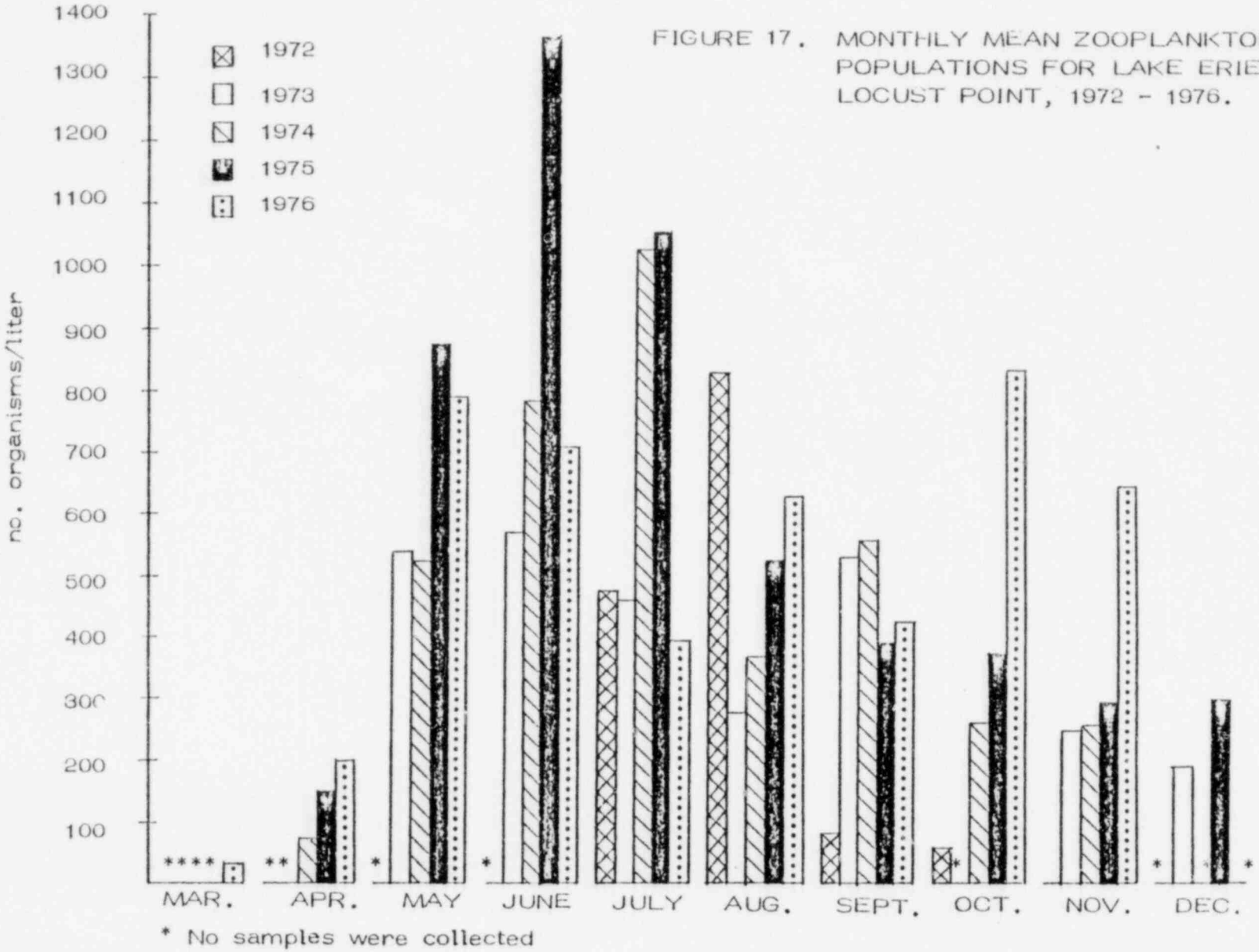
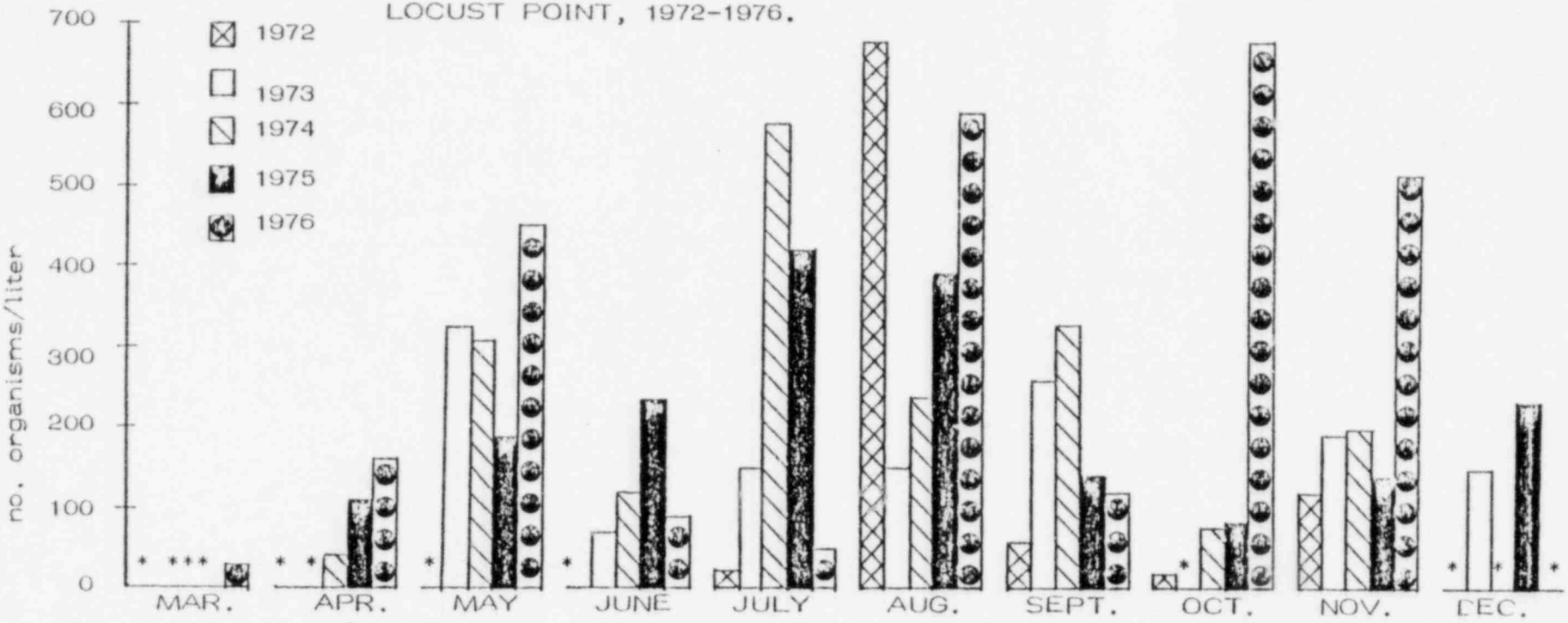


FIGURE 17. MONTHLY MEAN ZOOPLANKTON POPULATIONS FOR LAKE ERIE AT LOCUST POINT, 1972 - 1976.

FIGURE 18. MONTHLY MEAN ROTIFER POPULATIONS FOR LAKE ERIE AT LOCUST POINT, 1972-1976.



* No samples were collected.

Monthly copepod populations from 1976 were very similar to those observed in previous years (Fig. 19). In general, copepod populations were high from May-July with a June peak. Populations were extremely low in winter and spring. A slight pulse was occasionally evident in the fall.

Cladoceran populations in 1976 showed 2 pulses, one in June-July and one in September. It is obvious from Figure 20 that monthly Cladoceran populations at Locust Point from 1972-1976 were quite variable. It does appear, however, that the 2 pulses observed in 1976 may be annual occurrences.

Benthos

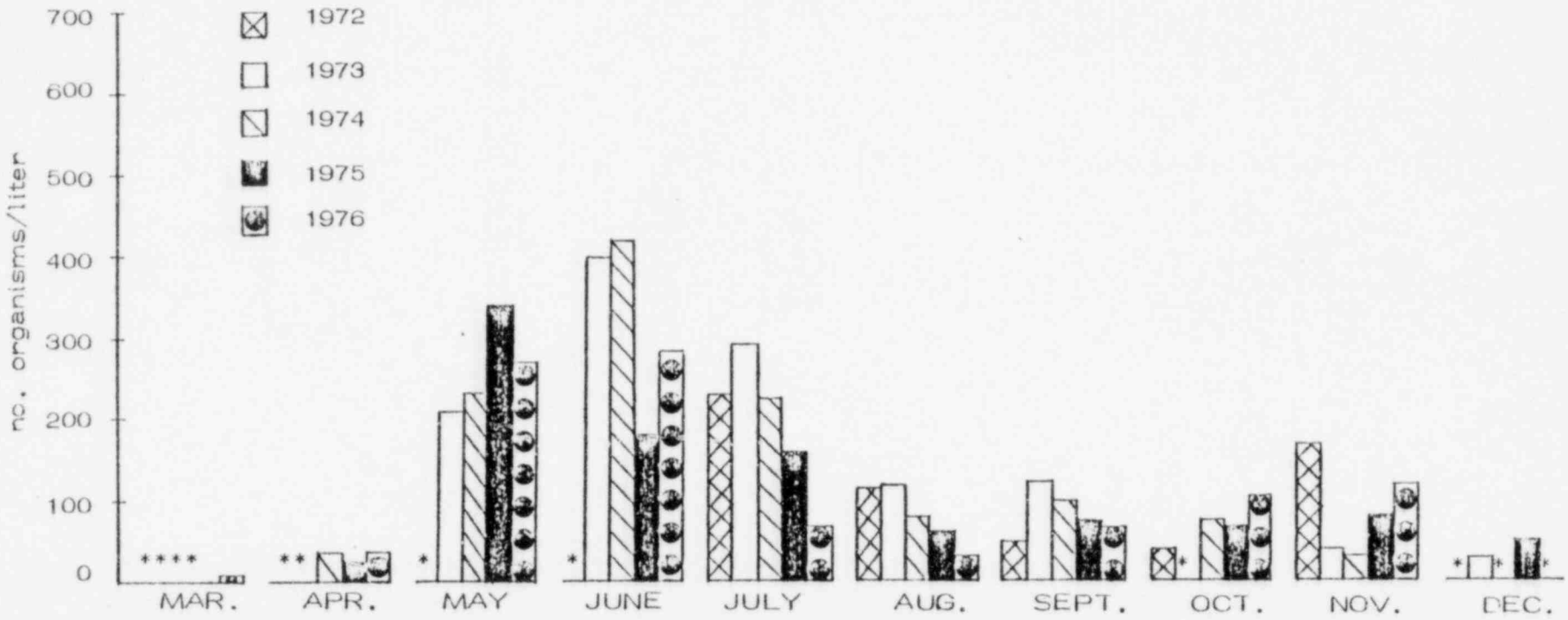
Benthic macroinvertebrate populations collected at Locust Point during 1976 were typical for populations along the south shore of western Lake Erie. Species composition, mainly immature oligochaetes and chironomids, was similar to that observed from 1972-1975. Populations from March-June were similar to preceding years, while populations from July-November were generally larger than populations observed in the past (Fig. 21). The most logical explanation for this increase in numbers in 1976 arises from the observation of previous years that the population increases with distance off shore, for in 1976 several of the near-shore stations (5 and 10) were eliminated, while several off-shore stations (26, 27, 28, and 29) were added. Results from 1976 support this hypothesis, for population size continued to increase in an off-shore direction.

Populations were somewhat inhibited at Stations 8 (intake), 12 (discharge) and 13 (plume area). This was undoubtedly due to the rip-rap material placed around the structures.

Fish

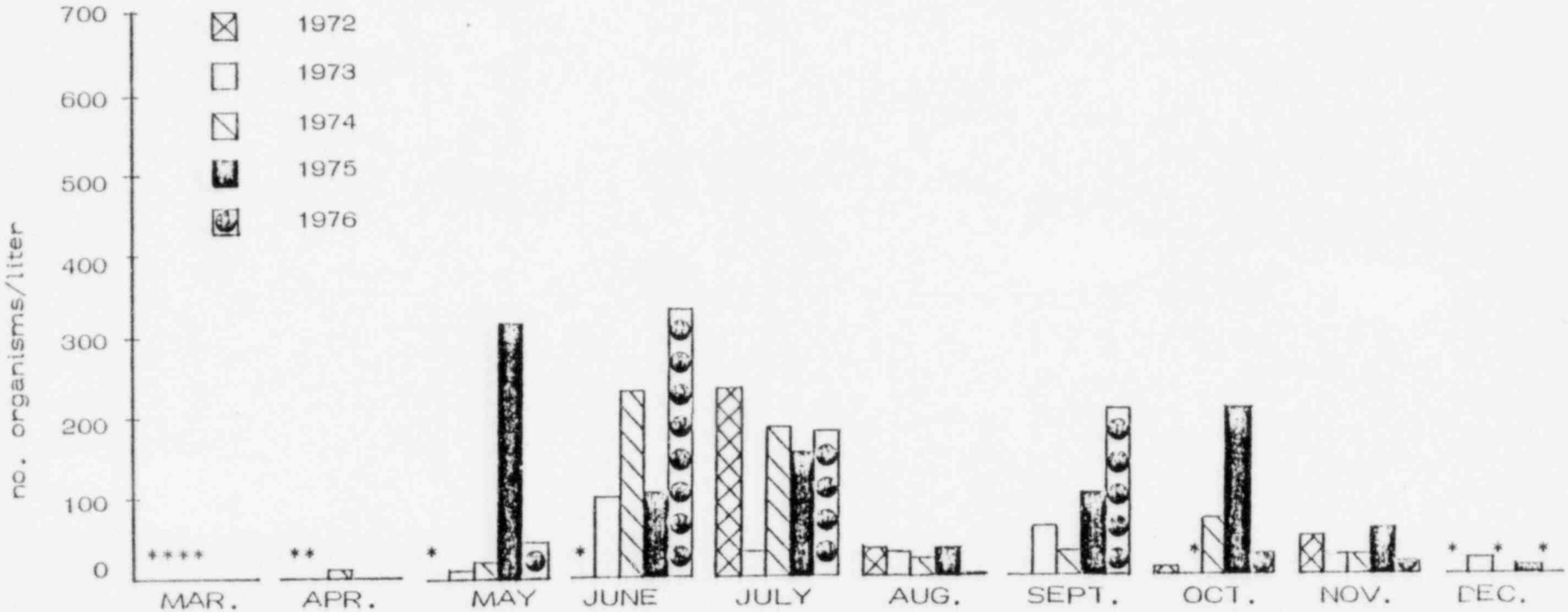
As in the past, the species composition and relative abundance in the catch varied by month and by season for all fishing methods indicating that a transient population was being sampled. This is not surprising as there is little shelter at Locust Point to support a resident population. Since this was a transient population, extreme caution should be exercised when trying to quantitatively compare CPE results from year to year, as samples were collected monthly. In a resident population, collecting samples one month apart would not produce serious errors, however, a transient population can change significantly

FIGURE 19. MONTHLY MEAN COPEPOD POPULATIONS FOR LAKE ERIE AT LOCUST POINT, 1972-1976.



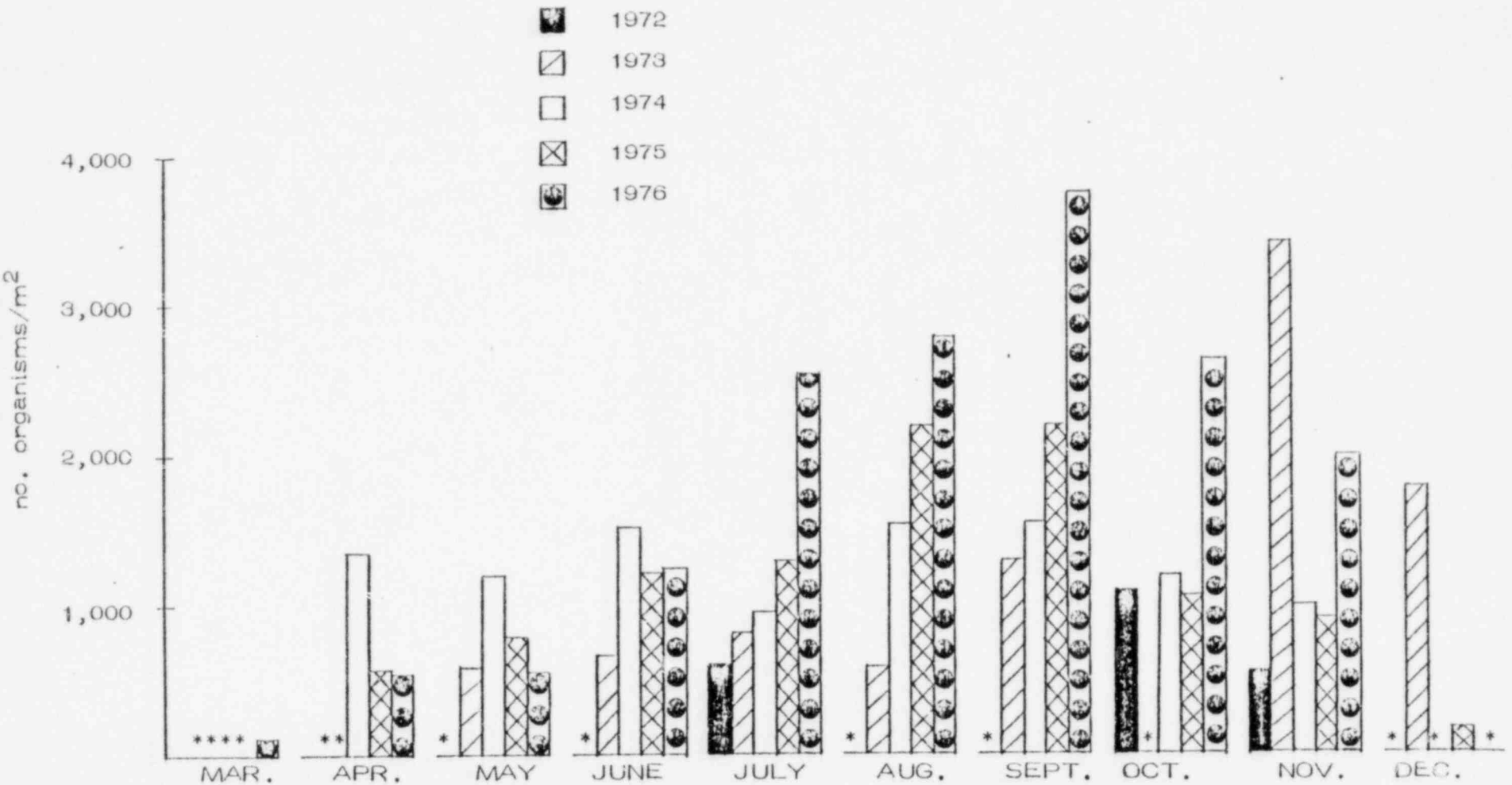
*No samples were collected.

FIGURE 20. MONTHLY MEAN CLADOCERAN POPULATIONS FOR LAKE ERIE AT LOCUST POINT, 1972 - 1976.



* No samples were collected.

FIGURE 21. MONTHLY MEAN BENTHIC MACROINVERTEBRATE POPULATIONS FOR LAKE ERIE AT LOCUST POINT, 1972 - 1976.



* No samples were collected.

with time. This is especially true when comparing CPE results for schooling species such as alewife (Alosa pseudoharengus), gizzard shad (Dorosoma cepedianum), emerald shiners (Notropis atherinoides), yellow perch (Perca flavescens), and the larvae of all species. When dealing with these populations and monthly sampling effort one should not apply too much significance to CPE results.

Results from previous years indicated that although 47 different species have been captured at Locust Point since 1963, there were only 10 species which were of any real numerical or commercial significance (Reutter, 1976). In 1974, 1975, and 1976, 7 species, alewife, carp (Cyprinus carpio), gizzard shad, white bass (Morone chrysops), emerald shiners, spottail shiners (Notropis hudsonius), and yellow perch, constituted 97%, 99%, and 99%, respectively, of the total number of fish captured. Gizzard shad was the dominant species in 1974 and 1975, while alewife dominated in 1976 (Table 19). The 1976 populations were heavily weighted by the July shore seine catch (Table 43). In 1973, freshwater drum and channel catfish (Ictalurus punctatus) were also considered to be a significant component of the population (Reutter and Herdendorf, 1974). Herdendorf and Hair (1972) presented commercial fishing results from Locust Point from 1963-1972 which showed that carp, channel catfish, and white bass were the dominant species, composing 99% (by weight) of the total catch from that 10-year period. Walleye (Stizostedion v. vitreum) should be added to the above list of 9 species due to the emphasis placed on this species by sports fishermen, commercial fishermen, and the Ohio Division of Wildlife. Therefore, the 10 species of numerical and/or commercial significance at Locust Point were alewife, freshwater drum, carp, gizzard shad, channel catfish, white bass, emerald shiners, spottail shiners, yellow perch, and walleye.

The size of the yellow perch population, an important commercial population, appears to have varied considerably from 1973 to 1976. Gill nets were the best indicators of this. During April, May and June, the CPE of yellow perch with gill nets was 12 in 1974, 176 in 1975, and 41 in 1976. Van Vooren et al. (1975) also observed this variability from 1973-1975, but their results indicated a high 1974 population and low populations in 1973 and 1975, the reverse of the present findings. This type variability is not unusual since this is a transient, schooling population and since Van Vooren et al. (1975) sampled only in spring and fall with a trawl.

Ichthyoplankton sampling has shown the same variation observed with gill nets. Emerald shiners composed 81% of the 1974 larvae, 1% of the 1975 larvae, and 60% of the 1976 larvae. Yellow perch composed 5% of the 1974 larvae, 70% of the 1975 larvae, and 4% of

the 1976 larvae. Gizzard shad larvae increased greatly to constitute 34% of the 1976 population. Much of this variability in the yellow perch larval population was undoubtedly due to the variability observed in the adult population.

Although there is tremendous variability in the ichthyoplankton catches, an important conclusion can be drawn. There are only three species which contribute significantly to the ichthyoplankton populations at Locust Point: yellow perch, emerald shiners, and gizzard shad. It also appears that these species occur from late April through July in the following order: yellow perch, late April to late May or early June; gizzard shad, June to late July, and emerald shiners, late June and July (Reutter, 1976). Yellow perch were most abundant in late April, gizzard shad in mid-late June, and emerald shiners in late June and early July. Entrainment of the larvae of these species is most likely to occur at these times. It should be noted that the loss of a particular species from the catch does not necessarily mean that the species has left the area, for they may still be present, but large enough to avoid the net. This occurred in 1975 and again in 1976 when gizzard shad, which were extremely abundant in the late June fry nets, were absent from the July fry net catch and appeared suddenly and in huge numbers in the July shore seine catch (Table 43). Of the 3 species, yellow perch is the only one which warrants special attention, although entrainment of all larvae, if or when it occurs, will be documented after Unit 1 is operational.

In 1976, control stations were sampled on either side of the intake (Station 8) and plume area (Station 13) to determine if unusually large fish larvae populations were occurring due to possible spawning in the rip-rap material around these stations. It appears that populations at Stations 8 and 13 were normally within the range set by the control stations indicating that populations occurring in the vicinity of the intake and discharge were not unusual for the shore of Lake Erie near Locust Point.

As in 1975, Toussaint Reef was sampled in an effort to compare ichthyoplankton populations from a known spawning reef (Baker, 1969) with those near the shore at Davis-Besse. Again, in 1976, larvae populations near shore were much larger than those on the reef indicating that larvae migrate to the inshore waters after hatching.

The number of fish eggs collected has changed drastically. In 1975, 190 eggs were collected and 98% of these were from Toussaint Reef. In 1976, 4,838 eggs were collected with none coming from

Toussaint Reef. However, the fact that 90% of the eggs collected were taken on one date, 17 June, makes one suspect that this is natural variation caused by the frequency of the sampling schedule. The time of the occurrence of this large catch, 17 June, indicates that no yellow perch or walleye eggs were collected. The fact that approximately two weeks later a large number of emerald shiners and gizzard shad were captured indicates that the eggs were probably of these 2 species. The fact that 95% of the eggs collected at the bottom occurred at Staion 8 or 13 indicated that spawning was probably taking place in the rip-rap around the intake and discharge structures. Again, the date of this collection, 17 June, eliminates walleye and yellow perch from the list of possible spawners.

Food Habits

As in 1974 and 1975, zooplanktonic crustacea were abundant in the stomach contents of fish from Locust Point. Caution is essential in the interpretation of Table 23 for the same fish species were not sampled each month.

In general, fish at Locust Point were relatively opportunistic and size selective feeders. Young-of-the-year gizzard shad, as evidenced by the shore seine catch, were abundant in July. They were also abundant in the stomachs of white bass and walleyes. The presence of *Leptodora kindtii* in fish stomachs corresponded well with their abundance in benthos samples. The fact that *Leptodora* was consumed primarily by bottomfeeders, channel catfish (*Ictalurus punctatus*) and brown bullhead (*Ictalurus nebulosus*) indicated that its presence in the ponar dredge was probably due to its density near the bottom and not caused by collection on the ponar screens as it was lowered.

Since 1974, nothing extraordinary for the south shore of western Lake Erie has been observed.

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APPENDIX A

PHYTOPLANKTON POPULATIONS FROM LOCUST POINT, LAKE ERIE

JULY - NOVEMBER 1976

TABLE 24

ANALYSIS OF PHYTOPLANKTON POPULATIONS
AT LOCUST POINT *
20 July 1976

TAXA	Station 1		Station 3		Station 6		Station 8	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
BACILLARIOPHYCEAE (Diatoms)								
Asterionella spp.	21	30	10	14	11	15		
Centrics (single celled)								
Cymatopleura sp.								
Diatoma elongatum								
Diatoma vulgare								
Fragilaria cotenensis	168	236	148	14	79	110	200	13
F. spp.	253	354			66	92		
Gyrosigma sp.								
Melosira spp.	378	296	69	14	66	61	67	93
Naviculoid								
Stephanodiscus sp.			30	41				
Synedra sp.								
Tabellaria sp.	21	30					10	13
Subtotal	841	473	256	55	221	126	276	120
CHLOROPHYCEAE (Green Algae)								
Actinastrum sp.								
Binuclearia sp.	231	90	59	28	164	46	95	53
Closteriopsis longissima	42	59			11	15		
Closterium sp.								
Coelastrum reticulata	42	59			22	0	10	13
Cosmarium sp.			10	14			10	13
Micrasterra sp.			20	28	11	15		
Mugeotia sp.	1074	384	207	290	504	216	694	14
Oocystis sp.	42	0			88	123		
Pandorina sp.								
Pediastrum duplex	210	294	346	70	197	276	380	53
P. simplex	1137	826	493	111	646	199	428	14
Scenedesmus sp.					11	15		
Schroederia setigera					11	15		
Staurastrum paradoxum	63	88	30	42	22	0	19	27
Westella sp.								
Subtotal	2841	1092	1165	496	1687	491	1636	27
DINOPHYCEAE (Dinoflagellates)								
Ceratium hirundinella	168	118	40	0	99	46	133	106
Glenodinium sp.			10	14				
Peridinium sp.								
Subtotal	168	118	50	14	99	46	133	106
MYXOPHYCEAE (Blue-Green Algae)								
Anabaena spiroides								
A. sp.	148	207			11	15		
Aphanizomenon sp.	141561	53782	111185	11185	115972	12034	78356	2500
Aphanocapsa sp.	1726	2416	759	181	340	476		
Aphanothece sp.	42	59						
Chroococcus limneticus					66	92		
C. spp.	21	30	10	14	77	108		
Merismopedia sp.	21	30	40	56	22	31	19	27
Microcystis incerta	337	472						
M. sp.	1369	1353	148	125	865	659	314	14
Oscillatoria sp.	42	59	217	56	307	430		
Subtotal	145267	31535	112332	11500	117660	12524	78689	2541
TOTAL	149117	32939	113803	12074	119367	13090	80734	2341

* Data presented as no. of whole organisms/l and computed from 2 vertical tows with a Wisconsin plankton net (12 cm diameter, 0.080 mm mesh) at each sampling station.

S.D. = Standard Deviation

TABLE 24

ANALYSIS OF PHYTOPLANKTON POPULATIONS
AT LOCUST POINT *
20 July 1976

TAXA	Station 9		Station 12		Station 13		Station 14	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
BACILLARIOPHYCEAE (Diatoms)								
Asterionella spp.					20	28	9	13
Centrics (single celled)			14	20				
Cymatopleura sp.					10	14		
Diatoma elongatum								
Diatoma vulgare								
Fragilaria cotenensis	190	64	127	178	207	290	177	248
F. spp.			113	158	20	28	161	202
Gyrosigma sp.					10	14		
Melosira spp.	50	15	42	59	89	14	77	13
Naviculoid					20	28	9	13
Stephanodiscus sp.								
Synedra sp.							9	13
Tabellaria sp.								
Subtotal	240	55	296	59	376	358	442	47
CHLOROPHYCEAE (Green Algae)								
Actinastrum sp.							9	13
Binuclearia sp.	59	28	197	39	138	56	101	71
Closterioosis longissima								
Closterium sp.			14	20				
Coelastrum reticulata	33	10			10	14		
Cosmarium sp.	13	18			10	14	9	13
Microspora sp.	7	10	14	20	20	28		
Mugeotia sp.	210	294	997	452	453	193	720	346
Oocystis sp.	7	10	56	78	20	28	17	24
Pandorina sp.								
Pediastrum duplex	341	74	295	413	187	262	152	213
P. simplex	544	84	1096	591	650	249	904	319
Scenedesmus sp.	7	10						
Schroederia setigera								
Staurastrum paradoxum			14	20			34	48
Westella sp.								
Subtotal	1221	202	2683	295	1488	317	1946	462
DINOPHYCEAE (Dinoflagellates)								
Ceratium hirundinella	99	10	70	20	50	69	43	13
Glenodinium sp.							9	13
Peridinium sp.	7	10					9	13
Subtotal	106	0	70	20	50	69	61	12
MYXOPHYCEAE (Blue-Green Algae)								
Anabaena spiroides	20	10						
A. sp.								
Aphanizomenon sp.	60928	459	96505	14853	48571	67999	58330	15532
Aphanocapsa sp.	85	119	562	787	434	606	516	723
Aphanothece sp.								
Chroococcus limneticus	7	10					9	13
C. spp.	13	0	14	20	30	42	26	36
Merismopedia sp.	20	28	14	20	10	14		
Microcystis incerta			492	689				
M. sp.	256	184	1110	757	138	193	769	721
Oscillatoria sp.	20	28	646	904	296	414	127	178
Subtotal	64349	514	101343	13238	49479	69270	59777	15308
TOTAL	65916	770	104391	12635	51393	70012	62226	15190

* Data presented as no. of whole organisms/l and computed from 2 vertical tows with a Wisconsin plankton net (12 cm diameter, 0.080 mm mesh) at each sampling station.

S.D. = Standard Deviation

TABLE 24

ANALYSIS OF PHYTOPLANKTON POPULATIONS
AT LOCUST POINT *
20 July 1978

TAXA	Station 18		Station 26		Station 27		Station 28	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
BACILLARIOPHYCEAE (Diatoms)								
Asterionella spp.	24	34	16	0				
Centrics (single celled)					26	32		
Cymatopleura sp.								
Diatoma elongatum								
Diatoma vulgare	24	34						
Fragilaria cotenensis	413	248	328	22	245	343	53	74
F. spp.					186	260	15	21
Gyrosigma sp.								
Melosira spp.	24	34			42	13	15	21
Naviculoid	71	99	16	22				
Stephanodiscus sp.								
Synedra sp.	71	34	16	22				
Tabellaria sp.	106	148						
Subtotal	733	429	376	69	499	60	83	32
CHLOROPHYCEAE (Green Algae)								
Actinastrum sp.			74	12	59	12		
Biruclearia sp.	59	49					53	12
Closteriopsis longissima	35	49	90	80	9	13	8	12
Closterium sp.								
Coelastrum reticulata	24	34	8	12			8	12
Cosmarium sp.			25	35				
Microspora sp.			49	46	9	13	15	21
Mugeotia sp.	1168	1635			760	48	225	126
Oocystis sp.	35	49				0		
Pandorina sp.	12	17						
Pediastrum duplex	199	52	418	57	177	248	135	189
P. simplex	259	65	459	92	775	287	570	378
Scenedesmus sp.			8	12	9	13	8	12
Schroederia setigera								
Staurastrum paradoxum	9	17	16	0	26	32	8	12
Westella sp.			33	46				
Subtotal	1803	1534	1172	92	1841	122	1030	11
DINOPHYCEAE (Dinoflagellates)								
Ceratium hirundinella	71	66	246	115	42	59	38	12
Glenodinium sp.								
Peridinium sp.	12	17	8	12				
Subtotal	83	50	254	127	42	59	38	12
MYXOPHYCEAE (Blue-Green Algae)								
Anabaena spiroides	12	17	74	35			45	63
A. sp.	36	50			17	0	53	74
Aphanizomenon sp.	50032	563	120851	15245	66256	4437	64598	6962
Aphanocapsa sp.	154	218	894	57	406	568	390	548
Aphanothece sp.	36	50						
Chroococcus limneticus			16	22	26	32		
C. spp.			41	12	26	32		
Merismopedia sp.					34	48		
Microcystis incerta					169	237		
M. sp.	578	83	566	104	820	273	578	95
Oscillatoria sp.	477	34	369	35	228	319	30	42
Subtotal	51320	710	122811	15073	67982	3466	65694	6143
TOTAL	53939	1303	124613	15359	70364	3588	66845	6200

* Data presented as no. of whole organisms/l and computed from 2 vertical tows with a Wisconsin plankton net (12 cm diameter, 0.080 mm mesh) at each sampling station.

S.D. = Standard Deviation

TABLE 24

ANALYSIS OF PHYTOPLANKTON POPULATIONS
AT LOCUST POINT *
20 July 1976

TAXA	Station 29		Mean/ Station	S.D.
	Mean	S.D.		
BACILLARIOPHYCEAE (Diatoms)				
Asterionella spp.			9	9
Centrics (single celled)			3	8
Cymatopleura sp.			1	3
Diatoma elongatum				
Diatoma vulgare			2	7
Fragilaria cotorensis	564	118	223	140
F. spp.			63	87
Gyrosigma sp.			1	3
Melosira spp.	12	17	72	96
Naviculoid			9	20
Stephanodiscus sp.			2	8
Synedra sp.	30	8	10	21
Tabellaria sp.			11	29
Subtotal	606	126	403	217
CHLOROPHYCEAE (Green Algae)				
Actinastrum sp.			11	25
Binuclearia sp.	120	34	98	71
Closteriopsis longissima	12	17	16	28
Closterium sp.			1	4
Coelastrum reticulata	84	84	19	24
Cosmarium sp.			6	8
Microspora sp.	108	118	19	30
Mugeotia sp.	1692	252	670	476
Oocystis sp.			22	27
Pandorina sp.			1	3
Pediastrum duplex	744	202	291	165
P. simplex	624	101	660	258
Scenedesmus sp.	48	34	7	13
Schroederia setigera			1	3
Staurastrum paradoxum	72	34	24	22
Westella sp.			3	9
Subtotal	3504	806	1847	743
DINOPHYCEAE (Dinoflagellates)				
Ceratium hirundinella	216	168	101	70
Glenodinium sp.			1	4
Peridinium sp.	24	34	5	7
Subtotal	240	202	107	73
MYXOPHYCEAE (Blue-Green Algae)				
Anabaena spiroides			12	23
A. sp.	84	17	27	45
Aphanizomenon sp.	65916	6444	83087	30492
Aphanocapsa sp.			482	462
Aphanothece sp.			6	15
Chroococcus limneticus			10	19
C. spp.			20	22
Merismopedia sp.			14	14
Microcystis incerta			77	160
M. sp.	624	101	626	366
Oscillatoria sp.	396	554	242	199
Subtotal	67020	8585	84901	31127
TOTAL	71370	7451	87260	31286

* Data presented as no. of whole organisms/l and computed from 2 vertical tows with a Wisconsin plankton net (12 cm diameter, 0.080 mm mesh) at each sampling station.

