



Northern Indiana Public Service Company

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August 22, 1980

Mr. Ronald L. Ballard, Chief
Environmental Projects, Branch, #1
Office of the Nuclear Reactor Relations
U.S. Nuclear Regulatory Commission
Washington, D. C. 20545

RE: Docket No. 50-367

Dear Mr. Ballard:

Enclosed, herewith, are twenty-five (25) copies of the Spring, 1980 Quarterly Report on the Bailly Generating Station Nuclear-1 Ecological Monitoring Program. This is the 24th Quarterly Report on this work. The Spring, 1980 Quarterly Report contains analyses and interpretation of data for April through June, 1980.

During this quarter, terrestrial sampling was conducted in the month of May. Sampling for aquatic parameters was conducted during April and June. Several of the parameters for various sampling locations have not completed laboratory analysis as of the date of this report. The analysis and interpretation of those samples will be included in subsequent reports on this work.

There continues to be no discernible effects to the environment due to the construction of Bailly Generating Station Nuclear-1.

Very truly yours,

James H. Durall

JFP:gb

Enclosures

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SPRING 1980 QUARTERLY REPORT
BAILLY NUCLEAR-1 SITE
ENCOMPASSING
APRIL-JUNE 1980

August 1980

Prepared for
NORTHERN INDIANA PUBLIC SERVICE COMPANY
5265 Hohman Avenue
Hammond, Indiana 46325

Prepared by
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FOREWORD

Ecological Services of Texas Instruments Incorporated, under contract to Northern Indiana Public Service Company, is conducting an ecological monitoring program to determine and document existing ecological conditions in the immediate vicinity of the Bailly Nuclear-1 Generating Station site, Baillytown, Indiana. This ecological monitoring program will provide data necessary for assessing and minimizing the effects of plant construction on the local environment and will provide information for assessing any future changes.

This report, the 24th in a series of quarterly reports prepared for Northern Indiana Public Service Company by Texas Instruments, contains analyses and interpretation of data for April through June 1980. No collection of aquatic data was scheduled during May 1980 or of terrestrial data during April or June 1980. Statements contained in this report are based on data collected over a relatively short time period and should be viewed as preliminary.



EXECUTIVE SUMMARY

Terrestrial

The spring 1980 sampling program was accomplished on schedule during May 1980. No terrestrial sampling was scheduled for March or April 1980. May sampling included small mammal trapping; mammal observations on the site and along the 22-mile road route; avifauna surveys along transects, at aquatic locations, and along the 22-mile road route; amphibian and reptile surveys; a visual survey of foliar damage to plants; and soil sampling.

Fifteen species of mammals were reported on the Bailly study area during May 1980. Small mammal live-trapping accounted for five species, and the others were observed or their tracks or signs noted. Most populations reflected greater carry-over from winter than did those of the previous two springs. Cottontail rabbit sightings along the 22-mile road route were greater during 1980 than during 1979.

The May 1980 bird checklist included 92 species. Observations of many species were limited to only one or two individuals, presumably due to late migration. The open bog contained the greatest numbers of species during May 1980 transect counts. Sixteen aquatic species were among the 92 total.

All 13 amphibian and reptile species observed on the site during May 1980 have been recorded from the study area previously.

Flagging (SO_2 effects) was still evident on white pines along roadways, but an assessment of damage to deciduous trees could not be made because most were not foliated during May.

Soil samples were taken from 10 locations during May and are presently being analyzed.



Aquatic

Spring 1980 aquatic sampling was performed in April with the collection of fish, phytoplankton, periphyton, zooplankton, benthos, and water quality samples. Results for water quality, chlorophyll a (phytoplankton and periphyton), productivity (phytoplankton), and June sample collections will be included in the summer quarterly report.

April 1980 Lake Michigan phytoplankton densities were similar to those of April 1979. April biovolume values for lake phytoplankton were slightly lower in 1980 than in 1979, whereas pond biovolume values were much higher in 1980. In the lake, blue-green algae and diatoms dominated total phytoplankton density, and diatoms and green algae dominated biovolume estimates. In the ponds, golden-brown algae and diatoms dominated densities while pennate diatoms and green algae were biovolume-dominant.

April 1980 periphyton densities were dominated by blue-green algae (mostly Lyngbya spp. and Pleurocapsa sp.) in both Lake Michigan and the ponds. Biovolume estimates were dominated by green algae in the lake, and by green algae and pennate diatoms in the ponds. Samples collected from artificial (ponds) and natural substrates (lake) yielded 44 diatom taxa from the ponds and 45 from Lake Michigan. Achnanthes minutissima, Fragilaria vaucheriae and Rhoicosphenia curvata were the most abundant diatoms in Lake Michigan, although the discharge station (10) was dominated by Stephanodiscus astrea and Nitzschia dissipata. Differences in dominant diatom species have been observed in past years and were considered as possible thermal discharge influences; however there was no thermal influence during the 1980 spring sampling period and the differences still occurred. This indicates that factors other than thermal influence may have caused the differences in periphyton community composition. The most numerous diatom taxa in the ponds were Achnanthes minutissima in Ponds B and C and Fragilaria capucina in Cowles Bog. The most numerous periphyton in the ponds were golden-brown algae (Pond C), blue-green algae (Pond 3), and green algae and diatoms (Cowles Bog).

A total of 38 zooplankton taxa were collected in Lake Michigan during April 1980, similar to the 42 taxa collected in April 1979 and more than the 21 taxa



collected in November 1979. Lake Michigan densities averaged 1100 organisms per cubic meter, similar to the average in April 1979 (1200 organisms per cubic meter). As in 1979, copepods dominated the collections (89 percent in 1979, 75 percent in 1980), with cyclopoid copepodites (immature form) constituting most of the copepods in 1980. The most abundant adult taxon observed during both 1979 and 1980 was Diaptomus ashlandi. The zooplankton densities were highest at stations 1, 4, and 10 (all nearfield stations), probably due to natural variation or habitat differences since there was no thermal discharge during 1980.

Zooplankton densities within the ponds were higher in April 1980 than in April 1979. Densities in ponds B and C averaged 67 and 102 organisms per liter, respectively, while Cowles Bog averaged 239 organisms per liter. Densities were approximately 10 times lower during April 1979 than in April 1980. However, similar dominant taxa were observed during both years and the differences in density were probably natural variation rather than power station influences.

Benthic invertebrate collections from Lake Michigan yielded 21 taxa in April 1980. Oligochaetes (Tubificidae) were the most numerous organisms, making up 55 percent of the total population. Amphipoda and Chironomidae followed Tubificidae in abundance. Total densities ranged from 29 to 3,250 organisms per square meter. Power station activities did not appear to influence distribution of the benthic community during April 1980, which would be expected since the power station did not discharge during the sampling period.

Average benthic invertebrate densities in the ponds were similar to those observed in April 1979. Lowest densities were observed in Pond C while the highest densities occurred in Pond B. Naididae (Oligochaeta) and Tubificidae (Oligochaeta) made up most of the total density in April 1980.

Fish were collected with gill nets and beach seines in the lake and with a backpack electrofishing unit in Pond B during April 1980. A total of 43 fish were collected from the lake, 5 with the beach seine and 38 with gill nets; 145 fish were collected during April 1979. The major difference between catches in the two years is the smaller number of alewife collected in 1980;



this discrepancy was probably not caused by the power station. The dominant species in April 1980 were rainbow smelt (beach seine) and alewife (gill net). Eleven of the 38 fish collected were salmonids including one young-of-the-year (46-millimeter length) coho salmon. Five black bullheads and 12 green sunfish were collected from Pond B during April 1980.

All fish collected were examined for disease and parasites. One coho salmon had a parasitic copepod and 5 of the 12 green sunfish collected from Pond B had a light-to-moderate infestation of black spot.

No fish eggs or larvae were collected during April 1980 by zooplankton sampling (at stations 1-10) or by epibenthic pump sampling (at stations 4 and 7).



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SECTION 1
TERRESTRIAL

1.1 DATES AND PURPOSES OF TERRESTRIAL SURVEYS

Spring 1980 terrestrial samples were taken in May as scheduled (Table 1.1) by the personnel listed in Table 1.2. Sampling locations are indicated in Figure 1.1.

Table 1.1
Terrestrial Ecology Sampling Status, June 1980

Parameter	Sampling Locations	Sampling Scheduled	May*	
			Completed	Continuing
Vegetation				
General survey	5-mi radius			
Quantitative analysis	1-6,8			
Qualitative analysis	9-11			
Aquatic macrophytes	7			
Foliar effects	1-12	X		X
Mammals				
Small-mammal trapping	1,3,4,6,8	X		X
Large-mammal observations	1-11	X		X
Roadside counts	22-mi route	X		X
General observations	1-12	X		X
Avifauna				
Roadside counts	22-mi route	X		X
Transect counts	1,3-6,8	X		X
Reptiles and amphibians	1-8	X		X
Invertebrates	1-8			
Soil conductivity	1-6,8-11	X		X

*No sampling scheduled for April or June.

Table 1.2
Dates and Purposes of Terrestrial Field Trips

Date	Personnel	Sampling Performed
5-8 and 18-22 May	Roy Greer, Ralph Feeny	Foliar effects Large-mammal observation Small-mammal trapping Roadside counts Avian transect counts Reptiles and amphibians Soils

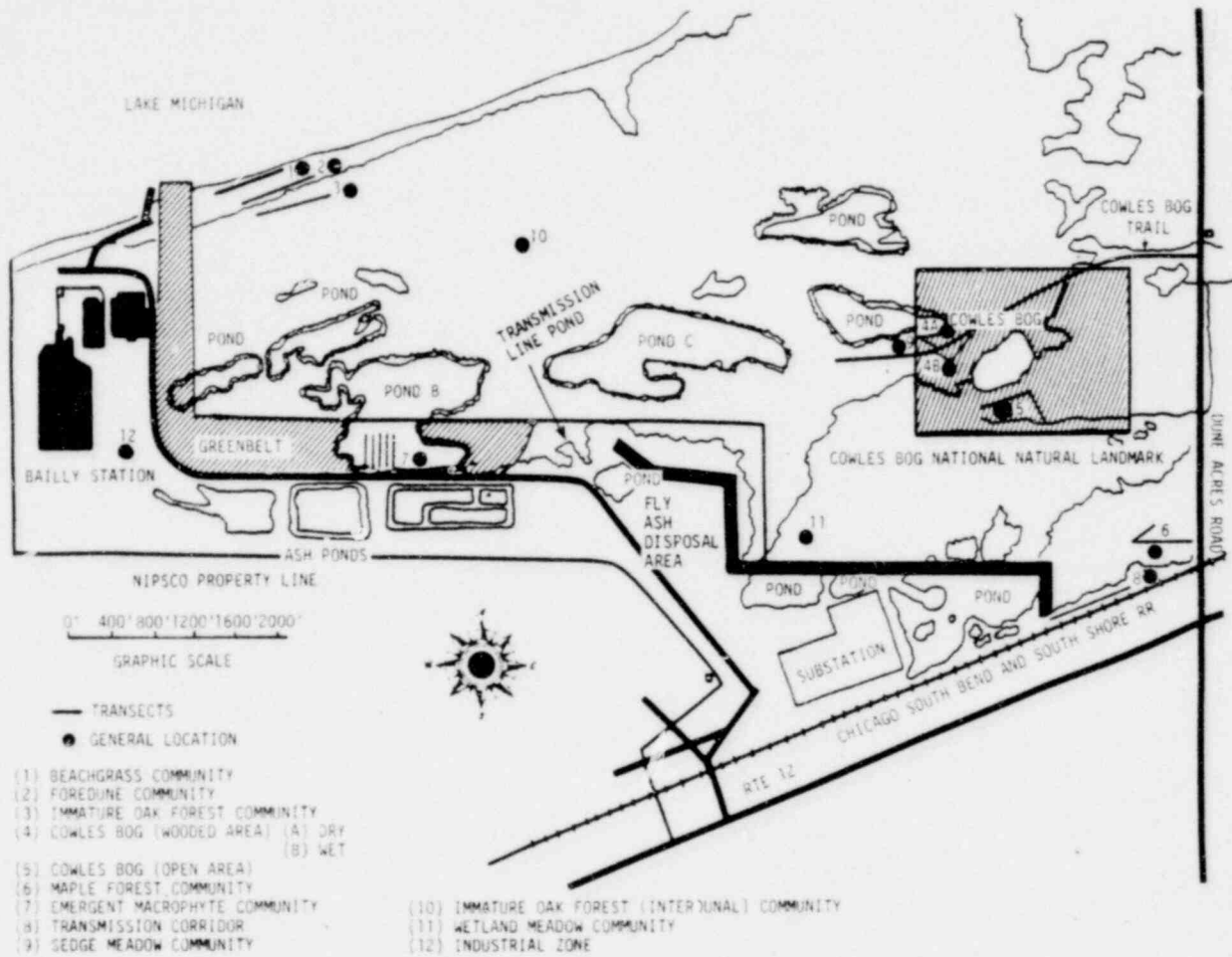


Figure 1.1. Terrestrial Sampling Locations in Vicinity of Baily Study Area

1.2 RESULTS AND DISCUSSION

Spring 1980 data for mammals are in Tables 1.4 and 1.5. Bird data are in Tables 1.7 through 1.10, and herpetofauna data are in Table 1.12. Species checklists for May 1980 are Tables 1.3 (mammals), 1.6 (birds), and 1.11 (herpetofauna).

1.2.1 MAMMALS. During May 1980, 15 species of mammals were encountered on the Baily study area (Table 1.3). Greater numbers of mammals were observed during May 1980 than during the past two springs, probably because of the milder 1979-80 winter and greater carryover of most small mammal species.



Table 1.3

Mammals Observed on the Bailly Study Area, May 1980

Common Name	Scientific Name
Opossum	<u>Didelphis marsupialis</u>
Short-tailed shrew	<u>Blarina brevicauda</u>
Eastern mole	<u>Scalopus aquaticus</u>
Eastern cottontail rabbit	<u>Sylvilagus floridanus</u>
Eastern chipmunk	<u>Tamias striatus</u>
Woodchuck	<u>Marmota monax</u>
13-lined ground squirrel	<u>Spermophilus tridecemlineatus</u>
Fox squirrel	<u>Sciurus niger</u>
Red squirrel	<u>Tamiasciurus hudsonicus</u>
White-footed mouse	<u>Peromyscus leucopus</u>
Meadow vole	<u>Microtus pennsylvanicus</u>
Meadow jumping mouse	<u>Zapus hudsonius</u>
Muskrat	<u>Ondatra zibethica</u>
Raccoon	<u>Procyon lotor</u>
White-tailed deer	<u>Odocoileus virginianus</u>

Table 1.4

Small Mammals Captured in Bailly Study Area, May 1980

No./100 Trapnights

Common Name	Beachgrass	Immature Oak Forest	Cowles Bog (wooded)	Maple Forest	Transmission Corridor
Short-tailed shrew		0.3			
13-lined ground squirrel					0.3
White-footed mouse		2.0	1.0	1.3	0.7
Meadow vole	13.7				1.3
Meadow jumping mouse					0.3
Individuals/100 Trapnights	13.7	2.3	1.0	1.3	2.6
Total Species	1	2	1	1	4

1.2.1.1 Beachgrass Community. The spring 1980 meadow vole (Microtus pennsylvanicus) population appeared larger in this location than elsewhere on the study area (Table 1-4). Further, more meadow voles were trapped in this community during spring 1980 than during any previous survey during the 7-year monitoring period.



The 13-lined ground squirrel (Spermophilus tridecemlineatus) was sighted in this community for the first time during the monitoring period. This species generally prefers shortgrass habitats (e.g., lawns, golf courses) and is seen often in the industrial location. Tracks or signs of four other mammal species were observed also (Table 1.5); were using the beachgrass as a feeding area or as a passageway to the Lake Michigan beach.

1.2.1.2 Foredune. The four transient species observed in this location were those observed in the beachgrass community (Table 1.5). Shrubs and herbs generally exhibited effects of light browsing by white-tailed deer (Odocoileus virginianus); otherwise, this transition area has little usable habitat for mammals.

1.2.1.3 Immature Oak Forest. Two small mammals, the white-footed mouse (Peromyscus leucopus) and short-tailed shrew (Blarina brevicauda), were captured in Sherman live-traps in this location during May 1980 (Table 1.4). Captures of short-tailed shrew generally have been common on the Bailly study area, but the single capture in this location was the only one in May 1980.

Two mature, female white-tailed deer were observed in this location during an early morning survey on May 5. The red squirrel (Tamiasciurus hudsonicus) was the only other species sighted in this community, although tracks of the opossum (Didelphis marsupialis) and raccoon (Procyon lotor) were noted (Table 1.5).

1.2.1.4 Cowles Bog (Wooded). The white-footed mouse was the only small mammal captured in the wooded bog during May 1980 (Table 1.4) All captures occurred in the wet portion of the wooded bog.

Eight other species were observed during large-mammal surveys in the wooded bog (Table 1-5). The eastern chipmunk (Tamias striatus) was active during the warmest hours of day. Two female white-tailed deer - probably the same individuals observed in the immature oak forest - were seen during late afternoon. For the second consecutive year, fox squirrel (Sciurus niger) sightings in this location were few compared to previous years of the study.



Table 1.5

Mammals Observed in Sampling Locations, Bailly Study Area, May 1980

Common Name	Beachgrass	Foredune	Immature Oak Forest	Cowles Bog (wooded)	Cowles Bog (open)	Maple Forest	Emergent Macrophyte	Transmission Corridor
Opossum	*	*	*	*	*	1	*	*
Eastern mole				*				
Eastern cottontail rabbit	*	*		*				*
Eastern chipmunk				14		2		
Woodchuck				1				
Fox squirrel				2				
Red squirrel			1	3		2		
13-lined ground squirrel	1							
Muskrat					*		3	
Raccoon	*	*	*	*	*	*	*	*
White-tailed deer	*	*	2	2	*	*	*	*
Total Species	5	4	4	9	4	5	4	4

*Tracks or other signs.



1.2.1.5 Cowles Bog (Open). Signs of muskrat (Ondatra zibethica) activity were observed in the open bog for the first time since 1976. The study area's small muskrat population apparently fared better during the milder winter of 1979-80 than during the two previous winters. The three other mammals observed (Table 1-5) occur frequently in the open bog.

1.2.1.6 Maple Forest. As in May 1979, four white-footed mice were the only small-mammal captures in this location. The opossum was sighted during large-mammal surveys and tracks or signs of four other species were seen (Table 1-5).

1.2.1.7 Macrophyte Community. The muskrat was sighted in the macrophyte community during May 1980 and signs of three other species were noted. Sighting of the muskrat in this community, as well as in Cowles Bog, indicates a possible recovery of the population on the Bailly study area.

1.2.1.8 Transmission Corridor. Four of the five small mammal species captured on the Bailly study area during May 1980 were taken along the transmission corridor trapline (Table 1.4). The meadow jumping mouse (Zapus hudsonius) and 13-lined ground squirrel probably were captured in small numbers as in the past.

Signs of four large mammals were observed in this locale (Table 1.5). The periodically cleared transmission right-of-way offers excellent cottontail rabbit habitat when herbaceous vegetation begins to grow adjacent to brush pilings. Additionally, other wildlife seasonally utilize cleared areas within right-of-ways.

1.2.1.9 Road Route. Eleven cottontail rabbits were sighted along the 22-mile road route (Figure 1.2) in May 1980 as compared to five in May 1979. About one-half of the sightings during the May 1980 survey were subadult animals, indicating early nesting success for at least a portion of the study area's rabbit population. The July survey should reveal the spring 1980 reproductive success for the cottontail population in the study area. The results of the May road survey were:

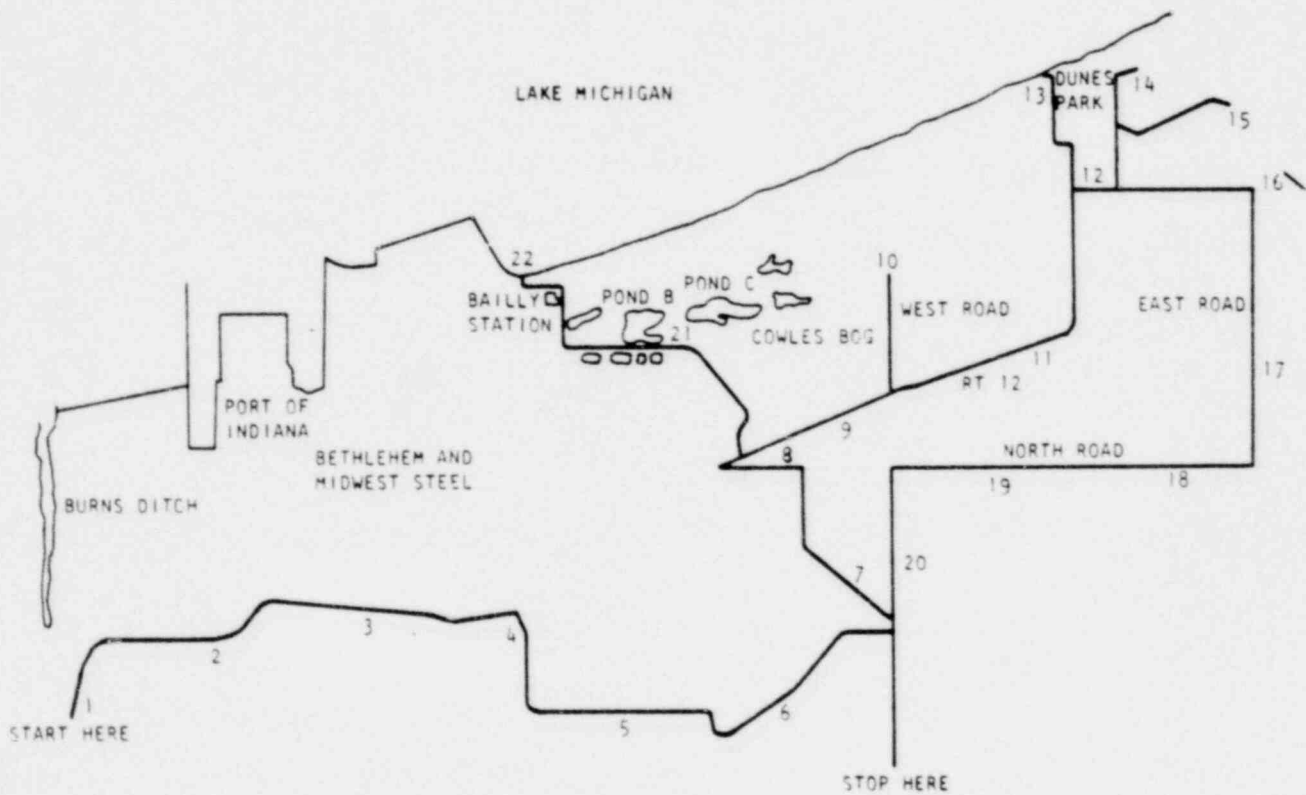


Figure 1.2
22-Mile Road Route, Bailly Study Area



<u>Mile</u>	<u>Number Observed</u>	<u>Mile</u>	<u>Number Observed</u>
0-1	0	11-12	1
1-2	0	12-13	0
2-3	1	13-14	0
3-4	0	14-15	0
4-5	0	15-16	1
5-6	0	16-17	0
6-7	2	17-18	0
7-8	1	18-19	0
8-9	2	19-20	0
9-10	0	20-21	2
10-11	1	21-22	0

Total = 11

1.2.2 BIRDS. Ninety-two bird species were observed in the Bailly study area during May 1980 as was the case in May 1979; eighty species were sighted during both springs. The list of species and the probable status of each in the study area is included in Table 1-6. Table 1-7 lists the bird species observed during transect surveys in each major sampling location, and data from the eight transects along Cowles Bog trail are in Table 1-8. Counts from each aquatic sampling location (Figure 1.2) are presented in Table 1-9. Results obtained from 3-minute stops along the 22-mile road route (Figure 1.3) are in Table 1-10.

Six bird species observed during the Bailly study area survey were not among the 167 bird species recorded by a Porter County May Day bird count that occurred on May 10, 1980. The species not included were Mallard (Anas platyrhynchos), Ring-necked Duck (Aythya colaris), Common Merganser (Mergus merganser), Common Goldeneye (Bucephala clangula) Eastern Bluebird (Sialia currucoides), and Pine Warbler (Dendroica pinus). Mr. Fred Kase, who directed the May Day count in the Cowles Bog area, submitted the data. Dr. Ken Brock of the Northwestern Indiana Bird Club was the count organizer.

1.2.2.1 Beachgrass Community. The Savannah Sparrow (Passerculus sandwichensis) was the only bird species observed during transect surveys in the beachgrass community (Table 1.7). The comparatively small number of wildlife species in the beachgrass community is related to the lack of significant vegetation stratification and diversity.



Table 1.6

Bird Species Observed in Vicinity of Bailly Study Area, May 1980

Common Name	Scientific Name	Probable Status
Common Loon	<u>Gavia immer</u>	Migrant
Horned Grebe	<u>Podiceps auritus</u>	Migrant
Pied-billed Grebe	<u>Podilymbus podiceps</u>	Summer resident
Great Blue Heron	<u>Ardea herodias</u>	Summer resident
Green Heron	<u>Butorides virescens</u>	Summer resident
Great Egret	<u>Casmerodius albus</u>	Summer resident
Canada Goose	<u>Branta canadensis</u>	Summer resident
Mallard	<u>Anas platyrhynchos</u>	Summer resident
Blue-winged Teal	<u>Anas discors</u>	Summer resident
Wood Duck	<u>Aix sponsa</u>	Summer resident
Ring-necked Duck	<u>Aythya collaris</u>	Summer resident
Common Merganser	<u>Mergus merganser</u>	Summer resident
Common Goldeneye	<u>Becephala clangula</u>	Migrant
Broadwinged Hawk	<u>Buteo platypterus</u>	Permanent resident
Ring-necked Pheasant	<u>Phasianus colchicus</u>	Permanent resident
Virginia Rail	<u>Rallus limicola</u>	Summer resident
Sora	<u>Porzana carolina</u>	Summer resident
American Coot	<u>Fulica americana</u>	Summer resident
Killdeer	<u>Charadrius vociferus</u>	Summer resident
Spotted Sandpiper	<u>Actitis macularia</u>	Summer resident
Herring Gull	<u>Larus argentatus</u>	Migrant-winter resident
Ring-billed Gull	<u>Larus delawarensis</u>	Permanent resident
Rock Dove	<u>Columba livia</u>	Permanent resident
Mourning Dove	<u>Zenaidura macroura</u>	Permanent resident
Yellow-billed Cuckoo	<u>Coccyzus americanus</u>	Migrant
Screech Owl	<u>Otus asio</u>	Permanent resident
Common Nighthawk	<u>Chordeiles minor</u>	Summer resident
Chimney Swift	<u>Chaetura pelagica</u>	Summer resident
Belted Kingfisher	<u>Megaceryle alcyon</u>	Permanent resident
Common Flicker	<u>Colaptes auratus</u>	Permanent resident
Red-bellied Woodpecker	<u>Centurus carolinus</u>	Permanent resident
Red-headed Woodpecker	<u>Melanerpes erythrocephalus</u>	Permanent resident
Yellow-bellied Sapsucker	<u>Sphyrapicus varius</u>	Summer resident
Downy Woodpecker	<u>Dendrocopos pubescens</u>	Permanent resident
Eastern Kingbird	<u>Tyrannus tyrannus</u>	Summer resident
Eastern Phoebe	<u>Sayornis phoebe</u>	Summer resident
Eastern Wood Pewee	<u>Contopus virens</u>	Summer resident
Tree Swallow	<u>Iridoprocne bicolor</u>	Summer resident
Bank Swallow	<u>Riparia riparia</u>	Summer resident
Barn Swallow	<u>Hirundo rustica</u>	Summer resident
Blue Jay	<u>Cyanocitta cristata</u>	Permanent resident
Common Crow	<u>Corvus brachyrhynchos</u>	Permanent resident
Black-capped Chickadee	<u>Parus atricapillus</u>	Permanent resident
Tufted Titmouse	<u>Parus bicolor</u>	Permanent resident
White-breasted Nuthatch	<u>Sitta carolinensis</u>	Permanent resident
House Wren	<u>Troglodytes aedon</u>	Summer resident
Short-billed Marsh Wren	<u>Cistothorus platensis</u>	Summer resident



Table 1.6 (Contd)

<u>Common Name</u>	<u>Scientific Name</u>	<u>Probable Status</u>
Gray Catbird	<u>Dumetella carolinensis</u>	Summer resident
Brown Thrasher	<u>Toxostoma rufum</u>	Summer resident
American Robin	<u>Turdus migratorius</u>	Summer resident
Wood Thrush	<u>Hylocichla mustelina</u>	Summer resident
Hermit Thrush	<u>Catharus guttata</u>	Migrant
Gray-cheeked Thrush	<u>Catharus minima</u>	Migrant
Veery	<u>Catharus fuscescens</u>	Summer resident
Eastern Bluebird	<u>Sialia sialia</u>	Permanent resident
Blue-gray Gnatcatcher	<u>Polioptila caerulea</u>	Summer resident
Ruby-crowned Kinglet	<u>Regulus calendula</u>	Migrant
Starling	<u>Sturnus vulgaris</u>	Permanent resident
Yellow-throated Vireo	<u>Vireo flavifrons</u>	Summer resident
Red-eyed Vireo	<u>Vireo olivaceus</u>	Summer resident
Warbling Vireo	<u>Vireo gilvus</u>	Summer resident
Black-and-white Warbler	<u>Mniotilta varia</u>	Summer resident
Orange-crowned Warbler	<u>Vermivora celata</u>	Migrant
Yellow Warbler	<u>Dendroica petechia</u>	Summer resident
Magnolia Warbler	<u>Dendroica magnolia</u>	Migrant
Yellow-rumped Warbler	<u>Dendroica coronata</u>	Migrant
Chestnut-sided Warbler	<u>Dendroica pennsylvanica</u>	Summer resident
Pine Warbler	<u>Dendroica pinus</u>	Summer resident
Palm Warbler	<u>Dendroica palmarum</u>	Migrant
Ovenbird	<u>Seiurus aurocapillus</u>	Summer resident
Northern Waterthrush	<u>Seiurus noveboracensis</u>	Migrant
Common Yellowthroat	<u>Geothlypis trichas</u>	Summer resident
Yellow-breasted Chat	<u>Icteria virens</u>	Summer resident
Wilson's Warbler	<u>Wilsonia pusilla</u>	Migrant
American Redstart	<u>Setophaga ruticilla</u>	Summer resident
House Sparrow	<u>Passer domesticus</u>	Permanent resident
Red-winged Blackbird	<u>Agelaius phoeniceus</u>	Summer resident
Common Grackle	<u>Quiscalus quiscula</u>	Summer resident
Brown-headed Cowbird	<u>Molothrus ater</u>	Summer resident
Scarlet Tanager	<u>Piranga olivacea</u>	Summer resident
Cardinal	<u>Cardinalis cardinalis</u>	Permanent resident
Rose-breasted Grosbeak	<u>Phœticus ludovicianus</u>	Summer resident
Indigo Bunting	<u>Passerina cyanea</u>	Summer resident
American Goldfinch	<u>Spinus tristis</u>	Permanent resident
Rufous-sided Towhee	<u>Papilo erythrophthalmus</u>	Summer resident
Savannah Sparrow	<u>Passerculus sandwichensis</u>	Summer resident
Chipping Sparrow	<u>Spizella passerina</u>	Summer resident
Field Sparrow	<u>Spizella pusilla</u>	Summer resident
White-crowned Sparrow	<u>Zonotrichia leucophrys</u>	Migrant
White-throated Sparrow	<u>Zonotrichia albicollis</u>	Migrant
Swamp Sparrow	<u>Melospiza georgiana</u>	Permanent resident
Song Sparrow	<u>Melospiza melodia</u>	Permanent resident

Total Species - 92



Table 1.7

Birds Observed along Transects in Six Sampling Locations in Bailly Study Area, May 1980

Species	Beachgrass		Immature Oak		Cowles Bog (Wooded)		Cowles Bog (Open)		Maple Forest		Transmission Corridor	
	A	B	A	B	A	B	A	B	A	B	A	B
Sora Rail												1
Common Flicker												1
Red-headed Woodpecker					1							1
Tree Swallow								2				
Blue Jay			1	1	1	1				1	2	
Common Crow				1		2					1	
Black-capped Chickadee						1		1				
White-breasted Nuthatch			1							1		
Long-billed Marsh Wren								1				
Short-billed Marsh Wren								2				
American Robin					2					1	3	
Yellow-throated Vireo								1				
Red-eyed Vireo						2				2		
Warbling Vireo										1	2	
Palm Warbler			1		2			2				
Yellow Warbler								2				
Pine Warbler				2								
Common Yellowthroat												1
Red-winged Blackbird								5	2			
Common Grackle						1						
American Goldfinch								2				2
Savannah Sparrow		1										
White-throated Sparrow					2			2				
Swamp Sparrow									4			
Song Sparrow								1				1
White-crowned Sparrow								1				
Total Individuals	0	1	3	4	8	7	18	14	6	8	3	4
Total Species	0	1	3	3	5	5	9	9	5	4	2	3
Total Species		1		5		9		17		6		5

1.2.2.2 Immature Oak Forest. Five bird species were observed from the two transects in this locale during May 1980 (Table 1.7). The Blue Jay (*Cyanocitta cristata*) was the only species observed on both transects. Two other species, the White-breasted Nuthatch (*Sitta carolinensis*) and the Pine Warbler (*Dendroica pinus*), were associated with conifers that occur in this location.

1.2.2.3 Cowles Bog (Wooded). Nine species of birds were observed along the two transects in the wooded bog. The Blue Jay was the only species common to



both transects. Most of the species, observed in the wet portion of the wooded bog (transect A) including the White-throated Sparrow (Zonotrichia albicollis) and American Robin (Turdus migratorius), prefer moist habitats. Those species observed along transect B generally prefer drier habitats.

1.2.2.4 Cowles Bog Trail. During May 1980, 24 species of birds were observed along Cowles Bog Trail (Table 1.8). The Blue Jay was observed along five transects, while the Gray Catbird (Dumetella carolinensis) and the Wood Thrush (Hylocichla mustelina) were observed along three transects each. Five warblers and three vireos were among the species recorded. The greatest number of species was observed along Transect 4, which consistently has had comparatively large numbers of species.

1.2.2.5 Cowles Bog (Open). Bird utilization of the open bog was substantial during May 1980, with 17 species observed (Table 1.7). The Red-winged Blackbird (Agelaius phoeniceus) was the only species observed on both transects. Scattered trees and shrubs were heavily utilized by many of the species present. Additionally, insect activity during May was most obvious in this sampling location, thus attracting many insectivorous birds (e.g., warblers and vireos).

1.2.2.6 Maple Forest. All six species of birds observed in the maple forest generally reside in forested habitat (Table 1-7). Three species - Blue Jay, American Robin, and Warbling Vireo (Vireo gilvus) - were observed on both transects. Sparse herbaceous ground cover and moist litter create optimum habitat for worm-eating species like the American Robin.

1.2.2.7 Transmission Corridor. Five bird species were observed on the transects along the transmission right-of-way. The ecotonal areas associated with this location provided suitable habitat for most of these species. The Song Sparrow (Melospiza melodia) and American Goldfinch (Spinus tristis) are typical occupants of open habitats.



Table 1.8

Abundance of Birds along Cowles Trail,
Baily Study Area, May 1980

Species	Cowles Bog Trail Transects*							
	1	2	3	4	5	6	7	8
Mallard		1						
Common Flicker			1					
Downy Woodpecker							1	
Blue Jay			2	1	1	4		1
White-breasted Nuthatch							1	
Gray Catbird		1		2	1			
American Robin		1						
Ruby-crowned Kinglet					2			
Yellow-throated Vireo				1				
Red-eyed Vireo								2
Warbling Vireo					1		1	
Yellow Warbler		2						
Chestnut-sided Warbler								2
Ovenbird					1			
Kentucky Warbler		2	2					
American Redstart							2	
Red-winged Blackbird	4							1
Common Grackle							2	
Cardinal			1	1				
Swamp Sparrow				2				
Song Sparrow	2			1				
White-throated Sparrow	1							
Wood Thrush				1		1		1
Veery				1				
Total No. Individuals	7	7	6	10	6	5	7	7
Total No. Species	3	5	4	8	5	2	5	5

*Transect lengths = 375 feet

1.2.2.8 Aquatic Habitats. Aquatic locations A through J (Figure 1-3) were surveyed on several occasions during May 1980 to determine usage by water birds. Sixteen species of birds were reported (Table 1-9). Locations C, D, G, and J hosted similar numbers of species.

Comparatively few gulls were observed on Lake Michigan during the May survey, perhaps reflecting the low abundance of fish observed in aquatic sampling in the lake.

Several species of waterfowl were observed nesting on study area ponds during May. One Canada Goose (Branta canadensis) broad hatched during May, and a hen and three goslings were observed in Pond G. The two Common Loon (Gavia immer) observed on Pond C probably were migrants, although nesting was possible by this species and others not indicated in Table 1.9 as nesting.

1.2.2.9 Road Route Census. The May survey of the 22-mile road route revealed 49 species of birds (Table 1-10). The American Robin was the most frequently observed species, occurring at 13 of the 22 stops. Other frequent species included the Common Grackle (Quiscalus quiscula), Blue Jay, Starling (Sturnus

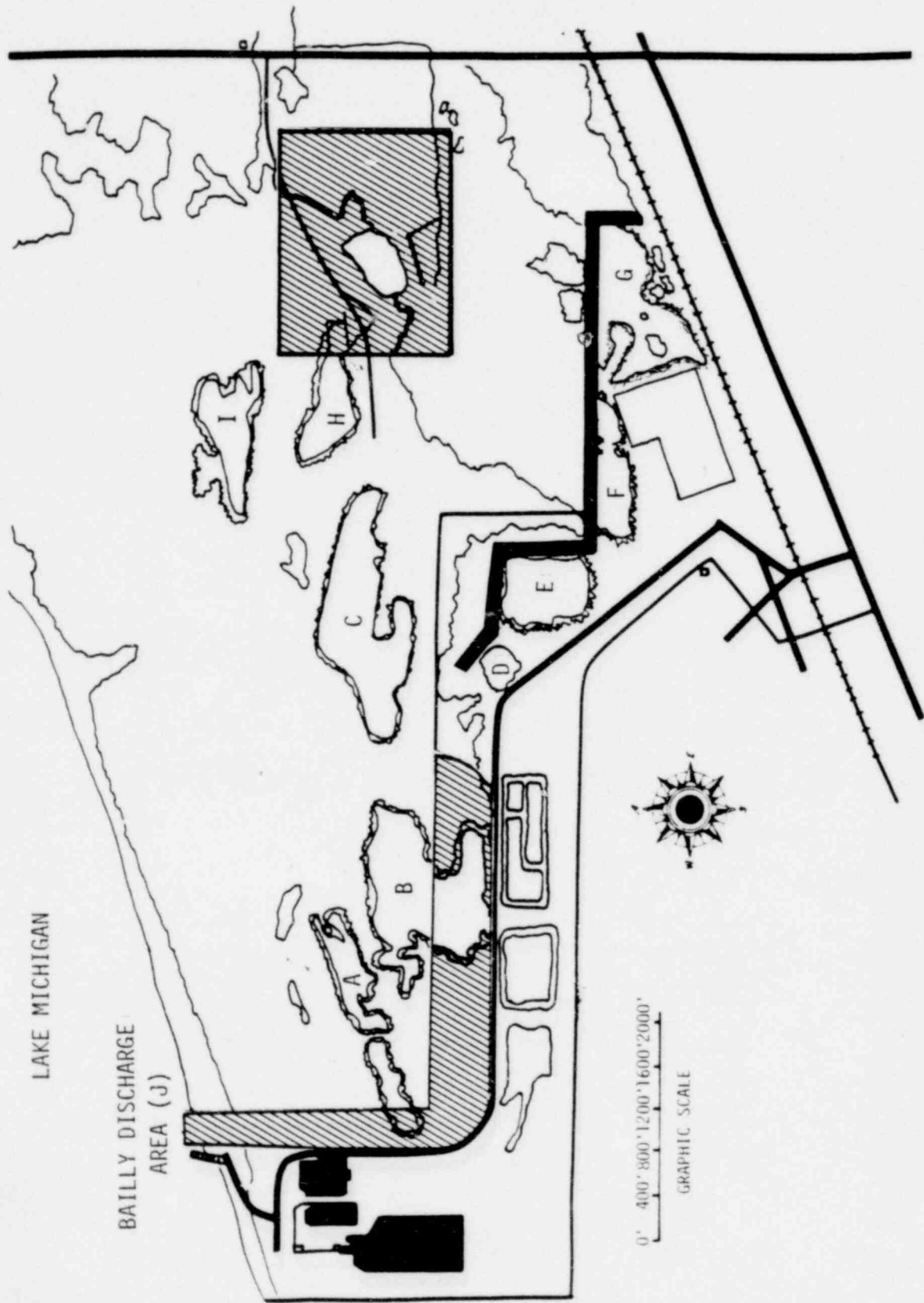


Figure 1.3. Aquatic Habitats (A through J) Sampled for Water Birds in the Bailly Study Area, 1980



Table 1.9
Maximum Numbers of Birds Utilizing Aquatic Locations,
Bailly Study Area, May 1980

Species	Locations*									
	A	B	C	D	E	F	G	H	I	J
Common Loon			2							
Pied-billed Grebe		1								
Great Blue Heron										1
Great Egret			2							
Green Heron**			1							
Mute Swan**		1								
Canada Goose**						3	7***			
Mallard**					2		2			
Blue-winged Teal						8	4			
Wood Duck							2			
Common Merganser										2
American Coot			4			4	20			
Herring Gull										15
Ring-billed Gull										29
Belted Kingfisher										1
Killdeer**						1				
Total Observations	0	2	9	0	2	16	35	0	0	48
Total Species	0	2	4	0	1	4	5	0	0	5

*See Figure 1-2

**Species observed nesting

***Hen and young (3)

vulgaris), and House Sparrow (Passer domesticus). Generally, these species also were the most numerous.

1.2.3 AMPHIBIANS AND REPTILES. Thirteen species of herpetiles observed were during May 1980 (Table 1-11), which was slightly above average for the monitoring period. Despite cool morning temperatures, midday warming activated most of the species observed. Water levels in all of the sampling locations appeared lower than usual for this time of year.

1.2.3.1 Lake Communities (Beachgrass-Foredune-Immature Oak). The American toad (Bufo americanus) was the only species observed in the lakefront communities (Table 1-12). The sandy soils of this location provide excellent burrowing habitat for the toad.

1.2.3.2 Cowles Bog (Wooded). Four of the six species of herpetiles observed in the wooded bog were frogs (Table 1-12); all were commonly observed or heard. The terrestrial eastern box turtle (Terrapene carolina) and the blue racer (Coluber constrictor) were the other species observed. The blue racer is



Table 1.10

Observations of Birds along 22-Mile Road Route, Bailly Study Area, May 1980

Species	No.	Frequency Observed
Green Heron	1	1
Great Blue Heron	1	1
Common Merganser	14	2
Mallard	1	1
Wood Duck	1	1
Killdeer	2	1
Herring Gull	37	1
Ring-billed Gull	51	1
Rock Dove	3	2
Mourning Dove	12	6
Common Flicker	2	2
Red-bellied Woodpecker	1	1
Hairy Woodpecker	2	2
Downy Woodpecker	3	3
Eastern Phoebe	1	1
Barn Swallow	3	1
Tree Swallow	5	2
Blue Jay	19	8
Common Crow	4	2
Black-capped Chickadee	1	1
Tufted Titmouse	1	1
White-breasted Nuthatch	3	2
House Wren	2	2
Gray Catbird	4	3
Brown Thrasher	2	1
American Robin	41	13
Wood Thrush	2	2
Starling	23	7
Red-eyed Vireo	2	1
Palm Warbler	4	2
Parula Warbler	1	1
Yellow Warbler	1	1
Magnolia Warbler	1	1
Chestnut-sided Warbler	1	1
Ovenbird	1	1
Louisiana Waterthrush	1	1
House Sparrow	25	7
Eastern Meadowlark	3	2
Red-winged Blackbird	22	5
Common Grackle	46	10
Cardinal	14	6
Rose-breasted Grosbeak	1	1
American Goldfinch	4	2
White-throated Sparrow	7	2
Chipping Sparrow	3	3
Field Sparrow	3	2
Swamp Sparrow	4	2
Song Sparrow	3	2
Tree Sparrow	4	3

Total = 49 species



Table 1.11

Amphibians and Reptiles Observed in Bailly Study Area, May 1980

Species	
<u>Common Name</u>	<u>Scientific Name</u>
American toad	<u>Bufo americanus</u>
Cricket frog	<u>Acris crepitans</u>
Spring peeper	<u>Hyla crucifer</u>
Gray treefrog	<u>Hyla versicolor</u>
Bullfrog	<u>Rana catesbeiana</u>
Green frog	<u>Rana clamitans</u>
Wood frog	<u>Rana sylvatica</u>
Leopard frog	<u>Rana pipiens</u>
Painted turtle	<u>Chrysemys picta</u>
Eastern box turtle	<u>Terrapene carolina</u>
Northern water snake	<u>Natrix sipedon</u>
Common garter snake	<u>Thamnophis sirtalis</u>
Blue racer	<u>Coluber constrictor</u>

infrequently observed anywhere on the study area, whereas the eastern box turtle is commonly observed in the wooded bog.

1.2.3.3 Cowles Bog (Open). Frogs were the only herpetiles observed in this location during May 1980 (Table 1-12). Bullfrogs (Rana catesbeiana) are typical of open marsh-like habitat like that available in the open bog. A large (more than 50 individual) chorus of spring peepers (Hyla crucifer) was observed calling from shrubs and trees along the dike at the southern edge of the open bog.

1.2.3.4 Maple Forest. No herpetiles were observed in the maple forest during May 1980, probably because the channel entering this location from the nearby pond was dry.

1.2.3.5 Emergent Macrophyte Community. Several anuran choruses were heard in this location during May 1980 (Table 1-12). An American toad chorus of an estimated 50 individuals could be heard during mid-afternoon and evening hours. Several small choruses of the gray treefrog (Hyla versicolor) and spring peeper were occasionally heard calling. Painted turtles (Chrysemys picta) were



Table 1.12
Abundances of Amphibians and Reptiles,
Bailly Study Area, May 1980

	Beachgrass	Foredune	Immature Oak Forest	Cowles Bog (wooded)	Cowles Bog (open)	Maple Forest	Emergent Macrophyte	Transmission Corridor
American toad	1						*	
Cricket frog								
Spring peeper				*	*		*	
Gray treefrog				*			*	
Bullfrog						15		
Green frog				15	7		10	
Wood frog				9				
Leopard frog								
Eastern box turtle				1				
Painted turtle							6	
Northern water snake							2	
Common garter snake								1
Black racer				1				
No. Species	1	0	0	6	3	0	6	1

*Chorus (10-50 individuals)

observed basking on exposed logs during midday, and two northern water snakes (Natrix sipedon) were observed.

1.2.3.6 Transmission Corridor. One small, common garter snake (Thamnophis sirtalis) was the only herpetile species observed in this location during May 1980 (Table 1-12).

1.2.4 FOLIAR DAMAGE. Older needles on white pine (Pinus strobus) along the Bailly entrance road still exhibited some flagging. New needles had not yet formed, and deciduous trees had not leafed.

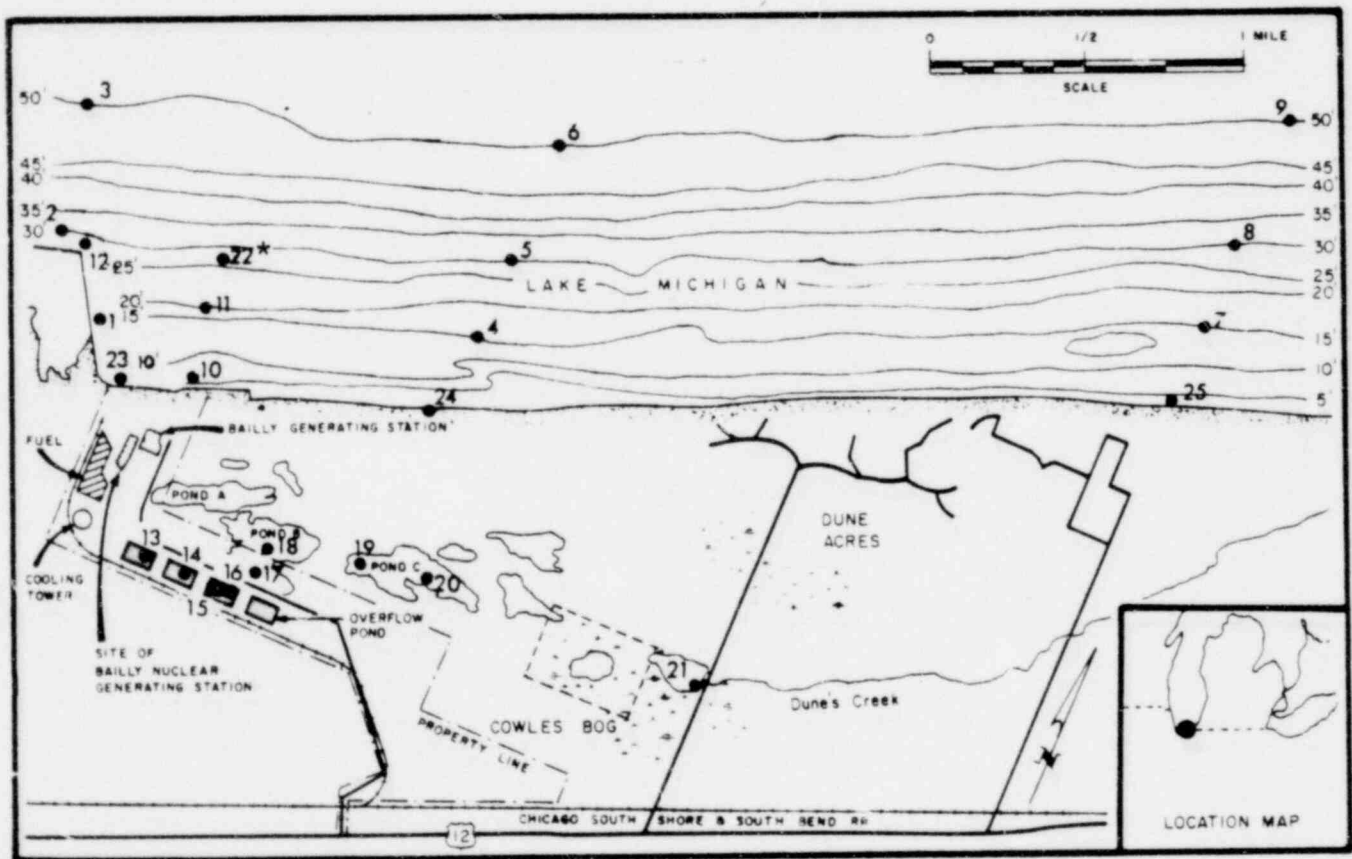
1.2.5 SOIL CONDUCTIVITY. All soil samples for conductivity analysis were collected during May 1980, and results of the soils analysis will appear in the summer report.



SECTION 2
AQUATIC ECOLOGY

2.1 STATUS

Samples were collected under the direction of TI's Kendall Brown in April and June during the spring 1980 quarter. Sampling stations are indicated in Figure 2.1 as well as in Table 2.1 which also lists samples collected and sample status. Dates and purposes of all aquatic field trips during spring 1980 are listed in Table 2.2.



*Station 22 is a "floating" station located on the plume center line, 1000 feet from the discharge.

Figure 2.1. Aquatic Sampling Stations in Bailly Study Area



Table 2.1
Status of Laboratory Analyses for Bailly Study Area

Parameter	Sampling Station	April			June		
		Sampling Schedule	Analyses		Sampling Schedule	Analyses	
			Complete	Continuing		Complete	Continuing
Phytoplankton							
Identification, enumeration	1-10, 17-21	x	x		x		x
Productivity	1-10, 17-21	x		x	x		x
Chlorophyll <u>a</u>	1-10, 17-21	x		x	x		x
Zooplankton							
Identification, enumeration	1-10, 17-21	x	x		x		x
Periphyton							
Identification, enumeration	1,10,11,12,25 17,19,21	x	x		x		x
Chlorophyll <u>a</u>	1,10,11,12,25 17,19,21	x		x	x		x
Benthos							
Identification, enumeration	1-10, 17-21	x	x		x		x
Fish							
Gill netting	4,7	x		x	x		x
Beach seining	23,24,25	x		x	x		x
Pond electroshocking	17, 8				x		x
Food habits	1-10	x		x*	x		x*
Ichthyoplankton	1-10	x	x		x		x
Water Quality							
General water quality	1-22	x		x	x		x
Aquatic nutrients	1-22	x		x	x		x
Trace elements	13-21	x		x	x		x
Indicators of contamination	13-21	x		x	x		x
Sediments	17-21	x		x			
Aquatic Macrophytes	17-21				x		x

* Since the objective of the food-habits study is to collect 50 specimens each of six taxa over the course of a year, analyses cannot be performed until all fish are collected.

Table 2.2
Dates and Purposes of All Aquatic Field Trips,
Bailly Study Area, Spring Quarter, 1980

Date	Personnel	Parameters Sampled
7-9 and 27-30 Apr 1-2 May	Kendall Brown Ralph Feeny Jim Krueger	Phytoplankton Zooplankton Periphyton Benthos Fish Ichthyoplankton Water quality
13-16 Jun 12-15 Jul	Kendall Brown Joe Strube Ralph Feeny Dave Mueller	Phytoplankton Zooplankton Periphyton Benthos Fish Ichthyoplankton Water quality Aquatic macrophytes



2.2

AQUATIC FLORA

2.2.1 METHODOLOGY. Duplicate 2-liter phytoplankton samples were collected with a 6-liter Van Dorn bottle at stations 1 through 10 in Lake Michigan and at stations 17 through 21 in the pond areas (Figure 2.1). All samples were collected from 1 meter below the surface. Before sampling, each 2-liter sample container was prepared with 20 milliliters of acid Lugol's solution, which is a narcotizing settling agent. After sampling, each container was supplemented with buffered formalin to a final concentration of 4 percent and 3 to 5 drops of liquid detergent to facilitate sedimentation. Before processing, each sample was allowed to settle for 48 hours; then 1800 milliliters of supernatant were siphoned off with a membrane-covered siphon. The remaining 200 milliliters were spun on a laboratory centrifuge at 2000 revolutions per minute for 15 minutes to further concentrate the organisms before the supernatant was filtered off the centrifuge tubes and the "bead" of phytoplankton transferred to 12-dram vials.

In the laboratory, concentrated phytoplankton samples (10 milliliters) were thoroughly mixed and three subsamples placed in Palmer cells. The algae in 12 fields (four per subsample) were identified, enumerated, and measured at 400X magnification. In instances where there was a scarcity of organisms in a sample, the total field count was extended to 24 fields. Biovolume (microliters per liter) was determined by attributing to the algae geometric shapes best suiting their morphology and calculating their appropriate volumes (Nauwerck 1963; Rodhe, Vollenweider, and Nauwerck 1958; Strickland 1960). Instead of developing an average volume per species based on a few representatives, dimensions of each organism enumerated were measured.

Phytoplankton productivity samples were taken at the same locations and sampling frequency used for collections for identification, enumeration, and biovolume measurements. Duplicate samples were collected from 1 meter below the surface at each station in a 6-liter Van Dorn bottle. Each collected sample was strained through a 333-micrometer mesh nitex net to remove zooplankters and large detrital material that could be labeled by the carbon-14 material.



The strained water of each sample was measured in a 2-liter flask to which four 1-milliliter aliquots of 5 microcuries $\text{NaH}^{14}\text{CO}_3$ were added and thoroughly mixed. A time-zero sample consisting of two 0.5-milliliter subsamples was measured and placed in scintillation vials along with one drop of 6N sodium hydroxide. Two 50-milliliter subsamples also were removed and strained through Whatman GF/C filters at minimum vacuum pressure (less than 50 millimeters Hg differential across the filter) and the filters placed in scintillation vials. Duplicate clear and darkened 300-milliliter BOD bottles were filled with the remaining sample. After all samples had been prepared, they were suspended 1 meter below the surface at their stations for a maximum of 4 hours. Following incubation, the bottles were retrieved and the contents of each preserved by adding 1 milliliter of buffered formalin. Subsamples of 50 milliliters were removed from each bottle and filtered as previously described; each was placed in a labeled scintillation vial with enough tissue solubilizer to cover the filter pad. Activity counts were made with a liquid scintillation counter.

The following formula (APHA 1971) was used to calculate from the scintillation counts the phytoplankton productivity in milligrams of carbon fixed per liter for each replicate sample:

$$\begin{aligned} \text{mg carbon fixed/1/4-hr period} = & (\text{counting rate/total activity}) \\ & \times (\text{total sample volume/sub-} \\ & \text{sample volume}) \times \text{mg/l initial} \\ & \text{organic carbon (mg/l)} \times 1.064 \end{aligned}$$

where

Total activity	= amount of potentially available carbon-14 at time zero
Counting rate	= clear bottle counts minus darkened bottle counts
Total sample volume	= 300 milliliters
Subsample volume	= 50 milliliters
1.064	= correction for isotope effect

Phytoplankton chlorophyll a samples were collected from the same water samples from which regular phytoplankton samples were extracted (stations 1 through 10 and 17 through 21). To prepare phytoplankton samples for chlorophyll a analysis, a measured volume of water was filtered through a 0.45-micrometer filter pad stabilized with magnesium carbonate. The filter pad was then frozen



for shipment to the central laboratory, where it was extracted for 24 hours with acetone, ground for 30 seconds with a tissue grinder, centrifuged, and measured on a narrow-band spectrophotometer at 665- and 750-millimicron wavelengths before and after sample acidification. Periphyton samples were similarly processed using measured scrapings from natural (as available) or artificial substrates. All concentrations were calculated using the following equation (Vollenweider 1974):

$$\begin{aligned}\text{Chlorophyll } \underline{a} \text{ (}\mu\text{g per sample)} &= (D_b - D_a) [R/(R-1)] (V/l) (10^3/a_c) \\ &= 11.9 \times 2.43 (D_b - D_a) (V/l)\end{aligned}$$

where

D_a = optical density of sample after acidification - D_{665} -
 D_{750} (acidified)

D_b = optical density of sample before acidification = D_{665} -
 D_{750} (unacidified)

a_c = specific absorption coefficient for chlorophyll a (in
grams per centimeter)

V = volume of solvent used to extract the sample
(milliliters)

l = path length in centimeters

$R = D_b/D_a$ [for pure chlorophyll a, $R = 84$ (Talling and
Driver 1963)]

To convert to micrograms per liter or micrograms per square centimeter, the chlorophyll a value was divided by number of liters filtered or number of square centimeters scraped.

Periphyton sampling was scheduled at five Lake Michigan stations (1, 10, 11, 12, and 25) and three pond stations (17, 19, and 21). Pond samples were collected using a modification of an artificial substrate sampler first described by Patrick, Hohn, and Wallace (1954), except at Station 17 where samples were collected from natural substrates (the artificial substrate was destroyed). This sampler suspends two racks of five glass slides each, with a surface area of 37.5 square centimeters per slide, just below the surface as a substrate for periphyton colonization. Colonization generally occurs in 2 to 4 weeks; thus, the "incubation" time per sampler was 1 month. Lake samples were scraped from natural substrates (as available) at each sampling station. The



Table 2.3
Phytoplankton Density, Bailly Study Area,
April 1980 (Page 1 of 5)

NUMBER OF CELLS PER LITER

SITE SUMMARY

LS	TAXA	Nearfield (1-6,10)	Farfield (7-9)	- X	S.E.	REL AB%
0	UNIDENTIFIED ALGAE	7125.31	104468.06	55796.69	48671.37	1.0
0	UNIDENTIFIED ALGAE (LPIL)	7125.31	104468.06	55796.69	48671.37	1.0
0	CYANOPHYTA	1548934.00	2079934.00	1814434.00	265500.00	33.7
0	CHROOCOCCACEAE					
0	CHROOCOCCUS (LPIL)	81411.31	0.0	40705.66	40705.66	0.8
0	MICROCYSTIS (LPIL)	0.0	95150.37	47575.19	47575.19	0.9
0	GOMPHOSPHAERIA LACUSTRIS	630316.31	1956721.00	1293516.00	663202.31	24.0
0	OSCILLATORIACEAE					
0	OSCILLATORIA LIMNETICA	0.0	28062.79	14031.39	14031.39	0.3
0	OSCILLATORIA (LPIL)	321552.62	0.0	160776.31	160776.31	3.0
0	LYNGBYA CONTORTA	515653.62	0.0	257826.81	257826.81	4.8
0	CHLOROPHYTA	668098.56	141519.69	404809.12	263289.44	7.5
0	VOLVOCALES					
0	CHLAMYDOMONAS (LPIL)	188108.31	91752.12	139930.19	48178.09	2.6
0	TETRASPORALES					
0	ELAKATOTHRIX (LPIL)	22618.29	31789.87	27204.08	4585.79	0.5
0	CHLOROCOCCALES					
0	SPHAEROCYSTIS SCHROETERI	389809.31	0.0	194904.62	194904.62	3.6
0	ANKISTRODESMUS FALCATUS	53238.90	17977.71	35608.30	17630.59	0.7
0	SCENEDESMUS QUADRICAUDA	14323.71	0.0	7161.86	7161.86	0.1
0	CHRYSOPHYTA	209648.69	137354.12	173501.37	36147.28	3.2
0	CHRYSOMONADALES					
0	MALLAMONAS (LPIL)	6284.89	0.0	3142.45	3142.45	0.1
0	CHRYSOCOCCUS (LPIL)	1827.00	7015.70	4421.35	2594.35	0.1
0	SYNURA (LPIL)	3654.01	0.0	1827.00	1827.00	0.0
0	DINOBRYON SOCIALE	62465.27	61606.58	62035.93	429.34	1.2
0	MONOSIGALES					
0	STELEXOMONAS DICHOTOMA	135417.50	61716.19	98566.81	36850.66	1.8
0	CHRYSOPHYTA (LPIL)	0.0	7015.70	3507.85	3507.85	0.1
0	BACILLARIOPHYTA-CENTRIC	1206676.00	726069.50	966372.75	240303.25	18.0
0	EUPODISCALES					
0	MELOSIRA (LPIL)	467274.44	188601.62	327938.00	139336.37	6.1
0	STEPHANODISCUS BINDERANA	230713.94	42971.12	136842.50	93871.37	2.5
0	STEPHANODISCUS NIAGARAE	14287.17	6796.45	10541.81	3745.36	0.2
0	STEPHANODISCUS (LPIL)	121276.50	180763.75	151020.12	29743.62	2.8
0	EUPODISCALES (LPIL)	144167.12	7015.70	75601.37	68585.69	1.4
0	RHIZOSOLENIALES					
0	RHIZOSOLENIA ERIENSTYS	228938.19	299920.94	264429.56	35491.37	4.9
0	BACILLARIOPHYTA-PENNATE	1160932.00	1314992.00	1237962.00	77030.00	23.0
0	FRAGILARIALES					
0	ASTERIONELLA FORMOSA	501549.12	761049.56	631299.31	129750.19	11.7
0	DIATOMA TENUE	1461.60	60619.98	31040.79	29579.19	0.6

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Table 2.3 (Page 2 of 5)

NUMBER OF CELLS PER LITER

SITE SUMMARY

LS	TAXA	Nearfield (1-6, 12)	Farfield (7-9)	- X	S.E.	REL ABZ
0	FRAGILARIA CROTONENSIS	177767.44	326887.62	252327.50	74560.06	4.7
0	FRAGILARIA (LPIL)	342563.12	47575.19	195069.12	147493.94	3.6
0	TABELLARIA FLOCCULOSA	0.0	60948.87	30474.44	30474.44	0.6
0	FRAGILARIALES (LPIL)	22837.54	0.0	11418.77	11418.77	0.2
0	NAVICULALES					
0	NAVICULA (LPIL)	4932.91	9975.44	7454.18	2521.27	0.1
0	PINNULARIA (LPIL)	2228.94	6796.45	4512.70	2283.75	0.1
0	CYMBELLA (LPIL)	4019.41	0.0	2009.70	2009.70	0.0
0	BACILLARIALES					
0	NITZCHIA (LPIL)	31351.37	7980.35	19665.86	11685.51	0.4
0	SURIRELLALES					
0	CYMATOPLEURA SOLEA	1827.00	0.0	913.50	913.50	0.0
0	BACILLARIOPHYTA-PENNIATE (LPIL)	70394.44	33160.12	51777.28	18617.16	1.0
0	PYRRHOPHYTA-DINOPHYCEAE	3654.01	87148.06	45401.03	41747.03	0.8
0	PERIDINIALES					
0	PERIDINIUM INCONSPICUUM	3654.01	87148.06	45401.03	41747.03	0.8
0	CRYPTOPHYTA	772968.75	594799.44	683864.06	89084.62	12.7
0	CRYPTOMONDALES					
0	CRYPTOMONAS MARSSONII	4750.21	0.0	2375.11	2375.11	0.0
0	CRYPTOMONAS REFLEXA	12825.57	11181.26	12003.41	822.16	0.2
0	CRYPTOMONAS (LPIL)	38622.87	12387.09	25504.98	13117.89	0.5
0	RHODOMONAS MINUTA	684688.00	564215.44	624451.69	60236.28	11.6
0	CHROOMONAS (LPIL)	28428.18	7015.70	17721.94	10706.24	0.3
0	CYANOMONAS (LPIL)	3654.01	0.0	1827.00	1827.00	0.0
	TOTAL	5578035.00	5186281.00	5382158.00	195877.00	100.0
	DIVERSITY (H PRIME)	2.47	2.64	2.56	0.08	
	DIVERSITY (J PRIME)	0.71	0.75	0.73	0.02	
	NUMBER OF TAXA	39	31	43		

ABOVE COMPUTED USING SAMPLE IDS

11	12	21	22
31	32	41	42
51	52	61	62
101	102	71	72
81	82	91	92





Table 2.3 (Page 3 of 5)

NUMBER OF CELLS PER LITER

SITE SUMMARY

LS	TAXA	Pond B	Pond C	Cowles Bog	X	S.E.	REL AB%
0	CYANOPHYTA	430643.19	710010.19	1760720.00	967124.44	404910.19	8.7
0	CHROOCOCCACEAE						
0	AGMENELLUM (LPIL)	0.0	99973.69	0.0	33324.56	33324.56	0.3
0	OSCILLATORIACEAE						
0	OSCILLATORIA (LPIL)	140587.94	0.0	790252.50	310280.12	243393.56	2.8
0	NOSTOCACEAE						
0	ANABAENA (LPIL)	290055.25	610036.50	941199.50	613763.75	187978.37	5.5
0	RIVULARIACEAE						
0	RAPHIIDIOPSIS CURVATA	0.0	0.0	29268.62	9756.20	9756.20	0.1
0	CHLOROPHYTA	3485181.00	175776.00	526210.19	1395722.00	1049615.00	12.6
0	VOLVOCALES						
0	CHLAMYDOMONAS (LPIL)	0.0	32228.36	0.0	10742.79	10742.79	0.1
0	CHLOROCOCCALES						
0	ANKISTRODESMUS FALCATUS	0.0	22198.10	0.0	7399.37	7399.37	0.1
0	OOCYSTIS (LPIL)	16443.03	0.0	0.0	5481.01	5481.01	0.0
0	SCENEDESMUS ACUTUS	0.0	34859.25	0.0	11619.75	11619.75	0.1
0	SCENEDESMUS QUADRICAUDA	2083167.00	61496.94	0.0	714887.94	684369.75	6.4
0	SCENEDESMUS ECGRIS	111154.87	24993.42	0.0	45382.77	33668.21	0.4
0	SCENEDESMUS SPINOSUS	47355.95	0.0	0.0	15785.32	15785.32	0.1
0	PEDIASTRUM DUPLEX	1052354.00	0.0	0.0	350784.62	350784.62	3.2
0	TETRAEDRON CAUDATUM	7563.80	0.0	0.0	2521.27	2521.27	0.0
0	OEDOGONIALES						
0	OEDOGONIUM (LPIL)	30255.19	0.0	468297.81	166184.31	151309.00	1.5
0	ZYGEMATALES						
0	MOUGEOTIA (LPIL)	119951.87	0.0	0.0	39983.96	39983.96	0.4
0	SPIROGYRA (LPIL)	0.0	0.0	52683.50	17561.16	17561.16	0.2
0	CLOSTERIUM MONILIFERUM	7563.80	0.0	0.0	2521.27	2521.27	0.0
0	CLOSTERIUM (LPIL)	0.0	0.0	5228.89	1742.96	1742.96	0.0
0	STAUSTRUM (LPIL)	9372.53	0.0	0.0	3124.18	3124.18	0.0
0	EUGLENOPHYTA	49493.53	268350.37	160845.81	159563.19	63181.78	1.4
0	EUGLENALES						
0	TRACHELOMONAS VOLVOCINA	0.0	34037.09	0.0	11345.70	11345.70	0.1
0	TRACHELOMONAS (LPIL)	49493.53	234313.31	160845.81	148217.50	53725.20	1.3
0	CHRYSTOPHYTA	2564043.00	18404576.0	58537.22	7009052.00	5743485.00	63.1
0	CHRYSOMONADALES						
0	CHRYSOCOCCUS (LPIL)	1821722.00	663969.75	58537.22	848076.31	517244.75	7.6
0	SYNCRYPTA (LPIL)	0.0	10523.55	0.0	3507.85	3507.85	0.0
0	DINOBRYON SERTULARIA	661256.75	1970450.00	0.0	877235.56	578979.94	7.9
0	DINOBRYON DIVERGENS	0.0	13483.29	0.0	4494.43	4494.43	0.0
0	DINOBRYON (LPIL)	0.0	21047.09	0.0	7015.70	7015.70	0.1
0	OCHROMONAS (LPIL)	0.0	15642420.0	0.0	5214140.00	5214140.00	47.0
0	EPIPYXIS UTRICULUS	22691.39	10523.55	0.0	11071.64	6556.17	0.1



Table 2.3 (Page 4 of 5)

NUMBER OF CELLS PER LITER

SITE SUMMARY

LS	TAXA	Pond B	Pond C	Cowles Bog	- X	S.E.	REL AB%
0	KEPHYRION (LPIL)	58372.75	72184.87	0.0	43519.21	22121.89	0.4
0	BACILLARIOPHYTA-CENTRIC	0.0	0.0	204222.56	68074.19	68074.19	0.6
0	EUPODISCALES						
0	MELOSIRA VARIANS	0.0	0.0	117074.44	39024.81	39024.81	0.4
0	MELOSIRA (LPIL)	0.0	0.0	87148.12	29049.37	29049.37	0.3
0	BACILLARIOPHYTA-PENNATE	343626.56	100138.06	3598820.00	1347528.00	1127838.00	12.1
0	FRAGILARIALES						
0	FRAGILARIA CROTONENSIS	0.0	0.0	204880.31	68293.44	68293.44	0.6
0	FRAGILARIA (LPIL)	40285.44	56235.19	2233622.00	776714.19	728468.44	7.0
0	SYNEDRA (LPIL)	0.0	0.0	188864.75	62954.91	62954.91	0.6
0	TABELLARIA FLOCCULOSA	47388.81	20224.92	0.0	22537.91	13728.77	0.2
0	ACHNANTHALES						
0	ACHNANTHES MINUTISSIMA	82872.87	0.0	0.0	27624.29	27624.29	0.2
0	ACHNANTHES (LPIL)	15127.59	0.0	0.0	5042.53	5042.53	0.0
0	NAVICULALES						
0	NAVICULA (LPIL)	0.0	0.0	368653.00	122884.31	122884.31	1.1
0	NEIDIUM (LPIL)	16443.03	0.0	29268.62	15237.21	8470.61	0.1
0	PINNULARIA (LPIL)	0.0	0.0	58537.22	19512.41	19512.41	0.2
0	GOMPHONEMA (LPIL)	0.0	0.0	263417.50	87805.81	87805.81	0.8
0	AMPHORA (LPIL)	0.0	0.0	17429.62	5809.87	5809.87	0.1
0	EPITHEMIALES						
0	RHOPOLODIA GIBBA	0.0	0.0	58537.22	19512.41	19512.41	0.2
0	BACILLARIALES						
0	NITZCHIA (LPIL)	6577.21	8714.81	0.0	5097.34	2622.31	0.0
0	SURIRELLALES						
0	SURIRELLA (LPIL)	7563.80	0.0	0.0	2521.27	2521.27	0.0
0	BACILLARIOPHYTA-PENNATE (LPIL)	127367.75	14963.17	175611.69	105980.81	47592.14	1.0
0	PYRRHOPHYTA-DINOPHYCEAE	0.0	195803.69	29268.62	75024.06	60977.98	0.7
0	PERIDINIALES						
0	PERIDINIUM INCONSPICUUM	0.0	172125.69	29268.62	67131.37	53172.70	0.6
0	PERIDINIUM CINCTUM	0.0	23677.98	0.0	7892.66	7892.66	0.1
0	CRYPTOPHYTA	113950.19	135655.06	0.0	83201.75	42070.07	0.7
0	CRYPTOMONODALES						
0	CRYPTOMONAS (LPIL)	52288.66	113950.25	0.0	55413.04	32931.67	0.5
0	RHODOMONAS MINUTA	17429.62	0.0	0.0	5809.87	5809.87	0.1
0	CHROOMONAS (LPIL)	44231.77	21704.81	0.0	21978.86	12769.35	0.2
	TOTAL	6986934.00	19990256.0	6338621.00	11105270.0	446433.00	100.0
	DIVERSITY (H PRIME)	2.41	1.31	2.25	1.99	0.34	
	DIVERSITY (J PRIME)	0.65	0.34	0.62	0.54	0.10	
	NUMBER OF TAXA	28	25	21	51		

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Table 2.3 (Page 5 of 5)

NUMBER OF CELLS PER LITER

SITE SUMMARY

ABOVE COMPUTED USING SAMPLE IDS

171	172	181	182
191	192	201	202
211	212		



Table 2.4
Phytoplankton Biovolume, Bailly Study Area,
April 1980 (Page 1 of 5)

MICROLITERS PER LITER

SITE SUMMARY

IS	TAXA	Nearfield (1-6, 12)	Farfield (7-9)	- X	S.E.	REL ABZ
0	UNIDENTIFIED ALGAE	0.00	0.00	0.00	0.00	0.0
0	UNIDENTIFIED ALGAE (LPIL)	0.00	0.00	0.00	0.00	0.0
0	CYANOPHYTA	0.07	0.03	0.05	0.02	1.2
0	CHROOCOCCACEAE					
0	CHROOCOCCUS (LPIL)	0.04	0.0	0.02	0.02	0.5
0	MICROCYSTIS (LPIL)	0.0	0.00	0.00	0.00	0.0
0	GONIPHOSPHAERIA LACUSTRIS	0.01	0.03	0.02	0.01	0.4
0	OSCILLATORIACEAE					
0	OSCILLATORIA LIMNETICA	0.0	0.00	0.00	0.00	0.1
0	OSCILLATORIA (LPIL)	0.02	0.0	0.01	0.01	0.2
0	LYNGBYA CONTORTA	0.00	0.0	0.00	0.00	0.1
0	CHLOROPHYTA	1.25	0.25	0.75	0.50	17.3
0	VOLVOCALES					
0	CHLAMYDOMONAS (LPIL)	0.55	0.24	0.40	0.16	9.1
0	TETRASPORALES					
0	ELAKATOTHRIX (LPIL)	0.00	0.01	0.01	0.00	0.2
0	CHLOROCOCCALES					
0	SPHAEROCYSTIS SCHROETERI	0.69	0.0	0.34	0.34	7.9
0	ANKISTRODESMUS FALCATUS	0.00	0.00	0.00	0.00	0.1
0	SCENEDESMUS QUADRICAUDA	0.00	0.0	0.00	0.00	0.0
0	CHRYSOPHYTA	0.06	0.07	0.06	0.01	1.5
0	CHRYSOMONADALES					
0	MALLANONAS (LPIL)	0.02	0.0	0.01	0.01	0.2
0	CHRYSOCOCCUS (LPIL)	0.00	0.00	0.00	0.00	0.0
0	SYRURA (LPIL)	0.01	0.0	0.00	0.00	0.1
0	DINOBRYON SOCIALE	0.03	0.07	0.05	0.02	1.1
0	MONOSIGALES					
0	STOLEXONONAS DICHOTOMA	0.01	0.00	0.01	0.00	0.1
0	CHRYSOPHYTA (LPIL)	0.0	0.00	0.00	0.00	0.0
0	BACILLARIOPHYTA-CENTRIC	1.44	0.73	1.09	0.35	25.0
0	EUPODISCALES					
0	HELOSIRA (LPIL)	0.57	0.25	0.41	0.16	9.5
0	STEPHANODISCUS BINDERANA	0.11	0.02	0.06	0.04	1.4
0	STEPHANODISCUS NIAGARAE	0.32	0.07	0.19	0.13	4.5
0	STEPHANODISCUS (LPIL)	0.21	0.16	0.18	0.02	4.3
0	EUPODISCALES (LPIL)	0.10	0.00	0.05	0.05	1.2
0	RHIZOLENIALES					
0	RHIZOLENIA ERIENSIS	0.17	0.23	0.18	0.05	4.1
0	BACILLARIOPHYTA-PENNATE	2.08	1.65	1.86	0.21	42.9
0	FRAGILARIALES					
0	ASTERIONELLA FORNOSA	0.44	0.52	0.48	0.04	11.1
0	DIATOMA TENUE	0.01	0.13	0.07	0.06	1.5



Table 2.4 (Page 2 of 5)

MICROLITERS PER LITER

SITE SUMMARY

LS	TAXA	Nearfield (1-6, 12)	Farfield (7-9)	- X	S.E.	REL ABZ
0	FRAGILARIA CROTONENSIS	0.34	0.27	0.30	0.04	7.0
0	FRAGILARIA (LPIL)	0.57	0.08	0.33	0.24	7.5
0	TABELLARIA FLOCCULOSA	0.0	0.30	0.15	0.15	3.4
0	FRAGILARIALES (LPIL)	0.02	0.0	0.01	0.01	0.2
0	NAVICULALES					
0	NAVICULA (LPIL)	0.02	0.02	0.02	0.00	0.5
0	PINNULARIA (LPIL)	0.02	0.02	0.02	0.00	0.4
0	CYMBELLA (LPIL)	0.00	0.0	0.00	0.00	0.0
0	BACILLARIALES					
0	NITZCHIA (LPIL)	0.42	0.19	0.31	0.12	7.0
0	SURIPELLALES					
0	CYMATOPLEURA SOLEA	0.10	0.0	0.05	0.05	1.2
0	BACILLARIOPHYTA-PENNATE (LPIL)	0.13	0.12	0.13	0.00	2.9
0	PYRRHOPHYTA-DINOPHYCEAE	0.03	0.23	0.13	0.10	2.9
0	PERIDINIALES					
0	PERIDINIUM INCONSPICUUM	0.03	0.23	0.13	0.10	2.9
0	CRYPTOPHYTA	0.47	0.33	0.40	0.07	9.2
0	CRYPTOMONADALES					
0	CRYPTOMONAS MARSSONII	0.00	0.0	0.00	0.00	0.0
0	CRYPTOMONAS REFLEXA	0.10	0.07	0.08	0.02	1.9
0	CRYPTOMONAS (LPIL)	0.13	0.06	0.10	0.04	2.2
0	RHODOMONAS MINUTA	0.22	0.20	0.21	0.01	4.8
0	CHROONONAS (LPIL)	0.01	0.00	0.01	0.01	0.2
0	CYANONONAS (LPIL)	0.00	0.0	0.00	0.00	0.0
	TOTAL	5.40	3.30	4.35	1.05	100.0
	DIVERSITY (H PRIME)	2.35	2.81	2.58	0.23	
	DIVERSITY (J PRIME)	0.67	0.80	0.73	0.06	
	NUMBER OF TAXA	39	31	43		

ABOVE COMPUTED USING SAMPLE IDS

11	12	21	22
31	32	41	42
51	52	61	62
101	102	71	72
81	82	91	92

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Table 2.4 (Page 3 of 5)

MICROLITERS PER LITER

SITE SUMMARY

LS	TAXA	Pond B	Pond C	Cowles Bog	- X	S.E.	REL AB%
0	CYANOPHYTA	0.00	0.00	0.08	0.03	0.03	0.2
0	CHROOCOCCACEAE						
0	AGNENELLUM (LPIL)	0.0	0.00	0.0	0.00	0.00	0.0
0	OSCILLATORIACEAE						
0	OSCILLATORIA (LPIL)	0.00	0.0	0.06	0.00	0.02	0.1
0	NOSTOCACEAE						
0	ANABAENA (LPIL)	0.00	0.00	0.01	0.00	0.00	0.0
0	RIVULARIACEAE						
0	RAPHIIDIOPSIS CURVATA	0.0	0.0	0.01	0.00	0.00	0.0
0	CHLOROPHYTA	1.10	0.09	12.09	4.43	3.84	25.6
0	VOLVOCALES						
0	CHLAMYDOMONAS (LPIL)	0.0	0.08	0.0	0.03	0.03	0.1
0	CHLOROCOCCALES						
0	ANKISTRODESMUS FALCATUS	0.0	0.00	0.0	0.00	0.00	0.0
0	OOCYSTIS (LPIL)	0.01	0.0	0.0	0.00	0.00	0.0
0	SCENEDESMUS ACUTUS	0.0	0.00	0.0	0.00	0.00	0.0
0	SCENEDESMUS QUADRICAUDA	0.29	0.01	0.0	0.10	0.10	0.6
0	SCENEDESMUS ECORHIS	0.02	0.01	0.0	0.01	0.01	0.1
0	SCENEDESMUS SPINOSUS	0.00	0.0	0.0	0.00	0.00	0.0
0	PEDIASTRUM DUPLEX	0.25	0.0	0.0	0.08	0.08	0.5
0	TETRAEDRON CAUDATUM	0.01	0.0	0.0	0.00	0.00	0.0
0	OEDOGONIALES						
0	OEDOGONIUM (LPIL)	0.10	0.0	0.66	0.25	0.20	1.5
0	ZYGHEMATALES						
0	MOUGEOTIA (LPIL)	0.34	0.0	0.0	0.11	0.11	0.7
0	SPIROGYRA (LPIL)	0.0	0.0	9.88	3.29	3.29	19.1
0	CLOSTERIUM MONILIFERUM	0.03	0.0	0.0	0.01	0.01	0.1
0	CLOSTERIUM (LPIL)	0.0	0.0	1.55	0.52	0.52	3.0
0	STAURASTRUM (LPIL)	0.03	0.0	0.0	0.01	0.01	0.1
0	EUGLENOPHYTA	0.11	1.06	0.48	0.55	0.28	3.2
0	EUGLENALES						
0	TRACHELOMONAS VOLVOICINA	0.0	0.15	0.0	0.05	0.05	0.3
0	TRACHELOMONAS (LPIL)	0.11	0.91	0.48	0.50	0.23	2.9
0	CHRYSOPHYTA	1.34	5.00	0.00	2.11	1.49	12.2
0	CHRYSOMONADALES						
0	CHRYSOCOCCUS (LPIL)	0.33	0.03	0.00	0.12	0.10	0.7
0	SYNCRYPTEA (LPIL)	0.0	0.04	0.0	0.01	0.01	0.1
0	DINOBRYON SERTULARIA	0.98	4.31	0.0	1.76	1.31	10.2
0	DINOBRYON DIVERGENS	0.0	0.05	0.0	0.02	0.02	0.1
0	DINOBRYON (LPIL)	0.0	0.04	0.0	0.01	0.01	0.1
0	OCHROMONAS (LPIL)	0.0	0.49	0.0	0.16	0.16	0.9
0	EPIPYXIS UTRICULUS	0.03	0.02	0.0	0.02	0.01	0.1

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Table 2.4 (Page 4 of 5)

MICROLITERS PER LITER		Pond B	Pond C	Cowles Bog	\bar{x}	S.E.	REL ABZ
SITE SUBSTRY							
LS	TAXA						
0	KEPHYRION (LPIL)	0.00	0.00	0.0	0.00	0.00	0.0
0	BACILLARIOPHYTA-CENTRIC EUPODIALES	0.0	0.0	0.24	0.08	0.08	0.5
0	MELOSIRA (LPIL)	0.0	0.0	0.24	0.08	0.08	0.5
0	BACILLARIOPHYTA-PERRIATE FRAGILARIALES	2.22	0.14	24.71	9.02	7.07	52.2
0	FRAGILARIA CROTONENSIS	0.0	0.0	0.30	0.10	0.10	0.6
0	FRAGILARIA (LPIL)	0.03	0.02	1.95	0.67	0.64	3.9
0	SYNEURA (LPIL)	0.0	0.0	2.77	0.92	0.92	5.3
0	TABELLARIA FLOCCULOSA ACHNAHIALES	0.37	0.08	0.0	0.15	0.11	0.9
0	ACHNAHIALES	0.00	0.0	0.0	0.00	0.00	0.0
0	ACHNAHIALES MIRBETISSIMA ACHNAHIALES (LPIL)	0.00	0.0	0.0	0.00	0.00	0.0
0	NAVICULALES	0.0	0.0	0.51	0.17	0.17	1.0
0	NAVICULA (LPIL)	0.66	0.0	0.19	0.22	0.13	1.3
0	HEIDICH (LPIL)	0.0	0.0	10.44	6.15	6.15	35.6
0	PIRULARIA (LPIL)	0.0	0.0	0.19	0.06	0.06	0.4
0	GOMPHONEMA (LPIL)	0.0	0.0	0.05	0.02	0.02	0.1
0	AMPHORA (LPIL)	0.0	0.0	0.11	0.04	0.04	0.2
0	EPITHEMIALES	0.0	0.0	0.0	0.00	0.00	0.0
0	RHOPOLODIA GIBBA BACILLARIALES	1.18	0.00	0.0	0.39	0.39	2.3
0	HITZCHIA (LPIL)	0.04	0.0	0.0	0.01	0.01	0.1
0	SURIRELLA (LPIL)	0.14	0.03	0.20	0.12	0.05	0.7
0	BACILLARIOPHYTA-PERRIATE (LPIL)	0.0	2.31	0.12	0.01	0.75	4.7
0	PYRROPHYTA-DIOPHYCEAE	0.0	0.0	0.12	0.01	0.01	0.1
0	PERIDITHALES	0.0	1.54	0.12	0.55	0.49	3.2
0	PERIDITHUM INCONSPLICUUM	0.0	0.77	0.0	0.26	0.26	1.5
0	PERIDITHUM CINCTUM	0.26	0.49	0.0	0.25	0.14	1.4
0	CRYPTOPHYTA	0.23	0.47	0.0	0.23	0.14	1.3
0	CRYPTOPHYTODALES	0.00	0.0	0.0	0.00	0.00	0.0
0	CRYPTOPHYTAS (LPIL)	0.03	0.02	0.0	0.02	0.01	0.1
0	RHODOPHYTAS MIRUTA	5.03	9.08	37.73	17.28	10.29	100.0
0	CHROOCHIAS (LPIL)	2.37	2.22	1.94	2.18	0.13	
	TOTAL	0.64	0.58	0.56	0.60	0.02	
	DIVERSITY (H PRIME)	28	25	20	50		
	DIVERSITY (J PRIME)						
	NUMBER OF TAXA						



Table 2.4 (Page 5 of 5)

SITE SUMMARY	
ABOVE COMPUTED USING SAMPLE IDS	
171	181
191	201
211	
172	182
192	202
212	



slides (both sides) and substrate scrapings were placed in vials and preserved with 6-3-1 solution (six parts water: three parts ethanol: one part formalin). Two replicate slides per sample were quantitatively analyzed. Counts and biovolume estimates were made as described for the regular phytoplankton samples.