S.D. = Standard Deviation

TABLE 25

ANALYSIS OF PHYTOPLANKTON POPULATIONS
AT LOCUST POINT *
16 August 1976

TAXA	Station 1		Station 3		Station 6		Station 8	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
BACILLARIOPHYCEAE (Diatoms)								
Asterionella formosa							8	11
Cyclotella sp.							8	11
Cymatopleura sp.			36	50	17	24		
Fragilaria cotenensis							143	53
F. spp.	738	455	585	340	111	36	630	147
Melosira islandica	708	330	540	176	782	119	968	200
M. granulata	1402	269	729	88	910	155		
Naviculoid							15	0
Stephanodiscus binderanus			9	13			983	158
S. tenuis	1032	536	891	214	1233	132	15	0
Subtotal								
CHLOROPHYCEAE (Green Algae)	3880	391	2790	428	3053	129	2770	553
Actinastrum sp.								
Eiruclearia sp.					17	24	90	105
Coelastrum reticulatum	45	21	36	50	17	0	30	0
C. spp.	45	63	27	38	43	60		
Cosmarium spp.			18	25			23	11
Dictyocherium spp.			9	13	17	24		
Eudorina sp.							15	21
Golenkina spp.			36	0	9	13		
Microspora sp.								
Mugectia sp.	30	0	9	13			30	21
Oocystis spp.	45	21	180	0	43	10	60	84
Pediastrum biradiata	119	125	36	0	17	0		
P. duplex							15	21
P. simplex	15	21	36	25	145	36	968	32
Scanedesmus sp.	1601	372	1404	151	1462	309	8	11
Staurastrum paradoxum	15	21					15	21
Subtotal	15	21						
CHRYSOPHYCEAE (Yellow-Green Algae)	2010	329	1791	63	1753	283	1254	176
Tribonema sp.								
DINOPHYCEAE (Dinoflagellates)								
Ceratium hirundinella							45	0
Peridinium sp.	89	0	90	50	34	0	15	0
Subtotal	30	42			9	13		
MYXOPHYCEAE (Blue-Green Algae)	119	41	90	51	43	15	60	0
Anabaena spiroides								
A. sp.	118	0	135	88	111	36	165	126
Aphanizomenon sp.	15	21	90	50	60	13		
Aphanocapsa sp.	39693	3408	106380	27092	105001	24122	105398	35188
Aphanothece sp.	671	311	288	48	621	203	675	0
Chroococcus sp.	74	62	54	50	60	36	15	0
Coelosphaerium sp.	30	0	36	0	9	13	113	95
Gomphosphaeria sp.			63	13	60	60		
Lyngbya sp.								
Microcystis incerta					17	24	353	95
M. sp.	384	207	450	445	238	48	255	21
Oscillatoria spp.	708	83	306	151	315	84	1056	96
Subtotal	1800	242	1890	63	867	214		
TOTAL	43693	3251	109701	27985	107059	24199	108030	35574
	49702	3357	114372	28526	112206	24622	112114	36303

* Data presented as no. of whole organisms/l and computed from 2 vertical tows with a Wisconsin plankton net (12 cm diameter; 0.030 mm mesh) at each sampling station.

S.D. = Standard Deviation

TABLE 25

ANALYSIS OF PHYTOPLANKTON POPULATIONS
AT LOCUST POINT *
18 August 1979

TAXA	Station 12		Station 13		Station 14		Station 18	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
BACILLARIOPHYCEAE (Diatoms)								
Asterionella formosa					8	11		
Cyclotella sp.			30	14	8	11	20	28
Cymatopleura sp.							10	14
Fragilaria cotenensis	144	67	140	28	96	45	160	56
F. spp.	1644	118	1230	42	736	112	1800	56
Melosira islandica	1404	266	1020	196	576	67	1910	70
M. granulata	72	101	20	28			40	0
Naviculoid	12	17						
Stephanodiscus binderanus	2160	571	1420	168	872	101	1690	70
S. tenuis	48	34	50	70	8	11	60	20
Subtotal	5484	823	3910	266	2304	202	5690	126
CHLOROPHYCEAE (Green Algae)								
Actinastrum sp.	36	17	40	0	56	56	50	42
Binuclearia sp.	12	17	30	14	24	11	30	14
Coelastrum reticulatum							10	14
C. spp.	24	0	60	56				
Cosmarium spp.					8	11		
Dictyosphaerium spp.			30	14	16	0	20	0
Eudorina sp.	12	17	10	14	16	22		
Golenkina spp.	24	34						
Microspora sp.	60	17	100	28	32	45	20	0
Mugeotia sp.			10	14			10	14
Oocystis spp.	84	17	70	70	32	0	90	14
Pediastrum biradiata							30	42
P. duplex	1656	134	1100	280	824	325	1650	70
P. simplex	24	34	10	14				
Scenedesmus sp.								
Staurastrum paradoxum	1932	151	1400	168	1008	380	1910	70
Subtotal								
CHRYSOPHYCEAE (Yellow-Green Algae)								
Tribonema sp.					8	11		
DINOPHYCEAE (Dinoflagellates)								
Ceratium hirundinella	72	34	60	56	16	0	50	70
Peridinium sp.	60	17	20	0	8	11	60	56
Subtotal	132	50	80	56	32	0	110	126
MYXOPHYCEAE (Blue-Green Algae)								
Anabaena spiroides	240	101	270	42	136	34	240	112
A. sp.	12	17	30	14	8	11	20	0
Aphanizomenon sp.	69516	5988	82730	9142	125312	63414	60110	17150
Aphanocapsa sp.	1092	521	670	70	456	78	730	42
Aphanothece sp.			10	14	8	11	30	14
Chroococcus sp.							20	28
Coelosphaerium sp.	252	113	30	14	32	45	100	56
Gomphosphaeria sp.	156	218						
Lyngbya sp.								
Microcystis incerta	708	420	320	84	144	0	520	140
M. sp.	408	0	200	42	128	22	470	42
Oscillatoria spp.	1608	101	1960	1428	448	179	1230	70
Subtotal	73992	4440	86310	7910	126872	63258	63470	17262
TOTAL	81540	7241	91760	7420	130016	63818	71180	17584

* Data presented as no. of whole organisms/l and computed from 2 vertical tows with a Wisconsin plankton net (12 cm diameter, 0.080 mm mesh) at each sampling station.

S.D. = Standard Deviation

TABLE 25

ANALYSIS OF PHYTOPLANKTON POPULATIONS
AT LOCUST POINT *
18 August 1976

TAXA	Station 26		Station 27		Station 28		Station 29	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
BACILLARIOPHYCEAE								
(Diatoms)								
Asterionella formosa								
Cyclotella sp.								
Cymatopleura sp.								
Fragilaria cctenensis	113	53	179	36	75	105	55	15
F. spp.	600	42	621	155	233	326	737	323
Melosira islandica	788	200	680	266	540	756	385	293
M. granulata	23	32	26	36	30	42	88	92
Naviculoid								
Stephanodiscus binderanus	1073	200	680	381	353	492	792	277
S. tenuis	45	21	17	24			44	0
Subtotal	2640	0	2203	533	1231	1721	2101	783
CHLOROPHYCEAE								
(Green Algae)								
Actinastrum sp.								
Binuclearia sp.	90	63	51	24			11	15
Coelastrum reticulatum	83	53	26	36				
C. spp.					75	105		
Cosmarium spp.								
Dictyocherium spp.	8	11						
Eudorina sp.	53	74	26	36			11	15
Golenkina spp.								
Microspora sp.								
Mugeotia sp.	293	11					11	15
Oocystis spp.					8	11		
Pediastrum biradiata	45	0	68	0	23	32	11	15
P. duplex			17	24				
P. simplex	1020	273	961	179	413	578	792	62
Scenedesmus sp.								
Staurastrum paradoxum								
Subtotal	1592	436	1149	153	519	723	836	62
CHRYSOPHYCEAE								
(Yellow-Green Algae)								
Tribonema sp.								
DINOPHYCEAE								
(Dinoflagellates)								
Ceratium hirundinella	45	0	43	13	23	32	99	46
Peridinium sp.	30	0	34	0				
Subtotal	75	0	77	11	23	31	99	
MYXOPHYCEAE								
(Blue-Green Algae)								
Anabaena spiroides	210	84	145	203	75	105	121	
A. sp.			17	24	8	11	22	
Aphanizomenon sp.	3888	5618	64728	22551	23403	32771	82598	8439
Aphanocapsa sp.	368	95	170	240	240	336	827	169
Aphanothece sp.					8	11	11	15
Chroococcus sp.					8	11		
Coelosphaerium sp.	60	42	17	24			98	76
Gomphosphaeria sp.								
Lyngbya sp.								
Microcystis incerta	68	32	77	36	15	21	77	77
M. sp.	255	105	264	141	113	158	165	139
Oscillatoria spp.	1223	74	349	36	428	599	858	0
Subtotal	56072	3793	65767	22820	24303	34016	84567	4252
TOTAL	60381	8229	69196	23316	26076	36882	87603	7609

* Data presented as no. of whole organisms/l and computed from 2 vertical tows with a Wisconsin plankton net (12 cm diameter, 0.080 mm mesh) at each sampling station.

S.D. = Standard Deviation

TABLE 25

ANALYSIS OF PHYTOPLANKTON POPULATIONS
AT LOCUST POINT *
18 August 1976

TAXA	Mean/ Station	S.D.
BACILLARIOPHYCEAE		
(Diatoms)	1	2
Asterionella formosa	1	3
Cyclotella sp.	9	13
Cymatopleura sp.	13	41
Fragilaria cotenensis	252	245
F. spp.	854	480
Melosira islandica	862	516
M. granulata	26	29
Naviculoid	84	233
Stephanodiscus binderanus	1018	573
S. tenuis	23	24
Subtotal	3172	1346
CHLOROPHYCEAE		
(Green Algae)		
Actinastrum sp.	9	26
Binuclearia sp.	39	24
Coelastrum reticulatum	27	24
C. spp.	10	22
Cosmarium spp.	10	18
Dictyopherium spp.	3	5
Eudorina sp.	17	17
Golenkina spp.	3	6
Microspora sp.	8	13
Mugeotia sp.	70	86
Oocystis spp.	17	34
Pediastrum biradiata	37	34
P. duplex	101	276
P. simplex	1081	525
Scenedesmus sp.	5	8
Staurastrum paradoxum	1	4
Subtotal	1435	482
CHRYSOPHYCEAE		
(Yellow-Green Algae)		
Tribonema sp.	1	2
DINOPHYCEAE		
(Dinoflagellates)	4	13
Ceratium hirundinella	53	29
Peridinium sp.	21	22
Subtotal	78	34
MYXOPHYCEAE		
(Blue-Green Algae)		
Anabaena spiroides	164	61
A. sp.	24	26
Aphanizomenon sp.	76563	30351
Aphanocapsa sp.	567	273
Aphanothece sp.	23	26
Chroococcus sp.	18	33
Coelosphereium sp.	59	70
Gomphosphaeria sp.	13	45
Lyngbya sp.	31	102
Microcystis incerta	271	213
M. sp.	373	270
Oscillatoria spp.	1056	667
Subtotal	79161	30379
TOTAL	83846	30418

* Data presented as no. of whole organisms/l and computed from 2 vertical tows with a Wisconsin plankton net (12 cm diameter, 0.080 mm mesh) at each sampling station.
S.D. = Standard Deviation

TABLE 26

ANALYSIS OF PHYTOPLANKTON POPULATIONS AT LOCUST POINT *

14 September 1976

TAXA	Station 1		Station 3		Station 6		Station 8	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
BACILLARIOPHYCEAE (Diatoms)								
Asterionella formosa			50	42			32	45
Coscinodiscus sp.	68	95						
Cyclotella sp.	68	95	40	0	40	56	16	22
Fragilaria crotonensis	2992	535	1760	140	2480	756	1696	269
F. spp.	10080	1008	5180	308	8380	1316	6256	1098
Gomphonema sp.								
Gyrosigma sp.	23	32						
Melosira granulata	180	63	470	42	820	644	592	202
M. islandica	8842	2362	5820	308	7880	224	5152	1389
Naviculoid								
Nitzchia sp.							16	22
Pleurosigma sp.					40	0	16	22
Stephanodiscus binderanus	3915	567	1890	238	3080	280	2048	403
S. tenuis	248	32	90	42	120	56	64	0
Synedra sp.					20	28		
Subtotal	26416	440	16300	504	22840	3192	15888	560
CHLOROPHYCEAE (Green Algae)								
Ankistrodesmus sp.			20	0				
Binuclearia sp.	543	125	330	98	500	140	272	22
Closteriopsis longissima	45	63	20	28				
Closterium sp.	23	32	30	42	160	0	112	22
Coelastrum sp.	45	0	40	28	60	84	48	22
Coelosphaerium sp.	113	158	40	0	40	56		
Cosmarium sp.			30	14				
Crucigenia sp.					20	32		
Golenkinia sp.					40	56		
Gomphosphaeria sp.								
Kirchneriella sp.								
Lagerheimia sp.					20	28		
Micractinium sp.					20	28		
Mougeotia sp.	1553	95	1020	224	640	168	896	403
Oocystis sp.	23	32	30	14	20	28	16	22
Pediastrum biradiatum	90	63	100	56	120	168	64	90
P. duplex	113	32	10	14	40	56	64	45
P. simplex	5018	221	3250	616	3840	728	3680	358
Scenedesmus denticulatus			20	0				
S. quadricauda	23	32					16	22
S. spp.	23	32	10	14				
Sphaerocystis sp.								
Staurastrum paradoxum	113	158	50	70	140	84		
Unknown green algae			20	28				
Subtotal	7618	146	5030	840	5660	1428	5788	67
DINOPHYCEAE (Dinoflagellates)								
Ceratium hirundinella	248	221	170	14	80	0	128	90
MYXOPHYCEAE (Blue-Green Algae)								
Anabaena spiroides	23	32	100	28			32	45
A. spp.	23	32	30	14			16	22
Aphanizomenon sp.	3353	158	3150	574	160	168	1168	22
Aphanocapsa sp.	405	189	200	56	320	56	304	112
Aphanothece sp.							16	22
Chroococcus limneticus	45	63	30	42				
C. sp.			20	28	180	252	224	134
Gloeotheca sp.	68	95	20	28				
Lyngbya sp.			10	14			32	45
Microcystis incerta	90	63	90	14	700	476	160	0
M. sp.	360	126	230	14	200	112	48	67
Oscillatoria sp.	4028	3497	2470	294	3300	644	2304	269
Subtotal	8395	3052	6350	1022	4860	1484	4304	336
PROTOZOANS								
Saccate protozoan	1283	95	820	112	960	56	528	112
TOTAL	44067	7039	29570	1455	34400	6160	28016	4725

* Data presented as no. of whole organisms/l and computed from 2 vertical tows with a Wisconsin plankton net (12 cm diameter, 0.080mm mesh) at each sampling station.
S.D. = Standard Deviation

TABLE 26

ANALYSIS OF PHYTOPLANKTON POPULATIONS AT LOCUST POINT *

14 September 1976

TAXA.	Station 9		Station 12		Station 13		Station 14	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
BACILLARIOPHYCEAE (Diatoms)								
Asterionella formosa			20	28			9	13
Coscinodiscus sp.								
Cyclotella sp.	15	21	140	196	12	17	60	13
Fragilaria crotonensis	1770	168	2200	672	1860	151	2117	465
F. spp.	5250	882	9480	28	5960	403	5372	95
Gomphonema sp.								
Gyrosigma sp.								
Melosira granulata	615	147	1100	140	684	151	748	262
M. islandica	6315	105	8900	252	6528	907	6154	428
Naviculoid			20	28				
Nitzchia sp.								
Pleurosigma sp.								
Stephanodiscus binderanus	1500	252	3120	280	1656	403	1369	84
S. tenuis	45	21	140	28	60	17	60	13
Synedra sp.								
Subtotal	15510	1554	25100	1540	17760	134	15889	127
CHLOROPHYCEAE (Green Algae)								
Ankistrodesmus sp.								
Binuclearia sp.	285	21	380	140	216	34	213	60
Closteriopsis longissima	15	21						
Closterium sp.	195	21	120	0	132	118	60	93
Coelastrum sp.	60	42	40	0	60	50	17	24
Coelosphaerium sp.			20	28	24	34		
Cosmarium sp.								
Crucigenia sp.								
Golenkinia sp.								
Gomphosphaeria sp.			40	56				
Kirchneriella sp.	15	21						
Lagerheimia sp.								
Micractinium sp.	15	21						
Mougeotia sp.	600	252	420	140	552	202	765	333
Oocystis sp.			40	0			9	13
Pediastrum biradiatum	90	42	60	28	43	57	102	0
P. duplex	75	21	140	84	96	34	111	102
P. simplex	3375	1365	3860	588	3264	202	3392	489
Scenedesmus denticulatus								
S. quadricauda			60	28	24	34	34	0
S. spp.								
Sphaerocystis sp.								
Staurastrum paradoxum	60	42	60	84	60	17	34	0
Unknown green algae	15	21	40	56			34	48
Subtotal	4800	1680	5280	168	4476	252	4771	675
DINOPHYCEAE (Dinoflagellates)								
Ceratium hirundinella	135	147	120	56	72	0	128	36
MYXOPHYCEAE (Blue-Green Algae)								
Anabaena spiroides	15	21			24	0	17	0
A. spp.	15	21	20	28				
Aphanizomenon sp.	405	21	500	196	156	50	77	13
Aphanocapsa sp.	60	0	140	28	168	101	102	05
Aphanothece sp.			20	28				
Chroococcus limneticus								
C. sp.			20	28	24	0	9	13
Gloeotheca sp.								
Lyngbya sp.	45	21						
Microcystis incerta	60	0	40	56	72	34	17	24
M. sp.	180	168	180	84	180	17	85	71
Oscillatoria sp.	1875	315	3840	2240	2004	252	2287	917
Subtotal	2655	105	4760	2352	2628	118	2594	724
PROTOZOANS								
Saccate protozoan	720	336	990	462	684	151	697	333
TOTAL	23820	3612	36250	4242	25620	151	24079	1228

* Data presented as no. of whole organisms/l and computed from 2 vertical tows with a Wisconsin plankton net (12 cm diameter, 0.090mm mesh) at each sampling station.
S.D. = Standard Deviation

TABLE 26

ANALYSIS OF PHYTOPLANKTON POPULATIONS AT LOCUST POINT *

14 September 1976

TAXA	Station 18		Station 26		Station 27		Station 28	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
BACILLARIOPHYCEAE (Diatoms)								
Asterionella formosa	24	34	16	0	34	48	30	42
Coscinodiscus sp.					9	13		
Cyclotella sp.	12	17			34	48	53	11
Fragilaria crotonensis	1980	319	2088	504	1615	238	1590	378
F. spp.	6468	252	4448	898	4990	154	5040	42
Gomphonema sp.					9	13		
Gyrosigma sp.								
Melosira granulata	732	454	400	202	595	95	465	84
M. islandica	7440	1075	5072	963	5602	417	6083	641
Naviculoid			8	11				
Nitzchia sp.								
Pleurosigma sp.								
Stephanodiscus binderanus	1716	118	1096	11	1403	725	1313	137
S. tenuis	108	50	48	22	51	0	68	53
Synedra sp.								
Subtotal	18480	2016	13176	2117	14342	1032	14642	1131
CHLOROPHYCEAE (Green Algae)								
Ankistrodesmus sp.								
Binucleeria sp.	144	134	216	34	323	48	263	11
Closteriopsis longissima								
Closterium sp.	84	50	8	11	26	36	8	11
Coelastrum sp.	48	0	16	22	34	0	45	42
Coelosphaerium sp.							15	21
Cosmarium sp.			8	11	17	24		
Crucigenia sp.								
Golenkinia sp.	12	17						
Gomphosphaeria sp.								
Kirchneriella sp.			8	11				
Locarheimia sp.								
Micractinium sp.							8	11
Mougeotia sp.	432	67	952	213	451	132	270	105
Oocystis sp.			16	22			8	11
Pediastrum biradiatum	72	0	24	11	43	36	8	11
P. duplex	48	0	40	34	94	13	120	63
P. simplex	3972	84	2872	885	2746	84	3045	273
Scenedesmus denticulatus								
S. quadricauda	12	17	24	34			8	11
S. spp.								
Sphaerocystis sp.								
Staurastrum paradoxum			56	11			15	0
Unknown green algae	36	50					8	11
Subtotal	4860	17	4240	1098	3734	127	3821	570
DINOPHYCEAE (Dinoflagellates)								
Ceratium hirundinella	156	17	136	11	136	71	105	84
MYXOPHYCEAE (Blue-Green Algae)								
Anabaena spiroides			144	112	9	13	23	32
A. spp.			76	83	17	24		
Aphanizomenon sp.	216	235	1768	1154	128	13	180	21
Aphanocapsa sp.	60	17	144	67	43	36	158	158
Aphanothece sp.								
Chroococcus limneticus								
C. sp.				0				
Gloeothece sp.								
Lyngbya sp.								
Microcystis incerta	12	17	2	45	34	48	38	11
M. sp.	204	17	320	90	94	108	113	11
Oscillatoria sp.	2496	739	2184	78	1581	143	1343	263
Subtotal	2988	991	4683	1239	1906	21	1855	469
PROTOZOANS								
Saccata protozoan	792	0	496	269	612	167	525	84
TOTAL	27278	3007	22731	2247	20730	1133	20948	1333

* Data presented as no. of whole organisms/l and computed from 2 vertical tows with a Wisconsin plankton net (12 cm diameter, 0.080mm mesh) at each sampling station.
S.D. = Standard Deviation

TABLE 26

ANALYSIS OF PHYTOPLANKTON POPULATIONS AT LOCUST POINT *

14 September 1976

TAXA	Station 29		Mean/ Station	S.D.
	Mean	S.D.		
BACILLARIOPHYCEAE (Diatoms)				
Asterionella formosa	36	17	19	17
Coscinodiscus sp.			8	19
Cyclotella sp.	24	34	40	37
Fragilaria crotonensis	1584	202	1906	525
F. spp.	6756	1128	6588	1754
Gomphonema sp.			1	3
Gyrosigma sp.			2	6
Melosira granulata	480	67	606	226
M. islandica			6138	2237
Naviculoid			2	6
Nitzchia sp.			1	4
Pleurosigma sp.			4	12
Stephanodiscus binderanus	756	890	1912	915
S. tenuis			85	61
Synedra sp.			2	6
Subtotal	9636	2100	17383	4795
CHLOROPHYCEAE (Green Algae)				
Ankistrodesmus sp.			2	6
Binuclearia sp.	228	118	301	116
Closteriopsis longissima			6	13
Closterium sp.	12	17	75	64
Coelastrum sp.			39	19
Coelosphaerium sp.	12	17	20	32
Cosmarium sp.			4	9
Crucigenia sp.			2	6
Golenkinia sp.			4	11
Gomphosphaeria sp.			3	11
Kirchneriella sp.			2	5
Lagerheimia sp.			2	6
Micractinium sp.			3	7
Mugeotia sp.	600	34	704	339
Oocystis sp.			12	13
Pediastrum biradiatum	36	17	66	34
P. duplex	96	0	81	38
P. simplex	3216	638	3503	591
Scenedesmus denticulatus			2	6
S. quadricauda			15	18
S. spp.			3	7
Sphaerocystis sp.				
Staurastrum paradoxum	12	17	46	43
Unknown green algae	12	17	13	15
Subtotal	4224	925	4907	1017
DINOPHYCEAE (Dinoflagellates)				
Ceratium hirundinella	84	17	131	46
MYXOPHYCEAE (Blue-Green Algae)				
Anabaena spiroides			30	43
A. spp.	24	34	17	21
Aphanizomenon sp.	96	134	874	1168
Aphanocapsa sp.	72	67	167	113
Aphanothece sp.			3	7
Chroococcus limneticus			6	14
C. sp.			38	74
Gloeothece sp.			7	19
Lyngbya sp.			7	15
Microcystis incert.			103	184
M. sp.	120	101	178	90
Oscillatoria sp.	1740	555	2419	830
Subtotal	2052	673	3848	1956
PROTOZOANS				
Saccate protozoan	816	0	763	221
TOTAL	16812	4413	27032	7382

* Data presented as no. of whole organisms/l and computed from 2 vertical tows with a Wisconsin plankton net (12 cm diameter, 0.080mm mesh) at each sampling station.
S.D. = Standard Deviation

TABLE 27

ANALYSIS OF PHYTOPLANKTON POPULATIONS AT LOCUST POINT*
19 October 1976

TAXA	Station 1 **		Station 3**		Station 6 **		Station 8 **	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
BACILLARIOPHYCEAE (Diatoms)								
Asterionella formosa	196	137	240	0	120	0	325	0
Asterionella gracillima								
Cyclotella sp.	49	69	60	84	120	56	135	105
Cymatopleura sp.					40	56		
Cymbella sp.					20	28		
Fragilaria crotonensis	2058	1921	620	28	600	280	960	336
F. spp.	2548	2195	2620	168	2960	224	3960	882
Gyrosigma sp.								
Melosira granulata	98	137	40	56			30	42
M. islandica	3430	0	13160	15680	14140	16212	4260	42
Pleurosigma sp.							30	42
Stephanodiscus binderanus	41111	9124	11900	13524	11780	12796	20055	5481
S. tenuis			40	0			30	42
Synedra sp.							45	63
Surirella					40	56		
Tabellaria sp.	98	137					45	63
Subtotal	52356	13069	28680	2240	29820	3948	29875	6510
DINOPHYCEAE (Dinoflagellates)								
Ceratium hirundinella	49	69	140	196				
MYXOPHYCEAE (Blue-Green Algae)								
Anabaena spiroides								
A. sp.								
Aphanizomenon sp.			40	56	600	504	525	735
Aphanocapsa sp.			140	196	60	84		
Anhanothece sp.	49	69						
Chroococcus limnetic								
C. sp	49	69			20	28		
Microcystis incerta			20	28	60	84		
M. sp.							165	147
Oscillatoria sp.	28420	686	11380	3108	15300	4004	7290	1554
Subtotal	28518	686	11580	2884	16640	2520	7980	2436

TABLE 27 CON'T.

ANALYSIS OF PHYTOPLANKTON POPULATIONS AT LOCUST POINT*
19 October 1976

TAXA	Station 1 **		Station 3**		Station 6**		Station 8**	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
CHLOROPHYCEAE (Green Algae)								
Actinastrum sp.					20	28	105	63
Ankistrodesmus sp.			20	28				
Binucleaeria sp.	2009	69	960	1344	2280	784	1395	147
Closteriopsis longissima			980	1372			45	63
Closterium sp.	980	137	180	28	120	0	180	126
Coelastrum sp.	196	0	20	28	40	56	30	42
Coelosphaerium sp.	147	69	60	28	20	28	30	42
Errerella bornemiensis							60	84
Golenkinia sp.			20	28	60	28	45	21
Gomphosma sp.								
Kirchneriella (obesa)			40	56				
Micractinium sp.	294	274	60	84	100	28	45	63
Mucrotia sp.	32242	686	15040	1624	15320	2520	9630	2268
Oocystis sp.	49	69			160	56		
Pediastrum biradiata	196	274	20	28			240	210
P. duplex	1029	480	1040	224	1440	56	900	462
Pediastrum simplex	4459	69	2180	364	2340	980	1530	168
Planktosphaeria (gelatinosa)								
Scenedesmus acuminata					20	28		
S. quadricauda	245	69	20	28	120	56	120	42
S. sp.								
Selenastrum (Westii)					40	56	45	63
S. (bibrainum)					40	56		
Sphaerocystis sp.			20	28	20	28	120	84
Staurastrum paradoxum	147	69	60	28	40	0		
S. sp.								
Tetrastrum sp.	49	69						
Subtotal	42047	823	20720	1120	22180	4004	14520	2940
TOTAL	122966	14646	61120	6048	68640	5432	52375	11883

* Data presented as number of whole organisms/l and computed from 2 vertical tows with a Wisconsin plankton net (12 cm diameter, 0.080 mm mesh) at each sampling station.
S.D. = Standard Deviation

** These samples were diluted 1:1 to allow accurate counting.

TABLE 27

ANALYSIS OF PHYTOPLANKTON POPULATIONS AT LOCUST POINT*
19 October 1976

TAXA	Station 12**		Station 13		Station 14		Station 18	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
BACILLARIOPHYCEAE (Diatoms)								
Asterionella formosa	72	3	310	62	166	77	268	0
Asterionella gracillima								
Cyclotella sp.	178	42	45	63	55	0	81	37
Cymatopleura sp.								
Cymbella sp.								
Fragilaria crotonensis	1035	105	708	991	526	39	376	151
F. spp.	5731	863	4957	186	4094	1394	3057	0
Gyrosigma sp.			45	63	56	78		
Melosira granulata			89	125	139	38		
M. islandica	4397	1568	2916	3352	2655	155	3460	413
Pleurosigma sp.								
Stephanodiscus binderanus	38248	1946	36374	3717	24974	9332	26550	3380
S. tenuis	425	182			28	39		
Synedra sp.								
Surirella								
Tabellaria sp.			45	63			27	38
Subtotal	44355	3866	45489	8558	32693	11152	33819	4019
DINOPHYCEAE (Dinoflagellates)								
Ceratium hirundinella					28	39	40	56
MYXOPHYCEAE (Blue-Green Algae)								
Anabaena spiroides	70	97	89	125				
A. sp.	176	143	89	125			108	75
Aphanizomenon sp.	3740	495	45	63	249	349	1690	113
Aphanocapsa sp.	111	155	133	186	28	39		
Aphanothece sp.								
Chroococcus limnetic			133	186				
C. sp							28	39
Microcystis incerta	104	146			55	0	54	75
M. sp.	35	49	45	63	28	39	28	39
Oscillatoria sp.	24520	851	21860	3098	7855	3175	10271	1464
Subtotal	28757	1936	22394	3846	8215	3602	12179	1805

TABLE 27 CON'T.

ANALYSIS OF PHYTOPLANKTON POPULATIONS AT LOCUST POINT*
19 October 1976

TAXA	Station 12**		Station 13		Station 14		Station 18	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
CHLOROPHYCEAE (Green Algae)								
Actinastrum sp.	1111	97	487	133	222	155	134	188
Ankistrodesmus sp.								
Binuclearia sp.	4050	422	2700	576	802	272	2253	75
Closteriopsis longissima								
Closterium sp.	924	260	532	123	222	78	134	38
Coelastrum sp.	37	52	178	123			81	113
Coelosphaerium sp.	74	104	89	0	28	39		
Errerella bornhemiensis							28	39
Golenkinia sp.	70	98	45	63			28	39
Gomphoema sp.								
Kirchneriella (obesa)								
Micractinium sp.			266	0	139	39	108	151
Mougeotia sp.	26769	3920	21107	1920	11782	620	17539	3380
Oocystis sp.	798	1117	178	123	28	39	28	39
Pediastrum biradiata	402	367	443	310	221	232	268	0
P. duplex	2050	1114	1107	310	1024	503	1180	150
Pediastrum simplex	3818	2040	3762	310	2296	104	1985	300
Planktosphaeria (gelatinosa)	104	145						
Scenedesmus accuminata								
S. quadricauda	314	337						
S. sp.							28	39
Selenastrum (Westii)	248	109	133	186			81	37
S. (bibrainum)								
Sphaerocystis sp.							28	39
Staurastrum paradoxum								
S. sp.			45	63				
Tetrastrum sp.								
Subtotal	40769	10213	30990	4240	16764	3022	23903	4627
TOTAL	113881	16015	98873	16644	57700	17815	69941	10507

* Data presented as number of whole organisms/l and computed from 2 vertical tows with a Wisconsin plankton net (12 cm diameter, 0.080 mm mesh) at each sampling station.

S.D. = Standard Deviation

** These samples were diluted 1:1 to allow accurate counting.

TABLE 27

ANALYSIS OF PHYTOPLANKTON POPULATIONS AT LOCUST POINT*
19 October 1976

TAXA	Station 26**		Station 27**		Station 28**		Station 29**	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
BACILLARIOPHYCEAE (Diatoms)								
Asterionella formosa	595	119	519	83	723	202	507	55
Asterionella gracillima								
Cyclotella sp.	34	0	51	0			39	55
Cymatopleura sp.								
Cymbella sp.								
Fragilaria crotonensis	646	143	510	286	693	107	507	491
F. spp.	3927	881	3468	571	3392	250	4134	109
Gyrosigma sp.								
Melosira granulata	34	0	51	71	143	85	78	109
M. islandica	3298	48	3545	1535	3927	286	2496	655
Pleurosigma sp.								
Stephanodiscus binderanus	16320	48	19329	1285	21573	2284	21216	328
S. tenuis					25	38	78	0
Synedra sp.	17	24						
Surirella								
Tabellaria sp.	51	71						
Subtotal	24922	1047	27472	2380	30834	2451	28155	2297
DINOPHYCEAE (Dinoflagellates)								
Ceratium hirundinella	34	0	26	38	26	28	39	55
MYXOPHYCEAE (Blue-Green Algae)								
Anabaena spiroides							39	55
A. sp.	68	95						
Aphanizomenon sp.	1360	333	867	143	1377	571	2062	1310
Aphanocapsa sp.	68	95					78	109
Apharothece sp.								
Chroococcus limnetic	17	24						
C. sp			26	38				
Microcystis incerta	34	48					78	109
M. sp.	34	0					195	55
Oscillatoria sp.	4454	333	6350	464	4998	357	11778	1966
Subtotal	6035	71	7293	214	6452	1035	14391	819

TABLE 27 CON'T.

ANALYSIS OF PHYTOPLANKTON POPULATIONS AT LOCUST POINT*
19 October 1976

TAXA	Station 26**		Station 27**		Station 28**		Station 29**	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
CHLOROPHYCEAE (Green Algae)								
Actinastrum sp.	34	48	26	36	26	36		
Ankistrodesmus sp.								
Binuclearia sp.	1241	547	1224	571	842	36	1794	546
Closteriopsis longissima								
Closterium sp.	102	0	281	179	230	107	390	0
Coelastrum sp.	51	24	51	0	51	0	117	55
Coeloschaerium sp.	17	24	51	0	153	0	39	55
Errerella bornhemiensis	34	48						
Golenkinia sp.								
Gomphoema sp.					26	38		
Kirchneriella (obesa)								
Micractinium sp.	34	48			51	71	78	109
Mugectia sp.	7633	881	12240	1439	11761	286		
Oocystis sp.								
Pediastrum biradiata	408	95	536	393	485	36	819	164
P. duplex	476	143	816	71	893	36	1053	55
Pediastrum simplex	1156	476	1428	500	1836	214	1638	109
Planktosphaeria (gelatinosa)								
Scenedesmus accuminata								
S. quadricauda	51	24					78	0
S. sp.	17	24						
Selenastrum (Westii)	17	24			77	107	78	0
S. (bibrainum)								
Sphaerocystis sp.								
Staurastrum paradokum	17	24	51	0	51	71		
S. sp.								
Tetrastrum sp.								
Subtotal	11298	857	16703	2392	16499	321	6084	764
TOTAL	42279	1833	51493	5022	53610	3944	48669	3826

* Data presented as number of whole organisms/l and computed from 2 vertical tows with a Wisconsin plankton net (12 cm diam., 0.080 mm mesh) at each sampling station.
S.D. = Standard Deviation

** These samples were diluted 1:1 to allow accurate counting.

TABLE 27

ANALYSIS OF PHYTOPLANKTON POPULATIONS AT LOCUST POINT*
19 October 1976

TAXA	Mean/ Station	S.D.
BACILLARIOPHYCEAE (Diatoms)		
Asterionella formosa	337	204
Asterionella gracillima		
Cyclotella sp.	71	50
Cymatopleura sp.		
Cymbella sp.		
Fragilaria crotonensis	787	447
F. spp.	3737	942
Gyrosigma sp.		
Melosira granulata	59	51
M. islandica	5140	4022
Pleurosigma sp.		
Stephanodiscus binderanus	24119	9825
S. tenuis	52	120
Synedra sp.	5	14
Surirella		
Tabellaria sp.	22	37
Subtotal	34023	8589
DINOPHYCEAE (Dinoflagellates)		
Ceratium hirundinella	32	38
MYXOPHYCEAE (Blue-Green Algae)		
Anabaena spiroides	17	32
A. sp.	37	60
Aphanizomenon sp.	1063	1112
Aphanocapsa sp.	52	55
Aphanothece sp.	4	14
Chroococcus limnetic	13	38
C. sp	10	17
Microcystis incerta	34	36
M. sp.	44	66
Oscillatoria sp.	12873	8011
Subtotal	14203	8257

TABLE 27 CON'T.

ANALYSIS OF PHYTOPLANKTON POPULATIONS AT LOCUST POINT*
19 October 1976

TAXA	Mean/ Station	S.D.
CHLOROPHYCEAE (Green Algae)		
Actinastrum sp.	180	325
Ankistrodesmus sp.	2	6
Binuclearia sp.	1796	943
Closteriopsis longissima	85	282
Closterium sp.	356	304
Coelastrum sp.	71	62
Coelosphaerium sp.	59	49
Errerella bornhemiensis	10	20
Golenkinia sp.	22	27
Gomphosma sp.	2	8
Kirchneriella (obesa)	4	12
Micractinium sp.	98	95
Mugeotia sp.	15090	8613
Oocystis sp.	103	228
Pediastrum biradiata	337	229
P. duplex	1084	360
Pediastrum simplex	2359	1065
Planktosphaeria (gelatinosa)	9	30
Scenedesmus accuminata	2	6
S. quadricauda	79	105
S. sp.	4	9
Selenastrum (Westii)	60	73
S. (bibrainum)	3	12
Sphaerocystis sp.	16	34
Staurastrum paradoxum	31	44
S. sp.	4	13
Tetrastrum sp.	4	14
Subtotal	21872	11077
TOTAL	70129	26869

* Data presented as number of whole organisms/l and computed from 2 vertical tows with a Wisconsin plankton net (12 cm diameter, 0.080 mm mesh) at each sampling station.

S.D. = Standard Deviation

** These samples were diluted 1:1 to allow accurate counting.

TABLE 28

ANALYSIS OF PHYTOPLANKTON POPULATIONS AT LOCUST POINT*
2 November 1976

TAXA	Station 1		Station 3		Station 6		Station 8	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
BACILLARIOPHYCEAE (Diatoms)								
Asterionella formosa	1475	496	539	55	567	244	038	155
Cyclotella sp.			17	24	14	20		
C.(glomerata)								
Fragilaria crotonensis	1357	330	568	129	957	542	714	167
F. spp.	4543	248	1604	722	1932	550	2125	214
Melosira granulata								
M. islandica	590	0	171	97	211	136	213	202
Stephanodiscus binderanus	4956	909	2154	849	2191	461	2117	179
S. tenuis			29	16				
Synedra sp.								
Tabellaria sp.	148	207	104	50	71	60	68	24
Subtotal	13069	2189	5185	1785	5942	1403	5874	250
CHLOROPHYCEAE (Green Algae)								
Actinastrum sp.								
Ankistrodesmus sp.								
Binuclearia sp.	826	83	722	558	734	149	451	179
Closterium sp.	443	207	131	41	95	54	94	12
Coelastrum sp.								
Coelosphaerium sp.	59	83	10	14			9	12
Dictyosphaerium sp.								
Micractinium sp.			26	36			9	12
Mugeotia sp.	12007	124	7295	931	11635	3468	7616	1285
Oocystis sp.			9	12				
Pediastrum biradiata	148	207	63	32	184	18	77	60
P. duplex	177	83	73	18	99	21	34	0
P. simplex	620	413	29	16	154	216	94	131
Planktosphaeria sp.					28	39		
Sphaerocystis sp.								
Staurastrum paradoxum			39	30	24	6	9	12
Subtotal	14278	661	8394	1493	12951	3821	8290	1535
DINOPHYCEAE (Dinoflagellates)								
Ceratium hirundinella			10	14				
Subtotal			10	14				
MYXOPHYCEAE (Blue-Green Algae)								
Anabaena spiroides								
A. sp.								
Aphanizomenon sp.	118	165	140	29	52	34	9	12
Microcystis incerta					10	13		
M. sp.								
Oscillatoria	8644	289	497	471	2977	1321	910	298
Subtotal	8762	124	636	442	3038	1274	913	309
PROTOZOA								
Saccate protozoan	59	83	19	2				
Subtotal	59	83	19	2				
TOTAL	36167	1589	14243	2832	21931	6497	15181	2094

* Data presented as no. of whole organisms/l and computed from 2 vertical tows with a Wisconsin plankton net (12 cm diameter, 0.080 mm mesh) at each sampling satalon.
S.D. = Standard Deviation

a Sample no. 2 diluted 1:1 to allow accurate counting.

b Both samples diluted 1:1 to allow accurate counting.

TABLE 28

ANALYSIS OF PHYTOPLANKTON POPULATIONS AT LOCUST POINT*
2 November 1976

TAXA	Station 12		Station 13		Station 14		Station 18	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
BACILLARIOPHYCEAE (Diatoms)								
Asterionella formosa	1829	743	645	189	888	34	960	0
Cyclotella sp.	59	82			24	34	30	42
C.(glomerata)								
Fragilaria crotonensis	1209	620	570	168	384	0	645	63
F. spp.	4572	2650	2100	232	2484	17	2400	714
Melosira granulata	30	41	60	84				
M. islandica	1033	503	240	84	240	101	180	210
Stephanodiscus binderanus	5841	3053	1290	756	1884	622	1755	651
S. tenuis								
Synedra sp.								
Tabellaria sp.	325	28	255	63	120	0	285	63
Subtotal	14898	8054	5160	798	6024	605	6270	1638
CHLOROPHYCEAE (Green Algae)								
Actinastrum sp.							15	21
Ankistrodesmus sp.	30	41						
Binuclearia sp.	1829	1404	345	63	660	50	450	0o
Closterium sp.	325	207	150	42	192	0	210	0
Coelastrum sp.	59	58						
Coelosphaerium sp.	30	41			24	0		
Dictyosphaerium sp.								
Micractinium sp.	89	41					45	63
Mugeotia sp.	24957	17594	6810	546	8439	484	7935	1743
Oocystis sp.					12	17		
Pediastrum biradiata	148	41	90	126	60	17	120	0
P. duplex	207	28	90	126	60	50	165	63
P. simplex	443	372	90	42	156	17	105	63
Planktosphaeria sp.								
Sphaerocystis sp.					36	50	15	21
Stauratrum paradoxum	30	41	15	21				
Subtotal	28143	19576	7590	504	9636	353	9060	1932
DINOPHYCEAE (Dinoflagellates)								
Ceratium hirundinella					12	17		
Subtotal					12	17		
MYXOPHYCEAE (Blue-Green Algae)								
Anabaena spiroides	177	248						
A. sp.	30	41						
Aphanizomenon sp.	472	496	75	105	36	50	30	42
Microcystis incerta	30	41	15	21	12	17		
M. sp.					12	17		
Oscillatoria	5694	4253	1155	903	636	151	1125	357
Subtotal	6402	4915	1245	777	696	101	1155	399
PROTOZOA								
Saccate protozoan								
Subtotal								
TOTAL	49442	32514	13995	1071	16485	168	16485	3959

* Data presented as no. of whole organisms/l and computed from 2 vertical tows with a Wisconsin plankton net (12 cm diameter, 0.080 mm mesh) at each sampling sataion.
S.D. = Standard Deviation

a Sample no. 2 diluted 1:1 to allow accurate counting.

b Both samples diluted 1:1 to allow accurate counting.

TABLE 28

ANALYSIS OF PHYTOPLANKTON POPULATIONS AT LOCUST POINT*
2 November 1976

TAXA	Station 26a		Station 27a		Station 28a		Station 29	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
BACILLARIOPHYCEAE (Diatoms)								
Asterionella formosa	961	559	1140	308	731	119	1013	888
Cyclotella sp.	77	83			17	24		
C.(glomerata)			20	28				
Fragilaria crotenensis	595	24	550	154	459	24	878	19
F. spp.	1947	36	1810	350	4369	738	3375	869
Melosira granulata								
M. islandica	425	107	260	28	204	38	176	57
Stephenodiscus binderanus	2508	83	2000	952	5270	619	4307	208
S. tenuis	9	12						
Syredra sp.			20	28				
Tabellaria sp.	111	83	150	14	17	224	122	19
Subtotal	6630	833	5950	798	11067	1499	9869	1909
CHLOROPHYCEAE (Green Algae)								
Actinastrum sp.			80	112				
Ankistrodesmus sp.								
Binuclearia sp.	94	12	440	168	935	262	689	359
Closterium sp.	170	0	330	42	255	71	243	38
Coelastrum sp.								
Coelossphaerium sp.								
Dictyosphaerium sp.			20	28				
Micractinium sp.					17	24	54	76
Mugeotia sp.	10523	1285	7390	1694	9084	809	9558	1210
Oocystis sp.								
Pediastrum biradiata	85	71	60	28	187	119	176	132
P. duplex	102	95			102	48	81	0
P. simplex	119	00	90	70	323	24	419	19
Planktosphaeria sp.			30	42				
Sphaerocystis sp.								
Staurastrum paradoxum			20	28				
Subtotal	11603	1273	8460	1372	11203	1214	11219	1796
DINOPHYCEAE (Dinoflagellates)								
Ceratium hirundinella								
Subtotal								
MYXOPHYCEAE (Blue-Green Algae)								
Anabaena spiroides							14	19
A. sp.					17	24		
Aphanizomenon sp.	145	83	60	28	85	71	81	113
Microcystis incerta								
M. sp.					17	24		
Oscillatoria	2686	857	1040	168	2125	214	1809	38
Subtotal	2831	940	1100	196	2244	95	1904	170
PROTOZOA								
Saccate protozoan								
Subtotal								
TOTAL	21063	3046	15510	1974	24514	2618	22991	3534

* Data presented as no. of whole organisms/l and computed from 2 vertical tows with a Wisconsin plankton net (12 cm diameter, 0.080 mm mesh) at each sampling sataion.
S.D. = Standard Deviation

a Sample no. 2 diluted 1:1 to allow accurate counting.

b Both samples diluted 1:1 to allow accurate counting.

TABLE 28

ANALYSIS OF PHYTOPLANKTON POPULATIONS AT LOCUST POINT*
2 November 1976

TAXA	Mean/ Station	S.D.
BACILLARIOPHYCEAE (Diatoms)		
Asterionella formosa	949	386.9
Cyclotella sp.	20	25.1
C.(glomerata)	2	5.8
Fragilaria crotonensis	741	301.2
F. spp.	2772	1130.5
Melosira granulata	8	18.7
M. islandica	329	253.5
Stephanodiscus binderanus	3023	1591.6
S. tenuis	3	8.5
Synedra sp.	3	6.9
Tabellaria sp.	148	93.3
Subtotal	7993	3038.1
CHLOROPHYCEAE (Green Algae)		
Actinastrum sp.	8	23.1
Ankistrodesmus sp.	1	4.3
Binuclearia sp.	724	389.6
Closterium sp.	152	141.6
Coelastrum sp.	5	17.0
Coelossphaerium sp.	11	18.3
Dictyosphaerium sp.	2	5.8
Micractinium sp.	20	28.8
Mugeotia sp.	10295	4925.8
Cocystis sp.	2	4.1
Pediastrum biradiata	117	50.1
P. duplex	99	59.4
P. simplex	220	185.4
Planktosphaeria sp.	5	11.3
Sphaerocystis sp.	4	10.9
Stauratrum paradoxum	11	13.9
Subtotal	11744	5555.9
DINOPHYCEAE (Dinoflagellates)		
Ceratium hirundinella	2	4.3
Subtotal	2	4.3
MYXOPHYCEAE (Blue-Green Algae)		
Anabaena spiroides	16	58.89
A. sp.	4	9.56
Aphanizomenon sp.	109	122.04
Microcystis incerta	6	9.51
M. sp.	2	5.74
Oscillatoria	2442	2424.03
Subtotal	2578	2578.32
PROTOZOA		
Saccate protozoan	7	17.41
Subtotal	7	17.41
TOTAL	22324	10598.87

* Data presented as no. of whole organisms/l and computed from 2 vertical tows with a Wisconsin plankton net (12 cm diameter, 0.080 mm mesh) at each sampling sataion.
S.D. = Standard Deviation

a Sample no. 2 diluted 1:1 to allow accurate counting.

b Both samples diluted 1:1 to allow accurate counting.

APPENDIX B

ZOOPLANKTON POPULATIONS FROM LOCUST POINT, LAKE ERIE

JULY - NOVEMBER 1976

TABLE 29

ANALYSIS OF ZOOPLANKTON POPULATIONS
AT LOCUST POINT*
20 July 1975

TAXA	Station 1		Station 3		Station 6		Station 8	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
ROTIFERA								
Asplanchna priodonta	2.8	2.4	0.8	1.2			4.1	1.0
Bepalcus hudsoni								
Brachionus angularis	5.0	2.4	10.3	4.6	1.4	0.4	23.1	5.5
B. calyciflorus	1.1	1.5	0.3	0.4	0.3	0.4	1.9	0.0
B. divergicornus								
B. havanaensis	0.6	0.8					1.0	0.7
B. urceolaris								
Chromogaster ovalis							0.3	0.4
Conochiloides sp.			0.3	0.4				
Filinia terminalis							0.5	0.7
Keilicottia longispina	1.7	0.8	1.0	1.4	0.6	0.8	0.8	0.4
Keratella cochlearis	4.4	1.5					3.6	0.3
K. quadrata	2.8	2.4					1.2	0.3
K. serrulata	1.7	2.4	0.5	0.7	0.3	0.4	0.5	0.7
K. valga								
Notholca spp.	1.1	1.5						
Polyarthra spp.	0.6	0.8	7.8	6.7	1.7	0.0	2.9	1.4
Pompholyx sulcata	11.6	13.2	6.5	2.1	5.8	5.7	3.9	0.7
Synchaeta spp.	6.1	3.9	7.8	1.8	2.0	0.4	11.3	2.4
Testudinella sp.			0.3	0.4				
Trichocerca multicrinis	0.6	0.8			0.3	0.4	0.8	0.4
Trichotria tetractis					0.3	0.4		
Unindentified Rotifer	0.6	0.8						
Subtotal	40.7	8.5	35.6	5.8	12.7	5.5	55.9	5.0
COPEPODA								
Calanoid Copepods								
Diaptomus sicilioides			1.5	0.0	0.6	0.8	1.0	0.8
D. oregonensis			1.0	1.4			0.8	0.4
Immature Calanoid	5.5	3.1	4.3	3.2	3.9	3.1	6.0	1.0
Nauplii, Calanoid	6.6	3.1	10.5	1.4	12.1	3.1	15.9	0.7
Cyclopoid Copepods								
Cyclops bicuspidatus thomasi			0.3	0.4				
C. vernalis	21.5	30.1	6.5	9.1	11.0	15.4	9.4	13.2
Immature, *C. vernalis*	29.7	0.0	21.8	11.6	22.9	4.3	21.4	0.4
Immatures, Cyclopoid	27.5	38.5	11.0	15.4	14.1	18.2	11.6	15.5
Nauplii, Cyclopoid	2.2	0.0	9.3	1.8	8.3	1.5	9.9	3.1
Subtotal	93.0	14.6	66.2	19.6	72.9	9.3	76.0	4.1
CLADOCERA								
Bosmina longirostris			0.3	0.4	0.6	0.8	0.3	0.4
Chydorus sphaericus	2.8	0.8	1.8	2.5	3.1	0.4	1.4	0.0
Daphnia galeata mendota	0.6	0.8	3.5	2.1	2.2	0.0	1.2	0.3
D. retrocurva	54.5	20.9	134.3	12.3	95.5	7.4	63.6	1.3
Diaphanosoma leuchtenbergianum	0.6	0.8	1.3	0.4	0.9	1.3	0.3	0.4
Eubosmina coregoni	135.3	0.0	137.0	49.0	175.8	22.8	88.8	22.8
Leptodora kindtii			0.3	0.4			0.5	0.7
Subtotal	193.8	20.0	278.5	41.3	278.1	16.2	155.8	24.5
PROTOZOA								
Difflugia sp.	236.0	111.7	75.5	43.4	102.9	34.7	83.6	23.0
Unidentified Protozoan A	442.1	818.9	817.6	10.8	569.4	797.2	456.0	638.4
Unidentified Protozoan B			108.4	151.8			218.5	226.0
Subtotal	678.1	807.2	1001.5	181.3	672.3	544.8	758.1	310.9
TOTAL	1004.7	504.1	1379.5	247.8	1036.0	522.7	1045.4	327.2

* Data presented as no. of organisms/l and computed from 2 vertical tows with a Wisconsin plankton net (12 cm diameter, 0.080 mm mesh) at each sampling station.

S.D. = Standard Deviation

TABLE 29

ANALYSIS OF ZOOPLANKTON POPULATIONS AT LOCUST POINT*

20 July 1976

TAXA	Station 9		Station 12		Station 13		Station 14	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
ROTIFERA								
Asplanchna priodonta	1.7	0.3	2.4	1.2	2.0	0.0	9.2	5.0
Bepalpus hudsoni					0.8	1.2		
Brachionus angularis	24.3	1.3	2.4	2.2	2.3	0.4	33.4	6.4
B. calyciflorus	1.2	1.7	0.8	1.2	0.3	0.4	1.6	1.7
B. diversicornus								
B. havanaensis	0.2	0.3	0.4	0.6	0.3	0.4	2.8	0.6
B. urceolaris							0.2	0.3
Chromogaster ovalis								
Conochiloides sp.								
Filinia terminalis							0.2	0.3
Keilicottia longispina	0.9	0.0	0.8	1.2	1.0	0.0	0.6	0.3
Keratella cochlearis	3.0	1.3	4.0	3.4	0.3	0.4	3.2	2.8
K. quadrata	0.8	0.3	2.0	1.7	2.5	0.0	1.0	0.3
K. serrulata	1.5	2.1	0.4	0.8	0.5	0.7	0.4	0.6
K. valga					0.5	0.7		
Notholca sp.								
Polyarthra spp.	2.8	1.2	3.6	0.6	0.8	0.4	3.4	0.3
Pompholyx sulcata	6.3	2.5	4.4	1.7	7.0	0.0	6.0	2.8
Synchaeta spp.	12.8	3.2	7.6	2.8	3.5	0.0	15.4	5.3
Testudinella sp.								
Trichocerca multicrinis	0.3	0.4	0.4	0.6				
Trichotria tetractis			1.2	1.7	0.3	0.4	0.6	0.3
Unindentified Rotifer								
Subtotal	55.8	2.6	30.4	9.0	22.1	1.4	78.0	27.0
COPEPODA								
Calanoid Copepods								
Diaptomus siciloides	1.5	1.3	0.4	0.6	1.0	0.0	1.0	0.3
D. oregonensis	1.0	1.4			0.5	0.0	0.4	0.6
Immature Calanoid	6.5	5.7	7.2	2.2	3.8	1.2	5.0	2.0
Nauplii, Calanoid	13.8	3.4	9.6	3.4	6.8	0.4	11.4	4.2
Cyclopoid Copepods								
Cyclops bicuspidatus thomasi	0.3	0.4	0.8	1.2				
C. vernalis	8.4	11.8	20.0	28.0	9.3	13.0	6.0	8.4
Immature, *C. vernalis*	8.9	2.8	34.8	0.6	23.3	0.4	5.0	2.0
Immatures, Cyclopoid	10.5	12.6	22.4	31.4	14.3	20.0	9.0	12.6
Nauplii, Cyclopoid	12.0	6.7	6.4	2.2	6.8	3.9	8.0	4.5
Subtotal	52.9	18.8	101.6	10.1	65.8	11.9	45.8	12.6
CLADOCERA								
Bosmina longirostris							0.6	0.8
Chydorus sphaericus	0.9	0.0	4.0	2.2	2.3	1.8	1.2	1.1
Daphnia galeata mendota	1.0	1.4	0.4	0.6	0.8	0.4		
D. retrocurva	48.9	5.3	52.4	3.9	78.8	14.4	69.2	3.9
Diaphanosoma leuchtenbergianum	0.3	0.4	1.6	2.2	0.3	0.4	1.2	1.1
Eubosmina coregoni	104.9	39.3	134.4	80.1	129.3	50.1	65.4	13.2
Leptodora kindtii	0.3	0.4	1.2	0.6	0.5	0.0	0.4	0.0
Subtotal	156.3	47.8	244.0	76.2	212.0	37.1	138.0	25.1
PROTOZOA								
Difflugia sp.	95.0	12.9	144.0	87.4	86.8	38.2	63.2	32.5
Unidentified Protozoan A	1454.1	550.2	786.8	1101.5	381.2	813.7	354.9	496.9
Unidentified Protozoan B	229.3	27.6						
Subtotal	1778.4	509.3	930.8	1014.2	668.0	775.5	418.1	464.4
TOTAL	2053.4	446.1	1305.8	910.0	967.9	727.9	679.9	399.7

* Data presented as no. of organisms/l and computed from 2 vertical tows with a Wisconsin plankton net (12 cm diameter, 0.080 mm mesh) at each sampling station.

S.D. = Standard Deviation

TABLE 29

ANALYSIS OF ZOOPLANKTON POPULATIONS
AT LOCUST POINT*
20 July 1976

TAXA	Station 18		Station 26		Station 27		Station 28	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
ROTIFERA								
Asplanchna priodonta	9.3	0.4	1.2	0.6	9.2	2.2	0.4	0.0
Bepalcus hudsoni								
Brachionus angularis	22.8	0.0	46.8	11.8	25.7	4.3	2.3	0.6
B. calyciflorus	0.6	0.8	2.2	0.3	1.8	1.4	0.2	0.3
B. diversicornus					1.2	1.7		
B. havanaensis	1.5	0.4	0.2	0.3	2.0	1.7	0.8	1.2
B. urceolaris								
Chromogaster ovalis								
Conochiloides sp.								
Filinia terminalis			0.4	0.6	0.4	0.6		
Kellicottia longispina	0.6	0.0	1.0	0.8	0.4	0.0	0.4	0.0
Keratella cochlearis	1.8	0.8	2.4	0.6	2.0	1.2	1.0	0.3
K. quadrata	0.6	0.0	0.4	0.6	1.6	1.2	0.8	0.6
K. serrulata	0.9	1.3	2.6	3.6	1.2	1.7	0.8	1.2
K. valga					0.6	0.8		
Notholca spp.	0.3	0.4						
Polyarthra spp.	1.5	0.4	3.4	0.8	3.6	1.2	1.0	0.3
Pompholyx sulcata	4.2	3.4	10.5	3.3	5.8	2.5	5.1	2.4
Synchaeta spp.	12.0	0.8	23.2	0.6	11.4	3.6	4.4	2.9
Testudinella sp.							0.6	0.8
Trichocerca multicrinis	0.3	0.4	0.2	0.3	0.6	0.3		
Trichotria tetractis	0.9	0.4			0.2	0.3		
Unidentified Rotifer								
Subtotal	57.3	5.5	94.5	12.3	67.7	0.7	17.8	5.7
COPEPODA								
Calanoid Copepods								
Diaptomus siciloides	0.3	0.4	0.4	0.0	0.6	0.8	1.3	0.3
D. oregonensis	0.6	0.8	0.4	0.0	0.2	0.3	0.6	0.8
Immature Calanoid	3.0	1.7	0.4	0.0	5.4	3.6	3.7	1.0
Nauplii, Calanoid	6.6	0.8	13.8	5.3	10.4	1.2	10.5	2.1
Cyclopoid Copepods								
Cyclops bicuspidatus thomasi							0.2	0.3
C. vernalis	6.3	8.8	10.0	14.0	7.4	10.4	12.4	17.4
Immature, C. vernalis	5.7	3.7	16.6	1.4	9.0	1.4	18.4	0.0
Immatures, Cyclopoid	9.9	13.9	10.2	14.3	12.0	17.0	12.0	16.8
Nauplii, Cyclopoid	4.5	2.1	14.8	2.8	9.0	1.4	9.6	0.3
Subtotal	36.9	2.1	66.6	1.4	54.0	9.5	68.7	0.1
CLADOCERA								
Bosmina longirostris							0.6	0.8
Chydorus sphaericus	1.5	1.3	2.0	1.1	0.8	1.1	1.3	0.3
Daphnia galeata mendota			2.0	0.0			1.2	1.1
D. retrocurva	48.0	4.2	101.2	5.0	4.6	5.3	71.7	19.5
Diaphanosoma leuchtenbergianum	0.9	1.3	0.2	0.3	0.4	0.6	1.0	0.3
Eubosmina coregoni	39.0	13.4	109.0	35.0			135.0	44.7
Leptodora kindtii	0.9	0.4	0.2	0.4			0.8	0.0
Subtotal	90.3	20.6	214.6	40.6	5.8	3.6	211.6	66.7
PROTOZOA								
Difflugia sp.	64.8	18.5	86.8	35.0	15.8	22.1	58.5	9.9
Unidentified Protozoan A	684.4	231.3	2132.0	160.7	202.8	203.9	187.5	262.5
Unidentified Protozoan B	47.2	0.0	205.0	34.4	25.4	35.6		
Subtotal	796.4	249.8	2403.8	230.1	244.0	297.3	246.0	252.3
TOTAL	980.9	257.0	2779.3	281.7	363.0	309.6	544.1	192.2

* Data presented as no. of organisms/l and computed from 2 vertical tows with a Wisconsin plankton net (12 cm diameter, 0.080 mm mesh) at each sampling station.

S.D. = Standard Deviation

TABLE 29

ANALYSIS OF ZOOPLANKTON POPULATIONS
AT LOCUST POINT *
20 July 1976

TAXA	Station 29		Mean/ Station	S.D.
	Mean	S.D.		
ROTIFERA				
Asplanchna priodonta	32.4	17.9	5.8	8.7
Benalpus hudsoni			0.1	0.2
Brachionus angularis	38.4	16.8	18.3	15.5
B. calyciflorus	2.1	0.4	1.1	0.7
B. diversicornus			0.1	0.3
B. havanaensis	2.4	0.8	0.9	0.9
B. urceolaris			0.1	0.1
Chromogaster ovalis	0.3	0.4	0.1	0.1
Corochiloides sp.			0.1	0.1
Filinia terminalis			0.1	0.2
Kellicottia longispina	0.3	0.4	0.8	0.4
Keratella cochlearis	4.5	0.4	2.0	1.7
K. quadrata	2.1	2.9	1.2	0.9
K. serrulata	1.5	2.1	1.0	0.7
K. valga			0.1	0.2
Notholca spp.			0.1	0.1
Polyarthra spp.	6.0	5.0	3.0	2.1
Pomoholyx sulcata	4.2	1.7	6.3	2.4
Synchaeta spp.	18.3	2.9	10.4	6.1
Testudinella sp.			0.1	0.2
Trichocerca multicrinis	0.3	0.4	0.3	0.3
Trichotria tetractis	0.3	0.4	0.3	0.4
Unindentified Rotifer			0.1	0.2
Subtotal	113.1	46.6	53.2	29.5
COPEPODA				
Calanoid Copepods				
Diaptomus siciloides	1.2	0.8	0.8	0.5
D. oregonensis	2.4	3.4	0.6	0.6
Immature Calanoid	6.3	4.6	4.7	1.8
Nauplii, Calanoid	9.9	4.6	10.6	2.9
Cyclopoid Copepods				
Cyclops bicuspidatus thomasi	0.6	0.4	0.2	0.3
C. vernalis	7.2	10.1	10.4	5.0
Immature, C. vernalis	12.3	1.3	17.7	9.2
Immatures, Cyclopoid	12.9	18.0	13.6	5.4
Nauplii, Cyclopoid	13.8	4.2	8.8	3.5
Subtotal	66.6	17.2	67.5	17.2
CLADOCERA				
Bosmina longirostris	1.8	1.7	0.3	0.5
Chydorus sphaericus	0.9	1.3	1.8	1.0
Daphnia galeata mendota	0.6	0.8	1.0	1.0
D. retrocurva	77.7	5.5	69.3	31.2
Diaphanosoma leuchtenbergianum	1.8	0.8	0.8	0.5
Eubosmina coregoni	79.5	31.5	106.4	52.1
Leptodora kindtii			0.4	0.4
Subtotal	162.3	39.9	180.1	75.5
PROTOZOA				
Difflugia sp.	119.1	49.1	93.2	53.1
Unidentified Protozoan A	504.0	0.0	705.6	537.4
Unidentified Protozoan B	30.0	50.4	68.8	90.9
Subtotal	653.1	1.3	867.6	302.3
TOTAL	1025.1	102.3	1168.2	335.3

* Data presented as no. of organisms/l and computed from 2 vertical tows with a Wisconsin plankton net (12 cm diameter, 0.080 mm mesh) at each sampling station.
S.D. = Standard Deviation

TABLE 30

ANALYSIS OF ZOOPLANKTON POPULATIONS
AT LOCUST POINT *
18 August 1976

TAXA	Station 1		Station 3		Station 6		Station 8	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
ROTIFERA								
Asplanchna spp.	39.0	8.4	46.5	7.1	31.5	5.9	17.6	1.3
Bipalpus hudsoni								
Brachionus angularis	19.2	9.0	29.5	0.7	18.5	5.9	20.2	6.6
B. calyciflorus	1.2	0.6	7.9	2.7	4.0	0.8	4.6	1.8
B. diversicornus	1.2	0.6	1.2	1.0			1.0	0.8
Chromogaster ovalis								
Kellicottia longispina			0.7	1.0			0.4	0.6
Keratella cochlearis	3.8	0.0	4.1	3.2	2.8	1.0	1.5	1.0
K. quadrata	0.8	0.0	1.4	0.0	2.7	0.3	1.5	0.6
K. serrulata	0.8	0.0	1.2	1.0	0.6	0.3	0.2	0.3
Polyarthra spp.	18.4	2.7	20.9	13.9	10.1	0.6	38.9	28.6
Synchaeta spp.	710.7	62.6	424.1	110.7	453.2	89.5	311.2	21.8
Trichocerca cylindrica							0.2	0.3
T. multicrinis	0.4	0.6	1.4	0.7	1.3	1.3	1.2	1.1
Unidentified Rotifer					2.5	3.5	0.8	0.6
Subtotal	795.5	59.6	538.9	140.6	527.2	105.6	399.3	56.6
COPEPODA								
Calanoid Copepods								
Diaptomus oregonensis								
D. sicilioides							0.2	0.3
Epischura lacustris			0.3	0.4				
Immatures, Calanoid			0.7	0.3	0.2	0.3	0.8	1.2
Nauplii, Calanoid	7.0	1.4	6.2	0.3	5.5	0.0	6.9	4.5
Cyclopoid Copepods								
Cyclops bicuspidatus thomasi			0.3	0.4				
C. vernalis					0.2	0.3	1.3	0.3
Immatures, *C.b. thomasi*			1.2	1.0	1.3	0.0	0.4	0.6
Immatures, *C. vernalis*	4.6	1.1	6.7	0.4	3.6	2.7	4.3	0.8
Immatures, Cyclopoid								
Nauplii, Cyclopoid	31.2	3.8	14.8	3.9	18.7	1.5	15.8	2.9
Subtotal	42.8	6.0	30.2	4.8	29.5	4.6	29.7	3.1
CLADOCERA								
Chydorus sphaericus	0.4	0.6	0.5	0.0	0.8	0.6	1.5	0.6
Daphnia galeata mendota							0.2	0.3
D. retrocurva							0.2	0.3
Diaphanosoma leuchtenbergianum			0.9	0.0	1.1	0.4	1.0	0.8
Eubosmina coregoni	1.2	0.6	0.9	0.0	0.4	0.0	2.1	0.8
Leptocora kindtii								
Subtotal	1.6	0.0	2.3	0.0	2.3	1.0	5.0	0.5
PROTOZOA								
Difflugia spp.	1.9	0.6	2.5	1.0	0.4	0.6	1.5	0.0
Saccate Protozoan			9.0	13.0			83.0	53.0
Unknown Protozoan A			108.0	101.0	238.0	24.0		
Subtotal	1.9	0.6	119.5	130.9	238.4	24.6	84.0	53.0
TOTAL	841.8	65.0	348.0	286.1	797.4	87.9	518.5	110.7

* Data presented as no. of organisms/l and computed from 2 vertical tows with a Wisconsin plankton net (12 cm diameter, 0.08 mm mesh) at each sampling station.

S.D. = Standard Deviation

TABLE 30

ANALYSIS OF ZOOPLANKTON POPULATIONS
AT LOCUST POINT *
18 August 1976

TAXA	Station 12		Station 13		Station 14		Station 18	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
ROTIFERA								
Asplanchna spp.	38.4	9.2	24.0	0.7	7.0	5.0	29.3	^.5
Bipalpus hudsoni	0.3	0.4	0.5	0.7				
Brachionus angularis	14.4	4.2	13.0	2.1	18.4	3.4	17.3	0.4
B. calyciflorus	2.4	1.7	1.0	0.7	1.6	1.2	2.8	1.2
B. diversicornus	1.8	0.8			1.0	1.4		
Chromogaster ovalis								
Kellicottia longispina			0.3	0.4	0.2	0.3	0.3	0.4
Keratella cochlearis	4.8	0.8	2.5	2.1	0.8	1.2	4.8	1.8
K. quadrata	1.5	0.4	1.0	0.0	1.0	0.8	1.0	0.7
K. serrulata	4.5	0.4	0.5	0.7			1.0	0.0
Polyarthra spp.	54.3	5.5	44.5	4.2	22.6	6.4	63.3	28.4
Synchaeta spp.	969.9	34.0	658.3	108.9	336.2	45.6	738.8	35.4
Trichocerca cylindrica								
T. multicrinis	2.4	0.8	1.0	1.4	1.0	1.4	3.8	1.8
Unidentified Rotifer	3.6	0.8	4.0	2.1	0.8	0.8	6.3	0.4
Subtotal	1098.3	42.4	750.6	109.1	390.6	58.0	868.7	61.3
COPEPODA								
Calanoid Copepods								
Diaptomus oregonensis	0.3	0.4			0.2	0.3		
D. sicilioides								
Epischura lacustris								
Immatures, Calanoid	0.3	0.4	0.3	0.4	0.4	0.0	0.3	0.4
Nauplii, Calanoid	3.9	2.1	2.0	1.4	0.8	1.2	0.8	0.4
Cyclopoid Copepods								
Cyclops bicuspidatus thomasi								
C. vernalis	0.6	0.8			0.2	0.3	0.5	0.7
Immatures, C.b. thomasi	0.3	0.4					0.5	0.7
Immatures, C. vernalis	3.3	1.3	2.0	0.7			4.8	0.4
Immatures, Cyclopoid								
Nauplii, Cyclopoid	42.0	2.5	35.8	1.8	17.2	5.6	38.8	10.2
Subtotal	50.7	6.3	39.0	0.7	18.8	4.5	44.7	12.3
CLADOCERA								
Chydorus sphaericus					1.2	0.0	0.3	0.4
Daphnia galeata mendote								
D. retrocurva							0.3	0.4
Diaphanosoma leuchtenbergianum	0.6	0.8	0.3	0.4	0.4	0.0	0.8	0.4
Eubosmina coregoni	0.3	0.4	0.3	0.4	0.6	0.3	2.3	0.4
Leptodora kindtii								
Subtotal	0.9	1.3	0.6	0.1	2.2	1.4	3.7	0.4
PROTOZOA								
Difflugia spp.	1.8	0.8	1.8	1.8	1.0	0.8	7.0	1.4
Saccate Protozoan	36.0	50.0						
Unknown Protozoan A	432.0	101.0	500.0	269.0	168.0	34.0	400.0	56.0
Subtotal	469.8	151.8	501.8	[illegible]	169.0	34.8	407.0	57.4
TOTAL	1619.7	219.9	1292.[illegible]	[illegible]	580.6	108.8	1324.1	16.7

* Data presented as no. of organisms/l and [illegible] from 2 vertical tows with a Wisconsin plankton net (12 cm diameter, 0.[illegible]3 mm mesh) at each sampling station.