2.2.2 PHYTOPLANKTON RESULTS AND DISCUSSION

2.2.2.1 Density and Biovolume. Average April 1980 phytoplankton densities were 5382 cells per milliliter in Lake Michigan and 11,105 cells per milliliter in the interdunal ponds (Table 2.3 and Appendix A). Biovolume averaged 4.35 microliters per liter in Lake Michigan and 17.28 microliters per liter in the ponds (Table 2.4 and Appendix B). In the lake, average phytoplankton density and biovolume were lower than in April 1979 while the pond density and biovolume values were higher than those of April 1979. Summary data for the lake and ponds are presented in tables 2.5 and 2.6.

Dominant taxa in Lake Michigan (those representing as much as 4 percent of either density or biovolume) included Gomphosphaeria lacustris, Lyngbya contorta, Asterionella formosa, Fragilaria sp., Fragilaria crotonensis, Stephanodiscus sp., Stephanodiscus niagarae, Melosira sp., Nitzschia sp., Rhizosolenia eriensis, Rhodomonas minuta, Chlamydomonas sp., and Sphaerocystis schroeteri. The diatom taxa were the largest contributors to the density and biovolume estimates, comprising 68 percent of the total biovolume and 41 percent of the density; cryptophytes and blue-green algae also were important contributors to the total density. Lake Michigan samples yielded 43 taxa. Diversity (H') and evenness (J') for phytoplankton density were moderate (2.56 and 0.73, respectively) and similar to April 1979.

Highest phytoplankton densities were found near the discharge (stations 1 and 4) as well as at farfield Station 9. The highest biovolumes were found close to the discharge, at stations 1 and 2 (nearfield stations) and at Station 10 (discharge), due to high abundances of the diatom genera Fragilaria, Stephanodiscus, and Nitzschia and the green alga Sphaerocystis schroeteri. These high biovolumes cannot be attributed to power plant influences, since Bailly Station was off-line near the discharge area for several months prior to the sampling period. Additionally, the high biovolume of each taxon usually occurred in only one of the two replicate samples, indicating high variability



Table 2.5

Summary Data for Lake Michigan Phytoplankton,
Bailly Study Area, April 1980

Transect	Station	Density (No./m ²)	Biovolume (μ ² /l)	No. Taxa	Diversity H'	J'
Nearfield (west of discharge)	1	9,397	7.89	21	2.73	0.73
	2	6,083	7.48	16	3.09	0.85
	3	4,431	2.82	20	2.96	0.78
Nearfield (east of discharge)	4	8,255	2.92	16	2.40	0.67
	5	3,187	3.19	16	1.38	0.35
	6	5,047	4.36	15	2.55	0.73
Farfield	7	3,108	3.22	13	2.56	0.81
	8	3,739	3.64	22	3.11	0.82
	9	8,712	3.03	18	2.24	0.61
Discharge	10	4,601	6.64	14	2.38	0.75

Table 2.6

Summary Data for Nearshore Ponds Phytoplankton,
Bailly Study Area, April 1980

Station	Density (No./m ²)	Biovolume (μ ² /l)	No. Taxa	Diversity H'	J'
17	4,559	3.93	22	2.46	0.66
18	9,415	6.14	19	2.35	0.65
Pond B (17 & 18)	6,987	5.03	28	2.41	0.65
19	13,468	9.66	19	1.62	0.42
20	26,513	8.50	20	0.99	0.26
Pond C (19 & 20)	19,990	9.08	25	1.31	0.34
Cowles Bog (21)	6,339	37.73	21	2.26	0.62
All Ponds	11,105	17.28	51	1.99	0.54



at these stations. High biovolume estimates were also observed at three stations (stations 2, 4 and 10) near the discharge during April 1979 (Texas Instruments 1979). The high biovolumes near the discharge during both spring 1979, with thermal discharge, and spring 1980, without thermal discharge, indicates that factors other than the thermal discharge were primary influences on the phytoplankton community. Possible factors include shallow water and low circulation in the discharge area.

Samples collected from the interdunal ponds were dominated (as much as 4 percent of the density or biovolume) by Fragilaria sp., Pinnularia sp., Synedra sp., Anabaena sp., Chrysococcus sp., Dinobryon sertularia, Ochromonas sp. and Scenedesmus quadricauda. Golden-brown algae were density-dominant, while diatoms dominated biovolume estimates. Fifty-one taxa were collected during April 1980 in the interdunal ponds. Pond C exhibited higher density than did Pond B or the Cowles Bog area. Biovolume was the highest in Cowles Bog because of the presence of Pinnularia sp., a large diatom, which comprised 49 percent of the biovolume. The diversity and evenness indexes for density were moderate in Pond B and Cowles Bog and relatively low in Pond C (Table 2.3). These results are expected in small water bodies such as the interdunal ponds.

2.2.3 PERIPHYTON RESULTS AND DISCUSSION.

2.2.3.1 Density and Biovolume. Periphyton densities and biovolumes are shown in tables 2.7, 2.8, and 2.9. Relative abundances of the diatoms are shown in Table 2.10.

Growth on the natural substrates in Lake Michigan (stations 1, 10, 11, 12, and 25) had been ongoing for the entire year as opposed to the 4-week-exposed artificial substrates in the ponds. Differences between the two areas are as much related to the differences in colonization time and substrate type as to inherent differences between the lake and ponds. Therefore, discussions for the ponds and the lake are separate.

Total periphyton densities in Lake Michigan were highest at Station 11 (due to high abundances of the blue-greens Pleurocapsa sp. and Lyngbya sp.) and lowest at Station 25 (Table 2.9). There was no explanation for these density variations, although similar distributions were observed in November 1979 (Texas



Table 2.7

Periphyton Density, Bailly Study Area,
April 1980 (Page 1 of 4)

DENSITY IN NUMBER / SQUARE CENTIMETER

STATION REPORT

LS	TAXA	Lake Michigan Stations				- X	S.E.	REL ABZ
		1 25	10	11	12			
0	CYANOPHYTA	7359062.00 0.0	14748255.0	18540608.0	1370253.00	8405395.00	3635613.00	89.0
0	PLEUROCAPSACEAE							
0	PLEUROCAPSA (LPIL)	3020243.00 0.0	579210.00	3383099.00	0.0	1556510.00	844436.94	16.5
0	OSCILLATORIACEAE							
0	OSCILLATORIA (LPIL)	0.0 0.0	725271.50	141410.19	0.0	173336.31	140674.81	1.8
0	LYNGBYA LIMNETICA	3361365.00 0.0	5666185.00	4402348.00	274050.62	2740789.00	1124734.00	29.0
0	LYNGBYA (LPIL)	152789.31 0.0	3368846.00	7567306.00	1096202.00	2437028.00	1416733.00	25.8
0	NOSTOCACEAE							
0	ANABAENA (LPIL)	25464.89 0.0	0.0	0.0	0.0	5092.98	5092.93	0.1
0	RIVULARIACEAE							
0	CALOTHRIX (LPIL)	0.0 0.0	4408745.00	3054460.00	0.0	1492641.00	938799.00	15.8
0	CHLOROPHYTA	2551580.00 93353.50	0.0	148763.44	273940.87	613527.56	486537.19	6.5
0	ULOTRICHALES							
0	SCHIZOHERIS (LPIL)	2551580.00 0.0	0.0	0.0	263910.62	563098.12	499740.50	6.0
0	ULOTRICHALES (LPIL)	0.0 0.0	0.0	148763.44	0.0	29752.69	29752.69	0.3
0	CHAETOPHORALES							
0	STIGEOCLONIUM (LPIL)	0.0 80735.31	0.0	0.0	0.0	16157.06	16157.06	0.2
0	OEDOGONIALES							
0	OEDOGONIUM (LPIL)	0.0 5004.40	0.0	0.0	0.0	1000.88	1000.88	0.0

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Table 2.7 (Page 2 of 4)

DENSITY IN NUMBER / SQUARE CENTIMETER

STATION REPORT

LS	TAXA	Lake Michigan Stations				X	S.E.	REL ABX
		1 25	10	11	12			
0	CLADOPHORALES							
0	CLADOPHORA (LPIL)	0.0 7563.79	0.0	0.0	10030.25	3518.81	2189.83	0.0
0	BACILLARIOPHYTA-PENNATE	40743.83 48135.21	18686.23	250153.44	1763788.00	424311.31	337465.19	4.5
0	FRAGILARIALES							
0	ASTERIONELLA FORMOSA	0.0 19731.64	0.0	0.0	0.0	3946.33	3946.33	0.0
0	DIATOMA VULGARE	0.0 13154.43	0.0	0.0	0.0	2630.89	2630.89	0.0
0	ACHNANTHALES							
0	COCCONEIS (LPIL)	0.0 13154.43	0.0	0.0	0.0	2630.89	2630.89	0.0
0	RHOICOSPHENIA CURVATA	0.0 0.0	0.0	0.0	1569761.00	313952.19	313952.19	3.3
0	BACILLARIOPHYTA-PENNATE (LPIL)	40743.83 2144.74	18686.23	250153.44	194027.75	101151.19	50536.87	1.1
TOTAL		9952184.00 141538.69	14766933.0	18947472.0	3407981.00	9443221.00	3477622.00	100.0
DIVERSITY (H PRIME)		1.40 1.20	1.37	1.55	1.12	1.33	0.08	
DIVERSITY (J PRIME)		0.65 0.63	0.64	0.69	0.51	0.63	0.03	
NUMBER OF TAXA		6 7	6	7	6	16		
ABOVE COMPUTED USING SAMPLE IDS								
	11	12	101	102				
	111	112	121	122				
	251	252						

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Table 2.7 (Page 3 of 4)

DENSITY IN NUMBER / SQUARE CENTIMETER

STATION REPORT

Nearshore Ponds

LS	TAXA	Pond B	Pond C	Cowles Bog	-		REL
		17	19	21	X	S.E.	ABZ
0	UNIDENTIFIED ALGAE	1417341.00	0.0	0.0	472447.00	472447.00	29.2
0	UNIDENTIFIED ALGAE (LPIL)	1417341.00	0.0	0.0	472447.00	472447.00	29.2
0	CYANOPHYTA	781156.25	525713.81	256922.56	521264.19	151349.56	32.2
0	CHROCOCCACEAE						
0	MICROCYSTIS (LPIL)	0.0	0.0	256922.56	85640.81	85640.81	5.3
0	APHANOCAPSA (LPIL)	131279.06	85689.00	0.0	72322.69	38481.78	4.5
0	OSCILLATORIACEAE						
0	LYNGBYA LIMNETICA	649077.44	367073.37	0.0	338983.56	188128.44	20.9
0	NOSTOCACEAE						
0	ANABAENA (LPIL)	0.0	72951.44	0.0	24317.14	24317.14	1.5
0	CHLOROPHYTA	80021.62	42844.52	491181.31	204949.12	143535.31	12.7
0	CHLOROCOCCALES						
0	SCENEDESMUS QUADRICAUDA	22295.64	4631.84	0.0	8975.82	6792.80	0.6
0	CHAETOPHORALES						
0	STIGEOCLONIUM (LPIL)	50526.03	28949.01	259153.75	115542.87	72311.25	7.1
0	OEDOGONIALES						
0	OEDOGONIUM (LPIL)	0.0	4631.84	226889.06	77173.62	74869.62	4.8
0	ZYGNEMATALES						
0	NOUGEOTIA (LPIL)	0.0	4631.84	0.0	1543.95	1543.95	0.1
0	CHLOROPHYTA (LPIL)	0.0	0.0	5138.45	1712.82	1712.82	0.1
0	CHRYSOPHYTA	0.0	530345.62	0.0	176781.87	176781.87	10.9
0	CHRYSOMONADALES						
0	DINOBRYON SERTULARIA	0.0	3473.88	0.0	1157.96	1157.96	0.1
0	OCHROMONAS (LPIL)	0.0	18527.36	0.0	6175.79	6175.79	0.4
0	EPIPYXIS (LPIL)	0.0	406743.25	0.0	162114.37	162114.37	10.0
0	KEPHYRION (LPIL)	0.0	22001.24	0.0	7333.75	7333.75	0.5
0	BACILLARIOPHYTA-PENNATE	132681.50	132007.37	464278.19	242989.00	110644.75	15.0
0	FRAGILARIALES						
0	FRAGILARIA PINNATA	0.0	13895.52	0.0	4631.84	4631.84	0.3
0	FRAGILARIA (LPIL)	0.0	0.0	297172.25	99057.37	99057.37	6.1
0	DION CIRCULARE	0.0	0.0	38148.84	12716.28	12716.28	0.8
0	SYNEDRA (LPIL)	0.0	0.0	3351.66	1117.22	1117.22	0.1
0	TABELLARIA FLOCCULOSA	30656.50	30212.69	0.0	22956.39	11683.62	1.4
0	ACHNANTHALES						
0	ACHNANTHES MINUTISSIMA	102025.00	45160.45	1712.82	49632.75	29043.84	3.1
0	NAVICULALES						
0	GOMPHONEMA (LPIL)	0.0	0.0	98291.37	32763.79	32763.79	2.0
0	CYDSELLA (LPIL)	0.0	0.0	2037.19	679.06	679.06	0.0
0	BACILLARIOPHYTA-PENNATE (LPIL)	0.0	34738.80	23564.12	19434.31	10238.61	1.2
0	CRYPTOPHYTA	0.0	0.0	1712.82	570.94	570.94	0.0
0	CRYPTOMONADALES						
0	CHROONONAS (LPIL)	0.0	0.0	1712.82	570.94	570.94	0.0

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Table 2.7 (Page 4 of 4)

DENSITY IN NUMBER / SQUARE CENTIMETER

STATION REPORT

Nearshore Ponds

LS	TAXA	Pond B	Pond C	Cowles Bog	-	REL	
		17	19	21	X	S.E.	AB%
TOTAL		2411999.00	1230967.00	1214091.00	1618999.00	396529.69	100.0
DIVERSITY (H PRIME)		1.80	2.49	2.33	2.21	0.21	
DIVERSITY (J PRIME)		0.77	0.69	0.72	0.73	0.02	
NUMBER OF TAXA		7	15	12	24		
ABOVE COMPUTED USING SAMPLE IDS							
	171	172	191	192			
	211	212					

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Table 2.8

Periphyton Biovolume, Bailly Study Area,
April 1980 (Page 1 of 4)

MICROLITERS PER LITER

STATION REPORT

LS	TAXA	Lake Michigan Stations				- X	S.E.	REL ABZ
		1 25	10	11	12			
0	CYANOPHYTA	0.16 0.0	1.45	1.38	0.04	0.60	0.33	4.4
0	PLEUROCAPSACEAE							
0	PLEUROCAPSA (LPIL)	0.05 0.0	0.01	0.05	0.0	0.02	0.01	0.2
0	OSCILLATORIACEAE							
0	OSCILLATORIA (LPIL)	0.0 0.0	0.03	0.01	0.0	0.01	0.01	0.1
0	LYNGBYA LIMNETICA	0.05 0.0	0.05	0.07	0.00	0.04	0.01	0.3
0	LYNGBYA (LPIL)	0.05 0.0	0.04	0.34	0.03	0.09	0.06	0.7
0	NOSTOCACEAE							
0	ANABAENA (LPIL)	0.00 0.0	0.0	0.0	0.0	0.00	0.00	0.0
0	RIVULARIACEAE							
0	CALOTHRIX (LPIL)	0.0 0.0	1.32	0.91	0.0	0.45	0.28	3.3
0	CHLOROPHYTA	34.37 16.50	0.0	0.09	6.98	11.59	6.45	84.8
0	ULOTRICHALES							
0	SCHIZOMERIS (LPIL)	34.37 0.0	0.0	0.0	1.55	7.18	6.80	52.6
0	ULOTRICHALES (LPIL)	0.0 0.0	0.0	0.09	0.0	0.02	0.02	0.1
0	CHAETOPHORALES							
0	STIGEOCLONIUM (LPIL)	0.0 0.03	0.0	0.0	0.0	0.01	0.01	0.0
0	OEDOGONIALES							
0	OEDOGONIUM (LPIL)	0.0 0.00	0.0	0.0	0.0	0.00	0.00	0.0



Table 2.8 (Page 2 of 4)

MICROLITERS PER LITER

STATION REPORT

LS	TAXA	Lake Michigan Stations				- X	S.E.	REL ABZ
		1 25	10	11	12			
0	CLADOPHORALES							
0	CLADOPHORA (LPIL)	0.0 16.47	0.0	0.0	5.42	4.38	3.20	32.0
0	BACILLARIOPHYTA-PENNATE	0.01 0.10	0.01	0.13	7.11	1.47	1.41	10.8
0	FRAGILARIALES							
0	ASTERIONELLA FORMOSA	0.0 0.02	0.0	0.0	0.0	0.00	0.00	0.0
0	DIATOMA VULGARE	0.0 0.06	0.0	0.0	0.0	0.01	0.01	0.1
0	ACHNANTHALES							
0	COCCONEIS (LPIL)	0.0 0.02	0.0	0.0	0.0	0.00	0.00	0.0
0	RHOICOSPHENIA CURVATA	0.0 0.0	0.0	0.0	7.06	1.41	1.41	10.3
0	BACILLARIOPHYTA-PENNATE (LPIL)	0.01 0.00	0.01	0.13	0.06	0.04	0.03	0.3
TOTAL		34.54 16.60	1.46	1.60	14.13	13.66	6.08	100.0
DIVERSITY (H PRIME)		0.05 0.24	0.59	1.56	1.13	0.71	0.28	
DIVERSITY (J PRIME)		0.02 0.15	0.29	0.71	0.53	0.34	0.13	
NUMBER OF TAXA		6 7	6	7	6	16		
ABOVE COMPUTED USING SAMPLE IDS								
		11	12	101	102			
		111	112	121	122			
		251	252					

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Table 2.8 (Page 3 of 4)

MICROLITERS PER LITER

STATION REPORT

LS	TAXA	Pond B	Pond C	Cowles Bog	- X	S.E.	REL
		17	19	21			ABZ
0	UNIDENTIFIED ALGAE	0.06	0.0	0.0	0.02	0.02	2.0
0	UNIDENTIFIED ALGAE (LPIL)	0.06	0.0	0.0	0.02	0.02	2.0
0	CYANOPHYTA	0.01	0.05	0.00	0.02	0.02	2.3
0	CHROOCOCCACEAE						
0	MICROCYSTIS (LPIL)	0.0	0.0	0.00	0.00	0.00	0.1
0	AFHANCAPSA (LPIL)	0.00	0.04	0.0	0.01	0.01	1.6
0	OSCILLATORIACEAE						
0	LYNGBYA LINNETICA	0.01	0.01	0.0	0.01	0.00	0.6
0	NOSTOCACEAE						
0	ANABAENA (LPIL)	0.0	0.00	0.0	0.00	0.00	0.0
0	CHLOROPHYTA	0.06	0.02	0.75	0.28	0.24	28.9
0	CHLOROCOCCALES						
0	SCENEDESMUS QUADRICAUDA	0.00	0.00	0.0	0.00	0.00	0.1
0	CHAETOPHORALES						
0	STIGEOCLONIUM (LPIL)	0.06	0.01	0.21	0.09	0.06	9.5
0	OEDOGONIALES						
0	OEDOGONIUM (LPIL)	0.0	0.01	0.54	0.18	0.18	19.2
0	ZYGNEHATALES						
0	MOUGEOTIA (LPIL)	0.0	0.00	0.0	0.00	0.00	0.1
0	CHLOROPHYTA (LPIL)	0.0	0.0	0.00	0.00	0.00	0.0
0	CHRYSOPHYTA	0.0	0.40	0.0	0.15	0.15	15.9
0	CHRYSOMONADALES						
0	DINOBYRON SERTULARIA	0.0	0.01	0.0	0.00	0.00	0.3
0	OCHROMONAS (LPIL)	0.0	0.00	0.0	0.00	0.00	0.1
0	EPIPYXIS (LPIL)	0.0	0.39	0.0	0.13	0.13	13.5
0	KEPHYRION (LPIL)	0.0	0.00	0.0	0.00	0.00	0.0
0	BACILLARIOPHYTA-PENNATE	0.27	0.37	0.83	0.51	0.19	52.8
0	FRAGILARIALES						
0	FRAGILARIA PINNATA	0.0	0.09	0.0	0.03	0.03	3.1
0	FRAGILARIA (LPIL)	0.0	0.0	0.36	0.12	0.12	12.4
0	MERIDION CIRCULARE	0.0	0.0	0.15	0.05	0.05	5.1
0	SYNEDRA (LPIL)	0.0	0.0	0.07	0.02	0.02	2.5
0	TABELLARIA FLOCCULOSA	0.26	0.25	0.0	0.17	0.08	17.6
0	ACHNANTHALES						
0	ACHNANTHES MINUTISSIMA	0.01	0.00	0.00	0.00	0.00	0.5
0	NAVICULALES						
0	GONPHONEMA (LPIL)	0.0	0.0	0.14	0.05	0.05	4.8
0	CYMBELLA (LPIL)	0.0	0.0	0.14	0.05	0.05	4.8
0	BACILLARIOPHYTA-PENNATE (LPIL)	0.0	0.02	0.03	0.02	0.01	2.0
0	CRYPTOPHYTA	0.0	0.0	0.00	0.00	0.00	0.0
0	CRYPTOMONADALES						
0	CHROMONAS (LPIL)	0.0	0.0	0.00	0.00	0.00	0.0

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Table 2.8 (Page 4 of 4)

MICROLITERS PER LITER

STATION REPORT

LS	TAXA	Pond B	Pond C	Cowles Bog	-	S.E.	REL
		17	19	21	X		AB%
TOTAL		0.39	0.84	1.64	0.96	0.36	100.0
DIVERSITY (H PRIME)		1.01	1.92	2.38	1.77	0.41	
DIVERSITY (J PRIME)		0.44	0.54	0.75	0.57	0.09	
NUMBER OF TAXA		7	15	12	24		
ABOVE COMPUTED USING SAMPLE IDS							
	171	172	191	192			
	211	212					



Table 2.9

Periphyton Summary Data, Bailly Study Area, April 1980

Station	Density (No./cm ²)	Biovolume (μl/cm ²)	No. Taxa	Diversity	
				H'	J'
1	9,952,184	34.54	6	1.40	0.65
10	14,766,933	1.46	6	1.37	0.64
11	18,947,472	1.60	7	1.55	0.69
12	3,407,981	14.13	6	1.12	0.51
25	141,539	16.60	7	1.20	0.63
Lake Michigan Mean	9,443,221	13.66	16	1.33	0.63
17	2,411,999	0.39	7	1.80	0.77
19	1,230,907	0.84	15	2.49	0.69
21	1,214,091	1.64	12	2.33	0.72
Pond Mean	1,618,999	0.96	24	2.1	0.73

Instruments 1980a). Variable trends were also observed for biovolume, with the highest biovolume at Station 1 and the lowest at Station 10.

The most numerous taxa at the lake stations were the blue-green algae Calothrix sp., Pleurocapsa sp., and Lyngbya spp. The biovolume-dominant taxa were the green algae Schizomeris sp. and Cladophora sp.

The dominant diatom taxa at each of the lake stations were:

Stations 1 and 25: Fragilaria vaucheriae and
Achnanthes minutissima

Station 10: Stephanodiscus astraea and
Nitzschia dissipata

Station 11: Fragilaria vaucheriae

Station 12: Fragilaria vaucheria and
Rhoicosphenia curvata

Station 10, the discharge station, was unique in having a lower relative abundance of Fragilaria vaucheriae which has been considered a cool water species (Lowe 1974). The low relative abundance of Fragilaria vaucheriae was



also observed in April 1979 (Texas Instruments 1979a). Since the power station was off-line prior to and during the Spring 1980 sampling period, the low density of Fragilaria vaucheriae was probably not due to thermal effluent, but to some factors such as substrate composition or wave action.

Total periphyton density in the ponds was highest in Pond C during April 1980, although the differences were not large considering the natural variability of periphyton communities. Different groups of taxa were dominant (as much as 4 percent of total density or biovolume) in each of the ponds. The dominant taxa were:

<u>Pond B</u>	<u>Pond C</u>	<u>Cowles Bog</u>
Unidentified algae	<u>Epipyxis</u> sp.	<u>Meridion circulare</u>
<u>Lyngbya limnetica</u>	<u>Tabellaria flocculosa</u>	<u>Stigeoclonium</u> sp.
<u>Aphanocapsa</u> sp.	<u>Lyngbya limnetica</u>	<u>Fragilaria</u> sp.
<u>Achnanthes minutissima</u>	<u>Anabaena</u> sp.	<u>Gomphonema</u> sp.
<u>Stigeoclonium</u> sp.	<u>Aphanocapsa</u> sp.	<u>Microcystis</u> sp.
<u>Tabellaria flocculosa</u>	<u>Fragilaria pinnata</u>	<u>Oedogonium</u> sp.
		<u>Synedra</u> sp.

The most numerous diatoms (from proportional counts) were Tabellaria flocculosa and Achnanthes minutissima in ponds B and C and Fragilaria capucina in Cowles Bog. There was no indication that the Bailly power station had any influence on periphyton in the ponds.

2.3 ZOOPLANKTON

2.3.1 METHODOLOGY. Zooplankton samples were collected in Lake Michigan and the nearshore interdunal ponds. At each lake station (1 through 10), four samples were collected by bottom-to-surface vertical tows of an 80-micrometer mesh, 0.5-meter-diameter plankton net. Each sample comprised a composite of four such tows combined into one 1-liter sample. Zooplankton samples were collected at the surface in the nearshore interdunal ponds (stations 17 through 21) with a 6-liter Van Dorn bottle. Each of the four replicate samples was concentrated to 1 liter. All samples were fixed to a final concentration of 4 percent buffered formalin.

Each sample, after being prepared with 5 milliliters of rose-bengal dye, was analyzed for quantity and identification of all mature and immature zooplank-



ters (excluding nauplii, rotifers, and protozoans) with dimensions greater than the plankton net's 80-micrometer mesh aperture.

2.3.2 RESULTS AND DISCUSSION. The numerical abundance of each zooplankton taxon collected in April 1980 is presented in Table 2.11 and Appendix E.

The total of 38 zooplankton taxa collected from Lake Michigan during April 1980 was similar to the 42 taxa collected in April 1979. Lake Michigan densities average 1100 organisms per cubic meter, which typically was less than the average in November 1979 (19,600 per cubic meter) and similar to April 1979 (1200 per cubic meter) (Texas Instruments 1979a and 1980a). As in 1979, copepods (Calanoida and Cyclopoida) dominated the collections (89 percent in 1979, 75 percent in 1980). Calonoid copepodites (immature forms) constituted the most numerous group during 1979 while cyclopoid copepodites were the most numerous in 1980. The most abundant adult form during both years was Diaptomus ashlandi.

Zooplankton densities were lower at the farfield stations (7, 8, and 9) than at the nearfield stations (1-6 and 10) due to high densities at Station 10 (Table 2-12). Station 10 also exhibited relatively high densities during April 1979 as did nearfield stations 1 and 4. Since high zooplankton abundances were observed at Station 10 during past years, as well as during 1980 when there was no discharge, factors other than thermal effluent probably are responsible for the high abundances there. Poor circulation of lake water in the area of Station 10 is a possible factor for high zooplankton abundance at Station 10.

Species diversity and evenness were similar at all stations. All major species present in April 1979 also were present in April 1980.

Zooplankton densities in the ponds were higher in April 1980 than in April 1979. Densities in April 1980 averaged 67 organisms per liter in Pond B, 102 per liter in Pond C, and 239 organisms per liter in Cowles Bog in April 1980 (Table 2.13), as compared to 4, 7, and 50 organisms per liter in these respective locations during April 1979.



Table 2.11

Zooplankton Density, Bailly Study Area,
April 1980 (Page 1 of 4)

ZOOPLANKTON DENSITY (No./cubic meter)

SITE SUMMARY

LS	TAXA	Nearfield (1-6, 10)	Farfield (7-9)	- X	S.E.	REL AB%
0	CNIDARIA (TOTAL)	1.21	0.28	0.74	0.47	0.1
0	HYDROZOA					
19	HYDRA (LPIL)	0.20	0.28	0.24	0.04	0.0
1	HYDRA (LPIL)	1.01	0.0	0.51	0.51	0.0
0	NEMATODA (TOTAL)	97.77	44.88	71.33	26.45	6.5
1	NEMATODA (LPIL)	97.77	44.88	71.33	26.45	6.5
0	OLIGOCHAETA (TOTAL)	67.05	4.44	35.75	31.31	3.3
0	NAIDIDAE					
1	CHAETOGASTER (LPIL)	1.58	0.0	0.79	0.79	0.1
1	NAIDIDAE (LPIL)	44.06	4.44	24.25	19.81	2.2
1	OLIGOCHAETA (LPIL)	21.41	0.0	10.71	10.71	1.0
0	HIRUDINEA (TOTAL)	0.62	0.0	0.31	0.31	0.0
19	HIRUDINEA (LPIL)	0.51	0.0	0.25	0.25	0.0
1	HIRUDINEA (LPIL)	0.12	0.0	0.06	0.06	0.0
0	APACHNIDA (TOTAL)	1.39	0.29	0.84	0.55	0.1
0	PROSTIGMATA					
19	HYDRACARINA (LPIL)	1.39	0.29	0.84	0.55	0.1
0	CLADOCERA (TOTAL)	304.49	6.68	155.58	148.90	14.1
0	BOSMINIDAE					
1	BOSMINIDAE (LPIL)	77.90	2.98	40.44	37.46	3.7
0	CHYDORIDAE					
1	ALONA RECTANGULA	1.21	0.0	0.61	0.61	0.1
1	ALONA COSTATA	1.01	0.0	0.51	0.51	0.0
1	ALONA (LPIL)	1.01	0.0	0.51	0.51	0.0
1	CHYDORUS (LPIL)	15.08	0.0	7.54	7.54	0.7
1	EURYCERCUS LAMELLATUS	10.45	0.0	5.22	5.22	0.5
1	ALONELLA (LPIL)	0.08	0.0	0.04	0.04	0.0
0	DAPHNIDAE					
1	DAPHNIA PULEX	0.0	0.65	0.33	0.33	0.0
6	DAPHNIA (LPIL)	143.32	1.27	72.30	71.03	6.6
1	DAPHNIA (LPIL)	54.19	1.77	27.98	26.21	2.5
0	MACROTHRICIDAE					
6	ILYOCRYPTUS (LPIL)	0.23	0.0	0.12	0.12	0.0
0	COPEPODA (TOTAL)	919.88	732.43	826.16	93.72	75.1
0	CALANOIDA (TOTAL)					
1	DIAPTOMUS OREGONENSIS	0.0	0.59	0.29	0.29	0.0
1	DIAPTOMUS ASHLANDI	95.82	203.17	149.50	53.68	13.6
14	DIAPTOMUS ASHLANDI	6.24	0.0	3.12	3.12	0.3
1	DIAPTOMUS PALLIDUS	1.39	0.0	0.69	0.69	0.1
1	DIAPTOMUS SICILIS	55.88	137.84	96.86	40.98	8.8
1	DIAPTOMUS MINUTUS	8.79	12.74	10.77	1.97	1.0
1	DIAPTOMUS (LPIL)	0.08	0.0	0.04	0.04	0.0
1	LIMNOCALANUS MACRURUS	11.94	24.52	18.23	6.29	1.7
14	CALANOIDA (LPIL)	147.92	280.63	214.28	66.35	19.5

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Table 2.11 (Page 2 of 4)

ZOOPLANKTON DENSITY (No./cubic meter)

SITE SUMMARY

LS	TAXA	Nearfield (1-6, 10)	Farfield (7-9)	- X	S.E.	REL AB%
0	CYCLOPOIDA (TOTAL)					
1	CYCLOPS BICUSPIDATUS THOMASI	30.23	23.68	26.96	3.27	2.5
1	CYCLOPS VERNALIS	12.31	0.0	6.16	6.16	0.6
1	EUCYCLOPS AGILIS	3.03	0.0	1.52	1.52	0.1
1	EUCYCLOPS PRIONOPHORUS	5.17	0.0	2.58	2.58	0.2
1	EUCYCLOPS SPERATUS	2.43	0.0	1.21	1.21	0.1
1	TROPOCYCLOPS PRASINUS MEXICANA	0.0	0.76	0.38	0.38	0.0
14	CYCLOPOIDA (LPIL)	518.08	35.14	276.61	241.47	25.2
1	CYCLOPOIDA (LPIL)	0.24	0.0	0.42	0.42	0.0
0	HARPACTICOIDA (TOTAL)					
1	HARPACTICOIDA (LPIL)	7.77	9.03	8.40	0.63	0.8
14	HARPACTICOIDA (LPIL)	11.97	4.34	8.15	3.81	0.7
0	AMPHIPODA (TOTAL)	1.72	0.37	1.05	0.68	0.1
0	HAUSTORIIDAE					
1	PONTOPOREIA	0.08	0.0	0.04	0.04	0.0
1	PONTOPOREIA AFFINIS	0.15	0.0	0.08	0.08	0.0
6	AMPHIPODA (LPIL)	1.49	0.37	0.93	0.56	0.1
0	DIPTERA NEMATOCERA (TOTAL)	16.13	0.0	8.07	8.07	0.7
0	CERATOPOGONIDAE					
2	CERATOPOGONIDAE (LPIL)	1.01	0.0	0.51	0.51	0.0
0	CHIRONOMIDAE					
2	CHIRONOMIDAE (LPI.)	15.12	0.0	7.56	7.56	0.7
	TOTAL	1410.27	789.37	1099.82	310.45	100.0
	DIVERSITY (H PRIME)	2.55	2.38	2.47	0.08	
	DIVERSITY (J PRIME)	0.69	0.72	0.70	0.01	
	NUMBER OF TAXA	35	18	38		
ABOVE COMPUTED USING SAMPLE IDS						
	11	12	13	14		
	21	22	23	24		
	31	32	33	34		
	41	42	43	44		
	51	52	53	54		
	61	62	63	64		
	101	102	103	104		
	71	72	73	74		
	81	82	83	84		
	91	92	93	94		

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Table 2.11 (Page 3 of 4)

ZOOPLANKTON DENSITY (No./cubic meter)

SITE SUMMARY		Pond B	Pond C	Cowles Bog	- X	S.E.	REL ABZ
LS	TAXA						
0	NEMATODA (TOTAL)	552.08	6511.73	11833.32	6299.05	3258.35	4.6
1	NEMATODA (LPIL)	552.08	6511.73	11833.32	6299.05	3258.35	4.6
0	OLIGOCHAETA (TOTAL)	0.0	7659.71	3666.67	3775.46	2211.84	2.8
0	NAIDIDAE				115.74	115.74	0.1
1	CHAETOGASTER (LPIL)	0.0	347.22	0.0	1761.57	1060.90	1.3
1	NAIDIDAE (LPIL)	0.0	1618.05	3666.67	1898.15	1898.15	1.4
1	OLIGOCHAETA (LPIL)	0.0	5694.44	0.0	86.87	76.69	0.1
0	ARACHNIDA (TOTAL)	20.83	239.77	0.0	86.87	76.69	0.1
0	PROSTIGMATA				86.87	76.69	0.1
1	HYDRACARINA (TOTAL)	20.83	239.77	0.0	30804.46	16901.60	22.7
0	CLADOCERA (TOTAL)	58604.11	33559.28	250.00			
0	BOSMINIDAE				1004.75	786.79	0.7
1	BOSMINIDAE (LPIL)	458.33	2555.93	0.0			
0	CHYDORIDAE				11.57	11.57	0.0
1	ALONA	0.0	34.72	0.0	507.07	416.85	0.4
1	ALONA RECTANGULA	187.50	1333.71	0.0	17.36	17.36	0.0
1	ALONA AFFINIS	52.08	0.0	0.0	17.36	17.36	0.0
1	ALONA COSTATA	52.08	0.0	0.0	13.89	13.89	0.0
1	ALONA INTERMEDIA	41.67	0.0	0.0	79.92	79.92	0.1
1	ALONA (LPIL)	0.0	239.77	0.0	62.50	62.50	0.0
6	ALONA (LPIL)	0.0	187.50	0.0	28927.99	16550.96	21.3
1	CHYDORUS (LPIL)	57499.95	29117.37	166.67	83.33	73.16	0.1
1	PLEUROXUS DENTICULATUS	229.17	20.83	0.0	34.72	25.04	0.0
1	PLEUROXUS PROCURVUS	20.83	0.0	83.33			
0	DAPHNIDAE				13.89	13.89	0.0
6	DAPHNIA (LPIL)	41.67	0.0	0.0	6.94	6.94	0.0
1	DAPHNIA (LPIL)	20.83	0.0	0.0			
0	STODIAE				23.15	23.15	0.0
6	DIAPHANOSOMA (LPIL)	0.0	69.44	0.0	6062.62	4195.71	4.5
0	OSTRACODA (TOTAL)	125.00	3896.21	14166.66	5798.61	4271.50	4.3
19	OSTRACODA (LPIL)	125.00	3104.16	14166.66	264.01	264.01	0.2
1	OSTRACODA (LPIL)	0.0	792.04	0.0	88178.56	61356.12	65.0
0	COPEPODA (TOTAL)	7302.07	48692.09	208541.56			
0	CALANOIDA (TOTAL)				48.61	48.61	0.0
1	DIAPTOMUS PALLIDUS	145.83	0.0	0.0	1972.98	1689.72	1.5
14	CALANOIDA (LPIL)	583.33	5335.59	0.0			
0	CYCLOPOIDA (TOTAL)				195.66	195.66	0.1
1	CYCLOPS BICUSPIDATUS THOMASI	0.0	586.99	0.0	638.89	638.89	0.5
14	CYCLOPS BICUSPIDATUS THOMASI	0.0	1916.67	0.0	130.79	98.13	0.1
1	CYCLOPS VERNALIS	322.92	69.44	0.0	23.15	23.15	0.9
1	EUCYCLOPS SPERATUS	0.0	69.44	0.0	6.94	6.94	0.9
1	MESOCYCLOPS LEUKARTI	0.0	20.83	0.0			
14	CYCLOPOIDA (LPIL)	6020.83	36359.04	48874.97	30418.28	12722.54	22.4
0	HARPACTICOIDA (TOTAL)						

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Table 2.11 (Page 4 of 4)

ZOOPLANKTON DENSITY (No./cubic meter)

SITE SUMMARY		Pond B	Pond C	Cowles Bog	- X	S.E.	REL AB%
LS	TAXA						
1	HARPACTICOIDA (LPIL)	208.33	1479.92	6791.66	2826.64	2016.21	2.1
14	HARPACTICOIDA (LPIL)	20.83	2854.16	152874.87	51916.62	50485.75	38.3
0	EPHEMEROPTERA (TOTAL)	20.83	0.0	0.0	6.94	6.94	0.0
0	CAENIDAE						
13	CAENIDAE (LPIL)	20.83	0.0	0.0	6.94	6.94	0.0
0	DIPTERA NEMATOCERA (TOTAL)	93.75	955.05	208.33	419.04	270.04	0.3
0	CHIRONOMIDAE						
2	CHIRONOMIDAE (LPIL)	93.75	955.05	208.33	419.04	270.04	0.3
	TOTAL	66718.62	101513.69	238666.50	135632.94	52486.86	100.0
	DIVERSITY (H PRIME)	0.92	2.17	1.66	1.58	0.36	
	DIVERSITY (J PRIME)	0.30	0.65	0.63	0.52	0.11	
	NUMBER OF TAXA	19	21	8	28		
ABOVE COMPUTED USING SAMPLE IDS							
	171	172	173	174			
	181	182	183	184			
	191	192	193	194			
	201	202	203	204			
	211	212	213	214			



Table 2-12

Summary Data for Lake Michigan Zooplankton,
Bailey Study Area, April 1980

Station	No. of Taxa	Density (No./m ³)	Diversity (H')	Evenness (J')
1	18	464	2.62	0.70
2	17	670	2.66	0.73
3	18	646	2.59	0.71
4	13	761	2.63	0.76
5	14	646	2.62	0.77
6	14	605	2.44	0.70
7	14	817	2.43	0.75
8	11	787	2.23	0.70
9	15	764	2.49	0.70
10	27	2967	2.47	0.62

Table 2.13

Summary Data for Nearshore Ponds Zooplankton,
Bailey Study Area, April 1980

Station	No. of Taxa	Density (No./l)	Diversity (H')	Evenness (J')
17	14	88	0.80	0.27
18	15	45	1.04	0.33
Pond B (17, 18)	19	67	0.92	0.30
19	20	135	2.04	0.62
20	13	68	2.29	0.67
Pond C (19, 20)	21	102	2.17	0.65
Cowles Bog (21)	8	239	1.66	0.63
All Pond Samples	28	136	1.58	0.52



Chydorus sp. (Cladocera) dominated the zooplankton community in Pond B, Chydorus sp. and Cyclopoida copepodites were most numerous in Pond C, and Harpacticoida copepodites were most numerous in Cowles Bog. Similar dominances were observed during April 1979.

Species diversity in Pond B was lower than the diversity in Pond C or Cowles Bog in April 1980, whereas during April 1979 all ponds had relatively uniform diversity. The major reason for the low diversity index in Pond B was the high abundance of one taxon (Chydorus sp.) and not a significant reduction in the number of taxa present. Chydorus sp. has been abundant in past years, and the resulting low diversity is probably a natural variation rather than a change caused by power station activities. No unusual results were observed in the zooplankton community during April 1980.

2.4 BENTHOS

2.4.1 METHODOLOGY. Benthic organisms were sampled at 10 Lake Michigan stations (1-10) and five nearshore pond stations (17-21). Duplicate samples at the lake stations were collected with a 9- x 9-inch Ponar grab sampler, and pond samples were collected with a 9- x 9-inch Ekman grab sampler. Organisms were removed under a 10X magnifying lens, preserved in 10 percent buffered formalin, and then identified to the lowest practical and positive taxonomic level.

2.4.2 RESULTS AND DISCUSSION. Results are summarized in tables 2.14, 2.15, and 2.16, while data for individual stations are presented in Appendixes F and G. Slightly more benthic invertebrate taxa were collected during April 1980 (21 taxa) than during April 1979 (17 taxa) (Texas Instruments 1979b). Total abundance ranged from 29 to 3250 organisms per square meter in 1980 (Table 2.15). The most numerous organisms were tubificid worms, making up 55 percent of the total population (Table 2.16), with highest Tubificidae abundance at Station 6. Tubificid worms have been the most numerous organisms collected in past years. Following Tubificidae in order of abundance were Amphipoda (Pontoporeia affinis) and Chironomidae (Cryptochironomus sp.).



Table 2.14
 Benthic Invertebrate Density, Bailly Study Area,
 April 1980 (Page 1 of 5)

BENTHIC MACROINVERTEBRATE NUMERICAL ABUNDANCE (NO/SQ M)

SITE SUMMARY

LS	TAXA	Nearfield (1-6, 10)	Farfield (7-9)	- X	S.E.	REL ABX
		1				
0	CNIDARIA (TOTAL)	3.21	0.0	1.60	1.60	0.4
0	HYDROZOA					
11	CORDYLOPHORA LACUSTRIS	3.21	0.0	1.60	1.60	0.4
0	NEMATODA (TOTAL)	8.55	0.0	4.27	4.27	1.0
1	NEMATODA (LPIL)	8.55	0.0	4.27	4.27	1.0
0	OLIGOCHAETA (TOTAL)	441.24	54.49	247.86	193.38	55.2
0	TUBIFICIDAE					
1	TUBIFICIDAE (LPIL)	441.24	54.49	247.86	193.38	55.2
0	HIRUDINEA (TOTAL)	2.14	0.0	1.07	1.07	0.2
1	HIRUDINEA (LPIL)	2.14	0.0	1.07	1.07	0.2
0	GASTROPODA (TOTAL)	1.07	0.0	0.53	0.53	0.1
5	GASTROPODA (LPIL)	1.07	0.0	0.53	0.53	0.1
0	BIVALVIA (TOTAL)	22.44	16.03	19.23	3.21	4.3
0	MYTILLIDAE					
2	MYTILUS (LPIL)	1.07	0.0	0.53	0.53	0.1
1	MYTILUS (LPIL)	0.0	3.21	1.60	1.60	0.4
1	MODIOLUS (LPIL)	1.07	3.21	2.14	1.07	0.5
5	MYTILLIDAE (LPIL)	1.07	0.0	0.53	0.53	0.1
0	SPHAERIIDAE					
5	PISIDIUM (LPIL)	9.62	6.41	8.01	1.60	1.8
2	PISIDIUM (LPIL)	1.07	0.0	0.53	0.53	0.1
1	PISIDIUM (LPIL)	8.55	0.0	4.27	4.27	1.0
5	SPHAERIIDAE (LPIL)	0.0	3.21	1.60	1.60	0.4
0	AMPHIPODA (TOTAL)	123.93	28.85	76.39	47.54	17.0
0	HAUSTORIIDAE					
1	PONTOPOREIA AFFINIS	25.64	0.0	12.02	12.02	2.9
1	PONTOPOREIA (LPIL)	93.29	28.85	63.57	34.72	14.1
0	EPHEMEROPTERA (TOTAL)	1.07	0.0	0.53	0.53	0.1
0	EPHEMERIDAE					
10	HEXAGENIA LIMBATA	1.07	0.0	0.53	0.53	0.1
0	TRICHOPTERA (TOTAL)	1.07	0.0	0.53	0.53	0.1
2	TRICHOPTERA (LPIL)	1.07	0.0	0.53	0.53	0.1
0	DIPTERA NEMATOCERA (TOTAL)	175.21	19.23	97.22	77.99	21.6
0	CHIRONOMIDAE					
2	CHIRONOMUS (LPIL)	8.55	6.41	7.43	1.07	1.7
2	CRYPTOCHIRONOMUS (LPIL)	141.03	6.41	73.72	67.31	16.4
1	CRYPTOCHIRONOMUS (LPIL)	0.0	6.41	3.21	3.21	0.7
2	FROCLADIUS (LPIL)	5.34	0.0	2.67	2.67	0.6
2	PARACLADOPELMA (LPIL)	16.03	0.0	8.01	8.01	1.8
2	MONODIAMESA (LPIL)	2.14	0.0	1.07	1.07	0.2
2	TRICHOCLADIUS	1.07	0.0	0.53	0.53	0.1
2	CHIRONOMIDAE (LPIL)	1.07	0.0	0.53	0.53	0.1
	TOTAL	779.91	118.59	449.25	330.66	100.0
	DIVERSITY (H PRIME)	1.11	1.16	1.14	0.03	

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Table 2.14 (Page 2 of 5)

BENTHIC MACROINVERTEBRATE NUMERICAL ABUNDANCE (NO/SQ M)

SITE SUMMARY

LS	TAXA	Nearfield (1-6, 10)	Farfield (7-9)	- X	S.E.	REL ABX
	DIVERSITY (J PRIME)	0.46	0.76	0.61		0.15
	NUMBER OF TAXA	20	8	21		
	LOTION TYPE	0				

ABOVE COMPUTED USING SAMPLE IDS

11	12	21	22
31	32	41	42
51	52	61	62
101	102	71	72
81	82	91	92



Table 2.14 (Page 3 of 5)

BENTHIC MACROINVERTEBRATE NUMERICAL ABUNDANCE (IND/SQ M)

SITE SUMMARY

LS	TAXA	Pond B			Pond C			Cowles Bog			REL ABX
		48.08	0.0	0.0	0.0	0.0	0.0	16.03	16.03	0.2	
0	CHIDARIA (TOTAL)										
0	HYDROZOA										
1	HYDRA (LPIL)	49.09	0.0	0.0			16.03	16.03	0.2		
0	PLATYHELMINTHES (TOTAL)	9.62	0.0	0.0			16.03	16.03	0.2		
1	TURBELLARIA-(LPIL)	9.62	0.0	0.0			6.41	3.21	0.1		
0	NEMATODA (TOTAL)	72.12	91.35	86.54			83.33	5.78	1.3		
1	NEMATODA (LPIL)	72.12	91.35	86.54			83.33	5.78	1.3		
0	OLIGOCCHAETA (TOTAL)	6745.19	3774.03	4682.69			5067.50	876.99	77.7		
0	NAIDIAE										
1	NAIDIAE (LPIL)	6576.92	2437.50	2500.00			3938.14	1359.51	58.8		
0	TUFIICIDAE										
1	TUFIICIDAE (LPIL)	168.27	1336.54	2162.69			1229.17	503.99	18.0		
0	HIRUDINEA (TOTAL)	0.0	4.81	9.62			4.81	2.78	0.1		
0	GLOSSIPHONIDAE										
1	GLOSSIPHONIDAE (LPIL)	0.0	4.81	0.0			1.60	1.60	0.0		
0	HIRUDINIDAE										
1	HAEMOPIS	0.0	0.0	9.62			3.21	3.21	0.0		
0	GASTROFODA (TOTAL)	4.81	0.0	0.0			1.60	1.60	0.0		
5	GASTROFODA (LPIL)	4.81	0.0	0.0			1.60	1.60	0.0		
0	BIVALVIA (TOTAL)	52.88	634.61	384.61			357.37	185.48	5.5		
0	SFHAERIIDAE										
5	SFHAERIUM (LPIL)	28.85	96.15	259.62			128.21	68.52	2.0		
2	SFHAERIUM (LPIL)	0.0	539.46	0.0			179.49	179.49	2.8		
1	SFHAERIUM (LPIL)	0.0	0.0	67.31			22.44	22.44	0.3		
5	PISIDIUM (LPIL)	4.81	0.0	28.85			11.22	3.92	0.2		
1	PISIDIUM (LPIL)	9.62	0.0	28.85			12.82	8.43	0.2		
5	SFHAERIIDAE (LPIL)	9.62	0.0	0.0			3.21	3.21	0.0		
0	OSTRACODA (TOTAL)	19.23	4.81	38.46			10.83	9.75	0.3		
1	OSTRACODA (LPIL)	19.23	4.81	38.46			20.63	9.75	0.3		
0	COPEFODA (TOTAL)	4.81	4.81	0.0			3.21	1.60	0.0		
0	CALANOIDA (TOTAL)										
1	CALANOIDA (LPIL)	4.81	0.0	0.0			1.60	1.60	0.0		
0	HARPACTICOIDA (TOTAL)										
1	HARPACTICOIDA (LPIL)	0.0	4.81	0.0			1.60	1.60	0.0		
0	ISOFCDA (TOTAL)										
0	APELLYDAE										
1	APELLYDAE (LPIL)	169.77	14.42	173.08			60.90	55.16	0.9		
0	AMPHIFODA (TOTAL)										
0	HYALELLIDAE										
1	HYALELLA AZTECA	105.77	14.42	0.0			40.06	33.12	0.6		
0	EPHEMEROPTERA (TOTAL)	62.50	14.42	9.62			28.85	16.88	0.4		
0	CAENIDAE										
10	CAENIS (LPIL)	62.50	14.42	9.62			28.85	16.88	0.4		
0	ODONATA (TOTAL)	4.81	0.0	0.0			1.60	1.60	0.0		

Table 2.14 (Page 4 of 5)



BENTHIC MACROINVERTEBRATE NUMERICAL ABUNDANCE (NO/SQ M)

SITE SUMMARY

LS	TAXA	Pond B	Pond C	Cowles Bog	X	S.E.	REL ADX
0	COENAGRIONIDAE						
10	COENAGRIONIDAE (LPIL)	4.81	0.0	0.0	1.60	1.60	0.0
0	TRICHOPTERA (TOTAL)	14.42	9.62	0.0	8.01	4.24	0.1
0	HYDROPTILIDAE						
2	ORTHOTRICHIA (LPIL)	4.81	0.0	0.0	1.60	1.60	0.0
0	LEPTOCERIDAE						
2	OECETIS (LPIL)	9.62	9.62	0.0	6.41	3.21	0.1
0	DIPTERA NEMATOCERA (TOTAL)	1264.42	355.77	826.92	815.70	262.37	12.5
0	CERATOPOGONIDAE						
2	CERATOPOGONIDAE (LPIL)	38.46	76.92	567.31	227.56	170.23	3.5
0	CHIRONOMIDAE						
2	CHIRONOMUS (LPIL)	115.38	14.42	9.62	46.47	34.48	0.7
2	CRYPTOCHIRONOMUS (LPIL)	4.81	0.0	0.0	1.60	1.60	0.0
2	CRICOTOPUS (LPIL)	4.81	0.0	0.0	1.60	1.60	0.0
2	TANYTAEUS (LPIL)	403.85	100.96	57.69	187.50	108.89	2.9
2	DICROTENDIPES (LPIL)	52.08	96.15	86.54	78.53	13.12	1.2
2	POLYPEDILUM (LPIL)	9.62	4.81	19.23	11.22	4.24	0.2
2	ADLADESMYIA (LPIL)	76.92	19.23	28.85	41.67	17.85	0.6
2	FROCLADIUS (LPIL)	298.08	14.42	9.62	107.37	95.76	1.6
2	PHAENOPSECTPA (LPIL)	0.0	4.81	0.0	1.60	1.60	0.0
2	THIENEMANNIELLA (LPIL)	9.62	0.0	0.0	3.21	3.21	0.0
2	PSECTROCLADIUS (LPIL)	221.15	14.42	28.85	88.14	66.64	1.4
2	PARATENDIPES (LPIL)	0.0	4.81	0.0	1.60	1.60	0.0
2	ENDOCHIRONOMUS (LPIL)	4.81	0.0	0.0	1.60	1.60	0.0
2	TRICHOCLADIUS	4.81	0.0	0.0	1.60	1.60	0.0
2	CHIRONOMIDAE (LPIL)	14.42	4.81	19.23	12.82	4.24	0.2
3	CHIRONOMIDAE (LPIL)	4.81	0.0	0.0	1.60	1.60	0.0
0	DIPTERA BRACHYCERA (TOTAL)	9.62	4.81	9.62	8.01	1.60	0.1
0	STRATIOMYIDAE						
2	NEMOLETUS	4.81	0.0	0.0	1.60	1.60	0.0
2	EUPARYPHUS	0.0	0.0	9.62	3.21	3.21	0.0
0	TADANIDAE						
2	CHRYSOPS (LPIL)	4.81	4.81	0.0	3.21	1.60	0.0
0	DIPTERA (TOTAL)	0.0	4.81	0.0	1.60	1.60	0.0
2	DIPTERA (LPIL)	0.0	4.81	0.0	1.60	1.60	0.0
	TOTAL	8418.25	4927.87	6230.75	6525.62	1010.32	100.0
	DIVERSITY (H PRIME)	2.20	1.82	2.23	2.08	0.13	
	DIVERSITY (J PRIME)	0.56	0.50	0.61	0.55	0.03	
	NUMBER OF TAXA	32	24	20	40		
	BOTTOM TYPE	0					



Table 2.14 (Page 5 of 5)

BENTHIC MACROINVERTEBRATE NUMERICAL ABUNDANCE (NO/SQ M)

SITE SUMMARY

ABOVE COMPUTED USING SAMPLE IDS

171	172	181	182
191	192	201	202
211	212		



Table 2.15

Benthic Invertebrate Summary Data,
Bailly Study Area, April 1980

Station	Density (No./m ²)	Diversity		No. Taxa
		(H')	(J')	
Lake				
1	38	0.79	0.50	4
2	558	2.16	0.80	9
3	1,394	1.90	0.63	12
4	221	0.80	0.40	4
5	548	1.52	0.59	8
6	3,250	1.46	0.64	8
7	125	1.56	0.87	5
8	202	1.43	0.90	4
9	29	0.50	0.50	3
10	337	0.46	0.20	5
Pond				
17	14,990	1.24	0.31	22
18	1,846	3.16	0.80	21
Pond B	8,418	2.20	0.56	32
19	5,865	2.01	0.54	17
20	3,990	1.64	0.45	18
Pond C	4,928	1.82	0.50	24
Cowles Bog	6,231	2.23	0.61	20

Table 2.16

Percent Relative Abundance of Major Benthic Invertebrate Groups,
Bailly Study Area, April 1980

	Taxon	Relative Abundance
		(%)
Lake Stations (1-10)	Amphipoda	17
	Tubificidae	55
	Chironomidae	22
	Naididae	0
	Bivalvia	4
	Total %	98
	No. Taxa	21
Pond Stations (17-21)	Naididae	59
	Tubificidae	19
	Amphipoda	<1
	Ephemeroptera	<1
	Chironomidae	9
	Bivalvia	6
	Total %	93
No. Taxa	40	



The largest differences in benthic invertebrate abundances among the stations appears to be variations in catches of Tubificidae; highest tubificid abundances occurred at the deep-contour stations 3 and 6.

April 1980 nearshore pond densities (6500 organisms per square meter) were similar to those in 1979 (6500 organisms per square meter). Lowest densities were observed in Pond C and the highest densities were observed in Pond B. Naididae and Tubificidae made up most of the total density (Table 2.16). Naididae was most numerous taxon in all of the ponds (Table 2.16). Generally, the abundance and dominant taxa were similar to those found in 1979 with the largest differences being an increase in abundance of naidid worms in Cowles Bog. No differences in distribution were noted in the ponds or the lake that were attributable to the Bailly power station.

2.5 FISHERIES

2.5.1 METHODOLOGY. During spring 1980, 300-foot experimental gill nets having equal-size panels of 1- to 3.5-inch mesh (at 0.5-inch mesh intervals) were set at stations 4 and 7 (Figure 2.1). A 50-foot, 1/8-inch mesh seine was deployed at stations 23, 24, and 25, and a backpack electroshocker was used at stations 17 and 18 in Pond B. Catches are expressed as individuals per 300-foot net per night sampling period for the gill net, as number of individuals per haul per station for the beach seine, and as number per 20-minute sampling period for the electroshocker.

2.5.2 RESULTS AND DISCUSSION. Table 2.17 summarizes the catch for April 1980. No fish were collected by beach seine at Station 23, but this appears to be a normal occurrence since no fish were collected by beach seines in April samplings of 1977, 1978, or 1979 (Texas Instruments 1980b). Three rainbow smelt (Osmerus mordax) and 1 coho salmon (Onchorhynchus kisutch) were collected from Station 24 and 1 rainbow smelt was collected from Station 25.

April 1980 gill net sampling collected 38 fish, 28 of which were alewives (73 percent); 119 alewives were collected in May 1979. Of the 28 alewives collected in 1980, 24 (63 percent) were collected at nearfield Station 4 and 4 (10 percent) were collected at farfield Station 7. The following comparison of



Table 2.17

Results of Fisheries Sampling by Gill Net, Beach Seine, and Electroshocker,
Bailly Study Area, April 1980

Station	Date	Common Name	Scientific Name	Total No.	Length (mm)	Weight (gm)	Condition Factor	Percentage of Total Catch																																										
								Station	Month	Gear																																								
4	4/18	Alewife	<u>Alosa pseudoharengus</u>	24	197	54	0.706	85.7	63.2	Gill Net																																								
					187	52	0.795																																											
					206	63	0.721																																											
					210	58	0.626																																											
					199	58	0.736																																											
					195	54	0.728																																											
					199	54	0.685																																											
					203	59	0.705																																											
					212	71	0.745																																											
					198	57	0.734																																											
					210	64	0.691																																											
					199	58	0.736																																											
					220	78	0.733																																											
					214	68	0.694																																											
					212	68	0.714																																											
					114	45	3.037																																											
					192	52	0.735																																											
					203	55	0.657																																											
					196	57	0.757																																											
					202	58	0.704																																											
208	60	0.667																																																
192		0.735																																																
201	58	0.714																																																
204	69	0.813																																																
7	4/18	Alewife	<u>Alosa pseudoharengus</u>	4	205	71	0.824	40.0	63.2	Gill Net																																								
					195	54	0.728																																											
					210	60	0.648																																											
					195	54	0.728																																											
					24	4/18	Coho salmon				<u>Onchorhynchus kisutch</u>	6	495	962	0.793	60.0	15.8																																	
													541	1443	0.911																																			
													491	962	0.813																																			
													510	991	0.747																																			
													496	991	0.812																																			
													491	991	0.837																																			
													25	4/18	Rainbow smelt				<u>Osmerus mordax</u>	3	54	0.8	0.508	75.0	60.0	Beach Seine																								
																					56	0.8	0.456																											
																					53	0.7	0.470																											
																					17A	4/22	Black bullhead				<u>Ictalurus melas</u>	3	117	24	1.461	75.0	15.0	Electroshocker																
																													118	24	1.461																			
																													125	26	1.331																			
																													17B	4/22	Black bullhead				<u>Ictalurus melas</u>	1	121	24	1.355	25.0	5.0	Electroshocker								
																																					108	17	1.350											
																																					121	23	1.298											
																																					18A	4/22	Black bullhead				<u>Ictalurus melas</u>	4	127	28	1.367	50.0	20.0	Electroshocker
117	23	1.436																																																
45	1.4	1.536																																																
18B	4/22	Green sunfish	<u>Lepomis cyanellus</u>	4				36	0.7	1.500																																			50.0	20.0				
								33	0.5	1.391																																								
					39	0.9	1.517																																											
					23	4/18	No catch		8	34	0.6	1.527				40.0		Electroshocker																																
										30	0.5	1.852																																						
										32	0.5	1.526																																						
										37	0.8	1.579																																						
										36	0.8	1.715																																						
										31	0.5	1.678																																						
										29	0.3	1.230																																						
										89	12.2	1.731																																						
										23	4/18	No catch											Beach Seine																											



mean lengths, weights, and condition factors indicates that alewives collected at the two locations were virtually identical:

<u>Station</u>	<u>No. Examined</u>	<u>Mean Length (mm)</u>	<u>Mean Weight (gm)</u>	<u>Mean K-Factor</u>
4	24	199	59	0.815
7	4	201	60	0.732

In addition to alewife, the April gill net catch included 3 chinook salmon (Onchorhynchus tshawytscha), 6 coho salmon (Onchorhynchus kisutch), 1 brown trout (Salmo trutta), and 3 rainbow smelt (Osmerus mordax); these species have been collected previously.

Electroshocking in Pond B captured 5 black Black bullhead and 12 green sunfish; these species also were collected in previous years.

All captured fish were examined for signs of overt ectoparasitism or lamprey scarring, which mostly occurs on salmonids. One coho salmon collected at Station 7 had a parasitic copepod, and 5 of the 12 green sunfish collected from Pond B had a light-to-moderate infestation of black spot.

The collection of fewer alewives during spring 1980 than during spring 1979 may have been due to natural variability or to the fact that no thermal plume was present during spring 1980.

2.6 ICHTHYOPLANKTON

2.6.1 METHODOLOGY. Ichthyoplankton (fish eggs and larvae) were sampled in Lake Michigan in the Bailly study area at stations 1 through 10 (Figure 2-1) by two methods: zooplankton net and epibenthic pump. Ichthyoplankton collection with the zooplankton net was an adjunct to zooplankton sampling at stations 1 through 10. The epibenthic pump was used at stations 4 and 7; all of the demersal organisms in the vicinity of the pumping head were pumped into an 80-micrometer-mesh net suspended in the water column at the surface of the lake. Pumping velocity was high enough to minimize avoidance but low enough to minimize harm to the organisms.

2.6.2 RESULTS. Samples collected in April 1980 yielded no eggs or larvae.



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2.8

HOW TO READ TI COMPUTER PRINTOUTS

On the following two pages are detailed instructions for reading the TI computer printouts which appear in Appendixes A, B, C, D, and E.



Company → **TI Project Number**
 NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720) ←
 Location → **BAILLY GENERATING PLANT**
 Parameter → **BENTHIC MACROINVERTEBRATE NUMERICAL ABUNDANCE (IND/SQ MI)**
 Type of Report → **REPLICATE REPORT**

Task and Gear Codes → **PC TC GC LOC**
 Location Code (for computer processing) → **5 71 71 1 2 00**

Station ID	SID	DATE	TIME	D/N	UNITS	C	SD	WD	SP	D	UNITS	C	SECH	WT	SC	DI	CL	SP	DI	TEMP		BT	TURBD	COND	DO	PH	SALN	P
																				AIR	WAT							
	191	6/14/78	0	0	0.0	0	0.0	0.0	0.0	0	0.1	6	0.0	0.0	0	0	0	0.0	0	0.0	0.0	0	0.0	0	0.0	0.0	0.0	0.0
	192	6/14/78	0	0	0.0	0	0.0	0.0	0.0	0	0.1	6	0.0	0.0	0	0	0	0.0	0	0.0	0.0	0	0.0	0	0.0	0.0	0.0	

Station ID indicates Station 1, Replicates 104

LS	TAXA	Date Samples Collected	Volume Sampled	Volume Units 3m ³	REL	S.E.	ABX
0	NEMATODA (TOTAL)		76.92	0.0	38.46	38.46	4.7
1	NEMATODA (LPIL)		76.92	0.0	38.46	38.46	4.7
0	OLIGOCHAETA (TOTAL)		326.92	192.31	259.61	67.31	31.4
0	HAIDIDAE						
1	HAIDIDAE (LPIL)		250.00	76.92	163.46	86.54	19.8
0	TUBIFICIDAE						
1	TUBIFICIDAE (LPIL)		76.92	115.38	96.15	19.23	11.6
0	GASTROPODA (TOTAL)		0.0	76.92	38.46	38.46	4.7
0	PHYSIDAE						
1	PHISA (LPIL)		0.0	76.92	38.46	38.46	4.7
0	BIVALVIA (TOTAL)		76.92	76.92	76.92	0.0	9.3
0	SPHAERIIDAE						
1	SPHAERIUM (LPIL)		76.92	76.92	76.92	0.0	9.3
0	ARACHNIDA (TOTAL)		0.0	19.23	9.62	9.62	1.2
0	PROSTIGMATA						
1	HYDRACARINA (LPIL)		0.0	19.23	9.62	9.62	1.2
0	EPHEMEROPTERA (TOTAL)		0.0	230.77	115.38	115.38	14.0
0	CAENIDAE						
10	CAENIS (LPIL)		0.0	230.77	115.38	115.38	14.0
0	ODONATA (TOTAL)		0.0	19.23	9.62	9.62	1.2
0	COENAGRIONIDAE						
10	COENAGRIONIDAE (LPIL)		0.0	19.23	9.62	9.62	1.2
0	DIPTERA NEMATOCERA (TOTAL)		365.38	192.31	278.85	86.54	33.7
0	CHIRONOMIDAE						
2	CHIRONOMUS (LPIL)		211.54	0.0	105.77	105.77	12.8
2	TANYTARSUS (LPIL)		38.46	57.69	48.08	9.62	5.8
2	FOLYPEDILUM (LPIL)		19.23	0.0	9.62	9.62	1.2
2	ABLABESMYIA (LPIL)		19.23	76.92	48.08	28.85	5.8
2	PROCLADIUS (LPIL)		38.46	57.69	48.08	9.62	5.8
2	PARACHIRONOMUS (LPIL)		19.23	0.0	9.62	9.62	1.2
2	PSECTROCLADIUS (LPIL)		19.23	0.0	9.62	9.62	1.2
TOTAL			846.15	807.69	826.92	19.23	100.0
DIVERSITY (H PRIME) ← Shannon Weaver			2.66	3.01	2.94	0.07	
DIVERSITY (J PRIME) ← Evenness Index			0.63	0.91	0.87	0.04	
NUMBER OF TAXA			11	10	15		
BOTTOM TYPE			0				

Taxa listed in phylogenetic order

Relative Abundance of Each Taxon

Indicates Summary Level

Samples 1-4

Mean of All 4 Samples

Standard Error of 4 Samples

DATE 09/22/78
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2-48

science services division



TI Project No.

NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILLY GENERATING PLANT ← Site

BENTHIC MACROINVERTEBRATE NUMERICAL ABUNDANCE (NO/SQ M) ← Parameter

REPLICATE REPORT

PC TC GC LOC
5 71 71 1 1 00

SID DATE
101 6/14/78
102 6/14/78

SID = Station ID:
11 = Station 1, Replicate 1
12 = Station 1, Replicate 2

Type of Report:
Replicate = 1 station
Station/within site = multiple stations within an area of interest (e.g., Pond B, Lake Michigan, etc.)
PC = Project Code; 5 = NIPSCO
TC GC = Task Code/Gear Code:
51 51 = Zooplankton/Net
56 56 = Phytoplankton/Van Dorn
66 66 = Periphyton/Substrate
71 71 = Benthos/Ponar or Ekman

LS	TAXA
0	OLIGOCHAETA (TOTAL)
0	NAIDIDAE
1	NAIDIDAE (LPIL)
0	BIVALVIA (TOTAL)
0	SPHAERIIDAE
1	SPHAERIUM (LPIL)
6	BIVALVIA (LPIL)
0	EPHEMEROPTERA (TOTAL)
0	CAENIDAE
10	CAENIS (LPIL)
0	DIPTERA NEMATOCERA (TOTAL)
0	CERATOPOGONIDAE
2	CERATOPOGONIDAE (LPIL)
0	CHIRONOMIDAE
2	CHIRONOMUS (LPIL)
2	CRYPTOCHIRONOMUS (LPIL)
2	TANYTARSUS (LPIL)
2	DICROTENDIPES (LPIL)
2	ABLABESMYIA (LPIL)
2	FRCLADIUS (LPIL)
2	PSECTROCLADIUS (LPIL)
3	CHIRONOMIDAE (LPIL)

LS	Life Stage	Benthos
0	Summary Level	
1	Adult	
2	Larvae	
3	Pupae	
4	Egg	
5-20	Zooplankton	Benthos
5	Nestling	5 Immature
6	Immature	6 Juvenile
7	Juvenile	7 Ehippium
8	No Code	8 Statoblast
9	Trocophore	9 Nauplius
10	Ehippium	10 Nymph
11	Statoblast	11 Colony
12	Nauplius	12 Undetermined
13	Nymph	
14	Copepodid	
15	Protozoa	
16	Zooi	
17	Postlarvae	
18	Colony	
19	Undetermined	
20	Mixed	

TOTAL
DIVERSITY (H PRIME) ← Shannon-Weaver Index
DIVERSITY (J PRIME) ← Evenness Index
NUMBER OF TAXA
BOTTOM TYPE 0

ABOVE COMPUTED USING SAMPLE IDS
101 102



APPENDIX A

PHYTOPHANKTON DENSITY REPLICATE REPORTS,
BAILLY STUDY AREA, APRIL 1980

NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILLY GENERATING PLANT

PHYTOPLANKTON DENSITY

NUMBER OF CELLS PER LITER

REPLICATE REPORT

PC TC GC LOC
5 56 56 0 0 00

SID	DATE	TIME	D/N	DURATION	UNITS	C	SD	WD	SP	D	SAMP VOL	UNITS	C	SECH	WT	WIND	CL	SP	DI	CURRENT	TEh ²	AIR	WAT	BT	TURBD	COND	DO	PH	SALN	P
11	4/16/80	1334	0	0.0	0	1.0	4.6	0.0	0	2.0	4	0.5	6	0	7	2	5	0.0	0	7.2	0.0	0	0.0	0	0.0	0	0.0	0.0	0.0	0.0
12	4/16/80	1334	0	0.0	0	1.0	4.6	0.0	0	2.0	4	0.5	6	0	7	2	5	0.0	0	7.2	0.0	0	0.0	0	0.0	0	0.0	0.0	0.0	0.0

LS	TAXA	1	2	X	S.E.	AB%
0	CYANOPHYTA	0.0	9944752.00	4972376.00	4972376.00	52.9
0	CHROCOCCACEAE					
0	CHROCOCCUS (LPIL)	0.0	1065509.00	532754.50	532754.50	5.7
0	GOMPHOSPHAERIA LACUSTRIS	0.0	8879243.00	4439621.00	4439621.00	47.2
0	CHLOROPHYTA	328860.75	177584.87	253222.81	75637.94	2.7
0	VOLVOCALES					
0	CHLAMYDOMONAS (LPIL)	0.0	177584.87	88792.44	88792.44	0.9
0	TETRASPORALES					
0	ELAKATOTHRIX (LPIL)	246645.56	0.0	123322.75	123322.75	1.3
0	CHLOROCOCCALES					
0	ANKISTRODESMUS FALCATUS	82215.19	0.0	41107.59	41107.59	0.4
0	CHRYSOPHYTA	0.0	355169.75	177584.87	177584.87	1.9
0	MONOSIGALES					
0	STELIXOMONAS DICHOTOMA	0.0	355169.75	177584.87	177584.87	1.9
0	BACILLARIOPHYTA-CENTRIC	2219809.00	1482833.00	1851321.00	368488.00	19.7
0	EUPODISCALES					
0	HELOSIRA (LPIL)	657721.50	506116.87	581919.19	75802.31	6.2
0	STEPHANODISCUS BINDERANA	328860.75	0.0	164430.37	164430.37	1.7
0	STEPHANODISCUS NIAGARAE	82215.19	0.0	41107.59	41107.59	0.4
0	EUPODISCALES (LPIL)	904367.06	443962.19	674164.62	230202.44	7.2
0	RHIZOSOLENIALES					
0	RHIZOSOLENIA ERIENSIS	246645.56	532754.62	389700.06	143054.50	4.1
0	BACILLARIOPHYTA-PENNATE	657721.50	2574979.00	1616350.00	958628.75	17.2
0	FRAGILARIALES					
0	ASTERIONELLA FORMOSA	82215.19	1243094.00	662654.56	580439.37	7.1
0	FRAGILARIA CROTONENSIS	0.0	1154301.00	577150.50	577150.50	6.1
0	FRAGILARIALES (LPIL)	411075.94	0.0	205537.94	205537.94	2.2
0	NAVICULALES					
0	NAVICULA (LPIL)	0.0	88792.44	44396.22	44396.22	0.5
0	BACILLARIALES					
0	NITZCHIA (LPIL)	0.0	88792.44	44396.22	44396.22	0.5
0	BACILLARIOPHYTA-PENNATE (LPIL)	164430.37	0.0	82215.19	82215.19	0.9
0	CRYPTOPHYTA	164430.37	887924.37	526177.37	361747.00	5.6
0	CRYPTOMONADALES					
0	CRYPTOMONAS REFLEXA	0.0	88792.44	44396.22	44396.22	0.5
0	CRYPTOMONAS (LPIL)	0.0	88792.44	44396.22	44396.22	0.5

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILLY GENERATING PLANT

PHYTOPLANKTON DENSITY

NUMBER OF CELLS PER LITER

REPLICATE REPORT

LS	TAXA	1	2	- X	S.E.	REL AB%
0	RHODOMONAS MINUTA	82215.19	621547.06	351881.12	269665.94	3.7
0	CHROOMONAS (LPIL)	82215.19	88792.44	85503.81	3288.62	0.9
TOTAL		3370818.00	15423234.0	9397026.00	6026208.00	100.0
	DIVERSITY (H PRIME)	3.09	2.37	2.73	0.36	
	DIVERSITY (J PRIME)	0.86	0.61	0.73	0.13	
	NUMBER OF TAXA	12	15	21		

ABOVE COMPUTED USING SAMPLE IDS

11 12

DATE 07/14/80
PAGE NO 2
T600AQUA 9/28/77

BAILLY GENERATING PLANT

PHYTOPLANKTON DENSITY

NUMBER OF CELLS PER LITER

REPLICATE REPORT

PC TC GC LOC
5 56 56 0 0 00

SID	DATE	TIME	DURATION			SD	WD	TOW				SC	DI	CURRENT			TEMP		BT	TURBD	COND	DO	PH	SALN	P	
			D/N	UNITS	C			SP	D	UNITS	C			SECH	WT	CL	SP	DI								AIR
21	4/16/80	1343	0	0.0	0	1.0	9.1	0.0	0	2.0	4	1.0	6	0	7	2	5	0.0	0	7.2	0.0	0	0.0	0.0	0.0	0
22	4/16/80	1343	0	0.0	0	1.0	9.1	0.0	0	2.0	4	1.0	6	0	7	2	5	0.0	0	7.2	0.0	0	0.0	0.0	0.0	0

LS	TAXA	1	2	X	S.E.	ABX
0	CYANOPHYTA	1302288.00	0.0	651144.00	651144.00	10.7
0	OSCILLATORIACEAE					
0	OSCILLATORIA (LPIL)	1302288.00	0.0	651144.00	651144.00	10.7
0	CHLOROPHYTA	144698.75	284135.75	214417.25	69718.50	3.5
0	VOLVOCALES					
0	CHLAMYDOMONAS (LPIL)	72349.37	142067.87	107208.62	34859.25	1.8
0	CHLOROCOCCALES					
0	ANKISTRODESMUS FALCATUS	72349.37	142067.87	107208.62	34859.25	1.8
0	CHRYSOPHYTA	0.0	355169.69	177584.81	177584.81	2.9
0	MONOSIGALES					
0	STELIXOMONAS DICHOTOMA	0.0	355169.69	177584.81	177584.81	2.9
0	BACILLARIOPHYTA-CENTRIC	4232436.00	1726123.00	2979279.00	1253156.00	49.0
0	EUPODISCALES					
0	MELOSIRA (LPIL)	1049065.00	497237.56	773151.25	275913.69	12.7
0	STEPHANODISCUS BINDERANA	2604577.00	0.0	1302288.00	1302288.00	21.4
0	STEPHANODISCUS NIAGARAE	0.0	142067.87	71033.94	71033.94	1.2
0	STEPHANODISCUS (LPIL)	0.0	142067.87	71033.94	71033.94	1.2
0	EUPODISCALES (LPIL)	217048.12	568271.50	392659.81	175611.69	6.5
0	RHIZOSOLENIALES					
0	RHIZOSOLENIA ERIENSIS	361746.87	376479.75	369113.31	7366.44	6.1
0	BACILLARIOPHYTA-PENNATE	1475926.00	710339.37	1093132.00	382793.31	18.0
0	FRAGILARIALES					
0	ASTERIONELLA FORMOSA	897132.19	568271.50	732701.81	164430.31	12.0
0	HAVICULALES					
0	CYMBELLA (LPIL)	72349.37	0.0	36174.69	36174.69	0.6
0	BACILLARIALES					
0	NITZCHIA (LPIL)	361746.87	71033.94	216390.37	145356.44	3.6
0	BACILLARIOPHYTA-PENNATE (LPIL)	144698.75	71033.94	107866.31	36832.41	1.8
0	CRYPTOPHYTA	940541.87	994475.12	967508.50	26966.62	15.9
0	CRYPTOMONADALES					
0	CRYPTOMONAS REFLEXA	0.0	142067.87	71033.94	71033.94	1.2
0	RHODOMONAS MINUTA	940541.87	852407.25	896474.56	44067.31	14.7
	TOTAL	8095886.00	4070232.00	6083059.00	2012827.00	100.0
	DIVERSITY (H PRIME)	2.87	3.31	3.09	0.22	
	DIVERSITY (J PRIME)	0.80	0.89	0.85	0.05	
	NUMBER OF TAXA	12	13	16		

NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILLY GENERATING PLANT

PHYTOPLANKTON DENSITY

NUMBER OF CELLS PER LITER

REPLICATE REPORT

LS	TAXA				-		REL
		1	2		X	S.E.	AB%

ABOVE COMPUTED USING SAMPLE IDS
21 22

DATE 07/14/80
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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILLY GENERATING PLANT

PHYTOPLANKTON DENSITY

NUMBER OF CELLS PER LITER

REPLICATE REPORT

PC TC GC LOC
5 56 56 0 0 00

SID	DATE	TIME	D/N	DURATION		TOW		SAMP VOL			WIND		CURRENT		TEMP		BT	TURBD	COND	DO	PH	SALN	P																									
				UNITS	C	SD	WD	SP	D	UNITS	C	SECH	WT	SC	DI	CL								SP	DI	AIR	WAT																					
31	4/16/80	1351	0	0.0	0	1.0	15.2	0.0	0	2.0	4	1.0	6	0	7	2	5	0.0	0	7.2	0.0	0	0.0	0	0.0	0.0	0.0																					
32	4/16/80	1351	0	0.0	0	1.0	15.2	0.0	0	2.0	4	1.0	6	0	7	2	5	0.0	0	7.2	0.0	0	0.0	0	0.0	0.0	0.0																					
																					-																				REL							
LS	TAXA																					X																				S.E.	AB%					
0	CYANOPHYTA																																															
0	CHROCOCCACEAE																																															
0	CHROCOCCUS (LPIL)																																															
0	OSCILLATORIACEAE																																															
0	OSCILLATORIA (LPIL)																																															
0	CHLOROPHYTA																																															
0	VOLVOCALES																																															
0	CHLAMYDOMONAS (LPIL)																																															
C	TETRASPORALES																																															
0	ELAKATOTHRIX (LPIL)																																															
0	CHLOROCOCCALES																																															
0	ANKISTRODESMUS FALCATUS																																															
0	CHRYSOPHYTA																																															
0	CHRYSOMONADALES																																															
0	MALLAMONAS (LPIL)																																															
0	DINOBRYON SOCIALE																																															
0	MONOSIGALES																																															
0	STELIXOMONAS DICHOTOMA																																															
0	BACILLARIOPHYTA-CENTRIC																																															
0	EUPODISCALES																																															
0	MELOSIRA (LPIL)																																															
0	STEPHANODISCUS BINDERANA																																															
0	STEPHANODISCUS (LPIL)																																															
0	EUPODISCALES (LPIL)																																															
0	RHIZOSOLENIALES																																															
0	RHIZOSOLENIA ERIENSIS																																															
0	BACILLARIOPHYTA-PENNATE																																															
0	FRAGILARIALES																																															
0	ASTERIONELLA FORMOSA																																															
0	FRAGILARIA CROTONENSIS																																															
0	NAVICULALES																																															
0	PINNULARIA (LPIL)																																															
0	BACILLARIOPHYTA-PENNATE (LPIL)																																															
0	CRYPTOPHYTA																																															
0	CRYPTOMONADALES																																															
0	CRYPTOMONAS (LPIL)																																															

DATE 07/14/80
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T600AQUA 9/28/77

NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILLY GENERATING PLANT

PHYTOPLANKTON DENSITY

NUMBER OF CELLS PER LITER

REPLICATE REPORT

LS	TAXA	1	2	- X	S.E.	REL AB%
0	RHODOMONAS MINUTA	521573.00	949749.87	735661.44	214088.44	16.6
0	CHROOMONAS (LPIL)	40121.01	49986.84	45053.93	4932.91	1.0
TOTAL		4637986.00	4223879.00	4430932.00	207053.50	100.0
DIVERSITY (H PRIME)		2.87	3.05	2.96	0.09	
DIVERSITY (J PRIME)		0.75	0.80	0.78	0.02	
NUMBER OF TAXA		14	14	20		

ABOVE COMPUTED USING SAMPLE IDS

31 32

DATE 07/14/80
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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILLY GENERATING PLANT

PHYTOPLANKTON DENSITY

NUMBER OF CELLS PER LITER

STATION REPORT

LS	TAXA	1	2	3	X	S.E.	REL AB%
0	CYANOPHYTA	4972376.00	651144.00	1202972.00	2275497.00	1357816.09	34.3
0	CHROCOCCACEAE						
0	CHROCOCCUS (LPIL)	532754.50	0.0	199947.31	244233.94	155378.87	3.7
0	GOMPHOSPHAERIA LACUSTRIS	4439621.00	0.0	0.0	1479873.00	1479873.00	22.3
0	OSCILLATORIACEAE						
0	OSCILLATORIA (LPIL)	0.0	651144.00	1003025.00	551389.62	293812.81	8.3
0	CHLOROPHYTA	253222.81	214417.25	170349.81	212663.25	23939.44	3.2
0	VOLVOCALES						
0	CHLAMYDOMONAS (LPIL)	88792.44	107208.62	65114.42	87038.44	12183.15	1.3
0	TETRASPORALES						
0	ELAKATOTHRIX (LPIL)	123322.75	0.0	80242.00	67854.87	36134.95	1.0
0	CHLOROCOCCALES						
0	ANKISTRODESNIUS FALCATUS	41107.59	107208.62	24993.42	57769.88	25153.25	0.9
0	CHRYSTOPHYTA	177584.87	177584.81	380656.19	245275.25	67690.44	3.7
0	CHRYSONOMADALES						
0	MALLAMONAS (LPIL)	0.0	0.0	40121.00	13373.66	13373.66	0.2
0	DINOBRYON SOCIALE	0.0	0.0	175447.12	58482.37	58482.37	0.9
0	MONOSIGALES						
0	STELEXOMONAS DICHOTOMA	177584.87	177584.81	165088.06	173419.25	4165.59	2.6
0	BACILLARIOPHYTA-CENTRIC	1851321.00	2979279.00	801104.56	1877234.00	628918.25	28.3
0	EUPODISCALES						
0	MELOSIRA (LPIL)	581919.19	773151.25	180544.50	511871.62	174619.25	7.7
0	STEPHANODISCUS BINDERANA	164430.37	1302288.00	99973.62	522230.62	390472.25	7.9
0	STEPHANODISCUS NIAGARAE	41107.59	71033.94	0.0	37380.51	20590.23	0.6
0	STEPHANODISCUS (LPIL)	0.0	71033.94	49986.81	40340.25	21065.35	0.6
0	EUPODISCALES (LPIL)	674164.62	392659.81	155222.19	407348.87	149985.69	6.1
0	RHIZOSOLENIALES						
0	RHIZOSOLENIA ERIENSIS	389700.06	369113.31	315377.37	358063.56	22155.04	5.4
0	BACILLARIOPHYTA-PENNATE	1616350.00	1093132.00	1070145.00	1259875.00	178360.62	19.0
0	FRAGILARIALES						
0	ASTERIONELLA FORMOSA	662654.56	732701.81	812943.50	736099.94	43417.93	11.1
0	FRAGILARIA CROTONENSIS	577150.50	0.0	174953.94	250701.44	170859.50	3.8
0	FRAGILARIALES (LPIL)	205537.94	0.0	0.0	68512.62	68512.62	1.0
0	NAVICULALES						
0	NAVICULA (LPIL)	44396.22	0.0	0.0	14798.74	14798.74	0.2
0	PINNULARIA (LPIL)	0.0	0.0	20060.50	6686.83	6686.83	0.1
0	CYMBELLA (LPIL)	0.0	36174.69	0.0	12058.23	12058.23	0.2
0	BACILLARIALES						
0	NITZCHIA (LPIL)	44396.22	216390.37	0.0	86928.81	65987.25	1.3
0	BACILLARIOPHYTA-PENNATE (LPIL)	82215.19	107866.31	62187.53	84089.62	13219.59	1.3
0	CRYPTOPHYTA	526177.37	967508.50	805708.50	766464.75	128903.50	11.5
0	CRYPTOMONADALES						

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILLY GENERATING PLANT

PHYTOPLANKTON DENSITY

NUMBER OF CELLS PER LITER

STATION REPORT

LS	TAXA	1	2	3	- X	S.E.	REL AB%
0	CRYPTOMONAS REFLEXA	44396.22	71033.94	0.0	38476.72	20718.23	0.6
0	CRYPTOMONAS (LPIL)	44396.22	0.0	24993.42	23129.88	12849.91	0.3
0	RHODOMONAS MINUTA	351881.12	896474.56	735661.44	661339.00	161542.94	10.0
0	CHROOMONAS (LPIL)	85503.81	0.0	45053.93	43519.25	24694.75	0.7
TOTAL		9397026.00	6083059.00	4430932.00	6637005.00	1460098.00	100.0
DIVERSITY (H PRIME)		2.73	3.09	2.96	2.93	0.11	
DIVERSITY (J PRIME)		0.73	0.85	0.78	0.79	0.03	
NUMBER OF TAXA		21	16	20	27		

ABOVE COMPUTED USING SAMPLE IDS

11	12	21	22
31	32		

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILLY GENERATING PLANT

PHYTOPLANKTON DENSITY

NUMBER OF CELLS PER LITER

REPLICATE REPORT

PC TC GC LOC
5 56 56 0 0 10

SID	DATE	TIME	D/N	DURATION		SD	WD	TOW				WIND				CURRENT				TEMP		BT	TURBD	COND	DO	PH	SALM	P
				UNITS	C			SP	D	UNITS	C	SECH	W	T	SC	DI	CL	SP	DI	AIR	WAT							
41	4/16/80	1324	0	0.0	0	1.0	4.6	0.0	0	2.0	4	0.5	6	0	7	2	5	0.0	0	7.2	0.0	0	0.0	0	0.0	0.0	0.0	0.0
42	4/16/80	1324	0	0.0	0	1.0	4.6	0.0	0	2.0	4	0.5	6	0	7	2	5	0.0	0	7.2	0.0	0	0.0	0	0.0	0.0	0.0	0.0

LS	TAXA			BT	TURBD	COND	DO	PH	SALM	P
		1	2							
0	CYANOPHYTA	0.0	9281770.00	4640885.00	4640885.00	56.2				
0	OSCILLATORIACEAE									
0	LYNGBYA CONTORTA	0.0	9281770.00	4640885.00	4640885.00	56.2				
0	CHLOROPHYTA	263088.50	451197.06	357142.75	94054.25	4.3				
0	VOLVOCALES									
0	CHLAMYDOMONAS (LPIL)	197316.37	128913.44	163114.87	34201.47	2.0				
0	CHLOROCOCCALES									
0	ANKISTRODESMUS FALCATUS	65772.12	64456.74	65114.43	657.69	0.8				
0	SCENEDESMUS QUADRICAUDA	0.0	257826.94	128913.44	128913.44	1.6				
0	CHRYSTOPHYTA	328860.62	773480.87	551170.75	222310.12	6.7				
0	CHRYSMONADALES									
0	SYNURA (LPIL)	65772.12	0.0	32886.06	32886.06	0.4				
0	DINOBYRON SOCIALE	0.0	773480.87	386740.44	386740.44	4.7				
0	MONOSIGALES									
0	STELIXOMONAS DICHTOMA	263088.50	0.0	131544.25	131544.25	1.6				
0	BACILLARIOPHYTA-CENTRIC	1446986.00	580110.50	1013548.25	433437.75	12.3				
0	EUPODISCALES									
0	MELOSIRA (LPIL)	526177.00	0.0	263088.50	267.86	3.2				
0	STEPHANODISCUS BINDERANA	526177.00	0.0	263088.50	263088.50	3.2				
0	STEPHANODISCUS (LPIL)	65772.12	193370.12	129571.12	63799.00	1.6				
0	EUPODISCALES (LPIL)	65772.12	0.0	32886.06	32886.06	0.4				
0	RHIZOSOLENIALES									
0	RHIZOSOLENIA ERIENSIS	263088.50	386740.37	324914.44	61825.94	3.9				
0	BACILLARIOPHYTA-PENNATE	703761.69	663904.37	683833.00	19928.66	8.3				
0	FRAGILARIALES									
0	ASTERIONELLA FORMOSA	526177.00	515653.94	520915.44	5261.53	6.3				
0	BACILLARIOPHYTA-PENNATE (LPIL)	177584.69	148250.44	162917.56	14667.12	2.0				
0	PYRRHOPHYTA-DINOPHYCEAE	65772.12	0.0	32886.06	32886.06	0.4				
0	PERIDINIALES									
0	PERIDINIUM INCONSPICUUM	65772.12	0.0	32886.06	32886.06	0.4				
0	CRYPTOPHYTA	855037.62	1095764.00	975400.81	120363.19	11.8				
0	CRYPTOMONADALES									
0	RHODOMONAS MINUTA	855037.62	1095764.00	975400.81	120363.19	11.8				
	TOTAL	3663505.00	12846221.0	8254863.00	4591358.00	100.0				
	DIVERSITY (H PRIME)	3.20	1.61	2.40	0.80					
	DIVERSITY (J PRIME)	0.87	0.48	0.67	0.19					

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILY GENERATING PLANT

PHYTOPLANKTON DENSITY

NUMBER OF CELLS PER LITER

REPLICATE REPORT

REL
ABX
S.E.

X
16

2 10

1 13

LS TAXA

NUMBER OF TAXA

ABOVE COMPUTED USING SAMPLE IDS

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILLY GENERATING PLANT

PHYTOPLANKTON DENSITY

NUMBER OF CELLS PER LITER

REPLICATE REPORT

PC TC GC LOC
5 56 56 0 0 10

SID	DATE	TIME	D/N	DURATION		SD	TOW				SAMP VOL				WIND		CURRENT		TEMP		WT	TURBD	COND	DO	PH	SALN	P
				UNITS	C		WD	SF	D	UNITS	C	SECH	WT	SC	DI	CL	SP	DI	AIR	WT							
51	4/16/80	1310	0	0.0	0	1.0	9.1	0.0	0	2.0	4	1.0	6	0	7	2	5	0.0	0	7.2	0	0.0	0	0.0	0.0	0.0	
52	4/16/80	1310	0	0.0	0	1.0	9.1	0.0	0	2.0	4	1.0	6	0	7	25	5	0.0	0	7.2	0	0.0	0	0.0	0.0	0.0	
LS	TAXA																										
0	CYANOPHYTA									2466456.00																	
0	CHROOCOCCACEAE																										
0	GOMPHOSPHAERIA LACUSTRIS									2466456.00																	
0	CHLOROPHYTA									164430.31																	
0	VOLVOCALES																										
0	CHLAMYDOMONAS (LPIL)									98658.19																	
0	CHLOROCOCCALES																										
0	ANKISTRODESMUS FALCATUS									65772.12																	
0	CHRYSOPHYTA									197316.37																	
0	CHRYSOMONADALES																										
0	MALLANONAS (LPIL)									32886.09																	
0	CHRYSOCOCCUS (LPIL)									32886.09																	
0	MONOSIGALES																										
0	STOLEXOMONAS DICHOTOMA									131544.25																	
0	BACILLARIOPHYTA-CENTRIC									937253.19																	
0	EUPODISCALES																										
0	MELOSIRA (LPIL)									559063.37																	
0	STEPHANODISCUS NIAGARAE									32886.09																	
0	STEPHANODISCUS (LPIL)									65772.12																	
0	RHIZOSOLENIALES																										
0	RHIZOSOLENIA ERIENSIS									279531.62																	
0	BACILLARIOPHYTA-PENNATE									1440410.00																	
0	FRAGILARIALES																										
0	ASTERIONELLA FORMOSA									822152.06																	
0	DIATOMA TENUE									26308.87																	
0	FRAGILARIA CROTONENSIS									559063.44																	
0	SURIRELLALES																										
0	CYMATOPLEURA SOLEA									32886.09																	
0	CRYPTOPHYTA									1167455.00																	
0	CRYPTOMONADALES																										
0	RHODOMONAS MINUTA									1101683.00																	
0	CYANOMONAS (LPIL)									65772.12																	
	TOTAL									6373316.00																	
	DIVERSITY (H PRIME)																										
	DIVERSITY (J PRIME)																										
	NUMBER OF TAXA									16																	

NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILLY GENERATING PLANT

PHYTOPLANKTON DENSITY

NUMBER OF CELLS PER LITER

REPLICATE REPORT

LS TAXA

1

2

-
X

S.E. REL
ABZ

ABOVE COMPUTED USING SAMPLE IDS
51 52

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILLY GENERATING PLANT

PHYTOPLANKTON DENSITY

NUMBER OF CELLS PER LITER

REPLICATE REPORT

PC IC GC LOC
5 56 56 0 0 10

SID	DATE	TIME	D/N	DURATION		SD	WD	TOW				SC	DI	CURRENT			TEMP		BT	TURBD	COND	DO	PH	SALN	P	
				UNITS	C			SP	D	UNITS	C			SECH	WT	CL	SP	DI								AIR
61	4/16/80	1310	0	0.0	0	1.0	15.2	0.0	0	2.0	4	1.0	6	0	7	2	5	0.0	0	7.2	0.0	0	0.0	0.0	0.0	0.0
62	4/16/80	1310	0	0.0	0	1.0	15.2	0.0	0	2.0	4	1.0	6	0	7	2	5	0.0	0	7.2	0.0	0	0.0	0.0	0.0	0.0
LS																					X	S.E.	ABZ			
	TAXA																									
																						1	2			
0	UNIDENTIFIED ALGAE																					128255.69	0.0	64127.84	64127.84	1.3
0	UNIDENTIFIED ALGAE (LPIL)																					128255.69	0.0	64127.84	64127.84	1.3
0	CYANOPHYTA																					2479611.00	0.0	1239805.00	1239805.00	24.6
0	OSCILLATORIACEAE																									
0	OSCILLATORIA (LPIL)																					2479611.00	0.0	1239805.00	1239805.00	24.6
0	CHLOROPHYTA																					171007.56	189423.75	180215.62	9208.09	3.6
0	VOLVOCALES																									
0	CHLAMYDOMONAS (LPIL)																					128255.69	63141.27	95698.44	32557.21	1.9
0	CHLOROCOCCALES																									
0	ANKISTRODESMUS FALCATUS																					42751.91	126282.50	84517.19	41765.29	1.7
0	BACILLARIOPHYTA-CENTRIC																					696856.00	1831095.00	1263975.00	567119.50	25.0
0	EUPODISCALES																									
0	MELOSIRA (LPIL)																					312088.87	1452248.00	882168.44	570079.56	17.5
0	STEPHANODISCUS (LPIL)																					256511.44	126282.50	191396.94	65114.47	3.8
0	EUPODISCALES (LPIL)																					85503.81	0.0	42751.91	42751.91	0.8
0	RHIZOSOLENIALES																									
0	RHIZOSOLENIA ERIENSIS																					42751.91	252565.00	147658.44	104906.50	2.9
0	BACILLARIOPHYTA-PENNATE																					1342408.00	1767954.00	1555181.00	212773.00	30.8
0	FRAGILARIALES																									
0	ASTERIONELLA FORMOSA																					1239805.00	505130.19	872467.56	367337.37	17.3
0	FRAGILARIA CROTONENSIS																					0.0	1136542.00	568271.00	568271.00	11.3
0	BACILLARIALES																									
0	NITZCHIA (LPIL)																					42751.91	0.0	21375.96	21375.96	0.4
0	BACILLARIOPHYTA-PENNATE (LPIL)																					59852.68	126282.50	93067.56	33214.91	1.8
0	CRYPTOPHYTA																					855038.19	631412.62	743225.37	111812.75	14.7
0	CRYPTOMONADALES																									
0	CRYPTOMONAS MARSSONII																					85503.81	0.0	42751.91	42751.91	0.8
0	CRYPTOMONAS (LPIL)																					0.0	63141.27	31570.64	31570.64	0.6
0	RHODOMONAS MINUTA																					769534.37	568271.37	668902.87	100631.50	13.3
	TOTAL																					5673166.00	4419882.00	5046524.00	626642.00	100.0
	DIVERSITY (H PRIME)																					2.48	2.62	2.55	0.07	
	DIVERSITY (J PRIME)																					0.67	0.79	0.73	0.06	
	NUMBER OF TAXA																					13	10	15		

ADOVE COMPUTED USING SAMPLE IDS

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILLY GENERATING PLANT

PHYTOPLANKTON DENSITY

NUMBER OF CELLS PER LITER

REPLICATE REPORT

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BAILY GENERATING PLANT

PHYTOPLANKTON DENSITY

NUMBER OF CELLS PER LITER

STATION REPORT

LS	TAXA	4	5	6	X	S.E.	REL ABZ
0	UNIDENTIFIED ALGAE	0.0	0.0	64127.84	21375.95	21375.95	0.4
0	UNIDENTIFIED ALGAE (LPIL)	0.0	0.0	64127.84	21375.95	21375.95	0.4
0	CYANOPHYTA	4640885.00	1233228.00	1239805.00	2371306.00	1134791.00	43.1
0	CHROOCOCCACEAE						
0	COMPHOSPHAERIA LACUSTRIS	0.0	1233228.00	0.0	411076.00	411076.00	7.5
0	OSCILLATORIACEAE						
0	OSCILLATORIA (LPIL)	0.0	0.0	1239805.00	413268.31	413268.31	7.5
0	LYNGBYA CONTORTA	4640885.00	0.0	0.0	1546961.00	1546961.00	28.1
0	CHLOROPHYTA	357142.75	62215.12	180215.62	206524.50	80447.50	3.8
0	VOLVOCALES						
0	CHLAMYDOMONAS (LPIL)	163114.87	49329.09	95698.44	102714.12	33033.90	1.9
0	CHLOROOCOCCALES						
0	ANKISTRODESMUS FALCATUS	65114.43	32886.06	84517.19	60839.23	15057.12	1.1
0	SCENEDESMUS QUADRICAUDA	128913.44	0.0	0.0	42971.14	42971.14	0.8
0	CHRYSOPHYTA	551170.75	98658.19	0.0	216609.62	169687.62	3.9
0	CHRYSOMONADALES						
0	MALLAMONAS (LPIL)	0.0	16443.04	0.0	5481.01	5481.01	0.1
0	CHRYSOCOCCUS (LPIL)	0.0	16443.04	0.0	5481.01	5481.01	0.1
0	SYNURA (LPIL)	32886.06	0.0	0.0	10962.02	10962.02	0.2
0	DINOBRYON SOCIALE	366740.44	0.0	0.0	128913.44	128913.44	2.3
0	MONOSIGALES						
0	STELIXOMONAS DICHOTOMA	131544.25	65772.12	0.0	65772.12	37973.55	1.2
0	BACILLARIOPHYTA-CENTRIC	1013548.25	468626.56	1263975.00	915383.25	234785.00	16.7
0	EUFODISCALES						
0	MELOSIRA (LPIL)	263088.50	279531.69	882168.44	474929.50	203674.75	8.6
0	STEPHANODISCUS BINDERANA	263088.50	0.0	0.0	87696.12	87696.12	1.6
0	STEPHANODISCUS NIAGARAE	0.0	16443.04	0.0	5481.01	5481.01	0.1
0	STEPHANODISCUS (LPIL)	129571.12	32886.06	191396.94	117951.37	46125.51	2.1
0	EUFODISCALES (LPIL)	32686.06	0.0	42751.91	25212.66	12924.04	0.5
0	RHIZOSOLENIALES						
0	RHIZOSOLENIA ERIENSIS	324914.44	139765.81	147658.44	204112.87	60443.73	3.7
0	BACILLARIOPHYTA-PENNATE	683833.00	720205.00	1555181.00	986406.31	284581.06	17.9
0	FRAGILARIALES						
0	ASTERIONELLA FORMOSA	520915.44	411076.00	872467.56	601486.31	139151.31	10.9
0	DIATOMA TENUE	0.0	13154.43	0.0	4384.81	4384.81	0.1
0	FRAGILARIA CROTONENSIS	0.0	279531.69	568271.00	282600.87	164052.87	5.1
0	BACILLARIALES						
0	NITZCHIA (LPIL)	0.0	0.0	21375.96	7125.32	7125.32	0.1
0	SURIRELLALES						
0	CYMATOPLEURA SOLEA	0.0	16443.04	0.0	5481.01	5481.01	0.1
0	BACILLARIOPHYTA-PENNATE (LPIL)	162917.56	0.0	93067.56	85328.37	47189.17	1.6
0	PYRRHOPHYTA-DINOPHYCEAE	32886.06	0.0	0.0	10962.02	10962.02	0.2

NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILLY GENERATING PLANT

PHYTOPLANKTON DENSITY

NUMBER OF CELLS PER LITER

STATION REPORT

LS	TAXA	4	5	6	X	S.E.	REL AB%
0	PERIDINIALES						
0	PERIDINIUM INCONSPICUUM	32886.06	0.0	0.0	10962.02	10962.02	0.2
0	CRYPTOPHYTA	975400.81	583727.50	743225.37	767451.19	113713.31	74.0
0	CRYPTOMONADALES						
0	CRYPTOMONAS MARSSONII	0.0	0.0	42751.91	14250.63	14250.63	0.3
0	CRYPTOMONAS (LPIL)	0.0	0.0	31570.64	10523.54	10523.54	0.2
0	RHODOMONAS MINUTA	975400.81	550841.50	668902.87	731715.06	126519.62	13.3
0	CYANOMONAS (LPIL)	0.0	32086.06	0.0	10962.02	10962.02	0.2
	TOTAL	8254863.00	3186658.00	5046524.00	5496015.00	1480226.00	100.0
	DIVERSITY (H PRIME)	2.40	1.38	2.55	2.11	0.37	
	DIVERSITY (J PRIME)	0.67	0.35	0.73	0.58	0.12	
	NUMBER OF TAXA	16	16	15	29		

ABOVE COMPUTED USING SAMPLE IDS

41	42	51	52
61	62		

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILLY GENERATING PLANT

PHYTOPLANKTON DENSITY

NUMBER OF CELLS PER LITER

REPLICATE REPORT

PC TC SC LOC
. 56 56 0 0 20

SID	DATE	TIME	D/N	DURATION		TOW				SAMP VOL				WIND		CURRENT		TEMP		BT	TURBD	COND	DO	PH	SALN P							
				UNITS	C	SD	WD	SP	D	UNITS	C	SECH	W	T	SC	DI	CL	SP	DI							AIR	WAT					
101	4/16/80	1105	0	0.0	0	1.0	1.5	0.0	0	2.0	4	0.2	6	0	7	2	5	0.0	0	7.2	0.0	0	0.0	0	0.0	0.0	0.0					
102	4/16/80	1105	0	0.0	0	1.0	1.5	0.0	0	2.0	4	0.2	6	0	7	2	5	0.0	0	7.2	0.0	0	0.0	0	0.0	0.0	0.0					
																							-	REL								
																							X	S.E. ABZ								
LU	TAXA																															
						1				2																						
0	CHLOROPHYTA					246645.56						2923571.00						1585108.00						1338462.00			34.5					
0	VOLVOCALES																															
0	CHLAMYDOMONAS (LPIL)					164430.37						584714.37											374572.37						210142.00			8.1
0	CHLOROCOCCALES																															
0	SPHAEROCYSTIS SCHROETERI					0.0						2338857.00											1169428.00						1169428.00			25.4
0	ANKISTRODESNIUS FALCATUS					82215.19						0.0											41107.59						41107.59			0.9
0	CHRYSOPHYTA					0.0						334122.50											167061.25						167061.25			3.6
0	MONOSIGALES																															
0	STELIXOMONAS DICHOTOMA					0.0						334122.50											167061.25						167061.25			3.6
0	BACILLARIOPHYTA-CENTRIC					965582.25						668245.00											827413.62						159168.62			18.0
0	EUPODISCALES																															
0	MELOSIRA (LPIL)					328860.75						501183.75											415022.25						86161.50			9.0
0	STEPHANODISCUS BINDERANA					164430.37						0.0											82215.19						82215.19			1.8
0	STEPHANODISCUS (LPIL)					411075.94						0.0											205537.94						205537.94			4.5
0	RHIZOLENIALES																															
0	RHIZOLENIA ERIENSIS					82215.19						167061.25											124638.19						42423.03			2.7
0	BACILLARIOPHYTA-PENNATE					2055379.00						417653.12											1236516.00						818862.94			26.9
0	FRAGILARIALES																															
0	ASTERIONELLA FORMOSA					0.0						334122.50											167061.25						167061.25			3.6
0	FRAGILARIA (LPIL)					2055379.00						0.0											1027689.50						1027689.50			22.3
0	BACILLARIOPHYTA-PENNATE (LPIL)					0.0						83530.62											41765.31						41765.31			0.9
0	CRYPTOPHYTA					1068797.00						501183.75											784990.37						283806.62			17.1
0	CRYPTOMONADALES																															
0	CRYPTOMONAS (LPIL)					164430.37						0.0											82215.19						82215.19			1.8
0	RHODOMONAS MINUTA					904367.06						417653.12											661010.06						243356.94			14.4
0	CHROOMONAS (LPIL)					0.0						83530.62											41765.31						41765.31			0.9
TOTAL					4357402.00						4844768.00											4601085.00						243683.00			100.0	
DIVERSITY (H PRIME)					2.34						2.42											2.38						0.04				
DIVERSITY (J PRIME)					0.74						0.76											0.75						0.01				
NUMBER OF TAXA					9						9											14										

ABOVE COMPUTED USING SAMPLE IDS
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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILLY GENERATING PLANT

PHYTOPLANKTON DENSITY

NUMBER OF CELLS PER LITER

STATION REPORT

LS	TAXA		- X	S.E.	REL AB%
		10			
0	CHLOROPHYTA	1585108.00	1585108.00	-1.00	34.5
0	VOLVOCALES				
0	CHLAMYDOMONAS (LPIL)	374572.37	374572.37	-1.00	8.1
0	CHLOROCOCCALES				
0	SPHAEROCYSTIS SCHROETERI	1169428.00	1169428.00	-1.00	25.4
0	ANKISTRODESMUS FALCATUS	41107.59	41107.59	-1.00	0.9
0	CHRYSOPHYTA	167061.25	167061.25	-1.00	3.6
0	MONOSIGALES				
0	STELXOMONAS DICHOTOMA	167061.25	167061.25	-1.00	3.6
0	BACILLARIOPHYTA-CENTRIC	827413.62	827413.62	-1.00	18.0
0	EUPODISCALES				
0	MELOSIRA (LPIL)	415022.25	415022.25	-1.00	9.0
0	STEPHANODISCUS BINDERANA	82215.19	82215.19	-1.00	1.8
0	STEPHANODISCUS (LPIL)	205537.94	205537.94	-1.00	4.5
0	RHIZOSOLENIALES				
0	RHIZOSOLENIA ERIENSIS	124638.19	124638.19	-1.00	2.7
0	BACILLARIOPHYTA-PENNATE	1236516.00	1236516.00	-1.00	26.9
0	FRAGILARIALES				
0	ASTERIONELLA FORMOSA	167061.25	167061.25	-1.00	3.6
0	FRAGILARIA (LPIL)	1027689.50	1027689.50	-1.00	22.3
0	BACILLARIOPHYTA-PENNATE (LPIL)	41765.31	41765.31	-1.00	0.9
0	CRYPTOPHYTA	784990.37	784990.37	-1.00	17.1
0	CRYPTOMONADALES				
0	CRYPTOMONAS (LPIL)	82215.19	82215.19	-1.00	1.8
0	RHODOMONAS MINUTA	661010.06	661010.06	-1.00	14.4
0	CHROOMONAS (LPIL)	41765.31	41765.31	-1.00	0.9
TOTAL		4601085.00	4601085.00	-1.00	100.0
DIVERSITY (H PRIME)	2.38		2.38	-1.00	
DIVERSITY (J PRIME)	0.75		0.75	-1.00	
NUMBER OF TAXA	14		14		

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILY GENERATING PLANT

PHYTOPLANKTON DENSITY

NUMBER OF CELLS PER LITER

STATION REPORT

LS	TAXA	3	6	10	X	S.E.	REL AB%
0	UNIDENTIFIED ALGAE	0.0	21375.95	0.0	7125.31	7125.31	0.1
0	UNIDENTIFIED ALGAE (LPIL)	0.0	21375.95	0.0	7125.31	7125.31	0.1
0	CYANOPHYTA	2275497.00	2371306.00	0.0	1548934.00	774960.81	27.8
0	CHROOCOCCACEAE						
0	CHROOCOCCUS (LPIL)	244233.94	0.0	0.0	81411.31	81411.31	1.5
0	GOMPHOSPHAERIA LACUSTRIS	1479873.00	411076.00	0.0	630316.31	441042.56	11.3
0	OSCILLATORIACEAE						
0	OSCILLATORIA (LPIL)	551389.62	413268.31	0.0	321552.62	165646.62	5.8
0	LYNGBYA CONTORTA	0.0	1546961.00	0.0	515653.62	515653.62	9.2
0	CHLOROPHYTA	212663.25	206524.50	1585108.00	668098.56	458508.12	12.0
0	VOLVOCALES						
0	CHLAMYDOMONAS (LPIL)	87038.44	102714.12	374572.37	188108.31	93341.75	3.4
0	TETRASPORALES						
0	ELAKATOTHRIX (LPIL)	67854.87	0.0	0.0	22618.29	22618.29	0.4
0	CHLOROCOCCALES						
0	SPHAEROCYSTIS SCHROETERI	0.0	0.0	1169428.00	389809.31	389809.31	7.0
0	ANKISTRODESMUS FALCATUS	57769.83	60839.23	41107.59	53238.90	6130.02	1.0
0	SCENEDESMUS QUADRICAUDA	0.0	42971.14	0.0	14323.71	14323.71	0.3
0	CHRYSOPHYTA	245275.25	216609.62	167061.25	209648.69	22845.12	3.8
0	CHRYSOMONADALES						
0	MALLAMONAS (LPIL)	13373.66	5481.01	0.0	6284.89	3881.51	0.1
0	CHRYSOCOCCUS (LPIL)	0.0	5481.01	0.0	1827.00	1827.00	0.0
0	SYNURA (LPIL)	0.0	10962.02	0.0	3654.01	3654.01	0.1
0	DINOBRYON SOCIALE	58482.37	128913.44	0.0	62465.27	37267.35	1.1
0	MONOSIGALES						
0	STOLEXOMONAS DICHOTOMA	173419.25	65772.12	167061.25	135417.50	34871.04	2.4
0	BACILLARIOPHYTA-CENTRIC	1877234.00	915383.25	827413.62	1206676.00	336238.81	21.6
0	EUPODISCALES						
0	MELOSIRA (LPIL)	511871.62	474929.50	415022.25	467274.44	28218.79	8.4
0	STEPHANODISCUS BINDERANA	522230.62	87696.12	82215.19	230713.94	145766.87	4.1
0	STEPHANODISCUS NIAGARAE	37380.51	5481.01	0.0	14287.17	11654.57	0.3
0	STEPHANODISCUS (LPIL)	40340.25	117951.37	205537.94	121276.50	47717.43	2.2
0	EUPODISCALES (LPIL)	407348.87	25212.66	0.0	144187.12	131781.94	2.6
0	RHIZOSOLENIALES						
0	RHIZOSOLENIA ERIENSIS	358063.56	204112.87	124638.19	228938.19	68517.81	4.1
0	BACILLARIOPHYTA-PENNATE	1259875.00	986406.31	1236516.00	1160932.00	87523.19	20.8
0	FRAGILARIALES						
0	ASTERIONELLA FORMOSA	736099.94	601486.31	167061.25	501549.12	171699.12	9.0
0	DIATOMA TENUE	0.0	4384.81	0.0	1461.60	1461.60	0.0
0	FRAGILARIA CROTONENSIS	250701.44	282600.87	0.0	177767.44	89359.44	3.2
0	FRAGILARIA (LPIL)	0.0	0.0	1027689.50	342563.12	342563.12	6.1
0	FRAGILARIALES (LPIL)	68512.62	0.0	0.0	22837.54	22837.54	0.4

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILLY GENERATING PLANT

PHYTOPLANKTON DENSITY

NUMBER OF CELLS PER LITER

STATION REPORT

LS	TAXA	3	6	10	X	S.E.	REL ABX
0	NAVICULALES						
0	NAVICULA (LPIL)	14798.74	0.0	0.0	4932.91	4932.91	0.1
0	PINNULARIA (LPIL)	6686.83	0.0	0.0	2228.94	2228.94	0.0
0	CYMBELLA (LPIL)	12058.23	0.0	0.0	4019.41	4019.41	0.1
0	BACILLARIALES						
0	NITZCHIA (LPIL)	86928.81	7125.32	0.0	31351.37	27864.74	0.6
0	SURIRELLALES						
0	CYMATOPLEURA SOLEA	0.0	5481.01	0.0	1827.00	1827.00	0.0
0	BACILLARIOPHYTA-PENNATE (LPIL)	84089.62	85328.37	41765.31	70394.44	14319.03	1.3
0	PYRRHOPHYTA-DINOPHYCEAE	0.0	10962.02	0.0	3654.01	3654.01	0.1
0	PERIDINIALES						
0	PERIDINIUM INCONSPICUUM	0.0	10962.02	0.0	3654.01	3654.01	0.1
0	CRYPTOPHYTA	766464.75	767451.19	784990.37	772968.75	6017.54	13.9
0	CRYPTOMONODALES						
0	CRYPTOMONAS MARSSONII	0.0	14250.63	0.0	4750.21	4750.21	0.1
0	CRYPTOMONAS REFLEXA	38476.72	0.0	0.0	12825.57	12825.57	0.2
0	CRYPTOMONAS (LPIL)	23129.88	10523.54	82215.19	38622.87	22097.87	0.7
0	RHODOMONAS MINUTA	661339.00	731715.06	661010.06	684688.00	23513.70	12.3
0	CHROOMONAS (LPIL)	43519.25	0.0	41765.31	28428.18	14223.11	0.5
0	CYANOMONAS (LPIL)	0.0	10962.02	0.0	3654.01	3654.01	0.1
	TOTAL	6637005.00	5496015.00	4601085.00	5578035.00	589148.50	100.0
	DIVERSITY (H PRIME)	2.93	2.11	2.38	2.47	0.24	
	DIVERSITY (J PRIME)	0.79	0.58	0.75	0.71	0.06	
	NUMBER OF TAXA	27	29	14	39		

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11	12	21	22
31	32	41	42
51	52	61	62
101	102		

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BAILY GENERATING PLANT

PHYTOPLANKTON DENSITY

NUMBER OF CELLS PER LITER

REPLICATE REPORT

PC TC GC LOC
5 56 56 0 1 00

SID	DATE	TIME	DURATION			SD	WD	TOW				WIND			CURRENT		TEMP		BT	TURBD	COND	DO	PH	SALN P			
			D/N	UNITS	C			SP	D	UNITS	C	SECH	WT	SC	DI	CL	SP	DI							AIR	WAT	
71	4/16/80	1135	0	0.0	0	1.0	4.6	0.0	0	2.0	4	0.5	6	0	7	25	0	0.0	0	7.2	5.5	0	0.0	0	0.0	0.0	0.0
72	4/16/80	1135	0	0.0	0	1.0	4.6	0.0	0	2.0	4	0.5	6	0	7	2	5	0.0	0	7.2	5.5	0	0.0	0	0.0	0.0	0.0

LS	TAXA			BT	TURBD	COND	DO	PH	SALN P
		1	2						
0	CHLOROPHYTA	0.0	138121.50	69060.75		69060.75		2.2	
0	VOLVOCALES								
0	CHLAMYDOMONAS (LPIL)	0.0	138121.50	69060.75		69060.75		2.2	
0	CHRYSOPHYTA	179557.94	0.0	89778.94		89778.94		2.9	
0	MONOSIGALES								
0	STOLEXOMONAS DICHOTOMA	179557.94	0.0	89778.94		89778.94		2.9	
0	BACILLARIOPHYTA-CENTRIC	837937.12	1266114.00	1052025.00		214088.44		33.9	
0	EUPODISCALES								
0	HELOSIRA (LPIL)	0.0	414364.62	207182.31		207182.31		6.7	
0	STEPHANODISCUS BINDERANA	119705.31	138121.50	128913.37		9208.09		4.1	
0	STEPHANODISCUS (LPIL)	478821.25	138121.50	308471.37		170349.87		9.9	
0	RHIZOSOLENIALES								
0	RHIZOSOLENIA ERIENSIS	239410.56	575506.37	407458.44		168047.87		13.1	
0	BACILLARIOPHYTA-PENNATE	1215008.00	1910681.00	1562844.00		347836.50		50.3	
0	FRAGILARIALES								
0	ASTERIONELLA FORMOSA	1107274.00	966850.87	1037062.44		70211.56		33.4	
0	FRAGILARIA CROTONENSIS	0.0	920810.37	460405.19		460405.19		14.8	
0	NAVICULES								
0	NAVICULA (LPIL)	59852.66	0.0	29926.33		29926.33		1.0	
0	BACILLARIALES								
0	HITZCHIA (LPIL)	47882.13	0.0	23941.06		23941.06		0.8	
0	BACILLARIOPHYTA-PENNATE (LPIL)	0.0	23020.26	11510.13		11510.13		0.4	
0	CRYPTOPHYTA	299263.25	368324.00	333793.62		34530.37		10.7	
0	CRYPTOMONADALES								
0	CRYPTOMONAS (LPIL)	0.0	46040.52	23020.26		23020.26		0.7	
0	RHODOMONAS MINUTA	299263.25	322283.50	310773.37		11510.12		10.0	
	TOTAL	2531764.00	3683237.00	3107500.00		575736.50		100.0	
	DIVERSITY (H PRIME)	2.38	2.74	2.56		0.18			
	DIVERSITY (J PRIME)	0.79	0.83	0.81		0.02			
	NUMBER OF TAXA	8	10	13					

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILLY GENERATING PLANT

PHYTOPLANKTON DENSITY

NUMBER OF CELLS PER LITER

REPLICATE REPORT

PC TC GC LOC
5 56 56 0 1 00

SID	DATE	TIME	D/N	DURATION		SD	WD	TOW				WIND			CURRENT			TEMP		BT	TURBD	COND	DO	PH	SALN P		
				UNITS	C			SP	D	UNITS	C	SECH	WT	SC	DI	CL	SP	DI	AIR							WAT	
81	4/16/80	1125	0	0.0	0	1.0	9.1	0.0	0	2.0	4	1.0	6	0	7	2	5	0.0	0	7.2	5.0	0	0.0	0	0.0	0.0	0.0
82	4/16/80	1125	0	0.0	0	1.0	9.1	0.0	0	2.0	4	1.0	6	0	7	2	5	0.0	0	7.2	5.0	0	0.0	0	0.0	0.0	0.0

LS	TAXA	REL		S.E.	AB%
		1	2		
0	CYANOPHYTA	570902.25	168376.75	369639.50	201262.75 9.9
0	CHROOCOCCACEAE				
0	MICROCYSTIS (LPIL)	570902.25	0.0	285451.12	285451.12 7.6
0	OSCILLATORIACEAE				
0	OSCILLATORIA LIMNETICA	0.0	168376.75	84188.37	84188.37 2.3
0	CHLOROPHYTA	40778.73	126282.56	83530.62	42751.91 2.2
0	VOLVOCALES				
0	CHLAMYDOMONAS (LPIL)	0.0	126282.56	63141.28	63141.28 1.7
0	CHLOROCCOCCALES				
0	ANKISTRODESCHMUS FALCATUS	40778.73	0.0	20389.37	20389.37 0.5
0	CHRYSOPHYTA	285451.12	168376.75	226913.94	58537.19 6.1
0	CHRYSOMONADALES				
0	CHRYSOCOCCUS (LPIL)	0.0	42094.19	21047.09	21047.09 0.6
0	DINOBYRON SOCIALE	285451.12	84188.37	184819.75	100631.37 4.9
0	CHRYSOPHYTA (LPIL)	0.0	42094.19	21047.09	21047.09 0.6
0	BACILLARIOPHYTA-CENTRIC	897131.94	463036.06	680084.00	217047.94 18.2
0	EUPODISCALES				
0	MELOSIRA (LPIL)	448566.00	0.0	224283.00	224283.00 6.0
0	STEPHANODISCUS NIAGARAE	40778.73	0.0	20389.37	20389.37 0.5
0	STEPHANODISCUS (LPIL)	81557.44	84188.37	82872.87	1315.47 2.2
0	EUPODISCALES (LPIL)	0.0	42094.19	21047.09	21047.09 0.6
0	RHIZOSOLENIALES				
0	RHIZOSOLENIA ERIENSIS	326229.81	336753.50	331491.62	5261.84 8.9
0	BACILLARIOPHYTA-PENNATE	1631147.00	1262825.00	1446986.00	184161.00 38.7
0	FRAGILARIALES				
0	ASTERIONELLA FORMOSA	1060247.00	715601.19	887924.06	172322.87 23.7
0	DIATOMA TENUE	203893.62	126282.56	165088.06	38805.53 4.4
0	FRAGILARIA CROTONENSIS	0.0	168376.75	84188.37	84188.37 2.3
0	FRAGILARIA (LPIL)	285451.12	0.0	142725.56	142725.56 3.8
0	TABELLARIA FLOCCULOSA	0.0	252565.12	126282.56	126282.56 3.4
0	NAVICULALES				
0	PINNULARIA (LPIL)	40778.73	0.0	20389.37	20389.37 0.5
0	BACILLARIOPHYTA-PENNATE (LPIL)	40778.73	0.0	20389.37	20389.37 0.5
0	PYRRHOPHYTA-DINOPHYCEAE	0.0	42094.19	21047.09	21047.09 0.6
0	PERIDINIALES				
0	PERIDINIUM INCONSPICUUM	0.0	42094.19	21047.09	21047.09 0.6

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BAILLY GENERATING PLANT

PHYTOPLANKTON DENSITY

NUMBER OF CELLS PER LITER

REPLICATE REPORT

LS	TAXA	1	2	- X	S.E.	REL AB%
0	CRYPTOPHYTA	937910.87	883977.94	910944.37	26966.47	24.4
0	CRYPTOMONADALES					
0	RHODOMONAS MINUTA	937910.87	841883.75	889897.31	48013.56	23.8
0	CHROOMDNAS (LPIL)	0.0	42094.19	21047.09	21047.09	0.6
	TOTAL	4363316.00	3114965.00	3739140.00	624175.50	100.0
	DIVERSITY (H PRIME)	3.05	3.17	3.11	0.06	
	DIVERSITY (J PRIME)	0.83	0.81	0.82	0.01	
	NUMBER OF TAXA	13	15	22		

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PHYTOPLANKTON DENSITY

NUMBER OF CELLS PER LITER

REPLICATE REPORT

PC TC GC LOC
5 56 56 0 1 00

SID	DATE	TIME	D/N	DURATION		TOW		SAMP VOL				WIND			CURRENT		TEMP		BT	TURBD	COND	DO	PH	SALN	P			
				UNITS	C	SD	WD	SP	D	UNITS	C	SECH	WT	SC	DI	CL	SP	DI								AIR	WAT	
91	4/16/80	1105	0	0.0	0	1.0	15.2	0.0	0	2.0	4	1.0	6	0	7	2	5	0.0	0	7.2	5.5	0	0.0	0	13.2	0.0	0.0	0
92	4/16/80	1105	0	0.0	0	1.0	15.2	0.0	0	2.0	4	1.0	6	0	7	2	5	0.0	0	7.2	5.5	0	0.0	0	13.2	0.0	0.0	0

LS	TAXA	REL		S.E.	ABZ	
		X	ABZ			
0	UNIDENTIFIED ALGAE	56564.07	570244.50	313404.25	256840.19	3.6
0	UNIDENTIFIED ALGAE (LPIL)	56564.07	570244.50	313404.25	256840.19	3.6
0	CYANOPHYTA	0.0	11740328.0	5870164.00	5870164.00	67.4
0	CHROOCOCCACEAE					
0	GOEOPHOSPHAERIA LACUSTRIS	0.0	11740328.0	5870164.00	5870164.00	67.4
0	CHLOROPHYTA	141410.12	402525.50	271967.81	130557.69	3.1
0	VOLVOCALES					
0	CHLAMYDOMONAS (LPIL)	84846.06	201262.75	143054.37	58208.34	1.6
0	TETRASPORALES					
0	ELAKATOTHRIX (LPIL)	56564.07	134175.19	95369.62	38805.56	1.1
0	CHLOROCOCCALES					
0	ANKISTRODESMUS FALCATUS	0.0	67087.56	33543.78	33543.78	0.4
0	CHRYSOPHYTA	56564.07	134175.19	95369.62	38805.56	1.1
0	MONOSIGALES					
0	STELIXOMONAS DICHOTOMA	56564.07	134175.19	95369.62	38805.56	1.1
0	BACILLARIOPHYTA-CENTRIC	523217.50	368981.69	446099.56	77117.87	5.1
0	EUPODISCALES					
0	HELOSIRA (LPIL)	268679.25	0.0	134339.62	134339.62	1.5
0	STEPHANODISCUS (LPIL)	0.0	301894.12	150947.06	150947.06	1.7
0	RHIZOSOLENIALES					
0	RHIZOSOLENIA ERIENSIS	254538.25	67087.56	160812.87	93725.31	1.8
0	BACILLARIOPHYTA-PENNATE	692909.69	1177386.00	935147.81	242258.12	10.7
0	FRAGILARIALES					
0	ASTERIONELLA FORMOSA	494935.50	221389.00	358162.25	136773.25	4.1
0	DIATOMA TENUE	0.0	33543.80	16771.90	16771.90	0.2
0	FRAGILARIA CROTONENSIS	0.0	872138.69	436069.31	436069.31	5.0
0	TABELLARIA FLOCCULOSA	113128.12	0.0	56564.06	56564.06	0.6
0	BACILLARIOPHYTA-PENNATE (LPIL)	84846.06	50315.70	67580.87	17265.18	0.8
0	PYRRHOPHYTA-DINOPHYCEAE	480794.56	0.0	240397.25	240397.25	2.8
0	PERIDINIALES					
0	PERIDINIUM INCONSPICUUM	480794.56	0.0	240397.25	240397.25	2.8
0	CRYPTOPHYTA	509076.44	570244.44	539660.44	30584.00	6.2
0	CRYPTOMONADALES					
0	CRYPTOMONAS REFLEXA	0.0	67087.56	33543.78	33543.78	0.4
0	CRYPTOMONAS (LPIL)	28282.04	0.0	14141.02	14141.02	0.2
0	RHODOMONAS MINUTA	480794.44	503156.87	491975.62	11181.22	5.6

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILLY GENERATING PLANT

PHYTOPLANKTON DENSITY

NUMBER OF CELLS PER LITER

REPLICATE REPORT

LS	TAXA	1	2	- X	S.E.	REL AB%
TOTAL		2460535.00	14963873.0	8712204.00	6251669.00	100.0
DIVERSITY (H PRIME)		3.06	1.42	2.24	0.82	
DIVERSITY (J PRIME)		0.85	0.37	0.61	0.24	
NUMBER OF TAXA		12	14	18		

ABOVE COMPUTED USING SAMPLE IDS

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92

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILLY GENERATING PLANT

PHYTOPLANKTON DENSITY

NUMBER OF CELLS PER LITER

STATION REPORT

LS	TAXA	7	8	9	X	S.E.	REL AB%
0	UNIDENTIFIED ALGAE	0.0	0.0	313404.25	104468.06	104468.06	2.0
0	UNIDENTIFIED ALGAE (LPIL)	0.0	0.0	313404.25	104468.06	104468.06	2.0
0	CYANOPHYTA	0.0	369639.50	5870164.00	2079934.00	1898116.00	40.1
0	CHROOCOCCACEAE						
0	MICROCYSTIS (LPIL)	0.0	285451.12	0.0	95150.37	95150.37	1.8
0	GOMPHOSPHAERIA LACUSTRIS	0.0	0.0	5870164.00	1956721.00	1956721.00	37.7
0	OSCILLATORIA						
0	OSCILLATORIA LIMNETICA	0.0	84188.37	0.0	28062.79	28062.79	0.5
0	CHLOROPHYTA	69060.75	83530.62	271967.81	141519.69	65357.66	2.7
0	VOLVOCALES						
0	CHLAMYDOMONAS (LPIL)	69060.75	63141.28	143054.37	91752.12	25707.97	1.8
0	TETRASPORALES						
0	ELAKATOTHRIX (LPIL)	0.0	0.0	95369.62	31789.87	31789.87	0.6
0	CHLOROCOCCALES						
0	ANKISTRODESMUS FALCATUS	0.0	20389.37	33543.78	17977.71	9758.04	0.3
0	CHRYSOPHYTA	89778.94	226913.94	95369.62	137354.12	44808.96	2.6
0	CHRYSOMONADALES						
0	CHRYSOCOCCUS (LPIL)	0.0	21047.09	0.0	7015.70	7015.70	0.1
0	DINOBRYON SOCIALE	0.0	184819.75	0.0	61606.58	61606.58	1.2
0	MONOSIGALES						
0	STOLEXOMONAS DICHOTOMA	89778.94	0.0	95369.62	61716.19	30900.27	1.2
0	CHRYSOPHYTA (LPIL)	0.0	21047.09	0.0	7015.70	7015.70	0.1
0	BACILLARIOPHYTA-CENTRIC	1052025.00	680084.00	446099.56	726069.50	176420.31	14.0
0	EUPODISCALES						
0	MELOSIRA (LPIL)	207182.31	224283.00	134339.62	188601.62	27576.46	3.6
0	STEPHANODISCUS BINDERANA	128913.37	0.0	0.0	42971.12	42971.12	0.8
0	STEPHANODISCUS NIAGARAE	0.0	20389.37	0.0	6796.45	6796.45	0.1
0	STEPHANODISCUS (LPIL)	308471.37	82872.87	150947.06	180763.75	66809.25	3.5
0	EUPODISCALES (LPIL)	0.0	21047.09	0.0	7015.70	7015.70	0.1
0	RHIZOSOLENIALES						
0	RHIZOSOLENIA ERIENSIS	407458.44	331491.62	160812.87	299920.94	72929.25	5.8
0	BACILLARIOPHYTA-PENNATE	1562844.00	1446986.00	935147.81	1314992.00	192844.75	25.4
0	FRAGILARIALES						
0	ASTERIONELLA FORMOSA	1037062.44	807924.06	358162.25	761049.56	205992.87	14.7
0	DIATOMA TENUE	0.0	165088.06	16771.90	60619.98	52457.95	1.2
0	FRAGILARIA CROTONENSIS	460405.19	84188.37	436069.31	326887.62	121552.75	6.3
0	FRAGILARIA (LPIL)	0.0	142725.56	0.0	47575.19	47575.19	0.9
0	TABELLARIA FLOCCULOSA	0.0	126282.56	56564.06	60948.87	36520.50	1.2
0	NAVICULALES						
0	NAVICULA (LPIL)	29926.33	0.0	0.0	9975.44	9975.44	0.2
0	PINNULARIA (LPIL)	0.0	20389.37	0.0	6796.45	6796.45	0.1
0	BACILLARIALES						

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILLY GENERATING PLANT

PHYTOPLANKTON DENSITY

NUMBER OF CELLS PER LITER

STATION REPORT

LS	TAXA	7	8	9	X	S.E.	REL AB%
0	HITZCHIA (LPIL)	23941.06	0.0	0.0	7980.35	7980.35	0.2
0	BACILLARIOPHYTA-PENNATE (LPIL)	11510.13	20389.37	67580.87	33160.12	17400.20	0.6
0	PYRRHOPHYTA-DINOPHYCEAE	0.0	21047.09	240397.25	87148.06	76865.06	1.7
0	PERIDINIALES						
0	PERIDINIUM INCONSPICUUM	0.0	21047.09	240397.25	87148.06	76865.06	1.7
0	CRYPTOPHYTA	333793.62	910944.37	539660.44	594799.44	168874.69	11.5
0	CRYPTOMONADALES						
0	CRYPTOMONAS REFLEXA	0.0	0.0	33543.78	11181.26	11181.26	0.2
0	CRYPTOMONAS (LPIL)	23020.26	0.0	14141.02	12387.09	6702.99	0.2
0	RHODOMONAS MINUTA	310773.37	889897.31	491975.62	564215.44	171036.12	10.9
0	CHROOMONAS (LPIL)	0.0	21047.09	0.0	7015.70	7015.70	0.1
	TOTAL	3107500.00	3739140.00	8712204.00	5186281.00	1772365.00	100.0
	DIVERSITY (H PRIME)	2.56	3.11	2.24	2.64	0.25	
	DIVERSITY (J PRIME)	0.81	0.82	0.61	0.75	0.07	
	NUMBER OF TAXA	13	22	18	31		

ABOVE COMPUTED USING SAMPLE IDS

71	72	81	82
91	92		

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILLY GENERATING PLANT

PHYTOPLANKTON DENSITY

NUMBER OF CELLS PER LITER

STATION REPORT

LS	TAXA		- X	S.E.	REL AB%
		9			
0	UNIDENTIFIED ALGAE	104468.06	104468.06	-1.00	2.0
0	UNIDENTIFIED ALGAE (LPIL)	104468.06	104468.06	-1.00	2.0
0	CYANOPHYTA	2079934.00	2079934.00	-1.00	40.1
0	CHROOCOCCACEAE				
0	MICROCYSTIS (LPIL)	95150.37	95150.37	-1.00	1.8
0	GOMPHOSPHAERIA LACUSTRIS	1956721.00	1956721.00	-1.00	37.7
0	OSCILLATORIACEAE				
0	OSCILLATORIA LIMNETICA	28062.79	28062.79	-1.00	0.5
0	CHLOROPHYTA	141519.69	141519.69	-1.00	2.7
0	VOLVOCALES				
0	CHLAMYDOMONAS (LPIL)	91752.12	91752.12	-1.00	1.8
0	TETRASPORALES				
0	ELAKATOTHRIX (LPIL)	31789.87	31789.87	-1.00	0.6
0	CHLOROCOCCALES				
0	ANKISTRODESIUS FALCATUS	17977.71	17977.71	-1.00	0.3
0	CHRYSOPHYTA	137354.12	137354.12	-1.00	2.6
0	CHRYSOMONADALES				
0	CHRYSOCOCCUS (LPIL)	7015.70	7015.70	-1.00	0.1
0	DINOBRYON SOCIALE	61606.58	61606.58	-1.00	1.2
0	MONOSIGALES				
0	STEELEXONONAS DICHOTOMA	61716.19	61716.19	-1.00	1.2
0	CHRYSOPHYTA (LPIL)	7015.70	7015.70	-1.00	0.1
0	BACILLARIOPHYTA-CENTRIC	726069.50	726069.50	-1.00	14.0
0	EUPODISCALES				
0	MELOSIRA (LPIL)	188601.62	188601.62	-1.00	3.6
0	STEPHANODISCUS BINDERANA	42971.12	42971.12	-1.00	0.8
0	STEPHANODISCUS NIAGARAE	6796.45	6796.45	-1.00	0.1
0	STEPHANODISCUS (LPIL)	180763.75	180763.75	-1.00	3.5
0	EUPODISCALES (LPIL)	7015.70	7015.70	-1.00	0.1
0	RHIZOSOLENIALES				
0	RHIZOSOLENIA ERIENSIS	299920.94	299920.94	-1.00	5.8
0	BACILLARIOPHYTA-PENNATE	1314992.00	1314992.00	-1.00	25.4
0	FRAGILARIALES				
0	ASTERIONELLA FORMOSA	761049.56	761049.56	-1.00	14.7
0	DIATOMA TENUE	60619.98	60619.98	-1.00	1.2
0	FRAGILARIA CROTONENSIS	326887.62	326887.62	-1.00	6.3
0	FRAGILARIA (LPIL)	47575.19	47575.19	-1.00	0.9
0	TABELLARIA FLOCCULOSA	60948.87	60948.87	-1.00	1.2
0	NAVICULALES				
0	NAVICULA (LPIL)	9975.44	9975.44	-1.00	0.2
0	PINNULARIA (LPIL)	6796.45	6796.45	-1.00	0.1
0	BACILLARIALES				

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BAILLY GENERATING PLANT

PHYTOPLANKTON DENSITY

NUMBER OF CELLS PER LITER

STATION REPORT

LS	TAXA	9	X	S.E.	REL AB%
0	NITZCHIA (LPIL)	7980.35	7980.35	-1.00	0.2
0	BACILLARIOPHYTA-PENNATE (LPIL)	33160.12	33160.12	-1.00	0.6
0	PYRRHOPHYTA-DINOPLYCEAE	87148.06	87148.06	-1.00	1.7
0	PERIDINIALES				
0	PERIDINIUM INCONSPICUUM	87148.06	87148.06	-1.00	1.7
0	CRYPTOPHYTA	594799.44	594799.44	-1.00	11.5
0	CRYPTOMONADALES				
0	CRYPTOMONAS REFLECTANS	11181.26	11181.26	-1.00	0.2
0	CRYPTOMONAS (LPIL)	12387.09	12387.09	-1.00	0.2
0	RHODOMONAS MINUTA	564215.44	564215.44	-1.00	10.9
0	CHROOMONAS (LPIL)	7015.70	7015.70	-1.00	0.1
	TOTAL	5186281.00	5186281.00	-1.00	100.0
	DIVERSITY (H PRIME)	2.64	2.64	-1.00	
	DIVERSITY (J PRIME)	0.75	0.75	-1.00	
	NUMBER OF TAXA	31	31		

ABOVE COMPUTED USING SAMPLE IDS

71	72	81	82
91	92		

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILLY GENERATING PLANT

PHYTOPLANKTON DENSITY

NUMBER OF CELLS PER LITER

REPLICATE REPORT

PC TC GC LOC
5 56 56 1 1 00

SID	DATE	TIME	D/N	DURATION		SD	WD	TOW				WIND				CURRENT				TEMP		BT	TURBD	COND	DO	PH	SALN	P
				UNITS	C			SP	D	UNITS	C	SECH	WT	SC	DI	CL	SP	DI	AIR	WAT								
171	4/20/80	1025	0	0.0	0	1.0	1.0	0.0	0	2.0	4	1.0	8	0	4	1	5	0.0	0	17.8	16.0	0	0.0	0	8.9	0.0	0.0	0
172	4/20/80	1025	0	0.0	0	1.0	1.0	0.0	0	2.0	4	1.0	8	0	4	1	5	0.0	0	17.8	16.0	0	0.0	0	8.9	0.0	0.0	0

LS	TAXA	SAMP VOL		REL	S.E.	AB%
		1	2			
0	CYANOPHYTA	0.0	562351.87	281175.94	281175.94	6.2
0	OSCILLATORIACEAE					
0	OSCILLATORIA (LPIL)	0.0	562351.87	281175.94	281175.94	6.2
0	CHLOROPHYTA	3207047.00	1274663.00	2240855.00	966192.00	49.2
0	CHLOROCOCCALES					
0	SCENEDESMUS QUADRICAUDA	2783476.00	1199683.00	1991579.00	791896.50	43.7
0	SCENEDESMUS ECORNIS	181531.12	0.0	90765.56	90765.56	2.0
0	SCENEDESMUS SPINOSUS	60510.37	0.0	30255.19	30255.19	0.7
0	TETRAEDRON CAUDATUM	30255.19	0.0	15127.59	15127.59	0.3
0	OEDOGONIALES					
0	OEDOGONIUM (LPIL)	121020.75	0.0	60510.37	60510.37	1.3
0	ZYGHEMATALES					
0	MOUGEOTIA (LPIL)	0.0	37490.12	18745.06	18745.06	0.4
0	CLOSTERIUM MONILIFERUM	30255.19	0.0	15127.59	15127.59	0.3
0	STAUSTRUM (LPIL)	0.0	37490.12	18745.06	18745.06	0.4
0	EUGLENOPHYTA	90765.56	74980.25	82872.87	7892.66	1.8
0	EUGLENALES					
0	TRACHELOMONAS (LPIL)	90765.56	74980.25	82872.87	7892.66	1.8
0	CHRYSOPHYTA	816890.06	2174426.00	1495658.00	678767.94	32.8
0	CHRYSOMONADALES					
0	CHRYSOCOCCUS (LPIL)	272296.69	1124703.00	698499.81	426203.12	15.3
0	DINOBRYON SERTULARIA	453827.81	1012233.37	733030.56	279202.75	16.1
0	EPIPYXIS UTRICULUS	90765.56	0.0	45382.78	45382.78	1.0
0	KEPHYRION (LPIL)	0.0	37490.12	18745.06	18745.06	0.4
0	BACILLARIOPHYTA-PENNATE	429623.62	224940.75	327282.19	102341.44	7.2
0	FRAGILARIALES					
0	TABELLARIA FLOCCULOSA	157326.94	0.0	78663.44	78663.44	1.7
0	ACHNANTHALES					
0	ACHNANTHES MINUTISSIMA	181531.12	149960.50	165745.81	15785.31	3.6
0	ACHNANTHES (LPIL)	60510.37	0.0	30255.19	30255.19	0.7
0	SURIPELLALES					
0	SURIPELLA (LPIL)	30255.19	0.0	15127.59	15127.59	0.3
0	BACILLARIOPHYTA-PENNATE (LPIL)	0.0	74980.25	37490.12	37490.12	0.8
0	CRYPTOPHYTA	0.0	112470.37	56235.19	56235.19	1.2
0	CRYPTOMONADALES					
0	CRYPTOMONAS (LPIL)	0.0	112470.37	56235.19	56235.19	1.2

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILLY GENERATING PLANT

PHYTOPLANKTON DENSITY

NUMBER OF CELLS PER LITER

REPLICATE REPORT

LS	TAXA	1	2	- X	S.E.	REL AB%
0	RHODMONAS MINUTA	0.0	37490.12	18745.06	18745.06	0.4
0	CHROMONAS (LPIL)	0.0	112470.37	56235.19	56235.19	1.2
TOTAL		4544321.00	4573789.00	4559055.00	14734.00	100.0
DIVERSITY (H PRIME)		2.22	2.70	2.46	0.24	
DIVERSITY (J PRIME)		0.58	0.73	0.66	0.07	
NUMBER OF TAXA		14	13	22		

ABOVE COMPUTED USING SAMPLE IDS
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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILLY GENERATING PLANT

PHYTOPLANKTON DENSITY

NUMBER OF CELLS PER LITER

REPLICATE REPORT

PC TC GC LOC
5 56 56 1 1 00

SID	DATE	TIME	D/N	DURATION		SD	WD	TOW				WIND				CURRENT				BT	TURBD	COND	DO	PH	SALN	P			
				UNITS	C			SP	D	UNITS	C	SECH	WT	SC	DI	CL	SP	DI	AIR								WAT		
181	4/20/80	1025	0	0.0	0	1.0	1.0	0.0	0	2.0	4	1.0	8	0	4	1	5	0.0	0	178.1	55.9	0	0.0	0	9.1	0.0	0.0	0	
182	4/20/80	1025	0	0.0	0	1.0	1.0	0.0	0	2.0	4	1.0	8	0	4	1	5	0.0	C	17.8	15.5	0	0.0	0	9.1	0.0	0.0	0	
LS	TAXA																							X	S.E.	AB%			
								1		2																			
0	CYANOPHYTA							0.0		1160221.00																			
0	NOSTOCACEAE																												
0	ANABAENA (LPIL)							0.0		1160221.00																			
0	CHLOROPHYTA							8057083.00		1401932.00																			
0	CHLOROCOCCALES																												
0	OOCYSTIS (LPIL)							65772.12		0.0																			
0	SCENEDESMUS QUADRICAUDA							3157061.00		1192449.00																			
0	SCENEDESMUS EORNIS							263088.50		0.0																			
0	SCENEDESMUS SPINOSUS							0.0		128913.44																			
0	PEDIASTRUM DUPLEX							4209416.00		0.0																			
0	ZYGHEMATALES																												
0	MOUGEOTIA (LPIL)							361746.69		80570.87																			
0	EUGLENOPHYTA							0.0		32228.36																			
0	EUGLENALES																												
0	TRACHELOMONAS (LPIL)							0.0		32228.36																			
0	CHRYSOPHYTA							3091288.00		4173570.00																			
0	CHRYSOMONADALES																												
0	CHRYSOCOCCUS (LPIL)							2828200.00		3061693.00																			
0	DINOBRYON SERTULARIA							131544.25		1047421.75																			
0	KEPHYRION (LPIL)							131544.25		64456.73																			
0	BACILLARIOPHYTA-PENNATE							223625.19		496316.69																			
0	FRAGILARIALES																												
0	FRAGILARIA (LPIL)							0.0		161141.81																			
0	TABELLARIA FLOCCULOSA							0.0		32228.36																			
0	NAVICULALES																												
0	NEIDIUM (LPIL)							65772.12		0.0																			
0	BACILLARIALES																												
0	NITZCHIA (LPIL)							26308.85		0.0																			
0	BACILLARIOPHYTA-PENNATE (LPIL)							131544.25		302946.56																			
0	CRYPTOPHYTA							0.0		193370.06																			
0	CRYPTOMONADALES																												
0	CRYPTOMONAS (LPIL)							0.0		96685.06																			
0	RHODOMONAS MINUTA							0.0		32228.36																			
0	CHROOMONAS (LPIL)							0.0		64456.73																			
TOTAL								11371995.0		7457632.00																			
DIVERSITY (H PRIME)								2.16		2.55																			

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILLY GENERATING PLANT

PHYTOPLANKTON DENSITY

NUMBER OF CELLS PER LITER

REPLICATE REPORT

LS TAXA

	1	2
DIVERSITY (J PRIME)	0.62	0.67
NUMBER OF TAXA	11	14

	-	S.E.	REL
	X		AB%
DIVERSITY (J PRIME)	0.65		0.02
NUMBER OF TAXA	19		

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILLY GENERATING PLANT

PHYTOPLANKTON DENSITY

NUMBER OF CELLS PER LITER

STATION REPORT

LS	TAXA	17	18	X	S.E.	REL AB%
0	CYANOPHYTA	281175.94	580110.50	430643.19	149467.25	6.2
0	OSCILLATORIACEAE					
0	OSCILLATORIA (LPIL)	281175.94	0.0	140587.94	140587.94	2.0
0	NOSTOCACEAE					
0	ANABAENA (LPIL)	0.0	580110.50	290055.25	290055.25	4.2
0	CHLOROPHYTA	2240855.00	4729507.00	3485181.00	1244326.00	49.9
0	CHLOROCOCCALES					
0	OOCYSTIS (LPIL)	0.0	32886.06	16443.03	16443.03	0.2
0	SCENEDESMUS QUADRIKAUDA	1991579.00	2174755.00	2083167.00	91588.00	29.8
0	SCENEDESMUS ECORNIS	90765.56	131544.25	111154.87	20389.34	1.6
0	SCENEDESMUS SPINOSUS	30255.19	64456.72	47355.95	17100.77	0.7
0	PEDIASTRUM DUPLEX	0.0	2104708.00	1052354.00	1052354.00	15.1
0	TETRAEDRON CAUDATUM	15127.59	0.0	7563.80	7563.80	0.1
0	OEDOGONIALES					
0	OEDOGONIUM (LPIL)	60510.37	0.0	30255.19	30255.19	0.4
0	ZYGHEMATALES					
0	MOUGEOTIA (LPIL)	18745.06	221158.75	119951.87	101206.81	1.7
0	CLOSTERIUM MONILIFERUM	15127.59	0.0	7563.80	7563.80	0.1
0	STAUSTRUM (LPIL)	18745.06	0.0	9372.53	9372.53	0.1
0	EUGLENOPHYTA	82872.87	16114.18	49493.53	33379.35	0.7
0	EUGLENALES					
0	TRACHELOMONAS (LPIL)	82872.87	16114.18	49493.53	33379.35	0.7
0	CHRYSTOPHYTA	1495658.00	3632429.00	2564043.00	1068385.00	36.7
0	CHRYSSOMONADALES					
0	CHRYSSOCOCCUS (LPIL)	698499.81	2944946.00	1821722.00	1123223.00	26.1
0	DINOBYRON SERTULARIA	733030.56	589483.00	661256.75	71773.75	9.5
0	EPIPYXIS UTRICULUS	45382.78	0.0	22691.39	22691.39	0.3
0	KEPHYRION (LPIL)	18745.06	98000.44	58372.75	39627.69	0.8
0	BACILLARIOPHYTA-PENNATE	327282.19	359970.94	343626.56	16344.37	4.9
0	FRAGILARIALES					
0	FRAGILARIA (LPIL)	0.0	80570.87	40285.44	40285.44	0.6
0	TABELLARIA FLOCCULOSA	78663.44	16114.18	47388.81	31274.63	0.7
0	ACHNANTHALES					
0	ACHNANTHES MINUTISSIMA	165745.81	0.0	82872.87	82872.87	1.2
0	ACHNANTHES (LPIL)	30255.19	0.0	15127.59	15127.59	0.2
0	NAVICULALES					
0	NEIDIUM (LPIL)	0.0	32886.06	16443.03	16443.03	0.2
0	BACILLARIALES					
0	NITZCHIA (LPIL)	0.0	13154.42	6577.21	6577.21	0.1
0	SURIRELLALES					
0	SURIRELLA (LPIL)	15127.59	0.0	7563.80	7563.80	0.1
0	BACILLARIOPHYTA-PENNATE (LPIL)	37490.12	21245.37	127367.75	89877.62	1.8

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILLY GENERATING PLANT

PHYTOPLANKTON DENSITY

NUMBER OF CELLS PER LITER

STATION REPORT

LS	TAXA	17	18	- X	S.E.	REL AB%
0	CRYPTOPHYTA	131215.44	96685.00	113950.19	17265.22	1.6
0	CRYPTOMONADALES					
0	CRYPTOMONAS (LPIL)	56235.19	48342.53	52738.86	3946.33	0.7
0	RHODOMONAS MINUTA	18745.06	16114.18	1729.62	1315.44	0.2
0	CHROONONAS (LPIL)	56235.19	32228.36	44231.77	2003.41	0.6
	TOTAL	4559055.00	9414813.00	6986934.00	2427879.00	100.0
	DIVERSITY (H PRIME)	2.46	2.35	2.41	0.06	
	DIVERSITY (J PRIME)	0.66	0.65	0.65	0.01	
	NUMBER OF TAXA	22	19	28		

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILLY GENERATING PLANT

PHYTOPLANKTON DENSITY

NUMBER OF CELLS PER LITER

STATION REPORT

LS	TAXA	18	X	S.E.	REL ABZ
0	CYANOPHYTA	430643.19	430643.19	-1.00	6.2
0	OSCILLATORIACEAE				
0	OSCILLATORIA (LPIL)	140587.94	140587.94	-1.00	2.0
0	NOSTOCACEAE				
0	ANABAENA (LPIL)	290055.25	290055.25	-1.00	4.2
0	CHLOROPHYTA	3485181.00	3485181.00	-1.00	49.9
0	CHLOROCOCCALES				
0	OOCYSTIS (LPIL)	16443.03	16443.03	-1.00	0.2
0	SCENEDESMUS QUADRICAUDA	2083167.00	2083167.00	-1.00	29.8
0	SCENEDESMUS ECORNIS	111154.87	111154.87	-1.00	1.6
0	SCENEDESMUS SPINOSUS	47355.95	47355.95	-1.00	0.7
0	PEDIASTRUM DUPLEX	1052354.00	1052354.00	-1.00	15.1
0	TETRAEDRON CAUDATUM	7563.80	7563.80	-1.00	0.1
0	OEDOGONIALES				
0	OEDOGONIUM (LPIL)	30255.19	30255.19	-1.00	0.4
0	ZYGNEMATALES				
0	MOUGEOTIA (LPIL)	119951.87	119951.87	-1.00	1.7
0	CLOSTERIUM MONILIFERUM	7563.80	7563.80	-1.00	0.1
0	STAUSTRUM (LPIL)	9372.53	9372.53	-1.00	0.1
0	EUGLENOPHYTA	49493.53	49493.53	-1.00	0.7
0	EUGLENALES				
0	TRACHELOMONAS (LPIL)	49493.53	49493.53	-1.00	0.7
0	CHRYSOPHYTA	2564043.00	2564043.00	-1.00	36.7
0	CHRYSOMONADALES				
0	CHRYSOCOCCUS (LPIL)	1821722.00	1821722.00	-1.00	26.1
0	DINOBRYON SERTULARIA	661256.75	661256.75	-1.00	9.5
0	EPIPYXIS UTRICULUS	22691.39	22691.39	-1.00	0.3
0	KEPHYRION (LPIL)	58372.75	58372.75	-1.00	0.8
0	BACILLARIOPHYTA-PENNATE	343626.56	343626.56	-1.00	4.9
0	FRAGILARIALES				
0	FRAGILARIA (LPIL)	40285.44	40285.44	-1.00	0.6
0	TABELLARIA FLOCCULOSA	47388.81	47388.81	-1.00	0.7
0	ACHNANTHALES				
0	ACHNANTHES MINUTISSIMA	82872.87	82872.87	-1.00	1.2
0	ACHNANTHES (LPIL)	15127.59	15127.59	-1.00	0.2
0	NAVICULARLES				
0	NEIDIUM (LPIL)	16443.03	16443.03	-1.00	0.2
0	BACILLARIALES				
0	NITZCHIA (LPIL)	6577.21	6577.21	-1.00	0.1
0	SURIRELLALES				
0	SURIRELLA (LPIL)	7563.80	7563.80	-1.00	0.1
0	BACILLARIOPHYTA-PENNATE (LPIL)	127367.75	127367.75	-1.00	1.8

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILLY GENERATING PLANT

PHYTOPLANKTON DENSITY

NUMBER OF CELLS PER LITER

STATION REPORT

LS	TAXA		- X	S.E.	REL AB%
		18			
0	CRYPTOPHYTA	113950.19	113950.19	-1.00	1.6
0	CRYPTOMONADALES				
0	CRYPTOMONAS (LPIL)	52288.86	52288.86	-1.00	0.7
0	RHODOMONAS MINUTA	17429.62	17429.62	-1.00	0.2
0	CHROOMONAS (LPIL)	44231.77	44231.77	-1.00	0.6
TOTAL		6986934.00	6986934.00	-1.00	100.0
DIVERSITY (H PRIME)		2.41	2.41	-1.00	
DIVERSITY (J PRIME)		0.65	0.65	-1.00	
NUMBER OF TAXA		28	28		

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILLY GENERATING PLANT

PHYTOPLANKTON DENSITY

NUMBER OF CELLS PER LITER

REPLICATE REPORT

PC TC GC LOC
5 56 56 1 2 00

SID	DATE	TIME	D/N	DURATION		SD	WD	TOW				WIND			CURRENT			TEMP		BT	TURBO	COND	DO	PH	SALN ?		
				UNITS	C			SP	D	UNITS	C	SECH	W	T	SC	DI	CL	SP	DI							AIR	WAT
191	4/20/80	1055	0	0.0	0	1.0	1.0	0.0	0	2.0	4	1.0	8	0	4	1	5	0.0	0	178.1	9.5	0	0.0	0	8.5	0.0	0.0
192	4/20/80	1055	0	0.0	0	1.0	1.0	0.0	0	2.0	4	1.0	8	0	4	1	5	0.0	0	17.8	19.5	0	0.0	0	8.5	0.0	0.0

LS TAXA X S.E. ABZ

LS	TAXA	1	2	S.E.	ABZ
0	CYANOPHYTA	399894.81	0.0	199947.37	1.5
0	CHROOCOCCACEAE				
0	AGHENELLUM (LPIL)	399894.81	0.0	199947.37	1.5
0	CHLOROPHYTA	124967.06	242699.12	183833.06	1.4
0	VOLVOCALES				
0	CHLAMYDOMONAS (LPIL)	24993.43	26966.58	25980.00	0.2
0	CHLOROCOCCALES				
0	ANKISTRODESMUS FALCATUS	0.0	53933.16	26966.58	0.2
0	SCENEDESMUS QUADRICAUDA	0.0	161799.44	80899.69	0.6
0	SCENEDESMUS ECORNIS	99973.69	0.0	49986.84	0.4
0	EUGLENOPHYTA	224940.69	134832.87	179886.75	1.3
0	EUGLENALES				
0	TRACHELOMONAS VOLVOCINA	24993.43	26966.58	25980.00	0.2
0	TRACHELOMONAS (LPIL)	199947.31	107766.31	153906.81	1.1
0	CHRYSOPHYTA	15420937.0	9613582.00	12517259.0	92.9
0	CHRYSOMONADALES				
0	CHRYSOCOCCUS (LPIL)	1049723.00	566298.12	808010.56	6.0
0	DINOBYRION SEPTULARIA	3049195.00	2170809.00	2610002.00	19.4
0	DINOBYRION DIVERGENS	0.0	3933.16	26966.58	0.2
0	OCHROMONAS (LPIL)	11172059.0	675576.00	8983817.00	66.7
0	KEPHYRION (LPIL)	149960.50	26966.58	88463.50	0.7
0	BACILLARIOPHYTA-PENNATE	245924.19	30899.69	165416.94	1.2
0	FRAGILARIALES				
0	FRAGILARIA (LPIL)	224940.81	0.0	112470.37	0.8
0	TABELLARIA FLOCCULOSA	0.0	80399.69	40449.84	0.3
0	BACILLARIOPHYTA-PENNATE (LPIL)	24993.43	0.0	12496.71	0.1
0	PYRRHOPHYTA-DINOPHYCEAE	99973.62	107866.25	103919.94	0.8
0	PERIDINIALES				
0	PERIDINIUM INCONSPICUUM	74980.25	107866.25	91423.25	0.7
0	PERIDINIUM CINCTUM	24993.43	0.0	12496.71	0.1
0	CRYPTOPHYTA	99973.62	134832.87	117403.25	0.9
0	CRYPTOMONADALES				
0	CRYPTOMONAS (LPIL)	74980.25	107866.31	91423.25	0.7
0	CHROOMONAS (LPIL)	24993.43	26966.58	25980.00	0.2
TOTAL		16620614.0	10314706.0	13467660.0	100.0
DIVERSITY (H PRIME)		1.62	1.62	1.62	0.00

NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILLY GENERATING PLANT

PHYTOPLANKTON DENSITY

NUMBER OF CELLS PER LITER

REPLICATE REPORT

LS	TAXA	1	2	-	S.E.	REL
				X		ABZ
	DIVERSITY (J PRIME)	0.42	0.43	0.42	0.01	
	NUMBER OF TAXA	15	14	19		

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILLY GENERATING PLANT

PHYTOPLANKTON DENSITY

NUMBER OF CELLS PER LITER

REPLICATE REPORT

PC TC GC LOC
5 56 56 1 2 00

SID	DATE	TIME	D/N	DURATION		SD	WD	TOW				WIND				CURRENT				TEMP		BT	TURBD	COND	DO	PH	SALN	P
				UNITS	C			SP	D	UNITS	C	SECH	WT	SC	DI	CL	SP	DI	AIR	WAT								
201	4/20/80	1055	0	0.0	0	1.0	1.0	0.0	0	2.0	4	1.0	8	0	4	1	5	0.0	0	17.8	19.5	0	0.0	0	8.7	0.0	0.0	0
202	4/20/80	1055	0	0.0	0	1.0	1.0	0.0	0	2.0	4	1.0	8	0	4	1	5	0.0	0	17.8	19.5	0	0.0	0	8.7	0.0	0.0	0
LS	TAXA																											
										1		2										X			S.E.		REL	ABZ
0	CYANOPHYTA																											
0	NOSTOCACEAE																											
0	ANABAENA (LPIL)																											
0	CHLOROPHYTA																											
0	VOLVOCALES																											
0	CHLAMYDOMONAS (LPIL)																											
0	CHLOROCOCCALES																											
0	ANKISTRODESMUS FALCATUS																											
0	SCENEDESMUS ACUTUS																											
0	SCENEDESMUS QUADRICAUDA																											
0	EUGLENOPHYTA																											
0	EUGLENALES																											
0	TRACHELONOMAS VOLVOCINA																											
0	TRACHELONOMAS (LPIL)																											
0	CHRYSOPHYTA																											
0	CHRYSOMONADALES																											
0	CHRYSOCOCCUS (LPIL)																											
0	SYNCRYPHA (LPIL)																											
0	DINOBRYON SERTULARIA																											
0	DINOBRYON (LPIL)																											
0	OCHROMONAS (LPIL)																											
0	EPIPXYXIS UTRICULUS																											
0	KEPHYRION (LPIL)																											
0	BACILLARIOPHYTA-PENNATE																											
0	BACILLARIALES																											
0	NITZCHIA (LPIL)																											
0	BACILLARIOPHYTA-PENNATE (LPIL)																											
0	PYRRHOPHYTA-DINOPHYCEAE																											
0	PERIDINIALES																											
0	PERIDINIUM INCONSPICUUM																											
0	PERIDINIUM CINCTUM																											
0	CRYPTOPHYTA																											
0	CRYPTOMONODALES																											
0	CRYPTOMONAS (LPIL)																											
0	CHROOMONAS (LPIL)																											
TOTAL																												

NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILLY GENERATING PLANT

PHYTOPLANKTON DENSITY

NUMBER OF CELLS PER LITER

REPLICATE REPORT

LS	TAXA			-	S.E.	REL
		1	2	X		AB%
DIVERSITY (H PRIME)		0.71	1.28	0.99	0.29	
DIVERSITY (J PRIME)		0.19	0.33	0.26	0.07	
NUMBER OF TAXA		13	15	20		

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILLY GENERATING PLANT

PHYTOPLANKTON DENSITY

NUMBER OF CELLS PER LITER

STATION REPORT

LS	TAXA	19	20	- X	S.E.	REL AB%
0	CYANOPHYTA	199947.37	1220073.00	710010.19	510062.81	3.6
0	CHROCOCCACEAE					
0	AGHENELLUM (LPIL)	199947.37	0.0	99973.69	99973.69	0.5
0	NOSTOCACEAE					
0	ANABAENA (LPIL)	0.0	1220073.00	610036.50	610036.50	3.1
0	CHLOROPHYTA	183833.06	167719.00	175776.00	8057.03	0.9
0	VOLVOCALES					
0	CHLAMYDOMONAS (LPIL)	25980.00	38476.72	32228.36	6248.36	0.2
0	CHLOROCOCCALES					
0	ANKISTRODESMUS FALCATUS	26966.58	17429.62	22198.10	4768.48	0.1
0	SCENEDESMUS ACUTUS	0.0	69718.50	34859.25	34859.25	0.2
0	SCENEDESMUS QUADRICAUDA	80899.69	42094.19	61496.94	19402.75	0.3
0	SCENEDESMUS ECORNIS	49966.84	0.0	24993.42	24993.42	0.1
0	EUGLENOPHYTA	179886.75	356814.00	268350.37	88463.62	1.3
0	EUGLENALES					
0	TRACHELOMONAS VOLVOCINA	25980.00	42094.19	34037.09	8057.09	0.2
0	TRACHELOMONAS (LPIL)	153906.81	314719.81	234313.31	80406.50	1.2
0	CHRYSOPHYTA	12517259.0	24291920.0	18404576.0	5887330.00	92.1
0	CHRYSOMONADALES					
0	CHRYSOCOCCUS (LPIL)	808010.56	519929.00	663969.75	144040.75	3.3
0	SYNCRYPTA (LPIL)	0.0	21047.09	10523.55	10523.55	0.1
0	DINOBRYON SERTULARIA	2610002.00	1330899.00	1970450.00	639551.50	9.9
0	DINOBRYON DIVERGENS	26966.58	0.0	13483.29	13483.29	0.1
0	DINOBRYON (LPIL)	0.0	42094.19	21047.09	21047.09	0.1
0	OCHROMONAS (LPIL)	8983817.00	22301024.0	15642420.0	6658603.00	78.3
0	EPIPYXIS UTRICULUS	0.0	21047.09	10523.55	10523.55	0.1
0	KEPHYRION (LPIL)	88463.50	55906.34	72184.87	16278.58	0.4
0	BACILLARIOPHYTA-PENNATE	165416.94	34859.25	100138.06	65278.84	0.5
0	FRAGILARIALES					
0	FRAGILARIA (LPIL)	112470.37	0.0	56235.19	56235.19	0.3
0	TABELLARIA FLOCCULOSA	40449.84	0.0	20224.92	20224.92	0.1
0	BACILLARIALES					
0	NITZCHIA (LPIL)	0.0	17429.62	8714.81	8714.81	0.0
0	BACILLARIOPHYTA-PENNATE (LPIL)	12496.71	17429.62	14963.17	2466.46	0.1
0	PYRRHOPHYTA-DINOPHYCEAE	103919.94	287687.44	195803.69	91883.75	1.0
0	PERIDINIALES					
0	PERIDINIUM INCONSPICUUM	91423.25	252828.19	172125.69	80702.44	0.9
0	PERIDINIUM CINCTUM	12496.71	34859.25	23677.98	11181.27	0.1
0	CRYPTOPHYTA	117403.25	153906.87	135655.06	18251.81	0.7
0	CRYPTOMONADALES					
0	CRYPTOMONAS (LPIL)	91423.25	136477.25	113950.25	22527.00	0.6
0	CHROONONAS (LPIL)	25980.00	17429.62	21704.81	4275.19	0.1

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILLY GENERATING PLANT

PHYTOPLANKTON DENSITY

NUMBER OF CELLS PER LITER

STATION REPORT

LS	TAXA			-		REL
		19	20	x	S.E.	AB%
TOTAL		13467660.0	26512880.0	19990256.0	6522610.00	100.0
DIVERSITY (H PRIME)		1.62	0.99	1.31	0.32	
DIVERSITY (J PRIME)		0.42	0.26	0.34	0.08	
NUMBER OF TAXA		19	20	25		

ABOVE COMPUTED USING SAMPLE IDS

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49729)

DAILY GENERATING PLANT

PHYTOPLANKTON DENSITY

NUMBER OF CELLS PER LITER

STATION REPORT

LS	TAXA	20	X	S.E.	REL. ABX
0	CYANOPHYTA	710010.19	710010.19	-1.00	3.6
0	CHOCOCOCACEAE				
0	AGREHILLIUM (LPIL)	99973.69	99973.69	-1.00	0.5
0	HOSIACACEAE				
0	ARSAENA (LPIL)	610036.50	610036.50	-1.00	3.1
0	CHELIDOPHYTA	175776.00	175776.00	-1.00	0.9
0	VOLVOCALES				
0	CHLARTORNIAS (LPIL)	32226.36	32226.36	-1.00	0.2
0	CHOCOCOCALES				
0	ABYSTRIDEIUMS FALCATUS	22196.10	22196.10	-1.00	0.1
0	SCHEDEIUMS FALCATUS	34059.25	34059.25	-1.00	0.2
0	SCHEDEIUMS FALCATUS	61696.94	61696.94	-1.00	0.3
0	SCHEDEIUMS FALCATUS	24993.42	24993.42	-1.00	0.1
0	SCHEDEIUMS FALCATUS	260350.37	260350.37	-1.00	1.3
0	EUGLENALES				
0	TRACHELOTERIUMS VOLVOCHINA	34037.09	34037.09	-1.00	0.2
0	TRACHELOTERIUMS (LPIL)	234313.31	234313.31	-1.00	1.2
0	CHRYSOPIHYTA	18505576.0	18505576.0	-1.00	92.1
0	CHRYSOCHADALES				
0	CHRYSOCCUS (LPIL)	663969.75	663969.75	-1.00	3.3
0	SHERPIA (LPIL)	1923.55	1923.55	-1.00	0.1
0	DIBERTON SEPTULARIA	1970459.00	1970459.00	-1.00	9.9
0	DIBERTON DIVERGENS	13683.29	13683.29	-1.00	0.1
0	DIBERTON (LPIL)	21047.09	21047.09	-1.00	0.1
0	DIBERTON (LPIL)	15642820.0	15642820.0	-1.00	78.3
0	EPIYZIS UTRICULUS	1023.55	1023.55	-1.00	0.1
0	KEPHYRION (LPIL)	72164.87	72164.87	-1.00	0.6
0	BACILLARIOPHYTA-PERIDIAE	100130.06	100130.06	-1.00	0.5
0	FRAGILARIALES				
0	FRAGILARIA (LPIL)	56235.19	56235.19	-1.00	2.3
0	TABELLARIA FLOCCULOSA	20224.92	20224.92	-1.00	0.1
0	BACILLARIALES				
0	HITZCHIA (LPIL)	8714.61	8714.61	-1.00	0.0
0	BACILLARIOPHYTA-PERIDIAE (LPIL)	15963.17	15963.17	-1.00	0.1
0	PERIDIAE	19583.69	19583.69	-1.00	1.0
0	PERIDIALES				
0	PERIDINIUM INCONSPICUUM	172125.69	172125.69	-1.00	0.9
0	PERIDINIUM CINCTUM	23677.90	23677.90	-1.00	0.1
0	CRYPTOPHYTA	135655.06	135655.06	-1.00	0.7
0	CRYPTOPHYTALES				
0	CRYPTOPHYTES (LPIL)	113950.25	113950.25	-1.00	0.6
0	CRYPTOPHYTES (LPIL)	21704.61	21704.61	-1.00	0.1

NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILLY GENERATING PLANT

PHYTOPLANKTON DENSITY

NUMBER OF CELLS PER LITER

STATION REPORT

LS	TAXA		-	REL
			X	S.E. AB%
		20		
TOTAL		19990256.0	19990256.0	-1.00 100.0
DIVERSITY (H PRIME)		1.31	1.31	-1.00
DIVERSITY (J PRIME)		0.34	0.34	-1.00
NUMBER OF TAXA		25	25	

ABOVE COMPUTED USING SAMPLE IDS

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILLY GENERATING PLANT

PHYTOPLANKTON DENSITY

NUMBER OF CELLS PER LITER

REPLICATE REPORT

PC TC GC LOC
5 56 56 1 3 00

SID	DATE	TIME	D/N	DURATION		SD	TOW					SAMP VOL				WIND		CURRENT		TEMP		BT	TURBD	COND	DO	PH	SALN	P	
				UNITS	C		WD	SP	D	UNITS	C	SECH	W	T	SC	DI	CL	SP	DI	AIR	WAT								
211	4/20/80	1327	0	0.0	0	1.0	1.0	0.0	0	2.0	4	1.0	8	0	4	1	5	0.0	0	17.8	19.0	0	0.0	0	12.0	0.0	0.0	0	
212	4/20/80	1327	0	0.0	0	1.0	1.0	0.0	0	2.0	4	1.0	8	0	4	1	5	0.0	0	178.1	90.1	0	0.0	0	12.0	0.0	0.0	0	0

LS	TAXA	1	2		S.E.	AB%
0	CYANOPHYTA	1639042.00	1882399.00	1760720.00	121678.50	27.8
0	OSCILLATORIACEAE					
0	OSCILLATORIA (LPIL)	1580505.00	0.0	790252.50	790252.50	12.5
0	NOSTOCACEAE					
0	ANABAENA (LPIL)	0.0	1882399.00	941199.50	941199.50	14.8
0	RIVULARIACEAE					
0	RAPHIDIOPSIS CURVATA	58537.23	0.0	29268.62	29268.62	0.5
0	CHLOROPHYTA	1041962.69	10457.77	526210.19	515752.44	8.3
0	OEDOGONIALES					
0	OEDOGONIUM (LPIL)	936595.69	0.0	468297.81	468297.81	7.4
0	ZYGHEMATALES					
0	SPIROGYRA (LPIL)	105367.00	0.0	52683.50	52683.50	0.8
0	CLOSTERIUM (LPIL)	0.0	10457.77	5228.89	5228.89	0.1
0	EUGLENOPHYTA	286832.37	34859.25	160845.81	125986.56	2.5
0	EUGLENALES					
0	TRACHELOMONAS (LPIL)	286832.37	34859.25	160845.81	125986.56	2.5
0	CHRYSOPHYTA	117074.44	0.0	58537.22	58537.22	0.9
0	CHRYSOMONADALES					
0	CHRYSOCOCCUS (LPIL)	117074.44	0.0	58537.22	58537.22	0.9
0	BACILLARIOPHYTA-CENTRIC	234148.94	174296.25	204222.56	29926.34	3.2
0	EUPODISCALES					
0	MELOSIRA VARIANS	234148.94	0.0	117074.44	117074.44	1.8
0	MELOSIRA (LPIL)	0.0	174296.25	87148.12	87148.12	1.4
0	BACILLARIOPHYTA-PENNATE	6409822.00	787819.00	3598820.00	2811001.00	56.8
0	FRAGILARIALES					
0	FRAGILARIA CROTONENSIS	409760.62	0.0	204880.31	204880.31	3.2
0	FRAGILARIA (LPIL)	3804919.00	662325.75	2233622.00	1571296.00	35.2
0	SYNEDRA (LPIL)	321954.75	55774.79	188864.75	133089.94	3.0
0	NAVICULALES					
0	NAVICULA (LPIL)	702446.75	34859.25	368653.00	333793.75	5.8
0	NEIDIUM (LPIL)	58537.23	0.0	29268.62	29268.62	0.5
0	PINNULARIA (LPIL)	117074.44	0.0	58537.22	58537.22	0.9
0	GOMPHONEMA (LPIL)	526835.06	0.0	263417.50	263417.50	4.2
0	AMPHORA (LPIL)	0.0	34859.25	17429.62	17429.62	0.3
0	EPITHEMIALES					
0	RHOPOLODIA GIBBA	117074.44	0.0	58537.22	58537.22	0.9

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILLY GENERATING PLANT

PHYTOPLANKTON DENSITY

NUMBER OF CELLS PER LITER

REPLICATE REPORT

LS	TAXA	1	2	- X	S.E.	REL AB%
0	BACILLARIOPHYTA-PENNATE (LPIL)	351223.37	0.0	175611.69	175611.69	2.8
0	PYRRHOPHYTA-DINOPHYCEAE	58537.23	0.0	29268.62	29268.62	0.5
0	PERIDINIALES					
0	PERIDINIUM INCONSPICUUM	58537.23	0.0	29268.62	29268.62	0.5
TOTAL		978715.00	2889828.00	6338621.00	3448793.00	100.0
DIVERSITY (H PRIME)		3.01	1.50	2.26	0.76	
DIVERSITY (J PRIME)		0.74	0.50	0.62	0.12	
NUMBER OF TAXA		17	8	21		

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILLY GENERATING PLANT

PHYTOPLANKTON DENSITY

NUMBER OF CELLS PER LITER

STATION REPORT

LS	TAXA	21	- X	S.E.	REL AB%
0	CYANOPHYTA	1760720.00	1760720.00	-1.00	27.8
0	OSCILLATORIACEAE				
0	OSCILLATORIA (LPIL)	790252.50	790252.50	-1.00	12.5
0	NOSTOCACEAE				
0	ANABAENA (LPIL)	941199.50	941199.50	-1.00	14.8
0	RIVULARIACEAE				
0	RAPHIDIOPSIS CURVATA	29268.62	29268.62	-1.00	0.5
0	CHLOROPHYTA	526210.19	526210.19	-1.00	8.3
0	OEDOGONIALES				
0	OEDOGONIUM (LPIL)	468297.81	468297.81	-1.00	7.4
0	ZYGNEMATALES				
0	SPIROGYRA (LPIL)	52683.50	52683.50	-1.00	0.8
0	CLOSTERIUM (LPIL)	5228.89	5228.89	-1.00	0.1
0	EUGLENOPHYTA	160845.81	160845.81	-1.00	2.5
0	EUGLENALES				
0	TRACHELOMONAS (LPIL)	160845.81	160845.81	-1.00	2.5
0	CHRYSOPHYTA	58537.22	58537.22	-1.00	0.9
0	CHRYSMONADALES				
0	CHRYSOCOCCLUS (LPIL)	58537.22	58537.22	-1.00	0.9
0	BACILLARIOPHYTA-CENTRIC	204222.56	204222.56	-1.00	3.2
0	EUPODISCALES				
0	MELOSIRA VARIANS	117074.44	117074.44	-1.00	1.8
0	MELOSIRA (LPIL)	87148.12	87148.12	-1.00	1.4
0	BACILLARIOPHYTA-PENNATE	3598820.00	3598820.00	-1.00	56.8
0	FRAGILARIALES				
0	FRAGILARIA CROTONENSIS	204680.31	204680.31	-1.00	3.2
0	FRAGILARIA (LPIL)	2233622.00	2233622.00	-1.00	35.2
0	SYNEDRA (LPIL)	188864.75	188864.75	-1.00	3.0
0	NAVICULALES				
0	NAVICULA (LPIL)	368653.00	368653.00	-1.00	5.8
0	NEIDIUM (LPIL)	29268.62	29268.62	-1.00	0.5
0	PINNULARIA (LPIL)	58537.22	58537.22	-1.00	0.9
0	GOMPHONEMA (LPIL)	263417.50	263417.50	-1.00	4.2
0	AMPHORA (LPIL)	17429.62	17429.62	-1.00	0.3
0	EPITHEMIALES				
0	RHOPLODIA GIBBA	58537.22	58537.22	-1.00	0.9
0	BACILLARIOPHYTA-PENNATE (LPIL)	175611.69	175611.69	-1.00	2.8
0	PYRRHOPHYTA-DINOPHYCEAE	29268.62	29268.62	-1.00	0.5
0	PERIDINIALES				
0	PERIDINIUM INCONSPICUUM	29268.62	29268.62	-1.00	0.5
	TOTAL	6338621.00	6338621.00	-1.00	100.0
	DIVERSITY (H PRIME)	2.26	2.26	-1.00	

NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILLY GENERATING PLANT

PHYTOPLANKTON DENSITY

NUMBER OF CELLS PER LITER

STATION REPORT

LS TAXA

21
0.62
21

-
X

S.E. REL
AB%

DIVERSITY (J PRIME)

NUMBER OF TAXA

0.62
21

-1.00

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILLY GENERATING PLANT

PHYTOPLANKTON DENSITY

NUMBER OF CELLS PER LITER

STATION REPORT

LS	TAXA	21	X	S.E.	REL AB%
0	CYANOPHYTA	1760720.00	1760720.00	-1.00	27.8
0	OSCILLATORIACEAE				
0	OSCILLATORIA (LPIL)	790252.50	790252.50	-1.00	12.5
0	NOSTOCACEAE				
0	ANABAENA (LPIL)	941199.50	941199.50	-1.00	14.8
0	RIVULARIACEAE				
0	RAPHIIDOPSIS CURVATA	29268.62	29268.62	-1.00	0.5
0	CHLOROPHYTA	526210.19	526210.19	-1.00	8.3
0	OEDOGONIALES				
0	OEDOGONIUM (LPIL)	468297.81	468297.81	-1.00	7.4
0	ZYGNEATALES				
0	SPIROGYRA (LPIL)	52683.50	52683.50	-1.00	0.8
0	CLOSTERIUM (LPIL)	5228.89	5228.89	-1.00	0.1
0	EUGLENOPHYTA	160845.81	160845.81	-1.00	2.5
0	EUGLENALES				
0	TRACHELOMONAS (LPIL)	160845.81	160845.81	-1.00	2.5
0	CHRYSOPHYTA	58537.22	58537.22	-1.00	0.9
0	CHRYSOMONADALES				
0	CHRYSOCOCCUS (LPIL)	58537.22	58537.22	-1.00	0.9
0	BACILLARIOPHYTA-CENTRIC	204222.56	204222.56	-1.00	3.2
0	EUPODISCALES				
0	MELOSIRA VARIANS	117074.44	117074.44	-1.00	1.8
0	MELOSIRA (LPIL)	87148.12	87148.12	-1.00	1.4
0	BACILLARIOPHYTA-PENNATE	3598820.00	3598820.00	-1.00	56.8
0	FRAGILARIALES				
0	FRAGILARIA CROTONENSIS	204880.31	204880.31	-1.00	3.2
0	FRAGILARIA (LPIL)	2233622.00	2233622.00	-1.00	35.2
0	SYNEDRA (LPIL)	188864.75	188864.75	-1.00	3.0
0	NAVICULALES				
0	NAVICULA (LPIL)	360653.00	360653.00	-1.00	5.8
0	NEIDIUM (LPIL)	29268.62	29268.62	-1.00	0.5
0	PINNULARIA (LPIL)	58537.22	58537.22	-1.00	0.9
0	GOMPHONEMA (LPIL)	263417.50	263417.50	-1.00	4.2
0	AMPHORA (LPIL)	17429.62	17429.62	-1.00	0.3
0	EPITHEMIALES				
0	RHOPOLODIA GIBBA	58537.22	58537.22	-1.00	0.9
0	BACILLARIOPHYTA-PENNATE (LPIL)	175611.69	175611.69	-1.00	2.8
0	PYRRHOPHYTA-DINOPHYCEAE	29268.62	29268.62	-1.00	0.5
0	PERIDINIALES				
0	PERIDINIUM INCONSPICUUM	29268.62	29268.62	-1.00	0.5
	TOTAL	6338621.00	6338621.00	-1.00	100.0
	DIVERSITY (H PRIME)	2.26	2.26	-1.00	

NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILLY GENERATING PLANT

PHYTOPLANKTON DENSITY

NUMBER OF CELLS PER LITER

STATION REPORT

LS TAXA

21
0.62
21

DIVERSITY (J PRIME)

NUMBER OF TAXA

211
212

ABOVE COMPUTED USING SAMPLE IDS

- X REL
S.E. AB%

0.62 -1.00

21

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APPENDIX B
PHYTOPLANKTON BIOVOLUME REPLICATE REPORTS,
BAILLY STUDY AREA, APRIL 1980

NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

PHYTOPLANKTON BIOVOLUME

MICROLITER PER LITER

DUPLICATE REPORT

IC TC GC LOC
5 56 56 0 0 00

SID	DATE	TIME	D/N	DURATION		SD	WD	TOW SAMP VOL				WIND		CURRENT			TEMP			BT	TURBD	COND	DO	PH	SALN P		
				UNITS	C			UNITS	C	SECH	WT	SC	DI	CL	SP	DI	AIR	WAT									
11	4/16/80	1334	0	0.0	0	1.0	4.6	0.0	0	2.0	4	0.5	6	0	7	2	5	0.0	0	7.2	0.0	0	0.0	0	0.0	0.0	0.0
12	4/16/80	1334	0	0.0	0	1.0	4.6	0.0	0	2.0	4	0.5	6	0	7	2	5	0.0	0	7.2	0.0	0	0.0	0	0.0	0.0	0.0

LS	TAXA			REL	S.E.	AB%
		1	2			
0	CYANOPHYTA	0.0	0.68	0.34	0.34	4.3
0	CHROOCOCCACEAE					
0	CHROOCOCCUS (LPIL)	0.0	0.56	0.28	0.28	3.5
0	GOMPHOSPHAERIA LACUSTRIS	0.0	0.13	0.06	0.06	0.8
0	CHLOROPHYTA	0.04	0.74	0.39	0.35	5.0
0	VOLVOCALES					
0	CHLAMYDOMONAS (LPIL)	0.0	0.74	0.37	0.27	4.7
0	TETRASPORALES					
0	ELAKATOTHRIX (LPIL)	0.04	0.0	0.02	0.02	0.3
0	CHLOROCCOCCALES					
0	ANKISTRODESMUS FALCATUS	0.00	0.0	0.00	0.00	0.0
0	CHRYSOPHYTA	0.0	0.02	0.01	0.01	0.1
0	MONOSIGALES					
0	STELIXOMONAS DICHOTOMA	0.0	0.02	0.01	0.01	0.1
0	BACILLARIOPHYTA-CENTRIC	5.03	2.06	3.54	1.48	44.9
0	EUPODISCALES					
0	MELOSIRA (LPIL)	0.48	1.59	1.03	0.55	13.1
0	STEPHANODISCUS BINDERANA	0.56	0.0	0.28	0.28	3.5
0	STEPHANODISCUS NIAGARAE	3.14	0.0	1.57	1.57	19.9
0	EUPODISCALES (LPIL)	0.78	0.30	0.54	0.24	6.9
0	RHIZOSOLENIALES					
0	RHIZOSOLENIA ERIENSIS	0.07	0.17	0.12	0.05	1.5
0	BACILLARIOPHYTA-PENNATE	0.69	5.50	3.09	2.41	39.2
0	FRAGILARIALES					
0	ASTERIONELLA FORMOSA	0.00	1.14	0.57	0.57	7.2
0	FRAGILARIA CROTONENSIS	0.0	2.99	1.50	1.50	19.0
0	FRAGILARIALES (LPIL)	0.32	0.0	0.16	0.16	2.0
0	NAVICULALES					
0	NAVICULA (LPIL)	0.0	0.42	0.21	0.21	2.7
0	BACILLARIALES					
0	NITZCHIA (LPIL)	0.0	0.94	0.47	0.47	6.0
0	BACILLARIOPHYTA-PENNATE (LPIL)	0.36	0.0	0.18	0.18	2.3
0	CRYPTOPHYTA	0.01	1.01	0.51	0.50	6.4
0	CRYPTONONDALES					
0	CRYPTOMONAS REFLEXA	0.0	0.79	0.40	0.40	5.0
0	CRYPTOMONAS (LPIL)	0.0	0.11	0.06	0.06	0.7

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

PHYTOPLANKTON BIOVOLUME

MICROLITERS PER LITER

REPLICATE REPORT

LS	TAXA	1	2	- X	S.E.	REL AB%
0	RHODOMONAS MIHUTA	0.01	0.07	0.04	0.03	0.5
0	CHROOMONAS (LPIL)	0.0	0.03	0.02	0.02	0.2
TOTAL		5.77	10.01	7.89	2.12	100.0
DIVERSITY (H PRIME)		2.13	3.11	2.62	0.49	
DIVERSITY (J PRIME)		0.61	0.80	0.71	0.09	
NUMBER OF TAXA		11	15	21		

ABOVE COMPUTED USING SAMPLE IDS

11 12

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

PHYTOPLANKTON BIOVOLUME

MICROLITERS PER LITER

REPLICATE REPORT

PC TC GC LOC
5 56 56 0 0 00

SID	DATE	TIME	D/N	DURATION			TOW			SAMP VOL			WIND		CURRENT			TEMP		BT	TURBD	COND	DO	PH	SALN	P	
				UNITS	C	SD	WD	SP	D	UNITS	C	SECH	W	T	SC	DI	CL	SP	DI								AIR
21	4/16/80	1343	0	0.0	0	1.0	9.1	0.0	0	2.0	4	1.0	6	0	7	2	5	0.0	0	7.2	0.0	0	0.0	0	0.0	0.0	0.0
22	4/16/80	1343	0	0.0	0	1.0	9.1	0.0	0	2.0	4	1.0	6	0	7	2	5	0.0	0	7.2	0.0	0	0.0	0	0.0	0.0	0.0
LS																					X	S.E.	REL	AB%			
0	CYANOPHYTA																				1	2					
0	OSCILLATORIACEAE																				0.13	0.0	0.06	0.06	0.9		
0	OSCILLATORIA (LPIL)																				0.13	0.0	0.06	0.06	0.9		
0	CHLOROPHYTA																				1.03	0.09	0.56	0.47	7.5		
0	VOLVOCALES																										
0	CHLAMYDOMONAS (LPIL)																				1.02	0.07	0.55	0.47	7.3		
0	CHLOROCOCCALES																										
0	ANKISTRODESMIUS FALCATUS																				0.01	0.01	0.01	0.00	0.1		
0	CHRYSOPHYTA																				0.0	0.01	0.01	0.01	0.1		
0	MONOSIGALES																										
0	STOLEXOMONAS DICHOTOMA																				0.0	0.01	0.01	0.01	0.1		
0	BACILLARIOPHYTA-CENTRIC																				1.74	3.30	2.52	0.78	33.7		
0	EUPODISCALES																										
0	MELOSIRA (LPIL)																				1.17	0.31	0.74	0.43	9.9		
0	STEPHANODISCUS BINDERHANA																				0.35	0.0	0.18	0.18	2.3		
0	STEPHANODISCUS NIAGARAE																				0.0	2.36	1.18	1.18	15.8		
0	STEPHANODISCUS (LPIL)																				0.0	0.26	0.13	0.13	1.7		
0	EUPODISCALES (LPIL)																				0.09	0.22	0.15	0.07	2.1		
0	RHIZOSOLENIALES																										
0	RHIZOSOLENIA ERIENSIS																				0.13	0.15	0.14	0.01	1.9		
0	BACILLARIOPHYTA-PENNATE																				6.78	0.62	3.70	3.08	49.4		
0	FRAGILARIALES																										
0	ASTERIONELLA FORMOSA																				0.86	0.45	0.65	0.21	8.7		
0	NAVICULALES																										
0	CYMBELLA (LPIL)																				0.05	0.0	0.03	0.03	0.3		
0	BACILLARIALES																										
0	NITZCHIA (LPIL)																				5.63	0.07	2.85	2.78	38.1		
0	BACILLARIOPHYTA-PENNATE (LPIL)																				0.24	0.10	0.17	0.07	2.3		
0	CRYPTOPHYTA																				0.13	1.14	0.64	0.51	8.5		
0	CRYPTOMONADALES																										
0	CRYPTOMONAS REFLEXA																				0.0	1.02	0.51	0.51	6.8		
0	RHODOMONAS MINUTA																				0.13	0.12	0.13	0.01	1.7		
TOTAL																					9.81	5.16	7.48	2.32	100.0		
DIVERSITY (H PRIME)																					2.13	2.54	2.34	0.21			
DIVERSITY (J PRIME)																					0.59	0.69	0.64	0.05			
NUMBER OF TAXA																					12	13	16				

DATE 07/15/80
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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

PHYTOPLANKTON BIOVOLUME

MICROLITERS PER LITER

REPLICATE REPORT

LS	TA						
		1	2		-	S.E.	REL
					X		AB%

ABOVE COMPUTED USING SAMPLE IDS
21 22

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

PHYTOPLANKTON BIOVOLUME

MICROLITERS PER LITER

REPLICATE REPORT

PC TC GC LOC
5 56 56 0 0 00

SID	DATE	TIME	D/H	DURATION		SD	WD	TOW		SAMP VOL			WIND			CURRENT			TEMP			BT	TURBD	COND	DO	PH	SALN	P
				UNITS	C			SP	D	UNITS	C	SECH	WT	SC	DI	CL	SP	DI	AIR	WAT								
31	4/16/80	1351	0	0.0	0	1.0	15.2	0.0	0	2.0	4	1.0	6	0	7	2	5	0.0	0	7.2	0.0	0	0.0	0	0.0	0.0	0.0	0
32	4/16/80	1351	0	0.0	0	1.0	15.2	0.0	0	2.0	4	1.0	6	0	7	2	5	0.0	0	7.2	0.0	0	0.0	0	0.0	0.0	0.0	0

LS	TAXA	REL		S.E.	ABZ	
		1	2			
0	CYANOPHYTA	0.01	0.21	0.11	0.10	3.8
0	CHROOCOCCACEAE					
0	CHROOCOCCUS (LPIL)	0.0	0.21	0.10	0.10	3.7
0	OSCILLATORIACEAE					
0	OSCILLATORIA (LPIL)	0.01	0.0	0.00	0.00	0.1
0	CHLOROPHYTA	0.40	0.13	0.27	0.13	9.4
0	VOLVOCALES					
0	CHLAMYDOMONAS (LPIL)	0.35	0.13	0.24	0.11	8.5
0	TETRASPORALES					
0	ELAKATOTHRIX (LPIL)	0.05	0.0	0.02	0.02	0.9
0	CHLOROCOCCALES					
0	ANKISTRODESMUS FALCATUS	0.0	0.00	0.00	0.00	0.1
0	CHRYCOPHYTA	0.53	0.08	0.30	0.22	10.8
0	CHRYCOPHYTES					
0	MALLAMONAS (LPIL)	0.23	0.0	0.12	0.12	4.1
0	DINOBYRON SOCIALE	0.28	0.06	0.17	0.11	6.1
0	MONOSIGALES					
0	STELEXOMONAS DICHOTOMA	0.01	0.02	0.02	0.00	0.6
0	BACILLARIOPHYTA-CENTRIC	0.85	0.72	0.78	0.07	27.8
0	EUPODISCALES					
0	MELOSIRA (LPIL)	0.47	0.0	0.24	0.24	8.4
0	STEPHANODISCUS BINDERANA	0.0	0.21	0.11	0.11	3.8
0	STEPHANODISCUS (LPIL)	0.0	0.04	0.02	0.02	0.7
0	EUPODISCALES (LPIL)	0.28	0.09	0.19	0.10	6.6
0	RHIZOSOLENIALES					
0	RHIZOSOLENIA ERIENSIS	0.10	0.38	0.24	0.14	8.4
0	BACILLARIOPHYTA-PENNATE	0.89	0.96	0.93	0.03	32.8
0	FRAGILARIALES					
0	ASTERIONELLA FORMOSA	0.33	0.68	0.51	0.17	17.9
0	FRAGILARIA CROTONENSIS	0.0	0.28	0.14	0.14	4.9
0	HAVICULALES					
0	PINNULARIA (LPIL)	0.29	0.0	0.14	0.14	5.1
0	BACILLARIOPHYTA-PENNATE (LPIL)	0.27	0.0	0.14	0.14	4.8
0	CRYPTOPHYTA	0.23	0.63	0.43	0.20	15.2
0	CRYPTOPHYTES					
0	CRYPTOMONADALES					
0	CRYPTOMONAS (LPIL)	0.0	0.24	0.12	0.12	4.2

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

PHYTOPLANKTON BIOVOLUME

MICROLITERS PER LITER

REPLICATE REPORT

IS	TAXA	1	2	- X	S.E.	REL AB%
0	RHODOMONAS MINUTA	0.18	0.33	0.25	0.07	9.0
0	CHROOMONAS (LPIL)	0.05	0.06	0.06	0.00	2.0
TOTAL		2.91	2.72	2.82	0.09	100.0
DIVERSITY (H PRIME)		3.42	3.25	3.33	0.08	
DIVERSITY (J PRIME)		0.90	0.85	0.87	0.02	
NUMBER OF TAXA		14	14	20		

ABOVE COMPUTED USING SAMPLE IDS

31 32

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T600AQUA 9/28/77

RAILEY GENERATING PLANT

PHYTOPLANKTON BIOVOLUME

MICROLITERS PER LITER

STATION REPORT

LS	TAXA	1	2	3	- X	S.E.	REL ABX
0	CYANOPHYTA	0.34	0.06	0.11	0.17	0.09	2.8
0	CHROCOCCACEAE						
0	CHROCOCCUS (LPIL)	0.28	0.0	0.10	0.13	0.08	2.1
0	GOMPHOSPHAERIA LACUSTRIS	0.06	0.0	0.0	0.02	0.02	0.3
0	OSCILLATORIACEAE						
0	OSCILLATORIA (LPIL)	0.0	0.06	0.00	0.02	0.02	0.4
0	CHLOROPHYTA	0.39	0.56	0.27	0.41	0.08	6.7
0	VOLVOCALES						
0	CHLAMYDOMONAS (LPIL)	0.37	0.55	0.24	0.39	0.09	6.4
0	TETRASPORALES						
0	ELAKATOTHRIX (LPIL)	0.02	0.0	0.02	0.01	0.01	0.2
0	CHLOROCOCCALES						
0	ANKISTRODESMUS FALCATUS	0.00	0.01	0.00	0.00	0.00	0.1
0	CHRYSTOPHYTA	0.01	0.01	0.30	0.11	0.10	1.8
0	CHRYSSOMONADALES						
0	MALLANONAS (LPIL)	0.0	0.0	0.12	0.04	0.04	0.6
0	DINOBYRON SOCIALE	0.0	0.0	0.17	0.06	0.06	0.9
0	MONOSIGALES						
0	STELEXOMONAS DICHOTOMA	0.01	0.01	0.02	0.01	0.00	0.2
0	BACILLARIOPHYTA-CENTRIC	3.54	2.52	0.78	2.28	0.81	37.6
0	EUPODISCALES						
0	MELOSIRA (LPIL)	1.03	0.74	0.24	0.67	0.23	11.1
0	STEPHANODISCUS BINDERANA	0.28	0.18	0.11	0.19	0.05	3.1
0	STEPHANODISCUS NIAGARAE	1.57	1.18	0.0	0.92	0.47	15.1
0	STEPHANODISCUS (LPIL)	0.0	0.13	0.02	0.05	0.04	0.8
0	EUPODISCALES (LPIL)	0.54	0.15	0.19	0.29	0.12	4.8
0	RHIZOSOLENIALES						
0	RHIZOSOLENIA ERIENSIS	0.12	0.14	0.24	0.17	0.04	2.7
0	BACILLARIOPHYTA-PENNATE	3.09	3.70	0.93	2.57	0.84	42.4
0	FRAGILARIALES						
0	ASTERIONELLA FORMOSA	0.57	0.65	0.51	0.58	0.04	9.5
0	FRAGILARIA CROTONENSIS	1.50	0.0	0.14	0.54	0.48	9.0
0	FRAGILARIALES (LPIL)	0.16	0.0	0.0	0.05	0.05	0.9
0	NAVICULALES						
0	NAVICULA (LPIL)	0.21	0.0	0.0	0.07	0.07	1.2
0	PINNULARIA (LPIL)	0.0	0.0	0.14	0.05	0.05	0.8
0	CYMBELLA (LPIL)	0.0	0.03	0.0	0.01	0.01	0.1
0	BACILLARIALES						
0	NITZCHIA (LPIL)	0.47	2.85	0.0	1.11	0.88	18.3
0	BACILLARIOPHYTA-PENNATE (LPIL)	0.18	0.17	0.14	0.16	0.01	2.7
0	CRYPTOPHYTA	0.51	0.64	0.43	0.52	0.06	8.7
0	CRYPTOMONADALES						

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

PHYTOPLANKTON BIOVOLUME

MICROLITERS PER LITER

STATION REPORT

IS	TAXA	1	2	3	- X	S.E.	REL ABZ
0	CRYPTOMONAS REFLEXA	0.40	0.51	0.0	0.30	0.15	5.0
0	CRYPTOMONAS (LPIL)	0.06	0.0	0.12	0.06	0.03	1.0
0	RHODOMONAS MINUTA	0.94	0.13	0.25	0.14	0.06	2.3
0	CHROOMONAS (LPIL)	0.02	0.0	0.06	0.02	0.02	0.4
TOTAL		7.89	7.48	2.82	6.06	1.63	100.0
DIVERSITY (H PRIME)		2.62	2.34	3.33	2.76	0.30	
DIVERSITY (J PRIME)		0.71	0.64	0.87	0.74	0.07	
NUMBER OF TAXA		21	16	20	27		

ABOVE COMPUTED USING SAMPLE IDS

11	12	21	22
31	32		

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

PHYTOPLANKTON BIOVOLUME

MICROLITERS PER LITER

REPLICATE REPORT

PC TC GC LOC
5 56 56 0 0 10

SID	DATE	TIME	D/H	DURATION			TOW			SAMP VOL			WIND			CURRENT			TEMP			BT	TURBD	COND	DO	PH	SALN	P	
				UNITS	C	SD	WD	SP	D	UNITS	C	SECH	W	T	SC	DI	CL	SP	DI	AIR	WAT								0
41	4/16/80	1324	0	0.0	0	1.0	4.6	0.0	0	2.0	4	0.5	6	0	7	2	5	0.0	0	7.2	0.0	0	0.0	0	0.0	0.0	0.0	0.0	
42	4/16/80	1324	0	0.0	0	1.0	4.6	0.0	0	2.0	4	0.5	6	0	7	2	5	0.0	0	7.2	0.0	0	0.0	0	0.0	0.0	0.0	0.0	
LS	-TAXA																							X	S.E.		REL	AB%	
										1		2																	
0	CYANOPHYTA						0.0					0.09													0.04	0.04	1.5		
0	OSCILLATORIACEAE																												
0	LYNGBYA CONTORTA						0.0					0.09														0.04	0.04	1.5	
0	CHLOROPHYTA						0.62					0.57														0.59	0.02	20.3	
0	VOLVOCALES																												
0	CHLAMYDOMONAS (LPIL)						0.61					0.54														0.58	0.04	19.7	
0	CHLOROCOCCALES																												
0	ANKISTRODESMUS FALCATUS						0.00					0.01														0.01	0.00	0.2	
0	SCENEDESMUS QUADRICAUDA						0.0					0.02														0.01	0.01	0.3	
0	CHRYSOPHYTA						0.13					0.14														0.14	0.00	4.6	
0	CHRYSOMONADALES																												
0	SYNURA (LPIL)						0.12					0.0														0.06	0.06	2.0	
0	DINOBRYON SOCIALE						0.0					0.14														0.07	0.07	2.3	
0	MONOSIGALES																												
0	STOLEXOMONAS DICHOTOMA						0.02					0.0														0.01	0.01	0.3	
0	BACILLARIOPHYTA-CENTRIC						1.31					0.28														0.80	0.52	27.2	
0	EUPODISCALES																												
0	MELOSIRA (LPIL)						0.70					0.0														0.35	0.35	12.0	
0	STEPHANODISCUS BINDERANA						0.41					0.0														0.21	0.21	7.1	
0	STEPHANODISCUS (LPIL)						0.03					0.05														0.04	0.01	1.3	
0	EUPODISCALES (LPIL)						0.03					0.0														0.01	0.01	0.4	
0	RHIZOSOLENIALES																												
0	RHIZOSOLENIA ERIENSIS						0.14					0.23														0.19	0.04	6.4	
0	BACILLARIOPHYTA-PENNATE						0.85					0.75														0.80	0.05	27.3	
0	FRAGILARIALES																												
0	ASTERIONELLA FORMOSA						0.38					0.48															0.43	0.05	14.9
0	BACILLARIOPHYTA-PENNATE (LPIL)						0.46					0.26														0.36	0.10	12.4	
0	PYRRHOPHYTA-DINOPHYCEAE						0.48					0.0														0.24	0.24	8.3	
0	PERIDINIALES																												
0	PERIDINIUM INCONSPICUUM						0.48					0.0														0.24	0.24	8.3	
0	CRYPTOPHYTA						0.30					0.33														0.32	0.02	10.8	
0	CRYPTOMONADALES																												
0	RHODOMONAS MINUTA						0.30					0.33														0.32	0.02	10.8	
TOTAL							3.69					2.16														2.92	0.77	100.0	
DIVERSITY (H PRIME)							3.12					2.78														2.95	0.17		
DIVERSITY (J PRIME)							0.84					0.84														0.84	0.00		

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

PHYTOPLANKTON BIOVOLUME

MICROLITERS PER LITER

REPLICATE REPORT

LS	TAXA	1	2	-	S.E.	REL
				X		ABZ
NUMBER OF TAXA		13	10			
ABOVE COMPUTED USING SAMPLE IDS						
	41					
		42				

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

PHYTOPLANKTON BIOVOLUME

MICROLITERS PER LITER

REPLICATE REPORT

FC TC GC LOC
5 56 56 0 0 10

SID	DATE	TIME	D/N	DURATION		SD	WD	TOW				WIND				CURRENT				TEMP				BT	TURBO	COND	DO	PH	SALN	P
				UNITS	C			SP	D	UNITS	C	SECH	W	T	SC	DI	CL	SP	DI	AIR	WAT									
51	4/16/80	1310	0	0.0	0	1.0	9.1	0.0	0	2.0	4	1.0	6	0	7	2	5	0.0	0	7.2	0.0	0	0.0	0	0.0	0.0	0.0	0.0	0.0	
52	4/16/80	1310	0	0.0	0	1.0	9.1	0.0	0	2.0	4	1.0	6	0	7	25	5	0.0	0	7.2	0.0	0	0.0	0	0.0	0.0	0.0	0.0	0.0	
LS	TAXA																									X	S.E.	AB%		
									1			2																		
0	CYANOPHYTA								0.01			0.0															0.01	0.2		
0	CHROCOCCACEAE																													
0	GOMPHOSPHAERIA LACUSTRIS								0.01			0.0															0.01	0.2		
0	CHLOROPHYTA								0.26			0.0														0.13	4.0			
0	VOLVOCALES																													
0	CHLAMYDOMONAS (LPIL)								0.25			0.0														0.13	4.0			
0	CHLOROCOCCALES																													
0	ANKISTRODESMUS FALCATUS								0.00			0.0															0.00	0.1		
0	CHRYSOPHYTA								0.11			0.0														0.06	1.8			
0	CHRYSOMONADALES																													
0	MALLANONAS (LPIL)								0.10			0.0														0.05	1.6			
0	CHRYSOCOCCUS (LPIL)								0.00			0.0														0.00	0.0			
0	MONOSIGALES																													
0	STELIXONONAS DICHOTOMA								0.01			0.0														0.01	0.2			
0	BACILLARIOPHYTA-CENTRIC								1.29			0.0														0.65	20.3			
0	EUPODISCALES																													
0	MELOSIRA (LPIL)								0.65			0.0														0.32	10.2			
0	STEPHANODISCUS NIAGARAE								0.32			0.0															0.16	5.0		
0	STEPHANODISCUS (LPIL)								0.03			0.0														0.01	0.4			
0	PHIZOSOLENIALES																													
0	RHIZOSOLENIA ERIENSIS								0.30			0.0														0.15	4.7			
0	BACILLARIOPHYTA-PINNATE								4.31			0.0														2.15	67.6			
0	FRAGILARIALES																													
0	ASTERIONELLA FORMOSA								1.48			0.0															0.74	23.3		
0	DIATOMA TENUE								0.13			0.0														0.07	2.1			
0	FRAGILARIA CROTONENSIS								0.81			0.0															0.40	12.6		
0	SURIRELLALES																													
0	CYMATOPLEURA SOLEA								1.88			0.0														0.94	29.6			
0	CRYPTOPHYTA								0.39			0.0														0.20	6.2			
0	CRYPTOMONADALES																													
0	RHODOMONAS MINUTA								0.38			0.0															0.19	6.0		
0	CYANOMONAS (LPIL)								0.01			0.0															0.01	0.2		
TOTAL									6.38			0.0														3.19	100.0			
DIVERSITY (H PRIME)									2.88			0.0														1.44				
DIVERSITY (J PRIME)									0.72			0.0														0.36				
NUMBER OF TAXA									16			0														16				

DATE 07/15/80
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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

PHYTOPLANKTON BIOVOLUME

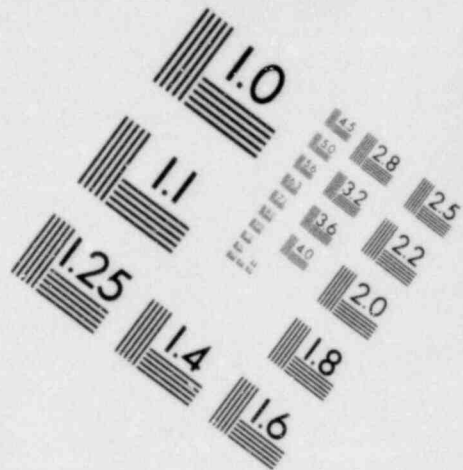
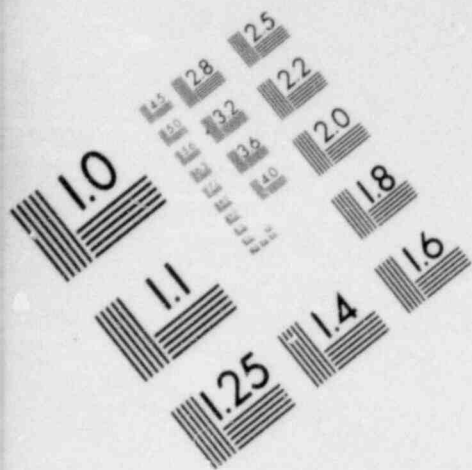
MICROLITERS PER LITER

REPLICATE REPORT

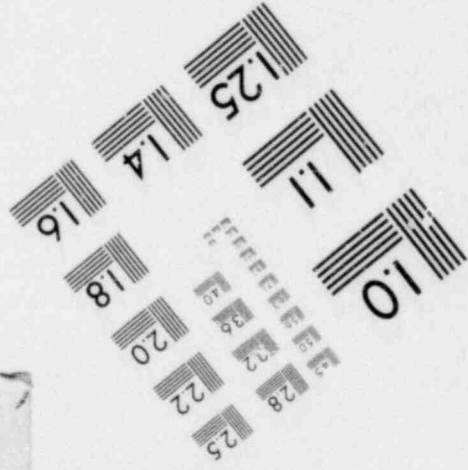
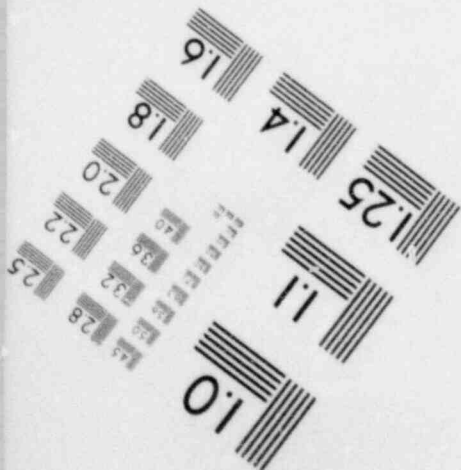
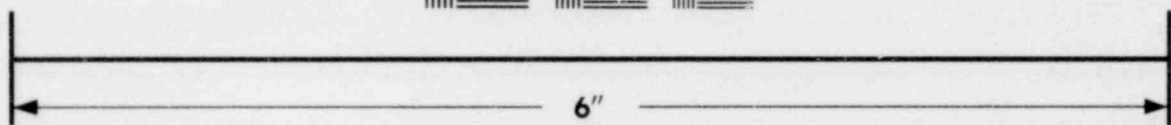
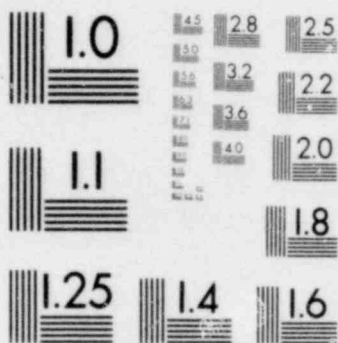
IS	TAXA	1	2	-	S.E.	REL
				X		AB%

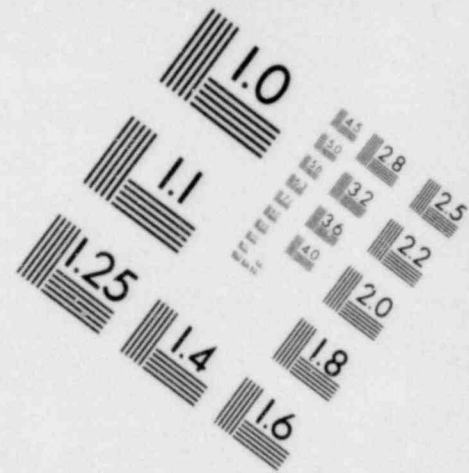
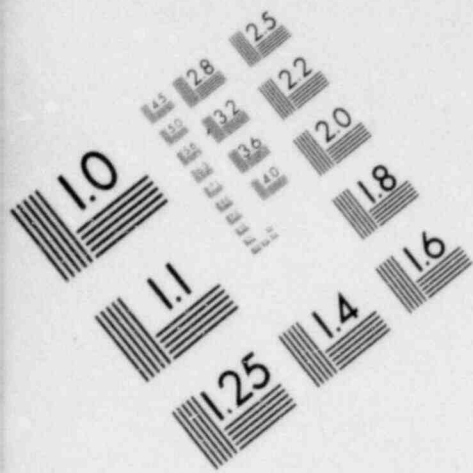
ABOVE COMPUTED USING SAMPLE IDS
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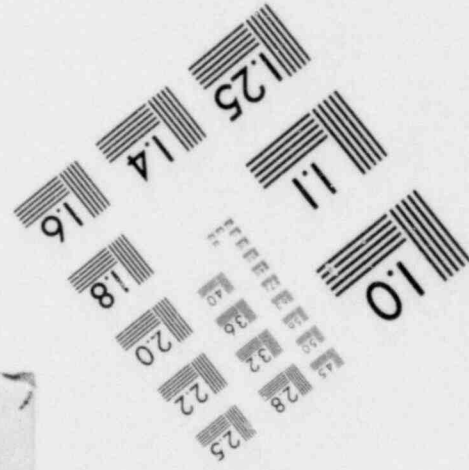
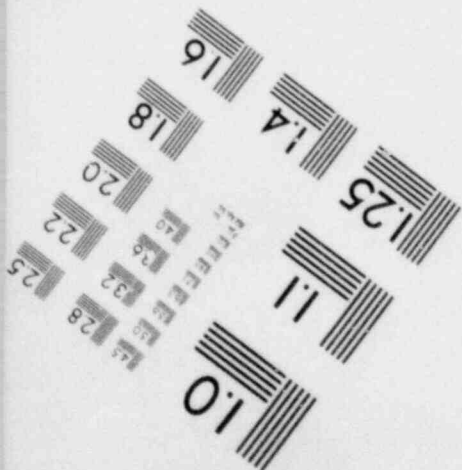
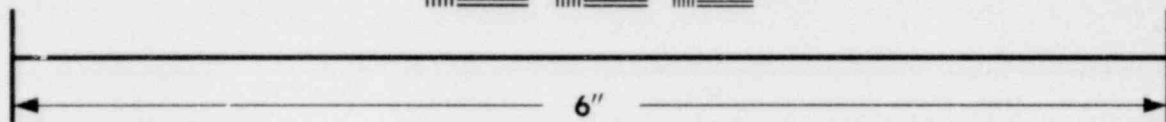
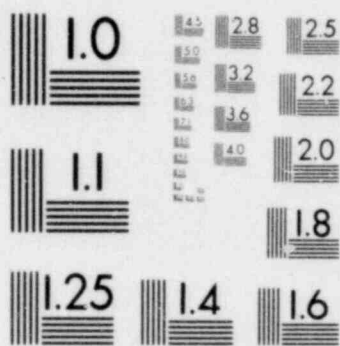


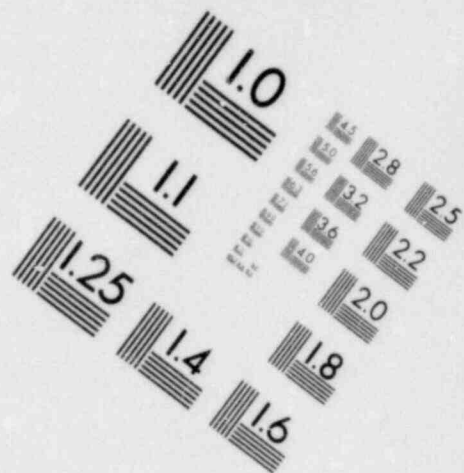
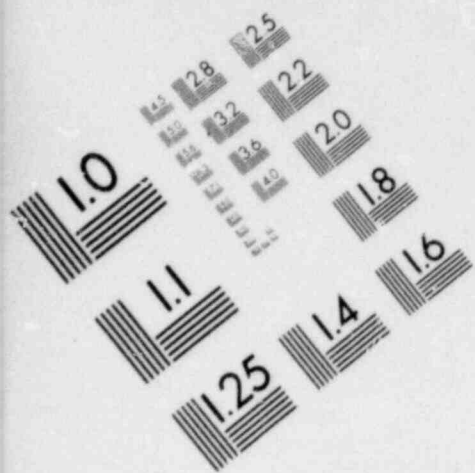
**IMAGE EVALUATION
TEST TARGET (MT-3)**



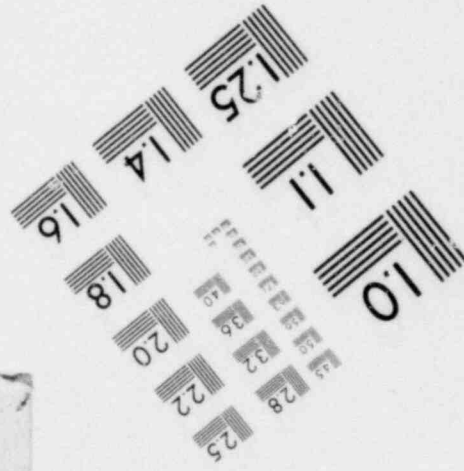
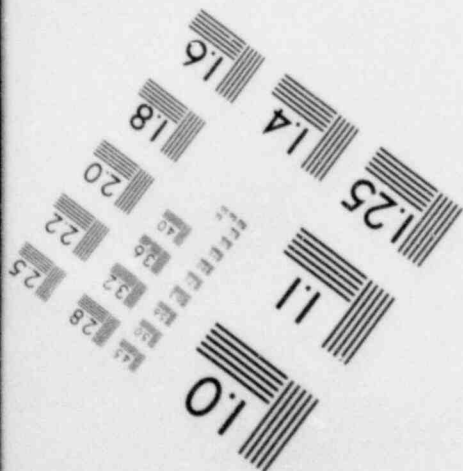
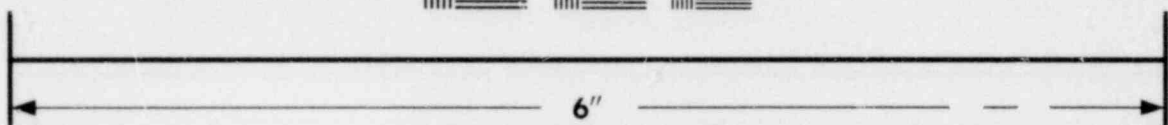
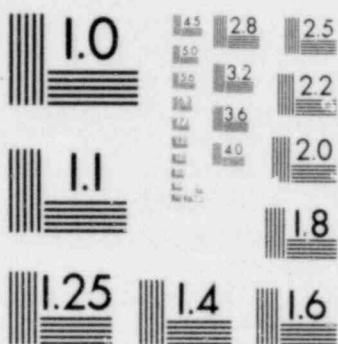


**IMAGE EVALUATION
TEST TARGET (MT-3)**





**IMAGE EVALUATION
TEST TARGET (MT-3)**



NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

PHYTOPLANKTON BIOVOLUME

MICROLITERS PER LITER

REPLICATE REPORT

PC TC GC LOC
5 56 56 0 0 10

SID	DATE	TIME	D/N	DURATION			SD	WD	TOW			SAMP VOL			WIND			CURRENT			TEMP			BT	TURBD	COND	DO	PH	SALN	P
				UNITS	C	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							
61	4/16/80	1310	0	0.0	0	1.0	15.2	0.0	0	2.0	4	1.0	6	0	7	2	5	0.0	0	7.2	0.0	0	0.0	0	0.0	0.0	0.0	0.0		
62	4/16/80	1310	0	0.0	0	1.0	15.2	0.0	0	2.0	4	1.0	6	0	7	2	5	0.0	0	7.2	0.0	0	0.0	0	0.0	0.0	0.0	0.0		

LS	TAXA	REL		S.E.	AB%
		1	2		
0	UNIDENTIFIED ALGAE	0.00	0.0	0.00	0.00 0.0
0	UNIDENTIFIED ALGAE (LPIL)	0.00	0.0	0.00	0.00 0.0
0	CYANOPHYTA	0.14	0.0	0.07	0.07 1.6
0	OSCILLATORIACEAE				
0	OSCILLATORIA (LPIL)	0.14	0.0	0.07	0.07 1.6
0	CHLOOPHYTA	0.35	0.12	0.24	0.12 5.4
0	VOLVOCALES				
0	CHLAMYDOMONAS (LPIL)	0.35	0.11	0.23	0.12 5.3
0	CHLOPCCOCCALES				
0	ANKISTRODESMUS FALCATUS	0.00	0.01	0.01	0.00 0.1
0	BACILLARIOPHYTA-CENTRIC	0.78	1.89	1.34	0.56 30.6
0	EUPODISCALES				
0	MELOSIRA (LPIL)	0.26	1.49	0.87	0.62 20.0
0	STEPHANODISCUS (LPIL)	0.47	0.17	0.32	0.15 7.3
0	EUPODISCALES (LPIL)	0.03	0.0	0.02	0.02 0.4
0	RHIZOSOLENIALES				
0	RHIZOSOLENIA ERIENSIS	0.02	0.23	0.13	0.10 2.9
0	BACILLARIOPHYTA-PENNATE	2.15	2.55	2.35	0.20 53.9
0	FRAGILARIALES				
0	ASTERIONELLA FORMOSA	0.97	0.48	0.73	0.24 16.7
0	FRAGILARIA CROTONENSIS	0.0	2.02	1.01	1.01 23.2
0	BACILLARIALES				
0	NITZCHIA (LPIL)	0.98	0.0	0.49	0.49 11.3
0	BACILLARIOPHYTA-PENNATE (LPIL)	0.20	0.04	0.12	0.08 2.7
0	CRYPTOPHYTA	0.33	0.40	0.36	0.03 8.4
0	CRYPTICOMNODALES				
0	CRYPTONONAS MARSSONII	0.07	0.0	0.03	0.03 0.8
0	CRYPTONONAS (LPIL)	0.0	0.20	0.10	0.10 2.3
0	RHODONONAS MINUTA	0.27	0.20	0.23	0.03 5.3
	TOTAL	3.75	4.96	4.36	0.60 100.0
	DIVERSITY (H PRIME)	2.86	2.32	2.59	0.27
	DIVERSITY (J PRIME)	0.77	0.70	0.74	0.04
	NUMBER OF TAXA	13	10	15	

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

PHYTOPLANKTON BIOVOLUME

MICROLITERS PER LITER

STATION REPORT

LS	TAXA	4	5	6	- X	S.E.	REL ABZ
0	UNIDENTIFIED ALGAE	0.0	0.0	0.00	0.00	0.00	0.0
0	UNIDENTIFIED ALGAE (LPIL)	0.0	0.0	0.00	0.00	0.00	0.0
0	CYANOPHYTA	0.04	0.01	0.07	0.04	0.02	1.1
0	CHROOCOCCACEAE						
0	GOMPHOSPHAERIA LACUSTRIS	0.0	0.01	0.0	0.00	0.00	0.0
0	OSCILLATORIACEAE						
0	OSCILLATORIA (LPIL)	0.0	0.0	0.07	0.02	0.02	0.7
0	LYNGBYA CONTORTA	0.04	0.0	0.0	0.01	0.01	0.4
0	CHLOROPHYTA	0.59	0.13	0.24	0.32	0.14	9.2
0	VOLVOCALES						
0	CHLAMYDOMONAS (LPIL)	0.58	0.13	0.23	0.31	0.14	8.9
0	CHLOROCOCCALES						
0	ANKISTRODESMUS FALCATUS	0.01	0.00	0.01	0.00	0.00	0.1
0	SCENEDESMUS QUADRICAUDA	0.01	0.0	0.0	0.00	0.00	0.1
0	CHRYSOPHYTA	0.14	0.06	0.0	0.06	0.04	1.8
0	CHRYSOMONADALES						
0	MALLAMONAS (LPIL)	0.0	0.05	0.0	0.00	0.02	0.5
0	CHRYSOCOCCUS (LPIL)	0.0	0.00	0.0	0.00	0.00	0.0
0	SYNURA (LPIL)	0.06	0.0	0.0	0.02	0.02	0.6
0	DINOBRYON SOCIALE	0.07	0.0	0.0	0.02	0.02	0.7
0	MONOSIGALES						
0	STELEXOMONAS DICHOTOMA	0.01	0.01	0.0	0.01	0.00	0.1
0	BACILLARIOPHYTA-CENTRIC	0.80	0.65	1.34	0.93	0.21	26.5
0	EUPODISCALES						
0	MELOSIRA (LPIL)	0.35	0.32	0.87	0.52	0.18	14.8
0	STEPHANODISCUS BINDERANA	0.21	0.0	0.0	0.07	0.07	2.0
0	STEPHANODISCUS NIAGARAE	0.0	0.16	0.0	0.05	0.05	1.5
0	STEPHANODISCUS (LPIL)	0.04	0.01	0.32	0.12	0.10	3.5
0	EUPODISCALES (LPIL)	0.01	0.0	0.02	0.01	0.01	0.3
0	RHIZOSOLENIALES						
0	RHIZOSOLENIA ERIENSIS	0.19	0.15	0.13	0.16	0.02	4.5
0	BACILLARIOPHYTA-PENNATE	0.80	2.15	2.35	1.77	0.49	50.6
0	FRAGILARIALES						
0	ASTERIONELLA FORMOSA	0.43	0.74	0.73	0.63	0.10	18.2
0	DIATOMA TENUE	0.0	0.07	0.0	0.02	0.02	0.6
0	FRAGILARIA CROTONENSIS	0.0	0.40	1.01	0.47	0.29	13.5
0	BACILLARIALES						
0	HITZCHIA (LPIL)	0.0	0.0	0.49	0.16	0.16	4.7
0	SURIPPELLALES						
0	CYMATOPLEURA SOLEA	0.0	0.94	0.0	0.31	0.31	9.0
0	BACILLARIOPHYTA-PENNATE (LPIL)	0.36	0.0	0.12	0.16	0.11	4.6
0	PYRRHOPHYTA-DINOPHYCEAE	0.24	0.0	0.0	0.08	0.08	2.3

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BAILEY GENERATING PLANT

PHYTOPLANKTON BIOVOLUME

MICROLITERS PER LITER

STATION REPORT

LS	TAXA	4	5	6	X	S.E.	REL AB%
0	PERIDINIALES						
0	PERIDINIUM INCONSPICUUM	0.24	0.0	0.0	0.08	0.08	2.3
0	CRYPTOPHYTA	0.32	0.20	0.36	0.29	0.05	8.4
0	CRYPTOMONADALES						
0	CRYPTOMONAS MARSSONII	0.0	0.0	0.03	0.01	0.01	0.3
0	CRYPTOMONAS (LPIL)	0.0	0.0	0.10	0.03	0.03	1.0
0	RHODOMONAS MINUTA	0.32	0.19	0.23	0.25	0.04	7.1
0	CYANOMONAS (LPIL)	0.0	0.01	0.0	0.00	0.00	0.1
TOTAL		2.92	3.19	4.36	3.49	0.44	100.0
DIVERSITY (H PRIME)		2.95	1.44	2.59	2.33	0.46	
DIVERSITY (J PRIME)		0.84	0.36	0.74	0.64	0.15	
NUMBER OF TAXA		16	16	15	29		

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41	42	51	52
61	62		

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BAILEY GENERATING PLANT

PHYTOPLANKTON BIOVOLUME

MICROLITERS PER LITER

REPLICATE REPORT

PC TC GC LOC
5 56 56 0 0 20

SID	DATE	TIME	DURATION		SD	WD	TOW				SAMP VOL				WIND			CURRENT			TEMP			BT	TURBD	COND	DO	PH	SALN P
			D/H	UNITS C			SP	D	UNITS C	SECH	W	T	SC	DI	CL	SP	DI	AIR	WAT										
101	4/16/80	1105	0	0.0 0	1.0	1.5	0.0 0	2.0 4	0.2 6	0	7	2	5	0.0 0	7.2	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0.0	0.0	0.0		
102	4/16/80	1105	0	0.0 0	1.0	1.5	0.0 0	2.0 4	0.2 6	0	7	2	5	0.0 0	7.2	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0.0	0.0	0.0		

LS	TAXA	1	2	REL	S.E.	AB%
0	CHLOROPHYTA	0.43	5.64	3.03	2.60	45.7
0	VOLVOCALES					
0	CHLAMYDOMONAS (LPIL)	0.42	1.50	0.96	0.54	14.5
0	CHLOROCOCCALES					
0	SPHAEROCYSTIS SCHROETERI	0.0	4.13	2.07	2.07	31.1
0	ANKISTRODESNIUS FALCATUS	0.01	0.0	0.00	0.00	0.0
0	CHRYSOPHYTA	0.0	0.01	0.01	0.01	0.1
0	MONOSIGALES					
0	STOLEXOMONAS DICHOTOMA	0.0	0.01	0.01	0.01	0.1
0	BACILLARIOPHYTA-CENTRIC	1.40	0.82	1.11	0.29	16.7
0	EUPODISCALES					
0	MELOSIRA (LPIL)	0.28	0.79	0.53	0.25	8.0
0	STEPHANODISCUS BINDERANA	0.13	0.0	0.06	0.06	1.0
0	STEPHANODISCUS (LPIL)	0.89	0.0	0.45	0.45	6.7
0	RHIZOSOLENIALES					
0	RHIZOSOLENIA ERIENSIS	0.09	0.04	0.07	0.03	1.0
0	BACILLARIOPHYTA-PENNATE	3.43	0.36	1.90	1.53	28.6
0	FRAGILARIALES					
0	ASTERIONELLA FORMOSA	0.0	0.22	0.11	0.11	1.7
0	FRAGILARIA (LPIL)	3.43	0.0	1.72	1.72	25.9
0	BACILLARIOPHYTA-PENNATE (LPIL)	0.0	0.14	0.07	0.07	1.0
0	CRYPTOPHYTA	0.94	0.25	0.59	0.35	8.9
0	CRYPTOMONADALES					
0	CRYPTOMONAS (LPIL)	0.62	0.0	0.31	0.31	4.7
0	RHODOMONAS MINUTA	0.32	0.21	0.26	0.06	3.9
0	CHROONONAS (LPIL)	0.0	0.04	0.02	0.02	0.3
TOTAL		6.20	7.08	6.64	0.44	100.0
DIVERSITY (H PRIME)		2.11	1.79	1.95	0.16	
DIVERSITY (J PRIME)		0.67	0.57	0.62	0.05	
NUMBER OF TAXA		9	9	14		

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BAILEY GENERATING PLANT

PHYTOPLANKTON BIOVOLUME

MICROLITERS PER LITER

STATION REPORT

LS	TAXA	10	X	S.E.	REL ABZ
0	CHLOROPHYTA	3.03	3.03	-1.00	45.7
0	VOLVOCALES				
0	CHLAMYDOMONAS (LPIL)	0.96	0.96	-1.00	14.5
0	CHLOROCOCCALES				
0	SPHAEROCYSTIS SCHROETERI	2.07	2.07	-1.00	31.1
0	ANKISTRODESMUS FALCATUS	0.00	0.00	-1.00	0.0
0	CHRYSOPHYTA	0.01	0.01	-1.00	0.1
0	MONOSIGALES				
0	STOLEXOMONAS DICHOTOMA	0.01	0.01	-1.00	0.1
0	BACILLARIOPHYTA-CENTRIC	1.11	1.11	-1.00	16.7
0	EUPODISCALES				
0	MELOSIRA (LPIL)	0.53	0.53	-1.00	8.0
0	STEPHANODISCUS BINDERANA	0.06	0.06	-1.00	1.0
0	STEPHANODISCUS (LPIL)	0.45	0.45	-1.00	6.7
0	RHIZOSOLENIALES				
0	RHIZOSOLENIA ERIENSIS	0.07	0.07	-1.00	1.0
0	BACILLARIOPHYTA-PENNATE	1.90	1.90	-1.00	28.6
0	FRAGILARIALES				
0	ASTERIONELLA FORMOSA	0.11	0.11	-1.00	1.7
0	FRAGILARIA (LPIL)	1.72	1.72	-1.00	25.9
0	BACILLARIOPHYTA-PENNATE (LPIL)	0.07	0.07	-1.00	1.0
0	CRYPTOPHYTA	0.59	0.59	-1.00	8.9
0	CRYPTOMONADALES				
0	CRYPTOMONAS (LPIL)	0.31	0.31	-1.00	4.7
0	RHODOMONAS MINUTA	0.26	0.26	-1.00	3.9
0	CHROOMONAS (LPIL)	0.02	0.02	-1.00	0.3
	TOTAL	6.64	6.64	-1.00	100.0
	DIVERSITY (H PRIME)	1.95	1.95	-1.00	
	DIVERSITY (J PRIME)	0.62	0.62	-1.00	
	NUMBER OF TAXA	14	14		

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PHYTOPLANKTON BIOVOLUME

MICROLITERS PER LITER

STATION REPORT

LS	TAXA	3	6	10	X	S.E.	REL AB%
0	UNIDENTIFIED ALGAE	0.0	0.00	0.0	0.00	0.00	0.0
0	UNIDENTIFIED ALGAE (LPIL)	0.0	0.00	0.0	0.00	0.00	0.0
0	CYANOPHYTA	0.17	0.04	0.0	0.07	0.05	1.3
0	CHROOCOCCACEAE						
0	CHROOCOCCUS (LPIL)	0.13	0.0	0.0	0.04	0.04	0.8
0	GOMPHOSPHAERIA LACUSTRIS	0.02	0.00	0.0	0.01	0.01	0.1
0	OSCILLATORIACEAE						
0	OSCILLATORIA (LPIL)	0.02	0.02	0.0	0.02	0.01	0.3
0	LYNGBYA CONTORTA	0.0	0.01	0.0	0.00	0.00	0.1
0	CHLOROPHYTA	0.41	0.32	3.03	1.25	0.89	23.2
0	VOLVOCALES						
0	CHLAMYDOMONAS (LPIL)	0.39	0.31	0.96	0.55	0.21	10.3
0	TETRASPORALES						
0	ELAKATOTHRIX (LPIL)	0.01	0.0	0.0	0.00	0.00	0.1
0	CHLOROCOCCALES						
0	SPHAEROCYSTIS SCHROETERI	0.0	0.0	2.07	0.69	0.69	12.8
0	ANKISTRODESMUS FALCATUS	0.00	0.00	0.00	0.00	0.00	0.1
0	SCENEDESMUS QUADRICAUDA	0.0	0.00	0.0	0.00	0.00	0.0
0	CHRYSOPHYTA	0.11	0.06	0.01	0.06	0.03	1.1
0	CHRYSOMONADALES						
0	MALLANONAS (LPIL)	0.04	0.02	0.0	0.02	0.01	0.3
0	CHRYSOCOCCUS (LPIL)	0.0	0.00	0.0	0.00	0.00	0.0
0	SYNHURA (LPIL)	0.0	0.02	0.0	0.01	0.01	0.1
0	DINOBRYON SOCIALE	0.06	0.02	0.0	0.03	0.02	0.5
0	MONOSIGALES						
0	STELIXONONAS DICHOTOMA	0.01	0.01	0.01	0.01	0.00	0.1
0	BACILLARIOPHYTA-CENTRIC	2.28	0.93	1.11	1.44	0.42	26.7
0	EUPODISCALES						
0	MELOSIRA (LPIL)	0.67	0.52	0.53	0.57	0.05	10.6
0	STEPHANODISCUS BINDERANA	0.19	0.07	0.06	0.11	0.04	2.0
0	STEPHANODISCUS NIAGARAE	0.92	0.05	0.0	0.32	0.30	6.0
0	STEPHANODISCUS (LPIL)	0.05	0.12	0.45	0.21	0.12	3.8
0	EUPODISCALES (LPIL)	0.29	0.01	0.0	0.10	0.10	1.9
0	RHIZOSOLENIALES						
0	RHIZOSOLENIA ERIENSIS	0.17	0.16	0.07	0.13	0.03	2.4
0	BACILLARIOPHYTA-PENNIATE	2.57	1.77	1.90	2.08	0.25	38.5
0	FRAGILARIALES						
0	ASTERIONELLA FORMOSA	0.58	0.63	0.11	0.44	0.17	8.2
0	DIATOMA TENUE	0.0	0.02	0.0	0.01	0.01	0.1
0	FRAGILARIA CROTONENSIS	0.54	0.47	0.0	0.34	0.17	6.3
0	FRAGILARIA (LPIL)	0.0	0.0	1.72	0.57	0.57	10.6
0	FRAGILARIALES (LPIL)	0.05	0.0	0.0	0.02	0.02	0.3

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BAILEY GENERATING PLANT

PHYTOPLANKTON BIOVOLUME

MICROLITERS PER LITER

STATION REPORT

IS	TAXA	3	6	10	- X	S.E.	REL AB%
0	NAVICULALES						
0	NAVICULA (LPIL)	0.07	0.0	0.0	0.02	0.02	0.4
0	PINNULARIA (LPIL)	0.05	0.0	0.0	0.02	0.02	0.3
0	CYBELLIA (LPIL)	0.01	0.0	0.0	0.00	0.00	0.1
0	BACILLARIALES						
0	HITZCHIA (LPIL)	1.11	0.16	0.0	0.42	0.35	7.8
0	SURIPELLALES						
0	CYMATOPLEURA SOLEA	0.0	0.31	0.0	0.10	0.10	1.9
0	BACILLARIOPHYTA-PENNATE (LPIL)	0.16	0.16	0.07	0.13	0.03	2.4
0	PYRRHOPHYTA-DIINOPHYCEAE	0.0	0.08	0.0	0.03	0.03	0.5
0	PERIDINIALES						
0	PERIDINIUM INCONSPICUUM	0.0	0.08	0.0	0.03	0.03	0.5
0	CRYPTOPHYTA	0.52	0.29	0.59	0.47	0.09	8.7
0	CRYPTOMONADALES						
0	CRYPTOMONAS MARSSONII	0.0	0.01	0.0	0.00	0.00	0.1
0	CRYPTOMONAS REFLEXA	0.30	0.0	0.0	0.10	0.10	1.9
0	CRYPTOMONAS (LPIL)	0.06	0.03	0.31	0.13	0.09	2.5
0	RHODOMONAS MINUTA	0.14	0.25	0.26	0.22	0.04	4.0
0	CHROOMONAS (LPIL)	0.02	0.0	0.02	0.01	0.01	0.3
0	CYANOMONAS (LPIL)	0.0	0.00	0.0	0.00	0.00	0.0
	TOTAL	6.66	3.49	6.64	5.40	9.97	100.0
	DIVERSITY (H PRIME)	2.76	2.33	1.95	2.35	0.23	
	DIVERSITY (J PRIME)	0.74	0.64	0.62	0.67	0.04	
	NUMBER OF TAXA	27	29	14	39		

ABOVE COMPUTED USING SAMPLE IDS

11	12	21	22
31	32	41	42
51	52	61	62
101	102		

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

PHYTOPLANKTON BIOVOLUME

MICROLITERS PER LITER

REPLICATE REPORT

PC TC GC LOC
5 56 56 0 1 00

SID	DATE	TIME	D/N	DURATION		TOW		SAMP VOL			WIND			CURRENT			TEMP		BT	TURBD	COND	DO	PH	SALN	P			
				UNITS	C	WD	SP	D	UNITS	C	SECH	WT	SC	DI	CL	SP	DI	AIR								WAT		
71	4/16/80	1135	0	0.0	0	1.0	4.6	0.0	0	2.0	4	0	6	0	7	25	0	0.0	0	7.2	5.5	0	0.0	0	0.0	0.0	0.0	0
72	4/16/80	1135	0	0.0	0	1.0	4.6	0.0	0	2.0	4	0	6	0	7	2	5	0.0	0	7.2	5.5	0	0.0	0	0.0	0.0	0.0	0

LS	TAXA	REL		S.E.	AB%	
		1	2			
0	CHLOROPHYTA	0.0	0.76	0.38	0.38	11.8
0	VOLVOCALES					
0	CHLAMYDOMONAS (LPIL)	0.0	0.76	0.38	0.38	11.8
0	CHRYSOPHYTA	0.01	0.0	0.01	0.01	0.2
0	MONOSIGALES					
0	STOLEXOMONAS DICHOTOMA	0.01	0.0	0.01	0.01	0.2
0	BACILLARIOPHYTA-CENTRIC	0.86	1.02	0.94	0.08	29.2
0	EUPODISCALES					
0	MELOSIRA (LPIL)	0.0	0.27	0.14	0.14	4.2
0	STEPHANODISCUS BINDERANA	0.05	0.05	0.05	0.00	1.6
0	STEPHANODISCUS (LPIL)	0.56	0.16	0.36	0.20	11.1
0	RHIZOSOLENIALES					
0	RHIZOSOLENIA EPTENSIS	0.26	0.54	0.40	0.14	12.3
0	BACILLARIOPHYTA-PENNATE	2.08	1.24	1.66	0.42	51.6
0	FRAGILARIALES					
0	ASTERIONELLA FORMOSA	0.83	0.56	0.69	0.13	21.5
0	FRAGILARIA PROTONENSIS	0.0	0.64	0.32	0.32	9.9
0	NAVICULALES					
0	NAVICULA (LPIL)	0.12	0.0	0.06	0.06	1.9
0	BACILLARIALES					
0	NITZCHIA (LPIL)	1.13	0.0	0.57	0.57	17.6
0	BACILLARIOPHYTA-PENNATE (LPIL)	0.0	0.05	0.02	0.02	0.7
0	CRYPTOPHYTA	0.12	0.35	0.23	0.12	7.2
0	CRYPTOMONADALES					
0	CRYPTOMONAS (LPIL)	0.0	0.24	0.12	0.12	3.7
0	RHODOMONAS MINUTA	0.12	0.11	0.11	0.00	3.5
TOTAL		3.07	3.37	3.22	0.15	100.0
DIVERSITY (H PRIME)		2.27	2.90	2.59	0.31	
DIVERSITY (J PRIME)		0.76	0.87	0.82	0.06	
NUMBER OF TAXA		8	10	13		

ABOVE COMPUTED USING SAMPLE IDS
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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