S.D. = Standard Deviation

TABLE 30

ANALYSIS OF ZOOPLANKTON POPULATIONS
AT LOCUST POINT *
18 August 1976

TAXA	Station 26		Station 27		Station 28		Station 29	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
ROTIFERA								
Asplanchna spp.	48.3	0.8	6.5	3.1	0.8	1.2	12.3	2.4
Bipalpus hudsoni								
Brachionus angularis	22.0	8.5	19.0	0.7	8.7	12.2	35.9	11.1
B. calyciflorus	6.9	1.4	2.0	1.5	0.6	0.8	0.3	0.4
B. diversicornus	3.5	1.9	0.1	0.7	1.1	1.5		
Chromogaster ovalis								
Kellicottia longispina	1.0	0.3	0.2	0.3	0.6	0.8	0.3	0.4
Keratella cochlearis	1.5	1.3	2.2	0.7	1.1	1.5	2.8	2.4
K. quadrata	2.6	0.5					0.6	0.8
K. serrulata	0.6	0.8			0.4	0.6		
Polyarthra spp.	16.8	1.6	24.1	12.6	17.6	24.6	35.6	6.7
Synchaeta spp.	295.1	9.1	365.5	44.5	179.3	251.0	605.6	84.3
Trichocerca cylindrica								
T. multicrinis	0.2	0.3	0.9	0.0	0.5	0.8	1.7	0.8
Unidentified Rotifer	0.2	0.3	0.9	0.7	0.8	1.2	3.6	2.0
Subtotal	398.7	21.0	421.8	74.3	211.5	296.2	698.7	85.4
COPEPODA								
Calanoid Copepods								
Diaptomus oregonensis								
D. sicilioides	0.2	0.3			0.2	0.3	0.3	0.4
Epischura lacustris								
Immatures, Calanoid	0.6	0.8	0.5	0.7	0.4	0.6	0.3	0.4
Nauplii, Calanoid	0.8	0.6					0.6	0.8
Cyclopoid Copepods								
Cyclops bicuspidatus thomasi					0.4	0.6		
C. vernalis	0.6	0.3	0.2	0.3				
Immatures, *C.b. thomasi*	0.6	0.3	2.4	0.3	1.5	2.1	0.6	0.8
Immatures, *C. vernalis*	6.4	2.9	1.7	2.4			3.6	1.2
Immatures, Cyclopoid					0.2	0.3		
Nauplii, Cyclopoid	14.6	1.3	23.9	5.2	14.6	20.4	27.2	0.4
Subtotal	25.8	0.3	28.7	1.4	17.3	24.3	32.6	0.4
CLADOCERA								
Chydorus sphaericus	0.2	0.3	0.7	1.0	1.9	2.7	0.6	0.8
Daphnia galeata mendota								
D. retrocurva					0.4	0.6	0.3	0.4
Diaphanosoma leuchtenbergianum	0.4	0.6			0.8	1.2	0.9	0.4
Eubosmina coregoni	2.3	2.1	0.2	0.3	1.1	1.5	0.6	0.0
Leptodora kindtii								
Subtotal	2.9	2.8	0.9	0.6	4.2	5.6	2.3	0.0
PROTOZOA								
Difflugia spp.	3.4	0.6	1.8	0.7			11.2	7.0
Saccate Protozoan								
Unknown Protozoan A	158.0	32.0	85.0	0.0	38.0	53.0	88.0	31.0
Subtotal	161.4	31.2	86.8	0.6	38.0	51.8	99.2	15.1
TOTAL	588.8	50.1	538.2	76.9	271.1	377.0	832.9	61.9

* Data presented as no. of organisms/l and computed from 2 vertical tows with a Wisconsin plankton net (12 cm diameter, 0.08 mm mesh) at each sampling station.

S.D. = Standard Deviation

TABLE 30

ANALYSIS OF ZOOPLANKTON POPULATIONS
AT LOCUST POINT *
18 August 1975

TAXA	Mean/ Station	S.D.
ROTIFERA		
Asplanchna spp.	25.1	16.3
Bipalpus hudsoni	0.1	0.2
Brachionus angularis	19.7	7.2
B. calyciflorus	2.9	2.5
B. diversicornus	0.9	1.0
Chromogaster ovalis		
Kellicottia longispina	0.3	0.3
Keratella cochlearis	2.7	1.4
K. quadrata	1.2	0.8
K. serrulata	0.8	1.2
Polyarthra spp.	30.6	16.6
Synchaeta spp.	504.0	231.9
Trichocerca cylindrica	0.1	0.1
T. multicrinis	1.3	1.3
Unidentified Rotifer	2.0	2.0
Subtotal	591.7	253.4
COPEPODA		
Calanoid Copepods		
Diaptomus oregonensis	0.1	0.1
D. siciloides	0.1	0.1
Epischura lacustris	0.1	0.1
Immatures, Calanoid	0.4	0.2
Nauplii, Calanoid	2.9	2.8
Cyclopoid Copepods		
Cyclops bicuspidatus thomasi	0.1	0.1
C. vernalis	0.3	0.4
Immatures, *C.b. thomasi*	0.7	0.7
Immatures, *C. vernalis*	3.6	2.5
Immatures, Cyclopoid	0.1	0.1
Nauplii, Cyclopoid	24.6	10.2
Subtotal	32.6	10.2
CLADOCERA		
Chydorus sphaericus	0.7	0.6
Daphnia galeata mendota	0.1	0.1
D. retrocurva	0.1	0.2
Diaphanosoma leuchtenbergianum	0.6	0.4
Eubosmina coregoni	1.0	0.8
Leptodora kindtii		
Subtotal	2.4	1.4
PROTOZOA		
Difflugia spp.	2.9	3.2
Saccate Protozoan	11.0	25.0
Unknown Protozoan A	184.0	172.0
Subtotal	198.1	170.3
TOTAL	824.8	395.1

* Data presented as no. of organisms/l and computed from 2 vertical tows with a Wisconsin plankton net (12 cm diameter, 0.03 mm mesh) at each sampling station.

S.D. = Standard Deviation

TABLE 31

ANALYSIS OF ZOOPLANKTON POPULATIONS
AT LOCUST POINT *
14 September 1976

TAXA	Station 1		Station 3		Station 6		Station 8	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
ROTIFERA								
Asplanchna priodonta	32.4	11.3	7.3	.3	7.1	1.3	3.0	0.3
Brachionus angularis			2.5	0.0	0.5	0.0	0.4	0.0
B. [illegible]florus							.4	0.0
B. [illegible]ersicornus	19.1	2.4	18.3	0.1	6.5	4.2	4.2	3.5
Keratella longispina			0.8	1.1	0.8	1.1	0.2	0.3
Keratella cochlearis	8.1	4.8	6.5	2.8	11.5	11.2	2.6	2.0
K. quadrata	5.2	0.8	6.8	1.0	5.8	5.2	9.4	3.8
K. serrulata	24.2	9.7	16.5	10.5	30.0	16.8	12.0	1.0
Ploesoma lenticulare								
Polyarthra sp.	65.0	33.3	37.4	25.4	34.5	14.7	18.4	2.1
Pompholyx sulcata	7.0	4.8	10.0	4.2	19.0	11.2	6.9	2.4
Synchaeta spp.	1.8	0.7	1.0	0.7	1.3	1.7		
Tricrocerca cylindrica								
T. multicrinis	84.6	21.7	47.5	25.2	24.3	6.6	7.6	0.8
Trichotria tetractis					0.5	0.7	0.6	0.3
Subtotal	242.4	45.8	154.3	68.9	142.3	73.8	59.5	11.6
COPEPODA								
Calanoid Copepods	6.4	3.9	8.0	2.8	12.8	5.9	5.0	3.4
Diaptomus minutus			0.3	0.0	0.3	0.3		
D. oregonensis			0.3	0.3	0.8	1.0	0.2	0.3
D. sicilis					0.3	0.3		
D. sicilcides			0.3	0.3	0.8	0.3	0.6	0.8
Immatures, Calanoid								
Naupii, Calanoid	1.8	0.7	1.6	1.3	1.8	0.3	0.8	0.6
Unidentified Calanoid								
Cyclopoid Copepods								
Cyclops bicuspidatus thomasi								
C. vernalis	5.8	3.2	3.5	0.7	6.5	0.0	2.4	0.2
Tropocyclops prosinus							0.2	0.3
Immatures, C. b. thomasi	2.9	0.8	1.5	2.1	5.3	0.3	1.8	1.5
Immatures, C. vernalis	20.7	4.8	8.3	4.5	27.5	1.4	4.2	1.0
Naupii, Cyclopoid	55.2	9.7	37.0	11.9	37.5	7.0	23.0	2.3
Subtotal	92.7	2.3	60.8	6.6	93.3	11.5	38.1	5.6
CLADOCERA								
Bosmina longirostris								
Chydorus sphaericus	169.1	14.4	54.3	29.0	53.0	11.9	30.8	1.7
Daphnia galeata mendote								
D. retrocurva	39.2	8.0	19.8	8.0	27.3	1.0	14.2	0.3
Diaphanosoma leuchtenbergianum	7.5	2.4	1.5	0.0	4.5	2.1	4.0	2.1
Eubosmina coregoni	140.4	6.5	64.5	37.1	72.5	18.9	64.5	15.1
Leptodora kindtii	4.1	0.7	0.5	0.7	1.3	0.3	1.2	0.6
Unidentified							0.4	0.6
Subtotal	360.1	30.7	153.5	73.5	161.5	10.5	118.1	19.7
PROTOZOANS								
Difflugia sp.	170.8	23.4	31.3	14.3	43.8	10.1	27.6	8.3
TOTAL	866.0	97.4	409.8	133.5	440.8	106.1	243.3	45.3

* Data presented as number of organisms/l and computed from 2 vertical tows with a Wisconsin plankton net (12 cm diameter, 0.080 mm mesh) at each sampling station.

S.D. = Standard Daviation

TABLE 31

ANALYSIS OF ZOOPLANKTON POPULATIONS
AT LOCUST POINT *
14 September 1976

TAXA	Station 9		Station 12		Station 13		Station 14	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
ROTIFERA								
Asplanchna priodonta	4.2	0.8	10.0	3.5	6.0	0.0	3.7	
Brachionus angularis	0.2	0.3	0.5	0.7			0.2	0.3
B. calyciflorus	0.4	0.6						
B. diversicornus	2.9	0.7	2.0	1.4	2.4	0.8		
Kellicottia longispina	0.2	0.3	1.6	1.3	0.9	0.4	0.9	0.6
Keratella cochlearis	5.7	0.6	8.3	1.7	9.3	1.3	11.4	1.5
K. quadrata	7.8	0.8	4.3	3.1	4.2	1.7	4.8	1.1
K. serrulata	12.4	2.4	26.3	5.9	16.5	5.5	26.9	2.5
Pleosoma larticulare	0.2	0.3						
Polyarthra sp.	27.6	5.0	28.0	1.4	17.4	5.0	28.4	1.1
Pompholyx sulcata	9.3	0.3	28.5	4.9	12.0	4.2	14.0	2.1
Synchaeta spp.	0.4	0.6						
Trichocerca cylindrica			0.3	0.3				
T. multicrinis	7.6	3.8	41.3	9.4	61.5	8.0	23.9	14.1
Trichotria tetractis	0.2	0.3	1.5	0.0	2.7	2.9	1.7	2.4
Subtotal	82.0	7.8	155.5	18.9	135.9	2.1	118.7	30.1
COPEPODA								
Calanoid Copepods	9.4	1.3	21.5	4.2	6.3	0.4	22.6	0.3
Diaptomus minutus	0.2	0.3	0.3	0.3				
D. oregonensis	0.4	0.6	1.5	0.0	0.3	0.4		
D. sicilis								
D. siciloides			1.5	0.7	0.6	0.8	0.9	0.6
Immatures, Calanoid								
Nauplii, Calanoid	0.4	0.6	0.3	0.3			3.3	1.4
Unidentified Calanoid	0.2	0.3	0.5	0.7				
Cyclopoid Copepods								
Cyclops bicuspidatus thomasi			1.0	0.7				
C. vernalis	1.6	0.4	4.5	0.0	2.7	8.4	3.0	0.0
Tropocyclops prosinus	0.2	0.3			0.5	0.8		
Immatures, C. b. thomasi	2.5	0.3	23.0	0.0	10.5	0.4	6.9	2.4
Immatures, C. vernalis	6.5	4.2	11.3	3.2	8.1	2.9	1.6	2.2
Nauplii, Cyclopoid	33.2	7.8	26.8	1.0	23.4	2.5	29.5	3.9
Subtotal	57.4	9.2	95.0	11.2	54.0	4.2	70.7	1.1
CLADOCERA								
Bosmina longirostris							0.7	0.3
Chydorus sphaericus	51.1	8.3	70.0	11.2	44.7	9.7	34.9	11.9
Daphnia galeata mendota					0.3	0.4	0.2	0.3
D. retrocurva	37.4	2.9	75.8	7.3	44.7	2.9	41.7	8.4
Diaphanosoma leuchtenbergianum	7.8	2.9	8.5	2.1	6.6	1.7	9.1	1.1
Eubosmina coregoni	87.0	10.6	173.8	9.4	102.9	26.5	63.0	5.2
Leptodora kindtii	2.3	0.0	2.5	0.0	0.9	1.3	2.8	1.5
Unidentified								
Subtotal	185.3	6.7	330.5	11.2	200.1	41.6	152.5	15.8
PROTOZOANS								
Difflugia sp.	32.3	6.9	29.8	1.7	27.3	8.0	27.2	3.5
TOTAL	356.9	22.3	610.8	20.7	417.3	55.9	369.1	16.9

* Data presented as number of organisms/l and computed from 2 vertical tows with a Wisconsin plankton net (12 cm diameter, 0.080 mm mesh) at each sampling station.

S.D. = Standard Deviation

TABLE 31

ANALYSIS OF ZOOPLANKTON POPULATIONS
AT LOCUST POINT *
14 September 1976

TAXA	Station 18		Station 26		Station 27		Station 28	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
ROTIFERA								
Asplanchna priodonta	4.2	2.5	5.5	3.1	2.0	0.3	2.1	1.4
Brachionus angularis	0.9	1.3	0.6	1.1				
B. calyciflorus			1.0	0.3				
B. diversicornus	2.4	0.8	18.3	1.4	1.1	0.3	0.8	0.4
Kellicottia longispina	0.6	0.8	0.2	0.3			0.8	0.4
Keratella cochlearis	9.3	2.1	5.5	0.3	5.4	0.3	2.5	1.8
K. quadrata	5.7	4.6	13.1	3.5	6.7	3.2	2.3	2.9
K. serrulata	22.2	7.6	8.2	6.9	13.4	10.8	8.4	3.6
Pleosoma lenticulare								
Polyarthra sp.	17.4	5.0	18.9	1.1	18.5	4.8	7.3	8.3
Pompholyx sulcata	19.8	7.6	6.4	4.8	9.3	0.8	4.8	0.7
Synchaeta spp.			0.4	0.6			0.4	0.6
Trichocerca cylindrica								
T. multicrinis	40.8	0.8	9.5	14.7	36.1	25.9	30.4	17.1
Trichotria tetractis			0.6	0.3	0.7	0.3	0.2	0.3
Subtotal	123.3	15.5	88.4	19.3	93.0	45.5	60.2	19.6
COPEPODA								
Calanoid Copepods	16.2	1.7	6.8	3.1	12.1	7.7	10.3	0.0
Diaptomus minutus							0.2	0.3
D. oregonensis			0.4	0.0	0.2	0.3	1.2	1.0
D. sicilis								
D. siciloides	1.8	0.8	0.2	0.3	0.2	0.3	0.6	0.3
Immatures, Calanoid								
Nauplii, Calanoid	1.2	0.6	0.8	0.6	1.3	0.0	1.1	0.0
Unidentified Calanoid							0.2	0.3
Cyclopoid Copepods								
Cyclops bicuspidatus thomasi	0.9	1.3						
C. vernalis	5.7	2.9	0.6	0.3	2.2	0.0	1.9	0.6
Tropocyclops prasinus								
Immatures, *C. b. thomasi*	9.9	3.8	9.5	1.1	4.8	0.6	4.9	0.0
Immatures, *C. vernalis*	10.8	1.7	7.2	2.0	14.7	17.4	7.3	3.6
Nauplii, Cyclopoid	26.1	10.5	28.1	5.5	22.2	3.2	15.2	3.8
Subtotal	71.4	5.0	49.4	8.3	57.5	7.0	43.3	1.6
CLADOCERA								
Bosmina longirostris								
Chydorus sphaericus	37.5	19.7	57.8	12.6	44.1	14.1	41.6	3.5
Daphnia galeata mendota								
D. retrocurva	65.4	25.2	24.4	2.5	46.9	0.6	33.1	2.7
Diaphanosoma leuchtenbergianum	10.2	2.5	3.1	2.5	6.7	1.4	3.3	1.3
Eubosmina coregoni	128.0	23.6	86.1	21.3	51.5	116.8	63.1	19.5
Leptodora kindtii	1.5	0.4	0.6	0.8	1.5	0.3	1.8	1.3
Unidentified					0.5	0.6	0.4	6.0
Subtotal	242.1	69.3	172.0	34.7	198.3	4.2	143.2	25.2
PROTOZOANS								
Difflugia sp.	24.6	14.3	30.6	15.7	18.1	1.1	3.8	2.7
TOTAL	461.4	104.2	340.3	61.6	368.8	49.5	250.5	49.4

* Data presented as number of organisms/l and computed from 2 vertical tows with a Wisconsin plankton net (12 cm diameter, 0.080 mm mesh) at each sampling station.

S.D. = Standard Deviation

TABLE 31

ANALYSIS OF ZOOPLANKTON POPULATIONS
AT LOCUST POINT *
14 September 1976

TAXA	Station 29		Mean/ Station	S.D.
	Mean	S.D.		
ROTIFERA				
Asplanchna priodonta	0.9	0.4	6.8	8.1
Brachionus angularis	0.3	0.4	0.5	0.7
B. calyciflorus			0.1	0.3
B. diversicornus			6.0	7.4
Kellicottia longispina	0.9	1.3	0.6	0.5
Keratella cochlearis	3.3	2.1	6.9	3.1
K. quadrata	1.3	0.0	6.0	3.0
K. serrulata	8.7	1.3	17.4	7.7
Pleosoma lenticulare			0.2	0.6
Polyarthra sp.	24.0	2.5	26.4	14.1
Pompholyx sulcata	8.1	5.5	11.9	6.8
Synchaeta spp.			9.4	0.6
Trichocerca cylindrica			0.0	0.1
T. multicrinis	42.0	7.6	35.2	22.1
Trichotria tetractis	1.2	0.0	0.8	0.8
Subtotal	91.2	0.8	119.0	49.5
COPEPODA				
Calanoid Copepods	18.3	2.9	12.0	6.0
Diaptomus minutus	0.3	0.4	0.1	0.1
D. oregonensis	0.6	0.8	0.5	0.5
D. sicilis			0.0	0.1
D. siciloides	1.8	1.7	0.7	0.6
Immatures, Calanoid			0.0	0.0
Nauplii, Calanoid	0.3	0.4	1.1	0.9
Unidentified Calanoid			0.1	0.2
Cyclopoid Copepods				
Cyclops bicuspidatus thomasi			0.2	0.4
C. vernalis	2.4	0.8	3.3	1.8
Tropocyclops prasinus			0.1	0.2
Immatures, C. b. thomasi	2.4	0.8	5.6	5.8
Immatures, C. vernalis	22.5	1.3	11.6	7.7
Nauplii, Cyclopoid	22.5	7.1	29.7	10.0
Subtotal	71.2	6.2	65.8	18.9
CLADOCERA				
Bosmina longirostris	0.3	0.4	0.1	0.2
Chydorus sphaericus	31.2	9.2	55.4	36.0
Daphnia galeata mendota	0.3	0.4	0.1	0.1
D. retrocurva	63.3	10.5	41.0	18.4
Diaphanosoma leuchtenbergianum	9.9	1.3	6.4	2.8
Eubosmina coregoni	126.9	21.4	95.7	36.6
Leptodora kindtii	1.2	0.0	1.7	1.0
Unidentified			0.1	0.2
Subtotal	233.2	39.8	204.7	71.5
PROTOZOANS				
Difflugia sp.	4.5	5.5	36.3	41.9
TOTAL	390.9	50.8	425.8	161.6

* Data presented as number of organisms/l and computed from 2 vertical tows with a Wisconsin plankton net (12 cm diameter, 0.080 mm mesh) at each sampling station.

S.D. = Standard Deviation

TABLE 32

ANALYSIS OF ZOOPLANKTON POPULATIONS AT LOCUST POINT*
19 October 1976

TAXA	Station 1		Station 3		Station 6		Station 8	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
ROTIFERA								
Asplanchna priodonta	14.3	10.9	4.0	5.6	9.5	6.3	3.2	1.1
A. sp.			3.0	4.2				
Bipalpus hudsoni	1.3	1.8						
Brachionus angularis							0.4	0.6
B. calyciflorus	24.7	5.5	8.0	5.6	0.5	0.7	4.8	2.4
B. diversicornus	1.3	1.8			17.0	2.8	0.4	0.6
B. havanaensis						1.0	0.0	
Conochiloides sp.								
Kellicottia longispina			0.5	0.7			0.8	0.0
Keratella cochlearis	187.2	37.8	97.0	5.6	99.0	38.0	38.0	9.0
K. quadrata	217.1	78.3	261.0	56.0	224.0	46.2	76.4	34.2
K. serrulata	188.5	1.8	65.5	20.3	38.5	5.3	12.0	1.1
Pleosoma sp.			1.0	1.4				
P. lenticulare	1.3	1.8					0.8	0.0
Polyarthra spp.	244.4	156.5	179.0	54.6	178.0	25.2	155.6	20.7
Pompholyx sulcata	3.9	5.5	0.5	0.7				
Synchaeta spp.	96.2	25.5	114.5	13.3	104.0	21.0	49.2	9.5
Trichocerca cylindrica			1.0	1.4	0.5	0.7	0.8	1.1
T. multicrinus	2.6	3.6	1.0	1.4	1.0		1.6	1.1
Trichotria tetractis	1.3	1.8					1.6	2.2
Unknown B								
Subtotal	984.1	296.6	736.0	106.4	732.0	138.6	343.6	73.4
COPEPODA								
Calanoid Copepods	2.6	3.6			0.5	0.7	10.0	9.5
Diaptomus siciloides	1.3	1.8					0.4	0.6
Eurytemora affinis							0.4	0.6
Immatures, Calanoid								
Nauplii, Calanoid	14.3	1.8	10.5	0.7	24.0	1.4	19.6	7.3
Cyclopoid								
Cyclops bicuspidatus thomasi								
C.b.t. (immatures)	5.2	3.6	15.5	9.1	14.0	8.4	10.8	5.0
C. vernalis							1.2	1.7
C.v. (immature)	11.7	13.6	3.5	2.1	0.5	0.7	5.2	0.6
Tropocyclops prasinus								
Nauplii, Cyclopoid	97.5	12.7	58.0	4.2	69.0	5.6	59.2	2.2
Subtotal	132.6	25.5	87.5	16.1	108.0	15.4	106.8	12.9
CLADOCERA								
Alona affinis								
Bosmina longirostris	5.2	3.6	0.5	0.7			4.0	5.6
Chydorus sphaericus	2.3	0.4	6.0	1.4	9.0	0.0	18.4	3.4
Daphnia retrocurva							2.8	5.6
Eubosmina coregoni	10.4	3.6	9.5	4.9	12.5	0.7	17.6	2.2
Unknown							0.4	0.6
Subtotal	17.9	0.4	16.0	7.0	21.5	0.7	51.8	9.8
PROTOZOA								
Centrochynis sp.								
Difflugia sp.	35.1	9.1	15.5	2.1	30.5	7.7	10.8	1.7
Subtotal								
TOTAL	1169.7	330.8	855.0	131.6	883.0	145.6	513.0	74.8

* Data presented as no. of organisms/l are computed from 2 vertical tows with a Wisconsin plankton net (12 cm diameter, 0.080 mm mesh) at each sampling station.
S.D. = Standard Deviation

TABLE 32

ANALYSIS OF ZOOPLANKTON POPULATIONS AT LOCUST POINT*
19 October 1976

TAXA	Station 12		Station 13		Station 14		Station 18	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
ROTIFERA								
Asplanchna priodonta	6.3	1.3			3.0	0.0	4.2	2.0
A. sp.								
Bipalous hudsoni								
Brachionus angularis			1.2	1.7	1.5	2.1		
B. calyciflorus	23.4	10.1	10.8	9.4	8.3	3.1	11.9	4.9
B. diversicornus	3.6	2.5						
B. havanaensis								
Conochiloides sp.			1.2	1.7				
Kellicottia longispina			1.2	1.7				
Keratella cochlearis	178.2	52.9	189.6	3.4	97.5	14.7	120.4	19.6
K. quadrata	241.2	90.7	220.8	80.6	282.0	16.8	287.7	61.3
K. serrulata	225.0	47.9	38.4	26.8	26.3	1.1	35.7	10.8
Plecsoma sp.								
P. lenticulare	4.5	3.8					0.7	1.0
Polyarthra spp.	375.3	97.0	170.4	118 4	220.5	48.3	226.8	41.2
Pompholyx sulcata								
Synchaeta spp.	172.8	65.5	166.8	15.1	153.0	10.5	137.9	10.8
Trichocerca cylindrica								
T. multicrinus	4.5	6.3	2.4	3.4			2.8	2.0
Trichotria tetractis								
Unknown B								
Subtotal	1146.6	501.5	802.8	260.4	792.0	65.1	700.0	11.8
COPEPODA								
Calanoid Copepods							0.7	1.0
Diaptomus siciloides								
Eurytemora affinis								
Immatures, Calanoid								
Nauplii, Calanoid	13.1	9.5	36.0	10.0	10.5	4.9	18.2	7.8
Cyclopoid								
Cyclops bicuspidatus thomasi								
C.b.t. (immatures)	19.4	17.0	21.6	6.7	12.0	2.1	11.2	2.0
C. vernalis								
C.v. (immature)	5.4	0.0	3.6	1.7	3.0	4.2	3.5	4.9
Tropocyclops prasinus				2.3	1.0			
Nauplii, Cyclopoid	80.1	16.4	73.2	15.1	103.5	10.5	62.6	27.4
Subtotal	117.9	23.9	134.4	33.6	131.3	22.1	116.2	35.3
CLADOCERA								
Alona affinis								
Bosmina longirostris	1.8	2.5	2.4	0.0	2.3	3.1	0.7	1.0
Chydorus sphaericus	8.1	3.8	1.2	1.7	31.5	6.3	11.9	1.0
Daphia retrocurva							0.7	1.0
Eubosmina coregoni	10.8	5.0	12.0	0.0	13.5	4.2	11.2	3.9
Unknown								
Subtotal	20.7	1.3	15.6	1.7	47.3	5.3	24.5	2.9
PROTOZOA								
Centrophynis sp.								
Difflugia sp.	37.8	30.2	31.2	6.7	11.3	5.3	25.9	1.0
Subtotal								
TOTAL	1323.0	554.4	984.0	235.6	981.8	87.2	867.3	26.5

* Data presented as no. of organisms/l and computed from 2 vertical tows with a Wisconsin plankton net (12 cm diameter, 0.080 mm mesh) at each sampling station.
S.D. = Standard Deviation

TABLE 32

ANALYSIS OF ZOOPLANKTON POPULATIONS AT LOCUST POINT*
19 October 1976

TAXA	Station 26		Station 27		Station 28		Station 29	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
ROTIFERA								
Asplanchna crioconta	4.0	2.4	1.2	0.0			5.3	1.4
A. sp.	3.6							
Bipalpus hudsoni								
Brachionus angularis								
B. calyciflorus	3.6	5.0	4.8	0.0	4.2	0.8	17.9	4.4
B. diversicornus	1.2	1.7			1.2	1.7		
B. havanaensis								
Conochiloides sp.								
Kellicottia longispina			0.6	0.8				
Keratella cochlearis	38.0	0.6	51.6	1.7	40.8	10.1	85.1	16.1
K. quadrata	87.6	8.4	149.4	16.0	69.3	5.0	278.3	42.6
K. serrulata	7.6	6.2	9.6	3.4	6.6	4.2	24.2	13.2
Pleosoma sp.								
P. lenticulare	0.8	0.0			1.2	0.0		
Polyarthra spp.	119.6	12.9	129.6	5.0	111.0	0.8	223.7	30.9
Pompholyx sulcata							75.6	105.8
Synchaeta spp.	66.4	16.6	93.0	2.5	78.0	11.8	77.7	105.8
Trichocerca cylindrica	0.4	0.6	1.8	0.8	0.6	0.8	2.1	2.9
T. multicrinus	0.8	1.1	0.6	0.8	0.6	0.8		
Trichotria tetractis								
Unknown B	1.2	1.7						
Subtotal	331.2	2.2	443.4	24.4	315.0	5.9	847.4	180.8
COPEPODA								
Calanoid Copepods	0.8	0.0	0.6	0.8	6.4	0.0		
Diaptomus siciloides								
Eurytemora affinis								
Immatures, Calanoid								
Nauplii, Calanoid	6.4	2.2	7.8	2.5	11.4	4.2	16.8	2.9
Cyclopoid								
Cyclops bicuspidatus thomasi					0.6	0.8		
C.b.t. (immatures)	5.2	1.7	10.2	0.8	8.4	3.4	13.7	4.4
C. vernalis							1.1	1.4
C.v. (immature)	0.8	1.1	2.4	1.7	4.6	0.3	1.1	1.4
Tropocyclops prasinus								
Nauplii, Cyclopoid	68.4	11.6	57.6	5.0	48.6	0.8	64.1	16.2
Subtotal	81.6	12.3	78.6	9.2	72.3	0.8	96.6	8.8
CLADOCERA								
Alona affinis	0.4	0.6						
Bosmina longirostris	1.6	0.0	0.6	0.8	0.6	0.8	3.1	4.5
Chydorus sphaericus	11.2	3.4	8.4	0.0	8.4	0.0	12.6	2.9
Daphia retrocurva			0.6	0.8	0.6	0.8		
Eubosmina coregoni	13.2	6.2	10.2	2.5	10.2	0.8	13.7	4.3
Unknown								
Subtotal	26.4	10.1	19.8	0.8	19.8	2.5	29.4	5.9
PROTOZOA								
Centrochynis sp.								
Difflugia sp.	6.4	1.1	3.6	1.7	5.4	0.8	13.7	4.3
Subtotal								
TOTAL	445.6	1.1	545.4	14.3	412.8	3.4	987.0	191.1

* Data presented as no. of organisms/l and computed from 2 vertical tows with a Wisconsin plankton net (12 cm diameter, 0.080 mm mesh) at each sampling station.
S.D. = Standard Deviation

TABLE 32

ANALYSIS OF ZOOPLANKTON POPULATIONS AT LOCUST POINT*
19 October 1976

TAXA	Mean/ Station	S.D.
ROTIFERA		
Asplanchna priodonta	4.6	4.1
A. sp.	0.3	0.9
Bipalous hudsoni	0.1	0.3
Brachionus angularis	0.3	0.5
B. calyciflorus	10.2	7.9
B. diversicornus	2.1	4.8
B. havanaensis	0.1	0.3
Conochiloides sp.	0.1	0.3
Kellicottia longiscina	0.3	0.4
Keratella cochlearis	102.0	57.0
K. quadrata	200.0	82.0
K. serrulata	61.0	73.0
Pleosoma sp.	0.1	0.3
P. lenticulare	1.0	1.0
Polyarthra spp.	195.0	72.0
Pompholyx sulcata	7.0	22.0
Synchaeta spp.	109.0	40.0
Trichocerca cylindrica	1.0	1.0
T. multicrinus	1.0	1.0
Trichotria tetractis	0.2	0.6
Unknown B	0.1	0.3
Subtotal	681.0	269.0
COPEPODA		
Calanoid Copepods	1.8	0.5
Diaptomus siciloides	0.1	0.4
Epischytemora affinis	0.0	0.0
Immatures, Calanoid		
Nauplii, Calanoid	15.7	8.2
Cyclopoid		
Cyclops bicuspidatus thomasi		
C.b.t. (immatures)	12.3	5.0
C. vernalis	0.2	0.4
C.v. (immature)	3.8	3.0
Tropocyclops prasinus	0.2	5.2
Nauplii, Cyclopoid	67.4	25.1
Subtotal	105.3	21.9
CLADOCERA		
Alona affinis	0.0	0.1
Bosmina longirostris	1.9	1.6
Chydorus sphaericus	10.8	8.0
Daphia retrocurva	0.4	0.8
Eubosmina coregoni	12.1	2.2
Unknown	0.0	0.1
Subtotal	25.9	11.8
PROTOZOA		
Centrophynis sp.		
Difflugia sp.	18.9	12.4
Subtotal		
TOTAL	830.6	292.0

* Data presented as no. of organisms/l and computed from 2 vertical tows with a Wisconsin plankton net (12 cm diameter, 0.080 mm mesh) at each sampling station. S.D. = Standard Deviation

TABLE 33

ANALYSIS OF ZOOPLANKTON POPULATIONS AT LOCUST POINT*
2 November 1976

TAXA	Station 1		Station 3		Station 6		Station 8	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
ROTIFERA								
Asplanchna (giroldi)			0.5	0.7				
A. priodonta	3.8	3.2	0.9	0.1	0.2	0.3	0.2	0.3
Brachionus calyciflorus	10.5	4.2	5.3	0.2	3.8	0.6	3.9	1.2
B. diversicornus								
B. urceolaris			0.3	0.4				
Conochiloides sp.	0.8	1.1			0.2	0.3		
Filinia longiseta	0.8	1.1						
F. terminalis			0.2	0.3	0.8	0.2		
Gastropus stylifer			0.3	0.4				
Kellicottia longispina	1.5	0	1.0	1.4	1.4	0	0.9	0.6
Keratella cochlearis	357.0	39.9	140.0	48.3	134.9	56.1	104.8	10.5
K. quadrata	392.3	162.8	162.2	33.9	168.8	71.7	116.8	4.5
K. serrulata	15.0	10.5	8.4	2.2	7.2	1.9	4.5	1.5
Notholca labis			0.5	0.7				
N. squamula								
Pleosoma lenticulare	2.3	3.2					0.2	0.3
Polyarthra spp.	59.3	13.7	31.1	11.1	33.0	13.7	17.1	10.2
Synchaeta spp.	306.8	24.2	79.4	20.5	74.6	11.6	101.6	0.6
Trichocerca cylindrica							0.2	0.3
T. multicrinus			0.5	0.7				
Subtotal	1149.9	261.5	430.6	120.3	425.5	154.6	350.3	3.0
COPEPODA								
Calanoid Copepods								
Dieptomus siciloides							0.6	0.9
Limnocalanus macrurus							0.2	0.3
Skistodiaptomus oregonensis					0.7	1.0	0.2	0.3
Immatures, Calanoid	2.3	3.2	0.5	0.0	0.4	0.5	0.2	0.3
Nauplii, Calanoid	30.8	11.6	4.1	0.2	4.0	0.5	10.7	6.0
Cyclopoid Copepods								
Cyclops bicuspidatus thomasi	1.5	0	0.2	0.3	0.4	0.5		
C.b. thomasi(immatures)	63.8	11.6	20.1	8.9	10.9	7.8	18.2	9.3
C. vernalis	3.8	1.1	0.3	0.4	0.4	0.5	1.7	1.8
C. vernalis (immatures)	27.8	5.3	6.3	1.6	13.5	8.1	13.5	2.1
Tropocyclops prasinus	1.5	2.1						
Nauplii, Cyclopoid	174.0	4.2	44.4	14.1	43.0	15.6	70.9	9.9
Subtotal	305.3	1.1	75.9	24.6	78.2	33.5	116.4	29.8
CLADOCERA								
Bosmina longirostris	7.5	2.1	3.2	0.9	1.6	0.8	10.5	8.7
Chydorus sphaericus	12.6	3.2	1.0	0.7	1.1	1.5	1.7	0.6
Daphnia pulex							0.2	0.3
D. retrocurva			0.6	0.9			0.6	0.9
Eubosmina coregoni	16.5	8.4	7.7	1.8	3.8	0.6	8.6	2.4
Subtotal	36.8	7.4	13.0	1.3	6.5	2.9	21.6	6.3
PROTOZA								
Difflugia sp.	0.8	1.1	0.3	0.4	1.8	0.5	0.9	1.2
TOTAL	1492.5	268.8	519.7	146.7	512.0	191.5	489.0	31.9

* Data presented as no. of organisms/l and computed from 2 vertical tows with a Wisconsin plankton net (12 cm diameter; 0.080 mm mesh) at each sampling station.
S.D. = Standard Deviation

a Sample no. 2 diluted 1:1 to allow accurate counting.

b Both samples diluted 1:1 to allow accurate counting.

TABLE 33

ANALYSIS OF ZOOPLANKTON POPULATIONS AT LOCUST POINT*
2 November 1976

TAXA	Station 12		Station 13		Station 14		Station 18	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
ROTIFERA								
Asplanchna (giroldii)								
A. priodonta	4.5	2.1	0.8	0.0	1.5	0.4	1.9	1.6
Brachionus calyciflorus	5.3	7.4	8.6	1.6	7.5	1.3	11.3	7.4
B. diversicornus								
B. urceolaris								
Conochiloides sp.			0.3	0.0	3.9	2.1	2.6	1.6
Filinia longiseta					0.6	0.0		
F. terminalis	0.8	1.1						
Gastropus stylifer								
Kellicottia longispina	4.5	6.3	1.9	0.5	2.1	2.1	1.5	1.1
Keratella cochlearis	267.8	106.2	126.8	15.8	121.5	8.8	118.1	11.0
K. quadrata	273.0	96.6	148.3	4.2	113.1	16.4	109.1	35.2
K. serrulata	27.0	16.8	3.0	3.2	3.9	4.6	3.8	1.1
Notholca labis								
N. squamula	0.8	1.1						
Pleosoma lenticulare			0.8	0.0	0.3	0.4		
Polyarthra spp.	78.8	45.2	22.5	8.4	27.9	2.9	21.8	6.3
Synchaeta spp.	163.5	77.7	108.4	10.0	107.1	14.7	118.5	39.9
Trichocerca cylindrica								
T. multicrinus								
Subtotal	824.8	309.8	431.6	23.6	389.4	26.0	388.5	105.0
COPEPODA								
Calanoid Copepods								
Diaptomus siciloides								
Limnocalanus macrurus	1.5	2.1	0.8	0.0	0.9	1.3		
Skistodiaptomus oregonensis								
Immatures, Calanoid	7.5	6.3	6.0	6.3	6.3	0.4	6.8	3.2
Nauplii, Calanoid	5.3	7.4	7.1	5.8	6.9	5.5	10.5	5.3
Cyclopoid Copepods								
Cyclops bicuspidatus thomasi	3.0	2.1	0.4	0.5	1.2	1.7	2.3	1.1
C.b. thomasi(immatures)	26.3	17.9	18.4	2.6	17.7	1.3	16.1	2.6
C. vernalis	1.5	2.1	0.8	1.1			0.4	0.5
C. vernalis (immatures)	60.8	70.4	7.5	1.1	10.5	0.4	7.5	3.2
Tropocyclops prasinus					0.3	0.4	0.4	0.5
Nauplii, Cyclopoid	33.8	47.3	75.4	6.8	79.5	1.3	65.3	12.6
Subtotal	138.0	37.8	116.3	13.7	123.3	8.8	109.2	27.8
CLADOCERA								
Bosmina longirostris	12.8	7.4	8.3	1.1	9.3	1.3	4.5	4.2
Chydorus sphaericus	3.0	4.2	3.4	1.6	2.1	1.3	0.4	0.5
Daphnia pulex								
D. retrocurva					0.3	0.4		
Eubosmina coregoni	6.0	8.4	8.3	1.1	6.0	0.8	6.8	2.1
Subtotal	21.8	3.2	19.9	1.5	17.7	2.1	11.7	1.6
PROTOZA								
Difflugia sp.	0.8	1.1	0.8	1.1	1.2	0.0	0.4	0.5
TOTAL	986.3	349.7	568.6	9.5	528.6	37.0	512.2	135.2

* Data presented as no. of organisms/l and computed from 2 vertical tows with a Wisconsin plankton net (12 cm diameter; 0.060 mm mesh) at each sampling station.
S.D. = Standard Deviation

a Sample no. 2 diluted 1:1 to allow accurate counting.

b Both samples diluted 1:1 to allow accurate counting.

TABLE 33

ANALYSIS OF ZOOPLANKTON POPULATIONS AT LOCUST POINT*
2 November 1976

TAXA	Station 26a		Station 27a		Station 26b		Station 29	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
ROTIFERA								
Asplanchna (giroidii)								
A. priodonta	1.3	0.6	1.8	1.1	0.4	0.6	1.0	1.4
Brachionus calyciflorus	9.6	4.5	9.0	0.6	3.4	1.2	11.9	7.2
B. diversicornus	1.9	0.9	3.1	1.6	0.9	1.2		3.3
B. urceolaris	0.2	0.3						
Conochiloides sp.								
Filinia longiseta								
F. terminalis								
Gastropus stylifer								
Keilicottia longispina	1.1	0.3	3.1	1.6	1.3	1.8	1.7	0.5
Keratella cochlearis	159.4	25.2	116.6	1.3	86.1	11.4	152.4	2.4
K. quadrata	149.4	48.9	129.1	19.7	130.3	13.2	145.9	1.0
K. serrulata	4.5	0.9	3.1	2.0	5.6	3.0	5.1	0.5
Northolca labis								
N. squamula					0.4	0.6	1.0	1.4
Pleosoma lenticulare	0.6	0.3			0.4	0.6	2.7	0.0
Polyarthra spp.	34.7	7.8	29.3	8.1	32.1	1.8	40.6	3.3
Synchaeta spp.	92.6	13.2	112.6	4.3	105.4	6.0	166.7	32.9
Trichocerca cylindrica	0.6	0.3	0.7	0.2	0.4	0.6		
T. multicrinus			0.4	0.6	0.9	0.0		
Subtotal	456.0	86.4	408.9	34.8	367.7	3.6	532.2	37.7
COPEPODA								
Calanoid Copepods								
Diaptomus siciloides					0.9	0.0	0.3	0.5
Limnocalanus macrurus	0.9	0.0	1.3	1.8			2.7	3.8
Skistodiaptomus oregonensis					0.4	0.6		
Immatures, Calanoid	2.6	0.6	5.9	6.1	3.4	1.2	4.8	1.0
Nauplii, Calanoid	1.7	0.0	6.3	3.2	5.6	3.0	5.8	5.3
Cyclopoid Copepods								
Cyclops bicuspidatus thomasi	0.4	0.6	0.9	1.2	0.4	0.6	0.3	0.5
C.b. thomasi(immatures)	7.5	10.5	22.7	6.6	5.1	1.2	14.7	1.4
C. vernalis	0.9	0.0	2.2	1.7	1.7	0.0	0.7	1.0
C. vernalis (immatures)	8.6	1.2	8.0	2.0	2.6	1.2	6.8	3.8
Tropocyclops prasinus								
Nauplii, Cyclopoid	53.6	6.6	62.3	8.0	48.0	4.8	77.4	16.7
Subtotal	76.1	18.3	109.5	14.7	68.1	4.2	113.5	19.6
CLADOCERA								
Bosmina longirostris	4.3	1.2	7.3	1.8	3.4	0.0	4.8	1.0
Chydorus sphaericus	1.5	0.9	4.3	1.1	3.0	0.6	2.4	0.5
Daphnia pulex								
D. retrocurva					0.9	1.2	0.7	1.0
Eubosmina coregoni	4.9	0.3	4.6	0.8	5.6	3.0	5.8	1.4
Subtotal	10.7	1.3	16.2	3.8	12.9	2.5	13.7	0.9
PROTOZA								
Difflugia sp.	0.6	0.3	1.4	0.5	1.3	0.6	2.0	1.9
TOTAL	543.4	66.6	535.9	53.6	450.0	9.7	661.4	20.9

* Data presented as no. of organisms/l and computed from 2 vertical tows with a Wisconsin plankton net (12 cm diameter; 0.080 mm mesh) at each sampling station.
S.D. = Standard Deviation

a Sample no. 2 diluted 1:1 to allow accurate counting.

b Both samples diluted 1:1 to allow accurate counting.

TABLE 33

ANALYSIS OF ZOOPLANKTON POPULATIONS AT LOCUST POINT*
2 November 1976

TAXA	Mean/ Station	S.D.
ROTIFERA		
Asplanchna (giroidli)	0.04	0.1
A. priodonta	1.5	1.4
Brachionus calyciflorus	7.5	3.1
B. diversicornus		
B. urceolaris	0.03	0.1
Conochiloides sp.	1.4	1.4
Filinia longiseta	0.1	0.3
F. terminalis	0.2	0.3
Gastropus stylifer	0.03	0.1
Kellicottia longispina	1.8	1.0
Keratella cochlearis	157.1	77.5
K. quadrata	170.7	82.2
K. serrulata	7.6	6.9
Northolca labis	0.04	0.1
N. squamula	0.2	0.4
Pleosoma lenticulare	0.6	0.9
Polyarthra spp.	35.7	17.3
Synchaeta spp.	128.1	62.9
Trichocerca cylindrica	0.2	0.3
T. multicrinus	0.2	0.3
Subtotal	513.0	236.9
COPEPODA		
Calanoid Copepods		
Diaptomus siciloides	0.2	0.3
Limnocalanus macrurus	0.7	0.8
Skistodiaptomus oregonensis	0.1	0.2
Immatures, Calanoid	3.9	2.7
Nauplii, Calanoid	8.2	7.5
Cyclopoid Copepods		
Cyclops bicuspidatus thomasi	0.9	0.9
C.b. thomasi(immatures)	20.1	15.0
C. vernalis	1.2	1.1
C. vernalis (immatures)	14.5	15.9
Tropocyclops prasinus	0.2	0.4
Nauplii, Cyclopoid	69.4	36.0
Subtotal	119.2	62.7
CLADOCERA		
Bosmina longirostris	1.5	3.4
Chydorus sphaericus	3.1	3.3
Daphnia pulex	0.02	0.06
D. retrocurva	0.3	0.3
Eubosmina coregoni	7.1	3.3
Subtotal	16.9	7.9
PROTOZA		
Difflugia sp.	1.0	0.5
TOTAL	650.0	300.0

* Data presented as no. of organisms/l and computed from 2 vertical tows with a Wisconsin plankton net (12 cm diameter; 0.080 mm mesh) at each sampling station. S.D. = Standard Deviation

a Sample no. 2 diluted 1:1 to allow accurate counting.

b Both samples diluted 1:1 to allow accurate counting.

APPENDIX C

BENTHIC MACROINVERTEBRATE POPULATIONS FROM LOCUST POINT, LAKE ERIE

JULY - NOVEMBER 1976

TABLE 34

ANALYSIS OF BENTHIC MACROINVERTEBRATE POPULATIONS AT LOCUST POINT*
5 JULY 1976

TAXA	Station 1		Station 3		Station 6		Station 7	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
COELENTERATA								
Hydra sp. (budding polyp)	6.4	11.0			6.4	11.0		
Hydra sp. (single polyp)	6.4	11.0			6.4	11.0		
Subtotal	12.7	11.0			12.7	22.1		
ANNELIDA								
Hirudinea								
Helobdella stagnalis							44.6	44.1
Placobdella montifera							6.4	11.0
Oligochaeta								
Immatures (hair setae)								
Immatures (no hair setae)	82.8	55.1	3188.9	2745.7	1356.1	909.6	885.0	442.0
Branchiura sowerbyi	6.4	11.0	25.6	29.2	63.7	61.4	38.2	19.1
Limnodrilus cervix			12.7	22.1			6.4	11.0
L. claparedeianus			6.4	11.0				
L. claparedeianus-cervix					6.4	11.0		
L. maumeensis					19.1	19.1		
L. profundicola								
L. udekemianus								
Ophidonais serpentina	6.4	11.0	191.0	101.1	12.7	22.1	76.4	99.2
Potamothrix moldaviensis			12.7	11.0				
Subtotal	95.5	50.5	2820.1	2165.1	1451.6	966.2	1056.6	529.8
ARTHROPODA								
Cladocera								
Lestodora kindtii	802.2	550.6	713.1	548.7	789.5	1205.8	1510.8	2328.0
Amphipoda								
Gammarus fasciatus			6.4	11.0	63.7	61.4	19.1	0.0
Isopoda								
Asellus militaris								
Diptera-Chironomidae								
Chironomus sp.	12.7	11.0	82.6	72.3	6.4	11.0	38.2	19.1
Chironomus pupa							6.4	11.0
Cryptochironomus sp.			12.7	22.1	19.1	19.1	38.2	19.1
Glyptotendipes sp.								
Polypedilum sp.								
Procladius sp.	6.4	11.0					6.4	11.0
Tanytarsus sp.								
Xenochironomus sp.								
Ephemeroptera								
Caenis sp.	12.7	11.0					6.4	11.0
Subtotal	834.0	552.4	814.9	609.2	878.6	1216.0	1725.4	2381.8
MOLLUSCA								
Pelecypoda								
Larnpsilis sp.								
TOTAL	942.3	593.3	3635.3	2571.6	2349.3	1868.1	2782.2	2877.9

* Data presented as no. of organisms/m^2 and computed from 3 grabs with a Ponar dredge (A = 0.052m^2) at each of 18 sampling stations at Locust Point.

S.D. = Standard Deviation

TABLE 34

ANALYSIS OF BENTHIC MACROINVERTEBRATE POPULATIONS AT LOCUST POINT*
5 JULY 1978

TAXA	Station 8		Station 9		Station 11		Station 12	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
COELENTERATA								
Hydra sp. (budding polyp)	6.4	11.0	6.4	11.0	6.4	11.0	6.4	11.0
Hydra sp. (single polyp)					19.1	33.1	6.4	11.0
Subtotal	6.4	11.0	6.4	11.0	25.5	29.2	12.7	11.0
ANNELIDA								
Hirudinea								
Helobdella stagnalis	6.4	11.0						
Placobdella montifera	6.4	11.0						
Oligochaeta								
Immatures (hair setae)								
Immatures (no hair setae)	649.4	562.7	865.9	829.6	171.9	66.2	394.7	115.1
Branchiura sowerbyi	19.1	33.1					31.8	39.8
Limnodrilus cervix								
L. claparedeianus								
L. claparedeianus-cervix								
L. maumeensis								
L. profundicola								
L. udekemianus								
Ophidonais serpentina	101.9	130.0	343.8	202.1	44.5	39.8	270.4	134.9
Potamothrix moldaviensis								
Subtotal	783.1	662.7	1230.0	964.6	218.5	105.2	630.3	182.2
ARTHROPODA								
Cladocera								
Leptodora kindtii	935.9	728.5	1139.6	1510.3	700.3	421.2	823.9	525.3
Amphipoda								
Gammarus fasciatus	44.6	48.1	6.4	11.0	6.4	11.0	44.6	29.2
Isopoda								
Asellus militaris								
Diptera-Chironomidae								
Chironomus sp.	25.5	11.0	63.7	44.1				
Chironomus pupa							6.4	11.0
Cryptochironomus sp.	31.8	11.0	12.7	22.1				
Glyptotendipes sp.								
Polypedilum sp.							6.4	11.0
Procladius sp.			19.1	19.1				
Tanytarsus sp.								
Xenochironomus sp.								
Ephemeroptera					6.4	11.0		
Caenis sp.			6.4	11.0	19.1	19.1	6.4	11.0
Subtotal	1037.8	788.5	1254.2	1516.3	732.2	386.9	887.6	534.8
MOLLUSCA								
Pelecypoda								
Lamosilis sp.	6.4	11.0	6.4	11.0				
TOTAL	1833.6	696.9	2470.3	1830.4	974.1	236.5	1330.6	566.7

* Data presented as no. of organisms/m^2 and computed from 3 grabs with a Ponar dredge (A = 0.052m^2) at each of 18 sampling stations at Locust Point.

S.D. = Standard Deviation

TABLE 34

ANALYSIS OF BENTHIC MACROINVERTEBRATE POPULATIONS
AT LOCUST POINT*
5 JULY 1976

TAXA	Station 13		Station 14		Station 15		Station 16	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
COELENTERATA								
Hydra sp. (budding polyp)	12.7	11.0						
Hydra sp. (single polyp)								
Subtotal	12.7	11.0						
ANNELIDA								
Hirudinea								
Helobdella stagnalis					6.4	11.0		
Placobdella montifera	6.4	11.0						
Oligochaeta								
Immatures (hair setae)								
Immatures (no hair setae)	292.9	309.4	1985.4	758.1	1165.1	794.2	312.0	148.4
Branchiura sowerbyi			12.7	11.0				
Limnodrilus cervix			12.7	22.1	6.4	11.0		
L. claparedeianus			12.7	22.1				
L. claparedeianus-cervix								
L. maumeensis			19.1	33.1	12.7	22.1		
L. profundicola								
L. udekemianus								
Ophidonais serpentina	31.8	29.2	159.2	98.0	394.7	304.6	38.2	33.1
Potamothrix moldaviensis					127.3	171.2	25.5	11.0
Subtotal	331.1	328.6	2202.9	932.3	1767.3	1361.2	375.6	173.3
ARTHROPODA								
Cladocera								
Leptodora kindtii	3775.4	1136.8	1413.4	1094.4	700.3	737.8	70.0	61.4
Amphipoda								
Gammarus fasciatus	6.4	11.0			6.4	11.0	6.4	11.0
Isopoda								
Asellus militaris								
Diptera-Chironomidae								
Chironomus sp.			44.6	29.2	76.4	50.5	19.1	33.1
Chironomus cuba								
Cryptochironomus sp.	6.4	11.0	19.1	19.1	44.6	61.4	19.1	33.1
Glyptotendipes sp.								
Polypedilum sp.			25.5	29.2	108.2	171.2		
Procladius sp.			19.1	19.1				
Tanytarsus sp.			6.4	11.0				
Xenochironomus sp.								
Ephemeroptera								
Caenis sp.	6.4	11.0						
Subtotal	3794.5	1148.8	1528.0	1144.2	935.9	802.9	127.3	110.3
MOLLUSCA								
Pelecypoda								
Lamosilis sp.								
TOTAL	4138.3	848.1	3730.9	2075.5	2348.5	1515.8	490.2	214.7

* Data presented as no. of organisms/m^2 and computed from 3 grabs with a Ponar dredge (A = 0.052m^2) at each of 18 sampling stations at Locust Point.

S.D. = Standard Deviation

TABLE 34

ANALYSIS OF BENTHIC MACROINVERTEBRATE POPULATIONS
AT LOCUST POINT*
5 JULY 1976

TAXA	Station 17		Station 18		Station 26		Station 27	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
COELENTERATA								
Hydra sp. (budding polyp)								
Hydra sp. (single polyp)								
Subtotal								
ANNELIDA								
Hirudinea								
Helobdella stagnalis			6.4	11.0			6.4	11.0
Placobdella montifera								
Oligochaeta								
Immatures (hair setae)								
Immatures (no hair setae)	343.8	116.2	2502.1	1175.7	331.1	316.4	5360.7	3585.0
Branchiura sowerbyi							50.9	39.8
Limnodrilus cervix							44.6	29.2
L. claparedeianus								
L. claparedeianus-cervix							12.7	11.0
L. maumeensis			12.7	22.1			6.4	11.0
L. profundicola							12.7	11.0
L. udekemianus							31.8	29.2
Ophidonais serpentina	19.1	33.1	547.5	382.2	133.7	116.2	95.5	50.5
Potamothrix moldaviensis	38.2	50.5	121.0	29.2	19.1	19.1	76.4	83.3
Subtotal	401.1	163.2	3043.3	876.4	483.9	427.2	5679.1	3809.3
ARTHROPODA								
Cladocera								
Leptodora kindtii	152.8	144.2	1394.3	1188.4	1114.2	1049.0	560.3	591.9
Amphipoda								
Gammarus fasciatus			6.4	11.0			12.7	11.0
Isopoda								
Asellus militaris							6.4	11.0
Diptera-Chironomidae								
Chironomus sp.	19.1	19.1	57.3	19.1	6.4	11.0	31.8	22.1
Chironomus pupa								
Cryptochironomus sp.	19.1	19.1	50.9	29.2			44.6	48.1
Glyptotendipes sp.								
Polypedilum sp.			987.7	1268.7	12.7	11.0	127.3	87.1
Procladius sp.			12.7	22.1			12.7	22.1
Tanytarsus sp.			6.4	11.0				
Xenochironomus sp.								
Ephemeroptera								
Caenis sp.								
Subtotal	191.0	144.2	2495.7	2404.3	1133.3	1036.0	795.8	678.1
MOLLUSCA								
Pelecypoda								
Lamosilis sp.								
TOTAL	592.1	305.3	5539.0	3275.5	1613.8	742.0	6494.0	4364.0

* Data presented as no. of organisms/m^2 and computed from 3 grabs with a Ponar dredge (A = 0.052m^2) at each of 18 sampling stations at Locust Point.

S.D. = Standard Deviation

TABLE 34

ANALYSIS OF BENTHIC MACROINVERTEBRATE POPULATIONS AT LOCUST POINT *
5 JULY 1976

TAXA	Station 28		Station 29		Mean/ Station	S.D.
	Mean	S.D.	Mean	S.D.		
COELENTERATA						
Hydra sp. (budding polyp)					2.8	3.9
Hydra sp. (single polyp)					2.1	4.9
Subtotal					5.0	7.4
ANNELIDA						
Hirudinea						
Helobdella stagnalis					3.9	10.5
Placobdella montifera					1.1	2.5
Oligochaeta						
Immatures (hair setae)						
Immatures (no hair setae)	1477.1	1234.0	955.0	325.8	1233.4	1332.6
Branchiura sowerbyi					13.8	20.2
Limnodrilus cervix	6.4	11.0	6.4	11.0	5.3	10.8
L. claparedeianus	6.4	11.0			1.4	3.5
L. claparedeianus-cervix					1.8	4.5
L. maumeensis					3.9	6.9
L. profundicola	6.4	11.0			1.1	3.3
L. udekemianus					1.9	7.5
Ophidonais serpentina	140.1	108.6	210.1	101.1	156.5	149.5
Potamothrix moldaviensis			108.2	58.4	29.4	45.7
Subtotal	1623.5	1357.7	1309.7	395.2	1416.8	1374.4
ARTHROPODA						
Cladocera						
Leptodora kindtii	897.7	606.4	471.1	327.7	992.5	604.1
Amphipoda						
Gammarus fasciatus			6.4	11.0	13.1	18.5
Isopoda						
Asellus militaris					0.5	1.6
Diptera-Chironomidae						
Chironomus sp.	101.9	86.1	140.1	88.2	40.7	39.4
Chironomus pupa	6.4	11.0	6.4	11.0	1.1	2.5
Cryptochironomus sp.	6.4	11.0	12.7	11.0	18.7	16.7
Glyptotendipes sp.					0.5	1.6
Polypedilum sp.					69.0	227.5
Procladius sp.	6.4	11.0			4.6	6.8
Tanytarsus sp.					0.7	2.1
Xenochironomus sp.					0.5	1.6
Ephemeroptera						
Caenis sp.					3.2	5.5
Subtotal	1018.7	690.3	636.7	344.0	1145.6	853.8
MOLLUSCA						
Pelecypoda						
Lampsilis sp.					0.7	2.1
TOTAL	2654.9	1944.4	1916.4	766.9	2559.2	1844.8

* Data presented as no. of organisms/m^2 and computed from 3 grabs with a Ponar dredge (A = 0.052m^2) at each of 18 sampling stations at Locust Point.
S.D. = Standard Deviation

TABLE 35

ANALYSIS OF BENTHIC MACROINVERTEBRATE POPULATIONS
AT LOCUST POINT*
5 AUGUST 1976

TAXA	Station 1		Station 3		Station 6		Station 7	
	Mean	S.D.	Mean	S.D	Mean	S.D.	Mean	S.D.
COELENTERATA								
Hydra sp. (single polyp)								
Subtotal								
ANNELIDA								
Hirudinea								
Helobdella elongata								
H. stagnalis							19.1	33.1
Placobdella montifera							12.7	22.1
Oligochaeta								
Immatures (hair setae)								
Immatures (no hair setae)	210.1	76.4	76.4	76.4	2304.7	2859.0	3972.8	5258.4
Branchiura sowerbyi			12.7	22.1			229.2	364.4
Limnodrilus cervix							38.2	50.5
L. claparedeianus								
L. claparedeianus-cervix							6.4	11.0
L. maumeensis					12.7	11.0	6.4	11.0
L. profundicola								
L. udekemianus								
Nais communis								
Nais sp.								
Ophidonais serpentina	178.3	193.2	63.7	55.1	452.0	624.9	31.8	39.8
Potamothrix moldaviensis					31.8	39.8	57.3	99.2
Subtotal	388.4	263.5	152.8	144.2	2747.7	3522.3	4373.9	5837.9
ARTHROPODA								
Cladocera								
Leptodora kindtii	19.1	33.1	6.4	11.0	19.1	33.1	203.7	209.5
Amphipoda								
Crangonyx sp.	19.1	33.1			6.4	11.0		
Gammarus fasciatus	19.1	19.1	19.1	19.1	6.4	11.0	89.1	96.1
Diptera-Chironomidae								
Chironomus sp.	82.8	48.1	12.7	11.0	38.2	50.5	101.9	176.4
Chironomus pupa					6.4	11.0		
Cryptochironomus sp.							6.4	11.0
Glyptotendipes sp.	44.6	22.1						
Polypedilum sp.					95.5	149.2	50.9	88.2
Procladius sp.			12.7	11.0			165.5	286.7
Procladius pupa								
Tanytarsus sp.	12.7	22.1					6.4	11.0
Xenochironomus sp.			6.4	11.0			19.1	33.1
Ephemeroptera								
Caenis sp.	12.7	22.1			6.4	11.0		
Trichoptera								
Cheumatopsyche sp.							6.4	11.0
Subtotal	216.5	148.4	57.3	19.1	178.3	275.7	649.4	532.4
MOLLUSCA								
Pelecypoda								
Lampsilis sp.								
Ligumia sp.					12.7	22.1		
Subtotal					12.7	22.1		
TOTAL	598.5	290.0	210.1	107.7	2932.3	3761.2	5023.3	6369.9

* Data presented as no. of organisms/m^2 and computed from 3 grabs with a Ponar dredge (A = 0.052m^2) at each of 18 sampling stations at Locust Point.

S.D. = Standard Deviation

TABLE 35

ANALYSIS OF BENTHIC MACROINVERTEBRATE POPULATIONS
AT LOCUST POINT*
5 AUGUST 1976

TAXA	Station 8		Station 9		Station 11		Station 12	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
COELENTERATA								
Hydra sp. (single polyp)								
Subtotal								
ANNELIDA								
Hirudinea								
Helobdella elongata	12.7	22.1						
H. stagnalis			6.4	11.0				
Placobdella montifera								
Oligochaeta								
Immatures (hair setae)								
Immatures (no hair setae)	541.2	429.8	3750.0	1768.2	1133.3	570.6	681.2	473.4
Branchiura sowerbyi					12.7	11.0	6.4	11.0
Limnodrilus cervix			6.4	11.0	50.8	72.3	57.3	38.2
L. claparedeianus					25.5	22.1	6.4	11.0
L. claparedeianus-cervix								
L. maumeensis			6.4	11.0	12.7	22.1	6.4	11.0
L. profundicola					6.4	11.0		
L. udekemianus			6.4	11.0			6.4	11.0
Ophidonais serpentina	6.4	11.0	375.6	430.0	25.5	44.0	25.5	29.2
Potamothrix moldaviensis			38.2	38.2	19.1	0.0	57.3	57.3
Subtotal	560.3	444.8	4186.3	2132.2	1286.1	675.9	846.8	606.5
ARTHROPODA								
Cladocera								
Leptodora kindtii	178.3	44.1	386.4	86.1	31.8	29.2	216.5	196.0
Amphipoda								
Crangonyx sp.								
Gammarus fasciatus			6.4	11.0	140.1	242.6	6.4	11.0
Diptera-Chironomidae								
Chironomus sp.	6.4	11.0	31.8	39.8	19.1	19.1	57.3	33.1
Chironomus pupa								
Cryptochironomus sp.			6.4	11.0	12.7	22.1	6.4	11.0
Glyptotendipes sp.								
Polypedilum sp.			44.6	39.8	25.5	11.0	57.3	83.3
Procladius sp.	6.4	11.0	133.7	83.3	178.3	154.4	44.6	61.4
Procladius pupa			6.4	11.0			12.7	22.1
Tanytarsus sp.								
Xenochironomus sp.					12.7	22.1		
Ephemeroptera								
Caenis sp.	6.4	11.0			38.2	66.1	19.1	19.1
Trichoptera								
Cheumatopsyche sp.					6.4	11.0		
Subtotal	197.4	48.1	617.6	29.2	464.8	195.1	420.2	238.6
MOLLUSCA								
Pelecypoda								
Lampsilis sp.								
Ligumia sp.								
Subtotal								
TOTAL	757.6	435.7	4808.8	2154.4	1750.8	584.8	1267.0	790.8

* Data presented as no. of organisms/m^2 and computed from 3 grabs with a Ponar dredge ($A = 0.052 m^2$) at each of 18 sampling stations at Locust Point.

S.D. = Standard Deviation

TABLE 35

ANALYSIS OF BENTHIC MACROINVERTEBRATE POPULATIONS
AT LOCUST POINT*
5 AUGUST 1976

TAXA	Station 13		Station 14		Station 15		Station 16	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
COELENTERATA								
Hydra sp. (single polyp)			6.4	11.0				
Subtotal			6.4	11.0				
ANNELIDA								
Hirudinea								
Helobdella elongata			6.4	11.0				
H. stagnalis								
Placobdella montifera								
Oligochaeta								
Immatures (hair setae)								
Immatures (no hair setae)	923.2	789.9	4379.5	3802.2	1808.1	1483.2	191.0	99.2
Branchiura sowerbyi			57.3	50.5	6.4	11.0		
Limnodrilus cervix	19.1	33.1	95.5	119.3	44.6	48.1		
L. claparedeianus			12.7	22.1	6.4	11.0		
L. claparedeianus-cervix			6.4	11.0				
L. maumeensis			25.5	22.1	19.1	33.1		
L. profundicola	6.4	11.0			6.4	11.0		
L. udekemianus					6.4	11.0		
Ophidonais serpentina	12.7	22.1	25.5	22.1	184.6	287.3	827.7	563.5
Potamothrix moldaviensis	12.7	22.1	6.4	11.0	146.4	135.5	63.7	79.5
Subtotal	974.1	878.0	4509.7	3888.7	2223.3	1832.2	1082.3	729.9
ARTHROPODA								
Cladocera								
Leptodora kindtii	878.6	1323.8	916.8	184.2	401.1	116.2	121.0	90.3
Amphipoda								
Crangonyx sp.								
Gammarus fasciatus			6.4	11.0				
Diptera-Chironomidae								
Chironomus sp.	57.3	99.2	38.2	33.1	267.4	281.4	6.4	11.0
Chironomus pupa	6.4	11.0			6.4	11.0	6.4	11.0
Cryptochironomus sp.			6.4	11.0	6.4	11.0	19.1	33.1
Glyptotendipes sp.								
Polypedilum sp.			6.4	11.0			25.5	22.1
Procladius sp.	159.2	138.2	165.5	154.4	152.8	144.2		
Procladius pupa	19.1	19.1	6.4	11.0				
Tanytarsus sp.	6.4	11.0						
Xenochironomus sp.								
Ephemeroptera								
Caenis sp.								
Trichoptera								
Cheumatopsyche sp.								
Subtotal	1120.5	1513.8	1146.0	296.5	834.0	476.5	176.8	103.7
MOLLUSCA								
Pelecypoda								
Lampsilis sp.								
Ligumia sp.								
Subtotal								
TOTAL	2101.0	2398.9	8067.4	4173.7	3062.4	2211.7	1260.6	757.5

* Data presented as no. of organisms/m^2 and computed from 3 grabs with a Ponar dredge ($A = 0.052 m^2$) at each of 18 sampling stations at Locust Point.

S.D. = Standard Deviation

TABLE 35

ANALYSIS OF BENTHIC MACROINVERTEBRATE POPULATIONS
AT LOCUST POINT*
5 AUGUST 1975

TAXA	Station 17		Station 18		Station 26		Station 27	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
COELENTERATA								
Hydra sp. (single polyp)								
Subtotal								
ANNELIDA								
Hirudinea								
Helobdella elongata								
H. stagnalis								
Placobdella montifera					6.4	11.0		
Oligochaeta								
Immatures (hair setae)								
Immatures (no hair setae)	133.7	50.5	1833.6	1507.7	802.2	928.1	4380.3	672.7
Branchiura sowerbyi								
Limnodrilus cervix	6.4	11.0	19.1	19.1			12.7	11.0
L. claparedianus								
L. claparedianus-cervix								
L. maumeensis			12.7	22.1				
L. profundicola			12.7	11.0				
L. udekemianus			44.6	51.4				
Ophidonais serpentina	776.7	444.8	1254.4	1420.1	76.4	66.2	452.0	410.7
Potamothrix moldaviensis	25.5	11.0	254.7	140.8	12.7	22.1	44.6	29.2
Subtotal	942.3	452.5	3451.6	2971.9	897.7	999.1	4889.6	450.4
ARTHROPODA								
Cladocera								
Leptodora kindtii	668.5	689.5	89.1	39.8	165.5	220.5	337.4	188.4
Amphipoda								
Crangonyx sp.								
Gammarus fasciatus								
Diptera-Chironomidae								
Chironomus sp.	12.7	11.0	184.6	154.4	38.2	50.5	50.9	39.8
Chironomus pupa							6.4	11.0
Cryptochironomus sp.	12.7	11.0	12.7	11.0			12.7	11.0
Glyptotendipes sp.								
Polypedilum sp.	95.5	50.5	407.5	593.7				
Procladius sp.			25.5	22.1			82.8	98.0
Procladius pupa								
Tanytarsus sp.	6.4	11.0	12.7	22.1	19.1	33.1	114.6	38.2
Xenochironomus sp.								
Ephemeroptera								
Caenis sp.								
Trichoptera								
Cheumatopsyche sp.								
Subtotal	795.8	705.5	732.2	659.5	222.8	202.4	604.8	171.2
MOLLUSCA								
Pelecypoda								
Lampsilis sp.					6.4	11.0		
Ligumia sp.								
Subtotal					6.4	11.0		
TOTAL	1738.1	988.2	4183.8	3596.1	1126.9	1025.5	5494.4	330.6

* Data presented as no. of organisms/m^2 and computed from 3 grabs with a Ponar dredge (A = 0.052m^2) at each of 18 sampling stations at Locust Point.