PHYTOPLANKTON BIOVOLUME

MICROLITERS PER LITER

REPLICATE REPORT

PC TC GC LOC
5 56 56 0 1 06

SID	DATE	TIME	D/H	DURATION		SD	WD	TOW			SAMP VOL			WIND			CURRENT			TEMP			BT	TURBD	COND	DO	PH	SALN	P
				UNITS	C			SP	D	UNITS	C	SECH	WT	SC	DI	CL	SP	DI	AIR	WAT									
81	4/16/80	1125	0	0.0	0	1.0	9.1	0.0	0	2.0	4	1.0	6	0	7	2	5	0.0	0	7.2	5.0	0	0.0	0	0.0	0.0	0.0	0	
82	4/16/80	1125	0	0.0	0	1.0	9.1	0.0	0	2.0	4	1.0	6	0	7	2	5	0.0	0	7.2	5.0	0	0.0	0	0.0	0.0	0.0	0	

LS	TAXA	REL		S.E.	AB%	
		1	2			
0	CYANOPHYTA	0.01	0.03	0.02	0.01	0.6
0	CHROOCOCCACEAE					
0	MICROCYSTIS (LPIL)	0.01	0.0	0.01	0.01	0.2
0	OSCILLATORIACEAE					
0	OSCILLATORIA LIMNETICA	0.0	0.03	0.01	0.01	0.4
0	CHLOROPHYTA	0.00	0.32	0.16	0.16	4.5
0	VOLVOCALES					
0	CHLAMYDOMONAS (LPIL)	0.0	0.32	0.16	0.16	4.5
0	CHLOROCOCCALES					
0	ANKISTRODESMIUS FALCATUS	0.00	0.0	0.00	0.00	0.1
0	CHRYSOPHYTA	0.34	0.05	0.20	0.15	5.4
0	CHRYSOMONADALES					
0	CHRYSOCOCCUS (LPIL)	0.0	0.00	0.00	0.00	0.0
0	DINOBRYON SOCIALE	0.34	0.05	0.20	0.15	5.4
0	CHRYSOPHYTA (LPIL)	0.0	0.00	0.00	0.00	0.0
0	BACILLARIOPHYTA-CENTRIC	1.46	0.23	0.84	0.62	23.2
0	EUPODISCALES					
0	MELOSIRA (LPIL)	0.69	0.0	0.34	0.34	9.4
0	STEPHANODISCUS NIAGARAE	0.39	0.0	0.20	0.20	5.4
0	STEPHANODISCUS (LPIL)	0.03	0.11	0.07	0.04	2.0
0	EUPODISCALES (LPIL)	0.0	0.02	0.01	0.01	0.2
0	RHIZOSOLENIALES					
0	RHIZOSOLENIA ERIENSIS	0.35	0.10	0.23	0.13	6.2
0	BACILLARIOPHYTA-PENNATE	2.00	2.05	2.02	0.03	55.7
0	FRAGILARIALES					
0	ASTERIONELLA FORMOSA	0.71	0.50	0.61	0.11	16.7
0	DIATOMA TENUE	0.55	0.17	0.36	0.19	9.9
0	FRAGILARIA CROTONENSIS	0.0	0.12	0.06	0.06	1.6
0	FRAGILARIA (LPIL)	0.50	0.0	0.25	0.25	6.9
0	TABELLARIA FLOCCULOSA	0.0	1.26	0.63	0.63	17.4
0	HAVICULALES					
0	PINNULARIA (LPIL)	0.14	0.0	0.07	0.07	1.9
0	BACILLARIOPHYTA-PENNATE (LPIL)	0.09	0.0	0.05	0.05	1.3
0	PYRRHOPHYTA-DINOPHYCEAE	0.0	0.13	0.06	0.06	1.8
0	PERIDINIALES					
0	PERIDINIUM INCONSPICUUM	0.0	0.13	0.06	0.06	1.8

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

PHYTOPLANKTON BIOVOLUME

MICROLITERS PER LITER

REPLICATE REPORT

IS	TAXA	1	2	- X	S.E.	REL AB%
0	CRYPTOPHYTA	0.32	0.31	0.32	0.01	8.8
0	CRYPTOMONADALES					
0	RHODOMONAS MINUTA	0.32	0.29	0.31	0.02	8.5
0	CHROOMONAS (LPIL)	0.0	0.02	0.01	0.01	0.3
	TOTAL	4.14	3.13	3.64	0.51	100.0
	DIVERSITY (H PRIME)	3.21	2.80	3.00	0.21	
	DIVERSITY (J PRIME)	0.87	0.72	0.79	0.08	
	NUMBER OF TAXA	13	15	22		

ABOVE COMPUTED USING SAMPLE IDS

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (9720)

BAILEY GENERATING PLANT

PHYTOPLANKTON BIOVOLUME

MICROLITERS PER LITER

PEPLICATE REPORT

PC TC GC LOC
5 56 56 0 1 00

SID	DATE	TIME	D/N	DURATION		SD	WD	TOW		SAMP VOL			WIND			CURENT			TEMP			BT	TURBD	COND	DO	PH	SALN	P
				UNITS	C			SP	D	UNITS	C	SECH	WT	SC	DI	CL	SP	DI	AIR	WAT	0							
91	4/16/80	1105	0	0.0	0	1.0	15.2	0.0	0	2.0	4	1.0	6	0	7	2	5	0.0	0	7.2	5.5	0	0.0	0	13.2	0.0	0.0	0
92	4/16/80	1105	0	0.0	0	1.0	15.2	0.0	0	2.0	4	1.0	6	0	7	2	5	0.0	0	7.2	5.5	0	0.0	0	13.2	0.0	0.0	0

LS	TAXA	1	2	X	S.E.	AB%
0	UNIDENTIFIED ALGAE	0.00	0.02	0.01	0.01	0.3
0	UNIDENTIFIED ALGAE (LPIL)	0.00	0.02	0.01	0.01	0.3
0	CYANOPHYTA	0.0	0.17	0.08	0.08	2.7
0	CHROOCOCCACEAE					
0	GOMPHOSPHAERIA LACUSTRIS	0.0	0.17	0.08	0.08	2.7
0	CHLOROPHYTA	3.16	0.26	0.21	0.05	6.9
0	VOLVOCALES					
0	CHLAMYDOMONAS (LPIL)	0.15	0.20	0.17	0.02	5.7
0	TETRASPORALES					
0	ELAKATOTHRIX (LPIL)	0.01	0.05	0.03	0.02	1.1
0	CHLOROCOCCALES					
0	ANKISTRODESMUS FALCATUS	0.0	0.01	0.00	0.00	0.1
0	CHRYSOPHYTA	0.01	0.0	0.01	0.01	0.2
0	MONOSIGALES					
0	STELEXOMONAS DICHOTOMA	0.01	0.0	0.01	0.01	0.2
0	BACILLARIOPHYTA-CENTRIC	0.66	0.16	0.41	0.25	13.4
0	EUPODISCALES					
0	MELOSIRA (LPIL)	0.55	0.0	0.28	0.28	9.1
0	STEPHANODISCUS (LPIL)	0.0	0.12	0.06	0.06	2.0
0	RHIZOLENIALES					
0	RHIZOLENIA ERIENSIS	0.11	0.04	0.07	0.03	2.4
0	BACILLARIOPHYTA-PENNATE	1.37	1.16	1.27	0.10	41.7
0	FRAGILARIALES					
0	ASTERIONELLA FORMOSA	0.35	0.17	0.26	0.09	8.6
0	DIATOMA TENUE	0.0	0.03	0.02	0.02	0.5
0	FRAGILARIA CROTONENSIS	0.0	3.85	0.43	0.43	14.0
0	TABELLARIA FLOCCULOSA	0.53	0.0	0.27	0.27	8.8
0	BACILLARIOPHYTA-PENNATE (LPIL)	0.48	0.11	0.30	0.18	9.7
0	PYRRHOPHYTA-DINOPHYCEAE	1.24	0.0	0.62	0.62	20.4
0	PERIDINIALES					
0	PERIDINIUM INCONSPICUUM	1.24	0.0	0.62	0.62	20.4
0	CRYPTOPHYTA	0.29	0.59	0.44	0.15	14.4
0	CRYPTOMONADALES					
0	CRYPTOMONAS REFLEXA	0.0	0.41	0.21	0.21	6.8
0	CRYPTOMONAS (LPIL)	0.12	0.0	0.06	0.06	2.0
0	RHODOMONAS MINUTA	0.17	0.17	0.17	0.00	5.6

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

PHYTOPLANKTON BIOVOLUME

MICROLITERS PER LITER

REPLICATE REPORT

LS	TAXA			-	REL
		1	2	X	S.E. AB%
TOTAL		3.72	2.34	3.03	0.69 100.0
DIVERSITY (H PRIME)		2.79	2.90	2.84	0.06
DIVERSITY (J PRIME)		0.78	0.78	0.78	0.00
NUMBER OF TAXA		12	13	18	

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

PHYTOPLANKTON BIOVOLUME

MICROLITERS PER LITER

STATION REPORT

LS	TAXA	7	8	9	- X	S.E.	REL ABZ
0	UNIDENTIFIED ALGAE	0.0	0.0	0.01	0.00	0.00	0.1
0	UNIDENTIFIED ALGAE (LPIL)	0.0	0.0	0.01	0.00	0.00	0.1
0	CYANOPHYTA	0.0	0.02	0.08	0.03	0.02	1.0
0	CHRODOCOCCACEAE						
0	MICROCYSTIS (LPIL)	0.0	0.01	0.0	0.00	0.00	0.1
0	GOMPHOSPHAERIA LACUSTRIS	0.0	0.0	0.08	0.03	0.03	0.8
0	OSCILLATOPIACEAE						
0	OSCILLATORIA LIMNETICA	0.0	0.01	0.0	0.00	0.00	0.1
0	CHLOROPHYTA	0.38	0.16	0.21	0.25	0.07	7.6
0	VOLVOCALES						
0	CHLAMYDOMONAS (LPIL)	0.38	0.16	0.17	0.24	0.07	7.3
0	TETRASPORALES						
0	ELAKATOTHRIX (LPIL)	0.0	0.0	0.03	0.01	0.01	0.3
0	CHLOROCOCCALES						
0	ANKISTRODESMUS FALCATUS	0.0	0.00	0.00	0.00	0.00	0.0
0	CHRYSOPHYTA	0.01	0.20	0.01	0.07	0.06	2.1
0	CHRYSOMONADALES						
0	CHRYSOCOCCUS (LPIL)	0.0	0.00	0.0	0.00	0.00	0.0
0	DINOBRYON SOCIALE	0.0	0.20	0.0	0.07	0.07	2.0
0	MONOSIGALES						
0	STOLEXOMONAS DICHOTOMA	0.01	0.0	0.01	0.00	0.00	0.1
0	CHRYSOPHYTA (LPIL)	0.0	0.00	0.0	0.00	0.00	0.0
0	BACILLARIOPHYTA-CENTRIC	0.94	0.84	0.41	0.73	0.16	22.2
0	EUPODISCALES						
0	MELOSIRA (LPIL)	0.14	0.34	0.28	0.25	0.06	7.6
0	STEPHANODISCUS BINDERANA	0.05	0.0	0.0	0.02	0.02	0.5
0	STEPHANODISCUS NIAGARAE	0.0	0.20	0.0	0.07	0.07	2.0
0	STEPHANODISCUS (LPIL)	0.36	0.07	0.06	0.16	0.10	4.9
0	EUPODISCALES (LPIL)	0.0	0.01	0.0	0.00	0.00	0.1
0	RHIZOSOLENIALES						
0	RHIZOSOLENIA ERIENSIS	0.40	0.23	0.07	0.23	0.09	7.0
0	BACILLARIOPHYTA-PENNATE	1.66	2.02	1.27	1.65	0.22	50.1
0	FRAGILARIALES						
0	ASTERIONELLA FORMOSA	0.69	0.61	0.26	0.52	0.13	15.8
0	DIATOMA TENUE	0.0	0.36	0.02	0.13	0.12	3.8
0	FRAGILARIA CROTONENSIS	0.32	0.06	0.43	0.27	0.11	8.1
0	FRAGILARIA (LPIL)	0.0	0.25	0.0	0.08	0.08	2.5
0	TABELLARIA FLOCCULOSA	0.0	0.63	0.27	0.30	0.18	9.1
0	NAVICULALES						
0	NAVICULA (LPIL)	0.06	0.0	0.0	0.02	0.02	0.6
0	PINNULARIA (LPIL)	0.0	0.07	0.0	0.02	0.02	0.7
0	BACILLARIALES						

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

PHYTOPLANKTON BIOVOLUME

MICROLITERS PER LITER

STATION REPORT

LS	TAXA	7	8	9	- X	S.E.	REL. ABX
0	NITZCHIA (LPIL)	0.57	0.0	0.0	0.19	0.19	5.7
0	BACILLARIOPHYTA-PENNATE (LPIL)	0.02	0.05	0.30	0.12	0.09	3.7
0	PYRRHOPHYTA-DINOPHYCEAE	0.0	0.06	0.62	0.23	0.20	6.9
0	PERIDINIALES						
0	PERIDINIUM INCONSPICUUM	0.0	0.06	0.62	0.23	0.20	6.9
0	CRYPTOPHYTA	0.23	0.32	0.44	0.33	0.06	10.0
0	CRYPTOMONADALES						
0	CRYPTOMONAS REFLEXA	0.0	0.0	0.21	0.07	0.07	2.1
0	CRYPTOMONAS (LPIL)	0.12	0.0	0.06	0.06	0.03	1.8
0	RHODOMONAS MINUTA	0.11	0.31	0.17	0.20	0.06	6.0
0	CHROOMONAS (LPIL)	0.0	0.01	0.0	0.00	0.00	0.1
	TOTAL	3.22	3.64	3.03	3.30	0.18	100.0
	DIVERSITY (H PRIME)	2.59	3.00	2.84	2.81	0.12	
	DIVERSITY (J PRIME)	0.82	0.79	0.78	0.80	0.01	
	NUMBER OF TAXA	13	22	18	31		

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71	72	81	82
91	92		

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BAILEY GENERATING PLANT

PHYTOPLANKTON BIOVOLUME

MICROLITERS PER LITER

STATION REPORT

LS	TAXA		-	REL
		9	X	AB%
			S.E.	
0	UNIDENTIFIED ALGAE	0.00	0.00	-1.00 0.1
0	UNIDENTIFIED ALGAE (LPIL)	0.00	0.00	-1.00 0.1
0	CYANOPHYTA	0.03	0.03	-1.00 1.0
0	CHROOCOCCACEAE			
0	MICROCYSTIS (LPIL)	0.00	0.00	-1.00 0.1
0	GONPHOSPHAERIA LACUSTRIS	0.03	0.03	-1.00 0.8
0	OSCILLATORIACEAE			
0	OSCILLATORIA LIMNETICA	0.00	0.00	-1.00 0.1
0	CHLOROPHYTA	0.25	0.25	-1.00 7.6
0	VOLVOCALES			
0	CHLAMYDOMONAS (LPIL)	0.24	0.24	-1.00 7.3
0	TETRASPORALES			
0	ELAKATOTHRIX (LPIL)	0.01	0.01	-1.00 0.3
0	CHLOROCOCCALES			
0	ANKISTRODESMUS FALCATUS	0.00	0.00	-1.00 0.0
0	CHRYSOPHYTA	0.07	0.07	-1.00 2.1
0	CHRYSOPHYTADALES			
0	CHRYSOCCUS (LPIL)	0.00	0.00	-1.00 0.0
0	DINOBRYON SOCIALE	0.07	0.07	-1.00 2.0
0	MONOSIGALES			
0	STOLEXOMONAS DICHOTOMA	0.00	0.00	-1.00 0.1
0	CHRYSOPHYTA (LPIL)	0.00	0.00	-1.00 0.0
0	BACILLARIOPHYTA-CENTRIC	0.73	0.73	-1.00 22.2
0	EUPODISCALES			
0	MELOSIRA (LPIL)	0.25	0.25	-1.00 7.6
0	STEPHANODISCUS BINDERANA	0.02	0.02	-1.00 0.5
0	STEPHANODISCUS NIAGARAE	0.07	0.07	-1.00 2.0
0	STEPHANODISCUS (LPIL)	0.16	0.16	-1.00 4.9
0	EUPODISCALES (LPIL)	0.00	0.00	-1.00 0.1
0	RHIZOSOLENIALES			
0	RHIZOSOLENIA ERIENSIS	0.23	0.23	-1.00 7.0
0	BACILLARIOPHYTA-PENNATE	1.65	1.65	-1.00 50.1
0	FRAGILARIALES			
0	ASTERIONELLA FORMOSA	0.52	0.52	-1.00 15.8
0	DIATOMA TENUE	0.13	0.13	-1.00 3.8
0	FRAGILARIA CROTONENSIS	0.27	0.27	-1.00 8.1
0	FRAGILARIA (LPIL)	0.08	0.08	-1.00 2.5
0	TABELLARIA FLOCCULOSA	0.30	0.30	-1.00 9.1
0	NAVICULALES			
0	NAVICULA (LPIL)	0.02	0.02	-1.00 0.6
0	PINNULARIA (LPIL)	0.02	0.02	-1.00 0.7
0	BACILLARIALES			

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BAILEY GENERATING PLANT

PHYTOPLANKTON BIOVOLUME

MICROLITERS PER LITER

STATION REPORT

LS	TAXA		-		REL
			X	S.E.	AB%
		9			
0	NITZCHIA (LPIL)	0.19	0.19	-1.00	5.7
0	BACILLARIOPHYTA-PENNATE (LPIL)	0.12	0.12	-1.00	3.7
0	PYRRHOPHYTA-DINOPHYCEAE	0.23	0.23	-1.00	6.9
0	PERIDINIALES				
0	PERIDINIUM INCONSPICUUM	0.23	0.23	-1.00	6.9
0	CRYPTOPHYTA	0.33	0.33	-1.00	10.0
0	CRYPTONONODALES				
0	CRYPTOMONAS REFLEXA	0.07	0.07	-1.00	2.1
0	CRYPTOMONAS (LPIL)	0.06	0.06	-1.00	1.8
0	RHODOMONAS MINUTA	0.20	0.20	-1.00	6.0
0	CHROOMONAS (LPIL)	0.00	0.00	-1.00	0.1
TOTAL		3.30	3.30	-1.00	100.0
DIVERSITY (H PRIME)		2.81	2.81	-1.00	
DIVERSITY (J PRIME)		0.80	0.80	-1.00	
NUMBER OF TAXA		31	31		

ABOVE COMPUTED USING SAMPLE IDS

71	72	81	82
91	92		

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BAILEY GENERATING PLANT

PHYTOPLANKTON BIOVOLUME

MICROLITERS PER LITER

REPLICATE REPORT

PC TC GC LOC
5 56 56 1 1 00

SID	DATE	TIME	DURATION			TOW			SAMP VOL			WIND		CURRENT		TEMP		BT	TURBD	COND	DO	PH	SALN	P				
			D/N	UNITS	C	SD	WD	SP	D	UNITS	C	SECH	WT	SC	DI	CL	SP								DI	AIR	WAT	
171	4/20/80	1025	0	0.0	0	1.0	1.0	0.0	0	2.0	4	1.0	8	0	4	1	5	0.0	0	17.8	16.0	0	0.0	0	8.9	0.0	0.0	0
172	4/20/80	1025	0	0.0	0	1.0	1.0	0.0	0	2.0	4	1.0	8	0	4	1	5	0.0	0	17.8	16.0	0	0.0	0	8.9	0.0	0.0	0

LS	TAXA			REL	S.E.	ABZ
		1	2			
0	CYANOPHYTA	0.0	0.01	0.00	0.00	0.1
0	OSCILLATORIACEAE					
0	OSCILLATORIA (LPIL)	0.0	0.01	0.00	0.00	0.1
0	CHLOROPHYTA	1.08	0.62	0.85	0.23	21.7
0	CHLOROCOCCALES					
0	SCENEDESMUS QUADRICAUDA	0.44	0.35	0.39	0.04	10.0
0	SCENEDESMUS ECORNIS	0.07	0.0	0.03	0.03	0.8
0	SCENEDESMUS SPINOSUS	0.00	0.0	0.00	0.00	0.1
0	TETRAEDRON CAUDATUM	0.03	0.0	0.02	0.02	0.4
0	OEDOGONIALES					
0	OEDOGONIUM (LPIL)	0.41	0.0	0.21	0.21	5.3
0	ZYGHEMATALES					
0	MOUGEOTIA (LPIL)	0.0	0.15	0.07	0.07	1.9
0	CLOSTERIUM MONILIFERUM	0.12	0.0	0.06	0.06	1.6
0	STAUSTRUM (LPIL)	0.0	0.13	0.06	0.06	1.6
0	EUGLENOPHYTA	0.02	0.28	0.15	0.13	3.7
0	EUGLENALES					
0	TRACHELONHAS (LPIL)	0.02	0.28	0.15	0.13	3.7
0	CHRYSOPHYTA	0.24	3.04	1.64	1.40	41.8
0	CHRYSOMONADALES					
0	CHRYSOCOCCUS (LPIL)	0.05	0.20	0.13	0.08	3.2
0	DINOBRYON SERTULARIA	0.07	2.84	1.46	1.38	37.1
0	EPIPYXIS UTRICULUS	0.12	0.0	0.06	0.06	1.5
0	KEPHYRION (LPIL)	0.0	0.00	0.00	0.00	0.0
0	BACILLARIOPHYTA-PENNATE	1.62	0.06	0.84	0.78	21.3
0	FRAGILARIALES					
0	TABELLARIA FLOCCULOSA	1.44	0.0	0.72	0.72	18.3
0	ACHNANTHALES					
0	ACHNANTHES MINUTISSIMA	0.01	0.01	0.01	0.00	0.2
0	ACHNANTHES (LPIL)	0.00	0.0	0.00	0.00	0.1
0	SURIPELLALES					
0	SURIPELLA (LPIL)	0.16	0.0	0.08	0.08	2.1
0	BACILLARIOPHYTA-PENNATE (LPIL)	0.0	0.05	0.03	0.03	0.7
0	CRYPTOPHYTA	0.0	0.89	0.44	0.44	11.3
0	CRYPTOMONADALES					
0	CRYPTOMONAS (LPIL)	0.0	0.80	0.40	0.40	10.2

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BAILEY GENERATING PLANT

PHYTOPLANKTON BIOVOLUME

MICROLITERS PER LITER

REPLICATE REPORT

LS	TAXA	1	2	- X	S.E.	REL ABZ
0	RHODOMONAS MINUTA	0.0	0.01	0.01	0.01	0.2
0	CHROOMONAS (LPIL)	0.0	0.07	0.04	0.04	0.9
TOTAL		2.96	4.90	3.93	0.97	100.0
DIVERSITY (H PRIME)		2.44	2.08	2.26	0.18	
DIVERSITY (J PRIME)		0.64	0.56	0.60	0.04	
NUMBER OF TAXA		14	13	22		

ABOVE COMPUTED USING SAMPLE IDS

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

PHYTOPLANKTON BIOVOLUME

MICROLITERS PER LITER

REPLICATE REPORT

PC TC GC LOC
5 56 56 1 1 00

SID	DATE	TIME	DURATION			TOW			SAMP VOL			WIND			CURRENT		TEMP		BT	TURBD	COND	DO	PH	SALN	P			
			D/N	UNITS	C	SD	WD	SP	D	UNITS	C	SECH	WT	SC	DI	CL	SP	DI								AIR	WAT	
181	4/20/80	1025	0	0.0	0	1.0	1.0	0.0	0	2.0	4	1.0	8	0	4	1	5	0.0	0	178.1	55.9	0	0.0	0	9.1	0.0	0.0	0
182	4/20/80	1025	0	0.0	0	1.0	1.0	0.0	0	2.0	4	1.0	8	0	4	1	5	0.0	0	17.8	15.5	0	0.0	0	9.1	0.0	0.0	0

LS	TAXA			BT	TURBD	COND	DO	PH	SALN	P
		1	2							
0	CYANOPHYTA	0.0	0.01		0.00		0.00	0.1		
0	NOSTOCACEAE									
0	ANABAENA (LPIL)	0.0	0.01		0.00		0.00	0.1		
0	CHLOROPHYTA	2.25	0.44		1.35		0.90	21.9		
0	CHLOROCOCCALES									
0	OOCYSTIS (LPIL)	0.03	0.0		0.02		0.02	0.3		
0	SCENEDESMUS QUADRICAUDA	0.27	0.12		0.20		0.07	3.2		
0	SCENEDESMUS ECORNIS	0.03	0.0		0.02		0.02	0.3		
0	SCENEDESMUS SPINOSUS	0.0	0.01		0.00		0.00	0.1		
0	PEDIASTRUM DUPLEX	1.01	0.0		0.51		0.51	8.2		
0	ZYGHEMATALES									
0	MOUGEOTIA (LPIL)	0.91	0.31		0.61		0.30	9.9		
0	EUGLENOPHYTA	0.0	0.13		0.07		0.07	1.1		
0	EUGLENALES									
0	TRACHELOMONAS (LPIL)	0.0	0.13		0.07		0.07	1.1		
0	CHRYSOPHYTA	0.56	1.51		1.03		0.48	16.9		
0	CHRYSOMONADALES									
0	CHRYSOCOCCUS (LPIL)	0.51	0.55		0.53		0.02	8.6		
0	DINOBRYON SERTULARIA	0.05	0.96		0.50		0.46	8.2		
0	KEPHYRION (LPIL)	0.00	0.00		0.00		0.00	0.0		
0	BACILLARIOPHYTA-PENNATE	6.73	0.48		3.60		3.13	58.7		
0	FRAGILARIALES									
0	FRAGILARIA (LPIL)	0.0	0.11		0.05		0.05	0.9		
0	TABELLARIA FLOCCULOSA	0.0	0.04		0.02		0.02	0.3		
0	NAVICULALES									
0	NEIDIUM (LPIL)	1.84	0.0		0.92		0.92	15.0		
0	BACILLARIALES									
0	NITZCHIA (LPIL)	4.71	0.0		2.35		2.35	38.4		
0	BACILLARIOPHYTA-PENNATE (LPIL)	0.18	0.33		0.26		0.38	4.2		
0	CRYPTOPHYTA	0.0	0.16		0.08		0.08	1.3		
0	CRYPTOMONADALES									
0	CRYPTOMONAS (LPIL)	0.0	0.12		0.06		0.06	0.9		
0	RHODOMONAS MINUTA	0.0	0.00		0.00		0.00	0.0		
0	CHROOMONAS (LPIL)	0.0	0.04		0.02		0.02	0.3		
	TOTAL	9.54	2.73		6.14		3.40	100.0		
	DIVERSITY (H PRIME)	2.20	2.76		2.48		0.28			

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BAILEY GENERATING PLANT

PHYTOPLANKTON BIOVOLUME

MICROLITERS PER LITER

REPLICATE REPORT

LS	TAXA	1	2	-	S.E.	REL
				X		ABZ
DIVERSITY (J PRIME)		0.64	0.73	0.68	0.04	
NUMBER OF TAXA		11	14	19		

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BAILEY GENERATING PLANT

PHYTOPLANKTON BIOVOLUME

MICROLITERS PER LITER

STATION REPORT

LS	TAXA	17	18	- X	S.E.	REL AB%
0	CYANOPHYTA	0.00	0.00	0.00	0.00	0.1
0	OSCILLATORIACEAE					
0	OSCILLATORIA (LPIL)	0.00	0.0	0.00	0.00	0.0
0	NOSTOCACEAE					
0	ANABAENA (LPIL)	0.0	0.00	0.00	0.00	0.0
0	CHLOOPHYTA	0.85	1.35	1.10	0.25	21.8
0	CHLOROCOCCALES					
0	OOCYSTIS (LPIL)	0.0	0.02	0.01	0.01	0.2
0	SCENEDESMUS QUADRICAUDA	0.39	0.20	0.29	0.10	5.9
0	SCENEDESMUS ECORNIS	0.03	0.02	0.02	0.01	0.5
0	SCENEDESMUS SPINOSUS	0.00	0.00	0.00	0.00	0.1
0	PEDIASTRUM DUPLEX	0.0	0.51	0.25	0.25	5.0
0	TETRAEDRON CAUDATUM	0.02	0.0	0.01	0.01	0.2
0	OEDOGONIALES					
0	OEDOGONIUM (LPIL)	0.21	0.0	0.17	0.10	2.1
0	ZYGHEMATALES					
0	MOUGEOTIA (LPIL)	0.07	0.61	0.34	0.27	6.8
0	CLOSTERIUM MONILIFERUM	0.06	0.0	0.03	0.03	0.6
0	STAUSTRUM (LPIL)	0.06	0.0	0.03	0.03	0.6
0	EUGLENOPHYTA	0.15	0.07	0.11	0.04	2.1
0	EUGLENALES					
0	TRACHELONAS (LPIL)	0.15	0.07	0.11	0.04	2.1
0	CHRYSOPHYTA	1.64	1.03	1.34	0.30	26.6
0	CHRYSOMONADALES					
0	CHRYSOCOCCUS (LPIL)	0.13	0.53	0.33	0.20	6.5
0	DINOBRYON SERTULARIA	1.46	0.50	0.98	0.48	19.5
0	EPIPYXIS UTRICULUS	0.06	0.0	0.03	0.03	0.6
0	KEPHYRION (LPIL)	0.00	0.00	0.00	0.00	0.0
0	BACILLARIOPHYTA-PENNATE	0.84	3.60	2.22	1.38	44.1
0	FRAGILARIALES					
0	FRAGILARIA (LPIL)	0.0	0.05	0.03	0.03	0.5
0	TABELLARIA FLOCCULOSA	0.72	0.02	0.37	0.35	7.4
0	ACHNANTHALES					
0	ACHNANTHES MINUTISSIMA	0.01	0.0	0.00	0.00	0.1
0	ACHNANTHES (LPIL)	0.00	0.0	0.00	0.00	0.0
0	NAVICULALES					
0	NEIDIUM (LPIL)	0.0	0.92	0.46	0.46	9.1
0	BACILLARIALES					
0	NITZCHIA (LPIL)	0.0	2.35	1.1	1.18	23.4
0	SURIRELLALES					
0	SURIRELLA (LPIL)	0.08	0.0	0.04	0.04	0.8
0	BACILLARIOPHYTA-PENNATE (LPIL)	0.03	0.26	0.14	0.11	2.8

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BAILEY GENERATING PLANT

PHYTOPLANKTON BIOVOLUME

MICROLITERS PER LITER

STATION REPORT

LS	TAXA	17	18	- X	S.E.	REL AB%
0	CRYPTOPHYTA	0.44	0.08	0.26	0.18	5.2
0	CRYPTOMONADALES					
0	CRYPTOMONAS (LPIL)	0.40	0.06	0.23	0.17	4.6
0	RHODOMONAS MINUTA	0.01	0.00	0.00	0.00	0.1
0	CHROOMONAS (LPIL)	0.04	0.02	0.03	0.01	0.5
	TOTAL	3.93	6.14	5.03	1.10	100.0
	DIVERSITY (H PRIME)	2.26	2.48	2.27	0.11	
	DIVERSITY (J PRIME)	0.60	0.68	0.64	0.04	
	NUMBER OF TAXA	22	19	28		

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PHYTOPLANKTON BIOVOLUME

MICROLITERS PER LITER

STATION REPORT

LS	TAXA	18	X	S.E.	REL AB%
0	CYANOPHYTA	0.00	0.00	-1.00	0.1
0	OSCILLATORIACEAE				
0	OSCILLATORIA (LPIL)	0.00	0.00	-1.00	0.0
0	NOSTOCACEAE				
0	ANABAENA (LPIL)	0.00	0.00	-1.00	0.0
0	CHLOROPHYTA	1.10	1.10	-1.00	21.8
0	CHLOROCOCCALES				
0	OOCYSTIS (LPIL)	0.01	0.01	-1.00	0.2
0	SCENEDESMUS QUADRICAUDA	0.29	0.29	-1.00	5.9
0	SCENEDESMUS ECORNIS	0.02	0.02	-1.00	0.5
0	SCENEDESMUS SPINOSUS	0.00	0.00	-1.00	0.1
0	PEDIASTRUM DUPLEX	0.25	0.25	-1.00	5.0
0	TETRAEDRON CAUDATUM	0.01	0.01	-1.00	0.2
0	OEDOGONIALES				
0	OEDOGONIUM (LPIL)	0.10	0.10	-1.00	2.1
0	ZYGHEMATALES				
0	MOUGEOTIA (LPIL)	0.34	0.34	-1.00	6.8
0	CLOSTERIUM MONILIFERUM	0.03	0.03	-1.00	0.6
0	STAUSTRUM (LPIL)	0.03	0.03	-1.00	0.6
0	EUGLENOPHYTA	0.11	0.11	-1.00	2.1
0	EUGLENALES				
0	TRACHELOMONAS (LPIL)	0.11	0.11	-1.00	2.1
0	CHRYSTOPHYTA	1.34	1.34	-1.00	26.6
0	CHRYSOMONADALES				
0	CHRYSOCOCCUS (LPIL)	0.33	0.33	-1.00	6.5
0	DINOBRYON SERTULARIA	0.98	0.98	-1.00	19.5
0	EPIPXYIS UTRICULUS	0.03	0.03	-1.00	0.6
0	KEPHYRION (LPIL)	0.00	0.00	-1.00	0.0
0	BACILLARIOPHYTA-PENNATE	2.22	2.22	-1.00	44.1
0	FRAGILARIALES				
0	FRAGILARIA (LPIL)	0.03	0.03	-1.00	0.5
0	TABELLARIA FLOCCULOSA	0.37	0.37	-1.00	7.4
0	ACHNANTHALES				
0	ACHNANTHES MINUTISSIMA	0.00	0.00	-1.00	0.1
0	ACHNANTHES (LPIL)	0.00	0.00	-1.00	0.0
0	NAVICULALES				
0	NEIDIUM (LPIL)	0.46	0.46	-1.00	9.1
0	BACILLARIALES				
0	NITZCHIA (LPIL)	1.18	1.18	-1.00	23.4
0	SURIRELLALES				
0	SURIRELLA (LPIL)	0.04	0.04	-1.00	0.8
0	BACILLARIOPHYTA-PENNATE (LPIL)	0.14	0.14	-1.00	2.8

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BAILEY GENERATING PLANT

PHYTOPLANKTON BIOVOLUME

MICROLITERS PER LITER

STATION REPORT

LS	TAXA		- X	S.E.	REL AB%
		18			
0	CRYPTOPHYTA	0.26	0.26	-1.00	5.2
0	CRYPTOMONADALES				
0	CRYPTONOMAS (LPIL)	0.23	0.23	-1.00	4.6
0	RHODONOMAS MINUTA	0.00	0.00	-1.00	0.1
0	CHROMONOMAS (LPIL)	0.03	0.03	-1.00	0.5
TOTAL		5.03	5.03	-1.00	100.0
DIVERSITY (H PRIME)		2.37	2.37	-1.00	
DIVERSITY (J PRIME)		0.64	0.64	-1.00	
NUMBER OF TAXA		28	28		

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BAILEY GENERATING PLANT

PHYTOPLANKTON BIOVOLUME

MICROLITERS PER LITER

PEPLICATE REPORT

PC TC GC LOC
5 56 56 1 2 00

SID	DATE	TIME	D/H	DURATION			SP	WD	TOW			SP	D	SAMP VOL			WIND			CURRENT			TEMP			BT	TURBO	COND	DO	PH	SALN	P
				UNITS	C	0			UNITS	C	SECH			WT	SC	DI	CL	SP	DI	AIR	WAT											
191	4/20/80	1055	0	0.0	0	1.0	1.0	0.0	0	2.0	4	1.0	8	0	4	1	5	0.0	0	178.1	9.5	0	0.0	0	8.5	0.0	0.0	0	0.0	0.0		
192	4/20/80	1055	0	0.0	0	1.0	1.0	0.0	0	2.0	4	1.0	8	0	4	1	5	0.0	0	17.8	19.5	0	0.0	0	8.5	0.0	0.0	0	0.0	0.0		

LS	TAXA	REL		S.E.	AB%
		1	2		
0	CYANOPHYTA	0.00	0.0	0.00	0.00 0.0
0	CHROOCOCCACEAE				
0	AGHEHELLUM (LPIL)	0.00	0.0	0.00	0.00 0.0
0	CHLOROPHYTA	0.09	0.09	0.09	0.00 0.9
0	VOLVOCALES				
0	CHLAMYDOMONAS (LPIL)	0.06	0.07	0.07	0.00 0.7
0	CHLOROCOCCALES				
0	ANKISTRODESMUS FALCATUS	0.0	0.01	0.00	0.00 0.0
0	SCENEDESMUS QUADRICAUDA	0.0	0.01	0.01	0.01 0.1
0	SCENEDESMUS ECORNIS	0.03	0.0	0.01	0.01 0.1
0	EUGLENOPHYTA	0.96	0.56	0.76	0.20 7.9
0	EUGLENALES				
0	TRACHELONONAS VOLVOCIHA	0.12	0.11	0.12	0.00 1.2
0	TRACHELONONAS (LPIL)	0.84	0.45	0.64	0.19 6.7
0	CHRYSTOPHYTA	6.84	5.08	6.36	0.48 65.8
0	CHRYSONOMADALES				
0	CHRYSOCOCCUS (LPIL)	0.07	0.01	0.04	0.03 0.4
0	DINOBRYON SERTULARIA	6.39	5.48	5.93	0.46 61.4
0	DINOBRYON DIVERGENS	0.0	0.18	0.09	0.09 0.9
0	OCHROMONAS (LPIL)	0.37	0.21	0.29	0.08 3.0
0	KEPHYRION (LPIL)	0.01	0.00	0.00	0.00 0.1
0	BACILLARIOPHYTA-PENNATE	0.16	0.33	0.25	0.09 2.5
0	FRAGILARIALES				
0	FRAGILARIA (LPIL)	0.09	0.0	0.04	0.04 0.5
0	TABELLARIA FLOCCULOSA	0.0	0.33	0.17	0.17 1.7
0	BACILLARIOPHYTA-PENNATE (LPIL)	0.07	0.0	0.03	0.03 0.4
0	PYRRHOPHYTA-DINOPHYCEAE	1.84	1.74	1.79	0.05 18.5
0	PERIDINIALES				
0	PERIDINIUM INCONSPICUUM	1.08	1.74	1.41	0.33 14.6
0	PERIDINIUM CINCLUM	0.75	0.0	0.7	0.38 3.9
0	CRYPTOPHYTA	0.27	0.58	0.42	0.16 4.4
0	CRYPTONOMADALES				
0	CRYPTONOMAS (LPIL)	0.24	0.54	0.39	0.15 4.1
0	CHROOMONAS (LPIL)	0.03	0.03	0.03	0.00 0.3
TOTAL		10.15	9.17	9.66	0.49 100.0
DIVERSITY (H PRIME)		1.98	1.95	1.97	0.01

NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

PHYTOPLANKTON BIOVOLUME

MICROLITERS PER LITER

REPLICATE REPORT

LS	TAXA	1	2	-	S.E.	REL
				X		AB%
DIVERSITY (J PRIME)		0.51	0.51	0.51	0.00	
NUMBER OF TAXA		15	14	19		

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

PHYTOPLANKTON BIOVOLUME

MICROLITERS PER LITER

REPLICATE REPORT

PC TC GC LOC
5 56 56 1 2 00

SID	DATE	TIME	D/N	DURATION			TOW				SAMP VOL				WIND			CURRENT			TEMP		BT	TURBD	COND	DO	PH	SALN	P		
				UNITS	C	SD	WD	SP	D	UNITS	C	SECH	W	T	SC	DI	CL	SP	DI	AIR	WAT										
201	4/20/80	1055	0	0.0	0	1.0	1.0	0.0	0	2.0	4	1.0	8	0	4	1	5	0.0	0	17.8	19.5	0	0.0	0	8.7	0.0	0.0	0			
202	4/20/80	1055	0	0.0	0	1.0	1.0	0.0	0	2.0	4	1.0	8	0	4	1	5	0.0	0	17.8	19.5	0	0.0	0	8.7	0.0	0.0	0			
LS																										-	REL				
	TAXA																										X	S.E.	AB%		
																											1	2			
0	CYANOPHYTA																										0.0	0.01	0.01	0.01	0.1
0	NOSTOCACEAE																														
0	ANABAENA (LPIL)																										0.0	0.01	0.01	0.01	0.1
0	CHLOROPHYTA																										0.12	0.07	0.10	0.02	1.1
0	VOLVOCALES																														
0	CHLAMYDOMONAS (LPIL)																										0.11	0.06	0.08	0.02	1.0
0	CHLOROCOCCALES																														
0	ANKISTRODESMUS FALCATUS																										0.0	0.00	0.00	0.00	0.0
0	SCENEDESMUS ACUTUS																										0.0	0.01	0.00	0.00	0.0
0	SCENEDESMUS QUADRICAUDA																										0.01	0.0	0.01	0.01	0.1
0	EUGLENOPHYTA																										2.08	0.63	1.35	0.72	15.9
0	EUGLENALES																														
0	TRACHELOMONAS VOLVOCINA																										0.35	0.0	0.18	0.18	2.1
0	TRACHELOMONAS (LPIL)																										1.72	0.63	1.18	0.55	13.8
0	CHRYSOPHYTA																										2.53	4.73	3.63	1.10	42.7
0	CHRYSONOMADALES																														
0	CHRYSOCOCCLUS (LPIL)																										0.01	0.05	0.03	0.02	0.3
0	SYNCRYPTA (LPIL)																										0.18	0.0	0.09	0.09	1.0
0	DINOBRYON SERTULARIA																										1.31	4.08	2.69	1.38	31.7
0	DINOBRYON (LPIL)																										0.17	0.0	0.09	0.09	1.0
0	OCHROMONAS (LPIL)																										0.76	0.61	0.69	0.08	0.1
0	EPIPYXIS UTRICULUS																										0.09	0.0	0.04	0.04	0.5
0	KEPHYRION (LPIL)																										0.00	0.00	0.00	0.00	0.0
0	BACILLARIOPHYTA-PENNATE																										0.0	0.06	0.03	0.03	0.4
0	BACILLARIALES																														
0	NITZSCHIA (LPIL)																										0.0	0.02	0.01	0.01	0.1
0	BACILLARIOPHYTA-PENNATE (LPIL)																										0.0	0.05	0.02	0.02	0.3
0	PYRRHOPHYTA-DINOPHYCEAE																										2.32	3.34	2.83	0.51	33.3
0	PERIDINIALES																														
0	PERIDINIUM INCONSPICUUM																										2.32	1.00	1.66	0.66	19.6
0	PERIDINIUM CINCTUM																										0.0	2.34	1.17	1.17	13.7
0	CRYPTOPHYTA																										0.85	0.25	0.55	0.30	6.5
0	CRYPTONOMODALES																														
0	CRYPTONONAS (LPIL)																										0.85	0.24	0.54	0.31	6.4
0	CHROMONAS (LPIL)																										0.0	0.02	0.01	0.01	0.1
TOTAL																										7.00	9.10	8.50	0.60	100.0	

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

PHYTOPLANKTON BIOVOLUME

MICROLITERS PER LITER

REPLICATE REPORT

TAXA	1	2	-	S.E.	REL
			X		ABZ
DIVERSITY (H PRIME)	2.73	2.22	2.48	0.25	
DIVERSITY (J PRIME)	0.74	0.57	0.65	0.08	
NUMBER OF TAXA	13	15	20		

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

PHYTOPLANKTON BIOVOLUME

MICROLITERS PER LITER

STATION REPORT

LS	TAXA	19	20	X	S.E.	REL AB%
0	CYANOPHYTA	0.00	0.01	0.00	0.00	0.0
0	CHROOCOCCACEAE					
0	AGHENELLUM (LPIL)	0.00	0.0	0.00	0.00	0.0
0	NOSTOCACEAE					
0	ANABAENA (LPIL)	0.0	0.01	0.00	0.00	0.0
0	CHLOROPHYTA	0.09	0.10	0.09	0.00	1.0
0	VOLVOCALES					
0	CHLAMYDOMONAS (LPIL)	0.07	0.08	0.08	0.01	0.8
0	CHLOROCOCCALES					
0	ANKISTRODESMUS FALCATUS	0.00	0.00	0.00	0.00	0.0
0	SCENEDESMUS ACUTUS	0.0	0.00	0.00	0.00	0.0
0	SCENEDESMUS QUADRICAUDA	0.01	0.01	0.01	0.00	0.1
0	SCENEDESMUS EORNIS	0.01	0.0	0.01	0.01	0.1
0	EUGLENOPHYTA	0.76	1.35	1.06	0.29	11.6
0	EUGLENALES					
0	TRACHELOMONAS VOLVOCIHA	0.12	0.18	0.15	0.03	1.6
0	TRACHELOMONAS (LPIL)	0.64	1.18	0.91	0.27	10.0
0	CHRYSOPHYTA	6.36	3.63	5.00	1.36	55.0
0	CHRYSONOMADALES					
0	CHRYSOCOCCUS (LPIL)	0.04	0.03	0.03	0.01	0.4
0	SYNCRYPTA (LPIL)	0.0	0.09	0.04	0.04	0.5
0	DINOBRYON SERTULARIA	5.93	2.69	4.31	1.62	47.5
0	DINOBRYON DIVERGENS	0.09	0.0	0.05	0.05	0.5
0	DINOBRYON (LPIL)	0.0	0.09	0.04	0.04	0.5
0	OCHROMONAS (LPIL)	0.29	0.67	0.49	0.20	5.4
0	EPIPXYIS UTRICULUS	0.0	0.04	0.02	0.02	0.2
0	KEPHYRION (LPIL)	0.00	0.00	0.00	0.00	0.0
0	BACILLARIOPHYTA-PENNATE	0.25	0.03	0.14	0.11	1.5
0	FRAGILARIALES					
0	FRAGILARIA (LPIL)	0.04	0.0	0.02	0.02	0.2
0	TABELLARIA FLOCCULOSA	0.17	0.0	0.08	0.08	0.9
0	BACILLARIALES					
0	NITZCHIA (LPIL)	0.0	0.01	0.00	0.00	0.0
0	BACILLARIOPHYTA-PENNATE (LPIL)	0.03	0.02	0.03	0.01	0.3
0	PYRRHOPHYTA-DINOPHYCEAE	1.79	2.83	2.31	0.52	25.4
0	PERIDINIALES					
0	PERIDINIUM INCONSPICUUM	1.41	1.66	1.54	0.13	16.9
0	PERIDINIUM CINCTUM	0.38	1.17	0.77	0.40	8.5
0	CRYPTOPHYTA	0.42	0.55	0.49	0.07	5.4
0	CRYPTOMONADALES					
0	CRYPTOMONAS (LPIL)	0.39	0.54	0.47	0.08	5.2
0	CHROMONAS (LPIL)	0.03	0.01	0.02	0.01	0.2

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

PHYTOPLANKTON BIOVOLUME

MICROLITERS PER LITER

STATION REPORT

LS	TAXA			-		REL
		19	20	X	S.E.	ABX
TOTAL		9.66	8.50	9.08		0.58 100.0
DIVERSITY (H PRIME)		1.97	2.48	2.22		0.26
DIVERSITY (J PRIME)		0.51	0.65	0.58		0.07
NUMBER OF TAXA		19	20	25		

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

PHYTOPLANKTON BIOVOLUME

MICROLITERS PER LITER

STATION REPORT

LS	TAXA	20	- X	S.E.	REL ABZ
0	CYANOPHYTA	0.00	0.00	-1.00	0.0
0	CHROCOCCACEAE				
0	AGNEHELLUM (LPIL)	0.00	0.00	-1.00	0.0
0	NOSTOCACEAE				
0	ANABAENA (LPIL)	0.00	0.00	-1.00	0.0
0	CHLOROPHYTA	0.09	0.09	-1.00	1.0
0	VOLVOCALES				
0	CHLANYDOMONAS (LPIL)	0.08	0.08	-1.00	0.8
0	CHLOROCOCCALES				
0	ANKISTRODESMUS FALCATUS	0.00	0.00	-1.00	0.0
0	SCENEDESMUS ACUTUS	0.00	0.00	-1.00	0.0
0	SCENEDESMUS QUADRICAUDA	0.01	0.01	-1.00	0.1
0	SCENEDESMUS ECORNIS	0.01	0.01	-1.00	0.1
0	EUGLENOPHYTA	1.06	1.06	-1.00	11.6
0	EUGLENALES				
0	TRACHELOMONAS VOLVOCINA	0.15	0.15	-1.00	1.6
0	TRACHELOMONAS (LPIL)	0.91	0.91	-1.00	10.0
0	CHRYSOPHYTA	5.00	5.00	-1.00	55.0
0	CHRYSONOMADALES				
0	CHRYSOCOCCLUS (LPIL)	0.03	0.03	-1.00	0.4
0	SYNCRYPTA (LPIL)	0.04	0.04	-1.00	0.5
0	DINOBRYON SERTULARIA	4.31	4.31	-1.00	47.5
0	DINOBRYON DIVERGENS	0.05	0.05	-1.00	0.5
0	DINOBRYON (LPIL)	0.04	0.04	-1.00	0.5
0	OCHROMONAS (LPIL)	0.49	0.49	-1.00	5.4
0	EPIPYXIS UTRICULUS	0.02	0.02	-1.00	0.2
0	KEPHYRION (LPIL)	0.00	0.00	-1.00	0.0
0	BACILLARIOPHYTA-PENNATE	0.14	0.14	-1.00	1.5
0	FRAGILARIALES				
0	FRAGILARIA (LPIL)	0.02	0.02	-1.00	0.2
0	TABELLARIA FLOCCULOSA	0.08	0.08	-1.00	0.9
0	BACILLARIALES				
0	NITZCHIA (LPIL)	0.00	0.00	-1.00	0.0
0	BACILLARIOPHYTA-PENNATE (LPIL)	0.03	0.03	-1.00	0.3
0	PYRRHOPHYTA-DINOPHYCEAE	2.31	2.31	-1.00	25.4
0	PERIDINIALES				
0	PERIDINIUM INCONSPICUUM	1.54	1.54	-1.00	16.9
0	PERIDINIUM CINCTUM	0.77	0.77	-1.00	8.5
0	CRYPTOPHYTA	0.49	0.49	-1.00	5.4
0	CRYPTOMONADALES				
0	CRYPTOMONAS (LPIL)	0.47	0.47	-1.00	5.2
0	CHROONONAS (LPIL)	0.02	0.02	-1.00	0.2

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

PHYTOPLANKTON BIOVOLUME

MICROLITERS PER LITER

STATION REPORT

LS	TAXA								
			20			-		REL	
						X	S.E.	AB%	
TOTAL			9.08			9.08	-1.00	100.0	
DIVERSITY (H PRIME)			2.22			2.22	-1.00		
DIVERSITY (J PRIME)			0.58			0.58	-1.00		
NUMBER OF TAXA			25			25			

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

PHYTOPLANKTON BIOVOLUME

MICROLITERS PER LITER

REPLICATE REPORT

PC TC GC LOC
5 56 56 1 3 00

SID	DATE	TIME	D/H	DURATION		SD	WD	TOW				WIND			CURRENT			TEMP			BT	TURBD	COND	DO	PH	SALN	P	
				UNITS	C			SP	D	UNITS	C	SECH	WT	SC	DI	CL	SP	DI	AIR	WAT								WT
211	4/20/80	1327	0	0.0	0	1.0	1.0	0.0	0	2.0	4	1.0	8	0	4	1	5	0.0	0	17.8	19.0	0	0.0	0	12.0	0.0	0.0	0
212	4/20/80	1327	0	0.0	0	1.0	1.0	0.0	0	2.0	4	1.0	8	0	4	1	5	0.0	0	178.1	90.1	0	0.0	0	12.0	0.0	0.0	0

LS	TAXA	REL		S.E.	AB%
		1	2		
0	CYANOPHYTA	0.14	0.02	0.08	0.06 0.2
0	OSCILLATORIACEAE				
0	OSCILLATORIA (LPIL)	0.12	0.0	0.06	0.06 0.2
0	NOSTOCACEAE				
0	ANABAENA (LPIL)	0.0	0.02	0.01	0.01 0.0
0	RIVULARIACEAE				
0	RAPHIDIOPSIS CURVATA	0.02	0.0	0.01	0.01 0.0
0	CHLOROPHYTA	21.09	3.10	12.09	8.99 32.1
0	OEDOGONIALES				
0	OEDOGONIUM (LPIL)	1.32	0.0	0.66	0.66 1.7
0	ZYGHEMATALES				
0	SPIROGYRA (LPIL)	19.77	0.0	9.88	9.88 26.2
0	CLOSTERIUM (LPIL)	0.0	3.10	1.55	1.55 4.1
0	EUGLENOPHYTA	0.88	0.09	0.48	0.39 1.3
0	EUGLENALES				
0	TRACHELOMONAS (LPIL)	0.88	0.09	0.48	0.39 1.3
0	CHRYSOPHYTA	0.00	0.0	0.00	0.00 0.0
0	CHRYSOMONADALES				
0	CHRYSOCOCCUS (LPIL)	0.00	0.0	0.00	0.00 0.0
0	BACILLARIOPHYTA-CENTRIC	0.0	0.48	0.24	0.24 0.6
0	EUPODISCALES				
0	MELOSIRA (LPIL)	0.0	0.48	0.24	0.24 0.6
0	BACILLARIOPHYTA-PENNATE	47.32	2.10	24.71	22.61 65.5
0	FRAGILARIALES				
0	FRAGILARIA CROTONENSIS	0.59	0.0	0.30	0.30 0.8
0	FRAGILARIA (LPIL)	2.44	1.46	1.95	0.49 5.2
0	SYNEDRA (LPIL)	5.29	0.25	2.77	2.52 7.3
0	NAVICULALES				
0	NAVICULA (LPIL)	0.74	0.28	0.51	0.23 1.4
0	NEIDIUM (LPIL)	0.38	0.0	0.19	0.19 0.5
0	PINNULARIA (LPIL)	36.88	0.0	18.44	18.44 48.9
0	GOMPHONEMA (LPIL)	0.39	0.0	0.19	0.19 0.5
0	AMPHORA (LPIL)	0.0	0.10	0.05	0.05 0.1
0	EYTHEMIALES				
0	RHOPOLODIA GIBBA	0.21	0.0	0.11	0.11 0.3
0	BACILLARIOPHYTA-PENNATE (LPIL)	0.39	0.0	0.20	0.20 0.5

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

DAILEY GENERATING PLANT

PHYTOPLANKTON BIOVOLUME

MICROLITERS PER LITER

REPLICATE REPORT

LS	TAXA	1	2	-	S.E.	REL
				X		AB%
0	PYRRHOPHYTA-DINOPHYCEAE	0.25	0.0	0.12	0.12	0.3
0	PERIDINIALES					
0	PERIDINIUM INCONSPICUUM	0.25	0.0	0.12	0.12	0.3
TOTAL		69.67	5.78	37.73	31.94	100.0
DIVERSITY (H PRIME)		1.97	1.91	1.94	0.03	
DIVERSITY (J PRIME)		0.49	0.64	0.56	0.07	
NUMBER OF TAXA		16	8	20		

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

PHYTOPLANKTON BIOVOLUME

MICROLITERS PER LITER

STATION REPORT

TAXA		-	S.E.	REL
	21	X		AB%
0 CYANOPHYTA	0.08	0.08	-1.00	0.2
0 OSCILLATORIACEAE				
0 OSCILLATORIA (LPIL)	0.06	0.06	-1.00	0.2
0 NOSTOCACEAE				
0 ANABAENA (LPIL)	0.01	0.01	-1.00	0.0
0 RIVULARIACEAE				
0 RAPHIDIOPSIS CURVATA	0.01	0.01	-1.00	0.0
0 CHLOROPHYTA	12.09	12.09	-1.00	32.1
0 OEDOGONIALES				
0 OEDOGONIUM (LPIL)	0.66	0.66	-1.00	1.7
0 ZYGHEMATALES				
0 SPIROGYRA (LPIL)	9.88	9.88	-1.00	26.2
0 CLOSTERIUM (LPIL)	1.55	1.55	-1.00	4.1
0 EUGLENOPHYTA	0.48	0.48	-1.00	1.3
0 EUGLENALES				
0 TRACHELOMONAS (LPIL)	0.48	0.48	-1.00	1.3
0 CHRYSOPHYTA	0.00	0.00	-1.00	0.0
0 CHRYSOMONADALES				
0 CHRYSOCOCCUS (LPIL)	0.00	0.00	-1.00	0.0
0 BACILLARIOPHYTA-CENTRIC	0.24	0.24	-1.00	0.6
0 EUPODISCALES				
0 MELOSIRA (LPIL)	0.24	0.24	-1.00	0.6
0 BACILLARIOPHYTA-PENNATE	24.71	24.71	-1.00	65.5
0 FRAGILARIALES				
0 FRAGILARIA CROTONENSIS	0.30	0.30	-1.00	0.8
0 FRAGILARIA (LPIL)	1.95	1.95	-1.00	5.2
0 SYNEDRA (LPIL)	2.77	2.77	-1.00	7.3
0 HAVICULALES				
0 NAVICULA (LPIL)	0.51	0.51	-1.00	1.4
0 HEIDIUM (LPIL)	0.19	0.19	-1.00	0.5
0 PINNULARIA (LPIL)	18.44	18.44	-1.00	48.9
0 GOMPHONEMA (LPIL)	0.19	0.19	-1.00	0.5
0 AMPHORA (LPIL)	0.05	0.05	-1.00	0.1
0 EPITHEMIALES				
0 RHODOLODIA GIBBA	0.11	0.11	-1.00	0.3
0 BACILLARIOPHYTA-PENNATE (LPIL)	0.20	0.20	-1.00	0.5
0 PYRRHOPHYTA-DINOPHYCEAE	0.12	0.12	-1.00	0.3
0 PERIDINIALES				
0 PERIDINIUM INCONSPICUUM	0.12	0.12	-1.00	0.3
TOTAL	37.73	37.73	-1.00	100.0
DIVERSITY (H PRIME)	1.94	1.94	-1.00	
DIVERSITY (J PRIME)	0.56	0.56	-1.00	

NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

PHYTOPLANKTON BIOVOLUME

MICROLITERS PER LITER

STATION REPORT

LS TAXA

21
20

-
X

S.E. REL
ABZ

NUMBER OF TAXA

20

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

PHYTOPLANKTON BIOVOLUME

MICROLITERS PER LITER

STATION REPORT

LS	TAXA		-	REL
		21	X	AB%
			S.E.	
0	CYANOPHYTA	0.08	0.08	-1.00 0.2
0	OSCILLATORIACEAE			
0	OSCILLATORIA (LPIL)	0.06	0.06	-1.00 0.2
0	NOSTOCACEAE			
0	ANABAENA (LPIL)	0.01	0.01	-1.00 0.0
0	RIVULARIACEAE			
0	RAPHIIDOPSIS CURVATA	0.01	0.01	-1.00 0.0
0	CHLOROPHYTA	12.09	12.09	-1.00 32.1
0	OEDOGONIALES			
0	OEDOGONIUM (LPIL)	0.66	0.66	-1.00 1.7
0	ZYGNEMATALES			
0	SPIROGYRA (LPIL)	9.88	9.88	-1.00 26.2
0	CLOSTERIUM (LPIL)	1.55	1.55	-1.00 4.1
0	EUGLENOPHYTA	0.48	0.48	-1.00 1.3
0	EUGLENALES			
0	TRACHELONONAS (LPIL)	0.48	0.48	-1.00 1.3
0	CHRYSOPHYTA	0.00	0.00	-1.00 0.0
0	CHRYSOMONADALES			
0	CHRYSOCOCCUS (LPIL)	0.00	0.00	-1.00 0.0
0	BACILLARIOPHYTA-CENTRIC	0.24	0.24	-1.00 0.6
0	EUPODISCALES			
0	MELOSIRA (LPIL)	0.24	0.24	-1.00 0.6
0	BACILLARIOPHYTA-PENNATE	24.71	24.71	-1.00 65.5
0	FRAGILARIALES			
0	FRAGILARIA CROTONENSIS	0.30	0.30	-1.00 0.8
0	FRAGILARIA (LPIL)	1.95	1.95	-1.00 5.2
0	SYNEDRA (LPIL)	2.77	2.77	-1.00 7.3
0	NAVICULALES			
0	NAVICULA (LPIL)	0.51	0.51	-1.00 1.4
0	NEIDIUM (LPIL)	0.19	0.19	-1.00 0.5
0	PINNULARIA (LPIL)	18.44	18.44	-1.00 48.9
0	GOMPHONEMA (LPIL)	0.19	0.19	-1.00 0.5
0	AMPHORA (LPIL)	0.05	0.05	-1.00 0.1
0	EPITHEMIALES			
0	RHOPLODIA GIBBA	0.11	0.11	-1.00 0.3
0	BACILLARIOPHYTA-PENNATE (LPIL)	0.20	0.20	-1.00 0.5
0	PYRRHOPHYTA-DINOPHYCEAE	0.12	0.12	-1.00 0.3
0	PERIDINIALES			
0	PERIDINIUM INCONSPICUUM	0.12	0.12	-1.00 0.3
TOTAL		37.73	37.73	-1.00 100.0
DIVERSITY (H PRIME)		1.94	1.94	-1.00
DIVERSITY (J PRIME)		0.56	0.56	-1.00

NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

PHYTOPLANKTON BIOVOLUME

MICROLITERS PER LITER

STATION REPORT

LS TAXA 21 - X S.E. REL

NUMBER OF TAXA 20 20 ABZ

ABOVE COMPUTED USING SAMPLE IDS
211 212

DATE 07/15/80
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T600AQUA 9/28/77



APPENDIX C
PERIPHYTON DENSITY REPLICATE REPORTS,
BAILLY STUDY AREA, APRIL 1980

NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

PERIPHYTON DENSITY

DENSITY IN NUMBER / SQUARE CENTIMETER

REPLICATE REPORT

PC TC CC LOC
5 66 66 0 0 10

SID	DATE	TIME	DURATION			TOW			SAMP VOL			WIND		CURRENT			TEMP		BT	TURBD	COND	DO	PH	SALN P
			D/N	UNITS	C	SD	WD	SP	D	UNITS	C	SECH	WT	SC	DI	CL	SP	DI						
11	4/19/80	0 0	0.0	0	0.0	4.6	0.0	0	0.0	0	0.0	0	0	0	0.0	0	0.0	0.0	0	0.0	0	0.0	0.0	0.0
12	4/19/80	0 0	0.0	0	0.0	4.6	0.0	0	0.0	0	0.0	0	0	0	0.0	0	0.0	0.0	0	0.0	0	0.0	0.0	0.0

LS TAXA
REL
X S.E. AD%

	1	2			
0 CYANOPHYTA	1578821.00	13140903.0		7359862.00	5781041.00 74.0
0 PLEUROCAPSACEAE					
0 PLEUROCAPSA (LPIL)	0.0	7640487.00		3820243.00	3820243.00 38.4
0 OSCILLATORIACEAE					
0 LYNGBYA LIMNETICA	1222314.00	5500416.00		3361365.00	2139051.00 33.8
0 LYNGBYA (LPIL)	305578.69	0.0		152789.31	152789.31 1.5
0 NOSTOCACEAE					
0 ANABAENA (LPIL)	50929.79	0.0		25464.89	25464.89 0.3
0 CHLOROPHYTA	2801136.00	2302025.00		2551580.00	249555.50 25.6
0 ULOTRICHALES					
0 SCHIZOMERIS (LPIL)	2801136.00	2302025.00		2551580.00	249555.50 25.6
0 BACILLARIOPHYTA-PENNATE	40743.83	40743.83		40743.83	0.0 0.4
0 BACILLARIOPHYTA-PENNATE (LPIL)	40743.83	40743.83		40743.83	0.0 0.4
TOTAL	4420699.00	15483670.0		9952184.00	5531485.00 100.0
DIVERSITY (H PRIME)	1.33	1.46		1.40	0.07
DIVERSITY (J PRIME)	0.57	0.73		0.65	0.08
NUMBER OF TAXA	5	4		6	

ABOVE COMPUTED USING SAMPLE IDS
11 12

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

PERIPHYTON DENSITY

DENSITY IN NUMBER / SQUARE CENTIMETER

STATION REPORT

LS	TAXA		-	S.E.	REL
			X		ASZ
		1			
0	CYANOPHYTA	7359862.00	7359862.00	-1.00	74.0
0	PLEUROCAPSACEAE				
0	PLEUROCAPSA (LPIL)	3820243.00	3820243.00	-1.00	38.4
0	OSCILLATORIACEAE				
0	LYNGBYA LIMNETICA	3361365.00	3361365.00	-1.00	33.8
0	LYNGBYA (LPIL)	152789.31	152789.31	-1.00	1.5
0	NOSTOCACEAE				
0	ANABAENA (LPIL)	25464.89	25464.89	-1.00	0.3
0	CHLOROPHYTA	2551580.00	2551580.00	-1.00	25.6
0	ULOTRICHALES				
0	SCHIZOMERIS (LPIL)	2551580.00	2551580.00	-1.00	25.6
0	BACILLARIOPHYTA-PENNATE	40743.83	40743.83	-1.00	0.4
0	BACILLARIOPHYTA-PENNATE (LPIL)	40743.83	40743.83	-1.00	0.4
	TOTAL	9952184.00	9952184.00	-1.00	100.0
	DIVERSITY (H PRIME)	1.40	1.40	-1.00	
	DIVERSITY (J PRIME)	0.65	0.65	-1.00	
	NUMBER OF TAXA	6	6		

ABOVE COMPUTED USING SAMPLE IDS

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

PERIPHYTON DENSITY

DENSITY IN NUMBER / SQUARE CENTIMETER

REPLICATE REPORT

PC TC GC LOC
5 66 66 0 0 20

SID	DATE	TIME	DURATION			SD	MD	TOW			SAMP VOL			WIND			CURRENT			TEMP			BT	TURBD	COND	DO	PH	SALN	P
			D/N	UNITS	C			SP	D	UNITS	C	SECH	WT	SC	DI	CL	SP	DI	AIR	WAT									
101	4/20/80	0 0	0.0	0	0.0	1.5	0.0	0	0.0	0	0.0	0	0	0	0.0	0	0.0	0.0	0	0.0	0	0.0	0	0.0	0.0	0.0	0.0	0.0	
102	4/20/80	0 0	0.0	0	0.0	1.5	0.0	0	0.0	0	0.0	0	0	0.0	0	0.0	0.0	0	0.0	0	0.0	0	0.0	0.0	0.0	0.0	0.0		

LS TAXA
 - X S.E. ABZ

	1	2			
0 CYANOPHYTA	22755392.0	6741119.00	14748255.0	8007136.00	99.9
0 PLEUROCAPSACEAE					
0 PLEUROCAPSA (LPIL)	1158420.00	0.0	579210.00	579210.00	3.9
0 OSCILLATORIACEAE					
0 OSCILLATORIA (LPIL)	1450543.00	0.0	725271.50	725271.50	4.9
0 LYNGBYA LIMNETICA	11332370.0	0.0	5666185.00	5666185.00	38.4
0 LYNGBYA (LPIL)	2115375.00	4622318.00	3368846.00	1253471.00	22.8
0 RIVULARIACEAE					
0 CALOTHRIX (LPIL)	6698690.00	2118801.00	4408745.00	2289944.00	29.9
0 BACILLARIOPHYTA-PENNATE	20146.44	17226.04	18686.23	1460.20	0.1
0 BACILLARIOPHYTA-PENNATE (LPIL)	20146.44	17226.04	18686.23	1460.20	0.1

TOTAL	22775520.0	6758346.00	14766933.0	8008557.00	100.0
DIVERSITY (H PRIME)	1.82	0.92	1.37	0.45	
DIVERSITY (J PRIME)	0.70	0.58	0.64	0.06	
NUMBER OF TAXA	6	3	6		

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

PERIPHYTON DENSITY

DENSITY IN NUMBER / SQUARE CENTIMETER

STATION REPORT

LS	TAXA		- X	S.E.	REL AB%
		10			
0	CYANOPHYTA	14748255.0	14748255.0	-1.00	99.9
0	PLEUROCAPSACEAE				
0	PLEUROCAPSA (LPIL)	579210.00	579210.00	-1.00	3.9
0	OSCILLATORIACEAE				
0	OSCILLATORIA (LPIL)	725271.50	725271.50	-1.00	4.9
0	LYNGBYA LIMNETICA	5666185.00	5666185.00	-1.00	38.4
0	LYNGBYA (LPIL)	3368846.00	3368846.00	-1.00	22.8
0	RIVULARIACEAE				
0	CALOTHRIX (LPIL)	4408745.00	4408745.00	-1.00	29.9
0	BACILLARIOPHYTA-PENNATE	18686.23	18686.23	-1.00	0.1
0	BACILLARIOPHYTA-PENNATE (LPIL)	18686.23	18686.23	-1.00	0.1
	TOTAL	14766933.0	14766933.0	-1.00	100.0
	DIVERSITY (H PRIME)	1.37	1.37	-1.00	
	DIVERSITY (J PRIME)	0.64	0.64	-1.00	
	NUMBER OF TAXA	6	6		

ABOVE COMPUTED USING SAMPLE IDS

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

PERIPHYTON DENSITY

DENSITY IN NUMBER / SQUARE CENTIMETER

REPLICATE REPORT

PC TC GC LOC
5 66 66 0 0 30

SID	DATE	TIME	DURATION		SD	WD	TOW		SAMP VOL			WIND		CURRENT		TEMP		BT	TURBD	COND	DO	PH	SALN	P
			D/N	UNITS			C	D	SP	D	UNITS	C	SECH	WT	SC	DI	CL							
111	4/19/80	0 0	0.0	0	0.0	3.7	0.0	0	0.0	0	0.0	0	0	0	0.0	0	0.0	0	0.0	0	0.0	0.0	0.0	0
112	4/19/80	0 0	0.0	0	0.0	3.7	0.0	0	0.0	0	0.0	0	0	0	0.0	0	0.0	0	0.0	0	0.0	0.0	0.0	0

LS	TAXA			BT	TURBD	COND	DO	PH	SALN	P
		1	2							
0	CYANOPHYTA	18779264.0	18317968.0	18548608.0		230648.00	97.9			
0	PLEUROCAPSACEAE									
0	PLEUROCAPSA (LPIL)	1300973.00	5465225.00	3385099.00		2082126.00	17.9			
0	OSCILLATORIACEAE									
0	OSCILLATORIA (LPIL)	282820.37	0.0	141410.19		141410.19	0.7			
0	LYNGBYA LIMNETICA	0.0	8804696.00	4402348.00		4402348.00	23.2			
0	LYNGBYA (LPIL)	11066558.0	4048054.00	7567306.00		3519252.00	39.9			
0	RIVULARIACEAE									
0	CALOTHRIX (LPIL)	6108920.00	0.0	3054460.00		3054460.00	16.1			
0	CHLOROPHYTA	297526.87	0.0	148763.44		148763.44	0.8			
0	ULOTRICHALES									
0	ULOTRICHALES (LPIL)	297526.87	0.0	148763.44		148763.44	0.8			
0	BACILLARIOPHYTA-PENNATE	282820.37	217486.50	250153.44		32666.94	1.3			
0	BACILLARIOPHYTA-PENNATE (LPIL)	282820.37	217486.50	250153.44		32666.94	1.3			
	TOTAL	19359552.0	18535408.0	16947472.0		412072.00	100.0			
	DIVERSITY (H PRIME)	1.52	1.58	1.55		0.03				
	DIVERSITY (J PRIME)	0.59	0.79	0.69		0.10				
	NUMBER OF TAXA	6	4	7						

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

PERIPHYTON DENSITY

DENSITY IN NUMBER / SQUARE CENTIMETER

STATION REPORT

LS	TAXA		-	REL
		11	X	S.E. AD%
0	CYANOPHYTA	18548608.0	18548608.0	-1.00 97.9
0	PLEUROCAPSACEAE			
0	PLEUROCAPSA (LPIL)	3383099.00	3383099.00	-1.00 17.9
0	OSCILLATORIA			
0	OSCILLATORIA (LPIL)	141410.19	141410.19	-1.00 0.7
0	LYNGBYA LIMNETICA	4402348.00	4402348.00	-1.00 23.2
0	LYNGBYA (LPIL)	7567306.00	7567306.00	-1.00 39.9
0	RIVULARIACEAE			
0	CALOTHRIX (LPIL)	3054460.00	3054460.00	-1.00 16.1
0	CHLOROPHYTA	148763.44	148763.44	-1.00 0.8
0	ULOTRICHALES			
0	ULOTRICHALES (LPIL)	148763.44	148763.44	-1.00 0.8
0	BACILLARIOPHYTA-PENNATE	250153.44	250153.44	-1.00 1.3
0	BACILLARIOPHYTA-PENNATE (LPIL)	250153.44	250153.44	-1.00 1.3
	TOTAL	18947472.0	18947472.0	-1.00 100.0
	DIVERSITY (H PRIME)	1.55	1.55	-1.00
	DIVERSITY (J PRIME)	0.69	0.69	-1.00
	NUMBER OF TAXA	7	7	

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 T600AQUA 9/28/77

NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

PERIPHYTON DENSITY

DENSITY IN NUMBER / SQUARE CENTIMETER

REPLICATE REPORT

PC TC GC LOC
5 66 66 0 0 40

SID	DATE	TIME	DURATION			TOW			SAMP VOL			WIND		CURRENT			TEMP		BT	TURB	COND	DO	PH	SALN	P	
			D/N	UNITS	C	SD	WD	SP	D	UNITS	C	SECH	WT	SC	DI	CL	SP	DI								AIR
121	4/19/80	0 0	0.0	0	0.0	6.1	0.0	0	0.0	0	0.0	0	0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0.0	0.0	0.0
122	4/19/80	0 0	0.0	0	0.0	6.1	0.0	0	0.0	0	0.0	0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0.0	0.0	0.0	

LS	TAXA			BT	TURB	COND	DO	PH	SALN	P
		1	2							
0	CYANOPHYTA	0.0	2740506.00	1370253.00	1370253.00	40.2				
0	OSCILLATORIACEAE									
0	LYNGBYA LIMNETICA	0.0	548101.31	274050.62	274050.62	8.0				
0	LYNGBYA (LPIL)	0.0	2192405.00	1096202.00	1096202.00	32.2				
0	CHLOROPHYTA	544593.19	3288.61	273940.87	270652.25	8.0				
0	ULOTRICHALES									
0	SCHIZOHERIS (LPIL)	527821.31	0.0	263910.62	263910.62	7.7				
0	CLADOPHORALES									
0	CLADOPHORA (LPIL)	16771.89	3288.61	10030.25	6741.64	0.3				
0	BACILLARIOPHYTA-PENNATE	3078135.00	449442.87	1763788.00	1314346.00	51.8				
0	ACHNANTHALES									
0	RHOICOSPHENIA CURVATA	2920282.00	219240.44	1569761.00	1350520.00	46.1				
0	BACILLARIOPHYTA-PENNATE (LPIL)	157853.06	230202.44	194027.75	36174.69	5.7				
	TOTAL	3622726.00	3193236.00	3407931.00	214745.00	100.0				
	DIVERSITY (H PRIME)	0.89	1.36	1.12	0.23					
	DIVERSITY (J PRIME)	0.44	0.58	0.51	0.07					
	NUMBER OF TAXA	4	5	6						

ADOVE COMPUTED USING SAMPLE IDS
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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

PERIPHYTON DENSITY

DENSITY IN NUMBER / SQUARE CENTIMETER

STATION REPORT

LS	TAXA		- X	S.E.	REL AB%
		12			
0	CYANOPHYTA	1370253.00	1370253.00	-1.00	40.2
0	OSCILLATORIACEAE				
0	LYNGBYA LIMNETICA	274050.62	274050.62	-1.00	8.0
0	LYNGBYA (LPIL)	1096202.00	1096202.00	-1.00	32.2
0	CHLOROPHYTA	273940.87	273940.87	-1.00	8.0
0	ULOTRICHALES				
0	SCHIZOMERIS (LPIL)	263910.62	263910.62	-1.00	7.7
0	CLADOPHORALES				
0	CLADOPHORA (LPIL)	10030.25	10030.25	-1.00	0.3
0	BACILLARIOPHYTA-PENNATE	1763788.00	1763788.00	-1.00	51.0
0	ACHNANTHALES				
0	RHOICOSPHENIA CURVATA	1569761.00	1569761.00	-1.00	46.1
0	BACILLARIOPHYTA-PENNATE (LPIL)	194027.75	194027.75	-1.00	5.7
	TOTAL	3407981.00	3407981.00	-1.00	100.0
	DIVERSITY (H PRIME)	1.12	1.12	-1.00	
	DIVERSITY (J PRIME)	0.51	0.51	-1.00	
	NUMBER OF TAXA	6	6		

ABOVE COMPUTED USING SAMPLE IDS

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

PERIPHYTON DENSITY

DENSITY IN NUMBER / SQUARE CENTIMETER

REPLICATE REPORT

PC TC GC LOC
5 66 66 0 0 50

SID	DATE	TIME	DURATION				TOW				SAMP VOL				WIND				CURRENT				TEMP				BT	TURBD	COND	DO	PH	SALN	P
			D/N	UNITS	C	SD	WD	SP	D	UNITS	C	SECH	WT	SC	DI	CL	SP	DI	AIR	WAT	BT	TURBD	COND	DO	PH	SALN							
251	4/20/80	0 0	0.0	0	0.0	0.5	0.0	0	0.0	0	0.0	0	0	0	0.0	0	0.0	0.0	0	0	0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
252	4/20/80	0 0	0.0	0	0.0	0.5	0.0	0	0.0	0	0.0	0	0	0	0.0	0	0.0	0.0	0	0	0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

LS	TAXA	REL	
		S.E.	AB%
		-	
		X	

	1	2			
0	CHLOROPHYTA	15127.59	171579.44	93353.50	78225.87 66.0
0	CHAETOPHORALES				
0	STIGEOCLONIUM (LPIL)	0.0	161570.69	80785.31	80785.3% 57.1
0	OEDOGONIALES				
0	OEDOGONIUM (LPIL)	0.0	10008.80	5004.40	5004.40 3.5
0	CLADOPHORALES				
0	CLADOPHORA (LPIL)	15127.59	0.0	7563.79	7563.79 5.3
0	BACILLARIOPHYTA-PENNATE	92000.94	4289.49	48185.21	48185.21 34.0
0	FRAGILARIALES				
0	ASTERIONELLA FORMOSA	39463.29	0.0	19731.64	19731.64 13.9
0	DIATOMA VULGARE	26308.86	0.0	13154.43	13154.43 9.3
0	ACHNANTHALES				
0	COCCONEIS (LPIL)	26308.86	0.0	13154.43	13154.43 9.3
0	BACILLARIOPHYTA-PENNATE (LPIL)	0.0	4289.49	2144.74	2144.74 1.5
	TOTAL	107208.50	175868.87	141538.69	34330.19 100.0
	DIVERSITY (H PRIME)	1.92	0.48	1.20	0.72
	DIVERSITY (J PRIME)	0.96	0.30	0.63	0.33
	NUMBER OF TAXA	4	3	7	

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

PERIPHYTON DENSITY

DENSITY IN NUMBER / SQUARE CENTIMETER

STATION REPORT

LS	TAXA		- X	S.E.	REL AB%
		25			
0	CHLOROPHYTA	93353.50	93353.50	-1.00	66.0
0	CHAETOPHORALES				
0	STIGEOCLONIUM (LPIL)	80785.31	80785.31	-1.00	57.1
0	OEDOGONIALES				
0	OEDOGONIUM (LPIL)	5004.40	5004.40	-1.00	3.5
0	CLADOPHORALES				
0	CLADOPHORA (LPIL)	7563.79	7563.79	-1.00	5.3
0	BACILLARIOPHYTA-PENNATE	48185.21	48185.21	-1.00	34.0
0	FRAGILARIALES				
0	ASTERIONELLA FORMOSA	19731.64	19731.64	-1.00	13.9
0	DIATOMA VULGARE	13154.43	13154.43	-1.00	9.3
0	ACHNANTHALES				
0	COCCONEIS (LPIL)	13154.43	13154.43	-1.00	9.3
0	BACILLARIOPHYTA-PENNATE (LPIL)	2144.74	2144.74	-1.00	1.5
	TOTAL	141538.69	141538.69	-1.00	100.0
	DIVERSITY (H PRIME)	1.20	1.20	-1.00	
	DIVERSITY (J PRIME)	0.63	0.63	-1.00	
	NUMBER OF TAXA	7	7		

ABOVE COMPUTED USING SAMPLE IDS
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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

PERIPHYTON DENSITY

DENSITY IN NUMBER / SQUARE CENTIMETER

SITE SUMMARY

LS	TAXA		- X	S.E.	REL ABZ
		0			
0	CYANOPHYTA	8405395.00	8405395.00	-1.00	89.0
0	PLEUROCAPSACEAE				
0	PLEUROCAPSA (LPIL)	1556510.00	1556510.00	-1.00	16.5
0	OSCILLATORIACEAE				
0	OSCILLATORIA (LPIL)	173336.31	173336.31	-1.00	1.8
0	LYNGBYA LIMNETICA	2740789.00	2740789.00	-1.00	29.0
0	LYNGBYA (LPIL)	2437028.00	2437028.00	-1.00	25.8
0	NOSTOCACEAE				
0	ANABAENA (LPIL)	5092.98	5092.98	-1.00	0.1
0	RIVULARIACEAE				
0	CALOTHRIX (LPIL)	1492641.00	1492641.00	-1.00	15.8
0	CHLOROPHYTA	613527.56	613527.56	-1.00	6.5
0	ULOTRICHALES				
0	SCHIZOMERIS (LPIL)	563098.12	563098.12	-1.00	6.0
0	ULOTRICHALES (LPIL)	29752.69	29752.69	-1.00	0.3
0	CHAETOPHORALES				
0	STIGEOCLONIUM (LPIL)	16157.06	16157.06	-1.00	0.2
0	OEDOGONIALES				
0	OEDOGONIUM (LPIL)	1000.88	1000.88	-1.00	0.0
0	CLADOPHORALES				
0	CLADOPHORA (LPIL)	3518.81	3518.81	-1.00	0.0
0	BACILLARIOPHYTA-PENNATE	424311.31	424311.31	-1.00	4.5
0	FRAGILARIALES				
0	ASTERIONELLA FORMOSA	3946.33	3946.33	-1.00	0.0
0	DIATOMA VULGARE	2630.89	2630.89	-1.00	0.0
0	ACHNANTHALES				
0	COCCONEIS (LPIL)	2630.89	2630.89	-1.00	0.0
0	RHOICOSPHENIA CURVATA	313952.19	313952.19	-1.00	3.3
0	BACILLARIOPHYTA-PENNATE (LPIL)	101151.19	101151.19	-1.00	1.1
	TOTAL	9443221.00	9443221.00	-1.00	100.0
	DIVERSITY (H PRIME)	1.33	1.33	-1.00	
	DIVERSITY (J PRIME)	0.63	0.63	-1.00	
	NUMBER OF TAXA	16	16		