S.D. = Standard Deviation

TABLE 35

ANALYSIS OF BENTHIC MACROINVERTEBRATE POPULATIONS
AT LOCUST POINT*
5 AUGUST 1976

TAXA	Station 28		Station 29		Mean/ Station	S.D.
	Mean	S.D.	Mean	S.D.		
COELENTERATA						
Hydra sp. (single polyp)					0.4	1.5
Subtotal					0.4	1.5
ANNELIDA						
Hirudinea						
Helobdella elongata					1.1	3.3
H. stagnalis					1.4	4.7
Placobdella montifera					1.1	3.3
Oligochaeta						
Immatures (hair setae)						
Immatures (no hair setae	3387.1	1728.6	1464.3	662.3	1792.9	1576.8
Branchiura sowerbyi	63.7	48.1			21.6	55.3
Limnodrilus cervix	31.8	39.8	38.2	19.1	23.3	26.7
L. claparedeianus					.7	3.0
L. claparedeianus-cervix					.7	2.1
L. maumeensis					5.7	7.8
L. profundicola					3.7	3.7
L. udekemianus			12.7	11.0	4.3	10.7
Ophidonais serpentina	121.0	209.5	846.8	355.5	313.7	375.2
Potamothrix moldaviensis	31.8	29.2	19.1	33.1	45.6	62.6
Subtotal	3571.7	1852.9	2317.4	998.0	2211.6	1642.7
ARTHROPODA						
Cladocera						
Leptodora kindtii	420.2	433.9	502.8	287.4	309.1	283.5
Amphipoda						
Crangonyx sp.					.7	3.0
Gammarus fasciatus			6.4	11.0	16.6	37.2
Diptera-Chironomidae						
Chironomus sp.	31.8	55.1	63.7	61.4	61.2	66.8
Chironomus pupa			6.4	11.0	2.1	3.1
Cryptochironomus sp.			12.7	11.0	6.4	6.2
Glyptotendipes sp.					2.5	10.5
Polypedilum sp.			394.7	226.3	66.8	125.8
Procladius sp.	165.5	124.3			71.5	76.3
Procladius pupa					2.5	5.4
Tanytarsus sp.			25.5	29.2	11.3	26.8
Xenochironomus sp.			6.4	11.0	2.5	5.4
Ephemeroptera						
Caenis sp.					4.6	10.0
Trichoptera						
Cheumatopsyche sp.					.7	2.1
Subtotal	617.6	468.0	1018.7	452.9	559.5	341.4
MOLLUSCA						
Pelecypoda						
Lampsilis sp.					.4	1.5
Ligumia sp.					.7	3.0
Subtotal					1.1	3.3
TOTAL	4252.9	2425.7	3339.8	1328.2	2781.9	1835.8

* Data presented as no. of organisms/m^2 and computed from 3 grabs with a Ponar dredge (A=0.052m^2) at each of 18 sampling stations at Locust Point.

S.D. = Standard Deviation

TABLE 36

ANALYSIS OF BENTHIC MACROINVERTEBRATE POPULATIONS
AT LOCUST POINT*
3 September 1976

TAXA	Station 1		Station 3		Station 6		Station 7	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	.D.
COELENTERATA								
Hydra sp. (budding polyp)								
Hydra sp. (single polyp)							6.4	11.0
Subtotal							6.4	11.0
ANNELIDA								
Hirudinea								
Dina sp.								
Helobdella stagnalis							6.4	11.0
Placobdella montifora					6.4	11.0		
Oligochaeta								
Immatures (hair setae)								
Immatures (no hair setae)	114.6	57.3	904.1	1095.6	2674.0	298.4	3527.1	3034.2
Branchiura sowerbyi			12.7	22.1	19.1	19.1	121.0	105.2
Limnodrilus cervix			12.7	22.1	44.6	29.2	19.1	33.1
L. claparedeianus					6.4	11.0	6.4	11.0
L. claparedeianus-cervix								
L. maumeensis			12.7	22.1	12.7	11.0		
L. profundicola								
L. udekemianus					6.4	11.0		
Cohidonais serpentina	95.5	85.2	267.4	307.4	324.7	229.2	165.5	204.2
Potamothrix moldaviensis			6.4	11.0	44.6	39.8	19.1	33.1
Subtotal	210.1	132.3	1216.0	1462.7	3132.5	183.5	3858.2	3373.5
ARTHROPODA								
Cladocera								
Leptodora kindtii	203.7	191.3	1095.1	801.6	214.8	195.4	458.4	414.5
Amphipoda								
Crangonyx sp.	6.4	11.0	12.7	11.0				
Gammarus fasciatus			31.8	55.1	31.8	55.1	50.9	58.4
Diptera-Chironomidae								
Chironomus sp.	12.7	22.0	63.7	29.2	38.2	33.1	44.6	39.8
Chironomus pupa			12.7	22.0	6.4	11.0	12.7	22.0
Cryptochironomus sp.					89.1	55.1	89.1	72.3
Cryptochironomus pupa								
Glyptotendipes sp.	70.0	67.1	38.2	66.2			25.5	44.1
Polypedilum sp.					50.9	44.1	19.1	19.1
Procladius sp.			25.5	44.1			6.4	11.0
Procladius pupa			6.4	11.0				
Tanytarsus sp.			25.5	44.1	57.3	33.1	178.3	308.8
Tanytarsus pupa								
Xenochironomus sp.								
Ephemeroptera								
Caenis sp.	6.4	11.0	6.4	11.0				
Trichoptera								
Chaumatopsyche sp.			6.4	11.0				
Subtotal	299.2	254.3	1324.4	610.3	488.5	121.5	885.0	783.4
MOLLUSCA								
Pelecypoda								
Immatures					6.4	11.0		
Subtotal					6.4	11.0		
TOTAL	509.3	210.4	2540.4	865.4	3627.4	193.8	4755.9	3989.4

* Data presented as no. of organisms/m^2 and computed from 3 grabs with a Ponar dredge (A = 0.052m^2) at each of 18 sampling stations at Locust Point.

S.D. = Standard Deviation

TABLE 36

ANALYSIS OF BENTHIC MACROINVERTEBRATE POPULATIONS AT LOCUST POINT*

3 September 1976

TAXA	Station 8		Station 9		Station 11		Station 12	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
COELENTERATA								
Hydra sp. (budding polyp)	12.7	11.0						
Hydra sp. (single polyp)			6.4	11.0				
Subtotal	12.7	11.0	6.4	11.0				
ANNELIDA								
Hirudinea								
Dina sp.	6.4	11.0						
Helobdella stagnalis								
Placobdella montifera								
Oligochaeta								
Immatures (hair setae)	178.3	22.1	3577.1	1722.9	5220.7	1452.8	1273.3	1227.4
Immatures (no hair setae)								
Branchiura sowerbyi					38.2	19.1	19.1	19.1
Limnodrilus cervix			6.4	11.0	178.3	39.8		
L. claparedeianus					44.6	39.8		
L. claparedeianus-cervix					6.4	11.0		
L. maumeensis					38.2	0.0		
L. profundicola					6.4	11.0		
L. udekemianus					50.9	48.1		
Ophidonais serpentina			31.8	29.2	6.4	11.0	203.7	177.5
Potamothrix moldaviensis			25.5	11.0	12.7	11.0	12.7	22.0
Subtotal	184.7	29.2	3640.8	1737.4	5602.8	1428.3	1508.8	1430.7
ARTHROPODA								
Cladocera								
Leptodora kindtii	2642.2	2158.4	935.9	948.7	63.7	29.2	617.6	229.5
Amphipoda								
Crangonyx sp.								
Gammarus fasciatus	6.4	11.0	6.4	11.0	6.4	11.0	6.4	11.0
Diptera-Chironomidae								
Chironomus sp.	31.8	39.8	89.1	22.0	12.7	11.0	6.4	11.0
Chironomus pupa	6.4	11.0						
Cryptochironomus sp.	19.1	33.1	6.4	11.0	70.0	67.1	25.5	29.2
Cryptochironomus pupa								
Glyptotendipes sp.								
Polypedilum sp.			6.4	11.0	407.5	67.1	63.7	110.3
Procladius sp.	12.7	22.0	50.9	11.0	50.9	11.0	6.4	11.0
Procladius pupa								
Tanytarsus sp.	76.4	57.3	401.1	436.8	38.2	66.2	38.2	38.2
Tanytarsus pupa			31.8	39.8				
Xenochironomus sp.								
Ephemeroptera								
Caenis sp.								
Trichoptera								
Cheumatopsyche sp.								
Subtotal	2795.0	2255.3	1528.0	813.0	649.4	95.5	764.2	291.8
MOLLUSCA								
Pelecypoda								
Immatures								
Subtotal								
TOTAL	2992.4	2376.7	5175.2	3266.4	6252.2	1043.2	2272.0	1741.9

* Data presented as no. of organisms/m^2 and computed from 3 grabs with a Ponar dredge (A = 0.052m^2) at each of 18 sampling stations at Locust Point.

S.D. = Standard Deviation

TABLE 36

ANALYSIS OF BENTHIC MACROINVERTEBRATE POPULATIONS
AT LOCUST POINT*
3 September 1976

TAXA	Station 13		Station 14		Station 15		Station 16	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
COELENTERATA								
Hydra sp. (budding polyp)					6.4	11.0		
Hydra sp. (single polyp)								
Subtotal					6.4	11.0		
ANNELIDA								
Hirudinea								
Dina sp.								
Helobdella stagnalis								
Placobdella montifora								
Oligochaeta								
Immatures (hair setae)			254.7	110.3				
Immatures (no hair setae)	757.6	1064.5	1935.5	376.9	2572.1	2555.2	292.9	210.4
Branchiura sowerbyi			6.4	11.0	6.4	11.0	6.4	11.0
Limnodrilus cervix					12.7	22.1	31.8	29.2
L. claparedeianus					6.4	11.0		
L. claparedeianus-cervix							6.4	11.0
L. maumeensis					63.7	94.2		
L. profundicola								
L. udekemianus					6.4	11.0		
Ophidonais serpentina	152.8	98.2	592.1	450.4	25.5	29.2	1521.6	896.6
Potamothrix moldaviensis	6.4	11.0			25.5	44.1	31.8	29.2
Subtotal	916.8	1015.5	2788.7	575.2	2718.7	2812.2	1890.9	929.1
ARTHROPODA								
Cladocera								
Leptodora kindtii	2629.4	1020.1	1502.5	1182.7	350.2	55.1	286.5	397.4
Amphipoda								
Crangonyx sp.								
Gammarus fasciatus	25.5	11.0	19.1	33.1				
Diptera-Chironomidae								
Chironomus sp.	12.7	22.0	12.7	22.0	12.7	11.0	19.1	33.1
Chironomus pupa								
Cryptochironomus sp.	12.7	11.0	6.4	11.0	44.6	61.4	146.4	79.5
Cryptochironomus pupa	6.4	11.0						
Glyptotendipes sp.								
Polypedilum sp.			6.4	11.0	19.1	33.1	19.1	33.1
Procladius sp.	38.2	66.2	44.6	22.0	216.5	260.7		
Procladius pupa					6.4	11.0		
Tanytarsus sp.	140.1	72.3	95.5	19.1	57.3	66.2	6.4	11.0
Tanytarsus pupa	6.4	11.0						
Xenochironomus sp.								
Ephemeroptera								
Caenis sp.	6.4	11.0						
Trichoptera								
Cheumatopsyche sp.								
Subtotal	2877.8	969.7	1687.2	1197.3	708.8	317.9	477.5	436.8
MOLLUSCA								
Pelecypoda								
Immatures								
Subtotal								
TOTAL	3794.6	1784.0	4475.9	1679.5	3431.9	3051.2	2368.4	1369.8

* Data presented as no. of organisms/m^2 and computed from 3 grabs with a Ponar dredge (A = 0.052m^2) at each of 18 sampling stations at Locust Point.

S.D. = Standard Deviation

TABLE 35

ANALYSIS OF BENTHIC MACROINVERTEBRATE POPULATIONS AT LOCUST POINT*
3 September 1975

TAXA	Station 17		Station 18		Station 26		Station 27	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
COELENTERATA								
Hydra sp. (budding polyp)								
Hydra sp. (single polyp)								
Subtotal								
ANNELIDA								
Hirudinea								
Dina sp.								
Helobdella stagnalis								
Placobdella montifora								
Oligochaeta								
Immatures (hair setae)					6.4	11.0		
Immatures (no hair setae)	1139.6	339.7	4227.5	2193.8	1897.3	1385.3	3618.3	4073.7
Branchiura sowerbyi					6.4	11.0	50.9	29.2
Limnodrilus cervix	19.1	33.1	70.0	44.1	19.1	33.1	12.7	11.0
L. claparedeianus			12.7	11.0				
L. claparedeianus-cervix								
L. maumeensis					6.4	11.0		
L. profundicola			6.4	11.0				
L. udekemianus			50.9	11.0			19.1	19.1
Ophidonais serpentina	916.8	220.3	783.1	413.2	50.9	88.2		
Potamothrix moldaviensis	25.5	22.0	38.2	33.1	12.7	11.0		
Subtotal	2181.0	382.9	5136.8	2513.4	1999.2	1432.7	3699.0	4126.7
ARTHROPODA								
Cladocera								
Leptodora kindtii	528.4	177.5	89.1	108.6	382.9	248.3	382.0	491.1
Amphipoda								
Crangonyx sp.								
Gammarus fasciatus			12.7	11.0				
Diptera-Chironomidae								
Chironomus sp.					19.1	19.1	108.2	155.6
Chironomus pupa								
Cryptochironomus sp.	108.2	44.1	69.1	29.2	38.2	33.1	6.4	11.0
Cryptochironomus pupa								
Glyptotendipes sp.								
Polypedilum sp.	76.4	19.1	267.4	281.4				
Procladius sp.			19.1	33.1	70.0	90.3	261.0	249.3
Procladius pupa					6.4	11.0	6.4	11.0
Tanytarsus sp.					44.6	61.4		
Tanytarsus pupa					6.4	11.0		
Xenochironomus sp.			101.9	44.1				
Ephemeroptera								
Caenis sp.								
Trichoptera								
Cheumatopsyche sp.								
Subtotal	713.0	200.6	579.3	329.3	547.6	235.7	764.0	830.6
MOLLUSCA								
Pelecypoda								
Immatures								
Subtotal								
TOTAL	2814.0	491.2	5768.1	2840.3	2546.8	1606.5	4463.0	4944.3

* Data presented as no. of organisms/m^2 and computed from 3 grabs with a Ponar dredge (A = 0.052m^2) at each of 18 sampling stations at Locust Point.

S.D. = Standard Deviation

TABLE 36

ANALYSIS OF BENTHIC MACROINVERTEBRATE POPULATIONS AT LOCUST POINT *

3 September 1976

TAXA	Station 28		Station 29		Mean/ Station	S.D.
	Mean	S.D.	Mean	S.D.		
COELENTERATA						
Hydra sp. (budding polyp)					1.1	3.3
Hydra sp. (single polyp)					0.7	2.1
Subtotal					1.8	3.7
ANNELIDA						
Hirudinea						
Dina sp.					0.4	1.5
Helobdella stagnalis					0.4	1.5
Placobdella montifora					0.4	1.5
Oligochaeta						
Immatures (hair setae)					14.5	60.0
Immatures (no hair setae)	6270.9	2026.9	1381.6	48.1	2308.9	1786.7
Branchiura sowerbyi	114.6	19.1	12.7	11.0	23.0	37.2
Limnodrilus cervix	31.8	29.2	63.7	44.1	29.0	42.9
L. claparedeianus			12.7	11.0	5.0	10.8
L. claparedeianus-cervix					0.7	2.1
L. maumeensis	6.4	11.0	38.2	19.1	9.9	18.2
L. profundicola					0.7	2.1
L. udekemianus	25.5	29.2	82.8	29.2	13.4	24.1
Conidonais serpentina	127.3	188.4	25.5	29.2	293.9	410.5
Potamothrix moldaviensis	6.4	11.0	19.1	0.0	15.9	13.7
Subtotal	6582.9	2211.9	1636.3	29.2	2715.3	1799.9
ARTHROPODA						
Cladocera						
Leptodora kindtii	662.1	154.4	140.1	67.1	731.4	786.3
Amphipoda						
Crangonyx sp.					1.1	3.3
Gammarus fasciatus	6.4	11.0	6.4	11.0	11.7	14.5
Diptera-Chironomidae						
Chironomus sp.	114.3	57.3	70.0	72.3	37.1	36.8
Chironomus pupa					2.1	4.4
Cryptochironomus sp.	50.9	48.1	31.8	22.0	46.3	43.1
Cryptochironomus pupa					0.4	1.5
Glyptotendipes sp.					7.4	18.8
Polypedilum sp.	31.8	29.2	44.6	22.0	56.2	107.7
Procladius sp.	203.7	171.2	31.8	39.8	57.7	81.3
Procladius pupa	6.4	11.0	6.4	11.0	2.1	3.1
Tanytarsus sp.	127.3	188.4			71.5	98.1
Tanytarsus pupa	6.4	11.0			12.8	12.7
Xenochironomus sp.					5.7	24.0
Ephemeroptera						
Caenis sp.					1.1	0.9
Trichoptera						
Cheumatopsyche sp.					0.4	1.5
Subtotal	1209.6	245.6	331.1	29.2	1034.9	763.0
MOLLUSCA						
Pelecypoda						
Immatures					0.4	1.5
Subtotal					0.4	1.5
TOTAL	7792.5	2357.1	1967.4	19.1	3752.5	1765.9

* Data presented as no. of organisms/m^2 and computed from 3 grabs with a Ponar dredge (A = 0.052m^2), at each of 18 sampling stations at Locust Point.

S.D. = Standard Deviation

TABLE 37

ANALYSIS OF BENTHIC MACROINVERTEBRATE POPULATIONS AT LOCUST POINT*
5 October 1976

TAXA	Station 1		Station 3		Station 6		Station 7	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
COELENTERATA								
Hydra sp. (single polyp)	19.1	19.1			70.0	89.2	44.6	77.2
Hydra sp (budding polyp)	6.4	11.0	19.1	19.1	19.1	19.1	19.1	19.1
Subtotal	25.5	22.1	19.1	19.1	89.1	105.2	63.7	94.2
ANNELIDA								
Hirudinea								
Helobdella elongata								
Placobdella montifora							6.4	11.0
Oligochaeta								
Immature (hair setae)			12.7	22.0				
Immature (no hair setae)	178.3	143.4	1636.2	1429.6	171.9	163.2	3794.5	3678.1
Branchiura sowerbyi			38.2	33.1	6.4	11.0	95.5	68.9
Limnodrilus cervix							12.7	22.0
L. claparedeianus							6.4	11.0
L. claparedeianus-cervix								
L. maumeensis							19.1	33.1
L. udekemianaus								
L. profundicola								
Ophidonais serpentina	133.7	119.3	171.9	156.3	12.7	11.0	121.0	162.4
Potamothrix moldaviensis								
Subtotal	312.0	241.8	1859.0	1468.6	191.0	152.8	4042.8	3723.7
ARTHROPODA								
Cladocera								
Leptodora kindtii	12.7	22.0	31.8	39.8	12.7	11.0	57.3	50.5
Amphipoda								
Gammarus fasciatus					57.3	83.3	70.0	77.2
Isopoda								
Asellus militares								
Diptera (Chironomidae)								
Chironomus sp.	6.4	11.0	28.7	13.5			121.0	111.9
Cryptochironomus sp.			31.8	55.1			95.5	76.4
Glyptotendipes sp.	127.3	138.2					50.9	11.0
Polypedilum sp.	6.4	11.0						
Procladius sp.			6.4	11.0			23.5	44.1
Procladius pupae								
Tanytarsus sp.	57.3	0.0	38.2	19.1	12.7	11.0	6.4	11.0
Tanytarsus pupae			6.4	11.0	12.7	11.0		
Ephemeroptera								
Caenis sp.							6.4	11.0
Trichoptera								
Cheumatopsyche sp.							6.4	11.0
Subtotal	210.1	151.6	127.3	79.5	95.4	83.3	439.3	239.3
MOLLUSCA								
Pelecypoda								
Ligumia sp.								
Proptera sp.								
Immatures							6.4	11.0
Subtotal							6.4	11.0
TOTAL	547.5	202.4	2005.5	1488.8	375.5	231.0	4584.9	3933.1

* Data presented as no. of organisms/m^2 and computed from 3 grabs with a Ponar dredge (A = 0.052m^2) at each of 18 sampling stations at Locust Point.

S.D. = Standard Deviation

TABLE 37

ANALYSIS OF BENTHIC MACROINVERTEBRATE POPULATIONS AT LOCUST POINT*
5 October 1976

TAXA	Station 8		Station 9		Station 11		Station 12	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
COELENTERATA								
Hydra sp. (single polyp)	210.1	87.5	235.6	249.3	19.1	33.1	19.1	19.1
Hydra sp (budding polyp)	19.1	19.1	31.8	29.2	38.2	66.2	6.4	11.0
Subtotal	229.2	106.3	267.4	267.4	57.3	99.3	25.5	29.2
ANNELIDA								
Hirudinea								
Helobdella elongata	12.7	22.0	6.4	11.0				
Placobdella montifora								
Oligochaeta								
Immature (hair setae)								
Immature (no hair setae)	1165.1	1708.2	1222.4	710.4	579.4	611.9	1438.9	689.8
Branchiura sowerbyi								
Limnodrilus cervix								
L. claparedianus								
L. claparedianus-cervix								
L. maumeensis			6.4	11.0				
L. udekemianus								
L. profundicola								
Ophidonais serpentina	458.4	744.4	2[illegible]3.3	207.4	38.2	38.2	840.4	830.3
Potamothrix moldaviensis	6.4	11.0						
Subtotal	1642.6	2484.8	1483.5	899.2	617.6	648.9	2279.3	372.5
ARTHROPODA								
Cladocera								
Leptodora kindtii	623.9	458.5	127.3	111.9	31.8	11.0	25.5	44.1
Amphipoda								
Gammarus fasciatus	31.8	29.2			25.5	11.0		
Isopoda								
Asellus militares	6.4	11.0						
Diptera (Chironomidae)								
Chironomus sp.	31.8	55.1	44.6	11.0	19.1	19.1	50.9	58.4
Cryptochironomus sp.	12.7	22.0	19.1	33.1	6.4	11.0	57.3	50.3
Glyptotendipes sp.								
Polypedilum sp.								
Procladius sp.							50.9	48.1
Procladius pupae								
Tanytarsus sp.	25.5	44.1	50.9	48.1	25.5	22.1	44.6	11.0
Tanytarsus pupae							12.7	22.0
Ephemeroptera								
Caenis sp.								
Trichoptera								
Cheumatopsyche sp.								
Subtotal	732.1	488.6	241.9	192.3	108.3	39.8	241.9	221.4
MOLLUSCA								
Pelecypoda								
Ligumia sp.								
Proptera sp.								
Immatures								
Subtotal								
TOTAL	2603.9	2862.5	1992.8	1170.3	783.2	784.5	2546.7	403.5

* Data presented as no. of organisms/m^2 and computed from 3 grabs with a Ponar dredge (A = 0.052m^2) at each of 18 sampling stations at Locust Point.

S.D. = Standard Deviation

TABLE 37

ANALYSIS OF BENTHIC MACROINVERTEBRATE POPULATIONS AT LOCUST POINT*
5 October 1976

TAXA	Station 13		Station 14		Station 15		Station 16	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
COELENTERATA								
Hydra sp. (single polyp)	76.4	19.1	50.9	44.1	19.1	19.1		
Hydra sp (budding polyp)			6.4	11.0	6.4	11.0		
Subtotal	76.4	19.1	57.3	50.5	25.5	29.2		
ANNELIDA								
Hirudinea								
Helobdella elongata								
Placobdella montifera								
Oligochaeta								
Immature (hair setae)								
Immature (no hair setae)	4221.1	1871.8	1712.6	1939.3	2597.6	2162.2	286.5	33.1
Branchiura sowerbyi	6.4	11.0	12.7	11.0				
Limnodrilus cervix	12.7	22.0			19.1	19.1		
L. claparedianus	6.4	11.0			25.5	44.0		
L. claparedianus-cervix					6.4	11.0		
L. maumeensis	12.7	22.0	6.4	11.0	57.3	99.2		
L. udekemianus	19.1	33.1			19.1	33.1		
L. profundicola					6.4	11.0		
Ophidonais serpentina	281.1	210.4	50.9	48.1	109.2	90.3	44.6	11.0
Potamothrix moldaviensis	12.7	11.0			25.5	44.1		
Subtotal	4552.2	2064.7	1782.6	2002.5	2865.1	2221.8	331.1	39.8
ARTHROPODA								
Cladocera								
Leptodora kindtii	95.5	133.7	57.3	99.2	31.8	29.2		
Amphipoda								
Gammarus fasciatus	6.4	11.0			12.7	22.0		
Isopoda								
Asellus militares								
Diptera (Chironomidae)								
Chironomus sp.	89.1	67.1	38.2	19.1	38.2	19.1		
Cryptochironomus sp.	57.3	66.2	19.1	19.1	38.2	19.1	31.8	22.0
Glyptotendipes sp.					25.5	29.2		
Polypedilum sp.	25.5	44.1	12.7	22.0	63.7	110.3		
Procladius sp.	76.4	113.2	25.5	44.1	299.2	485.6	12.7	22.0
Procladius pupae								
Tanytarsus sp.	108.2	138.2	197.4	231.0	50.9	55.1		
Tanytarsus pupae								
Ephemeroptera								
Caenis sp.	12.7	11.0			6.4	11.0		
Trichoptera								
Cheumatopsyche sp.								
Subtotal	471.1	248.5	350.2	270.3	566.6	488.6	44.5	22.1
MOLLUSCA								
Pelecypoda								
Ligumia sp.								
Proptera sp.								
Immatures								
Subtotal								
TOTAL	5099.7	2299.3	2190.1	2241.8	3457.1	2491.7	375.6	61.4

* Data presented as no. of organisms/m^2 and computed from 3 grabs with a Ponar dredge (A = 0.052m^2) at each of 18 sampling stations at Locust Point.

S.D. = Standard Deviation

TABLE 37

ANALYSIS OF BENTHIC MACROINVERTEBRATE POPULATIONS AT LOCUST POINT*
5 October 1976

TAXA	Station 17		Station 18		Station 26		Station 27	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
COELENTERATA								
Hydra sp. (single polyp)	12.7	11.0	6.4	11.0	184.6	140.8	38.2	33.1
Hydra sp (budding polyp)	6.4	11.0	6.4	11.0	31.8	11.0	19.1	33.1
Subtotal	19.1	0.0	12.8	22.0	216.4	144.8	57.3	57.3
ANNELIDA								
Hirudinea								
Helobdella elongata								
Placobdella montifora					6.4	11.0		
Oligochaeta								
Immature (hair setae)								
Immature (no hair setae)	286.5	220.3	3005.1	866.1	2075.5	1034.3	3809.1	1187.3
Branchiura sowerbyi							38.2	0.0
Limnodrilus cervix			12.7	22.0	6.4	11.0	19.1	0.0
L. claparedeianus			25.5	29.2			6.4	11.0
L. claparedeianus-cervix							6.4	11.0
L. maumeensis			19.1	19.1	6.4	11.0	6.4	11.0
L. udekemianus			12.7	22.0	6.4	11.0		
L. profundicola							6.4	11.0
Ophidonais serpentina	19.1	19.1	76.4	50.5	159.2	61.4	50.9	72.3
Potamothrix moldaviensis	12.7	11.0	19.1	33.1	19.1	19.1		
Subtotal	318.3	238.8	3170.5	877.1	2279.4	1129.5	4042.9	1139.8
ARTHROPODA								
Cladocera								
Leptodora kindtii			31.8	55.1	31.8	39.8	114.6	50.5
Amphipoda								
Gammarus fasciatus					19.1	19.1		
Isopoda								
Asellus militares								
Diptera (Chironomidae)								
Chironomus sp.			12.7	11.0	50.9	22.1	222.8	191.3
Cryptochironomus sp.	12.7	22.0	25.5	11.0	50.9	22.1	19.1	19.1
Glyptotendipes sp.				12.7	22.0			
Polypedilum sp.	6.4	11.0	216.5	58.4	152.8	115.2	31.8	22.1
Procladius sp.	6.4	11.0	6.4	11.0	12.7	11.0	216.5	145.9
Procladius pupae							6.4	11.0
Tanytarsus sp.			44.6	29.2	1038.7	1028.4	44.6	22.1
Tanytarsus pupae					12.7	22.0		
Ephemeroptera								
Caenis sp.							12.7	22.0
Trichoptera								
Cheumatopsyche sp.								
Subtotal	25.5	29.2	337.5	94.2	1432.5	1124.9	668.5	344.3
MOLLUSCA								
Pelecypoda								
Ligumia sp.			6.4	11.0				
Proptera sp.			6.4	11.0				
Immatures								
Subtotal			12.8	22.0				
TOTAL	362.9	267.4	3533.5	880.3	3028.2	1488.4	4768.7	1398.4

* Data presented as no. of organisms/m^2 and computed from 3 grabs with a Ponar dredge (A = 0.052m^2) at each of 18 sampling stations at Locust Point.

S.D. = Standard Deviation

TABLE 37

ANALYSIS OF BENTHIC MACROINVERTEBRATE POPULATIONS
AT LOCUST POINT *
5 October 1976

TAXA	Station 28		Station 29		Mean/ Station	S.D.
	Mean	S.D.	Mean	S.D.		
COELENTERATA						
Hydra sp. (single polyp)	31.8	55.1	6.4	11.0	58.0	73.6
Hydra sp (budding polyp)	12.7	11.0			13.8	11.6
Subtotal	44.5	61.4	6.4	11.0	71.8	80.7
ANNELIDA						
Hirudinea						
Helobdella elongata					1.1	3.3
Placobdella montifora					0.7	2.1
Oligochaeta						
Immature (hair setae)					0.7	3.0
Immature (no hair setae)	4017.4	1322.8	3756.3	2217.9	2002.0	1470.7
Branchiura sowerbyi	63.7	110.3			14.5	27.2
Limnodrilus cervix	12.7	22.0	12.7	22.0	6.0	7.4
L. claparedeianus					4.6	10.4
L. claparedeianus-cervix					0.7	2.1
L. maumeensis	19.1	33.1			8.5	14.2
L. udekemianus					3.2	6.6
L. profundicola					0.7	2.1
Ophidonais serpentina	159.2	140.8	241.9	115.1	177.6	199.5
Potamothrix moldaviensis			12.7	22.0	6.0	8.6
Subtotal	4272.1	1290.4	4023.6	2309.0	2225.9	1525.9
ARTHROPODA						
Cladocera						
Leptodora kindtii	50.9	72.3	50.9	29.2	77.1	141.1
Amphipoda						
Gammarus fasciatus					12.4	21.2
Isopoda						
Asellus militares					0.4	1.5
Diptera (Chironomidae)						
Chironomus sp.	76.4	19.1	38.2	19.1	48.3	54.3
Cryptochironomus sp.	76.4	50.5	31.8	55.1	32.5	26.2
Glyptotendipes sp.					12.0	31.6
Polypedilum sp.	6.4	11.0	25.5	22.1	30.4	59.5
Procladius sp.	44.6	61.4	19.1	33.1	44.6	81.6
Procladius pupae					0.4	1.5
Tanytarsus sp.	19.1	0.0	19.1	19.1	101.9	250.6
Tanytarsus pupae					2.5	4.9
Ephemeroptera						
Caenis sp.					2.1	4.4
Trichoptera						
Chaumatopsyche sp.						
Subtotal	273.8	193.2	184.6	98.0	364.0	337.2
MOLLUSCA						
Pelecypoda						
Ligumia sp.					0.4	1.5
Proptera sp.					0.4	1.5
Immatures					0.4	1.5
Subtotal					1.1	3.3
TOTAL	4590.4	1467.8	4214.6	2362.6	2663.4	1680.1

* Data presented as no. of organisms/m^2 and computed from 3 grabs with a Ponar dredge (A = 0.052m^2) at each of 18 sampling stations at Locust Point.

S.D. = Standard Deviation

TABLE 38

ANALYSIS OF BENTHIC MACROINVERTEBRATE POPULATIONS
AT LOCUST POINT*
1 November 1976

TAXA **	Station 1		Station 3		Station 6		Station 7	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
COELENTERATA								
Hydra sp. (budding polyp)					12.7	22.1		
Hydra sp. (single polyp)			6.4	11.0	19.1	19.1	6.4	11.0
Subtotal			6.4	11.0	31.8	39.8	6.4	11.0
ANNELIDA								
Hirudinea								
Dina sp.								
Helobdella stagnalis								
Placobdella montifora								
Oligochaeta								
Immatures (hair setae)								
Immatures (no hair setae)	120.9	22.1	1305.2	784.3	725.4	460.9	165.5	108.6
Branchiura sowerbyi			44.6	61.4	76.4	19.1		
Limnodrilus cervix			6.4	11.0				
L. claparedianus								
L. claparedianus-cervix								
L. maumeensis								
L. profundicola								
L. udekemianus								
Ophidonais serpentina	783.1	882.9	76.4	83.3	19.1	33.1	203.7	105.2
Potamothrix moldaviensis								
Subtotal	904.0	879.9	1432.6	775.1	1820.9	506.2	369.2	90.3
ARTHROPODA								
Cladocera								
Leptodora kindtii							12.7	22.1
Amphipoda								
Crangonyx sp.								
Gammarus fasciatus	25.5	44.1	6.4	11.0	6.4	11.0	38.2	38.2
Diptera-Chironomidae								
Chironomus sp.	19.1	19.1			12.7	11.0		
Chironomus pupa								
Cryptochironomus sp.			50.9	11.0	57.3	50.5	12.7	22.1
Cryptochironomus pupa								
Glyptotendipes sp.	171.9	193.8	19.1	33.1	19.1	33.1	50.9	50.9
Polypedilum sp.			25.5	29.2			6.4	11.0
Procladius sp.			12.7	22.1				
Procladius pupa								
Tanytarsus sp.	50.9	39.8	19.1	19.1	12.7	11.0	12.7	11.0
Tanytarsus pupa								
Xenochironomus sp.								
Ephemeroptera								
Caenis sp.	12.7	22.1						
Trichoptera								
Chaumatopsyche sp.								
Subtotal	280.1	219.7	133.7	19.1	108.2	22.1	133.6	116.2
MOLLUSCA								
Pelecypoda								
Immatures								
Lampsilis sp.								
Subtotal								
TOTAL	1184.1	1028.7	1572.7	804.1	1960.9	502.6	509.2	44.1

* Data presented as no. of organisms/m^2 and computed from 3 grabs with a Ponar dredge (A = 0.052m^2) at each of 18 sampling stations at Locust Point.

** Not all taxa were collected in November.

S.D. = Standard Deviation

TABLE 38

ANALYSIS OF BENTHIC MACROINVERTEBRATE POPULATIONS AT LOCUST POINT*
1 November 1976

TAXA **	Station 8		Station 9		Station 11		Station 12	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
COELENTERATA								
Hydra sp. (budding polyp)					6.4	11.0	12.7	11.0
Hydra sp. (single polyp)								
Subtotal					6.4	11.0	12.7	11.0
ANNELIDA								
Hirudinea								
Dina sp.								
Helobdella stagnalis								
Placobdella montifora								
Oligochaeta								
Immatures (hair setae)								
Immatures (no hair setae)	95.5	133.7	171.9	182.2	216.5	148.4	216.5	185.5
Branchiura sowerbyi								
Limnodrilus cervix								
L. claparedeianus								
L. claparedeianus-cervix								
L. maumeensis								
L. profundicola								
L. udekemianus								
Ophidonais serpentina	25.5	44.1	6.4	11.0	445.7	263.5	598.5	219.7
Potamothrix moldaviensis								
Subtotal	121.0	177.8	178.3	177.5	662.2	411.9	815.0	403.5
ARTHROPODA								
Cladocera								
Leptodora kindtii	38.2	33.1	38.2	38.2				
Amphipoda								
Crangonyx sp.								
Gammarus fasciatus	6.4	11.0			76.4	50.5	63.6	61.4
Diptera-Chironomidae								
Chironomus sp.			19.1	33.1	25.5	22.1	6.4	11.0
Chironomus pupa								
Cryptochironomus sp.			6.4	11.0				
Cryptochironomus pupa								
Glyptotendipes sp.					165.5	116.7	210.1	234.7
Polypedilum sp.					19.1	0.0	19.1	0.0
Procladius sp.							6.4	11.0
Procladius pupa								
Tanytarsus sp.	6.4	11.0			12.7	11.0	6.4	11.0
Tanytarsus pupa								
Xenochironomus sp.							6.4	11.0
Ephemaroptera								
Caenis sp.					12.7	11.0	19.1	33.8
Trichoptera								
Cheumatopsyche sp.								
Subtotal	50.9	11.0	63.7	58.4	311.9	90.3	337.2	328.5
MOLLUSCA								
Pelecypoda								
Immatures								
Lampsilis sp.								
Subtotal								
TOTAL	171.9	166.5	241.9	227.9	980.5	350.2	1165.1	719.0

* Data presented as no. of organisms/m^2 and computed from 3 grabs with a Ponar dredge (A = 0.052m^2) at each of 18 sampling stations at Locust Point.

** Not all taxa were collected in November.

S.D. = Standard Deviation

TABLE 38

ANALYSIS OF BENTHIC MACROINVERTEBRATE POPULATIONS AT LOCUST POINT*
1 November 1976

TAXA **	Station 13		Station 14		Station 15		Station 16	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
COELENTERATA								
Hydra sp. (budding polyp)	6.4	11.0						
Hydra sp. (single polyp)	6.4	11.0	12.7	22.1	6.4	11.0		
Subtotal	12.8	11.0	12.7	22.1	6.4	11.0		
ANNELIDA								
Hirudinea								
Dina sp.								
Helobdella stagnalis								
Placobdella montifora			6.4	11.0				
Oligochaeta								
Immatures (hair setae)								
Immatures (no hair setae)	114.6	87.5	4291.1	1252.5	254.6	342.4	191.0	133.7
Branchiura sowerbyi			165.5	134.2				
Limnodrilus cervix			12.7	22.1				
L. claparedeianus								
L. claparedeianus-cervix								
L. maumeensis			6.4	11.0				
L. profundicola								
L. udekemianus								
Ophidonais serpentina	108.2	96.1	70.0	58.4	152.8	166.5	6.4	11.0
Potamothrix moldaviensis								
Subtotal	222.8	115.1	4552.1	1239.6	407.4	268.3	197.4	140.8
ARTHROPODA								
Cladocera								
Leptodora kindtii	6.4	11.0	6.4	11.0				
Amphipoda								
Crangonyx sp.								
Gammarus fasciatus	63.6	55.1			31.8	55.1		
Diptera-Chironomidae								
Chironomus sp.	12.7	22.1	241.9	271.7	38.2	66.2		
Chironomus pupa								
Cryptochironomus sp.			108.2	61.4	6.4	11.0	44.6	22.1
Cryptochironomus pupa								
Glyptotendipes sp.	25.5	22.1			25.5	44.1		
Polypedilum sp.			44.6	11.0	38.2	66.2		
Procladius sp.			101.9	94.2	101.9	176.4		
Procladius pupa								
Tanytarsus sp.	19.1	19.1	70.4	83.3				
Tanytarsus pupa								
Xenochironomus sp.								
Ephemeroptera								
Caenis sp.	12.7	22.1	12.7	11.0	12.7	22.1	6.4	11.0
Trichoptera								
Chaumatopsyche sp.	6.4	11.0						
Subtotal	146.4	86.1	592.1	243.9	254.7	260.7	51.0	29.2
MOLLUSCA								
Pelecypoda								
Immatures								
Lampsilis sp.								
Subtotal								
TOTAL	382.0	169.8	5156.0	1155.6	668.5	519.9	248.4	169.8

* Data presented as no. of organisms/m^2 and computed from 3 grabs with a Ponar dredge (A = 0.052m^2) at each of 18 sampling stations at Locust Point.

** Not all taxa were collected in November.

S.D. = Standard Deviation

TABLE 38

ANALYSIS OF BENTHIC MACROINVERTEBRATE POPULATIONS AT LOCUST POINT*
1 November 1976

TAXA **	Station 17		Station 18		Station 26		Station 27	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
COELENTERATA								
Hydra sp. (budding polyp)					6.4	11.0		
Hydra sp. (single polyp)								
Subtotal					6.4	11.0		
ANNELIDA								
Hirudinea								
Dina sp.								
Helobdella stagnalis							6.4	11.0
Placobdella montifera					6.4	11.0		
Oligochaeta								
Immatures (hair setae)								
Immatures (no hair setae)	382.0	206.6	4399.4	1817.2	2578.5	2545.9	3749.3	3054.6
Branchiura sowerbyi							19.1	19.1
Limnodrilus cervix			44.6	11.0			19.1	33.1
L. claparedeianus								
L. claparedeianus-cervix								
L. maumeensis			19.1	19.1			6.4	11.0
L. profundicola								
L. udekemianus								
Ophidonais serpentina					171.9	151.6	38.2	38.2
Potamothrix moldaviensis								
Subtotal	382.0	206.6	4463.0	1802.9	2756.9	2686.5	3839.1	3129.5
ARTHROPODA								
Cladocera								
Leptodora kindtii					31.8	29.2	19.1	19.1
Amphipoda								
Crangonyx sp.								
Gammarus fasciatus	6.4	11.0	6.4	11.0	6.4	11.0	12.7	11.0
Diptera-Chironomidae								
Chironomus sp.	6.4	11.0			394.7	502.8	165.5	138.2
Chironomus pupa								
Cryptochironomus sp.	50.9	11.0	44.6	44.1	76.4	132.3	152.8	152.8
Cryptochironomus pupa								
Glyptotendipes sp.			38.2	38.2				
Polypedilum sp.			19.1	33.1			191.0	201.2
Procladius sp.								
Procladius pupa								
Tanytarsus sp.					89.1	77.2	38.2	66.2
Tanytarsus pupa								
Xenochironomus sp.								
Ephemeroptera								
Caenis sp.								
Trichoptera								
Cheumatopsyche sp.							6.4	11.0
Subtotal	63.7	11.0	108.3	61.4	598.4	739.8	385.7	533.5
MOLLUSCA								
Pelecypoda								
Immatures								
Lampsilis sp.					6.4	11.0		
Subtotal								
TOTAL	445.7	199.0	1564.9	1864.4	3389.0	3432.1	4424.8	3571.9

* Data presented as no. of organisms/m^2 and computed from 3 grabs with a Ponar dredge (A = 0.052m^2) at each of 18 sampling stations at Locust Point.

** Not all taxa were collected in November.

S.D. = Standard Deviation

TABLE 38

ANALYSIS OF BENTHIC MACROINVERTEBRATE POPULATIONS
AT LOCUST POINT*
1 November 1976

TAXA **	Station 28		Station 29		Mean/ Station	S.D.
	Mean	S.D.	Mean	S.D.		
COELENTERATA						
Hydra sp. (budding polyp)					2.5	4.4
Hydra sp. (single polyp)					3.2	5.5
Subtotal					5.8	8.1
ANNELIDA						
Hirudinea						
Dina sp.						
Helobdella stagnalis					0.4	1.5
Placobdella montifora					0.7	2.1
Oligochaeta						
Immatures (hair setae)						
Immatures (no hair setae)	6015.8	3145.0	1196.9	821.6	1443.8	1791.4
Branchiura sowerbyi	63.7	58.4			20.9	43.4
Limnodrilus cervix	63.7	11.0			8.1	17.9
L. claparedeianus	12.7	11.0			0.7	3.0
L. claparedeianus-cervix						
L. maumeensis	31.8	22.1			3.5	8.5
L. profundicola						
L. udekemianus						
Ophidonais serpentina	6.4	11.0	165.5	286.7	159.9	224.5
Potamothrix moldaviensis						
Subtotal	6194.1	3181.7	1362.4	1093.9	1704.5	1859.5
ARTHROPODA						
Cladocera						
Leptodora kindtii					8.5	13.8
Amphipoda						
Crangonyx sp.						
Gammarus fasciatus	50.9	29.2			22.3	25.6
Diptera-Chironomidae						
Chironomus sp.	241.9	253.6			65.8	115.2
Chironomus pupa						
Cryptochironomus sp.	241.9	29.2	6.4	11.0	47.8	64.7
Cryptochironomus pupa						
Glyptotendipes sp.	44.6	77.2			42.8	66.9
Polypedilum sp.	267.4	339.5	25.5	29.2	36.4	72.8
Procladius sp.					12.4	32.7
Procladius pupa						
Tanytarsus sp.	184.6	221.4	19.1	19.1	30.4	46.6
Tanytarsus pupa						
Xenochironomus sp.					0.4	1.5
Ephemeroptera						
Caenis sp.					4.9	6.7
Trichoptera						
Cheumatopsyche sp.					0.7	2.1
Subtotal	1031.3	913.8	51.0	29.2	272.3	269.1
MOLLUSCA						
Pelecypoda						
Immatures						
Lampsilis sp.						
Subtotal					0.4	1.5
TOTAL	7225.4	4105.9	1413.4	1106.2	1982.5	2073.0

* Data presented as no. of organisms/m^2 and computed from 3 grabs with a Ponar dredge (A = 0.052m^2) at each of 18 sampling stations at Locust Point.

** Not all taxa were collected in November.

S.D. = Standard Deviation

APPENDIX D

RESULTS OF GILL NETTING, SHORE SEINING, TRAWLING, AND HOOP NETTING AT LOCUST POINT, LAKE ERIE

JULY - NOVEMBER 1976

TABLE 39

GILL NET CATCH PER UNIT EFFORT* AT LOCUST POINT
14-15 JULY 1976

Station	SPECIES	DIRECTION OF TRAVEL: NORTHWEST No.	NORTHWEST Length(mm) Mean	NORTHWEST Length(mm) Range	NORTHWEST Mean Weight(g)	SOUTHEAST No.	SOUTHEAST Length(mm) Mean	SOUTHEAST Length(mm) Range	SOUTHEAST Mean Weight(g)	UNKNOWN No.	UNKNOWN Length(mm) Mean	UNKNOWN Length(mm) Range	UNKNOWN Mean Weight(g)	TOTALS No.	TOTALS Mean Length	TOTALS Weight (g) Mean	TOTALS Weight (g) Total
8	Aplodinotus grunniens	2	245	235-255	140	4	143	130-180	57	3	138	122-160	29	9	164	66	594
	Cyprinus carpio									15	319	242-410	539	15	319	539	8085
	Dorosoma cepedianum	7	201	135-270	166	3	239	237-240	139	1	360	-	490	11	226	188	2068
	Ictalurus punctatus	1	180	-	50					1	310	-	240	2	245	145	290
	Notropis atherinoides	2	105	100-110	13									2	105	13	26
	Notropis hudsonius					5	107	105-115	18	1	120	-	22	6	109	19	114
	Perca flavescens	25	168	110-230	61	52	160	117-210	52	39	165	145-192	58	116	163	56	6496
	TOTAL	37				64				60				161			17673
13	Alosa pseudoharengus					3	180	156-193	49	12	163	140-187	36	15	166	39	585
	Aplodinotus grunniens	8	138	130-147	53	6	142	130-160	26	10	208	130-247	95	24	168	64	1536
	Cyprinus carpio	1	380	-	790					3	247	110-315	297	4	280	420	1680
	Dorosoma cepedianum	9	267	227-347	222	9	238	84-332	138	13	263	160-360	295	31	257	228	7068
	Ictalurus punctatus					1	95	-	6	3	198	160-250	62	4	172	48	192
	Morone chrysops	1	250	-	200	1	260	--	240					2	255	220	440
	Notropis hudsonius	9	115	100-130	15	15	109	100-116	11	5	104	100-105	8	29	110	12	348

*One 24-hr bottom set with a 125-ft. experimental gill net consisting of five 25-ft x 6-ft contiguous panels of 1/2 in, 3/4 in, 1 in, 1-1/2 in, and 2 inch bar mesh.

TABLE 39 CONT.

GILL NET CATCH PER UNIT EFFORT* AT LOCUST POINT
14 -15 JULY 1976

STATION	SPECIES	DIRECTION OF TRAVEL: NORTHWEST No.	NORTHWEST Length(mm) Mean	NORTHWEST Length(mm) Range	NORTHWEST Mean Weight(g)	SOUTHEAST No.	SOUTHEAST Length(mm) Mean	SOUTHEAST Length(mm) Range	SOUTHEAST Mean Weight(g)	UNKNOWN No.	UNKNOWN Length(mm) Mean	UNKNOWN Length(mm) Range	UNKNOWN Mean Weight(g)	TOTALS No.	TOTALS Mean Length	TOTALS Weight (g) Mean	TOTALS Weight (g) Total
13	Perca flavescens	16	159	110-190	46	80	148	101-208	46	29	163	110-195	48	125	153	47	5875
	Stizostedion canadense	1	390	-	555	1	283	-	170					2	336	362	724
	Stizostedion V. vitreum	5	253	220-285	136	7	255	235-280	135	3	193	240-295	142	15	242	137	2055
	TOTAL	50				123				78				251			20503

One 24-hr bottom set with a 125-ft. experimental gill net consisting of five 25-ft x 6-ft contiguous panels of 1/2 in, 3/4 in, 1 in, 1-1/2 in, and 2 inch bar mesh.

TABLE 40

GILL NET CATCH PER UNIT EFFORT* AT LOCUST POINT
11-12 AUGUST 1976

Station	SPECIES	DIRECTION OF TRAVEL: NORTHWEST No.	NORTHWEST Length(mm) Mean	NORTHWEST Length(mm) Range	NORTHWEST Mean Weight(g)	SOUTHEAST No.	SOUTHEAST Length(mm) Mean	SOUTHEAST Length(mm) Range	SOUTHEAST Mean Weight(g)	UNKNOWN No.	UNKNOWN Length(mm) Mean	UNKNOWN Length(mm) Range	UNKNOWN Mean Weight(g)	TOTALS No.	TOTALS Mean Length (mm)	TOTALS Weight (g) Mean	TOTALS Weight (g) Total
6	Aplodinotus grunniens	5	106	132-170	43	4	149	139-172	38	2	156	148-165	41	11	131	41	451
	Cyprinus carpio	2	375	370-385	750	2	371	357-385	676	3	337	317-363	535	7	358	637	4459
	Dorosoma cepedianum	5	118	95-156	53	4	207	132-307	145	7	147	82-297	95	16	153	94	1504
	Notropis hudsonius	9	114	96-122	13	5	109	96-126	13					14	112	13	182
	Perca flavescens	18	161	142-195	57	21	176	142-219	74	2	171	170-172	66	41	169	66	2706
	TOTAL	39				36				14				89			9302
13	Alosa pseudoharengus	19	88	82-96	6	17	90	82-97	8	36	89	79-99	6	72	89	6	432
	Aplodinotus grunniens	2	138	129-14	127					2	152	150-154	35	4	145	81	324
	Cyprinus carpio	8	361	322-431	635	3	350	326-367	547	3	332	251-422	686	14	277	627	8778
	Dorosoma cepedianum	22	174	77-294	105	24	142	76-276	104	28	101	71-287	20	74	136	73	5402
	Morone chrysops					2	86	81-91	3					2	86	3	6
	Notropis hudsonius	33	106	98-118	9	18	109	99-127	11	7	112	99-119	13	58	108	10	580
	Perca flavescens	41	173	136-197	86	56	167	140-204	63	3	167	145-186	57	100	169	64	6400
	Pomoxis annularis	1	98	-	109									1	198	108	108

* One 24-hr bottom set with a 125-ft. experimental gill net consisting of five 25-ft x 6-ft contiguous panels of 1/2 in, 3/4 in, 1 in, 1-1/2 in, and 2 inch bar mesh.

TABLE 40

GILL NET CATCH PER UNIT EFFORT* AT LOCUST POINT
11-12 AUGUST 1976

Station	SPECIES	DIRECTION OF TRAVEL: NORTHWEST No.	NORTHWEST Length(mm) Mean	NORTHWEST Length(mm) Range	NORTHWEST Mean Weight(g)	SOUTHEAST No.	SOUTHEAST Length(mm) Mean	SOUTHEAST Length(mm) Range	SOUTHEAST Mean Weight(g)	UNKNOWN No.	UNKNOWN Length(mm) Mean	UNKNOWN Length(mm) Range	UNKNOWN Mean Weight(g)	TOTALS No.	TOTALS Mean Length (mm)	TOTALS Weight (g) Mean	TOTALS Weight (g) Total
	Stizostedion v. vitreum					2	276	254-298	170					2	276	170	340
	TOTAL	126				122				79				327			22370

* One 24-hr bottom set with a 125-ft. experimental gill net consisting of five 25-ft x 6-ft contiguous panels of 1/2 in, 3/4 in, 1 in, 1-1/2 in, and 2 inch bar mesh.

TABLE 41

GILL NET CATCH PER UNIT EFFORT* AT LOCUST POINT
30 SEPTEMBER - 1 OCTOBER 1976

Station	SPECIES	DIRECTION OF TRAVEL: NORTHWEST No.	NORTHWEST Length(mm) Mean	NORTHWEST Length(mm) Range	NORTHWEST Mean Weight(g)	SOUTHEAST No.	SOUTHEAST Length(mm) Mean	SOUTHEAST Length(mm) Range	SOUTHEAST Mean Weight(g)	UNKNOWN No.	UNKNOWN Length(mm) Mean	UNKNOWN Length(mm) Range	UNKNOWN Mean Weight(g)	TOTALS No.	TOTALS Mean Length	TOTALS Weight (g) Mean	TOTALS Weight (g) Total
8	Alosa pseudoharengus	21	100	91-112	10	33	95	82-112	7	48	103	85-115	11	102	100	10	1020
	Carassius auratus	1	280	-	360									1	280	360	360
	Cyprinus carpio					1	330	-	560					1	330	560	560
	Dorosoma cepedianum	13	125	115-140	22	17	140	120-300	43	18	125	103-140	23	48	130	30	1440
	Notropis hudsonius	10	105	97-115	13	10	110	100-125	13	1	102	-	10	21	107	13	273
	Perca flavescens	33	177	140-211	67	47	181	85-212	72	4	203	189-215	103	84	181	72	6048
	Percina caprodes					1	118	-	19					1	118	-	19
	Stizostedion v. vitreum					2	284	212-355	251					2	284	251	502
	TOTAL	78				111				71				260			10222
13	Alosa pseudoharengus	49	101	88-114	4	59	104	89-123	9	92	103	90-119	10	200	103	8	1600
	Aplodinotus grunniens	1	254	-	182	1	92	-	8					2	173	95	190
	Cyprinus carpio	2	367	343-390	650					1	313	-	397	3	349	566	1698
	Dorosoma cepedianum	23	133	123-162	26	16	134	123-175	26	26	124	99-155	22	65	130	24	1586
	Ictalurus punctatus					1	388	-	593					1	388	593	593
	Morone chrysops					1	140	-	32					1	140	32	32

* One 24-hr bottom set with a 125-ft. experimental gill net consisting of five 25-ft x 6-ft contiguous panels of 1/2 in, 3/4 in, 1 in, 1-1/2 in, and 2 inch bar mesh.

TABLE 41 CONT.

GILL NET CATCH PER UNIT EFFORT* AT LOCUST POINT
30 SEPTEMBER - 1 OCTOBER 1976

Station	SPECIES	DIRECTION OF TRAVEL: NORTHWEST No.	NORTHWEST Length(mm) Mean	NORTHWEST Length(mm) Range	NORTHWEST Mean Weight(g)	SOUTHEAST No.	SOUTHEAST Length(mm) Mean	SOUTHEAST Length(mm) Range	SOUTHEAST Mean Weight(g)	UNKNOWN No.	UNKNOWN Length(mm) Mean	UNKNOWN Length(mm) Range	UNKNOWN Mean Weight(g)	TOTALS No.	TOTALS Mean Length (mm)	TOTALS Weight (g) Mean	TOTALS Weight (g) Total
13	Notropis hudsonius	11	115	105-124	15	13	113	102-124	14	1	110	-	13	25	114	14	360
	Perca flavescens	36	184	151-204	72	24	184	146-211	73	3	199	189-211	93	63	185	73	4623
	Pomoxis nigromaculatus					1	225	-	184					1	225	184	184
	Stizostedion canadense					1	330	-	350					1	330	350	350
	Stizostedion v. vitreum					1	360	-	460					1	360	460	460
	TOTAL	122				118				123				363			11676

* One 24-hr bottom set with a 125-ft. experimental gill net consisting of five 25-ft x 6-ft contiguous panels of 1/2 in, 3/4 in, 1 in, 1-1/2 in, and 2 inch bar mesh.

TABLE 42

GILL NET CATCH PER UNIT EFFORT* AT LOCUST POINT

1-5 NOVEMBER 1976

Station	SPECIES	DIRECTION OF TRAVEL: NORTHWEST No.	NORTHWEST Length(mm) Mean	NORTHWEST Length(mm) Range	NORTHWEST Mean Weight(g)	SOUTHEAST No.	SOUTHEAST Length(mm) Mean	SOUTHEAST Length(mm) Range	SOUTHEAST Mean Weight(g)	UNKNOWN No.	UNKNOWN Length(mm) Mean	UNKNOWN Length(mm) Range	UNKNOWN Mean Weight(g)	TOTALS No.	TOTALS Mean Length (mm)	TOTALS Weight (g) Mean	TOTALS Weight (g) Total
8	Alosa pseudoharengus	34	100	90-111	8	9	99	92-107	8	9	98	95-101	8	52	100	8	416
	Dorosoma cepedianum	6	170	122-371	144									6	170	144	864
	Notropis hudsonius	9	110	103-122	15	2	110	109-110	12	1	105	-	12	12	110	14	168
	Perca flavescens	1	181	-	71									1	181	71	71
	TOTAL	50				11				10				71			1519
13	Alosa pseudoharengus	11	95	85-105	6	5	93	90-100	8					16	94	7	112
	Dorosoma cepedium	24	134	78-375	53	14	17	120-340	127	13	125	86-155	21	51	100	65	3315
	Notropis hudsonius	10	109	100-120	1					2	105	-	7	12	108	12	144
	TOTAL	45				19				15				79			3571

One 24-hr bottom set with a 125-ft. experimental gill net consisting of five 25-ft x 6-ft contiguous panels of 1/2 in, 3/4 in, 1 in, 1-1/2 in, and 2 inch bar mesh.

TABLE 43

SHORE SEINE CATCH PER UNIT EFFORT*
AT LOCUST POINT
7 July 1976

Station	Taxa	No.	Length (mm) Mean	Length (mm) Range	Weight (g) Mean	Weight (g) Total
23	Alosa pseudoharengus	10,709	32	25-42	0.3	3427
	Dorosoma cepedianum	5,028	32	25-41	0.4	1805
	Morone chrysops	13	33	24-45	0.5	6
	Notropis atherinoides	4	82	75-97	4	18
	Subtotal	15,754				5256
24	Alosa pseudoharengus	18,054	35	27-42	0.4	6337
	Dorosoma cepedianum	4,667	33	30-40	0.3	1549
	Morone chrysops	144	32	16-45	0.4	62
	Notropis atherinoides	18	72	56-93	3	61
	N. hudsonius	16	36	34-39	0.3	5
	Perca flavescens	8	37	35-40	1	7
	Percina caprodes	2	32		0.2	0.4
	Subtotal	22,909				8021
25	Alosa pseudoharengus	1,488	30	23-38	0.3	397
	Aplodinotus grunniens	7	106		10	67
	Dorosoma cepedianum (adult)	6	194	184-205	83	500
	D. cepedianum (YOY)	15,043	32	27-36	0.3	4829
	Morone chrysops	1,339	24	20-36	0.3	343
	Notropis atherinoides	34	63	27-94	3	100
	N. hudsonius	7	75		5	34
	N. spilopterus	7	60		3	17
	Subtotal	17,931				6287
TOTAL		56,594				19564

* Two hauls through a 90° arc with a 100-ft. bag seine (1/4 in. bar mesh) at each station.

TABLE 44

SHORE SEINE CATCH PER UNIT EFFORT*
AT LOCUST POINT
10 August 1976

Station	Taxa	No.	Length (mm) Mean	Length (mm) Range	Weight (g) Mean	Weight (g) Total
23	Alosa pseudoharengus	283	47	26-75	1	393
	Dorosoma cepedianum	176	69	32-125	4	699
	Labidesthes sicculus	1	42	42	1	1
	Morone chrysops	234	61	37-100	3	803
	Notropis atherinoides	26	60	9-91	4	80
	N. hudsonius	23	47	40-57	1	27
	Fomoxis annularis	1	57	57	5	5
	Subtotal	744				2008
24	Alosa pseudoharengus	275	55	37-82	2	500
	Aplodinotus grunniens	2	67	56-77	23	47
	Dorosoma cepedianum	90	68	30-113	5	413
	Morone chrysops	89	71	45-104	7	624
	Notropis atherinoides	2	80	75-85	4	8
	N. hudsonius	5	64	51-107	4	22
	Subtotal	463				1614
25	Alosa pseudoharengus	115	56	42-75	2	186
	Dorosoma cepedianum	5	79	57-100	6	28
	Morone chrysops	120	70	50-124	5	545
	Notropis atherinoides	3	83	77-87	3	10
	N hudsonius	18	60	43-105	2	40
	Subtotal	261				809
TOTAL		1468				4431

* Two hauls through a 90° arc with a 100-ft. bag seine (1/4 in. bar mesh) at each station.

TABLE 45

SHORE SEINE CATCH PER UNIT EFFORT *
AT LOCUST POINT
20 September 1976

Station	Taxa	No.	Length (mm)		Weight (g)	
			Mean	Range	Mean	Total
23	Alosa pseudoharengus	1	68	68	5	5
	Dorosoma cepedianum	65	73	48-113	6	413
	Ictalurus punctatus	1	65	65	6	6
	Morone chrysops	5	91	81-103	10	49
	Notropis atherinoides	16	74	50-92	4	68
	N. hudsonius	1	95	95	20	20
	Subtotal	89				561
24	Dorosoma cepedianum	42	75	54-145	6	270
	Morone chrysops	1	101	101	11	11
	Notropis atherinoides	11	71	61-95	3	38
	Subtotal	54				319
25	Dorosoma cepedianum	108	73	55-168	4	443
	Notropis atherinoides	11	78	58-96	5	52
	Subtotal	119				495
TOTAL		262				1375

* Two hauls through a 90° arc with a 100-ft bag seine (1/4 in. bar mesh) at each station.

TABLE 43

SHORE SEINE CATCH PER UNIT EFFORT *
AT LOCUST POINT
15 October 1976

Station	Taxa	No.	Length (mm)		Weight (g)	
			Mean	Range	Mean	Total
23	Dorosoma cepedianum	19	79	46-105	8	150
	Morone chrysops	2	118	111-125	21	42
	Notropis atherinoides	9	88	64-97	7	60
	Subtotal	30				252
24	Cyprinus carpio	1	42		3	3
	Dorosoma cepedianum	121	86	40-125	9	1080
	Morone chrysops	3	85	77-93	10	31
	Notropis atherinoides	29	82	50-102	6	172
	Perca flavescens	1	77		5	5
	Pomoxis annularis	1	57		3	3
	Subtotal	156				1294
25	Carpiodes cyprinus	1	134		35	35
	Dorosoma cepedianum	161	88	52-139	8	1305
	Morone chrysops	3	94	79-103	10	30
	Notropis atherinoides	22	79	55-95	5	116
	N. hudsonius	2	79	76-82	10	20
	Subtotal	189				1506
	TOTAL	375				3052

* Two hauls through a 90° arc with a 100-ft. bag seine (1/4 in. bar mesh) at each station.

TABLE 47

SHORE SEINE CATCH PER UNIT EFFORT *
AT LOCUST POINT
15 November 1976

Station	Taxa	No.	Length (mm)		Weight (g)	
			Mean	Range	Mean	Total
23	Notropis atherinoides	2	50	42-58	1	2
24	Dorosoma cepedianum	2	83	75-90	7	15
	Notropis atherinoides	570	51	50-74	2	100
	Subtotal	572				1017
25	Dorosoma cepedianum	1	75	75	5	5
	Notropis atherinoides	21	58	46-65	2	42
	Subtotal	22				47
TOTAL		596				1064

* Two hauls through a 90° arc with a 100-ft. bag seine (1/4 in. bar mesh) at each station.

TABLE 48

TRAWL CATCH PER UNIT EFFORT* RESULTS
BETWEEN STATIONS 8 AND 13 AT LOCUST POINT
July - November 1976

Date / Taxa	No.	Length (mm) Mean	Length (mm) Range	Weight (g) Mean	Weight (g) Total
16 July 1976					
Aplodinotus grunniens	5	137	130-146	31	155
Ictalurus punctatus	3	138	95-200	23	69
Morone chrysops	2	261	260-262	225	450
Stizostedion v. vitreum	2	242	231-253	145	290
Subtotal	12				964
20 August 1976					
Alosa pseudoharengus	176	74	59-92	4	697
Aplodinotus grunniens	2	165	162-168	49	98
Cyprinus carpio	3	399	369-423	927	2781
Dorosoma cepedianum	221	74	45-120	6	1242
Morone chrysops	42	50	30-103	2	90
Notropis atherinoides	2	32	30-35	1	2
Notropis hudsonius	43	62	53-70	2	102
Pomoxis annularis	2	50	41-60	1	2
Perca flavescens	6	136	72-179	37	222
Subtotal	497				5236
13 September 1976					
Alosa pseudoharengus	150	88	72-110	7	1096
Dorosoma cepedianum	17	108	93-128	15	249
Ictalurus nebulosus	2	375	245-261	244	488
Morone chrysops	86	52	43-66	2	160
Notropis atherinoides	1	83	-	4	4
N. hudsonius	61	93	49-125	7	413
Osmerus mordax	3	45	336-58	1	3
Pomoxis annularis	1	65	-	2	2
Pomoxis nigromaculatus	1	59	-	2	2
Perca flavescens	22	152	128-202	50	1100
Stizostedion v. vitreum	1	182	-	62	62
Subtotal	345				3579

TABLE 48 CON'T.

TRAWL CATCH PER UNIT EFFORT* RESULTS
BETWEEN STATIONS 8 AND 13 AT LOCUST POINT
July - November 1976

Date / Taxa	No.	Length (mm) Mean	Length (mm) Range	Weight (g) Mean	Weight (g) Total
12 October 1976					
Alosa pseudoharengus	5	91	74-110	6	30
Cyprinus carpio	1	425	-	1250	1250
Dorosoma cepedianum	46	114	70-127	19	859
Ictalurus nebulosus	1	227	-	160	160
Morone chrysops	2	107	49-165	37	74
Notropis atherinoides	1	103	-	8	8
N. hudsonius	18	104	72-128	12	216
Perca flavescens	16	162	80-214	57	912
Percopsis omiscomaycus	1	75	-	4	4
Subtotal	91				3513
2 November 1976					
Alosa pseudoharengus	194	92	73-111	7	1450
Dorosoma cepedianum	1	88	-	6	6
Notropis atherinoides	2	48	45-96	4	8
N. hudsonius	1	105	-	12	12
Osmerus mordax	1	80	-	2	2
Subtotal	199				1478

* Four 5-minute tows with a 16-ft. trawl (1/8 in. bag) on each of the dates indicated.

TABLE 49

HOOP NET CATCH PER UNIT EFFORT *
IN NORTHWEST MARSH (STATION 21)
JULY - OCTOBER** (1976)

Date	Taxa	No.	Length (mm)		Weight (g)	
			Mean	Range	Mean	Total
7 July 1976						
	Cyprinus carpio	1	540		1901	1901
9 August 1976						
	No Fish					
20 September 1976						
	Cyprinus carpio	1	571		1674	1674
	Pomoxis nigromaculatus	1	191		96	96
	Subtotal	2				1770
28 October 1976						
	Dorosoma cepedianum	2	318	305-330	311	622
TOTAL		5				4293

* One 24-hr. set with a 2.5 ft. diameter, 1 in. bar mesh hoop net.

** Ice prohibited sampling in November and December.

TABLE 50

HOOP NET CATCH PER UNIT EFFORT *
IN SOUTHEAST MARSH (STATION 22)
JULY - OCTOBER ** (1976)

Date	Taxa	No.	Length (mm) Mean	Length (mm) Range	Weight (g) Mean	Weight (g) Total
7 July 1976						
	Cyprinus carpio	2		277-298	304	608
	Pomoxis annularis	2		225-273	220	440
	Subtotal	4				1048
9 August 1976						
	No Fish					
20 Septmeber 1976						
	Pomoxis annularis	4	231	210-285	161	643
	P. nigromaculatus	5	191	182-199	99	493
	Subtotal	9				1136
28 October 1976						
	Cyprinus carpio	1	225		153	153
TOTAL		14				2337

* One 24-hr. set with a 2.5-ft. diameter, 1 in. bar mesh hoop net.

** Ice prohibited sampling in November and December.

APPENDIX E

ANALYSIS OF ICHTHYOPLANKTON SAMPLES COLLECTED AT LOCUST POINT, LAKE ERIE

JULY - AUGUST 1976

TABLE 51

ICHTHYOPLANKTON CATCH PER UNIT EFFORT* AT LOCUST POINT
8 JULY 1976

Species	Sta. 3 Surface		Sta. 3 Bottom		Sta. 13 Surface		Sta. 13 Bottom	
	Number	Range**	Number	Range**	Number	Range**	Number	Range**
Fish Eggs								
Alosa pseudoharengus								
Aplodinotus grunniens							1	12
Carpiodes cyprinus								
Catostomus commersoni								
Cyprinus carpio								
Dorosoma cepedianum			1	10				
Morone chrysops								
Notropis atherinoides	200	8-11	11	9-10	910	8-15	3	8-9
N. hudsonius								
Osmerus mordax								
Perca flavenscens								
Pomoxis sp.								
Stizostedion v. vitreum								
Unknown								
TOTAL (Larvae only)	200		12		910		4	
Volume filtered (m^3)	125.6		145.1		145.6		153.1	

* One 5-min tow with a 0.75-in diameter heavy duty oceanographic plankton net (no. 00, 0.76 mm mesh).

** Range = total length in mm.

TABLE 51

ICHTHYOPLANKTON CATCH PER UNIT EFFORT* AT LOCUST POINT
8 JULY 1976

Species	Sta. 29 Surface		Sta. 29 Bottom		Sta. 26 Surface		Sta. 26 Bottom	
	Number	Range**	Number	Range**	Number	Range**	Number	Range**
Fish Eggs								
Alosa pseudoharengus								
Aplodinotus grunniens								
Carpiodes cyprinus								
Catostomus commersoni								
Cyprinus carpio								
Dorosoma cepedianum								
Morone chrysops								
Notropis atherinoides	420	8-20	11	8-18	357	7-14	6	8-18
N. hudsonius								
Osmerus mordax								
Perca flavenscens								
Pomoxis sp.								
Stizostedion v. vitreum								
Unknown								
TOTAL (Larvae only)	420		11		357		6	
Volume filtered (m^3)	159.1		136.5		108.6		167.8	

* One 5-min tow with a 0.75-in diameter heavy duty oceanographic plankton net (no. 00, 0.76 mm mesh).

** Range = total length in mm.

TABLE 51

ICHTHYOPLANKTON CATCH PER UNIT EFFORT* AT LOCUST POINT
8 JULY 1976

Species	Sta. 8 Surface		Sta. 8 Bottom		Sta. 28 Surface		Sta. 28 Bottom		Total	
	Number	Range**	Number	Range**	Number	Range**	Number	Range**	Surface	Bottom
Fish Eggs										
Alosa pseudoharengus										
Aplodinotus grunniens			6	5-9						7
Carpiodes cyprinus										
Catostomus commersoni										
Cyprinus carpio										
Dorosoma cepedianum	10	9-9	2	8-14			8	9-19	10	11
Morone chrysops	10	23-23							10	
Notropis atherinoides	610	7-11	2	8-9	470	8-10	1	7	2967	34
N. hudsonius										
Osmerus mordax										
Perca flavescens										
Pomoxis sp.										
Stizostedion v. vitreum										
Unknown										
TOTAL (Larvae only)	630		10		470		9		2987	52
Volume filtered (m^3)	148.7		154.8		166.8		151.5			

*. One 5-min tow with a 0.75-in diameter heavy-duty oceanographic plankton net (no. 00, 0.76 mm mesh).
** Range = total length in mm.

TABLE 51

ICHTHYOPLANKTON CATCH PER UNIT EFFORT* AT LOCUST POINT

23 JULY 1976

Species	Sta. 3 Surface		Sta. 3 Bottom		Sta. 13 Surface		Sta. 13 Bottom	
	Number	Range**	Number	Range**	Number	Range**	Number	Range**
Fish Eggs								
Alosa pseudoharengus								
Aplodinotus grunniens								
Carpiodes cyprinus								
Catostomus commersoni								
Cyprinus carpio								
Dorosoma cepedianum	23	11-21	1	16	13	7-18		
Morone chrysops								
Notropis atherinoides	150	10-17	1	12	18	11-24		
N. hudsonius								
Osmerus mordax								
Perca flavescens								
Pomoxis sp.								
Stizostedion v. vitreum								
Unknown								
TOTAL (Larvae only)	173		2		31		0	
Volume filtered (m^3)	191.4		170.0		168.6		150.1	

* One 5-min tow with a 0.75-in diameter heavy duty oceanographic plankton net (no. 00, 0.76 mm mesh).