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11	12	101	102
111	112	121	122
251	252		

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BAILEY GENERATING PLANT

PERIPHYTON DENSITY

DENSITY IN NUMBER / SQUARE CENTIMETER

REPLICATE REPORT

PC TC GC LOC
5 66 66 1 0 10

SID	DATE	TIME	D/N	DURATION		SD	TOW			SAMP VOL			WIND		CURRENT			TEMP		BT	TURB	COND	DO	PH	SALN	REL	
				UNITS	C		WD	SP	D	UNITS	C	DECH	WT	SC	DI	CL	SP	DI	AIR								WAT
171	4/20/80	0	0	0.0	0	0.0	1.0	0.0	0	0.0	0	0.0	0	0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0.0	0.0	0.0
172	4/20/80	0	0	0.0	0	0.0	1.0	0.0	0	0.0	0	0.0	0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0.0	0.0	0.0	

LS	TAXA	1		2		REL	S.E.	ABZ
0	UNIDENTIFIED ALGAE	2689762.00	144921.62	1417341.00	1272420.00	58.8		
0	UNIDENTIFIED ALGAE (LPIL)	2689762.00	144921.62	1417341.00	1272420.00	58.8		
0	CYANOPHYTA	1283617.00	278695.50	781156.25	502460.75	32.4		
0	CHROCOCCACEAE							
0	APHANOCAPSA (LPIL)	262558.12	0.0	131279.06	131279.06	5.4		
0	OSCILLATORIACEAE							
0	LYNGBYA LIMNETICA	1021059.37	278695.50	649877.44	371181.94	26.9		
0	CHLOROPHYTA	0.0	161643.31	80821.62	80821.62	3.4		
0	CHLOROCOCCALES							
0	SCENEDESHUS QUADRICAUDA	0.0	44591.28	22295.64	22295.64	0.9		
0	CHAETOPHORALES							
0	STIGEOCLONIUM (LPIL)	0.0	117052.06	58526.03	58526.03	2.4		
0	BACILLARIOPHYTA-PENNATE	75850.12	189512.87	132681.50	56831.37	5.5		
0	FRAGILARIALES							
0	TABELLARIA FLOCCULOSA	0.0	61313.01	30656.50	30656.50	1.3		
0	ACHNANTHALES							
0	ACHNANTHES MINUTISSIMA	75850.12	128199.87	102025.00	26174.87	4.2		
	TOTAL	4049225.00	774773.19	2411999.00	1637225.00	100.0		
	DIVERSITY (H PRIME)	1.26	2.35	1.80	0.55			
	DIVERSITY (J PRIME)	0.63	0.91	0.77	0.14			
	NUMBER OF TAXA	4	6	7				

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BAILEY GENERATING PLANT

PERIPHYTON DENSITY

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STATION REPORT

LS	TAXA		- X	S.E.	REL AB%
		17			
0	UNIDENTIFIED ALGAE	1417341.00	1417341.00	-1.00	58.8
0	UNIDENTIFIED ALGAE (LPIL)	1417341.00	1417341.00	-1.00	58.8
0	CYANOPHYTA	781156.25	781156.25	-1.00	32.4
0	CHROCOCCACEAE				
0	APHANOCAPSA (LPIL)	131279.06	131279.06	-1.00	5.4
0	OSCILLATORIACEAE				
0	LYNGBYA LIMNETICA	649877.44	649877.44	-1.00	26.9
0	CHLOROPHYTA	80821.62	80821.62	-1.00	3.4
0	CHLOROCOCCALES				
0	SCENEDESMUS QUADRICAUDA	22295.64	22295.64	-1.00	0.9
0	CHAETOPHORALES				
0	STIGEOCLONIUM (LPIL)	58526.03	58526.03	-1.00	2.4
0	BACILLARIOPHYTA-PENNATE	132681.50	132681.50	-1.00	5.5
0	FRAGILARIALES				
0	TABELLARIA FLOCCULOSA	30656.50	30656.50	-1.00	1.3
0	ACHNANTHALES				
0	ACHNANTHES MINUTISSIMA	102025.00	102025.00	-1.00	4.2
	TOTAL	2411999.00	2411999.00	-1.00	100.0
	DIVERSITY (H PRIME)	1.80	1.80	-1.00	
	DIVERSITY (J PRIME)	0.77	0.77	-1.00	
	NUMBER OF TAXA	7	7		

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

PERIPHYTON DENSITY

DENSITY IN NUMBER / SQUARE CENTIMETER

REPLICATE REPORT

PC TC GC LOC
5 66 66 1 0 20

SID	DATE	TIME	D/N	DURATION		SD	TOW				SAMP VOL				WIND		CURRENT		TEMP		BT	TURBD	COND	DO	PH	SALN	P
				UNITS	C		WD	SP	D	UNITS	C	SECH	WT	SC	DI	CL	SP	DI	AIR	WAT							
191	4/20/80	0 0	0.0	0	0.0	0.0	1.0	0.0	0	0.0	0.0	0.0	0.0	0	0	0	0.0	0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
192	4/20/80	0 0	0.0	0	0.0	0.0	1.0	0.0	0	0.0	0.0	0.0	0.0	0	0	0	0.0	0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0

LS	TAXA	1		2		REL	S.E.	AB%
0	CYANOPHYTA	521082.00	530345.69	525713.81	4631.84	42.7		
0	CHROCOCCACEAE							
0	AFHANOCAPSA (LPIL)	69477.56	101900.44	85689.00	16211.44	7.0		
0	OSCILLATORIACEAE							
0	LYNGBYA LIMNETICA	405286.06	328860.69	367073.37	38212.69	29.8		
0	NOSTOCACEAE							
0	ANABAENA (LPIL)	46318.41	99584.56	72951.44	26633.08	5.9		
0	CHLOROPHYTA	18527.36	67161.69	42844.52	24317.16	3.5		
0	CHLOROCOCCALES							
0	SCENEDESMUS QUADRICAUDA	0.0	9263.68	4631.84	4631.84	0.4		
0	CHAETOPHYCEAE							
0	STIGEOCLONIUM (LPIL)	0.0	57898.02	28949.01	28949.01	2.4		
0	OEDOGONIALES							
0	OEDOGONIUM (LPIL)	9263.68	0.0	4631.84	4631.84	0.4		
0	ZYGNEMATALES							
0	NOJGEOTIA (LPIL)	9263.68	0.0	4631.84	4631.84	0.4		
0	CHRYSOPHYTA	713303.44	347387.87	530345.62	182957.75	43.1		
0	CHRYSOMONADALES							
0	DINOBYRON SERTULARIA	6947.76	0.0	3473.88	3473.88	0.3		
0	OCHROMONAS (LPIL)	27791.05	9263.68	18527.36	9263.68	1.5		
0	EPIPYXIS (LPIL)	655405.50	317281.00	486343.25	169062.25	39.5		
0	KEPHYRION (LPIL)	23159.20	20843.28	22001.24	1157.96	1.8		
0	BACILLARIOPHYTA-PENNATE	140113.12	123901.62	132007.37	8105.75	10.7		
0	FRAGILARIALES							
0	FRAGILARIA PINNATA	0.0	27791.05	13895.52	13895.52	1.1		
0	TABELLARIA FLOCCULOSA	33580.85	42844.53	38212.69	4631.84	3.1		
0	ACHNANTHALES							
0	ACHNANTHES MINUTISSIMA	62529.85	27791.04	45160.45	17369.40	3.7		
0	BACILLARIOPHYTA-PENNATE (LPIL)	44002.49	25475.12	34738.80	9263.68	2.8		
	TOTAL	1393019.00	1068795.00	1230907.00	162112.00	100.0		
	DIVERSITY (H PRIME)	1.24	2.73	2.49	0.24			
	DIVERSITY (J PRIME)	0.63	0.76	0.69	0.07			
	NUMBER OF TAXA	12	12	15				

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

PERIPHYTON DENSITY

DENSITY IN NUMBER / SQUARE CENTIMETER

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BAILEY GENERATING PLANT

PERIPHYTON DENSITY

DENSITY IN NUMBER / SQUARE CENTIMETER

STATION REPORT

LS	TAXA	1°	X	S.E.	REL AB%
0	CYANOPHYTA	525713.81	525713.81	-1.00	42.7
0	CHROCOCCACEAE				
0	AFHANOCAPSA (L)	85689.00	85689.00	-1.00	7.0
0	OSCILLATORIACEAE				
0	LYNGBYA LIMNETICA	367773.37	367073.37	-1.00	29.8
0	NOSTOCACEAE				
0	ANABAENA (LPIL)	72951.44	72951.44	-1.00	5.9
0	CHLOROPHYTA	42844.52	42844.52	-1.00	3.5
0	CHLOROCOCCALES				
0	SCENEDESMUS QUADRICAUDA	4631.84	4631.84	-1.00	0.4
0	CHAETOPHORALES				
0	STIGEODONUM (LPIL)	28949.01	28949.01	-1.00	2.4
0	OEDOGONIALES				
0	OEDOGONIUM (LPIL)	4631.84	4631.84	-1.00	0.4
0	ZYGNEMATALES				
0	MOUGEOTIA (LPIL)	4631.84	4631.84	-1.00	0.4
0	CHRYSOPHYTA	530345.62	530345.62	-1.00	43.1
0	CHRYSONOMADALES				
0	DINOBRYON SERTULARIA	3473.88	3473.88	-1.00	0.3
0	OCHROMONAS (LPIL)	18527.36	18527.36	-1.00	1.5
0	EPIPYXIS (LPIL)	486343.25	486343.25	-1.00	39.5
0	KEPHYRION (LPIL)	22001.24	22001.24	-1.00	1.8
0	BACILLARIOPHYTA-PENNATE	132007.37	132007.37	-1.00	10.7
0	FRAGILARIALES				
0	FRAGILARIA PINNATA	13895.52	13895.52	-1.00	1.1
0	TABELLARIA FLOCCULOSA	38212.69	38212.69	-1.00	3.1
0	ACHNANTHALES				
0	ACHNANTHES MINUTISSIMA	45160.45	45160.45	-1.00	3.7
0	BACILLARIOPHYTA-PENNATE (LPIL)	34738.80	34738.80	-1.00	2.8
	TOTAL	1230907.00	1230907.00	-1.00	100.0
	DIVERSITY (H PRIME)	2.49	2.49	-1.00	
	DIVERSITY (J PRIME)	0.69	0.69	-1.00	
	NUMBER OF TAXA	15	15		

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

PERIPHYTON DENSITY

DENSITY IN NUMBER / SQUARE CENTIMETER

REPLICATE REPORT

PC TC GC LOC
5 66 66 1 0 30

SID	DATE	TIME	D/N	DURATION			TOW			SAMP VOL			WIND		CURRENT			TEMP		BT	TURED	COND	DO	PH	SALN P	
				UNITS	C	SO	WD	SP	D	UNITS	C	SECH	W	T	SC	DI	CL	SP	DI							AIR
211	4/20/80	0	0	0.0	0	0.0	1.0	0.0	0	0.0	0	0.0	0	0	0	0.0	0	0.0	0.0	0	0.0	0	0.0	0.0	0.0	0
212	4/20/80	0	0	0.0	0	0.0	1.0	0.0	0	0.0	0	0.0	0	0	0	0.0	0	0.0	0.0	0	0.0	0	0.0	0.0	0.0	0

LS	TAXA			BT	TURED	COND	DO	PH	SALN P
		1	2						
0	CYANOPHYTA	513845.19	0.0	256922.56	256922.56	21.2			
0	CHROCOCCACEAE								
0	MICROCYSTIS (LPIL)	513845.19	0.0	256922.56	256922.56	21.2			
0	CHLOROPHYTA	739936.94	242425.69	491181.31	248755.62	40.5			
0	CHAETOPHORALES								
0	STIGECLONIUM (LPIL)	404224.87	114082.69	259153.75	145071.06	21.3			
0	OEDOGONIALES								
0	OEDOGONIUM (LPIL)	325435.19	128343.00	226689.06	98546.06	18.7			
0	CHLOROPHYTA (LPIL)	10276.90	0.0	5138.45	5138.45	0.4			
0	BACILLARIOPHYTA-PENNATE	430259.56	498296.87	464278.19	34018.66	38.2			
0	FRAGILARIALES								
0	FRAGILARIA (LPIL)	325435.25	268909.25	297172.25	28263.00	26.5			
0	MERIDION CIRCULARE	27405.08	48892.59	33148.84	10743.76	3.1			
0	SYNEDRA (LPIL)	5481.01	1222.31	3351.66	2129.35	0.3			
0	ACHNANTHALES								
0	ACHNANTHES MINUTISSIMA	3425.63	0.0	1712.82	1712.82	0.1			
0	NAVICULALES								
0	GOMPHONEMA (LPIL)	37681.93	158900.87	98291.37	60609.45	8.1			
0	CYMBELLA (LPIL)	0.0	4074.38	2037.19	2037.19	0.2			
0	BACILLARIOPHYTA-PENNATE (LPIL)	30830.71	16297.53	23564.12	7266.59	1.9			
0	CRYPTOPHYTA	3425.63	0.0	1712.82	1712.82	0.1			
0	CRYPTOMONADALES								
0	CHROOMONAS (LPIL)	3425.63	0.0	1712.82	1712.82	0.1			
	TOTAL	1687461.00	740722.56	1214091.00	473369.19	100.0			
	DIVERSITY (H PRIME)	2.36	2.30	2.33	0.03				
	DIVERSITY (J PRIME)	0.68	0.77	0.72	0.04				
	NUMBER OF TAXA	11	8	12					

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BAILEY GENERATING PLANT

PERIPHYTON DENSITY

DENSITY IN NUMBER / SQUARE CENTIMETER

STATION REPORT

LS	TAXA	21	- X	S.E.	REL AB%
0	CYANOPHYTA	256922.56	256922.56	-1.00	21.2
0	CHROOCOCCACEAE				
0	MICROCYSTIS (LPIL)	256922.56	256922.56	-1.00	21.2
0	CHLOROPHYTA	491181.31	491181.31	-1.00	40.5
0	CHAETOPHORALES				
0	STIGEOCLONIUM (LPIL)	259153.75	259153.75	-1.00	21.3
0	OEDOGONIALES				
0	OEDOGONIUM (LPIL)	226889.06	226889.06	-1.00	18.7
0	CHLOROPHYTA (LPIL)	5138.45	5138.45	-1.00	0.4
0	BACILLARIOPHYTA-PENNATE	464278.19	464278.19	-1.00	38.2
0	FRAGILARIALES				
0	FRAGILARIA (LPIL)	297172.25	297172.25	-1.00	24.5
0	MERIDION CIRCULARE	38148.84	38148.84	-1.00	3.1
0	SYNEDRA (LPIL)	3351.66	3351.66	-1.00	0.3
0	ACHNANTHALES				
0	ACHNANTHES MINUTISSIMA	1712.82	1712.82	-1.00	0.1
0	NAVICULALES				
0	GOMPHONEMA (LPIL)	98291.37	98291.37	-1.00	8.1
0	CYMBELLA (LPIL)	2037.19	2037.19	-1.00	0.2
0	BACILLARIOPHYTA-PENNATE (LPIL)	23564.12	23564.12	-1.00	1.9
0	CRYPTOPHYTA	1712.82	1712.82	-1.00	0.1
0	CRYPTOMONADALES				
0	CHROOKONAS (LPIL)	1712.82	1712.82	-1.00	0.1
	TOTAL	1214091.00	1214091.00	-1.00	100.0
	DIVERSITY (H PRIME)	2.33	2.33	-1.00	
	DIVERSITY (J PRIME)	0.72	0.72	-1.00	
	NUMBER OF TAXA	12	12		

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BAILEY GENERATING PLANT

PERIPHYTON DENSITY

DENSITY IN NUMBER / SQUARE CENTIMETER

SITE SUMMARY

LS	TAXA	1	X	S.E.	REL AB%
0	UNIDENTIFIED ALGAE	472447.00	472447.00	-1.00	29.2
0	UNIDENTIFIED ALGAE (LPIL)	472447.00	472447.00	-1.00	29.2
0	CYANOPHYTA	521264.19	521264.19	-1.00	32.2
0	CHROCOCCACEAE				
0	MICROCYSTIS (LPIL)	85640.81	85640.81	-1.00	5.3
0	APHANOCAPSA (LPIL)	72322.69	72322.69	-1.00	4.5
0	OSCILLATORIACEAE				
0	LYNGBYA LINNETICA	338983.56	338983.56	-1.00	20.9
0	NOSTOCACEAE				
0	ANABAENA (LPIL)	24317.14	24317.14	-1.00	1.5
0	CHLOROPHYTA	204949.12	204949.12	-1.00	12.7
0	CHLOROCOCCALES				
0	SCENEDESMUS QUADRICAUDA	8975.82	8975.82	-1.00	0.6
0	CHAETOPHORALES				
0	STIGEOCLONIUM (LPIL)	115542.87	115542.87	-1.00	7.1
0	OEDOGONIALES				
0	OEDOGONIUM (LPIL)	77173.62	77173.62	-1.00	4.8
0	ZYGHEMATALES				
0	HOUGEOTIA (LPIL)	1543.95	1543.95	-1.00	0.1
0	CHLOROPHYTA (LPIL)	1712.82	1712.82	-1.00	0.1
0	CHRYSOPHYTA	176781.87	176781.87	-1.00	10.9
0	CHRYSOMONADALE				
0	DINOBRYON SERTULARIA	1157.96	1157.96	-1.00	0.1
0	OCHRONOMAS (LPIL)	6175.79	6175.79	-1.00	0.4
0	EPIPYXIS (LPIL)	162114.37	162114.37	-1.00	10.0
0	KEPHYRION (LPIL)	7333.75	7333.75	-1.00	0.5
0	BACILLARIOPHYTA-PENNATE	242989.00	242989.00	-1.00	15.0
0	FRAGILARIALES				
0	FRAGILARIA PINNATA	4631.84	4631.84	-1.00	0.3
0	FRAGILARIA (LPIL)	99057.37	99057.37	-1.00	6.1
0	MERIDION CIRCULARE	12716.28	12716.28	-1.00	0.8
0	SYNEDRA (LPIL)	1117.22	1117.22	-1.00	0.1
0	TABELLARIA FLOCCULOSA	22956.39	22956.39	-1.00	1.4
0	ACHNANTHALES				
0	ACHNANTHES MINUTISSIMA	49632.75	49632.75	-1.00	3.1
0	NAVICULALES				
0	GOMPHONEMA (LPIL)	32763.79	32763.79	-1.00	2.0
0	CYMBELLA (LPIL)	679.06	679.06	-1.00	0.0
0	BACILLARIOPHYTA-PENNATE (LPIL)	19434.31	19434.31	-1.00	1.2
0	CRYPTOPHYTA	570.94	570.94	-1.00	0.0
0	CRYPTOMONADALES				
0	CHROMONAS (LPIL)	570.94	570.94	-1.00	0.0

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

PERIOPHYTON DENSITY

DENSITY IN NUMBER / SQUARE CENTIMETER

SITE SUMMARY

LS TAXA

1

-
X

REL
S.E. ABZ

TOTAL	1618999.00
DIVERSITY (H PRIME)	2.21
DIVERSITY (J PRIME)	0.73
NUMBER OF TAXA	24

1618999.00	-1.00	100.0
2.21	-1.00	
0.73	-1.00	
24		

ABOVE COMPUTED USING SAMPLE IDS

171	172	191	192
211	212		

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T600AQUA 9/28/77



APPENDIX D
PERIPHYTON BIOVOLUME REPLICATE REPORTS,
BAILLY STUDY AREA, APRIL 1980

NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

PERIPHYTON BIOVOLUME

MICROLITERS PER LITER

REPLICATE REPORT

FC TC GC LOC
5 66 66 0 0 10

SID	DATE	TIME	D/N	DURATION		SD	WD	TOW				WIND				CURRENT				TEMP						
				UNITS	C			SP	D	UNITS	C	SECH	W	T	SC	DI	CL	SP	DI	AIR	WAT	BT	TURBD	COND	DO	PH
11	4/19/80	0 0	0 0	0.0	C	0.0	4.6	0.0	0	0.0	0	0.0	0	0	0	0.0	0	0	0	0.0	0	0.0	0	0.0	0.0	0.0
12	4/19/80	0 0	0 0	0.0	0	0.0	4.6	0.0	0	0.0	0	0.0	0	0	0	0.0	0	0	0	0.0	0	0.0	0	0.0	0.0	0.0

LS	TAXA	1	2	REL	S.E.	AB%
0	CYANOPHYTA	0.12	0.19	0.16	0.03	0.4
0	PLEUROCAPSACEAE					
0	PLEUROCAPSA (LPIL)	0.0	0.11	0.05	0.05	0.2
0	OSCILLATORIACEAE					
0	LYNGBYA LIMNETICA	0.02	0.06	0.05	0.03	0.2
0	LYNGBYA (LPIL)	0.10	0.0	0.05	0.05	0.1
0	NOSTOCACEAE					
0	ANABAENA (LPIL)	0.00	0.0	0.00	0.00	0.0
0	CHLOROPHYTA	37.73	31.01	34.37	3.36	99.5
0	ULOTRICHALES					
0	SCHIZONERIS (LPIL)	37.73	31.01	34.37	3.36	99.5
0	BACILLARIOPHYTA-PENNATE	0.02	0.01	0.01	0.00	0.0
0	BACILLARIOPHYTA-PENNATE (LPIL)	0.02	0.01	0.01	0.00	0.0
TOTAL		37.87	31.21	34.54	3.33	100.0
DIVERSITY (H PRIME)		0.04	0.06	0.05	0.01	
DIVERSITY (J PRIME)		0.02	0.03	0.02	0.01	
NUMBER OF TAXA		5	4	6		

ABOVE COMPUTED USING SAMPLE IDS
11 12

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T600AQUA 9/28/77

NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

PERIPHYTON BIOVOLUME

MICROLITERS PER LITER

STATION REPORT

LS	TAXA		-		REL
			X	S.E.	ABZ
0	CYANOPHYTA	1			
0	0.16	0.16	0.16	-1.00	0.4
0	PLEUROCAPSACEAE				
0	0.05	0.05	0.05	-1.00	0.2
0	PLEUROCAPSA (LPIL)				
0	OSCILLATORIACEAE				
0	0.05	0.05	0.05	-1.00	0.2
0	LYNGBYA LIMNETICA				
0	0.05	0.05	0.05	-1.00	0.1
0	LYNGBYA (LPIL)				
0	NOSTOCACEAE				
0	0.00	0.00	0.00	-1.00	0.0
0	ANABAENA (LPIL)				
0	34.37	34.37	34.37	-1.00	99.5
0	CHLOROPHYTA				
0	ULOTRICHALES				
0	0.01	0.01	0.01	-1.00	0.0
0	SCHIZOHERIS (LPIL)				
0	0.01	0.01	0.01	-1.00	0.0
0	BACILLARIOPHYTA-PENNATE				
0	0.01	0.01	0.01	-1.00	0.0
0	BACILLARIOPHYTA-PENNATE (LPIL)				
TOTAL	34.54	34.54	34.54	-1.00	100.0
DIVERSITY (H PRIME)	0.05	0.05	0.05	-1.00	
DIVERSITY (J PRIME)	0.02	0.02	0.02	-1.00	
NUMBER OF TAXA	6	6	6		

ABOVE COMPUTED USING SAMPLE IDS

11 12

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T600AQUA 9/28/77

NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

PERIPHYTON BIOVOLUME

MICROLITERS PER LITER

REPLICATE REPORT

PC TC GC LOC
5 66 66 0 0 20

SID	DATE	TIME	D/N	DURATION		SD	TOW			SAMP VOL			WIND			CURRENT			TEMP			COND	DO	PH	SALN	P	
				UNITS	C		WD	SP	D	UNITS	C	SECH	W	T	SC	DI	CL	SP	DI	AIR	WAT						BT
101	4/20/80	0 0	0 0	0.0	0	0.0	1.5	0.0	0	0.0	0	0.0	0	0	0	0.0	0.0	0	0.0	0	0.0	0	0.0	0.0	0.0	0	
102	4/20/80	0 0	0 0	0.0	0	0.0	1.5	0.0	0	0.0	0	0.0	0	0	0	0.0	0.0	0	0.0	0	0.0	0	0.0	0.0	0.0	0	
LS	TAXA																										
									1			2															
0	CYANOPHYTA						2.22				0.69											1.45		0.76		99.5	
0	PLEUROCAPSACEAE																										
0	PLEUROCAPSA (LPIL)						0.03				0.0											0.01		0.01		0.9	
0	OSCILLATORIACEAE																										
0	OSCILLATORIA (LPIL)						0.06				0.0											0.03		0.03		1.9	
0	LYNGBYA LIMNETICA						0.11				0.0											0.05		0.05		3.7	
0	LYNGBYA (LPIL)						0.03				0.06											0.04		0.01		2.9	
0	RIVULARIACEAE																										
0	CALOTHRIX (LPIL)						2.00				0.63											1.32		0.68		90.0	
0	BACILLARIOPHYTA-PENNATE						0.00				0.01											0.01		0.00		0.5	
0	BACILLARIOPHYTA-PENNATE (LPIL)						0.00				0.01											0.01		0.00		0.5	
TOTAL							2.22				0.70											1.46		0.76		100.0	
DIVERSITY (H PRIME)							0.66				0.52											0.59		0.07			
DIVERSITY (J PRIME)							0.26				0.33											0.29		0.03			
NUMBER OF TAXA							6				3											6					

ABOVE COMPUTED USING SAMPLE IDS
101 102

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T600AQUA 9/28/77

NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

PERIPHYTON BIOVOLUME

MICROLITERS PER LITER

STATION REPORT

LS	TAXA		-	REL
		10	X	S.E. AB%
0	CYANOPHYTA	1.45	1.45	-1.00 99.5
0	PLEUROCAPSACEAE			
0	PLEUROCAPSA (LPIL)	0.01	0.01	-1.00 0.9
0	OSCILLATORIACEAE			
0	OSCILLATORIA (LPIL)	0.03	0.03	-1.00 1.9
0	LYNGBYA LIMNETICA	0.05	0.05	-1.00 3.7
0	LYNGBYA (LPIL)	0.04	0.04	-1.00 2.9
0	RIVULARIACEAE			
0	CALOTHRIX (LPIL)	1.32	1.32	-1.00 90.0
0	BACILLARIOPHYTA-PENNATE	0.01	0.01	-1.00 0.5
0	BACILLARIOPHYTA-PENNATE (LPIL)	0.01	0.01	-1.00 0.5
TOTAL		1.46	1.46	-1.00 100.0
DIVERSITY (H PRIME)		0.59	0.59	-1.00
DIVERSITY (J PRIME)		0.29	0.29	-1.00
NUMBER OF TAXA		6	6	

ABOVE COMPUTED USING SAMPLE IDS

101 102

DATE 07/23/80
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T600AQUA 9/28/77

NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

PERIPHYTON BIOVOLUME

MICROLITERS PER LITER

REPLICATE REPORT

PC TC GC LOC
5 66 66 0 0 30

SID	DATE	TIME	D/N	DURATION		SD	WD	TOW				WIND				CURRENT				TEMP				BT	TURBD	COND	DO	PH	SALN	P
				UNITS	C			SP	D	UNITS	C	SECH	WT	SC	DI	CL	SP	DI	AIR	WAT	AIR	WAT	AIR							
111	4/19/80	0	0	0.0	0	0.0	3.7	0.0	0	0.0	0	0.0	0	0	0	0.0	0	0.0	0.0	0.0	0	0.0	0	0.0	0.0	0.0	0.0	0.0		
112	4/19/80	0	0	0.0	0	0.0	3.7	0.0	0	0.0	0	0.0	0	0	0	0.0	0	0.0	0.0	0.0	0	0.0	0	0.0	0.0	0.0	0.0	0.0		

LS	TAXA	1	2	REL	AB%
0	CYANOPHYTA	2.23	0.53	1.38	0.85 86.2
0	PLEUROCAPSACEAE				
0	PLEUROCAPSA (LPIL)	0.01	0.08	0.05	0.03 2.9
0	OSCILLATORIACEAE				
0	OSCILLATORIA (LPIL)	0.02	0.0	0.01	0.01 0.6
0	LYNGBYA LIMNETICA	0.0	0.14	0.07	0.07 4.3
0	LYNGBYA (LPIL)	0.37	0.31	0.34	0.03 21.3
0	RIVULARIACEAE				
0	CALOTHRIX (LPIL)	1.82	0.0	0.91	0.91 57.1
0	CHLOROPHYTA	0.17	0.0	0.09	0.09 5.4
0	ULOTRICHALES				
0	ULOTRICHALES (LPIL)	0.17	0.0	0.09	0.09 5.4
0	BACILLARIOPHYTA-PENNATE	0.11	0.16	0.13	0.02 8.4
0	BACILLARIOPHYTA-PENNATE (LPIL)	0.11	0.16	0.13	0.02 8.4

TOTAL	2.51	0.69	1.60	0.91	100.0
DIVERSITY (H PRIME)	1.30	1.83	1.56	0.26	
DIVERSITY (J PRIME)	0.50	0.91	0.71	0.20	
NUMBER OF TAXA	6	4	7		

ABOVE COMPUTED USING SAMPLE IDS

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T600AQUA 9/28/77

NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

PERIPHYTON BIOVOLUME

MICROLITERS PER LITER

STATION REPORT

LS	TAXA		-		REL
		11	X	S.E.	ABZ
0	CYANOPHYTA	1.38	1.38	-1.00	86.2
0	PLEUROCAPSACEAE				
0	PLEUROCAPSA (LPIL)	0.05	0.05	-1.00	2.9
0	OSCILLATORIACEAE				
0	OSCILLATORIA (LPIL)	0.01	0.01	-1.00	0.6
0	LYNGBYA LIMNETICA	0.07	0.07	-1.00	4.3
0	LYNGBYA (LPIL)	0.34	0.34	-1.00	21.3
0	RIVULARIACEAE				
0	CALOTHRIX (LPIL)	0.91	0.91	-1.00	57.1
0	CHLOROPHYTA	0.09	0.09	-1.00	5.4
0	ULOTRICHALES				
0	ULOTRICHALES (LPIL)	0.09	0.09	-1.00	5.4
0	BACILLARIOPHYTA-PENNATE	0.13	0.13	-1.00	8.4
0	BACILLARIOPHYTA-PENNATE (LPIL)	0.13	0.13	-1.00	8.4
	TOTAL	1.60	1.60	-1.00	100.0
	DIVERSITY (H PRIME)	1.56	1.56	-1.00	
	DIVERSITY (J PRIME)	0.71	0.71	-1.00	
	NUMBER OF TAXA	7	7		

ABOVE COMPUTED USING SAMPLE IDS

111 112

DATE 07/23/80
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T600AQUA 9/28/77

NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

PERIPHYTON BIOVOLUME

MICROLITERS PER LITER

REPLICATE REPORT

PC TC GC LOC
5 66 6 0 0 40

SID	DATE	TIME	DURATION			SD	TOW			SAMP VOL			WIND			CURRENT			TEMP			BT	TURBD	COND	DO	PH	SALN	P	
			D/N	UNITS	C		WD	SP	D	UNITS	C	SECH	WT	SC	DI	CL	SP	DI	AIR	WAT									
121	4/19/80	0 0	0.0	0	0.0	0.0	6.1	0.0	0	0.0	0.0	0.0	0	0	0	0.0	0.0	0	0.0	0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	
122	4/19/80	0 0	0.0	0	0.0	0.0	6.1	0.0	0	0.0	0.0	0.0	0	0	0	0.0	0.0	0	0.0	0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	
LS	TAXA																												
								1			2																		
0	CYANOPHYTA					0.0					0.07																		
0	OSCILLATORIACEAE																												
0	LYNGBYA LIMNETICA										0.01																		
0	LYNGBYA (LPIL)										0.06																		
0	CHLOROPHYTA										4.38																		
0	ULOTRICHALES																												
0	SCHIZOMERIS (LPIL)										0.0																		
0	CLADOPHORALES																												
0	CLADOPHORA (LPIL)										6.47																		
0	BACILLARIOPHYTA-PENNATE										13.17																		
0	ACHNANTHALES																												
0	RHOICOSPHENIA CURVATA										13.13																		
0	BACILLARIOPHYTA-PENNATE (LPIL)										0.05																		
TOTAL											22.75																		
DIVERSITY (H PRIME)											1.38																		
DIVERSITY (J PRIME)											0.69																		
NUMBER OF TAXA											4																		

ABOVE COMPUTED USING SAMPLE IDS
121 122

DATE 07/23/80
PAGE NO 7
T600AQUA 9/28/77

NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

PERIPHYTON BIOVOLUME

MICROLITERS PER LITER

STATION REPORT

LS	TAXA		-	S.E.	REL
			X		AB%
		12			
0	CYANOPHYTA	0.04	0.04	-1.00	0.3
0	OSCILLATORIACEAE				
0	LYNGBYA LIMNETICA	0.00	0.00	-1.00	0.0
0	LYNGBYA (LPIL)	0.03	0.03	-1.00	0.2
0	CHLOROPHYTA	6.98	6.98	-1.00	49.4
0	ULOTRICHALES				
0	SCHIZOMERIS (LPIL)	1.55	1.55	-1.00	11.0
0	CLADOPHORALES				
0	CLADOPHORA (LPIL)	5.42	5.42	-1.00	38.4
0	BACILLARIOPHYTA-PENNATE	7.11	7.11	-1.00	50.4
0	ACHNANTHALES				
0	RHOICOSPHENIA CURVATA	7.06	7.06	-1.00	50.0
0	BACILLARIOPHYTA-PENNATE (LPIL)	0.06	0.06	-1.00	0.4
	TOTAL	14.13	14.13	-1.00	100.0
	DIVERSITY (H PRIME)	1.13	1.13	-1.00	
	DIVERSITY (J PRIME)	0.53	0.53	-1.00	
	NUMBER OF TAXA	6	6		

ABOVE COMPUTED USING SAMPLE IDS

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T600AQUA 9/28/77

NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BATLEY GENERATING PLANT

PERIPHYTON BIOVOLUME

MICROLITERS PER LITER

REPLICATE REPORT

PC TC GC LOC
5 66 66 0 0 50

SID	DATE	TIME	D/H	UNITS	C	SD	WD	SP	D	TOW			SAMP VOL			WIND	CURRENT			TEMP			BT	TURBO	COND	DO	PH	SALIN	P								
										SP	D	UNITS	C	SECH	W		T	SC	DI	CL	SP	DI								AIR	WAY	REL	S.E.	ABZ			
251	4/20/80	0	0	0.0	0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
252	4/20/80	0	0	0.0	0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
LS	TAXA																																				
0	CHLOROPHYTA								1	32.94		2	0.06																								
0	CHAEIOPHORALES																																				
0	STIGEOLCHIUM (LPIL)									0.0		0.05																									
0	OEDOGONIALES																																				
0	OEDOGONIUM (LPIL)																																				
0	CLADOPHORALES																																				
0	CLADOPHORA (LPIL)									32.94		0.0																									
0	BACILLARIOPHYTA-PENNATE									0.20		0.00																									
0	FRAGILARIALES																																				
0	ASTERIONELLA FORMOSA									0.04		0.0																									
0	DIATOMA VULGARE									0.13		0.0																									
0	ACHNANTHALES																																				
0	COCCONEIS (LPIL)									0.03		0.0																									
0	BACILLARIOPHYTA-PENNATE (LPIL)									0.0		0.00																									
TOTAL										33.14		0.06																									
DIVERSITY (H PRIME)										0.06		0.42																									
DIVERSITY (J PRIME)										0.03		0.26																									
NUMBER OF TAXA										4		3																									

ABOVE COMPUTED USING SAMPLE IDS
251 252

DATE 07/23/80
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T600AQUA 9/28/77

NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

PERIPHYTON BIOVOLUME

MICROLITERS PER LITER

STATION REPORT

LS	TAXA	25	- X	S.E.	REL AB%
0	CHLOROPHYTA	16.50	16.50	-1.00	99.4
0	CHAETOPHORALES				
0	STIGEOCLONIUM (LPIL)	0.03	0.03	-1.00	0.2
0	OEDOGONIALES				
0	OEDOGONIUM (LPIL)	0.00	0.00	-1.00	0.0
0	CLADOPHORALES				
0	CLADOPHORA (LPIL)	16.47	16.47	-1.00	99.2
0	BACILLARIOPHYTA-PENNATE	0.10	0.10	-1.00	0.6
0	FRAGILARIALES				
0	ASTERIONELLA FORMOSA	0.02	0.02	-1.00	0.1
0	DIATOMA VULGARE	0.06	0.06	-1.00	0.4
0	ACHNANTHALES				
0	COCCONEIS (LPIL)	0.02	0.02	-1.00	0.1
0	BACILLARIOPHYTA-PENNATE (LPIL)	0.00	0.00	-1.00	0.0
	TOTAL	16.60	16.60	-1.00	100.0
	DIVERSITY (H PRIME)	0.24	0.24	-1.00	
	DIVERSITY (J PRIME)	0.15	0.15	-1.00	
	NUMBER OF TAXA	7	7		

ABOVE COMPUTED USING SAMPLE IDS

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DATE 07/23/80
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T600AQUA 9/28/77

NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

PERIPHYTON BIOVOLUME

MICROLITERS PER LITER

SITE SUMMARY

LS	TAXA		- X	S.E.	REL AB%
		0			
0	CYANOPHYTA	0.60	0.60	-1.00	4.4
0	PLEUROCAPSACEAE				
0	PLEUROCAPSA (LPIL)	0.02	0.02	-1.00	0.2
0	OSCILLATORIACEAE				
0	OSCILLATORIA (LPIL)	0.01	0.01	-1.00	0.1
0	LYNGBYA LIMNETICA	0.04	0.04	-1.00	0.3
0	LYNGBYA (LPIL)	0.09	0.09	-1.00	0.7
0	NOSTOCACEAE				
0	ANABAENA (LPIL)	0.00	0.00	-1.00	0.0
0	RIVULARIACEAE				
0	CALOTHRIX (LPIL)	0.45	0.45	-1.00	3.3
0	CHLOROPHYTA	11.59	11.59	-1.00	84.8
0	ULOTRICHALES				
0	SCHIZOMERIS (LPIL)	7.18	7.18	-1.00	52.6
0	ULOTRICHALES (LPIL)	0.02	0.02	-1.00	0.1
0	CHAETOPHORALES				
0	STIGMOCLONIUM (LPIL)	0.01	0.01	-1.00	0.0
0	OEDOGONIALES				
0	OEDOGONIUM (LPIL)	0.00	0.00	-1.00	0.0
0	CLADOPHORALES				
0	CLADOPHORA (LPIL)	4.38	4.38	-1.00	32.0
0	BACILLARIOPHYTA-PENNATE	1.47	1.47	-1.00	10.8
0	FRAGILARIALES				
0	ASTERIONELLA FORMOSA	0.00	0.00	-1.00	0.0
0	DIATOMA VULGARE	0.01	0.01	-1.00	0.1
0	ACHNANTHALES				
0	COCCONEIS (LPIL)	0.00	0.00	-1.00	0.0
0	RHOICOSPHENIA CURVATA	1.41	1.41	-1.00	10.3
0	BACILLARIOPHYTA-PENNATE (LPIL)	0.04	0.04	-1.00	0.3
	TOTAL	13.66	13.66	-1.00	100.0
	DIVERSITY (H PRIME)	0.71	0.71	-1.00	
	DIVERSITY (J PRIME)	0.34	0.34	-1.00	
	NUMBER OF TAXA	16	16		

ABOVE COMPUTED USING SAMPLE IDS

11	12	101	102
111	112	121	122
251	252		

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

PERIPHYTON BIOVOLUME

MICROLITERS PER LITER

REPLICATE REPORT

PC TC GC LOC
5 66 66 1 0 10

SID	DATE	TIME	D/N	UNITS	DURATION			SD	WD	TOW			SAMP VOL	UNITS	C	SECH	W	Y	SC	DI	MIND	CURRENT			TEMP	WAT	BT	TURED	COND	DO	PH	SALN	P		
					0	SP	D			CL	SP	DI										AIP	REL	S.E.										AB%	
171	4/20/80	0	0	0.0	0	0.0	0	0.0	1.0	0.0	0.0	0.0	0.0	0	0	0.0	0	0	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0		
172	4/20/80	0	0	0.0	0	0.0	0	0.0	1.0	0.0	0.0	0.0	0.0	0	0	0.0	0	0	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0		
LS	TAXA																																		
0	UNIDENTIFIED ALGAE																																		
0	UNIDENTIFIED ALGAE (LPIL)																																		
0	CYANOPHYTA																																		
0	CHROOCOCCACEAE																																		
0	APHANOCAPSA (LPIL)																																		
0	OSCILLATORIACEAE																																		
0	LYNGBYA LINNETICA																																		
0	CHLOROPHYTA																																		
0	CHLOROCCOCCALES																																		
0	SCENEDESHUS QUADRICAUDA																																		
0	CHAETOPHORALES																																		
0	STIGEOLONIUM (LPIL)																																		
0	BACILLARIOPHYTA-PENNATE																																		
0	FRAGILARIALES																																		
0	TABELLARIA FLOCCULOSA																																		
0	ACHNANTHALES																																		
0	ACHNANTHES MINUTISSIMA																																		
TOTAL																																			
DIVERSITY (H PRIME)		0.11		0.67		2		0.09		0.03		0.03		0.09		0.03		0.03		0.09		0.03		0.03		0.09		0.03		0.03		0.09		0.03	
DIVERSITY (J PRIME)		0.91		1.10		0.01		0.01		0.01		0.01		0.01		0.01		0.01		0.01		0.01		0.01		0.01		0.01		0.01		0.01		0.01	
NUMBER OF TAXA		0.45		0.43		0.6		0.01		0.01		0.01		0.01		0.01		0.01		0.01		0.01		0.01		0.01		0.01		0.01		0.01		0.01	

ABOVE COMPUTED USING SAMPLE IDS

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

PERIPHYTON BIOVOLUME

MICROLITERS PER LITER

STATION REPORT

LS	TAXA		-	S.E.	REL
		17	X		ABZ
0	UNIDENTIFIED ALGAE	0.06	0.06	-1.00	14.8
0	UNIDENTIFIED ALGAE (LPIL)	0.06	0.06	-1.00	14.8
0	CYANOPHYTA	0.01	0.01	-1.00	2.1
0	CHROOCOCCACEAE				
0	APHANOCAPSA (LPIL)	0.00	0.00	-1.00	0.0
0	OSCILLATORIACEAE				
0	LYNGBYA LIMNETICA	0.01	0.01	-1.00	2.1
0	CHLOROPHYTA	0.06	0.06	-1.00	14.8
0	CHLOROCOCCALES				
0	SCENEDESMUS QUADRICAUDA	0.00	0.00	-1.00	0.5
0	CHAETOPHORALES				
0	STIGODCLONIUM (LPIL)	0.06	0.06	-1.00	14.2
0	BACILLARIOPHYTA-PENNATE	0.27	0.27	-1.00	68.4
0	FRAGILIRIALES				
0	TABELLARIA FLOCCULOSA	0.26	0.26	-1.00	65.6
0	ACHNANTHALES				
0	ACHNANTHES MINUTISSIMA	0.01	0.01	-1.00	2.7
	TOTAL	0.39	0.39	-1.00	100.0
	DIVERSITY (H PRIME)	1.01	1.01	-1.00	
	DIVERSITY (J PRIME)	0.44	0.44	-1.00	
	NUMBER OF TAXA	7	7		

ABOVE COMPUTED USING SAMPLE IDS
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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

PERIPHYTON BIOVOLUME

MICROLITERS PER LITER

REPLICATE REPORT

PC TC GC LOC
5 66 66 1 0 20

SID	DATE	TIME D/H	UNITS C	DURATION	WD	SP	D	SAHP	VOL	SECH	W	T	SC	DI	WIND	CL	SP	DI	CURENT	TEMP		BT	TURBD	COND	DO	PH	SALM	P
																				AIR	WAT							
191	4/20/80	0 0	0.0 0	0.0 0	1.0	0.0 0	0.0 0	0.0 0	0.0 0	0.0 0	0.0 0	0.0 0	0.0 0	0.0 0	0.0 0	0.0 0	0.0 0	0.0 0	0.0 0	0.0 0	0.0 0	0.0 0	0.0 0	0.0 0	0.0 0	0.0 0	0.0 0	0.0 0
192	4/20/80	0 0	0.0 0	0.0 0	1.0	0.0 0	0.0 0	0.0 0	0.0 0	0.0 0	0.0 0	0.0 0	0.0 0	0.0 0	0.0 0	0.0 0	0.0 0	0.0 0	0.0 0	0.0 0	0.0 0	0.0 0	0.0 0	0.0 0	0.0 0	0.0 0	0.0 0	0.0 0
LS	TAXA																											
0	CYANOPHYTA																											
0	CHROOCOCCACEAE																											
0	APHANOCAPSA (LPIL)																											
0	OSCILLATORIACEAE																											
0	LYNGBYA LIMNETICA																											
0	NOSTOCACEAE																											
0	ANABAENA (LPIL)																											
0	CHLOROPHYTA																											
0	CHLOROCCOCALES																											
0	SCENEDESMUS QUADRICAUDA																											
0	CHAETOPHORALES																											
0	STIGEODONIUM (LPIL)																											
0	OEDOGONIALES																											
0	OEDOGONIUM (LPIL)																											
0	ZYGEMATALES																											
0	NOUGEOTIA (LPIL)																											
0	CHRYSOPHYTA																											
0	CHRYSIOMONADALES																											
0	DINOBRYON SERTULARIA																											
0	OCHROMONAS (LPIL)																											
0	EPIPHYTIS (LPIL)																											
0	KEPHYRION (LPIL)																											
0	BACILLARIOPHYTA-PERRIATE																											
0	FRAGILARIALES																											
0	FRAGILARIA PIRNATA																											
0	TABELLARIA FLOCCULOSA																											
0	ACHNANTHALES																											
0	ACHNANTHES MINUTISSIMA																											
0	BACILLARIOPHYTA-PERRIATE (LPIL)																											
TOTAL																												
	DIVERSITY (H PRIME)																											
	DIVERSITY (J PRIME)																											
	NUMBER OF TAXA																											

ABOVE COMPUTED USING SAMPLE IDS

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

PERIPHYTON BIOVOLUME

MICROLITERS PER LITER

REPLICATE REPORT

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

PERIPHYTON BIOVOLUME

MICROLITERS PER LITER

STATION REPORT

LS	TAXA		-	S.E.	REL
		19	X		AB%
0	CYANOPHYTA	0.05	0.05	-1.00	6.5
0	CHROOCOCCACEAE				
0	APHANOCAPSA (LPIL)	0.04	0.04	-1.00	5.3
0	OSCILLATORIACEAE				
0	LYNGBYA LIMNETICA	0.01	0.01	-1.00	1.0
0	NOSTOCACEAE				
0	ANABAENA (LPIL)	0.00	0.00	-1.00	0.1
0	CHLOROPHYTA	0.02	0.02	-1.00	2.5
0	CHLOPOCOCCALES				
0	SCENEDESHUS QUADRICAUDA	0.00	0.00	-1.00	0.1
0	CHAETOPHORALES				
0	STIGEOCLONIUM (LPIL)	0.01	0.01	-1.00	1.3
0	OEDOGONIALES				
0	OEDOGONIUM (LPIL)	0.01	0.01	-1.00	0.6
0	ZYGNEMATALES				
0	MOUGEOTIA (LPIL)	0.00	0.00	-1.00	0.5
0	CHRYSOPHYTA	0.40	0.40	-1.00	47.4
0	CHRYSOMONADALES				
0	DINOBRYON SERTULARIA	0.01	0.01	-1.00	1.0
0	OCHROMONAS (LPIL)	0.00	0.00	-1.00	0.3
0	EPIPYXIS (LPIL)	0.39	0.39	-1.00	46.0
0	KEPHYRIUM (LPIL)	0.00	0.00	-1.00	0.1
0	BACILLARIOPHYTA-PENNATE	0.37	0.37	-1.00	43.6
0	FRAGILARIALES				
0	FRAGILARIA PINNATA	0.09	0.09	-1.00	10.8
0	TABELLARIA FLOCCULOSA	0.25	0.25	-1.00	29.6
0	ACHNANTHALES				
0	ACHNANTHES MINUTISSIMA	0.00	0.00	-1.00	0.4
0	BACILLARIOPHYTA-PENNATE (LPIL)	0.02	0.02	-1.00	2.8
	TOTAL	0.84	0.84	-1.00	100.0
	DIVERSITY (H PRIME)	1.92	1.92	-1.00	
	DIVERSITY (J PRIME)	0.54	0.54	-1.00	
	NUMBER OF TAXA	15	15		

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

PERIPHYTON BIOVOLUME

MICROLITERS PER LITER

REPLICATE REPORT

FC TC GC LOC
5 66 66 1 0 30

SID	DATE	TIME	D/N	UNITS	C	DURATION		WD	SP	D	TOM	SAMP VOL		SECH	W	T	SC	DI	WIND	CL	SP	DI	AIR	WAT	BT	TURBD	COND	DC	PH	SALN	P	REL								
						SD	SD					UNITS	C																				DI	DI	DI	DI	DI	DI	DI	DI
211	4/20/80	0	0	0.0	0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
212	4/20/80	0	0	0.0	0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
LS	TAXA																																							
0	CYANOPHYTA									1	0.01	2	0.0																											
0	CHROOCOCCACEAE																																							
0	MICROCYSTIS (LPIL)																																							
0	CHLOROPHYTA										1.16	0.34																												
0	CHAETOPHORALES																																							
0	SYGEOCLONIUM (LPIL)										0.32	0.09																												
0	OEDOGONIALES																																							
0	OEDOGONIUM (LPIL)										0.84	0.25																												
0	CHLOROPHYTA (LPIL)										0.00	0.0																												
0	BACILLARIOPHYTA-PENNATE										0.69	1.08																												
0	FRAGILARIALES																																							
0	FRAGILARIA (LPIL)										0.42	0.29																												
0	HERIDION CIRCULARE										0.06	0.23																												
0	SYNEDRA (LPIL)										0.14	0.01																												
0	ACHNANTHALES																																							
0	ACHNANTHES MINUTISSIMA										0.00	0.0																												
0	NAVICULALES																																							
0	GOMPHONEMA (LPIL)										0.02	0.25																												
0	CYBELLA (LPIL)										0.0	0.28																												
0	BACILLARIOPHYTA-PENNATE (LPIL)										0.04	0.03																												
0	CRYPTOPHYTA										0.00	0.0																												
0	CRYPTOMONADALES																																							
0	CHROONAS (LPIL)										0.00	0.0																												
TOTAL											1.86	1.42																												
DIVERSITY (H PRIME)											2.14	2.63																												
DIVERSITY (J PRIME)											0.62	0.88																												
NUMBER OF TAXA											11	8																												

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

PERIPHYTON BIOVOLUME

MICROLITERS PER LITER

STATION REPORT

LS	TAXA	21	- X	S.E.	REL AB%
0	CYANOPHYTA	0.00	0.00	-1.00	0.2
0	CHROCOCCACEAE				
0	MICROCYSTIS (LPIL)	0.00	0.00	-1.00	0.2
0	CHLOROPHYTA	0.75	0.75	-1.00	45.8
0	CHAETOPHORALES				
0	STIGEOCLONIUM (LPIL)	0.21	0.21	-1.00	12.5
0	OEDOGONIALES				
0	OEDOGONIUM (LPIL)	0.54	0.54	-1.00	33.2
0	CHLOROPHYTA (LPIL)	0.00	0.00	-1.00	0.1
0	BACILLARIOPHYTA-PENNATE	0.88	0.88	-1.00	53.9
0	FRAGILARIALES				
0	FRAGILARIA (LPIL)	0.36	0.36	-1.00	21.7
0	MERIDION CIRCULARE	0.15	0.15	-1.00	8.9
0	SYNEDRA (LPIL)	0.07	0.07	-1.00	4.4
0	ACHNANTHALES				
0	ACHNANTHES MINUTISSIMA	0.00	0.00	-1.00	0.0
0	NAVICULALES				
0	GOMPHONEMA (LPIL)	0.14	0.14	-1.00	8.4
0	CYMBELLA (LPIL)	0.14	0.14	-1.00	8.4
0	BACILLARIOPHYTA-PENNATE (LPIL)	0.03	0.03	-1.00	2.0
0	CRYPTOPHYTA	0.00	0.00	-1.00	0.1
0	CRYPTOCHONDALES				
0	CHROONONAS (LPIL)	0.00	0.00	-1.00	0.1
TOTAL		1.64	1.64	-1.00	100.0
DIVERSITY (H PRIME)		2.38	2.38	-1.00	
DIVERSITY (J PRIME)		0.75	0.75	-1.00	
NUMBER OF TAXA		12	12		

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

PERIPHYTON BIOVOLUME

MICROLITERS PER LITER

SITE SUMMARY

LS	TAXA		- X	S.E.	REL ABZ
		1			
0	UNIDENTIFIED ALGAE	0.02	0.02	-1.00	2.0
0	UNIDENTIFIED ALGAE (LPIL)	0.02	0.02	-1.00	2.0
0	CYANOPHYTA	0.02	0.02	-1.00	2.3
0	CHROCOCCACEAE				
0	MICROCYSTIS (LPIL)	0.00	0.00	-1.00	0.1
0	APHANOCAPSA (LPIL)	0.01	0.01	-1.00	1.6
0	OSCILLATORIACEAE				
0	LYNGBYA LIMNETICA	0.01	0.01	-1.00	0.6
0	NOSTOCACEAE				
0	ANABAENA (LPIL)	0.00	0.00	-1.00	0.0
0	CHLOROPHYTA	0.28	0.28	-1.00	28.9
0	CHLOROCOCCALES				
0	SCENEDESMUS QUADRICAUDA	0.00	0.00	-1.00	0.1
0	CHAETOPHORALES				
0	STIGEOCLONIUM (LPIL)	0.09	0.09	-1.00	9.5
0	OEDOGONIALES				
0	OEDOGONIUM (LPIL)	0.18	0.18	-1.00	19.2
0	ZYGHEMATALES				
0	HOUGEOTIA (LPIL)	0.00	0.00	-1.00	0.1
0	CHLOROPHYTA (LPIL)	0.00	0.00	-1.00	0.0
0	CHRYSOPHYTA	0.13	0.13	-1.00	13.9
0	CHRYSOMONADALES				
0	DINOBRYON SERTULARIA	0.00	0.00	-1.00	0.3
0	OCHROMONAS (LPIL)	0.00	0.00	-1.00	0.1
0	EPIPYXIS (LPIL)	0.13	0.13	-1.00	13.5
0	KEPHYRIUM (LPIL)	0.00	0.00	-1.00	0.0
0	BACILLARIOPHYTA-PENNATE	0.51	0.51	-1.00	52.8
0	FRAGILARIALES				
0	FRAGILARIA PINNATA	0.03	0.03	-1.00	3.1
0	FRAGILARIA (LPIL)	0.12	0.12	-1.00	12.4
0	MERIDION CIRCULARE	0.05	0.05	-1.00	5.1
0	SYNEDRA (LPIL)	0.02	0.02	-1.00	2.5
0	TABELLARIA FLOCCULOSA	0.17	0.17	-1.00	17.6
0	ACHNANTHALES				
0	ACHNANTHES MINUTISSIMA	0.00	0.00	-1.00	0.5
0	NAVICULALES				
0	GOMPHONEMA (LPIL)	0.05	0.05	-1.00	4.8
0	CYMBELLA (LPIL)	0.05	0.05	-1.00	4.8
0	BACILLARIOPHYTA-PENNATE (LPIL)	0.02	0.02	-1.00	2.0
0	CRYPTOPHYTA	0.00	0.00	-1.00	0.0
0	CRYPTOMONADALES				
0	CHROMONAS (LPIL)	0.00	0.00	-1.00	0.0

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

PERIPHYTON BIOVOLUME

MICROLITERS PER LITER

SITE SUMMARY

LS	TAXA		-	REL
			X	S.E. ABX
		1		
TOTAL		0.96	0.96	-1.00 100.0
DIVERSITY (H PRIME)		1.77	1.77	-1.00
DIVERSITY (J PRIME)		0.57	0.57	-1.00
NUMBER OF TAXA		24	24	

ABOVE COMPUTED USING SAMPLE IDS

171	172	191	192
211	212		

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APPENDIX E
ZOOPLANKTON DENSITY REPLICATE REPORTS,
BAILLY STUDY AREA, APRIL 1980

NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

ZOOPLANKTON DENSITY

REPLICATIVE REPORT

PC TC GC LOC
5 51 51 0 0 00

SID	DATE	TIME	D/H	DURATION		SD	WD	TOW			WIND	CURRENT			TEMP		BT	TURCD	COND	DO	PH	SALN	P				
				UNITS	C			SP	D	UNITS		C	SECH	W	T	SC								DI	CL	SP	DI
11	4/17/80	1143	0	0.0	0	4.6	4.6	0.0	0	3.6	3	0.5	8	0	3	2	6	0.0	0	15.6	10.0	0	0.0	0	0.0	0.0	0.0
12	4/17/80	1143	0	0.0	0	4.6	4.6	0.0	0	3.6	3	0.5	8	0	3	2	6	0.0	0	15.6	10.0	0	0.0	0	0.0	0.0	0.0
13	4/17/80	1143	0	0.0	0	4.6	4.6	0.0	0	3.6	3	0.5	8	0	3	2	6	0.0	0	15.6	10.0	0	0.0	0	0.0	0.0	0.0
14	4/17/80	1143	0	0.0	0	4.6	4.6	0.0	0	3.6	3	0.5	8	0	3	2	6	0.0	0	15.6	10.0	0	0.0	0	0.0	0.0	0.0
LS																					-	REL					
	TAXA																					X	S.E.	ABX			
0	CNIDARIA (TOTAL)																					1.79	1.79	0.4			
0	HYDROZOA																										
19	HYDRA (LPIL)																					1.79	1.79	0.4			
0	NEMATODA (TOTAL)																					213.79	20.29	46.0			
1	NEMATODA (LPIL)																					213.79	20.29	46.0			
0	OLIGOCHAETA (TOTAL)																					20.73	12.77	4.5			
1	OLIGOCHAETA (LPIL)																					20.73	12.77	4.5			
0	HIRUDINEA (TOTAL)																					4.56	2.76	1.0			
19	HIRUDINEA (LPIL)																					4.56	2.76	1.0			
0	CLADOCERA (TOTAL)																					54.56	8.65	11.7			
0	BOSMINIDAE																										
1	BOSMINIDAE (LPIL)																					11.31	5.98	2.4			
0	CHYDORIDAE																										
1	EURYCERCUS LAMELLATUS																					1.19	1.19	0.3			
0	DAPHNIDAE																										
6	DAPHNIA (LPIL)																					42.06	4.24	9.1			
0	COPEPODA (TOTAL)																					164.29	22.89	35.4			
0	CALANOIDA (TOTAL)																										
1	DIAPTOMUS ASHLANDI																					12.80	3.04	2.8			
1	DIAPTOMUS SICILIS																					11.51	2.06	2.5			
1	DIAPTOMUS MINUTUS																					5.95	5.19	1.3			
1	LIMNOCALANUS MACRURUS																					18.06	8.64	3.9			
14	CALANOIDA (LPIL)																					62.60	7.64	13.5			
0	CYCLOPOIDA (TOTAL)																										
1	CYCLOPS BICUSPIDATUS THOMASI																					9.72	2.64	2.1			
1	CYCLOPS VERNALIS																					0.60	0.60	0.1			
14	CYCLOPOIDA (LPIL)																					29.86	6.24	6.4			
0	HARPACTICOIDA (TOTAL)																										
1	HARPACTICOIDA (LPIL)																					8.23	4.87	1.8			
14	HARPACTICOIDA (LPIL)																					4.96	0.20	1.1			
0	AMPHIPODA (TOTAL)																					2.48	1.69	0.5			
6	AMPHIPODA (LPIL)																					2.48	1.69	0.5			
0	DIPTERA NEMATOCERA (TOTAL)																					2.28	1.00	0.5			
0	CHIRONOMIDAE																										
2	CHIRONOMIDAE (LPIL)																					2.28	1.00	0.5			
-	TOTAL																					464.48	54.33	100.0			

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BAILEY GENERATING PLANT

ZOOPLANKTON DENSITY

REPLICATE REPORT

LS	TAXA					-		REL
		1	2	3	4	X	S.E.	ABX
DIVERSITY (H PRIME)		3.11	2.21	2.62	2.54	2.62	0.19	
DIVERSITY (J PRIME)		0.75	0.64	0.69	0.73	0.70	0.02	
NUMBER OF TAXA		18	11	14	11	18		

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

ZOOPLANKTON DENSITY

REPLICATE REPORT

PC TC GC LOC
5 51 51 0 0 00

SID	DATE	TIME	D/N	DURATION		SD	WC	TOW				WIND				CURRENT		TEMP		BT	TURBD	COND	DO	PH	SALN P		
				UNITS	C			SP	D	UNITS	C	SECH	M	T	SC	DI	CL	SP	DI							AIR	WAT
21	4/17/80	1057	0	0.0	0	9.1	9.1	0.0	0	7.1	3	0.5	8	0	3	2	6	0.0	0	16.7	7.5	0	0.0	0	0.0	0.0	0.0
22	4/17/80	1057	0	0.0	0	9.1	9.1	0.0	0	7.1	3	0.5	8	0	3	2	6	0.0	0	16.7	7.5	0	0.0	0	0.0	0.0	0.0
23	4/17/80	1057	0	0.0	0	9.1	9.1	0.0	0	7.1	3	0.5	8	0	3	2	6	0.0	0	16.7	7.5	0	0.0	0	0.0	0.0	0.0
24	4/17/80	1057	0	0.0	0	9.1	9.1	0.0	0	7.1	3	0.5	8	0	3	2	6	0.0	0	16.7	7.5	0	0.0	0	0.0	0.0	0.0

LS	TAXA	1	2	3	4	X	S.E.	REL ABX
0	NEMATODA (TOTAL)	61.57	90.14	63.38	76.06	72.79	6.62	10.9
1	NEMATODA (LPIL)	61.57	90.14	63.38	76.06	72.79	6.62	10.9
0	OLIGOCHAETA (TOTAL)	3.62	2.82	0.0	5.63	3.02	1.17	0.5
1	OLIGOCHAETA (LPIL)	3.62	2.82	0.0	5.63	3.02	1.17	0.5
0	HIRUDINEA (TOTAL)	0.0	0.0	4.23	0.0	1.06	1.06	0.2
1	HIRUDINEA (LPIL)	0.0	0.0	4.23	0.0	1.06	1.06	0.2
0	CLADOCERA (TOTAL)	7.24	14.08	42.25	11.27	18.71	7.97	2.8
0	BOSMINIDAE							
1	BOSMINIDAE (LPIL)	0.0	5.63	21.13	5.63	8.10	4.54	1.2
0	CHYDORIDAE							
1	CHYDORUS (LPIL)	0.0	0.0	4.23	0.0	1.06	1.06	0.2
1	EURYCERCUS LAMELLATUS	0.0	0.0	0.0	2.82	0.70	0.70	0.1
0	DAPHNIDAE							
6	DAPHNIA (LPIL)	7.24	0.0	16.90	2.82	6.74	3.70	1.0
0	MACROTHRICIDAE							
6	ILYOCRYPTUS (LPIL)	0.0	8.45	0.0	0.0	2.11	2.11	0.3
0	COPEPODA (TOTAL)	619.31	411.27	688.73	577.46	574.19	58.96	85.7
0	CALANOIDA (TOTAL)							
1	DIAPTOMUS ASHLANDI	144.87	92.96	190.14	197.18	156.29	24.08	23.3
1	DIAPTOMUS SICILIS	115.90	47.89	135.21	101.41	100.10	18.73	14.9
1	DIAPTOMUS MINUTUS	39.84	2.82	16.90	8.45	17.00	8.14	2.5
3	LIHNOCALANUS MACRURUS	47.08	11.27	8.45	8.45	18.81	9.45	2.8
14	CALANOIDA (LPIL)	210.06	208.45	274.65	185.92	219.77	19.11	32.8
0	CYCLOPOIDA (TOTAL)							
1	CYCLOPS BICUSPIDATUS THOMASI	21.73	8.45	33.80	22.54	21.63	5.19	3.2
1	CYCLOPS VERNALIS	0.0	0.0	4.23	0.0	1.06	1.06	0.2
14	CYCLOPOIDA (LPIL)	25.35	33.80	21.13	42.25	30.63	4.68	4.6
0	HARPACTICOIDA (TOTAL)							
1	HARPACTICOIDA (LPIL)	0.0	2.82	4.23	11.27	4.58	2.40	0.7
14	HARPACTICOIDA (LPIL)	14.49	2.82	0.0	0.0	4.33	3.45	0.6
	TOTAL	691.75	518.31	798.59	670.42	669.77	57.75	100.0
	DIVERSITY (H PRIME)	2.79	2.52	2.68	2.66	2.66	0.06	
	DIVERSITY (J PRIME)	0.81	0.70	0.70	0.72	0.73	0.03	
	NUMBER OF TAXA	11	12	14	13	17		

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BAYLEY GENERATING PLANT

ZOOPLANKTON DENSITY

REPLICATE REPORT

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ZL ANKTON DENSITY

REPLICATE REPORT

PC TC GC LOC
5 51 51 0 0 00

SID	DATE	TIME	D/N	DURATION			TOW			SAMP VOL			WIND		CURRENT		TEMP		BT	TURBD	COND	DO	PH	SALN	P		
				UNITS	C	SD	WD	SP	D	UNITS	C	SECH	WT	SC	DI	CL	SP	DI								AIR	WAT
31	4/17/80	1005	0	0.0	0	15.2	15.2	0.0	0	11.9	3	1.0	8.0	3	2	6	0.0	0	12.8	8.0	0	0.0	0	0.0	0.0	0.0	0
32	4/17/80	1005	0	0.0	0	15.2	15.2	0.0	0	11.9	3	1.0	8.0	3	2	6	0.0	0	12.8	8.0	0	0.0	0	0.0	0.0	0.0	0
33	4/17/80	1005	0	0.0	0	15.2	15.2	0.0	0	11.9	3	1.0	8.0	3	2	6	0.0	0	12.6	8.0	0	0.0	0	0.0	0.0	0.0	0
34	4/17/80	1005	0	0.0	0	15.2	15.2	0.0	0	11.9	3	1.0	8.0	3	2	6	0.0	0	12.8	8.0	0	0.0	0	0.0	0.0	0.0	0

LS	TAXA	1	2	3	4	X	S.E.	AB%
0	NEMATODA (TOTAL)	18.15	7.56	64.83	12.61	25.79	13.19	4.0
1	NEMATODA (LPIL)	18.15	7.56	64.83	12.61	25.79	13.19	4.0
0	OLIGOCHAETA (TOTAL)	0.0	0.0	8.10	0.0	2.03	2.03	0.3
0	NAIDIDAE							
1	CHAETOGASTER (LPIL)	0.0	0.0	8.10	0.0	2.03	2.03	0.3
0	CLADOCERA (TOTAL)	21.18	10.91	21.61	22.69	21.10	0.30	3.3
0	BOSMINIDAE							
1	BOSMINIDAE (LPIL)	3.03	0.0	5.40	5.04	3.37	1.24	0.5
0	CHYDORIDAE							
1	CHYDORUS (LPIL)	0.0	0.0	2.70	2.52	1.31	0.75	0.2
1	EURYCERCUS LAMELLATUS	0.0	0.0	0.0	2.52	0.63	0.63	0.1
0	DAPHNIDAE							
6	DAPHNIA (LPIL)	0.0	18.91	0.0	12.61	7.88	4.73	1.2
1	DAPHNIA (LPIL)	18.15	0.0	13.51	0.0	7.91	4.67	1.2
0	COPEPODA (TOTAL)	541.51	650.42	713.08	468.91	593.48	54.59	91.9
0	CALANOIDA (TOTAL)							
1	DIAPTOMUS ASHLANDI	145.21	181.51	202.58	98.32	156.91	22.84	24.3
1	DIAPTOMUS SICILIS	105.88	79.41	110.74	100.84	99.22	6.91	15.4
1	DIAPTOMUS MINUTUS	0.0	3.78	21.61	5.04	7.61	4.79	1.2
1	DIAPTOMUS (LPIL)	0.0	0.0	2.70	0.0	0.68	0.68	0.1
1	LIMNOCALANUS MACRURUS	12.10	18.91	29.71	15.13	18.96	3.84	2.9
14	CALANOIDA (LPIL)	211.76	264.71	251.20	194.12	230.45	16.52	35.7
0	CYCLOPOIDA (TOTAL)							
1	CYCLOPS BICUSPIDATUS THOMASI	30.25	34.03	43.22	20.17	31.92	4.77	4.9
14	CYCLOPOIDA (LPIL)	0.0	64.29	40.52	32.77	34.39	13.28	5.3
1	CYCLOPOIDA (LPIL)	30.25	0.0	0.0	0.0	7.56	7.56	1.2
0	HARPACTICOIDA (TOTAL)							
1	HARPACTICOIDA (LPIL)	6.05	0.0	10.80	2.52	4.84	2.34	0.7
14	HARPACTICOIDA (LPIL)	0.0	3.78	0.0	0.0	0.95	0.95	0.1
0	AMPHIPODA (TOTAL)	3.03	0.0	5.40	0.0	2.11	1.31	0.3
0	HAUSTORIIDAE							
1	PONTOPOREIA	3.03	0.0	0.0	0.0	0.76	0.76	0.1
1	PONTOPOREIA AFFINIS	0.0	0.0	5.40	0.0	1.35	1.35	0.2
0	DIPTERA NEMATOCERA (TOTAL)	6.05	0.0	0.0	0.0	1.51	1.51	0.2
0	CHIRONOMIDAE							
2	CHIRONOMIDAE (LPIL)	6.05	0.0	0.0	0.0	1.51	1.51	0.2

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BAILEY GENERATING PLANT

ZOOPLANKTON DENSITY

REPLICATE REPORT

IS	TAXA					-	REL
		1	2	3	4	X	S.E. ABZ
TOTAL		589.92	676.89	813.02	504.20	646.01	65.89 100.0
DIVERSITY (H PRIME)		2.55	2.39	2.86	2.56	2.59	0.10
DIVERSITY (J PRIME)		0.71	0.72	0.73	0.69	0.71	0.01
NUMBER OF TAXA		12	10	15	13	18	

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BAILEY GENERATING PLANT

ZOOPLANKTON DENSITY

STATION REPORT

LS	TAXA				~	S.E.	REL
		1	2	3	X		ABZ
0	CNIDARIA (TOTAL)	1.79	0.0	0.0	0.60	0.60	0.1
0	HYDROZOA						
19	HYDRA (LPIL)	1.79	0.0	0.0	0.60	0.60	0.1
0	NEMATODA (TOTAL)	213.79	72.79	25.79	104.12	56.49	17.5
1	NEMATODA (LPIL)	213.79	72.79	25.79	104.12	56.49	17.5
0	OLIGOCHAETA (TOTAL)	20.73	3.02	2.03	8.59	6.08	1.4
0	HAIDIDAE						
1	CHAETOGASTER (LPIL)	0.0	0.0	2.03	0.68	0.68	0.1
1	OLIGOCHAETA (LPIL)	20.73	3.02	0.0	7.92	6.47	1.3
0	HIRUDINEA (TOTAL)	4.56	1.06	0.0	1.87	1.38	0.3
19	HIRUDINEA (LPIL)	4.56	0.0	0.0	1.52	1.52	0.3
1	HIRUDINEA (LPIL)	0.0	1.06	0.0	0.35	0.35	0.1
0	CLADOCERA (TOTAL)	54.56	18.71	21.10	31.46	11.57	5.3
0	BOSMINIDAE						
1	BOSMINIDAE (LPIL)	11.31	8.10	3.37	7.59	2.31	1.3
0	CHYDORIDAE						
1	CHYDORUS (LPIL)	0.0	1.06	1.31	0.79	0.40	0.1
1	EURYCERCUS LAMELLATUS	1.19	0.70	0.63	0.84	0.10	0.1
0	DAPHNIDAE						
6	DAPHNIA (LPIL)	42.06	6.74	7.88	18.89	11.59	3.2
1	DAPHNIA (LPIL)	0.0	0.0	7.91	2.64	2.64	0.4
0	MACROTHRICIDAE						
6	ILYOCRYPTUS (LPIL)	0.0	2.11	0.0	0.70	0.70	0.1
0	COPEPODA (TOTAL)	164.29	574.19	593.48	443.99	139.96	74.8
0	CALANOIDA (TOTAL)						
1	DIAPTOMUS ASHLANDI	12.80	156.29	156.91	108.66	47.93	18.3
1	DIAPTOMUS SICILIS	11.51	100.10	99.22	70.28	29.39	11.8
1	DIAPTOMUS MINUTUS	5.95	17.00	7.61	10.19	3.44	1.7
1	DIAPTOMUS (LPIL)	0.0	0.0	0.68	0.23	0.23	0.0
1	LIMNOCALANUS MACRURUS	18.06	18.81	18.96	18.61	0.28	3.1
14	CALANOIDA (LPIL)	62.60	219.77	230.45	170.94	54.26	28.8
0	CYCLOPOIDA (TOTAL)						
1	CYCLOPS BICUSPIDATUS THOMASI	9.72	21.63	31.92	21.09	6.41	3.6
1	CYCLOPS VERNALIS	0.60	1.06	0.0	0.55	0.31	0.1
14	CYCLOPOIDA (LPIL)	29.86	30.63	34.39	31.63	1.40	5.3
1	CYCLOPOIDA (LPIL)	0.0	0.0	7.56	2.52	2.52	0.4
0	HARPACTICOIDA (TOTAL)						
1	HARPACTICOIDA (LPIL)	8.23	4.58	4.84	5.89	1.18	1.0
14	HARPACTICOIDA (LPIL)	4.96	4.33	0.95	3.41	1.25	0.6
0	AMPHIPODA (TOTAL)	2.48	0.0	2.11	1.53	0.77	0.3
0	HAUSTORIIDAE						
1	PONTOPOREIA	0.0	0.0	0.76	0.25	0.25	0.0
1	PONTOPOREIA AFFINIS	0.0	0.0	1.35	0.45	0.45	0.1
6	AMPHIPODA (LPIL)	2.48	0.0	0.0	0.83	0.83	0.1

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BAILEY GENERATING PLANT

ZOOPLANKTON DENSITY

STATION REPORT

LS	TAXA	1	2	3	- X	S.E.	PEL AB%
0	DIPTERA NEMATOCERA (TOTAL)	2.28	0.0	1.51	1.26	0.67	0.2
0	CHIRONOMIDAE						
2	CHIRONOMIDAE (LPIL)	2.28	0.0	1.51	1.26	0.67	0.2
	TOTAL	464.48	669.77	646.01	593.42	64.83	100.0
	DIVERSITY (H PRIME)	2.62	2.66	2.59	2.62	0.02	
	DIVERSITY (J PRIME)	0.70	0.73	0.71	0.72	0.01	
	NUMBER OF TAXA	16	17	18	24		

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11	12	13	14
21	22	23	24
31	32	33	34

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BAILEY GENERATING PLANT

ZOOPLANKTON DENSITY

REPLICATE REPORT

PC TC GC LOC
5 51 51 0 0 10

SID	DATE	TIME	D/H	DURATION		SD	WD	TOW		SAMP VOL		WIND		CURRENT		TEMP		BT	TURBD	COND	DO	PH	SALN	P				
				UNITS	C			SP	D	UNITS	C	SECH	M	T	SC	DI	CL								SP	DI	AIR	WAT
41	4/17/80	1218	0	0.0	0	4.6	4.6	0.0	0	3.6	3	0.5	8	0	3	2	6	0.0	0	16.7	11.0	0	0.0	0	0.0	0.0	0.0	0
42	4/17/80	1218	0	0.0	0	4.6	4.6	0.0	0	3.6	3	0.5	8	0	3	2	6	0.0	0	16.7	11.0	0	0.0	0	0.0	0.0	0.0	0
43	4/17/80	1218	0	0.0	0	4.6	4.6	0.0	0	3.6	3	0.5	8	0	3	2	6	0.0	0	16.7	11.0	0	0.0	0	0.0	0.0	0.0	0
44	4/17/80	1218	0	0.0	0	4.6	4.6	0.0	0	3.6	3	0.5	8	0	3	2	6	0.0	0	16.7	11.0	0	0.0	0	0.0	0.0	0.0	0
																						-	REL					
LS	TAXA																				X	S.E.		AB%				
								1	2		3		4															
0	NEMATODA (TOTAL)							86.67	143.33		142.36		127.27		124.91		13.27		16.4									
1	NEMATODA (LPIL)							86.67	143.33		142.36		127.27		124.91		13.27		16.4									
0	OLIGOCHAETA (TOTAL)							3.33	6.67		3.47		4.55		4.50		0.77		0.6									
0	NAIDIDAE																											
1	CHAETOGASTER (LPIL)							0.0	0.0		3.47		0.0		0.87		0.87		0.1									
1	OLIGOCHAETA (LPIL)							3.33	6.67		0.0		4.55		3.64		1.39		0.5									
0	CLADOCERA (TOTAL)							6.67	13.33		10.42		4.55		8.74		1.95		1.1									
0	BOSMINIDAE																											
1	BOSMINIDAE (LPIL)							3.33	6.67		6.94		4.55		5.37		0.87		0.7									
0	DAPHNIDAE																											
6	DAPHNIA (LPIL)							3.33	6.67		3.47		0.0		3.37		1.36		0.4									
0	COPEPODA (TOTAL)							510.00	546.67		704.86		731.82		623.34		55.63		81.9									
0	CALANOIDA (TOTAL)																											
1	DIAPTOMUS ASHLANDI							150.00	180.00		232.64		240.91		200.89		21.67		26.4									
1	DIAPTOMUS SICILIS							93.33	100.00		104.17		72.73		92.56		6.98		12.2									
1	DIAPTOMUS MINUTUS							10.00	16.67		48.61		0.0		18.82		10.50		2.5									
1	LIMNOCALANUS MACRURUS							10.00	16.67		24.31		18.18		17.29		2.94		2.3									
14	CALANOIDA (LPIL)							166.67	180.00		215.28		304.55		216.62		31.05		28.4									
0	CYCLOPOIDA (TOTAL)																											
1	CYCLOPS BICUSPIDATUS THOMASI							43.33	23.33		48.61		40.91		39.05		5.48		5.1									
14	CYCLOPOIDA (LPIL)							36.67	26.67		31.25		45.45		35.01		4.04		4.6									
0	HARPACTICOIDA (TOTAL)																											
1	HARPACTICOIDA (LPIL)							0.0	3.33		0.0		9.09		3.11		2.14		0.4									
TOTAL							606.67	710.00		861.11		868.18		761.49		63.20		100.0										
DIVERSITY (H PRIME)							2.66	2.69		2.72		2.44		2.63		0.06												
DIVERSITY (J PRIME)							0.77	0.75		0.78		0.74		0.76		0.01												
NUMBER OF TAXA							11	12		11		10		13														

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

ZOOPLANKTON DENSITY

REPLICATE REPORT

PC TC GC LOC
5 51 51 0 0 10

SID	DATE	TIME	D/N	DURATION		SO	WD	TOW		SAMP VOL		WIND			CURRENT			TEMP		BT	TURBD	COND	DO	PH	SALN P	
				UNITS	C			SP	D	UNITS	C	SECH	WT	SC	DI	CL	SP	DI	AIR							WAT
51	4/17/80	1250	0	0.0	0	9.1	9.1	0.0	0	7.1	3	1.0	8.0	3	2	6	0.0	0	14.4	8.5	0	0.0	0	0.0	0.0	0.0
52	4/17/80	1250	0	0.0	0	9.1	9.1	0.0	0	7.1	3	1.0	8.0	3	2	6	0.0	0	14.4	8.5	0	0.0	0	0.0	0.0	0.0
53	4/17/80	1250	0	0.0	0	9.1	9.1	0.0	0	7.1	3	1.0	8.0	3	2	6	0.0	0	14.4	8.5	0	0.0	0	0.0	0.0	0.0
54	4/17/80	1250	0	0.0	0	9.1	9.1	0.0	0	7.1	3	1.0	8.0	3	2	6	0.0	0	14.4	8.5	0	0.0	0	0.0	0.0	0.0

LS	TAXA	1	2	3	4	X	S.E.	ABX
0	NEMATODA (TOTAL)	50.70	69.72	76.06	38.03	58.63	8.73	9.1
1	NEMATODA (LPIL)	50.70	69.72	76.06	38.03	58.63	8.73	9.1
0	OLIGOCHAETA (TOTAL)	0.0	0.0	0.0	6.34	1.58	1.58	0.2
1	OLIGOCHAETA (LPIL)	0.0	0.0	0.0	6.34	1.58	1.58	0.2
0	CLADOCERA (TOTAL)	8.45	19.01	5.63	25.35	14.61	4.59	2.3
0	BOSMINIDAE							
1	BOSMINIDAE (LPIL)	2.82	6.34	0.0	9.51	4.67	2.07	0.7
0	CHYDORIDAE							
1	ALONELLA (LPIL)	2.82	0.0	0.0	0.0	0.70	0.70	0.1
0	DAPHNIDAE							
6	DAPHNIA (LPIL)	0.0	12.68	0.0	15.85	7.13	4.17	1.1
1	DAPHNIA (LPIL)	2.82	0.0	5.63	0.0	2.11	1.35	0.3
0	COPEPODA (TOTAL)	535.21	538.73	605.63	602.11	570.42	19.34	88.3
0	CALANOIDA (TOTAL)							
1	DIAPTOMUS ASHLANDI	121.13	142.61	138.03	183.00	146.39	13.30	22.7
1	DIAPTOMUS SICILIS	121.13	129.93	129.58	136.27	129.23	3.11	20.0
1	DIAPTOMUS MINUTUS	50.70	3.17	36.62	0.0	22.62	12.50	3.5
1	LIMNOCALANUS MACRURUS	11.27	12.68	19.72	19.01	15.67	2.16	2.4
14	CALANOIDA (LPIL)	197.18	171.13	230.99	190.14	197.36	12.49	30.5
0	CYCLOPOIDA (TOTAL)							
1	CYCLOPS BICUSPIDATUS THOMASI	22.54	28.52	16.90	38.03	26.50	4.52	4.1
14	CYCLOPOIDA (LPIL)	11.27	47.54	33.80	31.69	31.07	7.48	4.8
0	HARPACTICOIDA (TOTAL)							
14	HARPACTICOIDA (LPIL)	0.0	3.17	0.0	3.17	1.58	0.91	0.2
0	DIPTERA NEMATOCERA (TOTAL)	0.0	0.0	0.0	3.17	0.79	0.79	0.1
0	CHIRONOMIDAE							
2	CHIRONOMIDAE (LPIL)	0.0	0.0	0.0	3.17	0.79	0.79	0.1
TOTAL		594.37	627.46	687.32	675.00	646.04	21.52	100.0
	DIVERSITY (H PRIME)	2.58	2.68	2.57	2.66	2.62	0.03	
	DIVERSITY (J PRIME)	0.74	0.77	0.81	0.74	0.77	0.02	
	NUMBER OF TAXA	11	11	9	12	14		