** Range = total length in mm.

TABLE 52

ICHTHYOPLANKTON CATCH PER UNIT EFFORT* AT LOCUST POINT
23 JULY 1976

Species	Sta. 29 Surface		Sta. 29 Bottom		Sta. 26 Surface		Sta. 26 Bottom	
	Number	Range**	Number	Range**	Number	Range**	Number	Range**
Fish Eggs								
Alosa pseudoharengus			1	17				
Aplodinotus grunniens								
Carpiodes cyprinus								
Catostomus commersoni								
Cyprinus carpio								
Dorosoma cepedianum	8	14–18			6	12–14		
Morone chrysops								
Notropis atherinoides	9	10–11			173	9–24	120	7–18
N. hudsonius								
Osmerus mordax								
Perca flavescens								
Pomoxis sp.								
Stizostedion v. vitreum								
Unknown								
TOTAL (Larvae only)	17		1		179		120	
Volume filtered (m^3)	140.7		152.6		158.0		161.3	

* One 5-min tow with a 0.75-in diameter heavy duty oceanographic plankton net (no. 00, 0.76 mm mesh).

** Range = total length in mm.

ICHTHYOPLANKTON CATCH PER UNIT EFFORT* AT LOCUST POINT
23 JULY 1976

Species	Sta. 8 Surface		Sta. 8 Bottom		Sta. 28 Surface		Sta. 28 Bottom		Total	
	Number	Range**	Number	Range**	Number	Range**	Number	Range**	Surface	Bottom
Fish Eggs										
Alosa pseudoharengus										1
Aplodinotus grunniens										
Carpiodes cyprinus										
Catostomus commersoni										
Cyprinus carpio										
Dorosoma cepedianum	15	11-21			3	14-19			68	1
Morone chrysops										
Notropis atherinoides	101	11-25			56	10-13			507	121
N. hudsonius										
Osmerus mordax										
Perca flavescens										
Pomoxis sp.										
Stizostedion v. vitreum										
Unknown										
TOTAL (Larvae only)	116		0		59		0		575	123
Volume filtered (m^3)	147.7		142.9		140.2		152.0			

*. One 5-min tow with a 0.75-in diameter heavy-duty oceanographic plankton net (no. 00, 0.76 mm mesh).

** Range = total length in mm.

TABLE 53

ICHTHYOPLANKTON CATCH PER UNIT EFFORT* AT LOCUST POINT
29 JULY 1976

Species	Sta. 3 Surface		Sta. 3 Bottom		Sta. 13 Surface		Sta. 13 Bottom	
	Number	Range**	Number	Range**	Number	Range**	Number	Range**
Fish Eggs								
Alosa pseudoharengus								
Aplodinotus grunniens								
Carpiodes cyprinus								
Catostomus commersoni								
Cyprinus carpio								
Dorosoma cepedianum					3	15-17		
Morone chrysops								
Notropis atherinoides	12	12-22			1	12		
N. hudsonius								
Osmerus mordax								
Perca flavenscens								
Pomoxis sp.								
Stizostedion v. vitreum								
Unknown								
TOTAL (Larvae only)	12		0		4		0	
Volume filtered (m^3)	161.4		146.7		176.2		175.7	

* One 5-min tow with a 0.75-in diameter heavy duty oceanographic plankton net (no. 00, 0.76 mm mesh).

** Range = total length in mm.

TABLE 53

ICHTHYOPLANKTON CATCH PER UNIT EFFORT* AT LOCUST POINT

29 JULY 1976

Species	Sta. 29 Surface		Sta. 29 Bottom		Sta. 26 Surface		Sta. 26 Bottom	
	Number	Range**	Number	Range**	Number	Range**	Number	Range**
Fish Eggs								
Alosa pseudoharengus	1	22						
Aplodinotus grunniens								
Carpiodes cyprinus								
Catostomus commersoni								
Cyprinus carpio								
Dorosoma cepedianum	1	13			1	17		
Morone chrysops								
Notropis atherinoides	1	13			4	11-12		
N. hudsonius								
Osmerus mordax								
Perca flavescens								
Pomoxis sp.								
Stizostedion v. vitreum								
Unknown								
TOTAL (Larvae only)	3		0		5		0	
Volume filtered (m^3)	192.6		149.3		159.1		150.8	

* One 5-min tow with a 0.75-in diameter heavy duty oceanographic plankton net (no. 00, 0.76 mm mesh).

** Range = total length in mm.

TA' E 53

ICHTHYOPLANKTON CATCH PER UNIT EFFORT* AT LOCUST POINT
29 JULY 1976

Species	Sta. 8 Surface		Sta. 8 Bottom		Sta. 28 Surface		Sta. 28 Bottom		Total	
	Number	Range**	Number	Range**	Number	Range**	Number	Range**	Surface	Bottom
Fish Eggs										
Alosa pseudoharengus									1	
Aplodinotus grunniens										
Carpiodes cyprinus										
Catostomus commersoni										
Cyprinus carpio										
Dorosoma cepedianum	2	17-18							7	
Morone chrysops										
Notropis atherinoides									18	
N. hudsonius										
Osmerus mordax										
Perca flavescens										
Pomoxis sp.										
Stizostedion v. vitreum										
Unknown										
TOTAL (Larvae only)	2		0		0		0		26	0
Volume filtered (m^3)	163.6		162.9		148.5		168.3			

*. One 5-min tow with a 0.75-in diameter heavy-duty oceanographic plankton net (no. 00, 0.76 mm mesh).

** Range = total length in mm.

ICHTHYOPLANKTON CATCH PER UNIT EFFORT* AT LOCUST POINT
9 AUGUST 1976

Species	Sta. 3 Surface		Sta. 3 Bottom		Sta. 13 Surface		Sta. 13 Bottom	
	Number	Range**	Number	Range**	Number	Range**	Number	Range**
Fish Eggs								
Alosa pseudoharengus								
Aplodinotus grunniens								
Carpiodes cyprinus								
Catostomus commersoni								
Cyprinus carpio								
Dorosoma cepedianum								
Morone chrysops								
Notropis atherinoides	9	11-20	1	11	10	11-24		
N. hudsonius								
Osmerus moraax								
Perca flavenscens								
Pomoxis sp.								
Stizostedion v. vitreum								
Unknown								
TOTAL (Larvae only)	9		1		10		0	
Volume filtered (m^3)	162.5		161.1		176.2		169.3	

* One 5-min tow with a 0.75-in diameter heavy duty oceanographic plankton net (no. 00, 0.76 mm mesh).
** Range = total length in mm.

TABLE 54

ICHTHYOPLANKTON CATCH PER UNIT EFFORT* AT LOCUST POINT
9 AUGUST 1976

Species	Sta. 29 Surface		Sta. 29 Bottom		Sta. 26 Surface		Sta. 26 Bottom	
	Number	Range**	Number	Range**	Number	Range**	Number	Range**
Fish Eggs								
Alosa pseudoharengus			2	22-24				
Aplodinotus grunniens								
Carpiodes cyprinus								
Catostomus commersoni								
Cyprinus carpio								
Dorosoma cepedianum								
Morone chrysops								
Notropis atherinoides	16	13-28			19	12-29		
N. hudsonius								
Osmerus mordax								
Perca flavenscens								
Pomoxis sp.								
Stizostedion v. vitreum								
Unknown	1	10						
TOTAL (Larvae only)	17		2		19		0	
Volume filtered (m^3)	145.6		171.9		207.1		160.8	

* One 5-min tow with a 0.75-in diameter heavy duty oceanographic plankton net (no. 00, 0.76 mm mesh).

** Range = total length in mm.

TA .E 54

ICHTHYOPLANKTON CATCH PER UNIT EFFORT* AT LOCUST POINT
9 AUGUST 1976

Species	Sta. 8 Surface		Sta. 8 Bottom		Sta. 28 Surface		Sta. 28 Bottom		Total	
	Number	Range**	Number	Range**	Number	Range**	Number	Range**	Surface	Bottom
Fish Eggs										
Alosa pseudoharengus					4	21-31			4	2
Aplodinotus grunniens										
Carpiodes cyprinus										
Catostomus commersoni										
Cyprinus carpio										
Dorosoma cepedianum										
Morone chrysops										
Notropis atherinoides	6	10-25			49	12-23			109	1
N. hudsonius										
Osmerus mordax										
Perca flavescens										
Pomoxis sp.										
Stizostedion v. vitreum										
Unknown										
TOTAL (Larvae only)	6		0		53		0		114	3
Volume filtered (m^3)	174.9		139.1		177.2		170.3			

*. One 5-min tow with a 0.75-in diameter heavy-duty oceanographic plankton net (no. 00, 0.76 mm mesh).

** Range = total length in mm.

ICHTHYOPLANKTON CATCH PER UNIT EFFORT* AT LOCUST POINT
20 AUGUST 1976

Species	Sta. 3 Surface		Sta. 3 Bottom		Sta. 13 Surface		Sta. 13 Bottom	
	Number	Range**	Number	Range**	Number	Range**	Number	Range**
Fish Eggs								
Alosa pseudoharengus								
Aplodinotus grunniens								
Carpiodes cyprinus								
Catostomus commersoni								
Cyprinus carpio								
Dorosoma cepedianum								
Morone chrysops								
Notropis atherinoides								
N. hudsonius								
Osmerus mordax								
Perca flavescens								
Pomoxis sp.								
Stizostedion v. vitreum								
Unknown								
TOTAL (Larvae only)	0		0		0		0	
Volume filtered (m^3)	155.2		107.8		157.2		151.3	

* One 5-min tow with a 0.75-in diameter heavy duty oceanographic plankton net (no. 00, 0.76 mm mesh).

** Range = total length in mm.

TABLE 55

ICHTHYOPLANKTON CATCH PER UNIT EFFORT* AT LOCUST POINT
20 AUGUST 1976

Species	Sta. 29 Surface		Sta. 29 Bottom		Sta. 26 Surface		Sta. 26 Bottom	
	Number	Range**	Number	Range**	Number	Range**	Number	Range**
Fish Eggs								
Alosa pseudoharengus								
Aplodinotus grunniens								
Carpiodes cyprinus								
Catostomus commersoni								
Cyprinus carpio								
Dorosoma cepedianum								
Morone chrysops								
Notropis atherinoides								
N. hudsonius								
Osmerus mordax								
Perca flavescens								
Pomoxis sp.								
Stizostedion v. vitreum								
Unknown								
TOTAL (Larvae only)	0		0		0		0	
Volume filtered (m^3)	165.1		161.6		173.6		187.8	

* One 5-min tow with a 0.75-in diameter heavy duty oceanographic plankton net (no. 00, 0.76 mm mesh).

** Range = total length in mm.

TA LE 55

ICHTHYOPLANKTON CATCH PER UNIT EFFORT* AT LOCUST POINT
20 AUGUST 1976

Species	Sta. 8 Surface		Sta. 8 Bottom		Sta. 28 Surface		Sta. 28 Bottom		Total	
	Number	Range**	Number	Range**	Number	Range**	Number	Range**	Surface	Bottom
Fish Eggs										
Alosa pseudoharengus										
Aplodinotus grunniens										
Carpiodes cyprinus										
Catostomus commersoni										
Cyprinus carpio										
Dorosoma cepedianum										
Morone chrysops										
Notropis atherinoides										
N. hudsonius										
Osmerus mordax										
Perca flavescens										
Pomoxis sp.										
Stizostedion v. vitreum										
Unknown										
TOTAL (Larvae only)	0		0		0		0		0	0
Volume filtered (m^3)	169.2		152.2		157.6		185.2			

*. One 5-min tow with a 0.75-in diameter heavy-duty oceanographic plankton net (no. 00, 0.76 mm mesh).

** Range = total length in mm.

TABLE 56

ICHTHYOPLANKTON CATCH PER UNIT EFFORT* AT LOCUST POINT
31 AUGUST 1976

Species	Sta. 3 Surface		Sta. 3 Bottom		Sta. 13 Surface		Sta. 13 Bottom	
	Number	Range**	Number	Range**	Number	Range**	Number	Range**
Fish Eggs								
Alosa pseudoharengus								
Aplodinotus grunniens								
Carpiodes cyprinus								
Catostomus commersoni								
Cyprinus carpio								
Dorosoma cepedianum								
Morone chrysops								
Notropis atherinoides								
N. hudsonius								
Osmerus mordax								
Perca flavescens								
Pomoxis sp.								
Stizostedion v. vitreum								
Unknown								
TOTAL (Larvae only)	0		0		0		0	
Volume filtered (m^3)	167.0		157.9		167.8		157.9	

* One 5-min tow with a 0.75-in diameter heavy duty oceanographic plankton net (no. 00, 0.76 mm mesh).

** Range = total length in mm.

TABLE 56

ICHTHYOPLANKTON CATCH PER UNIT EFFORT* AT LOCUST POINT
31 AUGUST 1976

Species	Sta. 29 Surface		Sta. 29 Bottom		Sta. 26 Surface		Sta. 26 Bottom	
	Number	Range**	Number	Range**	Number	Range**	Number	Range**
Fish Eggs								
Alosa pseudoharengus								
Aplodinotus grunniens								
Carpiodes cyprinus								
Catostomus commersoni								
Cyprinus carpio								
Dorosoma cepedianum								
Morone chrysops								
Notropis atherinoides	1	24			3	33-40		
N. hudsonius								
Osmerus moraax								
Perca flavenscens								
Pomoxis sp.								
Stizostedion v. vitreum								
Unknown								
TOTAL (Larvae only)	1		0		3		0	
Volume filtered (m^3)	167.8		157.9		167.8		157.9	

* One 5-min tow with a 0.75-in diameter heavy duty oceanographic plankton net (no. 00, 0.76 mm mesh).

** Range = total length in mm.

TA E 56 .

ICHTHYOPLANKTON CATCH PER UNIT EFFORT* AT LOCUST POINT
31 AUGUST 1976

Species	Sta. 8 Surface		Sta. 8 Bottom		Sta. 28 Surface		Sta. 28 Bottom		Total	
	Number	Range**	Number	Range**	Number	Range**	Number	Range**	Surface	Bottom
Fish Eggs										
Alosa pseudoharengus										
Aplodinotus grunniens										
Carpiodes cyprinus										
Catostomus commersoni										
Cyprinus carpio										
Dorosoma cepedianum										
Morone chrysops										
Notropis atherinoides									4	
N. hudsonius										
Osmerus mordax										
Perca flavescens										
Pomoxis sp.										
Stizostedion v. vitreum										
Unknown										
TOTAL (Larvae only)	0		0		0		0		4	0
Volume filtered (m^3)	167.8		157.9		167.8		157.9			

*. One 5-min tow with a 0.75-in diameter heavy-duty oceanographic plankton net (no. 00, 0.76 mm mesh).

** Range = total length in mm.

APPENDIX F

STOMACH ANALYSIS OF FISH COLLECTED AT LOCUST POINT, LAKE ERIE

APRIL - NOVEMBER 1976

TABLE 57

STOMACH CONTENT OF FISH COLLECTED AT LOCUST POINT APRIL - NOVEMBER 1976

Month	Species	Length (mm)	Weight (g)	Food Items																	
				Oligochaeta	Hirudinea	Cladocera	Alona sp.	bosminids	Eubosmina coregoni	Chydorus sphaericus	Daphnia sp.	D. galeata	D. parvula	D. retrocurva	Diaphanosoma sp.	Latona setifera	Leptodora kindtii	Copepoda	Calanoid	Cyclopoid	Ostracoda
April	Morone chrysops	127	25								3	3		9					122		
	Notropis atherinoides	105	7						1												
	N. atherinoides	95	5					27			3								67	6	
	N. hudsonius	121	18																	1	
	N. hudsonius	105	11					20			320										
	N. hudsonius	99	11					388		12	67									4	
	N. hudsonius	85	5					152			19								1		
	N. hudsonius	65	3					54			16										
	Perca flavescens	211	108	empty																	
	P. flavescens	191	74			4															
	P. flavescens	91	8					8	20		76								29	305	
	Percina caprodes	105	11						2		1									10	
	Percopsis omiscomaycus	89	7	3				2	5		2								1	267	
May	Notropis hudsonius	115	18	30		2														1	
	N. hudsonius	106	11								14			75					1	1	
	N. hudsonius	105	11								7			28			1			1	
	Perca flavescens	100	80																	4	
	P. flavescens	182	86																		
	P. flavescens	142	32		1															1	

TABLE 57

STOMACH CONTENT OF FISH COLLECTED AT LOCUST POINT
APRIL - NOVEMBER 1976

Month	Species	Length (mm)	Weight (g)	Food Items II																		
				Gammarus sp.	Araneae	Hydracarina	Insecta (larvae)	Diptera	Chironomidae	Chironominae	Chironomus sp.	Cryptochironomus sp.	Glyptotendipes sp.	Parachironomus sp.	Polypedilum sp.	Pseudochironomus sp.	Rheotanytarsus sp.	Xenochironomus sp.	Tanypodinae	Ablabesmyia sp.	Procladius sp.
April	Morone chrysops	127	25																			
	Notropis atherinoides	105	7																			
	N. atherinoides	95	5																			
	N. hudsonius	121	18																			
	N. hudsonius	105	11																			
	N. hudsonius	99	11																			
	N. hudsonius	85	5			1																
	N. hudsonius	65	3																			
	Perca flavescens	211	108																			
	P. flavescens	191	74																			
	P. flavescens	91	8																			
	Percina caprodes	105	11	10																		
	Percopsis amiscomaycus	89	7									6										
May	Notropis hudsonius	115	18						1			1										
	N. hudsonius	103	11																			
	N. hudsonius	105	11																			
	Perca flavescens	190	80	8								1										
	P. flavescens	182	86	5																		
	P. flavescens	142	32	15								1										

TABLE 57

STOMACH CONTENT OF FISH COLLECTED AT LOCUST POINT
APRIL - NOVEMBER 1976

Month	Species	Length (mm)	Weight (g)	Food Items III																	
				Ephemeroptera	Trichoptera	Coleoptera	Insecta (pupae)	Chironomidae	Insecta (adult)	Diptera	Chironomidae	Trichoptera	Hemiptera	Coleoptera	Hymenoptera	Fish eggs	Fish	Daroscmia cepedianum	Notropis sp.	Animal debris *	Plant debris *
April	Morone chrysops	127	25																	A	
	Notropis atherinoides	105	7																		
	N. atherinoides	95	5																	A	
	N. hudsonius	121	18																	A	
	N. hudsonius	105	11																	A	
	N. hudsonius	89	11																	A	
	N. hudsonius	85	5																	A	
	N. hudsonius	65	3																	A	
	Perca flavescens	211	108																		
	P. flavescens	191	74																	A	
	P. flavescens	91	8																	B	
	Percina caprodes	105	11																	A	
	Percopsis omiscomaycus	89	7																	B	
May	Notropis hudsonius	115	18					1												B	
	N. hudsonius	108	11																	A	
	N. hudsonius	105	11																	A	
	Perca flavescens	160	80		1															B	A
	P. flavescens	102	86					1												B	B
	P. flavescens	142	32																	A	

* A = small amount
B = moderate amount
C = large amount

TABLE 57

STOMACH CONTENT OF FISH COLLECTED AT LOCUST POINT APRIL - NOVEMBER 1976

Month	Species	Length (mm)	Weight (g)	Food Items																	
				Oligochaeta	Hirudinea	Cladocera	Alona sp.	bosminids	Eubosmina coregoni	Chydorus sphaericus	Daphnia sp.	D. galeata	D. parvula	D. retrocurva	Diaphanosoma sp.	Latona setifera	Lestodora kindtii	Copepoda	Calanoid	Cyclopoid	Ostracoda
June	Aplodinotus grunniens	319	420						2					4			165			3	
	A. grunniens	235	172											11			29				
	A. grunniens	235	150								11	1		30			24				
	A. grunniens	192	74								3			29			52				
	A. grunniens	190	81								17			67			30			1	
	A. grunniens	141	30								4			25			15				
	Ictalurus punctatus	290	282														1				
	I. punctatus	251	140						3		13			19			50			7	
	I. punctatus	216	92						3		3			6			7			3	
	I. punctatus	192	76						1		5			5			8		1	1	
	I. punctatus	98	10						8		15			21			8				
	I. punctatus	71	5								2			1			17			1	
	Notropis atherinoides	96	7						1					2							
	Perca flavescens	162	61						2		12		1	533			19				
	Stizostedion v. vitreum	189	62																		
July	Aplodinotus grunniens	146	34			7								42			34			1	
	A. grunniens	140	32			4								47			86				
	A. grunniens	135	32			3								55			10			1	
	A. grunniens	134	28			10						11		40			26			10	
	A. grunniens	130	28			4						3		62			59			1	

TABLE 57

STOMACH CONTENT OF FISH COLLECTED AT LOCUST POINT APRIL - NOVEMBER 1976

Month	Species	Length (mm)	Weight (g)	Food Items II																		
				Gammarus sp.	Arenella	Hydracarina	Insecta (larvae)	Diptera	Chironomidae	Chironominae	Chironomus sp.	Cryptochironomus sp.	Glyptotendipes sp.	Parachironomus sp.	Polypedilum sp.	Pseudochironomus sp.	Rheotanytarsus sp.	Xenochironomus sp.	Tanypodinae	Ablabesmyia sp.	Procladius sp.
June	Aplodinotus grunniens	319	420																			
	A. grunniens	235	172																			
	A. grunniens	235	150																			
	A. grunniens	192	74	2							2											
	A. grunniens	190	81								1											
	A. grunniens	141	30																			
	Ictalurus punctatus	290	202																			
	I. punctatus	251	148								4			2								
	I. punctatus	216	92																			
	I. punctatus	192	76																			
	I. punctatus	98	10									2										
	I. punctatus	71	5	1							8	1										
	Notropis atherinoides	96	7																			
	Perca flavescens	162	51																			
	Stizostedion v. vitreum	189	62																			
July	Aplodinotus grunniens	140	34																			
	A. grunniens	140	32																			
	A. grunniens	135	32																			
	A. grunniens	134	28	1							1											1
	A. grunniens	130	28																			

TABLE 57

STOMACH CONTENT OF FISH COLLECTED AT LOCUST POINT APRIL - NOVEMBER 1976

Month	Species	Length (mm)	Weight (g)	Food Items III																	
				Ephemeroptera	Trichoptera	Coleoptera	Insecta (pupae)	Chironomidae	Insecta (adult)	Diptera	Chironomidae	Trichoptera	Hemiptera	Coleoptera	Hymenoptera	Fish eggs	Fish	Dorosoma cepedianum	Notropis sp.	Animal debris *	Plant debris *
June	Aplodinotus grunniens	319	420																	C	
	A. grunniens	235	172																	B	
	A. grunniens	235	150																	B	
	A. grunniens	192	74																	B	
	A. grunniens	190	81														1			B	
	A. grunniens	141	30																	A	
	Ictalurus punctatus	290	262														1			A	
	I. punctatus	251	148												1		1			B	B
	I. punctatus	216	92																	A	
	I. punctatus	192	76																	B	
	I. punctatus	98	10													4				A	A
	I. punctatus	71	5					1				1				35				B	
	Notropis atherinoides	96	7								12									B	
	Perca flavescens	162	51																	A	
	Stizostedion v. vitreum	189	62														1				
July	Aplodinotus grunniens	146	34																	A	
	A. grunniens	140	32																	A	
	A. grunniens	135	32																	A	
	A. grunniens	134	28																	A	
	A. grunniens	130	28																	A	

* A = small amount
B = moderate amount
C = large amount

TABLE 57

STOMACH CONTENT OF FISH COLLECTED AT LOCUST POINT APRIL - NOVEMBER 1976

Month	Species	Length (mm)	Weight (g)	Food Items																	
				Oligochaeta	Hirudinea	Cladocera	Alona sp.	bosminids	Eubosmina coregoni	Chydorus sphaericus	Daphnia sp.	D. galeata	D. parvula	D. retrocurva	Diaphanosoma sp.	Latona setifera	Leptodora kindtii	Copepoda	Calanoid	Cyclopoid	Ostracoda
July con't.	Ictalurus punctatus	200	44			8			1			2		75			112				
	I. punctatus	118	16			14			4			3		193			220			6	
	I. punctatus	95	8											4			7				
	Morone chrysops	262	233																		
	M. chrysops	260	217																		
	Stizostedion v. vitreum	253	168																		
	S. v. vitreum	231	122																		
August	Aplodinotus grunniens	168	48																		
	A. grunniens	162	50																		
	Notropis hudsonius	121	20																		
	N. hudsonius	117	16						6					3						14	
	N. hudsonius	106	14	empty																	
	N. hudsonius	101	10			3			4											43	
	N. hudsonius	96	8																	2	
	Perca flavescens	179	74	empty																	
	P. flavescens	164	52																		
	P. flavescens	156	46																		
	P. flavescens	124	26	empty																	
	P. flavescens	123	22																		
	P. flavescens	72	4																	394	1

TABLE 57

STOMACH CONTENT OF FISH COLLECTED AT LOCUST POINT
APRIL - NOVEMBER 1976

Month	Species	Length (mm)	Weight (g)	Food Items II																			
				Gammarus sp.	Araneae	Hydracarina	Insecta (larvae)	Diptera	Chironomidae	Chironominae	Chironomus sp.	Cryptochironomus sp.	Glyptotendipes sp.	Parachironomus sp.	Polypedilum sp.	Pseudochironomus sp.	Rheotanytarsus sp.	Xenochironomus sp.	Tanypodinae	Ablabesmyia sp.	Procladius sp.		
July con't.	Ictalurus punctatus	200	44																				
	I. punctatus	118	16	2								2			2								
	I. punctatus	95	8								1	1			1						2		
	Morone chrysops	262	233																				
	M. chrysops	260	217																				
	Stizostedion v. vitreum	253	168																				
	S. v. vitreum	231	122																				
August	Aplodinotus grunniens	168	48	1					1		3				1	2		6					
	A. grunniens	162	50								2				3								
	Notropis hudsonius	121	20																				
	N. hudsonius	117	16								1						1						
	N. hudsonius	106	14																				
	N. hudsonius	101	10																				
	N. hudsonius	96	8																				
	Perca flavescens	179	74																				
	P. flavescens	164	52																				
	P. flavescens	156	46																				
	P. flavescens	124	26																				
	P. flavescens	123	22																				
	P. flavescens	72	4								1												

TABLE 57

STOMACH CONTENT OF FISH COLLECTED AT LOCUST POINT
APRIL - NOVEMBER 1976

Month	Species	Length (mm)	Weight (g)	Food Items III																		
				Ephemeroptera	Trichoptera	Coleoptera	Insecta (pupae)	Chironomidae	Insecta (adult)	Diptera	Chironomidae	Trichoptera	Hemiptera	Coleoptera	Hymenoptera	Fish eggs	Fish	Daresoma cepedianum	Notropis sp.	Animal debris*	Plant debris*
July con't.	Ictalurus punctatus	200	44																	A	
	I. punctatus	118	16						1			1								B	
	I. punctatus	95	8																	A	
	Morone chrysops	262	233														4	6		C	
	M. chrysops	260	217																1	A	
	Stizostedion v. vitreum	253	160															8		C	
	S. v. vitreum	231	122															2		B	
August	Aplodinotus grunniens	168	48		1			1												A	
	A. grunniens	162	50																	A	
	Notropis hudsonius	121	20																	A	
	N. hudsonius	117	16																	A	
	N. hudsonius	106	14																	A	
	N. hudsonius	101	10																	A	A
	N. hudsonius	96	8																	A	A
	Perca flavescens	179	74																		
	P. flavescens	164	52					1													
	P. flavescens	156	46																	A	
	P. flavescens	124	28																	A	
	P. flavescens	123	22																	A	
	P. flavescens	72	4																	A	

* A = small amount
B = moderate amount
C = large amount

TABLE 57

STOMACH CONTENT OF FISH COLLECTED AT LOCUST POINT APRIL - NOVEMBER 1976

Month	Species	Length (mm)	Weight (g)	Food Items																	
				Oligochaeta	Hirudinea	Cladocera	Alona sp.	bosminids	Eubosmina coregoni	Chydorus sphaericus	Daphnia sp.	D. galeata	D. parvula	D. retrocurva	Diaphanosoma sp.	Latona setifera	Leptodora kindtii	Copepoda	Calanoid	Cyclopoid	Ostracoda
September	Ictalurus nebulosus	291	276			60			45	90				1			210			24	9
	I. nebulosus	245	212											1			368			2	
	Notropis atherinoides	83	4						1900	680				4						6	
	N. hudsonius	125	24						8					1						8	
	N. hudsonius	105	12						2	1										1	
	N. hudsonius	78	4			3			23	8				1			1			36	
	N. hudsonius	71	3			20			750	50				60							
	N. hudsonius	67	2			1			3	16							1			8	
	Perca flavescens	190	90							1											
	P. flavescens	167	64			6			26	2							2			20	
	P. flavescens	148	44														2				
	P. flavescens	139	32														1				
	P. flavescens	131	28			1										4				19	
	Stizostedion v. vitreum	182	62																		

TABLE 57

STOMACH CONTENT OF FISH COLLECTED AT LOCUST POINT APRIL - NOVEMBER 1976

Month	Species	Length (mm)	Weight (g)	Food Items II																		
				Gammarus sp.	Araneae	Hydracarina	Insecta (larvae)	Diptera	Chironomidae	Chironominae	Chironomus sp.	Cryptochironomus sp.	Glyptotendipes sp.	Parachironomus sp.	Polypedilum sp.	Pseudochironomus sp.	Rheotanytarsus sp.	Xenochironomus sp.	Tanypodinae	Ablabesmyia sp.	Procladius sp.
September	Ictalurun nebulosus	201	276	4					3		6	3		2			1	15		1	
	I. nebulosus	245	212																	1	
	Notropis atherinoides	83	4																		
	N. hudsonius	125	24																		
	N. hudsonius	105	12																		
	N. hudsonius	78	4																		
	N. hudsonius	71	3																		
	N. hudsonius	67	2			5					1										
	Perca flavescens	190	96																		
	P. flavescens	167	84																		
	P. flavescens	148	44	1																	
	P. flavescens	139	32																		
	P. flavescens	131	28	3																	5
	Stizostedion v. vitreum	182	62																		

TABLE 57

STOMACH CONTENT OF FISH COLLECTED AT LOCUST POINT APRIL - NOVEMBER 1976

Month	Species	Length (mm)	Weight (g)	Food Items III																		
				Ephemeroptera	Trichoptera	Coleoptera	Insecta (pupae)	Chironomidae	Insecta (adult)	Diptera	Chironomidae	Trichoptera	Hemiptera	Coleoptera	Hymenoptera	Fish eggs	Fish	Dorosoma cepedianum	Notropis sp.	Animal debris *	Plant debris *
September	Ictalurus nebulosus	261	270	1	2			1												A	C
	I. nebulosus	245	212																	A	
	Notropis atherinoides	63	4																	A	
	N. hudsonius	125	24																	B	
	N. hudsonius	105	12																	A	
	N. hudsonius	78	4																	A	
	N. hudsonius	71	3																	A	
	N. hudsonius	67	2																		
	Perca flavescens	190	96																	A	
	P. flavescens	167	84																	A	
	P. flavescens	148	44					1												A	
	P. flavescens	139	32																	A	
	P. flavescens	131	28																		
	Stizostedion v. vitreum	162	62															1	1		

* A = small amount
B = moderate amount
C = large amount

TABLE 57

STOMACH CONTENT OF FISH COLLECTED AT LOCUST POINT APRIL - NOVEMBER 1976

Month	Species	Length (mm)	Weight (g)	Food Items																	
				Oligochaeta	Hirudinea	Cladocera	Alona sp.	bosminids	E. bosmina coregoni	Chydorus sphaericus	Daphnia sp.	D. galeata	D. parvula	D. retrocurva	Diaphanosoma sp.	Latona setifera	Leptodora kindtii	Copepoda	Calanoid	Cyclepoid	Ostracoda
October	Ictalurus nebulosus	227	160														50			2	
	Morone chrysops	165	72																	1	
	M. chrysops	49	2						2					1					16	2	
	Notropis atherinoides	103	8			20			357	104											
	N. hudsonius	117	16			15	2		4	4				1						102	
	N. hudsonius	115	15						1	2					1					25	
	N. hudsonius	109	12			4			7	11									3	8	
	N. hudsonius	82	4	40		8				2									1	11	2
	N. hudsonius	73	3						15	34										8	
	Perca flavescens	214	128	empty																	
	P. flavescens	175	68	empty																	
	P. flavescens	163	59																	1	
	P. flavescens	141	34						1	6										1	
	P. flavescens	80	5																	1	
	Percopsis omiscomaycus	75	4																	114	
November	Notropis atherinoides	96	6						4											1	
	N. atherinoides	45	1						3	1											
	N. hudsonius	105	12																		
	Osmerus mordax	80	2						13	1				20			14		5	54	

TABLE 57

STOMACH CONTENT OF FISH COLLECTED AT LOCUST POINT
APRIL - NOVEMBER 1976

Month	Species	Length (mm)	Weight (g)	Food Items II																		
				Gammarus sp.	Araneae	Hydracarina	Insecta (larvae)	Diptera	Chironomidae	Chironominae	Chironomus sp.	Cryptochironomus sp.	Glyptotendipes sp.	Parachironomus sp.	Polypedilum sp.	Pseudochironomus sp.	Rheotanytarsus sp.	Xenochironomus sp.	Tanypodinae	Ablabesmyia sp.	Procladius sp.
October	Ictalurus nebulosus	227	160									2										
	Morone chrysops	165	72	19	1								1			1						
	M. chrysops	49	2																			
	Notropis atherinoides	109	8																			
	N. hudsonius	117	16	1		1					1					1						
	N. hudsonius	115	15	1					1													
	N. hudsonius	109	12			6																
	N. hudsonius	82	4		1	1					1											
	N. hudsonius	73	3						1								2					
	Perca flavescens	214	128																			
	P. flavescens	175	68																			
	P. flavescens	163	59																			
	P. flavescens	141	34														2					
	P. flavescens	80	5																			
	Percopsis omiscomaycus	75	4														1					
November	Notropis atherinoides	06	6		1																	
	N. atherinoides	45	1									1										
	N. hudsonius	105	12																			
	Osmerus mordax	80	2																			

TABLE 57

STOMACH CONTENT OF FISH COLLECTED AT LOCUST POINT APRIL - NOVEMBER 1976

Month	Species	Length (mm)	Weight (g)	Food Items III																	
				Ephemeroptera	Trichoptera	Coleoptera	Insecta (pupae)	Chironomidae	Insecta (adult)	Diptera	Chironomidae	Trichoptera	Hemiptera	Coleoptera	Hymenoptera	Fish eggs	Fish	Dorosoma cepedianum	Notropis sp.	Animal debris *	Plant debris *
October	Ictalurus nebulosus	227	160						1								1			B	
	Morone chrysops	165	72		104	2				6			1							A	
	M. chrysops	40	2																		
	Notropis atherinoides	103	8							4			1	1						A	
	N. hudsonius	117	16								6		1							B	A
	N. hudsonius	116	15								8			2						A	
	N. hudsonius	109	12							1										A	A
	N. hudsonius	82	4																	A	
	N. hudsonius	73	3																	A	
	Perca flavescens	214	128																		
	P. flavescens	175	68																		
	P. flavescens	163	59																		
	P. flavescens	141	34					1												A	A
	P. flavescens	80	5																		A
	Percopsis omiscomaycus	75	4																	A	
November	Notropis atherinoides	90	6																	A	
	N. atherinoides	45	1																		
	N. hudsonius	105	12							4										A	
	Osmerus mordax	80	2																		

* A = small amount
B = moderate amount
C = large amount

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