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REPLICATE REPORT

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SID	DATE	TIME	D/H	DURATION			TOW			SAMP VOL			WIND			CURRENT			TEMP		BT	TURBD	COND	DO	PH	SALN P
				UNITS	C	SD	WD	SP	D	UNITS	C	SECH	W	T	SC	DI	CL	SP	DI	AIR						
61	4/17/80	1344	0	0.0	0	15.2	15.2	0.0	0	11.9	3	1.0	8.0	3	2	6	0.0	0	14.4	6.0	0	0.0	0	0.0	0.0	0.0
62	4/17/80	1344	0	0.0	0	15.2	15.2	0.0	0	11.9	3	1.0	8.0	3	2	6	0.0	0	14.4	6.0	0	0.0	0	0.0	0.0	0.0
63	4/17/80	1344	0	0.0	0	15.2	15.2	0.0	0	11.9	3	1.0	8.0	3	2	6	0.0	0	14.4	6.0	0	0.0	0	0.0	0.0	0.0
64	4/17/80	1344	0	0.0	0	15.2	15.2	0.0	0	11.9	3	1.0	8.0	3	2	6	0.0	0	14.4	6.0	0	0.0	0	0.0	0.0	0.0
LS	TAXA																									
										1		2		3		4					X		S.E.		REL	AB%
0	NEMATODA (TOTAL)									5.04		9.08		13.45		10.50					9.52		1.75		1.6	
1	NEMATODA (LPIL)									5.04		9.08		13.45		10.50					9.52		1.75		1.6	
0	OLIGOCHAETA (TOTAL)									6.72		0.0		1.68		0.0					2.10		1.59		0.3	
0	NAIDIDAE																									
1	CHAETOGASTER (LPIL)									1.68		0.0		0.0		0.0					0.42		0.42		0.1	
1	NAIDIDAE (LPIL)									5.04		0.0		1.68		0.0					1.68		1.19		0.3	
0	CLADOCERA (TOTAL)									18.49		33.28		13.45		21.01					21.55		4.21		3.6	
0	BOSMINIDAE																									
1	BOSMINIDAE (LPIL)									1.68		18.15		0.0		8.40					7.06		4.12		1.2	
0	CHYDORIDAE																									
1	CHYDORUS (LPIL)									0.0		3.03		0.0		0.0					0.76		0.76		0.1	
0	DAPHNIDAE																									
1	DAPHNIA (LPIL)									16.81		12.10		13.45		12.61					13.74		1.06		2.3	
0	COPEPODA (TOTAL)									578.15		647.39		430.25		630.25					571.51		49.33		94.5	
0	CALANOIDA (TOTAL)																									
1	DIAPTOMUS ASHLANDI									168.07		196.64		154.62		0.0					129.83		44.15		21.5	
14	DIAPTOMUS ASHLANDI									0.0		0.0		0.0		224.79				56.20		56.20		9.3		
1	DIAPTOMUS SICILIS									53.78		81.68		45.38		50.42					57.82		8.14		9.6	
1	DIAPTOMUS MINUTUS									15.13		0.0		5.04		8.40					7.14		3.17		1.2	
1	LIMNOCALANUS MACRURUS									16.81		24.20		16.81		16.81					18.66		1.85		3.1	
14	CALANOIDA (LPIL)									231.93		265.22		154.62		247.90					225.17		24.54		37.2	
0	CYCLOPOIDA (TOTAL)																									
1	CYCLOPS BICUSPIDATUS THOMASI									43.70		33.28		45.38		46.22					42.14		3.00		7.0	
14	CYCLOPOIDA (LPIL)									26.89		42.35		8.40		33.61					27.82		7.20		4.6	
0	HARPACTICOIDA (TOTAL)																									
1	HARPACTICOIDA (LPIL)									21.85		0.0		0.0		2.10					5.99		5.31		1.0	
14	HARPACTICOIDA (LPIL)									0.0		3.03		0.0		0.0					0.76		0.76		0.1	
TOTAL										608.40		689.75		458.82		661.76					604.68		51.46		100.0	
DIVERSITY (H PRIME)										2.58		2.43		2.40		2.35					2.44		0.05			
DIVERSITY (J PRIME)										0.70		0.70		0.72		0.68					0.70		0.01			
NUMBER OF TAXA										13		11		10		11					14					

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LS	TAXA	4	5	6	- X	S.E.	REL AB%
0	HEMATODA (TOTAL)	124.91	58.63	9.52	64.35	33.43	9.6
1	HEMATODA (LPIL)	124.91	58.63	9.52	64.35	33.43	9.6
0	OLIGOCHAETA (TOTAL)	4.50	1.58	2.10	2.73	0.90	0.4
0	NAIDIDAE						
1	CHAETOGASTER (LPIL)	0.87	0.0	0.42	0.43	0.25	0.1
2	NAIDIDAE (LPIL)	0.0	0.0	1.68	0.56	0.56	0.1
1	OLIGOCHAETA (LPIL)	3.64	1.58	0.0	1.74	1.05	0.3
0	CLADOCERA (TOTAL)	8.74	14.61	21.55	14.97	3.70	2.2
0	BOSMINIDAE						
1	BOSMINIDAE (LPIL)	5.37	4.67	7.06	5.70	0.71	0.8
0	CHYDORIDAE						
1	CHYDORUS (LPIL)	0.0	0.0	0.76	0.25	0.25	0.0
1	ALONELLA (LPIL)	0.0	0.70	0.0	0.23	0.23	0.0
0	DAPHNIDAE						
6	DAPHNIA (LPIL)	3.37	7.13	0.0	3.50	2.06	0.5
1	DAPHNIA (LPIL)	0.0	2.11	13.74	5.28	4.27	0.8
0	COPEPODA (TOTAL)	623.34	570.42	571.51	588.42	17.46	87.7
0	CALANOIDA (TOTAL)						
1	DIAPTOMUS ASHLANDI	200.89	146.39	129.83	159.04	21.46	23.7
14	DIAPTOMUS ASHLANDI	0.0	0.0	56.20	18.73	18.73	2.8
1	DIAPTOMUS SICILIS	92.56	129.23	57.82	93.20	20.62	13.9
1	DIAPTOMUS MINUTUS	18.82	22.62	7.14	16.20	4.66	2.4
1	LIHNOCALANUS MACRURUS	17.29	15.67	18.66	17.20	0.86	2.6
14	CALANOIDA (LPIL)	216.62	197.36	225.17	213.05	8.22	31.8
0	CYCLOPOIDA (TOTAL)						
1	CYCLOPS BICUSPIDATUS THOMASI	39.05	26.50	42.14	35.90	4.78	5.4
14	CYCLOPOIDA (LPIL)	35.01	31.07	27.82	31.30	2.08	4.7
0	HARPACTICOIDA (TOTAL)						
1	HARPACTICOIDA (LPIL)	3.11	0.0	5.99	3.03	1.73	0.5
14	HARPACTICOIDA (LPIL)	0.0	1.58	0.76	0.78	0.46	0.1
0	DIPTERA NEMATOCERA (TOTAL)	0.0	0.79	0.0	0.26	0.26	0.0
0	CHIRONOMIDAE						
2	CHIRONOMIDAE (LPIL)	0.0	0.79	0.0	0.26	0.26	0.0
	TOTAL	761.49	646.04	604.68	670.74	46.92	100.0
	DIVERSITY (H PRIME)	2.63	2.62	2.44	2.56	0.06	
	DIVERSITY (J PRIME)	0.76	0.77	0.70	0.74	0.02	
	NUMBER OF TAXA	13	14	14	17		

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51	52	53	54
61	62	63	64

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SIO	DATE	TIME	D/H	DURATION			TOW			SAMP VOL			WIND			CURRENT			TEMP			BT	TURBD	COND	DO	PH	SALN	P
				UNITS	C	SD	WD	SP	D	UNITS	C	SECH	WT	SC	DI	CL	SP	DI	AIR	WAT								
101	4/17/80	1932	0	0.0	0	3.5	3.5	0.0	0	0.7	3	0.0	8	0	3	2	6	0.0	0	15.6	0.0	0	0.0	0	0.0	0.0	0.0	0
102	4/17/80	1932	0	0.0	0	3.5	3.5	0.0	0	0.7	3	0.0	8	0	3	2	6	0.0	0	15.6	0.0	0	0.0	0	0.0	0.0	0.0	0
103	4/17/80	1932	0	0.0	0	3.5	3.5	0.0	0	0.7	3	0.0	8	0	3	2	6	0.0	0	15.6	0.0	0	0.0	0	0.0	0.0	0.0	0
104	4/17/80	1932	0	0.0	0	3.5	3.5	0.0	0	0.7	3	0.0	8	0	3	2	6	0.0	0	15.6	0.0	0	0.0	0	0.0	0.0	0.0	0

LS	TAXA	1	2	3	4	X	S.E.	AB%
0	CNIDARIA (TOTAL)	0.0	12.13	0.0	0.0	3.03	3.03	0.1
0	HYDROZOA							
1	HYDRA (LPIL)	0.0	12.13	0.0	0.0	3.03	3.03	0.1
0	NEMATODA (TOTAL)	189.23	60.65	182.99	66.54	124.85	35.41	4.2
1	NEMATODA (LPIL)	189.23	60.65	182.99	66.54	124.85	35.41	4.2
0	OLIGOCHAETA (TOTAL)	160.12	133.43	182.99	282.80	189.83	32.60	6.4
0	HAIDIDAE							
1	CINAETOGASTER (LPIL)	14.56	0.0	0.0	0.0	3.64	3.64	0.1
1	HAIDIDAE (LPIL)	43.67	133.43	133.08	216.26	131.61	35.24	4.4
1	OLIGOCHAETA (LPIL)	101.89	0.0	49.91	66.54	54.59	21.18	1.8
0	ARACHNIDA (TOTAL)	0.0	0.0	0.0	16.64	4.16	4.16	0.1
0	PROSTIGMATA							
19	HYDRACARINA (LPIL)	0.0	0.0	0.0	16.64	4.16	4.16	0.1
0	CLADOCERA (TOTAL)	669.58	885.49	1048.03	865.04	867.04	77.51	29.2
0	BOSMINIDAE							
1	BOSMINIDAE (LPIL)	131.00	218.34	249.53	282.80	220.42	32.58	7.4
0	CHYDORIDAE							
1	ALONA RECTANGULA	14.56	0.0	0.0	0.0	3.64	3.64	0.1
1	ALONA COSTATA	0.0	12.13	0.0	0.0	3.03	3.03	0.1
1	ALONA (LPIL)	0.0	12.13	0.0	0.0	3.03	3.03	0.1
1	CHYDORUS (LPIL)	43.67	0.0	83.18	49.91	44.19	17.09	1.5
1	EURYCERCUS LAMELLATUS	14.56	24.26	33.27	49.91	30.50	7.51	1.0
0	DAPHNIDAE							
6	DAPHNIA (LPIL)	465.79	0.0	682.05	482.43	407.57	144.47	13.7
1	DAPHNIA (LPIL)	0.0	618.63	0.0	0.0	154.66	154.66	5.2
0	COPEPODA (TOTAL)	1644.83	1637.55	1813.27	1813.27	1727.23	49.70	58.2
0	CALANOIDA (TOTAL)							
1	DIAPTOMUS ASHLANDI	29.11	0.0	0.0	49.91	19.75	12.17	0.7
1	DIAPTOMUS PALLIDUS	0.0	0.0	16.64	0.0	4.16	4.16	0.1
1	DIAPTOMUS SICILIS	0.0	0.0	16.64	0.0	4.16	4.16	0.1
14	CALANOIDA (LPIL)	72.78	0.0	83.18	83.18	59.78	20.08	2.0
0	CYCLOFOIDA (TOTAL)							
1	CYCLOPS BICUSPIDATUS THOMASI	0.0	84.91	33.27	16.64	33.70	18.37	1.1
1	CYCLOPS VERNALIS	29.11	0.0	83.18	33.27	36.39	17.26	1.2
1	EUCYCLOPS AGILIS	0.0	36.39	0.0	0.0	9.10	9.10	0.3
1	EUCYCLOPS PRICNOPHORUS	0.0	12.13	0.0	49.91	15.51	11.82	0.5

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LS	TAXA	1	2	3	4	X	S.E.	REL AB%
1	EUCYCLOPS SPERATUS	29.11	0.0	0.0	0.0	7.28	7.28	0.2
14	CYCLOPOIDA (LPIL)	1441.05	1479.86	1547.10	1497.19	1491.30	21.99	50.3
0	HARPACTICOIDA (TOTAL)							
1	HARPACTICOIDA (LPIL)	0.0	24.26	0.0	33.27	14.38	8.51	0.5
14	HARPACTICOIDA (LPIL)	43.67	0.0	33.27	49.91	31.71	11.11	1.1
0	AMPHIPODA (TOTAL)	14.56	0.0	0.0	0.0	3.64	3.64	0.1
6	AMPHIPODA (LPIL)	14.56	0.0	0.0	0.0	3.64	3.64	0.1
0	DIPTERA NEMATOCERA (TOTAL)	43.67	60.65	16.64	66.54	46.87	11.19	1.6
0	CERATOPOGONIDAE							
2	CERATOPOGONIDAE (LPIL)	0.0	12.13	0.0	0.0	3.03	3.03	0.1
0	CHIRONOMIDAE							
2	CHIRONOMIDAE (LPIL)	43.67	48.52	16.64	66.54	43.84	10.32	1.5
TOTAL		2721.98	2789.91	3243.91	3110.83	2966.66	125.42	100.0
DIVERSITY (H PRIME)		2.47	2.21	2.51	2.68	2.47	0.10	
DIVERSITY (J PRIME)		0.60	0.57	0.64	0.67	0.62	0.02	
NUMBER OF TAXA		17	15	15	16	27		

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LS	TAXA		- X	S.E.	REL ABX
		10			
0	CHIDARIA (TOTAL)	3.03	3.03	-1.00	0.1
0	HYDROZOA				
1	HYDRA (LPIL)	3.03	3.03	-1.00	0.1
0	NEMATODA (TOTAL)	124.85	124.85	-1.00	4.2
1	NEMATODA (LPIL)	124.85	124.85	-1.00	4.2
0	OLIGOCHAETA (TOTAL)	189.83	189.83	-1.00	6.4
0	NAIDIDAE				
1	CHAETOGASTER (LPIL)	3.64	3.64	-1.00	0.1
1	NAIDIDAE (LPIL)	131.61	131.61	-1.00	4.4
1	OLIGOCHAETA (LPIL)	54.59	54.59	-1.00	1.8
0	ARACHNIDA (TOTAL)	4.16	4.16	-1.00	0.1
0	PROSTIGMATA				
19	HYDRACARINA (LPIL)	4.16	4.16	-1.00	0.1
0	CLADOCERA (TOTAL)	867.04	867.04	-1.00	29.2
0	BOSMINIDAE				
1	BOSMINIDAE (LPIL)	220.42	220.42	-1.00	7.4
0	CHYDORIDAE				
1	ALONA RECTANGULA	3.64	3.64	-1.00	0.1
1	ALONA COSTATA	3.03	3.03	-1.00	0.1
1	ALONA (LPIL)	3.03	3.03	-1.00	0.1
1	CHYDORUS (LPIL)	44.19	44.19	-1.00	1.5
1	EURYCERCUS LAMELLATUS	30.50	30.50	-1.00	1.0
0	DAPHNIDAE				
6	DAPHNIA (LPIL)	407.57	407.57	-1.00	13.7
1	DAPHNIA (LPIL)	154.66	154.66	-1.00	5.2
0	COPEPODA (TOTAL)	1727.23	1727.23	-1.00	58.2
0	CALANOIDA (TOTAL)				
1	DIAPTOMUS ASHLANDI	19.75	19.75	-1.00	0.7
1	DIAPTOMUS PALLIDUS	4.16	4.16	-1.00	0.1
1	DIAPTOMUS SICILIS	4.16	4.16	-1.00	0.1
14	CALANOIDA (LPIL)	59.78	59.78	-1.00	2.0
0	CYCLOPOIDA (TOTAL)				
1	CYCLOPS BICUSPIDATUS THOMASI	33.70	33.70	-1.00	1.1
1	CYCLOPS VERNALIS	36.39	36.39	-1.00	1.2
1	EUCYCLOPS AGILIS	9.10	9.10	-1.00	0.3
1	EUCYCLOPS PRIONOPHORUS	15.51	15.51	-1.00	0.5
1	EUCYCLOPS SPERATUS	7.28	7.28	-1.00	0.2
14	CYCLOPOIDA (LPIL)	1491.30	1491.30	-1.00	50.3
0	HARPACTICOIDA (TOTAL)				
1	HARPACTICOIDA (LPIL)	14.38	14.38	-1.00	0.5
14	HARPACTICOIDA (LPIL)	31.71	31.71	-1.00	1.1
0	AMPHIPODA (TOTAL)	3.64	3.64	-1.00	0.1
6	AMPHIPODA (LPIL)	3.64	3.64	-1.00	0.1
0	DIPTERA NEMATOCERA (TOTAL)	46.87	46.87	-1.00	1.6

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49726)

BAILEY GENERATING PLANT

ZOOPLANKTON DENSITY

STATION REPORT

LS	TAXA		-	REL
			X	AB%
				S.E.
0	CERATOPOGONIDAE	10		
2	CERATOPOGONIDAE (LPIL)	3.03	3.03	-1.00 0.1
0	CHIRONOMIDAE			
2	CHIRONOMIDAE (LPIL)	43.84	43.84	-1.00 1.5
TOTAL		2966.66	2966.66	-1.00 100.0
DIVERS. (H PRIME)		2.47	2.47	-1.00
DIVERSITY (J PRIME)		6.62	6.62	-1.00
NUMBER OF TAXA		27	27	

ABOVE COMPUTED USING SAMPLE IDS

101 102 103 104

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

ZOOPLANKTON DENSITY

STATION REPORT

LS	TAXA	3	6	10	X	S.E.	REL AB%
0	CHIDARIA (TOTAL)	0.60	0.0	3.63	1.21	0.93	0.1
0	HYDROZOA						
19	HYDRA (LPIL)	0.60	0.0	0.0	0.20	0.20	0.0
1	HYDRA (LPIL)	0.0	0.0	3.03	1.01	1.01	0.1
0	NEMATODA (TOTAL)	104.12	64.35	124.85	97.77	17.75	6.9
1	NEMATODA (LPIL)	104.12	64.35	124.85	97.77	17.75	6.9
0	OLIGOCHAETA (TOTAL)	8.59	2.73	189.83	67.05	61.41	4.8
0	HAIDIDAE						
1	CHAETOGASTER (LPIL)	0.68	0.43	3.64	1.58	1.03	0.1
1	HAIDIDAE (LPIL)	0.0	0.56	131.61	44.06	43.78	3.1
1	OLIGOCHAETA (LPIL)	7.92	1.74	54.59	21.41	16.68	1.5
0	HIRUDINEA (TOTAL)	1.87	0.0	0.0	0.62	0.62	0.0
19	HIRUDINEA (LPIL)	1.52	0.0	0.0	0.51	0.51	0.0
1	HIRUDINEA (LPIL)	0.35	0.0	0.0	0.12	0.12	0.0
0	ARACHNIDA (TOTAL)	0.0	0.0	4.16	1.39	1.39	0.1
0	PROSTIGMATA						
19	HYDRACARINA (LPIL)	0.0	0.0	4.16	1.39	1.39	0.1
0	CLADOCERA (TOTAL)	31.46	14.97	867.04	304.49	281.31	21.6
0	BOSMINIDAE						
1	BOSMINIDAE (LPIL)	7.59	5.70	220.42	77.90	71.26	5.5
0	CHYDORIDAE						
1	ALONA RECTANGULA	0.0	0.0	3.64	1.21	1.21	0.1
1	ALONA COSTATA	0.0	0.0	3.03	1.01	1.01	0.1
1	ALONA (LPIL)	0.0	0.0	3.03	1.01	1.01	0.1
1	CHYDORUS (LPIL)	0.79	0.25	44.19	15.08	14.56	1.1
1	EURYCERCUS LAMELLATUS	0.84	0.0	30.50	10.45	10.03	0.7
1	ALONELLA (LPIL)	0.0	0.23	0.0	0.08	0.08	0.0
0	DAPHNIDAE						
6	DAPHNIA (LPIL)	18.89	3.50	407.57	143.32	132.20	10.2
1	DAPHNIA (LPIL)	2.64	5.28	154.66	54.19	50.24	3.8
0	MACROTHRICIDAE						
6	ILYOCRYPTUS (LPIL)	0.70	0.0	0.0	0.23	0.23	0.0
0	COPEPODA (TOTAL)	443.99	588.42	1727.23	919.88	405.82	65.2
0	CALANOIDA (TOTAL)						
1	DIAPTOMUS ASHLANDI	108.66	159.04	19.75	95.82	40.72	6.8
14	DIAPTOMUS ASHLANDI	0.0	18.73	0.0	6.24	6.24	0.4
1	DIAPTOMUS PALLIDUS	0.0	0.0	4.16	1.39	1.39	0.1
1	DIAPTOMUS SICILIS	70.28	93.20	4.16	55.88	26.69	4.0
1	DIAPTOMUS MINUTUS	10.19	16.20	0.0	8.79	4.73	0.6
1	DIAPTOMUS (LPIL)	0.23	0.0	0.0	0.08	0.08	0.0
1	LIMNOCALANUS MACRURUS	18.61	17.20	0.0	11.94	5.98	0.8
14	CALANOIDA (LPIL)	170.94	213.05	59.78	147.92	45.72	10.5
0	CYCLOPOIDA (TOTAL)						
1	CYCLOPS BICUSPIDATUS THOMASI	21.09	35.90	33.70	30.23	4.61	2.1

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

ZOOPLANKTON DENSITY

STATION REPORT

LS	TAXA	3	6	10	X	S.E.	REL AB%
1	CYCLOPS VERNALIS	0.55	0.0	36.39	12.31	12.04	0.9
1	EUCYCLOPS AGILIS	0.0	0.0	9.10	3.03	3.03	0.2
1	EUCYCLOPS PRIONOPHORUS	0.0	0.0	15.51	5.17	5.17	0.4
1	EUCYCLOPS SPERATUS	0.0	0.0	7.28	2.43	2.43	0.2
14	CYCLOPOIDA (LPIL)	31.63	31.30	1491.30	518.08	486.61	36.7
1	CYCLOPOIDA (LPIL)	2.52	0.0	0.0	0.84	0.84	0.1
0	HARPACTICOIDA (TOTAL)						
1	HARPACTICOIDA (LPIL)	5.89	3.03	14.38	7.77	3.41	0.4
14	HARPACTICOIDA (LPIL)	3.41	0.78	31.71	11.97	9.90	0.8
0	AMPHIPODA (TOTAL)	1.53	0.0	3.64	1.72	1.05	0.1
0	HAUSTORIIDAE						
1	PONTOPOREIA	0.25	0.0	0.0	0.08	0.08	0.0
1	PONTOPOREIA AFFINIS	0.45	0.0	0.0	0.15	0.15	0.0
6	AMPHIPODA (LPIL)	0.83	0.0	3.64	1.49	1.10	0.1
0	DIPTERA NEMATOCERA (TOTAL)	1.26	0.26	46.87	16.13	15.37	1.1
0	CERATOPOGONIDAE						
2	CERATOPOGONIDAE (LPIL)	0.0	0.0	3.03	1.01	1.01	0.1
0	CHIRONOMIDAE						
2	CHIRONOMIDAE (LPIL)	1.26	0.26	43.84	15.12	14.36	1.1
	TOTAL	593.42	670.74	2966.66	1410.27	778.51	100.0
	DIVERSITY (H PRIME)	2.62	2.56	2.47	2.55	0.05	
	DIVERSITY (J PRIME)	0.72	0.74	0.62	0.69	0.04	
	NUMBER OF TAXA	24	17	27	35		

ABOVE COMPUTED USING SAMPLE IDS

11	12	13	14
21	22	23	24
31	32	33	34
41	42	43	44
51	52	53	54
61	62	63	64
101	102	103	104

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

ZOOPLANKTON DENSITY

REPLICATE REPORT

PC TC GC LOC
5 51 51 0 1 00

SID	DATE	TIME	D/N	DURATION		SD	WD	TOW				SAMP VOL				WIND		CURRENT		TEMP		BT	TURBD	COND	DO	PH	SALN	P
				UNITS	C			SP	D	UNITS	C	SECH	WT	SC	DI	CL	SP	DI	AIR	WAT								
71	4/17/80	1511	0	0.0	0	4.6	4.6	0.0	0	3.6	3	0.5	8	0	3	2	6	0.0	0	12.2	5.5	0	0.0	0	0.0	0.0	0.0	0.0
72	4/17/80	1544	0	0.0	0	4.6	4.6	0.0	0	3.6	3	0.5	8	0	3	2	6	0.0	0	12.2	5.5	0	0.0	0	0.0	0.0	0.0	0.0
73	4/17/80	1511	0	0.0	0	4.6	4.6	0.0	0	3.6	3	0.5	8	0	3	2	6	0.0	0	12.2	5.5	0	0.0	0	0.0	0.0	0.0	0.0
74	4/17/80	1511	0	0.0	0	4.6	4.6	0.0	0	3.6	3	0.5	8	0	3	2	6	0.0	0	12.2	5.5	0	0.0	0	0.0	9.9	0.0	0.0

LS	TAXA					REL	S.E.	ABZ
		1	2	3	4			
0	CHIDARIA (TOTAL)	0.0	0.0	0.0	3.33	0.83	0.83	0.1
0	HYDROZOA							
19	HYDRA (LPIL)	0.0	0.0	0.0	3.33	0.83	0.83	0.1
0	NEMATODA (TOTAL)	138.89	38.46	121.53	80.00	94.72	22.46	11.6
1	NEMATODA (LPIL)	138.89	38.46	121.53	80.00	94.72	22.46	11.6
0	OLIGOCHAETA (TOTAL)	3.47	0.0	0.0	0.0	0.87	0.87	0.1
0	NAIDIDAE							
1	NAIDIDAE (LPIL)	3.47	0.0	0.0	0.0	0.87	0.87	0.1
0	ARACHNIDA (TOTAL)	0.0	0.0	3.47	0.0	0.87	0.87	0.1
0	PROSTIGMATA							
19	HYDRACARINA (LPIL)	0.0	0.0	3.47	0.0	0.87	0.87	0.1
0	CLADOCERA (TOTAL)	13.89	0.0	0.0	3.33	4.31	3.29	0.5
0	BOSMINIDAE							
1	BOSMINIDAE (LPIL)	3.47	0.0	0.0	3.33	1.70	0.98	0.2
0	DAPHNIDAE							
1	DAPHNIA (LPIL)	10.42	0.0	0.0	0.0	2.60	2.60	0.3
0	COPEPODA (TOTAL)	625.00	946.15	701.39	590.00	715.63	80.28	87.6
0	CALANOIDA (TOTAL)							
1	DIAPTOMUS ASHLANDI	177.08	219.23	149.31	213.33	189.74	16.38	23.2
1	DIAPTOMUS SICILIS	79.86	242.31	121.53	103.33	136.76	36.20	16.7
1	DIAPTOMUS MINUTUS	24.31	3.85	45.14	0.0	18.32	10.41	2.2
1	LIMNOCALANUS MACRURUS	27.78	26.92	48.61	16.67	29.99	6.70	3.7
14	CALANOIDA (LPIL)	260.42	403.85	281.25	213.33	289.71	40.61	35.5
0	CYCLOPOIDA (TOTAL)							
1	CYCLOPS BICUSPIDATUS THOMASI	17.36	11.54	20.83	10.00	14.93	2.53	1.8
1	TROPOCYCLOPS PRASINUS MEXICANA	0.0	0.0	3.47	0.0	0.87	0.87	0.1
14	CYCLOPOIDA (LPIL)	38.19	38.46	31.25	33.33	35.31	1.79	4.3
TOTAL		781.25	984.61	826.39	676.67	817.23	64.00	10'
DIVERSITY (H PRIME)		2.61	2.12	2.64	2.34	2.43	0.12	
DIVERSITY (J PRIME)		0.75	0.73	0.79	0.74	0.75	0.02	
NUMBER OF TAXA		11	8	10	9	14		

ABOVE COMPUTED USING SAMPLE IDS
71 72 73 74

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

ZOOPLANKTON DENSITY

REPLICATE REPORT

PC TC GC LOC
5 51 51 0 1 00

SID	DATE	TIME	D/N	DURATION		SD	WD	TOW		SAMP VOL		WIND		CURRENT		TEMP		BT	TURBD	COND	DO	PH	SALN	P			
				UNITS	C			SP	D	UNITS	C	SECH	WT	SC	DI	CL	SP								DI	AIR	WAT
81	4/17/80	1515	0	0.0	0	9.1	9.1	0.0	0	7.1	3	0.5	8	0	3	2	6	0.0	0	11.1	5.6	0	0.0	0	0.0	0.0	0.0
82	4/17/80	1515	0	0.0	0	9.1	9.1	0.0	0	7.1	3	0.5	8	0	3	2	6	0.0	0	11.1	5.6	0	0.0	0	0.0	0.0	0.0
83	4/17/80	1515	0	0.0	0	9.1	9.1	0.0	0	7.1	3	1.2	8	0	3	2	6	0.0	0	11.1	5.6	0	0.0	0	0.0	0.0	0.0
84	4/17/80	1515	0	0.0	0	9.1	9.1	0.0	0	7.1	3	1.2	8	0	3	2	6	0.0	0	11.1	5.6	0	0.0	0	0.0	0.0	0.0

LS	TAXA	1	2	3	4	X	S.E.	ASX
0	NEMATODA (TOTAL)	38.03	38.03	25.35	19.01	30.11	4.75	3.8
1	NEMATODA (LPIL)	38.03	38.03	25.35	19.01	30.11	4.75	3.8
0	CLADOCERA (TOTAL)	12.68	16.90	10.67	6.34	11.70	2.19	1.5
0	BOSMINIDAE							
1	BOSMINIDAE (LPIL)	0.0	16.90	3.62	3.17	5.92	3.75	0.8
0	DAPHNIDAE							
1	DAPHNIA PULEX	4.23	0.0	3.62	0.0	1.96	1.14	0.2
6	DAPHNIA (LPIL)	8.45	0.0	3.62	3.17	3.81	1.74	0.5
0	COPEPODA (TOTAL)	861.97	802.82	738.83	576.76	745.09	61.49	94.7
0	CALANOIDA (TOTAL)							
1	DIAPTOMUS ASHLANDI	211.27	223.94	170.22	123.59	182.26	22.67	23.2
1	DIAPTOMUS SICILIS	198.59	207.04	162.98	180.63	187.31	9.80	23.8
1	DIAPTOMUS MINUTUS	0.0	0.0	0.0	3.17	0.79	0.79	0.1
1	LIHNOCALANUS MACRURUS	16.90	25.35	14.49	22.18	19.73	2.47	2.5
14	CALANOIDA (LPIL)	384.51	270.42	354.93	202.82	303.17	41.27	38.5
0	CYCLOPOIDA (TOTAL)							
1	CYCLOPS BICUSPIDATUS THOMASI	8.45	29.58	3.62	12.68	13.58	5.64	1.7
14	CYCLOPOIDA (LPIL)	42.25	46.48	32.60	31.69	38.25	3.64	4.9
	TOTAL	912.68	857.75	775.05	602.11	786.70	67.78	100.0
	DIVERSITY (H PRIME)	2.16	2.38	2.08	2.31	2.23	0.07	
	DIVERSITY (J PRIME)	0.68	0.79	0.62	0.70	0.70	0.04	
	NUMBER OF TAXA	9	8	10	10	11		

ABOVE COMPUTED USING SAMPLE IDS
81 82 83 84

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

ZOOPLANKTON DENSITY

REPLICATE REPORT

PC TC GC LOC
5 51 51 0 1 00

SID	DATE	TIME	D/M	DURATION			TOW		SAMP VOL		WIND		CURRENT		TEMP		BT	TURBD	COND	DO	PH	SALN	P					
				UNITS	C	SD	WD	SP	D	UNITS	C	SECH	W	T	SC	DI								CL	SP	DI	AIR	WAT
91	4/17/80	1433	0	0.0	0	15.2	15.2	0.0	0	11.9	3	1.5	8	0	3	2	6	0.0	0	8.9	5.5	0	0.0	0	0.0	0.0	0.0	0.0
92	4/17/80	1433	0	0.0	0	15.2	15.2	0.0	0	11.9	3	1.5	8	0	3	2	6	0.0	0	8.9	5.5	0	0.0	0	0.0	0.0	0.0	0.0
93	4/17/80	1433	0	0.0	0	15.2	15.2	0.0	0	11.9	3	1.5	8	0	3	2	6	0.0	0	8.9	5.5	0	0.0	0	0.0	0.0	0.0	0.0
94	4/17/80	1433	0	0.0	0	15.2	15.2	0.0	0	11.9	3	1.5	8	0	3	2	6	0.0	0	8.9	5.5	0	0.0	0	0.0	0.0	0.0	0.0
																						-	REL					
LS	TAXA																					X	S.E.	AB%				
																						1	2	3	4			
0	NEMATODA (TOTAL)																					10.50	12.61	2.80	13.35	9.81	2.41	1.3
1	NEMATODA (LPIL)																					10.50	12.61	2.80	13.35	9.81	2.41	1.3
0	OLIGOCHAETA (TOTAL)																					2.63	2.52	22.41	22.24	12.45	5.70	1.6
0	HAIDIDAE																											
1	HAIDIDAE (LPIL)																					2.63	2.52	22.41	22.24	12.45	5.70	1.6
0	CLADOCERA (TOTAL)																					5.25	2.52	8.40	0.0	4.04	1.81	0.5
0	BOSMINIDAE																											
1	BOSMINIDAE (LPIL)																					0.0	2.52	2.80	0.0	1.33	0.77	0.2
0	DAPHNIDAE																											
1	DAPHNIA (LPIL)																					5.25	0.0	5.60	0.0	2.71	1.57	0.4
0	COPEPODA (TOTAL)																					651.26	617.65	778.71	898.66	736.57	64.21	96.4
0	CALANOIDA (TOTAL)																											
1	DIAPYLOUS OREGONENSIS																					2.63	0.0	0.0	4.45	1.77	1.09	0.2
1	DIAPYLOUS ASHLANDI																					278.36	199.16	210.08	262.48	237.52	19.40	31.1
1	DIAPYLOUS SICILIS																					63.03	115.97	112.04	66.73	89.44	14.22	11.7
1	DIAPYLOUS MINUTUS																					23.63	12.61	22.41	17.80	19.11	2.51	2.5
1	LIHNOCALANUS MACRURUS																					23.63	7.56	19.61	44.49	23.82	7.69	3.1
14	CALANOIDA (LPIL)																					215.34	219.33	263.31	298.07	249.01	19.64	32.6
0	CYCLOPOIDA (TOTAL)																											
1	CYCLOPS BICUSPIDATUS THOMASI																					39.39	20.17	61.62	48.94	42.53	8.73	5.6
1	TROPYCYCLOPS PRASINUS MEXICANA																					0.0	0.0	5.60	0.0	1.40	1.40	0.2
14	CYCLOPOIDA (LPIL)																					5.25	35.29	11.20	75.63	31.85	15.97	4.2
0	HARPACTICOIDA (TOTAL)																											
1	HARPACTICOIDA (LPIL)																					0.0	0.0	72.83	35.59	27.10	17.40	3.5
14	HARPACTICOIDA (LPIL)																					0.0	7.56	0.0	44.49	13.01	10.64	1.7
0	AMPHIPODA (TOTAL)																					0.0	0.0	0.0	4.45	1.11	1.11	0.1
6	AMPHIPODA (LPIL)																					0.0	0.0	0.0	4.45	1.11	1.11	0.1
TOTAL																						669.64	635.29	812.32	938.70	763.99	69.72	100.0
DIVERSITY (H PRIME)																						2.22	2.33	2.68	2.73	2.49	0.13	
DIVERSITY (J PRIME)																						0.64	0.67	0.72	0.76	0.70	0.03	
NUMBER OF TAXA																						11	11	13	12	15		

ABOVE COMPUTED USING SAMPLE IDS

91 92 93 94

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

ZOOPLANKTON DENSITY

STATION REPORT

LS	TAXA	7	8	9	- X	S.E.	REL AB%
0	CNIDARIA (TOTAL)	0.83	0.0	0.0	0.28	0.28	0.0
0	HYDROZOA						
19	HYDRA (LPIL)	0.83	0.0	0.0	0.28	0.28	0.0
0	NEMATODA (TOTAL)	94.72	30.11	9.81	44.88	25.60	5.7
1	NEMATODA (LPIL)	94.72	30.11	9.81	44.88	25.60	5.7
0	OLIGOCHAETA (TOTAL)	0.87	0.0	12.45	4.44	4.01	0.6
0	NAIDIDAE						
1	NAIDIDAE (LPIL)	0.87	0.0	12.45	4.44	4.01	0.6
0	ARACHNIDA (TOTAL)	0.87	0.0	0.0	0.29	0.29	0.0
0	PROSTIGMATA						
19	HYDRACARINA (LPIL)	0.87	0.0	0.0	0.29	0.29	0.0
0	CLADOCERA (TOTAL)	4.31	11.70	4.04	6.68	2.51	0.8
0	BOSMINIDAE						
1	BOSMINIDAE (LPIL)	1.70	5.92	2.33	2.98	1.47	0.4
0	DAPHNIDAE						
1	DAPHNIA PULEX	0.0	1.96	0.0	0.65	0.65	0.1
6	DAPHNIA (LPIL)	0.0	3.81	0.0	1.27	1.27	0.2
1	DAPHNIA (LPIL)	2.60	0.0	2.71	1.77	0.89	0.2
0	COPEPODA (TOTAL)	715.63	745.09	736.57	732.43	8.75	92.8
0	CALANOIDA (TOTAL)						
1	DIAPTOMUS OREGONENSIS	0.0	0.0	1.77	0.59	0.59	0.1
1	DIAPTOMUS ASHLANDI	189.74	182.26	237.52	203.17	17.31	25.7
1	DIAPTOMUS SICILIS	136.76	187.31	89.44	137.84	28.26	17.5
1	DIAPTOMUS MINUTUS	18.32	0.79	19.11	12.74	5.98	1.6
1	LIHNOCALANUS MACRURUS	29.99	19.73	23.82	24.52	2.98	3.1
14	CALANOIDA (LPIL)	289.71	303.17	249.01	280.63	16.28	35.6
0	CYCLOPOIDA (TOTAL)						
1	CYCLOPS BICUSPIDATUS THOMASI	14.93	13.50	42.53	23.68	9.43	3.0
1	TROPPOCYCLOPS PRASINUS MEXICANA	0.87	0.0	1.40	0.76	0.41	0.1
14	CYCLOPOIDA (LPIL)	35.31	38.25	31.85	35.14	1.85	4.5
0	HARPACTICOIDA (TOTAL)						
1	HARPACTICOIDA (LPIL)	0.0	0.0	27.10	9.03	9.03	1.1
14	HARPACTICOIDA (LPIL)	0.0	0.0	13.01	4.34	4.34	0.5
0	AMPHIPODA (TOTAL)	0.0	0.0	1.11	0.37	0.37	0.0
6	AMPHIPODA (LPIL)	0.0	0.0	1.11	0.37	0.37	0.0
	TOTAL	817.23	786.90	763.99	789.37	15.42	100.0
	DIVERSITY (H PRIME)	2.43	2.23	2.49	2.38	0.06	
	DIVERSITY (J PRIME)	0.75	0.70	0.70	0.72	0.02	
	NUMBER OF TAXA	14	11	15	18		

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71	72	73	74
81	82	83	84
91	92	93	94

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LS	TAXA		- X	S.E.	REL AB%
		9			
0	CHNIDARIA (TOTAL)	0.28	0.28	-1.00	0.0
0	HYDROZOA				
19	HYDRA (LPIL)	0.28	0.28	-1.00	0.0
0	NEMATODA (TOTAL)	44.88	44.88	-1.00	5.7
1	NEMATODA (LPIL)	44.88	44.88	-1.00	5.7
0	OLIGOCHAETA (TOTAL)	4.44	4.44	-1.00	0.6
0	NAIDIDAE				
1	NAIDIDAE (LPIL)	4.44	4.44	-1.00	0.6
0	ARACHNIDA (TOTAL)	0.29	0.29	-1.00	0.0
0	FROSTIGNATA				
19	HYDRACARINA (LPIL)	0.29	0.29	-1.00	0.0
0	CLADOCERA (TOTAL)	6.68	6.68	-1.00	0.8
0	BOSMINIDAE				
1	BOSMINIDAE (LPIL)	2.98	2.98	-1.00	0.4
0	DAPHNIDAE				
1	DAPHNIA PULEX	0.65	0.65	-1.00	0.1
6	DAPHNIA (LPIL)	1.27	1.27	-1.00	0.2
1	DAPHNIA (LPIL)	1.77	1.77	-1.00	0.2
0	COPEPODA (TOTAL)	732.43	732.43	-1.00	92.8
0	CALANOIDA (TOTAL)				
1	DIAPTOMUS OREGONENSIS	0.59	0.59	-1.00	0.1
1	DIAPTOMUS ASHLANDI	203.17	203.17	-1.00	25.7
1	DIAPTOMUS SICILIS	137.84	137.84	-1.00	17.5
1	DIAPTOMUS MINUTUS	12.74	12.74	-1.00	1.6
1	LIHNOCALANUS MACRURUS	24.52	24.52	-1.00	3.1
14	CALANOIDA (LPIL)	280.63	280.63	-1.00	35.6
0	CYCLOPOIDA (TOTAL)				
1	CYCLOPS BICUSPIDATUS THOMASI	23.68	23.68	-1.00	3.0
1	TROPOCYCLOPS PRASINUS MEXICANA	0.76	0.76	-1.00	0.1
14	CYCLOPOIDA (LPIL)	35.14	35.14	-1.00	4.5
0	HARPACTICOIDA (TOTAL)				
1	HARPACTICOIDA (LPIL)	9.03	9.03	-1.00	1.1
14	HARPACTICOIDA (LPIL)	4.34	4.34	-1.00	0.5
0	AMPHIPODA (TOTAL)	0.37	0.37	-1.00	0.0
6	AMPHIPODA (LPIL)	0.37	0.37	-1.00	0.0
TOTAL		789.37	789.37	-1.00	100.0
DIVERSITY (H PRIME)		2.38	2.38	-1.00	
DIVERSITY (J PRIME)		0.72	0.72	-1.00	
NUMBER OF TAXA		18	18		

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				UNITS	C	SD	WD	SP	D	UNITS	C	SECH	WT	SC	DI	CL	SP	DI							AIR	WAT
171	4/20/80	1025	0	0.0	0	1.0	1.0	0.0	0	0.0	3	1.0	8.0	1	5	0.0	0	17.8	16.0	0	0.0	0	8.9	0.0	0.0	
172	4/20/80	1025	0	0.0	0	1.0	1.0	0.0	0	0.0	3	1.0	8.0	4	1	5	0.0	0	17.8	16.0	0	0.0	0	8.9	0.0	0.0
173	4/20/80	1025	0	0.0	0	1.0	1.0	0.0	0	0.0	3	1.0	8.0	4	1	5	0.0	0	17.8	16.0	0	0.0	0	8.9	0.0	0.0
174	4/20/80	1025	0	0.0	0	1.0	1.0	0.0	0	0.0	3	1.0	8.0	4	1	5	0.0	0	17.8	16.0	0	0.0	0	8.9	0.0	0.0

LS	TAXA	1	2	3	4	X	S.E.	ABZ
0	NEMATODA (TOTAL)	0.0	1666.67	833.33	416.67	729.17	355.80	0.0
1	NEMATODA (LPIL)	0.0	1666.67	833.33	416.67	729.17	355.80	0.0
0	CLADOCERA (TOTAL)	104166.56	25333.32	86249.87	102083.25	79458.25	18479.77	89.8
0	BOSMINIDAE							
1	BOSMINIDAE (LPIL)	833.33	333.33	833.33	0.0	500.00	204.12	0.6
0	CHYDORIDAE							
1	ALONA RECTANGULA	416.67	166.67	416.67	0.0	250.00	102.06	0.3
1	ALONA AFFINIS	416.67	0.0	0.0	0.0	104.17	104.17	0.1
1	ALONA COSTATA	0.0	0.0	416.67	0.0	104.17	104.17	0.1
1	CHYDORUS (LPIL)	102499.94	24499.99	83749.94	102083.25	78208.25	18428.66	88.4
1	PLEUROXUS DENTICULATUS	0.0	0.0	833.33	0.0	208.33	208.33	0.2
0	DAPHNIDAE							
6	DAPHNIA (LPIL)	0.0	333.33	0.0	0.0	83.33	83.33	0.1
0	OSTRACODA (TOTAL)	0.0	1000.00	0.0	0.0	250.00	250.00	0.3
19	OSTRACODA (LPIL)	0.0	1000.00	0.0	0.0	250.00	250.00	0.3
0	COPEPODA (TOTAL)	11249.99	4333.33	7083.33	8749.99	7854.16	1452.72	8.9
0	CALANOIDA (TOTAL)							
14	CALANOIDA (LPIL)	0.0	166.67	0.0	0.0	41.67	41.67	0.0
0	CYCLOPOIDA (TOTAL)							
1	CYCLOPS VERNALIS	416.67	0.0	833.33	833.33	520.83	199.46	0.6
14	CYCLOPOIDA (LPIL)	10416.66	4166.66	6250.00	7500.00	7083.33	1306.59	8.0
0	HARPACTICOIDA (TOTAL)							
1	HARPACTICOIDA (LPIL)	416.67	0.0	0.0	416.67	208.33	120.28	0.2
0	DIPTERA NEMATOCERA (TOTAL)	416.67	333.33	0.0	0.0	187.50	109.58	0.2
0	CHIRONOMIDAE							
2	CHIRONOMIDAE (LPIL)	416.67	333.33	0.0	0.0	187.50	109.58	0.2
TOTAL		115833.06	32666.64	94166.44	111249.87	88479.00	19179.25	100.0
DIVERSITY (H PRIME)		0.67	1.34	0.72	0.49	0.80	0.19	
DIVERSITY (J PRIME)		0.22	0.42	0.24	0.21	0.27	0.05	
NUMBER OF TAXA		8	9	8	5	14		

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SID	DATE	TIME	D/N	DURATION			SD	WD	TOW			SAMP VOL			WIND			CURRENT			TEMP		BT	TURBD	COND	DO	PH	SALN P
				UNITS	C				SP	D	UNITS	C	SECH	WT	SC	DI	CL	SP	DI	AIR	WAT							
181	4/20/80	1025	0	0.0	0	1.0	1.0	0.0	0	0.0	3	1.0	8.0	4	1	5	0.0	0	17.8	15.5	0	0.0	0	9.1	0.0	0.0	0	
182	4/20/80	1025	0	0.0	0	1.0	1.0	0.0	0	0.0	3	1.0	8.0	4	1	5	0.0	0	17.8	15.5	0	0.0	0	9.1	0.0	0.0	0	
183	4/20/80	1025	0	0.0	0	1.0	1.0	0.0	0	0.0	3	1.0	8.0	4	1	5	0.0	0	17.8	15.5	0	0.0	0	9.1	0.0	0.0	0	
184	4/20/80	1025	0	0.0	0	1.0	1.0	0.0	0	0.0	3	1.0	8.0	4	1	5	0.0	0	17.8	15.5	0	0.0	0	9.1	0.0	0.0	0	

LS	TAXA	1	2	3	4	X	S.E.	REL ABZ
0	NEMATODA (TOTAL)	500.00	666.67	333.33	0.0	375.00	142.32	0.8
1	NEMATODA (LPIL)	500.00	666.67	333.33	0.0	375.00	142.32	0.8
0	ARACHNIDA (TOTAL)	0.0	166.67	0.0	0.0	41.67	41.67	0.1
0	PROSTIGMATA							
1	HYDRACARINA (TOTAL)	0.0	166.67	0.0	0.0	41.67	41.67	0.1
0	CLADOCERA (TOTAL)	31333.32	37666.65	38999.98	42999.98	37749.98	2420.50	84.0
0	BOSMINIDAE							
1	BOSMINIDAE (LPIL)	166.67	666.67	666.67	166.67	416.67	144.34	0.9
0	CHYDORIDAE							
1	ALONA RECTANGULA	333.33	0.0	166.67	0.0	125.00	79.79	0.3
1	ALONA INTERMEDIA	0.0	0.0	333.33	0.0	83.33	83.33	0.2
1	CHYDORUS (LPIL)	30333.32	36333.32	37833.32	42666.66	36791.66	2541.67	81.8
1	PLEUROXUS DENTICULATUS	333.33	500.00	0.0	166.67	250.00	107.58	0.6
1	PLEUROXUS PROCURVUS	166.67	0.0	0.0	0.0	41.67	41.67	0.1
0	DAPHNIDAE							
1	DAPHNIA (LPIL)	0.0	166.67	0.0	0.0	41.67	41.67	0.1
0	COPEPODA (TOTAL)	5499.99	8833.32	6999.99	5666.66	6749.99	771.30	15.0
0	CALANOIDA (TOTAL)							
1	DIAPTOMUS PALLIDUS	333.33	666.67	166.67	0.0	291.67	142.32	0.6
14	CALANOIDA (LPIL)	1500.00	1500.00	1000.00	500.00	1125.00	239.36	2.5
0	CYCLOPOIDA (TOTAL)							
1	CYCLOPS VERNALIS	333.33	166.67	0.0	0.0	125.00	79.79	0.3
14	CYCLOPOIDA (LPIL)	3166.67	5833.33	5666.66	5166.66	4958.33	613.79	11.0
0	HARPACTICOIDA (TOTAL)							
1	HARPACTICOIDA (LPIL)	0.0	666.67	166.67	0.0	208.33	157.75	0.5
14	HARPACTICOIDA (LPIL)	166.67	0.0	0.0	0.0	41.67	41.67	0.1
0	EPHEMEROPTERA (TOTAL)	166.67	0.0	0.0	0.0	41.67	41.67	0.1
0	CAENIDAE							
13	CAENIDAE (LPIL)	166.67	0.0	0.0	0.0	41.67	41.67	0.1
TOTAL		37499.97	47333.30	46333.30	48666.65	44958.30	2031.63	100.0
DIVERSITY (H PRIME)		1.20	1.32	1.01	0.63	1.04	0.15	
DIVERSITY (J PRIME)		0.33	0.38	0.32	0.27	0.33	0.02	
NUMBER OF TAXA		12	11	9	5	15		

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LS	TAXA	17	18	X	S.E.	REL AB%
0	NEMATODA (TOTAL)	729.17	375.00	552.08	177.08	0.8
1	NEMATODA (LPIL)	729.17	375.00	552.08	177.08	0.8
0	ARACHNIDA (TOTAL)	0.0	41.67	20.83	20.83	0.0
0	PROSTIGMATA					
1	HYDRACARINA (TOTAL)	0.0	41.67	20.83	20.83	0.0
0	CLADOCERA (TOTAL)	79458.25	37749.98	58604.11	20854.13	87.0
0	BOSMINIDAE					
1	BOSMINIDAE (LPIL)	500.00	416.67	458.33	41.67	0.7
0	CHYDORIDAE					
1	ALONA RECTANGULA	250.00	125.00	187.50	62.50	0.3
1	ALONA AFFINIS	104.17	0.0	52.08	52.08	0.1
1	ALONA COSTATA	104.17	0.0	52.08	52.08	0.1
1	ALONA INTERMEDIA	0.0	83.33	41.67	41.67	0.1
1	CHYDORUS (LPIL)	78208.25	36791.66	57499.95	20708.30	86.2
1	PLEUROXUS DENTICULATUS	208.33	250.00	229.17	20.83	0.3
1	PLEUROXUS PROCURVUS	0.0	41.67	20.83	20.83	0.0
0	DAPHNIDAE					
6	DAPHNIA (LPIL)	83.33	0.0	41.67	41.67	0.1
1	DAPHNIA (LPIL)	0.0	41.67	20.83	20.83	0.0
0	OSTRACODA (TOTAL)	250.00	0.0	125.00	125.00	0.2
19	OSTRACODA (LPIL)	250.00	0.0	125.00	125.00	0.2
0	COPEPODA (TOTAL)	7854.16	6749.99	7302.07	552.08	10.9
0	CALANOIDA (TOTAL)					
1	DIAPTOMUS PALLIDUS	0.0	291.67	145.83	145.83	0.2
14	CALANOIDA (LPIL)	41.67	1125.00	583.33	541.67	0.9
0	CYCLOPOIDA (TOTAL)					
1	CYCLOPS VERNALIS	520.83	125.00	322.92	197.92	0.5
14	CYCLOPOIDA (LPIL)	7083.33	4958.33	6020.83	1062.50	9.0
0	HARPACTICOIDA (TOTAL)					
1	HARPACTICOIDA (LPIL)	208.33	208.33	208.33	0.00	0.3
14	HARPACTICOIDA (LPIL)	0.0	41.67	20.83	20.83	0.0
0	EPHEMEROPTERA (TOTAL)	0.0	41.67	20.83	20.83	0.0
0	CAENIDAE					
13	CAENIDAE (LPIL)	0.0	41.67	20.83	20.83	0.0
0	DIPTERA HEMATOCERA (TOTAL)	187.50	0.0	93.75	93.75	0.1
0	CHIRONOMIDAE					
2	CHIRONOMIDAE (LPIL)	187.50	0.0	93.75	93.75	0.1
TOTAL		88479.00	44958.30	66718.62	21760.35	100.0
	DIVERSITY (H PRIME)	0.80	1.04	0.92	0.12	
	DIVERSITY (J PRIME)	0.27	0.33	0.30	0.03	
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LS	TAXA		X	S.E.	REL ABZ
		18			
0	NEMATODA (TOTAL)	552.08	552.08	-1.00	0.8
1	NEMATODA (LPIL)	552.08	552.08	-1.00	0.8
0	ARACHNIDA (TOTAL)	20.83	20.83	-1.00	0.0
0	PROSTIGMATA				
1	HYDRACARINA (TOTAL)	20.83	20.83	-1.00	0.0
0	CLADOCERA (TOTAL)	58604.11	58604.11	-1.00	87.8
0	BOSMINIDAE				
1	BOSMINIDAE (LPIL)	458.33	458.33	-1.00	0.7
0	CHYDORIDAE				
1	ALONA RECTANGULA	187.50	187.50	-1.00	0.3
1	ALONA AFFINIS	52.08	52.08	-1.00	0.1
1	ALONA COSTATA	52.08	52.08	-1.00	0.1
1	ALONA INTERMEDIA	41.67	41.67	-1.00	0.1
1	CHYDORUS (LPIL)	57499.95	57499.95	-1.00	86.2
1	PLEUROXUS DENTICULATUS	229.17	229.17	-1.00	0.3
1	PLEUROXUS PROCURVUS	20.83	20.83	-1.00	0.0
0	DAPHNIDAE				
6	DAPHNIA (LPIL)	41.67	41.67	-1.00	0.1
1	DAPHNIA (LPIL)	20.83	20.83	-1.00	0.0
0	OSTRACODA (TOTAL)	125.00	125.00	-1.00	0.2
19	OSTRACODA (LPIL)	125.00	125.00	-1.00	0.2
0	COPEPODA (TOTAL)	7302.07	7302.07	-1.00	10.9
0	CALANOIDA (TOTAL)				
1	DIAPTOMUS PALLIDUS	145.83	145.83	-1.00	0.2
14	CALANOIDA (LPIL)	583.33	583.33	-1.00	0.9
0	CYCLOPOIDA (TOTAL)				
1	CYCLOPS VERNALIS	322.92	322.92	-1.00	0.5
14	CYCLOPOIDA (LPIL)	6020.83	6020.83	-1.00	9.0
0	HARPACTICOIDA (TOTAL)				
1	HARPACTICOIDA (LPIL)	208.33	208.33	-1.00	0.3
14	HARPACTICOIDA (LPIL)	20.83	20.83	-1.00	0.0
0	EPHEMEROPTERA (TOTAL)	20.83	20.83	-1.00	0.0
0	CAENIDAE				
13	CAENIDAE (LPIL)	20.83	20.83	-1.00	0.0
0	DIPTERA NEMATOCERA (TOTAL)	93.75	93.75	-1.00	0.1
0	CHIRONOMIDAE				
2	CHIRONOMIDAE (LPIL)	93.75	93.75	-1.00	0.1
	TOTAL	66718.62	66718.62	-1.00	100.0
	DIVERSITY (H PRIME)	0.92	0.92	-1.00	
	DIVERSITY (J PRIME)	0.30	0.30	-1.00	
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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

ZOOPLANKTON DENSITY

REPLICATE REPORT

PC TC GC LOC
5 51 51 1 2 00

SID	DATE	TIME	D/N	DURATION		SD	TOW			SAMP VOL			WIND		CURRENT		TEMP		BT	TURBD	COND	DO	PH	SALN	P			
				UNITS	C		WD	SP	D	UNITS	C	SECH	WT	SC	DI	CL	SP	DI								AIR	WAT	
191	4/20/80	1055	0	0.0	0	1.0	1.0	0.0	0	0.0	3	1.0	8	0	4	1	5	0.0	0	17.8	19.5	0	0.0	0	8.5	0.0	0.0	0
192	4/20/80	1055	0	0.0	0	1.0	1.0	0.0	0	0.0	3	1.0	8	0	4	1	5	0.0	0	17.8	19.5	0	0.0	0	8.5	0.0	0.0	0
193	4/20/80	1055	0	0.0	0	1.0	1.0	0.0	0	0.0	3	1.0	8	0	4	1	5	0.0	0	17.8	19.5	0	0.0	0	8.5	0.0	0.0	0
194	4/20/80	1055	0	0.0	0	1.0	1.0	0.0	0	0.0	3	1.0	8	0	4	1	5	0.0	0	17.3	19.5	0	0.0	0	8.5	0.0	0.0	0

LS	TAXA	1	2	3	4	X	S.E.	AB%
0	NEMATODA (TOTAL)	13427.24	17222.21	0.0	1944.44	8148.47	4233.65	6.0
1	NEMATODA (LPIL)	13427.24	17222.21	0.0	1944.44	8148.47	4233.65	6.0
0	OLIGOCHAETA (TOTAL)	0.0	48333.30	0.0	1111.11	12361.10	11993.59	9.1
0	HAIDIDAE							
1	CHAETOGASTER (LPIL)	0.0	2777.78	0.0	0.0	694.44	694.44	0.5
1	HAIDIDAE (LPIL)	0.0	0.0	0.0	1111.11	277.78	277.78	0.2
1	OLIGOCHAETA (LPIL)	0.0	45555.52	0.0	0.0	11388.88	11388.88	8.4
0	ARACHNIDA (TOTAL)	1918.18	0.0	0.0	0.0	479.54	479.54	0.4
0	PROSTIGMATA							
1	HYDRACARINA (TOTAL)	1918.18	0.0	0.0	0.0	479.54	479.54	0.4
0	CLADOCERA (TOTAL)	143863.25	16111.10	6166.66	24166.15	47576.91	32305.84	35.2
0	BOSMINIDAE							
1	BOSMINIDAE (LPIL)	3836.35	0.0	166.67	277.78	1070.20	923.82	0.8
0	CHYDORIDAE							
1	ALONA	0.0	0.0	0.0	277.78	69.44	69.44	0.1
1	ALONA RECTANGULA	3836.35	0.0	500.00	0.0	1084.09	924.96	0.8
1	ALONA (LPIL)	1918.18	0.0	0.0	0.0	479.54	479.54	0.4
1	CHYDORUS (LPIL)	134272.37	15555.54	5500.00	23611.09	44734.75	30074.89	33.1
0	SIDIDAE							
6	DIAPHANOSOMA (LPIL)	0.0	555.56	0.0	0.0	138.89	138.89	0.1
0	OSTRACODA (TOTAL)	3836.35	3333.33	0.0	2500.00	2417.42	851.62	1.8
19	OSTRACODA (LPIL)	0.0	3333.33	0.0	0.0	833.33	833.33	0.6
1	OSTRACODA (LPIL)	3836.35	0.0	0.0	2500.00	1584.09	954.39	1.2
0	COPEPODA (TOTAL)	187981.31	19999.98	8166.66	37222.19	63342.54	41972.26	46.9
0	CALANOIDA (TOTAL)							
14	CALANOIDA (LPIL)	23018.13	1111.11	833.33	3888.89	7212.86	5313.39	5.3
0	CYCLOPOIDA (TOTAL)							
1	CYCLOPS BICUSPIDATUS THOMASI	1918.18	0.0	0.0	1111.11	757.32	467.25	0.6
1	CYCLOPS VERNALIS	0.0	555.56	0.0	0.0	138.89	138.89	0.1
1	EUCYCLOPS SPERATUS	0.0	555.56	0.0	0.0	138.89	138.89	0.1
1	MESOCYCLOPS LEUKARTI	0.0	0.0	166.67	0.0	41.67	41.67	0.0
14	CYCLOPOIDA (LPIL)	155372.37	11666.66	7166.66	29166.64	50843.08	35164.68	37.6
0	HARPACTICOIDA (TOTAL)							
1	HARPACTICOIDA (LPIL)	7672.71	1111.11	0.0	3055.55	2959.84	1693.09	2.2
14	HARPACTICOIDA (LPIL)	0.0	5000.00	0.0	0.0	1250.00	1250.00	0.9
0	DIPTERA NEMATOCERA (TOTAL)	1918.18	1111.11	0.0	277.78	826.77	433.68	0.6

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LS	TAXA					- X	S.E.	REL AB%
0	CHIRONOMIDAE	1	2	3	4			
2	CHIRONOMIDAE (LPIL)	1918.18	1111.11	0.0	277.78	826.77	433.68	0.6
TOTAL		352944.44	106110.56	14333.32	67222.12	135152.56	74993.62	100.0
DIVERSITY (H PRIME)		1.98	2.49	1.59	2.11	2.04	0.19	
DIVERSITY (J PRIME)		0.55	0.70	0.61	0.61	0.62	0.03	
NUMBER OF TAXA		12	12	6	11	20		

ABOVE COMPUTED USING SAMPLE IDS

191 192 193 194

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

ZOOPLANKTON DENSITY

REPLICATE REPORT

PC TC GC LOC
5 51 51 1 2 00

SID	DATE	TIME	D/H	DURATION		SD	WD	TOW			SAMP VOL			WIND			CURRENT			TEMP		BT	TURBD	COND	DO	PH	SALN	P
				UNITS	C			SP	D	UNITS	C	SECH	W	T	SC	DI	CL	SP	DI	AIR	WAT							
201	4/20/80	1055	0	0.0	0	1.0	1.0	0.0	0	0.0	3	1.0	8	0	4	1	5	0.0	0	17.8	19.5	0	0.0	0	8.7	0.0	0.0	0
202	4/20/80	1055	0	0.0	0	1.0	1.0	0.0	0	0.0	3	1.0	8	0	4	1	5	0.0	0	17.8	19.5	0	0.0	0	8.7	0.0	0.0	0
203	4/20/80	1055	0	0.0	0	1.0	1.0	0.0	0	0.0	3	1.0	8	0	4	1	5	0.0	0	17.8	19.5	0	0.0	0	8.7	0.0	0.0	0
204	4/20/80	1055	0	0.0	0	1.0	1.0	0.0	0	0.0	3	1.0	8	0	4	1	5	0.0	0	17.8	19.5	0	0.0	0	8.7	0.0	0.0	0

LS	TAXA	1	2	3	4	X	S.E.	REL AB%
0	NEMATODA (TOTAL)	1000.00	333.33	1666.66	1500.00	4875.00	3937.81	7.2
1	NEMATODA (LPIL)	1000.00	333.33	1666.66	1500.00	4875.00	3937.81	7.2
0	OLIGOCHAETA (TOTAL)	333.33	0.0	1066.66	833.33	2958.33	2575.14	4.4
0	NAIDIDAE							
1	NAIDIDAE (LPIL)	333.33	0.0	1066.66	833.33	2958.33	2575.14	4.4
0	CLADOCERA (TOTAL)	12333.32	9499.99	40666.64	15666.66	19541.65	7153.53	28.8
0	BOSMINIDAE							
1	BOSMINIDAE (LPIL)	4833.33	2000.00	7333.33	2000.00	4041.66	1284.48	6.0
0	CHYDORIDAE							
1	ALONA RECTANGULA	666.67	666.67	4000.00	1000.00	1583.33	809.38	2.3
6	ALONA (LPIL)	0.0	500.00	666.67	333.33	375.00	142.32	0.6
1	CHYDORUS (LPIL)	6833.33	6333.33	28666.65	12166.66	13499.99	5225.02	19.9
1	PLEUROXUS DENTICULATUS	0.0	0.0	0.0	166.67	41.67	41.67	0.1
0	OSTRACODA (TOTAL)	0.0	0.0	21333.32	166.67	5375.00	5319.59	7.9
19	OSTRACODA (LPIL)	0.0	0.0	21333.32	166.67	5375.00	5319.59	7.9
0	COPEPODA (TOTAL)	43999.98	18499.99	46666.63	26999.99	34041.64	6768.10	50.2
0	CALANOIDA (TOTAL)							
14	CALANOIDA (LPIL)	5166.66	2000.00	3333.33	3333.33	3458.33	650.41	5.1
0	CYCLOPOIDA (TOTAL)							
1	CYCLOPS BICUSPIDATUS THOMASI	1333.33	166.67	0.0	166.67	416.67	308.07	0.6
14	CYCLOPS BICUSPIDATUS THOMASI	0.0	15333.33	0.0	0.0	3833.33	3833.33	5.6
14	CYCLOPOIDA (LPIL)	36833.32	0.0	27999.98	22666.66	21874.99	7854.98	32.2
0	HARPACTICOIDA (TOTAL)							
14	HARPACTICOIDA (LPIL)	666.67	1000.00	15333.32	833.33	4458.33	3625.64	6.6
0	DIPTERA NEMATOCERA (TOTAL)	1166.67	833.33	2000.00	333.33	1083.33	350.26	1.6
0	CHIRONOMIDAE							
2	CHIRONOMIDAE (LPIL)	1166.67	833.33	2000.00	333.33	1083.33	350.26	1.6
TOTAL		58833.30	29166.63	137999.75	45499.97	67874.87	24149.21	100.0
	DIVERSITY (H PRIME)	1.91	2.11	2.99	2.17	2.29	0.24	
	DIVERSITY (J PRIME)	0.58	0.66	0.86	0.59	0.67	0.07	
	NUMBER OF TAXA	10	9	11	13	13		

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LS	TAXA			-		REL
		19	20	X	S.E.	ABZ
0	NEMATODA (TOTAL)	8148.47	4875.00	6511.73	1636.74	6.4
1	NEMATODA (LPIL)	8148.47	4875.00	6511.73	1636.74	6.4
0	OLIGOCHAETA (TOTAL)	12361.10	2958.33	7659.71	4701.38	7.5
0	NAIDIDAE					
1	CHAETOGASTER (LPIL)	694.44	0.0	347.22	347.22	0.3
1	NAIDIDAE (LPIL)	277.78	2958.33	1618.05	1340.28	1.6
1	OLIGOCHAETA (LPIL)	11388.88	0.0	5694.44	5694.44	5.6
0	ARACHNIDA (TOTAL)	479.54	0.0	239.77	239.77	0.2
0	PROSTIGMATA					
1	HYDRACARINA (TOTAL)	479.54	0.0	239.77	239.77	0.2
0	CLADOCERA (TOTAL)	47576.91	19541.65	33559.28	14017.63	33.1
0	BOSMINIDAE					
1	BOSMINIDAE (LPIL)	1070.20	4041.66	2555.93	1485.73	2.5
0	CHYDORIDAE					
1	ALONA	69.44	0.0	34.72	34.72	0.0
1	ALONA RECTANGULA	1084.09	1583.33	1333.71	249.62	1.3
1	ALONA (LPIL)	479.54	0.0	239.77	239.77	0.2
6	ALONA (LPIL)	0.0	375.00	187.50	187.50	0.2
1	CHYDORUS (LPIL)	44734.75	13499.99	29117.37	15617.38	28.7
1	PLEUROXUS DENTICULATUS	0.0	41.67	20.83	20.83	0.0
0	SIDIDAE					
6	DIAPHANOSOMA (LPIL)	138.89	0.0	69.44	69.44	0.1
0	OSTRACODA (TOTAL)	2417.42	5375.00	3896.21	1478.79	3.8
19	OSTRACODA (LPIL)	833.33	5375.00	3104.16	2270.83	3.1
1	OSTRACODA (LPIL)	1584.09	0.0	792.04	792.04	0.8
0	COPEPODA (TOTAL)	63342.54	34041.64	48692.09	14650.45	48.0
0	CALANOIDA (TOTAL)					
14	CALANOIDA (LPIL)	7212.86	3458.33	5335.59	1877.27	5.3
0	CYCLOPOIDA (TOTAL)					
1	CYCLOPS BICUSPIDATUS THOMASI	757.32	416.67	586.99	170.33	0.6
14	CYCLOPS BICUSPIDATUS THOMASI	0.0	3833.33	1916.67	1916.67	1.9
1	CYCLOPS VERNALIS	138.89	0.0	69.44	69.44	0.1
1	EUCYCLOPS SPERATUS	138.89	0.0	69.44	69.44	0.1
1	MESOCYCLOPS LEUKARTI	41.67	0.0	20.83	20.83	0.0
14	CYCLOPOIDA (LPIL)	50843.08	21874.99	36359.04	14484.05	35.8
0	HARPACTICOIDA (TOTAL)					
1	HARPACTICOIDA (LPIL)	2959.84	0.0	1479.92	1479.92	1.5
14	HARPACTICOIDA (LPIL)	1250.00	4458.33	2854.16	1604.16	2.8
0	DIPTERA NEMATOCERA (TOTAL)	826.77	1083.33	955.05	128.28	0.9
0	CHIRONOMIDAE					
2	CHIRONOMIDAE (LPIL)	826.77	1083.33	955.05	128.28	0.9
	TOTAL	135152.56	67874.87	101513.69	33638.84	100.0
	DIVERSITY (H PRIME)	2.04	2.29	2.17	0.13	
	DIVERSITY (J PRIME)	0.62	0.67	0.65	0.03	

NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

ZOOPLANKTON DENSITY

STATION REPORT

LS TAXA

NUMBER OF TAXA

ABOVE COMPUTED USING SAMPLE IDS

191	192	193	194
201	202	203	204

19

20

20

13

-

X

S.E.

REL

ABX

21

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NORTHERN INDIANA POWER SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

ZOOPLANKTON DENSITY

STATION REPORT

LS	TAXA		- X	S.E.	REL ABX
		20			
0	HEMATODA (TOTAL)	6511.73	6511.73	-1.00	6.4
1	HEMATODA (LPIL)	6511.73	6511.73	-1.00	6.4
0	OLIGOCHAETA (TOTAL)	7659.71	7659.71	-1.00	7.5
0	NAIDIDAE				
1	CHAETOGASTER (LPIL)	347.22	347.22	-1.00	0.3
1	NAIDIDAE (LPIL)	1618.05	1618.05	-1.00	1.6
1	OLIGOCHAETA (LPIL)	5694.44	5694.44	-1.00	5.6
0	ARACHNIDA (TOTAL)	239.77	239.77	-1.00	0.2
0	PROSTIGMATA				
1	HYDRACARINA (TOTAL)	239.77	239.77	-1.00	0.2
0	CLADOCERA (TOTAL)	33559.28	33559.28	-1.00	33.1
0	BOSMINIDAE				
1	BOSMINIDAE (LPIL)	2555.93	2555.93	-1.00	2.5
0	CHYDORIDAE				
1	ALONA	34.72	34.72	-1.00	0.0
1	ALONA RECTANGULA	1333.71	1333.71	-1.00	1.3
1	ALONA (LPIL)	239.77	239.77	-1.00	0.2
6	ALONA (LPIL)	187.50	187.50	-1.00	0.2
1	CHYDORUS (LPIL)	29117.37	29117.37	-1.00	28.7
1	PLEUROXUS DENTICULATUS	20.83	20.83	-1.00	0.0
0	SIDIDAE				
6	DIAPHANOSOMA (LPIL)	69.44	69.44	-1.00	0.1
0	OSTRACODA (TOTAL)	3896.21	3896.21	-1.00	3.8
19	OSTRACODA (LPIL)	3104.16	3104.16	-1.00	3.1
1	OSTRACODA (LPIL)	792.04	792.04	-1.00	0.8
0	COPEPODA (TOTAL)	48692.09	48692.09	-1.00	48.0
0	CALANOIDA (TOTAL)				
14	CALANOIDA (LPIL)	5335.59	5335.59	-1.00	5.3
0	CYCLOPOIDA (TOTAL)				
1	CYCLOPS BICUSPIDATUS THOMASI	586.99	586.99	-1.00	0.6
14	CYCLOPS BICUSPIDATUS THOMASI	1916.67	1916.67	-1.00	1.9
1	CYCLOPS VERNALIS	69.44	69.44	-1.00	0.1
1	EUCYCLOPS SPERATUS	69.44	69.44	-1.00	0.1
1	MESOCYCLOPS LEUKARTI	20.83	20.83	-1.00	0.0
14	CYCLOPOIDA (LPIL)	36359.04	36359.04	-1.00	35.8
0	HARPACTICOIDA (TOTAL)				
1	HARPACTICOIDA (LPIL)	1479.92	1479.92	-1.00	1.5
14	HARPACTICOIDA (LPIL)	2854.16	2854.16	-1.00	2.8
0	DIPTERA NEMATOCERA (TOTAL)	955.05	955.05	-1.00	0.9
0	CHIRONOMIDAE				
2	CHIRONOMIDAE (LPIL)	955.05	955.05	-1.00	0.9
	TOTAL	101513.69	101513.69	-1.00	100.0
	DIVERSITY (H PRIME)	2.17	2.17	-1.00	
	DIVERSITY (J PRIME)	0.65	0.65	-1.00	

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

ZOOPLANKTON DENSITY

STATION REPORT

LS TAXA 20
NUMBER OF TAXA 21

-
X S.E. REL
21 AB%

ABOVE COMPUTED USING SAMPLE IDS
191 192 193 194
201 202 203 204

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

ZOOPLANKTON DENSITY

REPLICATE REPORT

PC TC GC LOC
5 51 51 1 3 00

SID	DATE	TIME	D/N	DURATION		SD	WD	TOW		SAMP VOL		WIND		CURRENT		TEMP		BT	TURBD	COND	DO	PH	SALN	P				
				UNITS	C			SP	D	UNITS	C	SECH	WT	SC	DI	CL	SP								DI	AIR	WAT	
211	4/20/80	1327	0	0.0	0	1.0	1.0	0.0	0	0.0	3	1.0	8	0	4	1	5	0.0	0	17.8	19.0	0	0.0	0	12.0	0.0	0.0	0
212	4/20/80	1327	0	0.0	0	1.0	1.0	0.0	0	0.0	3	1.0	8	0	4	1	5	0.0	0	17.8	19.0	0	0.0	0	12.0	0.0	0.0	0
213	4/20/80	1327	0	0.0	0	1.0	1.0	0.0	0	0.0	3	1.0	8	0	4	1	5	0.0	0	17.8	19.0	0	0.0	0	12.0	0.0	0.0	0
214	4/20/80	1327	0	0.0	0	1.0	1.0	0.0	0	0.0	3	1.0	8	0	4	1	5	0.0	0	17.8	19.0	0	0.0	0	12.0	0.0	0.0	0

LS	TAXA	1	2	3	4	X	S.E.	REL	AB%
0	NEMATODA (TOTAL)	36666.65	333.33	7999.99	2333.33	11833.32	8435.48	5.0	
1	NEMATODA (LPIL)	36666.65	333.33	7999.99	2333.33	11833.32	8435.48	5.0	
0	OLIGOCHAETA (TOTAL)	13333.33	166.67	666.67	500.00	3666.67	3223.90	1.5	
0	NAIDIDAE								
1	NAIDIDAE (LPIL)	13333.33	166.67	666.67	500.00	3666.67	3223.90	1.5	
0	CLADOCERA (TOTAL)	0.0	833.33	0.0	166.67	250.00	198.37	0.1	
0	CHYDORIDAE								
1	CHYDORUS (LPIL)	0.0	666.67	0.0	0.0	166.67	166.67	0.1	
1	PLEUROXUS PROCURVUS	0.0	166.67	0.0	166.67	83.33	48.11	0.0	
0	OSTRACODA (TOTAL)	36666.65	2666.67	12666.66	4666.66	14166.66	7804.91	5.9	
14	OSTRACODA (LPIL)	36666.65	2666.67	12666.66	4666.66	14166.66	7804.91	5.9	
0	COPEPODA (TOTAL)	703333.06	8833.32	97999.87	23999.99	208541.56	166076.50	87.4	
0	CYCLOPOIDA (TOTAL)								
14	CYCLOPOIDA (LPIL)	163333.25	2666.67	24666.65	4833.33	48874.97	38472.52	20.5	
0	HARPACTICOIDA (TOTAL)								
1	HARPACTICOIDA (LPIL)	23333.32	333.33	2666.67	833.33	6791.60	5536.65	2.8	
14	HARPACTICOIDA (LPIL)	516666.50	5833.33	70666.56	18333.33	152874.87	122074.12	64.1	
0	DIPTERA NEMATOCERA (TOTAL)	0.0	0.0	666.67	166.67	208.33	157.75	0.1	
0	CHIRONOMIDAE								
2	CHIRONOMIDAE (LPIL)	0.0	0.0	666.67	166.67	208.33	157.75	0.1	
TOTAL		789999.62	12833.31	119999.75	31833.32	238666.50	185254.44	100.0	
DIVERSITY (H PRIME)		1.36	1.97	1.59	1.71	1.66	0.13		
DIVERSITY (J PRIME)		0.58	0.70	0.61	0.61	0.63	0.03		
NUMBER OF TAXA		5	7	6	7	6			

ABOVE COMPUTED USING SAMPLE IDS
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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

ZOOPLANKTON DENSITY

STATION REPORT

LS	TAXA		- X	S.E.	REL AB%
		21			
0	NEMATODA (TOTAL)	11833.32	11833.32	-1.00	5.0
1	NEMATODA (LPIL)	11833.32	11833.32	-1.00	5.0
0	OLIGOCHAETA (TOTAL)	3666.67	3666.67	-1.00	1.5
0	NAIDIDAE				
1	NAIDIDAE (LPIL)	3666.67	3666.67	-1.00	1.5
0	CLADOCERA (TOTAL)	250.00	250.00	-1.00	0.1
0	CHYDORIDAE				
1	CHYDORUS (LPIL)	166.67	166.67	-1.00	0.1
1	PLEUROXUS PROCURVUS	83.33	83.33	-1.00	0.0
0	OSTRACODA (TOTAL)	14166.66	14166.66	-1.00	5.9
19	OSTRACODA (LPIL)	14166.66	14166.66	-1.00	5.9
0	COPEPODA (TOTAL)	208541.56	208541.56	-1.00	87.4
0	CYCLOPOIDA (TOTAL)				
14	CYCLOPOIDA (LPIL)	48874.97	48874.97	-1.00	20.5
0	HARPACTICOIDA (TOTAL)				
1	HARPACTICOIDA (LPIL)	6791.66	6791.66	-1.00	2.8
14	HARPACTICOIDA (LPIL)	152874.87	152874.87	-1.00	64.1
0	DIPTERA NEMATOCERA (TOTAL)	208.33	208.33	-1.00	0.1
0	CHIRONOMIDAE				
2	CHIRONOMIDAE (LPIL)	208.33	208.33	-1.00	0.1
	TOTAL	238666.50	238666.50	-1.00	100.0
	DIVERSITY (H PRIME)	1.66	1.66	-1.00	
	DIVERSITY (J PRIME)	0.63	0.63	-1.00	
	NUMBER OF TAXA	8	8		

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

ZOOPLANKTON DENSITY

STATION REPORT

LS	TAXA		- X	S.E.	REL AB%
		21			
0	NEMATODA (TOTAL)	11833.32	11833.32	-1.00	5.0
1	NEMATODA (LPIL)	11833.32	11833.32	-1.00	5.0
0	OLIGOCHAETA (TOTAL)	3666.67	3666.67	-1.00	1.5
0	NAIDIDAE				
1	NAIDIDAE (LPIL)	3666.67	3666.67	-1.00	1.5
0	CLADOCERA (TOTAL)	250.00	250.00	-1.00	0.1
0	CHYDORIDAE				
1	CHYDORUS (LPIL)	166.67	166.67	-1.00	0.1
1	PLEUROXUS PROCURVUS	83.33	83.33	-1.00	0.0
0	OSTRACODA (TOTAL)	14166.66	14166.66	-1.00	5.9
19	OSTRACODA (LPIL)	14166.66	14166.66	-1.00	5.9
0	COPEPODA (TOTAL)	208541.56	208541.56	-1.00	87.4
0	CYCLOPOIDA (TOTAL)				
14	CYCLOPOIDA (LPIL)	48874.97	48874.97	-1.00	20.5
0	HARPACTICOIDA (TOTAL)				
1	HARPACTICOIDA (LPIL)	6791.66	6791.66	-1.00	2.8
14	HARPACTICOIDA (LPIL)	152874.87	152874.87	-1.00	64.1
0	DIPTERA NEMATOCERA (TOTAL)	208.33	208.33	-1.00	0.1
0	CHIRONOMIDAE				
2	CHIRONOMIDAE (LPIL)	208.33	208.33	-1.00	0.1
	TOTAL	238666.50	238666.50	-1.00	100.0
	DIVERSITY (H PRIME)	1.66	1.66	-1.00	
	DIVERSITY (J PRIME)	0.63	0.63	-1.00	
	NUMBER OF TAXA	8	8		

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APPENDIX F
BENTHIC MACROINVERTEBRATE REPLICATE REPORTS,
BAILLY STUDY AREA, APRIL 1930

NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

BENTHIC MACROINVERTEBRATE NUMERICAL ABUNDANCE (NO./SQ M)

REPLICATE REPORT

PC TC GC LOC
5 71 71 0 0 00

SID	DATE	TIME D/N	DURATION		WD	SP	D	TOW	SAMP VOL		SC	DI	WIND	CL	SP	DI	TEMP			PH	SALIN P			
			UNITS	C					UNITS	C							SECH	W	Y			AIP	HAT	BT
11	4/17/80	1143	0	0.0	46.0	0.0	0.0	0.0	0.1	6	0.5	8	3	2	6	0.0	0	0.0	15.6	10.0	0	0.0	0.0	0.0
12	4/17/80	1143	0	0.0	46.0	0.0	0.0	0.0	0.1	6	0.5	8	3	2	6	0.0	0	0.0	15.6	10.0	0	0.0	0.0	0.0
LS	TAXA																						RFL	
																								S.E.
																								AEX
0	OLIGOCHAETA (TOTAL)						1	2																9.62
0	TUBIFICIDAE						0.0	19.23																9.62
1	TUBIFICIDAE (LPIL)						0.0	19.23																9.62
0	HIRUDINEA (TOTAL)						0.0	19.23																9.62
1	HIRUDINEA (LPIL)						0.0	19.23																9.62
0	AMPHIPODA (TOTAL)						0.0	19.23																9.62
0	HAUSTORIIDAE																							9.62
1	FONTOFOREIA AFFINIS						0.0	19.23																9.62
0	DIPTERA NEMATOCERA (TOTAL)						19.23	0.0																9.62
0	CHIRONOMIDAE																							9.62
2	PAPAFLADOPELMA (LPIL)						19.23	0.0																9.62
TOTAL							19.23	57.69																19.23
DIVERSITY (H PRIME)							0.0	1.58																0.79
DIVERSITY (J PRIME)							0.0	1.00																0.50
NUMBER OF TAXA							1	3																4
SECTION TYPE							0																	

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

BENTHIC MACROINVERTEBRATE NUMERICAL ABUNDANCE (NO/SQ M)

REPLICATE REPORT

PC TC GC LOC
5 71 71 0 0 00

SID	DATE	TIME	D/N	DURATION			TOW	SAMP VOL			WIND		CURRENT		TEMP		BT	TURBD	COND	DO	PH	SALN P						
				UNITS	C	SD		WD	SP	D	UNITS	C	SECH	WT	SC	DI							CL	SP	DI	AIR	WAT	
21	4/17/80	1057	0	0.0	0	91.0	91.0	0.0	0	0.1	6	0.5	8	0	3	6	6	0.0	0	16.7	7.5	0	0.0	0	0.0	0.0	0.0	0.0
22	4/17/80	1057	0	0.0	0	91.0	91.0	0.0	0	0.1	6	0.5	8	0	3	6	6	0.0	0	16.7	7.5	0	0.0	C	0.0	0.0	0.0	0.0

LS	TAXA	1	2																			
0	NEMATODA (TOTAL)	19.23	0.0											9.62		9.62	1.7					
1	NEMATODA (LPIL)	19.23	0.0											9.62		9.62	1.7					
0	OLIGOCHAETA (TOTAL)	57.69	57.69											57.69		0.0	10.3					
0	TUBIFICIDAE																					
1	TUBIFICIDAE (LPIL)	57.69	57.69											57.69		0.0	10.3					
0	BIVALVIA (TOTAL)	0.0	19.23											9.62		9.62	1.7					
0	MYTILLIDAE																					
5	MYTILLIDAE (LPIL)	0.0	19.23											9.62		9.62	1.7					
0	AMPHIPODA (TOTAL)	76.92	173.08											125.00		48.08	22.4					
0	HAUSTORIIDAE																					
1	PONTOPOREIA AFFINIS	76.92	173.08											125.00		48.08	22.4					
0	DIPTERA NEMATOCERA (TOTAL)	480.77	230.77											355.77		125.00	65.8					
0	CHIRONOMIDAE																					
2	CHIRONOMUS (LPIL)	38.46	38.46											38.46		0.0	6.9					
2	CRYPTOCHIRONOMUS (LPIL)	346.15	153.85											250.00		96.15	44.5					
2	FROCLADIUS (LPIL)	0.0	38.46											19.23		19.23	3.4					
2	PARACLADOPELMA (LPIL)	57.69	0.0											28.85		28.85	5.2					
2	MONODIAMESA (LPIL)	38.46	0.0											19.23		19.23	3.4					
	TOTAL	634.61	480.77											557.69		76.92	100.0					
	DIVERSITY (H PRIME)	2.12	2.19											2.16		0.04						
	DIVERSITY (J PRIME)	0.75	0.85											0.80		0.05						
	NUMBER OF TAXA		7													9						
	BOTTOM TYPE		0																			

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

BENTHIC MACROINVERTEBRATE NUMERICAL ABUNDANCE (NO/SQ M)

REPLICATE REPORT

PC TC GC LOC
5 71 71 0 0 00

SID	DATE	TIME	D/N	DURATION			TOW		SAMP VOL			WIND			CURRENT			TEMP			COND	DO	PH	SALN	P			
				UNITS	C	SD	WD	SP	D	UNITS	C	SECH	WT	SC	DI	CL	SP	DI	AIR	WAT						BT	TURED	
31	4/17/80	1005	0	0.0	0	15.2	15.2	0.0	0	0.1	6	1.0	8	0	3	6	6	0.0	0	12.8	8.0	0	0.0	0	0.0	0.0	0.0	
32	4/17/80	1005	0	0.0	0	15.2	15.2	0.0	0	0.1	6	1.0	8	0	3	6	6	0.0	0	12.8	8.0	0	0.0	0	0.0	0.0	0.0	
LS																												
	TAXA																											
																								1	2			
0	OLIGOCHAETA (TOTAL)																							942.31	519.23	730.77	211.54	52.4
0	TUBIFICIDAE																											
1	TUBIFICIDAE (LPIL)																							942.31	519.23	730.77	211.54	52.4
0	HIRUDINEA (TOTAL)																							0.0	19.23	9.62	9.62	0.7
1	HIRUDINEA (LPIL)																							0.0	19.23	9.62	9.62	0.7
0	BIVALVIA (TOTAL)																							19.23	19.23	19.23	0.0	1.4
0	MYTILLIDAE																											
1	MODIOLUS (LPIL)																							19.23	0.0	9.62	9.62	0.7
0	SPHAERIIDAE																											
5	PISIDIUM (LPIL)																							0.0	19.23	9.62	9.62	0.7
0	AMPHIPODA (TOTAL)																							192.31	153.85	173.08	19.23	12.4
0	HAUSTORIIDAE																											
1	PONTOPOREIA AFFINIS																							192.31	0.0	66.15	66.15	6.9
1	PONTOPOREIA (LPIL)																							0.0	153.85	76.92	76.92	5.5
0	TRICHOPTERA (TOTAL)																							0.0	19.23	9.62	9.62	0.7
2	TRICHOPTERA (LPIL)																							0.0	19.23	9.62	9.62	0.7
0	DIPTERA NEMATOCERA (TOTAL)																							673.08	230.77	451.92	221.15	32.4
0	CHIRONOMIDAE																											
2	CHIRONOMUS (LPIL)																							38.46	19.23	28.85	9.62	2.1
2	CRYPTOCHIRONOMUS (LPIL)																							519.23	192.31	355.77	163.46	25.5
2	PROCLADIUS (LPIL)																							19.23	19.23	19.23	0.0	1.4
2	PARACLADOPELMA (LPIL)																							76.92	0.0	33.46	33.46	2.8
2	TRICHOCLADIUS																							19.23	0.0	9.62	9.62	0.7
TOTAL																								1826.92	961.54	1394.23	432.69	103.0
DIVERSITY (H PRIME)																								1.87	1.93	1.90	0.03	
DIVERSITY (J PRIME)																								0.62	0.64	0.63	0.01	
NUMBER OF TAXA																								8	8	12		
BOTTOM TYPE	0																											

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

BENTHIC MACROINVERTEBRATE NUMERICAL ABUNDANCE (NO/SQ M)

STATION REPORT

LS	TAXA	1	2	3	X	S.E.	REL ABZ
0	NEMATODA (TOTAL)	0.0	9.62	0.0	3.21	3.21	0.5
1	NEMATODA (LPIL)	0.0	9.62	0.0	3.21	3.21	0.5
0	OLIGOCHAETA (TOTAL)	9.62	57.69	730.77	266.03	232.79	40.1
0	TUBIFICIDAE						
1	TUBIFICIDAE (LPIL)	9.62	57.69	730.77	266.03	232.79	40.1
0	HIRUDINEA (TOTAL)	9.62	0.0	9.62	6.41	3.21	1.0
1	HIRUDINEA (LPIL)	9.62	0.0	9.62	6.41	3.21	1.0
0	BIVALVIA (TOTAL)	0.0	9.62	19.23	9.62	5.55	1.4
0	MYTILLIDAE						
1	MODIOLUS (LPIL)	0.0	0.0	9.62	3.21	3.21	0.5
5	MYTILLIDAE(LPIL)	0.0	9.62	0.0	3.21	3.21	0.5
0	SPHAERIIDAE						
5	PISIDIUM (LPIL)	0.0	0.0	9.62	3.21	3.21	0.5
0	AMPHIPODA (TOTAL)	9.62	125.00	173.08	102.56	48.50	15.5
0	HAUSTORIIDAE						
1	PONTOPOREIA AFFINIS	9.62	125.00	96.15	76.92	34.67	11.6
1	PONTOPOREIA (LPIL)	0.0	0.0	76.92	25.64	25.64	3.9
0	TRICHOPTERA (TOTAL)	0.0	0.0	9.62	3.21	3.21	0.5
2	TRICHOPTERA (LPIL)	0.0	0.0	9.62	3.21	3.21	0.5
0	DIPTERA NEMATOCERA (TOTAL)	9.62	355.77	451.92	272.44	134.31	41.1
0	CHIRONOMIDAE						
2	CHIRONOMUS (LPIL)	0.0	38.46	28.85	22.44	11.56	3.4
2	CRYPTOCHIRONOMUS (LPIL)	0.0	250.00	355.77	201.92	105.48	30.4
2	PROCLADIUS (LPIL)	0.0	19.23	19.23	12.82	6.41	1.9
2	PARACLADOPELMA (LPIL)	9.62	28.85	38.46	25.64	8.48	3.9
2	MONODIANESA (LPIL)	0.0	19.23	0.0	6.41	6.41	1.0
2	TRICHOCLADIUS	0.0	0.0	9.62	3.21	3.21	0.5
	TOTAL	38.46	557.69	1394.23	663.46	394.93	100.0
	DIVERSITY (H PRIME)	0.79	2.16	1.90	1.62	0.42	
	DIVERSITY (J PRIME)	0.50	0.80	0.63	0.64	0.09	
	NUMBER OF TAXA	4	9	12	15		
	BOTTOM TYPE	0					

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31	32		

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

BENTHIC MACROINVERTEBRATE NUMERICAL ABUNDANCE (NO/SQ M)

REPLICATE REPORT

PC TC GC LOC
5 71 71 0 0 10

SID	DATE	TIME	D/N	DURATION			TOW		SAMP VOL			WIND			CURRENT		TEMP		BT	TURBD	COND	DO	FH	SALN	P	
				UNITS	C	SD	WD	SP	D	UNITS	C	SECH	W	T	SC	DI	CL	SP								DI
41	4/17/80	1218	0	0.0	0	46.0	46.0	0.0	0	0.1	6	0.5	8	0	3	2	6	0.0	0	16.7	11.0	0	0.0	0.0	0.0	0
42	4/17/80	1218	0	0.0	0	46.0	46.0	0.0	0	0.1	6	0.5	8	0	3	2	6	0.0	0	16.7	11.0	0	0.0	0.0	0.0	0

LS TAXA
REL
X S.E. ASK

0	OLIGOCHAETA (TOTAL)	230.77	0.0	115.38	115.38	52.2
0	TUBIFICIDAE					
1	TUBIFICIDAE (LPIL)	230.77	0.0	115.38	115.38	52.2
0	AMPHIPODA (TOTAL)	19.23	0.0	9.62	9.62	4.3
0	HAUSTORIIDAE					
1	PONTOPOREIA (LPIL)	19.23	0.0	9.62	9.62	4.3
0	DIPTERA NEMATOCERA (TOTAL)	192.31	0.0	96.15	96.15	41.5
0	CHIRONOMIDAE					
2	CRYPTOCHIRONOMUS (LPIL)	134.62	0.0	67.31	67.31	30.4
2	PARACLADOPELMA (LPIL)	57.69	0.0	28.85	28.85	13.0
	TOTAL	442.31	0.0	221.15	221.15	100.0
	DIVERSITY (H PRIME)	1.59	0.0	0.80	0.80	
	DIVERSITY (J PRIME)	0.00	0.0	0.40	0.40	
	NUMBER OF TAXA	4	0	4		
	BOTTOM TYPE	0				

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BAILEY GENERATING PLANT

BENTHIC MACROINVERTEBRATE NUMERICAL ABUNDANCE (NO/SQ M)

REPLICATE REPORT

PC TC GC LOC
5 71 71 0 0 10

SID	DATE	TIME	D/N	DURATION			TOW			SAMP VOL			WIND			CURRENT			TEMP									
				UNITS	C	SD	WD	SP	D	UNITS	C	SECH	W	Y	SC	DI	CL	SP	DI	AIR	WAT	BT	TURBD	COND	DO	PH	SALN	P
51	4/17/80	1250	0	0.0	0	91.0	91.0	0.0	0	0.1	6	1.0	8	0	3	2	6	0.0	0	14.4	8.5	0	0.0	0	0.0	0.0	9.0	0
52	4/17/80	1250	0	0.0	0	91.0	91.0	0.0	0	0.1	6	1.0	8	0	3	2	6	0.0	0	14.4	8.5	0	0.0	0	0.0	0.0	0.0	0

LS	TAXA	1	2	REL	ADM
				X	S.E.

0	OLIGOCHAETA (TOTAL)	57.69	19.23	38.46	19.23	7.0
0	TUBIFICIDAE					
1	TUBIFICIDAE (LPIL)	57.69	19.23	38.46	19.23	7.0
0	GASTROPODA (TOTAL)	0.0	19.23	9.62	9.62	1.8
5	GASTROPODA (LPIL)	0.0	19.23	9.62	9.62	1.8
0	BIVALVIA (TOTAL)	38.46	0.0	19.23	19.23	3.5
0	MYTILLIDAE					
2	MYTILUS (LPIL)	19.23	0.0	9.62	9.62	1.8
0	SPHAERIIDAE					
2	PISIDIUM (LPIL)	19.23	0.0	9.62	9.62	1.8
0	AMPHIPODA (TOTAL)	57.69	653.85	355.77	298.08	64.9
0	HAUSTORIIDAE					
1	PONTOPOREIA (LPIL)	57.69	653.85	355.77	298.08	64.9
0	EPHEMEROPTERA (TOTAL)	19.23	0.0	9.62	9.62	1.8
0	EPHEMERIDAE					
10	HEXAGENIA LIMBATA	19.23	0.0	9.62	9.62	1.8
0	DIPTERA NEMATOCERA (TOTAL)	173.08	57.69	115.38	57.69	21.1
0	CHIRONOMIDAE					
2	CRYPTOCHIRONOMUS (LPIL)	153.85	57.69	105.77	48.08	19.3
2	CHIRONOMIDAE (LPIL)	19.23	0.0	9.62	9.62	1.8

TOTAL		346.15	750.00	548.08	201.92	100.0
DIVERSITY (H PRIME)		2.31	0.73	1.52	0.79	
DIVERSITY (J PRIME)		0.82	0.36	0.59	0.23	
NUMBER OF TAXA		7	4	8		
BOTTOM TYPE	0					

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

BENTHIC MACROINVERTEBRATE NUMERICAL ABUNDANCE (NO/SQ M)

REPLICATE REPORT

PC TC GC LOC
5 71 71 0 0 10

SID	DATE	TIME	D/N	DURATION			TOW			SAMP VOL			WIND			CURRENT			TEMP			BT	TURB	COND	DO	PH	SALIN P
				UNITS	C	SD	WD	SP	D	UNITS	C	SECH	WT	SC	DI	CL	SP	DI	AIR	WAT							
61	4/17/80	1344	0	0.0	0	15.2	15.2	0.0	0	0.1	6	1.0	8	0	3	2	6	0.0	0	14.4	6.0	0	0.0	0.0	0.0	0.0	
62	4/17/80	1344	0	0.0	0	15.2	15.2	0.0	0	0.1	6	1.0	8	0	3	2	6	0.0	0	14.4	6.0	0	0.0	0.0	0.0	0.0	

LS	TAXA	1	2	FEL	ABX	
0	NEMATODA (TOTAL)	19.23	0.0	9.62	9.62	0.3
1	NEMATODA (LPIL)	19.23	0.0	9.62	9.62	0.3
0	OLIGOCHAETA (TOTAL)	3596.15	711.54	2153.84	1442.31	66.3
0	TUBIFICIDAE					
1	TUBIFICIDAE (LPIL)	3596.15	711.54	2153.84	1442.31	66.3
0	BIVALVIA (TOTAL)	38.46	211.54	125.00	88.54	3.0
0	SPHAERIIDAE					
5	PISIDIUM (LPIL)	19.23	76.92	48.08	28.85	1.5
1	PISIDIUM (LPIL)	19.23	134.62	76.92	57.69	2.9
0	AMPHIPODA (TOTAL)	500.00	384.61	442.31	57.69	13.6
0	HAUSTORIIDAE					
1	PONTOPOREIA (LPIL)	500.00	384.61	442.31	57.69	13.6
0	DIPTERA NEMATOCERA (TOTAL)	307.69	730.77	519.23	211.54	16.0
0	CHIRONOMIDAE					
2	CHIRONOMUS (LPIL)	19.23	0.0	9.62	9.62	0.3
2	CRYPTOCHIRONOMUS (LPIL)	192.31	730.77	461.54	269.23	14.2
2	PROCLADIUS (LPIL)	19.23	0.0	9.62	9.62	0.3
2	PARACLADOPELMA (LPIL)	76.92	0.0	38.46	38.46	1.2
TOTAL		4461.53	2038.46	3249.99	1811.53	100.0
DIVERSITY (H PRIME)		1.06	1.85	1.46	0.40	
DIVERSITY (J PRIME)		0.35	0.93	0.64	0.29	
NUMBER OF TAXA		8	4	8		
BOTTOM TYPE	0					

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

BENTHIC MACROINVERTEBRATE NUMERICAL ABUNDANCE (NO/SQ M)

STATION REPORT

LS	TAXA	4	5	6	X	S.E.	REL ACC
0	NEMATODA (TOTAL)	0.0	0.0	9.62	3.21	3.21	0.2
1	NEMATODA (LPIL)	0.0	0.0	9.62	3.21	3.21	0.2
0	OLIGOCHAETA (TOTAL)	115.38	38.46	2153.84	769.23	692.66	57.4
0	TUBIFICIDAE						
1	TUBIFICIDAE (LPIL)	115.38	38.46	2153.84	769.23	692.66	57.4
0	GASTROPODA (TOTAL)	0.0	9.62	0.0	3.21	3.21	0.2
5	GASTROPODA (LPIL)	0.0	9.62	0.0	3.21	3.21	0.2
0	BIVALVIA (TOTAL)	0.0	19.23	125.00	48.08	38.86	3.6
0	MYTILLIDAE						
2	MYTILLUS (LPIL)	0.0	9.62	0.0	3.21	3.21	0.2
0	SPHAERIIDAE						
5	PISIDIUM (LPIL)	0.0	0.0	48.08	16.03	16.03	1.2
2	PISIDIUM (LPIL)	0.0	9.62	0.0	3.21	3.21	0.2
1	PISIDIUM (LPIL)	0.0	0.0	76.92	25.64	25.64	1.9
0	AMPHIPODA (TOTAL)	9.62	355.77	442.31	269.23	132.19	20.1
0	HAUSTORIIDAE						
1	PONTOPOREIA (LPIL)	9.62	355.77	442.31	269.23	132.19	20.1
0	EPHEMEROPTERA (TOTAL)	0.0	9.62	0.0	3.21	3.21	0.2
0	EPHEMERIDAE						
10	HEXAGENIA LIMBATA	0.0	9.62	0.0	3.21	3.21	0.2
0	DIPTERA NEMATOCERA (TOTAL)	96.15	115.38	519.23	243.59	137.93	13.2
0	CHIRONOMIDAE						
2	CHIRONOMUS (LPIL)	0.0	0.0	9.62	3.21	3.21	0.2
2	CRYPTOCHIRONOMUS (LPIL)	67.31	105.77	461.54	211.54	125.49	15.8
2	PROCLADIUS (LPIL)	0.0	0.0	9.62	3.21	3.21	0.2
2	PARACLADOPELMA (LPIL)	28.85	0.0	38.46	22.44	11.56	1.7
2	CHIRONOMIDAE (LPIL)	0.0	9.62	0.0	3.21	3.21	0.2
	TOTAL	221.15	548.08	3249.99	1339.74	959.73	100.0
	DIVERSITY (H PRIME)	0.80	1.52	1.46	1.26	0.23	
	DIVERSITY (J PRIME)	0.40	0.59	0.64	0.54	0.07	
	NUMBER OF TAXA	4	8	8	12		
	BOTTOM TYPE	0					

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41	42	51	52
61	62		

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REPLICATE REPORT

FC TC GC LOC
5 71 71 0 0 20

SID	DATE	TIME	D/N	DURATION			TOW			SAMP VOL			WIND			CURRENT			TEMP			COND	DO	PH	SALIN P			
				UNITS	C	SD	WD	SP	D	UNITS	C	SECH	WT	SC	DI	CL	SP	DI	AIR	WAT	BT					TURBD		
101	4/17/80	1932	0	0.0	0	3.5	3.5	0.0	0	0.1	6	1.5	8	0	3	2	6	0.0	0	8.9	0.0	0	0.0	0	0.0	0.0	0.0	
102	4/17/80	1932	0	0.0	0	35.0	35.0	0.0	0	0.1	6	1.5	8	0	3	2	6	0.0	0	8.9	0.0	0	0.0	0	0.0	0.0	0.0	
LS	TAXA																						X	S.E.	ABK			
0	CNIDARIA (TOTAL)							1		2																		
0	HYDROZOA							0.0		19.23												9.62		9.62	2.9			
11	CORDYLOPHORA LACUSTRIS							0.0		19.23												9.62		9.62	2.9			
0	NEMATODA (TOTAL)							0.0		38.46												19.23		19.23	5.7			
1	NEMATODA (LPIL)							0.0		38.46												19.23		19.23	5.7			
0	OLIGOCHAETA (TOTAL)							57.69		519.23												286.46		230.77	85.7			
0	TUBIFICIDAE																											
1	TUBIFICIDAE (LPIL)							57.69		519.23												286.46		230.77	85.7			
0	BIVALVIA (TOTAL)							0.0		19.23												9.62		9.62	2.9			
0	SPHAERIIDAE																											
5	PISIDIUM (LPIL)							0.0		19.23												9.62		9.62	2.9			
0	DIPTERA NEMATOCERA (TOTAL)							0.0		19.23												9.62		9.62	2.9			
0	CHIRONOMIDAE																											
2	CRYPTOCHIRONOMUS (LPIL)							0.0		19.23												9.62		9.62	2.9			
TOTAL								57.69		615.38												336.54		278.85	100.0			
DIVERSITY (H PRIME)								0.0		0.93												0.46		0.46				
DIVERSITY (J PRIME)								0.0		0.40												0.20		0.20				
NUMBER OF TAXA										1																		
BOTTOM TYPE										0																		

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LS	TAXA		-	S.E.	REL
			X		ABX
		10			
0	CHIDARIA (TOTAL)	9.62	9.62	-1.00	2.9
0	HYDROZOA				
11	CORDYLOPHORA LACUSTRIS	9.62	9.62	-1.00	2.9
0	NEMATODA (TOTAL)	19.23	19.23	-1.00	5.7
1	NEMATODA (LPIL)	19.23	19.23	-1.00	5.7
0	OLIGOCHAETA (TOTAL)	288.46	288.46	-1.00	85.7
0	TUBIFICIDAE				
1	TUBIFICIDAE (LPIL)	288.46	288.46	-1.00	85.7
0	BIVALVIA (TOTAL)	9.62	9.62	-1.00	2.9
0	SPHAERIIDAE				
5	PISIDIUM (LPIL)	9.62	9.62	-1.00	2.9
0	DIPTERA NEMATOCERA (TOTAL)	9.62	9.62	-1.00	2.9
0	CHIRONOMIDAE				
2	CRYPTOCHIRONOMUS (LPIL)	9.62	9.62	-1.00	2.9
	TOTAL	336.54	336.54	-1.00	100.0
	DIVERSITY (H PRIME)	0.46	0.46	-1.00	
	DIVERSITY (J PRIME)	0.20	0.20	-1.00	
	NUMBER OF TAXA	5	5		
	BOTTOM TYPE	0			

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LS	TAXA	3	6	10	X	S.E.	REL ASX
0	CHIDARIA (TOTAL)	0.0	0.0	9.62	3.21	3.21	0.4
0	HYDROZOA						
11	CORDYLOPHORA LACUSTRIS	0.0	0.0	9.62	3.21	3.21	0.4
0	NEMATODA (TOTAL)	3.21	3.21	19.23	6.55	5.34	1.1
1	NEMATODA (LPIL)	3.21	3.21	19.23	6.55	5.34	1.1
0	OLIGCHAETA (TOTAL)	266.03	769.23	288.46	441.24	164.12	56.6
0	TUBIFICIDAE						
1	TUBIFICIDAE (LPIL)	266.03	769.23	288.46	441.24	164.12	56.6
0	HIRUDINEA (TOTAL)	6.41	0.0	0.0	2.14	2.14	0.3
1	HIRUDINEA (LPIL)	6.41	0.0	0.0	2.14	2.14	0.3
0	GASTROFODA (TOTAL)	0.0	3.21	0.0	1.07	1.07	0.1
5	GASTROFODA (LPIL)	0.0	3.21	0.0	1.07	1.07	0.1
0	BIVALVIA (TOTAL)	9.62	48.08	9.62	22.44	12.02	2.9
0	MYTILLIDAE						
2	MYTILUS (LPIL)	0.0	3.21	0.0	1.07	1.07	0.1
1	MODIOLUS (LPIL)	3.21	0.0	0.0	1.07	1.07	0.1
5	MYTILLIDAE (LPIL)	3.21	0.0	0.0	1.07	1.07	0.1
0	SPHAERIIDAE						
5	PISIDIUM (LPIL)	3.21	16.03	9.62	9.62	3.70	1.2
2	PISIDIUM (LPIL)	0.0	3.21	0.0	1.07	1.07	0.1
1	PISIDIUM (LPIL)	0.0	25.64	0.0	8.55	8.55	1.1
0	AMPHIPODA (TOTAL)	102.56	269.23	0.0	123.93	78.45	15.9
0	HAUSTORIIDAE						
1	PONTOPOREIA AFFINIS	76.92	0.0	0.0	25.64	25.64	3.3
1	PONTOPOREIA (LPIL)	25.64	269.23	0.0	98.29	85.79	12.6
0	EPHEMEROPTERA (TOTAL)	0.0	3.21	0.0	1.07	1.07	0.1
0	EPHEMERIDAE						
10	HEXAGENIA LIMBATA	0.0	3.21	0.0	1.07	1.07	0.1
0	TRICHOPTERA (TOTAL)	3.21	0.0	0.0	1.07	1.07	0.1
2	TRICHOPTERA (LPIL)	3.21	0.0	0.0	1.07	1.07	0.1
0	DIPTERA NEMATOCERA (TOTAL)	272.44	243.59	9.62	175.21	83.22	22.5
0	CHIRONOMIDAE						
2	CHIRONOMUS (LPIL)	22.44	3.21	0.0	6.55	7.01	1.1
2	CRYPTOCHIRONOMUS (LPIL)	201.92	211.54	9.62	141.03	65.76	18.1
2	PROCLADIUS (LPIL)	12.82	3.21	0.0	5.34	3.85	0.7
2	PAPAELADOPELMA (LPIL)	25.64	22.44	0.0	16.03	8.07	2.1
2	MONODIAHESA (LPIL)	6.41	0.0	0.0	2.14	2.14	0.3
2	TRICHOCLADIUS	3.21	0.0	0.0	1.07	1.07	0.1
2	CHIRONOMIDAE (LPIL)	0.0	3.21	0.0	1.07	1.07	0.1
	TOTAL	663.46	1339.74	336.54	779.91	275.40	100.0
	DIVERSITY (H PRIME)	1.62	1.26	0.46	1.11	0.34	
	DIVERSITY (J PRIME)	0.64	0.54	0.20	0.46	0.13	
	NUMBER OF TAXA	15	12	5	20		
	BOTTOM TYPE	0					

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31	32	41	42
51	52	61	62
101	102		

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BENTHIC MACROINVERTEBRATE NUMERICAL ABUNDANCE (NO/SQ M)

REPLICATE REPORT

PC TC GC LOC
5 71 71 0 1 00

SID	DATE	TIME	D/H	DURATION				TOW		SAMP VOL		WIND		CURRENT		TEMP		BT	TURBO	COND	DO	FH	SALN	P				
				UNITS	C	SD	WD	SP	D	UNITS	C	SECH	WT	SC	DI	CL	SP								DI	AIR	WAT	
71	4/17/80	1544	0	0.0	0	46.0	46.0	0.0	0	0.1	6	0.5	8	0	3	2	6	0.0	0	0.0	5.5	0	0.0	0	0.0	0.0	0.0	0
72	4/17/80	1544	0	0.0	0	46.0	46.0	0.0	0	0.1	6	0.5	8	0	3	2	6	0.0	0	0.0	5.5	0	0.0	0	0.0	0.0	0.0	0

LS	TAXA	1	2	X	S.E.	ABX
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0	OLIGOCHAETA (TOTAL)	76.92	57.69		67.31	9.62	53.8
0	TUBIFICIDAE						
1	TUBIFICIDAE (LPIL)	76.92	57.69		67.31	9.62	53.8
0	BIVALVIA (TOTAL)	19.23	19.23		19.23	0.0	15.4
0	MYTILLIDAE						
1	MODIOLUS (LPIL)	19.23	0.0		9.62	9.62	7.7
0	SPHAERIIDAE						
5	PISIDIUM (LPIL)	0.0	19.23		9.62	9.62	7.7
0	DIPTERA NEMATOCERA (TOTAL)	57.69	19.23		38.46	19.23	30.6
0	CHIRONOMIDAE						
2	CHIRONOMUS (LPIL)	38.46	0.0		19.23	19.23	15.4
2	CRYPTOCHIRONOMUS (LPIL)	19.23	19.23		19.23	0.0	15.4
	TOTAL	153.85	96.15		125.00	28.85	100.0
	DIVERSITY (H PRIME)	1.75	1.37		1.56	0.19	
	DIVERSITY (J PRIME)	0.87	0.86		0.87	0.01	
	NUMBER OF TAXA	4	3				
	BOTTOM TYPE	0					

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PC TC GC LOC
5 71 71 0 1 00

SID	DATE	TIME	D/H	DURATION		SD	WD	TOW		SAMP VOL		WIND			CURRENT		TEMP		BT	TUPED	COND	DO	PH	SALN	P	
				UNITS	C			SP	D	UNITS	C	SECH	WT	SC	DI	CL	SP	DI								AIR
81	4/17/80	1515	0	0.0	0	91.0	91.0	0.0	0	0.1	5	1.2	8	0	3	2	6	0.0	0	11.1	5.6	0	0.0	0.0	0.0	0
82	4/17/80	1515	0	0.0	0	9.1	9.1	0.0	0	0.1	6	1.2	8	0	3	2	6	0.0	0	11.1	5.6	0	0.0	0.0	0.0	0

LS	TAXA	1	2	REL	S.E.	ABX
0	OLIGOCHAETA (TOTAL)	96.15	76.92	86.54	9.62	42.9
0	TUBIFICIDAE					
1	TUBIFICIDAE (LPIL)	96.15	76.92	86.54	9.62	42.9
0	BIVALVIA (TOTAL)	0.0	19.23	9.62	9.62	4.8
0	SPHAERIIDAE					
5	SPHAERIIDAE (LPIL)	0.0	19.23	9.62	9.62	4.8
0	AMPHIPODA (TOTAL)	76.92	96.15	86.54	9.62	42.9
0	HAUSTORIIDAE					
1	PONTOPOREIA (LPIL)	76.92	96.15	86.54	9.62	42.9
0	DIPTERA NEMATOCERA (TOTAL)	38.46	0.0	19.23	19.23	9.5
0	CHIRONOMIDAE					
1	CRYPTOCHIRONOMUS (LPIL)	38.46	0.0	19.23	19.23	9.5
TOTAL		211.54	192.31	201.92	9.62	100.0
DIVERSITY (H PRIME)		1.49	1.36	1.43	0.07	
DIVERSITY (J PRIME)		0.94	0.86	0.90	0.04	
NUMBER OF TAXA		3	3	4		
BOTTOM TYPE	0					

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BENTHIC MACROINVERTEBRATE NUMERICAL ABUNDANCE (NO/SQ M)

REPLICATE REPORT

PC TC GC LOC
5 71 71 0 1 00

SID	DATE	TIME	D/N	UNITS	C	DURATION		WD	SD	TON		SAMP VOL		WIND	CL	SP	DI	AIP	WAT	BT	TURB	COND	DO	FH	SALIN	P
						0.0	0.0			SP	D	UNITS	C													
91	4/17/80	1433	0	0.0	0	15.2	15.2	0.0	0.0	0.16	1.58	0	3	2	6	0.0	0	8.9	5.5	0	0.0	0	0.0	0.0	0.0	0
92	4/17/80	1433	0	0.0	0	15.2	15.2	0.0	0.0	0.16	1.58	0	3	2	6	0.0	0	8.9	5.5	0	0.0	0	0.0	0.0	0.0	0
LS	TAXA																									
0	OLIGOCHAETA (TOTAL)			1						0.0	19.23		2											9.62	33.3	
0	TUBIFICIDAE																									
1	TUBIFICIDAE (LPIL)									0.0	19.23													9.62	33.3	
0	BIVALVIA (TOTAL)									38.46	0.0													19.23	65.7	
0	HYLILLIDAE																									
1	MYTILUS (LPIL)									19.23	0.0													9.62	33.3	
0	SFHAERIIDAE																									
5	PISIDIUM (LPIL)									19.23	0.0													9.62	33.3	
TOTAL										38.46	19.23													28.65	100.0	
DIVERSITY (H PRIME)										1.00	0.0													0.50		
DIVERSITY (J PRIME)										1.00	0.0													0.50		
NUMBER OF TAXA										2	1													3		
BATCH TYPE										0																

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LS	TAXA	7	8	9	X	S.E.	REL ABZ
0	OLIGOCHAETA (TOTAL)	67.31	86.54	9.62	54.49	23.11	45.9
0	TUBIFICIDAE						
1	TUBIFICIDAE (LPIL)	67.31	86.54	9.62	54.49	23.11	45.9
0	BIVALVIA (TOTAL)	19.23	9.62	19.23	16.03	3.21	13.5
0	MYTILLIDAE						
1	MYTILUS (LPIL)	0.0	0.0	9.62	3.21	3.21	2.7
1	MODIOLUS (LPIL)	9.62	0.0	0.0	3.21	3.21	2.7
0	SPHAERIIDAE						
5	PISIDIUM (LPIL)	9.62	0.0	9.62	6.41	3.21	5.4
5	SPHAERIIDAE (LPIL)	0.0	9.62	0.0	3.21	3.21	2.7
0	AMPHIPODA (TOTAL)	0.0	86.54	0.0	28.85	28.85	24.3
0	HAUSTORIIDAE						
1	PONTOFOREIA (LPIL)	0.0	86.54	0.0	28.85	28.85	24.3
0	DIPTERA NEMATOCERA (TOTAL)	38.46	19.23	0.0	19.23	11.10	16.2
0	CHIRONOMIDAE						
2	CHIRONOMUS (LPIL)	19.23	0.0	0.0	6.41	6.41	5.4
2	CRYPTOCHIRONOMUS (LPIL)	19.23	0.0	0.0	6.41	6.41	5.4
1	CRYPTOCHIRONOMUS (LPIL)	0.0	19.23	0.0	6.41	6.41	5.4
TOTAL		125.00	201.92	28.85	118.59	58.07	100.0
DIVERSITY (H PRIME)		1.56	1.43	0.50	1.16	0.33	
DIVERSITY (J PRIME)		0.87	0.90	0.50	0.76	0.13	
NUMBER OF TAXA		5	4	3	8		
BOTTOM TYPE	0						

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91	92		

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

BENTHIC MACROINVERTEBRATE NUMERICAL ABUNDANCE (NO/SQ M)

STATION REPORT

LS	TAXA		-		FEL
			X	S.E.	ADM
		9			
0	OLIGOCHAETA (TOTAL)	54.49	54.49	-1.00	45.9
0	TUBIFICIDAE				
1	TUBIFICIDAE (LPIL)	54.49	54.49	-1.00	45.9
0	BIVALVIA (TOTAL)	16.03	16.03	-1.00	13.5
0	MYTILLIDAE				
1	MYTILLUS (LPIL)	3.21	3.21	-1.00	2.7
1	MODIOLUS (LPIL)	3.21	3.21	-1.00	2.7
0	SPHAERIIDAE				
5	PISIDIUM (LPIL)	6.41	6.41	-1.00	5.4
5	SPHAERIIDAE (LPIL)	3.21	3.21	-1.00	2.7
0	AMPHIPODA (TOTAL)	28.85	28.85	-1.00	24.3
0	HAUSTORIIDAE				
1	PONTOPOREIA (LPIL)	28.85	28.85	-1.00	24.3
0	DIPTERA NEMATOCERA (TOTAL)	19.23	19.23	-1.00	16.2
0	CHIRONOMIDAE				
2	CHIRONOMUS (LPIL)	6.41	6.41	-1.00	5.4
2	CRYPTOCHIRONOMUS (LPIL)	6.41	6.41	-1.00	5.4
1	CRYPTOCHIRONOMUS (LPIL)	6.41	6.41	-1.00	5.4
TOTAL		118.59	118.59	-1.00	102.0
DIVERSITY (H PRIME)		1.16	1.16	-1.00	
DIVERSITY (J PRIME)		0.76	0.76	-1.00	
NUMBER OF TAXA		8	8		
BOTTOM TYPE	0				

ABOVE COMPUTED USING SAMPLE IDS

71	72	81	82
91	92		

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

BENTHIC MACROINVERTEBRATE NUMERICAL ABUNDANCE (NO/SQ M)

REPLICATE REPORT

PC TC GC LOC
5 71 71 1 1 00

SID	DATE	TIME	D/H	DURATION			TOW	SAMP VOL			WIND			CURRENT			TEMP			BT	TURED	COND	DO	PH	SALIN P			
				UNITS	C	SD		WD	SP	D	UNITS	C	SECH	WT	SC	DI	CL	SP	DI							AIR	WAT	
171	4/20/80	1025	0	0.0	0	10.0	10.0	0.0	0	0.1	6	1.0	8	0	4	1	5	0.0	0	17.8	16.0	0	0.0	0	8.9	0.0	0.0	0
172	4/20/80	1025	0	0.0	0	10.0	10.0	0.0	0	0.1	6	1.0	8	0	4	1	5	0.0	0	17.8	16.0	0	0.0	0	8.9	0.0	0.0	0
LS																					X	S.E.		ADD				
0	CNIDARIA (TOTAL)				1	2	38.46	0.0			19.23	19.23	0.1															
0	HYDROZOA																											
1	HYDRA (LPIL)						38.46	0.0			19.23	19.23	0.1															
0	PLATYHELMINTHES (TOTAL)						0.0	38.46			19.23	19.23	0.1															
1	TUBELLARIA (LPIL)						0.0	38.46			19.23	19.23	0.1															
0	NEMATODA (TOTAL)						211.54	57.69			134.62	76.92	0.9															
1	NEMATODA (LPIL)						211.54	57.69			134.62	76.92	0.9															
0	OLIGOCHAETA (TOTAL)						3423.07	22730.75			13076.91	9653.84	87.2															
0	NAIDIDAE																											
1	NAIDIDAE (LPIL)						3423.07	22730.75			13076.91	9653.84	87.2															
0	GASTROPODA (TOTAL)						19.23	0.0			9.62	9.62	0.1															
5	GASTROPODA (LPIL)						19.23	0.0			9.62	9.62	0.1															
0	BIVALVIA (TOTAL)						76.92	19.23			48.08	28.85	0.3															
0	SPHAERIIDAE																											
5	PISIDIUM (LPIL)						0.0	19.23			9.62	9.62	0.1															
1	PISIDIUM (LPIL)						38.46	0.0			19.23	19.23	0.1															
5	SPHAERIIDAE (LPIL)						38.46	0.0			19.23	19.23	0.1															
0	AMPHIPODA (TOTAL)						134.62	115.38			125.00	9.62	0.8															
0	HYALELLIDAE																											
1	HYALELLA AZTECA						134.62	115.38			125.00	9.62	0.8															
0	EFEMEROPTERA (TOTAL)						38.46	19.23			28.85	9.62	0.2															
0	CAENIDAE																											
10	CAENIS (LPIL)						38.46	19.23			28.85	9.62	0.2															
0	ODONATA (TOTAL)						19.23	0.0			9.62	9.62	0.1															
0	COENAGRIONIDAE																											
10	COENAGRIONIDAE (LPIL)						19.23	0.0			9.62	9.62	0.1															
0	TRICHOPTERA (TOTAL)						19.23	0.0			9.62	9.62	0.1															
0	HYDROPTILIDAE																											
2	ORTHOTRICHIA (LPIL)						19.23	0.0			9.62	9.62	0.1															
0	DIPTERA NEMATOCERA (TOTAL)						788.46	2192.31			1490.33	701.92	9.9															
0	CERATOPOGONIDAE																											
2	CERATOPOGONIDAE (LPIL)						0.0	57.69			28.85	28.85	0.2															
0	CHIRONOMIDAE																											
2	CHIRONOMUS (LPIL)						0.0	461.54			230.77	230.77	1.5															
2	CRICOTOPUS (LPIL)						0.0	19.23			9.62	9.62	0.1															
2	TANYTARSUS (LPIL)						461.54	750.00			605.77	144.23	4.0															
2	DICROTENDIPES (LPIL)						96.15	0.0			48.03	48.03	0.3															
2	ADLABESHYIA (LPIL)						57.69	211.54			134.62	76.92	0.9															

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REPLICATE REPORT

LS	TAXA	1	2	X	S.E.	REL ADM
2	PSECTROCLADIUS (LPIL)	153.85	673.08	413.46	259.61	1.8
2	ENDOCHIRONOMUS (LPIL)	19.23	0.0	9.62	9.62	0.1
3	CHIRONOMIDAE (LPIL)	0.0	19.23	9.62	9.62	0.1
0	DIPTERA BRACHYCERA (TOTAL)	38.46	0.0	19.23	19.23	0.1
0	STRATIOMYIDAE					
2	NEHOLETUS	19.23	0.0	9.62	9.62	0.1
0	TABANIDAE					
2	CHRYSOPS (LPIL)	19.23	0.0	9.62	9.62	0.1
	TOTAL	4807.68	25173.04	14990.35	10102.68	100.0
	DIVERSITY (H PRIME)	1.78	0.71	1.24	0.53	
	DIVERSITY (J PRIME)	0.44	0.19	0.31	0.12	
	NUMBER OF TAXA	17	13	22		
	BOTTOM TYPE	0				

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BENTHIC MACROINVERTEBRATE NUMERICAL ABUNDANCE (NO/SQ M)

REPLICATE REPORT

PG TC GC LOC
5 71 71 1 1 00

SID	DATE	TIME	D/N	DURATION			TOW			SAMP VOL			WIND			CURRENT			TEMP									
				UNITS	C	SD	WD	SP	D	UNITS	C	SECH	WT	SC	DI	CL	SP	DI	AIR	WAT	BT	TURBD	COND	DO	FH	SALN	P	
101	4/20/80	1025	0	0.0	0	10.0	10.0	0.0	0	0.1	6	1.0	8	0	4	1	5	0.0	0	17.8	15.5	0	0.0	0	9.1	0.0	0.0	0
102	4/20/80	1025	0	0.0	0	10.0	10.0	0.0	0	0.1	6	1.0	8	0	4	1	5	0.0	0	17.8	15.5	0	0.0	0	9.1	0.0	0.0	0

LS	TAXA	1	2	REL	S.E.	ABX
0	CNIDARIA (TOTAL)	57.69	96.15	76.92	19.23	4.2
0	HYDROZOA					
1	HYDRA (LPIL)	57.69	96.15	76.92	19.23	4.2
0	NEMATODA (TOTAL)	19.23	0.0	9.62	9.62	0.5
1	NEMATODA (LPIL)	19.23	0.0	9.62	9.62	0.5
0	OLIGOCHAETA (TOTAL)	288.46	538.46	413.46	125.00	22.4
0	NAIDIDAE					
1	NAIDIDAE (LPIL)	38.46	115.38	76.92	38.46	4.2
0	TUBIFICIDAE					
1	TUBIFICIDAE (LPIL)	250.00	423.08	336.54	86.54	18.2
0	BIVALVIA (TOTAL)	0.0	115.38	57.69	57.69	3.1
0	SPHAERIIDAE					
5	SPHAERIUM (LPIL)	0.0	115.38	57.69	57.69	3.1
0	OSTRACODA (TOTAL)	76.92	0.0	38.46	38.46	2.1
1	OSTRACODA (LPIL)	76.92	0.0	38.46	38.46	2.1
0	COPEPODA (TOTAL)	19.23	0.0	9.62	9.62	0.5
0	CALANOIDA (TOTAL)					
1	CALANOIDA (LPIL)	19.23	0.0	9.62	9.62	0.5
0	AMPHIPODA (TOTAL)	76.92	96.15	86.54	9.62	4.7
0	HYALELLIDAE					
1	HYALELLA AZTECA	76.92	96.15	86.54	9.62	4.7
0	EPHEMEROPTERA (TOTAL)	153.85	38.46	96.15	57.69	5.2
0	CAENIDAE					
10	CAENIS (LPIL)	153.85	38.46	96.15	57.69	5.2
0	TRICHOPTERA (TOTAL)	38.46	0.0	19.23	19.23	1.0
0	LEPTOCERIDAE					
2	OECETIS (LPIL)	38.46	0.0	19.23	19.23	1.0
0	DIPTERA NEMATOCERA (TOTAL)	1057.69	1019.23	1038.46	19.23	56.3
0	CERATOPOGONIDAE					
2	CERATOPOGONIDAE (LPIL)	57.69	38.46	48.08	9.62	2.6
0	CHIRONOMIDAE					
2	CRYPTOCHIRONOMUS (LPIL)	19.23	0.0	9.62	9.62	0.5
2	TANYTARSUS (LPIL)	230.77	173.08	201.92	28.05	10.9
2	DICROTENDIPES (LPIL)	76.92	38.46	57.69	19.23	3.1
2	POLYPEDILUM (LPIL)	38.46	0.0	19.23	19.23	1.0
2	ABLABESHYIA (LPIL)	0.0	38.46	19.23	19.23	1.0
2	FROCLADIUS (LPIL)	519.23	673.08	596.15	76.92	32.3
2	THIENEMANNIELLA (LPIL)	38.46	0.0	19.23	19.23	1.0

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REPLICATE REPORT

LS	TAXA	1	2	- X	S.E.	REL ADX
2	PSECTROCLADIUS (LPIL)	19.23	38.46	28.85	9.62	1.6
2	TRICHOCLADIUS	0.0	19.23	9.62	9.62	0.5
2	CHIRONOMIDAE (LPIL)	57.69	0.0	28.85	23.85	1.6
TOTAL		1788.46	1903.84	1846.15	57.69	100.0
DIVERSITY (H PRIME)		3.42	2.89	3.16	0.27	
DIVERSITY (J PRIME)		0.82	0.78	0.80	0.02	
NUMBER OF TAXA		18	13	21		
BOTTOM TYPE	0					

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STATION REPORT

LS	TAXA	17	18	-	S.E.	PEL ABX
				X		
0	CNIDARIA (TOTAL)	19.23	76.92	48.08	28.85	0.6
0	HYDROZOA					
1	HYDRA (LPIL)	19.23	76.92	48.08	28.85	0.6
0	PLATYHELMINTHES (TOTAL)	19.23	0.0	9.62	9.62	0.1
1	TURBELLARIA-(LPIL)	19.23	0.0	9.62	9.62	0.1
0	NEMATODA (TOTAL)	134.62	9.62	72.12	62.50	0.9
1	NEMATODA (LPIL)	134.62	9.62	72.12	62.50	0.9
0	OLIGOCCHAETA (TOTAL)	13076.91	413.46	6745.19	6331.72	80.1
0	NAIDIDAE					
1	NAIDIDAE (LPIL)	13076.91	76.92	6576.92	6499.99	75.1
0	TUBIFICIDAE					
1	TUBIFICIDAE (LPIL)	0.0	336.54	168.27	168.27	2.0
0	GASTROPODA (TOTAL)	9.62	0.0	4.81	4.81	0.1
5	GASTROFODA (LPIL)	9.62	0.0	4.81	4.81	0.1
0	BIVALVIA (TOTAL)	48.08	57.69	52.88	4.81	0.6
0	SPHAERIIDAE					
5	SPHAERIUM (LPIL)	0.0	57.69	28.85	28.85	0.3
5	PISIDIUM (LPIL)	9.62	0.0	4.81	4.81	0.1
1	PISIDIUM (LPIL)	19.23	0.0	9.62	9.62	0.1
5	SPHAERIIDAE (LPIL)	19.23	0.0	9.62	9.62	0.1
0	OSTRACODA (TOTAL)	0.0	38.46	19.23	19.23	0.2
1	OSTRACODA (LPIL)	0.0	38.46	19.23	19.23	0.2
0	COPEFODA (TOTAL)	0.0	9.62	4.81	4.81	0.1
0	CALANOIDA (TOTAL)					
1	CALANOIDA (LPIL)	0.0	9.62	4.81	4.81	0.1
0	AMPHIPODA (TOTAL)	125.00	86.54	105.77	19.23	1.3
0	HYALELLIDAE					
1	HYALELLA AZTECA	125.00	86.54	105.77	19.23	1.3
0	EPHEMEROPTERA (TOTAL)	28.85	96.15	62.50	33.65	0.7
0	CAENIDAE					
10	CAENIS (LPIL)	28.85	96.15	62.50	33.65	0.7
0	ODONATA (TOTAL)	9.62	0.0	4.81	4.81	0.1
0	COENAGRIONIDAE					
10	COENAGRIONIDAE (LPIL)	9.62	0.0	4.81	4.81	0.1
0	TRICHOPTERA (TOTAL)	9.62	19.23	14.42	4.81	0.2
0	HYDROPTILIDAE					
2	ORTHOTRICHIA (LPIL)	9.62	0.0	4.81	4.81	0.1
0	LEPTOCERIDAE					
2	DE CETIS (LPIL)	0.0	19.23	9.62	9.62	0.1
0	DIPTERA NEMATOCERA (TOTAL)	1490.38	1038.46	1264.42	225.96	15.0
0	CERATOPOGONIDAE					
2	CERATOPOGONIDAE (LPIL)	28.85	48.08	38.46	9.62	0.5
0	CHIRONOMIDAE					
2	CHIRONOMUS (LPIL)	230.77	0.0	115.38	115.38	1.4

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STATION REPORT

LS	TAXA	17	18	X	S.E.	REL ABX
2	CRYPTOCHIRONOMUS (LPIL)	0.0	9.62	4.81	4.81	0.1
2	CRICOTOPUS (LPIL)	9.62	0.0	4.81	4.81	0.1
2	TANYTARSUS (LPIL)	605.77	201.92	403.85	201.92	4.8
2	DICROTENDIPES (LPIL)	48.08	57.69	52.88	4.81	0.6
2	POLYPEDILUM (LPIL)	0.0	19.23	9.62	9.62	0.1
2	ABLABESHYIA (LPIL)	134.62	19.23	76.92	57.69	9.9
2	PROCLADIUS (LPIL)	0.0	526.15	298.09	298.09	3.5
2	THIENEMANNIELLA (LPIL)	0.0	19.23	9.62	9.62	0.1
2	PSECTROCLADIUS (LPIL)	413.46	28.85	221.15	192.31	2.6
2	ENDOCHIRONOMUS (LPIL)	9.62	0.0	4.81	4.81	0.1
2	TRICHOCLADIUS	0.0	9.62	4.81	4.81	0.1
2	CHIRONOMIDAE (LPIL)	0.0	28.85	14.42	14.42	0.2
3	CHIRONOMIDAE (LPIL)	9.62	0.0	4.81	4.81	0.1
0	DIPTERA BRACHYCERA (TOTAL)	19.23	0.0	9.62	9.62	0.1
0	STRATIOMYIDAE					
2	NEMOLETUS	9.62	0.0	4.81	4.81	0.1
0	TABANIDAE					
2	CHRYSOPS (LPIL)	9.62	0.0	4.81	4.81	0.1
	TOTAL	14990.36	1846.15	8418.25	6572.10	100.0
	DIVERSITY (H PRIME)	1.24	3.16	2.20	0.96	
	DIVERSITY (J PRIME)	0.31	0.80	0.56	0.24	
	NUMBER OF TAXA	22	21	32		
	BOTTOM TYPE	0				

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STATION REPORT

LS	TAXA		- X	S.E.	REL ADV
		18			
0	CHIDARIA (TOTAL)	48.08	48.08	-1.00	0.6
0	HYDROZOA				
1	HYDRA (LPIL)	48.08	48.08	-1.00	0.6
0	PLATYHELMINTHES (TOTAL)	9.62	9.62	-1.00	0.1
1	TURBELLARIA-(LPIL)	9.62	9.62	-1.00	0.1
0	NEMATODA (TOTAL)	72.12	72.12	-1.00	0.9
1	NEMATODA (LPIL)	72.12	72.12	-1.00	0.9
0	OLIGOCHAETA (TOTAL)	6745.19	6745.19	-1.00	80.1
0	NAIDIDAE				
1	NAIDIDAE (LPIL)	6576.92	6576.92	-1.00	78.1
0	TUBIFICIDAE				
1	TUBIFICIDAE (LPIL)	168.27	168.27	-1.00	2.0
0	GASTROPODA (TOTAL)	4.81	4.81	-1.00	0.1
5	GASTROPODA (LPIL)	4.81	4.81	-1.00	0.1
0	BIVALVIA (TOTAL)	52.88	52.88	-1.00	0.6
0	SPHAERIIDAE				
5	SPHAERIUM (LPIL)	28.85	28.85	-1.00	0.3
5	PISIDIUM (LPIL)	4.81	4.81	-1.00	0.1
1	PISIDIUM (LPIL)	9.62	9.62	-1.00	0.1
5	SPHAERIIDAE (LPIL)	9.62	9.62	-1.00	0.1
0	OSTRACODA (TOTAL)	19.23	19.23	-1.00	0.2
1	OSTRACODA (LPIL)	19.23	19.23	-1.00	0.2
0	COPEPODA (TOTAL)	4.81	4.81	-1.00	0.1
0	CALANOIDA (TOTAL)				
1	CALANOIDA (LPIL)	4.81	4.81	-1.00	0.1
0	AMPHIPODA (TOTAL)	105.77	105.77	-1.00	1.3
0	HYALELLIDAE				
1	HYALELLA AZTECA	105.77	105.77	-1.00	1.3
0	EPHEMEROPTERA (TOTAL)	62.50	62.50	-1.00	0.7
0	CAENIDAE				
10	CAENIS (LPIL)	62.50	62.50	-1.00	0.7
0	ODONATA (TOTAL)	4.81	4.81	-1.00	0.1
0	COENAGRIONIDAE				
10	COENAGRIONIDAE (LPIL)	4.81	4.81	-1.00	0.1
0	TRICHOPTERA (TOTAL)	14.42	14.42	-1.00	0.2
0	HYDROPTILIDAE				
2	ORTHOTRICHIA (LPIL)	4.81	4.81	-1.00	0.1
0	LEPTOCERIDAE				
2	DECEIIS (LPIL)	9.62	9.62	-1.00	0.1
0	DIPTERA NEMATOCERA (TOTAL)	1264.42	1264.42	-1.00	15.0
0	CERATOPOGONIDAE				
2	CERATOPOGONIDAE (LPIL)	38.46	38.46	-1.00	0.5
0	CHIRONOMIDAE				
2	CHIRONOMUS (LPIL)	115.38	115.38	-1.00	1.4

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STATION REPORT

LS	TAXA		-	S.E.	REL
			X		ACC
		18			
2	CRYPTOCHIRONOMUS (LPIL)	4.81	4.81	-1.00	0.1
2	CRICOTOPUS (LPIL)	4.81	4.81	-1.00	0.1
2	TANYTARSUS (LPIL)	403.85	403.85	-1.00	4.8
2	DICROTENDIPES (LPIL)	52.88	52.88	-1.00	0.6
2	POLYPEDILUM (LPIL)	9.62	9.62	-1.00	0.1
2	ABLADESHYIA (LPIL)	76.92	76.92	-1.00	0.9
2	PROCLADIUS (LPIL)	298.08	298.08	-1.00	3.5
2	THIENEMANNIELLA (LPIL)	9.62	9.62	-1.00	0.1
2	PSECTROCLADIUS (LPIL)	221.15	221.15	-1.00	2.6
2	ENDOCHIRONOMUS (LPIL)	4.81	4.81	-1.00	0.1
2	TRICHOCLADIUS	4.81	4.81	-1.00	0.1
2	CHIRONOMIDAE (LPIL)	14.42	14.42	-1.00	0.2
3	CHIRONOMIDAE (LPIL)	4.81	4.81	-1.00	0.1
0	DIPTERA BRACHYCERA (TOTAL)	9.62	9.62	-1.00	0.1
0	STRATIOMYIDAE				
2	HEMOLETUS	4.81	4.81	-1.00	0.1
0	TABANIDAE				
2	CHRYSOPS (LPIL)	4.81	4.81	-1.00	0.1
	TOTAL	8418.25	8418.25	-1.00	100.0
	DIVERSITY (H PRIME)	2.20	2.20	-1.00	
	DIVERSITY (J PRIME)	0.56	0.56	-1.00	
	NUMBER OF TAXA	32	32		
	BOTTOM TYPE	0			

ABOVE COMPUTED USING SAMPLE IDS

171 172 181 182

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BAILEY GENERATING PLANT

BENTHIC MACROINVERTEBRATE NUMERICAL ABUNDANCE (NO/SQ M)

REPLICATE REPORT

PC TC GC LOC
5 71 71 1 2 00

SID	DATE	TIME	D/N	DURATION			TOW	SAMP VOL			WIND			CURRENT			TEMP											
				UNITS	C	SD		WD	SP	D	UNITS	C	SECH	WT	SC	DI	CL	SP	DI	AIR	WAT	BT	TURED	COND	DO	FH	SALN	P
191	4/20/80	1055	0	0.0	0	10.0	10.0	0.0	0	0.1	6	1.0	8	0	4	1	5	0.0	0	17.8	19.5	0	0.0	0	8.5	0.0	0.0	0
192	4/20/80	1055	0	0.0	0	10.0	10.0	0.0	0	0.1	6	1.0	8	0	4	1	5	0.0	0	17.8	19.5	0	0.0	0	8.5	0.0	0.0	0

LS	TAXA	1	2	X	S.E.	#%
----	------	---	---	---	------	----

0	NEMATODA (TOTAL)	269.23	38.46	153.85	115.38	2.6
1	NEMATODA (LPIL)	269.23	38.46	153.85	115.38	2.6
0	OLIGOCHAETA (TOTAL)	5750.00	2519.23	4134.61	1615.38	70.5
0	NAIDIDAE					
1	NAIDIDAE (LPIL)	2769.23	1980.77	2375.00	394.23	40.5
0	TUBIFICIDAE					
1	TUBIFICIDAE (LPIL)	2980.77	538.46	1759.61	1224.15	39.0
0	BIVALVIA (TOTAL)	2153.84	115.38	1134.61	1019.23	19.3
0	SPHAERIIDAE					
5	SPHAERIUM (LPIL)	0.0	115.38	57.69	57.69	1.0
2	SPHAERIUM (LPIL)	2153.84	0.0	1076.92	1076.92	18.4
0	AMPHIPODA (TOTAL)	19.23	38.46	28.85	9.62	0.5
0	HYALELLIDAE					
1	HYALELLA AZTECA	19.23	38.46	28.85	9.62	0.5
0	EPHEMEROPTERA (TOTAL)	19.23	19.23	19.23	0.0	0.3
0	CAENIDAE					
10	CAENIS (LPIL)	19.23	19.23	19.23	0.0	0.3
0	TRICHOPTERA (TOTAL)	19.23	0.0	9.62	9.62	0.2
0	LEPTOCERIDAE					
2	OECETIS (LPIL)	19.23	0.0	9.62	9.62	0.2
0	DIPTERA NEMATOCERA (TOTAL)	173.08	557.69	365.38	192.31	6.2
0	CERATOPOGONIDAE					
2	CERATOPOGONIDAE (LPIL)	57.69	96.15	76.92	19.23	1.3
0	CHIRONOMIDAE					
2	CHIRONOMUS (LPIL)	0.0	19.23	9.62	9.62	0.2
2	TANYTARSUS (LPIL)	38.46	250.00	144.23	105.77	2.5
2	DICROTENDIPES (LPIL)	57.69	115.38	86.54	28.85	1.5
2	POLYPEDILUM (LPIL)	19.23	0.0	9.62	9.62	0.2
2	PROCLADIUS (LPIL)	0.0	38.46	19.23	19.23	0.3
2	PARATENDIPES (LPIL)	0.0	19.23	9.62	9.62	0.2
2	CHIRONOMIDAE (LPIL)	0.0	19.23	9.62	9.62	0.2
0	DIPTERA BRACHYCERA (TOTAL)	19.23	0.0	9.62	9.62	0.2
0	TANANIDAE					
2	CHRYSOPS (LPIL)	19.23	0.0	9.62	9.62	0.2
0	DIPTERA (TOTAL)	19.23	0.0	9.62	9.62	0.2
2	DIPTERA (LPIL)	19.23	0.0	9.62	9.62	0.2
TOTAL		8442.30	3288.46	5865.37	2576.92	100.0
DIVERSITY (H PRIME)		1.97	2.04	2.01	0.03	

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BAILEY GENERATING PLANT

BENTHIC MACROINVERTEBRATE NUMERICAL ABUNDANCE (NO/SQ M)

REPLICATE REPORT

LS	TAXA	1	2	-	S.E.	REL
				X		ADM
DIVERSITY (J PRIME)		0.53	0.55	0.54	0.01	
NUMBER OF TAXA		13	13	17		
BOTTOM TYPE	0					

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

BENTHIC MACROINVERTEBRATE NUMERICAL ABUNDANCE (NO/SQ M)

REPLICATE REPORT

PC TC GC LOC
5 71 71 1 2 00

SID	DATE	TIME	D/N	DURATION			TOW	SAMP VOL			WIND			CURRENT			TEMP		BT	TURED	COND	DO	PH	SALN	P			
				UNITS	C	SD		WD	SP	D	UNITS	C	SECH	WT	SC	DI	CL	SP								DI	AIR	WAT
201	4/20/80	1055	0	0.0	0	10.0	10.0	0.0	0	0.1	6	1.0	8	0	4	1	5	0.0	0	17.8	19.5	0	0.0	0	8.7	0.0	0.0	0
202	4/20/80	1055	0	0.0	0	10.0	10.0	0.0	0	0.1	6	1.0	8	0	4	1	5	0.0	0	17.8	19.5	0	0.0	0	8.7	0.0	0.0	0

LS	TAXA	1	2		S.E.	ASX
0	NEMATODA (TOTAL)	38.46	19.23	28.85	9.62	0.7
1	NEMATODA (LPIL)	38.46	19.23	28.85	9.62	0.7
0	OLIGOCHAETA (TOTAL)	1692.31	5134.61	3413.46	1721.15	85.5
0	NAIDIDAE					
1	NAIDIDAE (LPIL)	461.54	4538.46	2500.00	2038.46	62.7
0	TUBIFICIDAE					
1	TUBIFICIDAE (LPIL)	1230.77	596.15	913.46	317.31	22.9
0	HIRUDINEA (TOTAL)	0.0	19.23	9.62	9.62	0.2
0	GLOSSIPHONIIDAE					
1	GLOSSIPHONIIDAE (LPIL)	0.0	19.23	9.62	9.62	0.2
0	BIVALVIA (TOTAL)	38.46	230.77	134.62	96.15	3.4
0	SPHAERIIDAE					
5	SPHAERIUM (LPIL)	38.46	230.77	134.62	96.15	3.4
0	OSTRACODA (TOTAL)	19.23	0.0	9.62	9.62	0.2
1	OSTRACODA (LPIL)	19.23	0.0	9.62	9.62	0.2
0	COPEPODA (TOTAL)	0.0	19.23	9.62	9.62	0.2
0	HARPACTICOIDA (TOTAL)					
1	HARPACTICOIDA (LPIL)	0.0	19.23	9.62	9.62	0.2
0	ISOPODA (TOTAL)	38.46	0.0	19.23	19.23	0.5
0	ASELLIDAE					
1	ASELLUS (LPIL)	38.46	0.0	19.23	19.23	0.5
0	EPHEMEROPTERA (TOTAL)	0.0	19.23	9.62	9.62	0.2
0	CAENIDAE					
10	CAENIS (LPIL)	0.0	19.23	9.62	9.62	0.2
0	TRICHOPTERA (TOTAL)	0.0	19.23	9.62	9.62	0.2
0	LEPTOCERIDAE					
2	OECETIS (LPIL)	0.0	19.23	9.62	9.62	0.2
0	DIPTERA NEMATOCERA (TOTAL)	192.31	500.00	346.15	153.85	8.7
0	CERATOPOGONIDAE					
2	CERATOPOGONIDAE (LPIL)	76.92	76.92	76.92	0.0	1.9
0	CHIRONOMIDAE					
2	CHIRONOMUS (LPIL)	0.0	38.46	19.23	19.23	0.5
2	TANYTARSUS (LPIL)	19.23	96.15	57.69	38.65	1.4
2	DICROTENDIPES (LPIL)	0.0	211.54	105.77	105.77	0.7
2	ABLABESHYIA (LPIL)	38.46	38.46	38.46	0.0	1.0
2	PROCLADIUS (LPIL)	0.0	19.23	9.62	9.62	0.2
2	PHAENOPSECTRA (LPIL)	19.23	0.0	9.62	9.62	0.2
2	PSECTROCLADIUS (LPIL)	38.46	19.23	28.65	9.62	0.7

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REPLICATE REPORT

LS	TAXA	1	2	X	S.E.	REL ACC
TOTAL		2019.23	5961.52	3990.37	1971.15	100.0
DIVERSITY (H PRIME)		1.84	1.44	1.64	0.20	
DIVERSITY (J PRIME)		0.53	0.37	0.45	0.00	
NUMBER OF TAXA		11	15	16		
BOTTOM TYPE	0					

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STATION REPORT

LS	TAXA	19	20	X	S.E.	REL ABX
0	NEMATODA (TOTAL)	153.85	28.85	91.35	62.50	1.9
1	NEMATODA (LPIL)	153.85	28.85	91.35	62.50	1.9
0	OLIGOCCHAETA (TOTAL)	4134.61	3413.46	3774.03	360.59	76.6
0	NAIDIDAE					
1	NAIDIDAE (LPIL)	2375.00	2500.00	2437.50	62.50	49.5
0	TUBIFICIDAE					
1	TUBIFICIDAE (LPIL)	1759.61	913.46	1336.54	423.08	27.1
0	HIRUDINEA (TOTAL)	0.0	9.62	4.81	4.81	0.1
0	GLOSSIPHONIDAE					
1	GLOSSIPHONIDAE (LPIL)	0.0	9.62	4.81	4.81	0.1
0	BIVALVIA (TOTAL)	1134.61	134.62	634.61	506.00	12.9
0	SPHAERIIDAE					
5	SPHAERIUM (LPIL)	57.69	134.62	96.15	38.46	2.0
2	SPHAERIUM (LPIL)	1076.92	0.0	538.46	538.46	10.9
0	OSTRACODA (TOTAL)	0.0	9.62	4.81	4.81	0.1
1	OSTRACODA (LPIL)	0.0	9.62	4.81	4.81	0.1
0	COPEPODA (TOTAL)	0.0	9.62	4.81	4.81	0.1
0	HARPACTICOIDA (TOTAL)					
1	HARPACTICOIDA (LPIL)	0.0	9.62	4.81	4.81	0.1
0	ISOPODA (TOTAL)	0.0	19.23	9.62	9.62	0.2
0	ASELLIDAE					
1	ASELLUS (LPIL)	0.0	19.23	9.62	9.62	0.2
0	AMPHIPODA (TOTAL)	28.85	0.0	14.42	14.42	0.3
0	HYALELLIDAE					
1	HYALELLA AZTECA	28.85	0.0	14.42	14.42	0.3
0	EPHEMEROPTERA (TOTAL)	19.23	9.62	14.42	4.81	0.3
0	CAENIDAE					
10	CAENIS (LPIL)	19.23	9.62	14.42	4.81	0.3
0	TRICHOPTERA (TOTAL)	9.62	9.62	9.62	0.0	0.2
0	LEPTOCERIDAE					
2	OECETIS (LPIL)	9.62	9.62	9.62	0.0	0.2
0	DIPTERA NEMATOCERA (TOTAL)	365.38	346.15	355.77	9.62	7.2
0	CERATOPOGONIDAE					
2	CERATOPOGONIDAE (LPIL)	76.92	76.92	76.92	0.0	1.6
0	CHIRONOMIDAE					
2	CHIRONOMUS (LPIL)	9.62	19.23	14.42	4.81	0.3
2	TANYTARSUS (LPIL)	144.23	57.69	100.96	43.27	2.0
2	DICROTENDIPES (LPIL)	86.54	105.77	96.15	9.62	2.0
2	POLYPEDILUM (LPIL)	9.62	0.0	4.81	4.81	0.1
2	ABLABESMYIA (LPIL)	0.0	38.46	19.23	19.23	0.4
2	PROCLADIUS (LPIL)	19.23	9.62	14.42	4.81	0.3
2	PHAENOPSECTRA (LPIL)	0.0	9.62	4.81	4.81	0.1
2	PSECTROCLADIUS (LPIL)	0.0	28.85	14.42	14.42	0.3
2	PARATENDIPES (LPIL)	9.62	0.0	4.81	4.81	0.1

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BAILEY GENERATING PLANT

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STATION REPORT

LS	TAXA			-		REL
		19	20	X	S.E.	INDX
2	CHIRONOMIDAE (LPIL)	9.62	0.0	4.01	4.01	0.1
0	DIPTERA BRACHYCERA (TOTAL)	9.62	0.0	4.01	4.01	0.1
0	TABANIDAE					
2	CHRYSOPS (LPIL)	9.62	0.0	4.01	4.01	0.1
0	DIPTERA (TOTAL)	9.62	0.0	4.01	4.01	0.1
2	DIPTERA (LPIL)	9.62	0.0	4.01	4.01	0.1
TOTAL		5065.37	3990.37	4927.07	937.50	100.0
DIVERSITY (H PRIME)		2.01	1.64	1.02	0.10	
DIVERSITY (J PRIME)		0.54	0.45	0.50	0.05	
NUMBER OF TAXA		17	18	24		
BOTTOM TYPE	0					

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STATION REPORT

LS	TAXA		X	S.E.	REL ADK
		20			
0	NEMATODA (TOTAL)	91.35	91.35	-1.00	1.9
1	NEMATODA (LPIL)	91.35	91.35	-1.00	1.9
0	OLIGOCHAETA (TOTAL)	3774.03	3774.03	-1.00	76.6
0	NAIDIDAE				
1	NAIDIDAE (LPIL)	2437.50	2437.50	-1.00	49.5
0	TUBIFICIDAE				
1	TUBIFICIDAE (LPIL)	1336.54	1336.54	-1.00	27.1
0	HIRUDINEA (TOTAL)	4.81	4.81	-1.00	0.1
0	GLOSSIPHONIIDAE				
1	GLOSSIPHONIIDAE (LPIL)	4.81	4.81	-1.00	0.1
0	BIVALVIA (TOTAL)	634.61	634.61	-1.00	12.9
0	SPHAERIIDAE				
5	SPHAERIUM (LPIL)	96.15	96.15	-1.00	2.0
2	SPHAERIUM (LPIL)	538.46	538.46	-1.00	10.9
0	OSTRACODA (TOTAL)	4.81	4.81	-1.00	0.1
1	OSTRACODA (LPIL)	4.81	4.81	-1.00	0.1
0	COPEPODA (TOTAL)	4.81	4.81	-1.00	0.1
0	HARPACTICOIDA (TOTAL)				
1	HARPACTICOIDA (LPIL)	4.81	4.81	-1.00	0.1
0	ISOPODA (TOTAL)	9.62	9.62	-1.00	0.2
0	ASELLIDAE				
1	ASELLUS (LPIL)	9.62	9.62	-1.00	0.2
0	AMPHIPODA (TOTAL)	14.42	14.42	-1.00	0.3
0	HYALELLIDAE				
1	HYALELLA AZTECA	14.42	14.42	-1.00	0.3
0	EPHEMEROPTERA (TOTAL)	14.42	14.42	-1.00	0.3
0	CAENIDAE				
10	CAENIS (LPIL)	14.42	14.42	-1.00	0.3
0	TRICHOPTERA (TOTAL)	9.62	9.62	-1.00	0.2
0	LEPTOCERIDAE				
2	OECETIS (LPIL)	9.62	9.62	-1.00	0.2
0	DIPTERA NEMATOCERA (TOTAL)	355.77	355.77	-1.00	7.2
0	CERATOPOGONIDAE				
2	CERATOPOGONIDAE (LPIL)	76.92	76.92	-1.00	1.6
0	CHIRONOMIDAE				
2	CHIRONOMUS (LPIL)	14.42	14.42	-1.00	0.3
2	TANYTARSUS (LPIL)	100.96	100.96	-1.00	2.0
2	DICROTENDIPES (LPIL)	96.15	96.15	-1.00	2.0
2	POLYPEDILUM (LPIL)	4.81	4.81	-1.00	0.1
2	ABLADESHYIA (LPIL)	19.23	19.23	-1.00	0.4
2	FROCLADIUS (LPIL)	14.42	14.42	-1.00	0.3
2	PHAENOPSECTRA (LPIL)	4.81	4.81	-1.00	0.1
2	PSECTROCLADIUS (LPIL)	14.42	14.42	-1.00	0.3
2	PARATENDIPES (LPIL)	4.81	4.81	-1.00	0.1

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STATION REPORT

LS	TAXA		-		REL
			X	S.E.	ATX
		20			
2	CHIRONOMIDAE (LPIL)	4.81	4.81	-1.00	0.1
0	DIPTERA BRACHYCERA (TOTAL)	4.81	4.81	-1.00	0.1
0	TABANIDAE				
2	CHRYSOPS (LPIL)	4.81	4.81	-1.00	0.1
0	DIPTERA (TOTAL)	4.81	4.81	-1.00	0.1
2	DIPTERA (LPIL)	4.81	4.81	-1.00	0.1
TOTAL		4927.87	4927.87	-1.00	100.0
DIVERSITY (H PRIME)		1.82	1.82	-1.00	
DIVERSITY (J PRIME)		0.50	0.50	-1.00	
NUMBER OF TAXA		24	24		
BOTTOM TYPE		0			

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BENTHIC MACROINVERTEBRATE NUMERICAL ABUNDANCE (NO/SQ M)

REPLICATE REPORT

PC TC GC LOC
5 71 71 1 3 00

SID	DATE	TIME	D/N	DURATION			TOW		SAMP VOL			WIND			CURRENT		TEMP		BT	TURBD	COND	DO	PH	SALN	P				
				UNITS	C	SD	WD	SP	D	UNITS	C	SECH	WT	SC	DI	CL	SP	DI								AIR	WAT		
211	4/20/80	1327	0	0.0	0	10.6	10.0	0.0	0	0.1	6	1.0	8	0	4	1	5	0.0	0	17.8	19.0	0	0.0	0	12.0	0.0	0.0	0	
212	4/20/80	1327	0	0.0	0	10.0	10.0	0.0	0	0.1	6	1.0	8	0	4	1	5	0.0	0	17.8	19.0	0	0.0	0	12.0	0.0	0.0	0	0.0

LS	TAXA	1	2		S.E.	ADJ
0	PLATYHELMINTHES (TOTAL)	0.0	19.23		9.62	9.62
1	TURDELLARIA-(LPIL)	0.0	19.23		9.62	9.62
0	NEMATODA (TOTAL)	96.15	76.92		86.54	9.62
1	NEMATODA (LPIL)	96.15	76.92		86.54	9.62
0	OLIGOCHAETA (TOTAL)	1500.00	7865.38		4682.69	3102.69
0	NAIDIDAE					
1	NAIDIDAE (LPIL)	846.15	4153.84		2500.00	1653.85
0	TUBIFICIDAE					
1	TUBIFICIDAE (LPIL)	653.85	3711.54		2182.69	1528.05
0	HIRUDINEA (TOTAL)	19.23	0.0		9.62	9.62
0	HIRUDINIDAE					
1	HAEMOPIS	19.23	0.0		9.62	9.62
0	BIVALVIA (TOTAL)	480.77	288.46		384.61	96.15
0	SPHAERIIDAE					
5	SPHAERIUM (LPIL)	307.69	211.54		259.62	48.00
1	SPHAERIUM (LPIL)	115.38	19.23		67.31	48.00
5	PISIDIUM (LPIL)	0.0	57.69		28.85	28.85
1	PISIDIUM (LPIL)	57.69	0.0		28.85	28.85
0	OSTRACODA (TOTAL)	19.23	57.69		38.46	19.23
1	OSTRACODA (LPIL)	19.23	57.69		38.46	19.23
0	ISOPODA (TOTAL)	269.23	76.92		173.08	96.15
0	ASELLIDAE					
1	ASELLUS (LPIL)	269.23	76.92		173.08	96.15
0	EPHEMEROPTERA (TOTAL)	0.0	19.23		9.62	9.62
0	CAENIDAE					
10	CAENIS (LPIL)	0.0	19.23		9.62	9.62
0	DIPTERA NEMATOCERA (TOTAL)	961.54	692.31		826.92	134.62
0	CERATOPOGONIDAE					
2	CERATOPOGONIDAE (LPIL)	942.31	192.31		567.31	375.00
0	CHIRONOMIDAE					
2	CHIRONOMUS (LPIL)	0.0	19.23		9.62	9.62
2	TANYTARSUS (LPIL)	0.0	115.38		57.69	57.69
2	DICROTENDIPES (LPIL)	0.0	173.08		86.54	86.54
2	POLYPEDILUM (LPIL)	0.0	38.46		19.23	19.23
2	ABLABESHYIA (LPIL)	19.23	38.46		28.85	9.62
2	FROCLADIUS (LPIL)	0.0	19.23		9.62	9.62
2	PSECTROCLADIUS (LPIL)	0.0	57.69		28.85	28.85
2	CHIRONOMIDAE (LPIL)	0.0	38.46		19.23	19.23

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

BENTHIC MACROINVERTEBRATE NUMERICAL ABUNDANCE (NO/SQ M)

REPLICATE REPORT

LS	TAXA	1	2	- X	S.E.	REL /EX
0	DIPTERA BRACHYCERA (TOTAL)	0.0	19.23	9.62	9.62	0.2
0	STRATIOMYIDAE					
2	EUPARYPHUS	0.0	19.23	9.62	9.62	0.2
TOTAL		3346.15	9115.36	6230.75	2004.60	100.0
DIVERSITY (H PRIME)		2.52	1.93	2.23	0.29	
DIVERSITY (J PRIME)		0.76	0.46	0.61	0.15	
NUMBER OF TAXA		10	19	20		
BOITOM TYPE	0					

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

BENTHIC MACROINVERTEBRATE NUMERICAL ABUNDANCE (NO/SQ M)

STATION REPORT

LS	TAXA		X	S.E.	REL ACC
		21			
0	PLATYHELMINTHES (TOTAL)	9.62	9.62	-1.00	0.2
1	TURBELLARIA-(LPIL)	9.62	9.62	-1.00	0.2
0	NEMATODS (TOTAL)	86.54	86.54	-1.00	1.4
1	NEMATODA (LPIL)	86.54	86.54	-1.00	1.4
0	OLIGOCHAETA (TOTAL)	4682.69	4682.69	-1.00	75.2
0	NAIDIDAE				
1	NAIDIDAE (LPIL)	2500.00	2500.00	-1.00	40.1
0	TUBIFICIDAE				
1	TUBIFICIDAE (LPIL)	2182.69	2182.69	-1.00	35.0
0	HIRUDINEA (TOTAL)	9.62	9.62	-1.00	0.2
0	HIRUDINIDAE				
1	HAEMOPIS	9.62	9.62	-1.00	0.2
0	BIVALVIA (TOTAL)	384.61	384.61	-1.00	6.2
0	SPHAERIUM				
5	SPHAERIUM (LPIL)	259.62	259.62	-1.00	4.2
1	SPHAERIUM (LPIL)	67.31	67.31	-1.00	1.1
5	PISIDIUM (LPIL)	28.85	28.85	-1.00	0.5
1	PISIDIUM (LPIL)	28.85	28.85	-1.00	0.5
0	OSTRACODA (TOTAL)	38.46	38.46	-1.00	0.6
1	OSTRACODA (LPIL)	38.46	38.46	-1.00	0.6
0	ISOPODA (TOTAL)	173.08	173.08	-1.00	2.8
0	ASELLIDAE				
1	ASELLUS (LPIL)	173.08	173.08	-1.00	2.8
0	EPHEMEROPTERA (TOTAL)	9.62	9.62	-1.00	0.2
0	CAENIDAE				
10	CAENIS (LPIL)	9.62	9.62	-1.00	0.2
0	DIPTERA NEMATOCERA (TOTAL)	826.92	826.92	-1.00	13.3
0	CERATOPOGONIDAE				
2	CERATOPOGONIDAE (LPIL)	567.31	567.31	-1.00	9.1
0	CHIRONOMIDAE				
2	CHIRONOMIS (LPIL)	9.62	9.62	-1.00	0.2
2	TANYTARSUS (LPIL)	57.69	57.69	-1.00	0.9
2	DICROTENDIPES (LPIL)	86.54	86.54	-1.00	1.4
2	POLYPEDILUM (LPIL)	19.23	19.23	-1.00	0.3
2	ABLABESMYIA (LPIL)	28.85	28.85	-1.00	0.5
2	FROCLADIUS (LPIL)	9.62	9.62	-1.00	0.2
2	PSECTROCLADIUS (LPIL)	28.85	28.85	-1.00	0.5
2	CHIRONOMIDAE (LPIL)	19.23	19.23	-1.00	0.3
0	DIPTERA BRACHYCERA (TOTAL)	9.62	9.62	-1.00	0.2
0	STRATIOMYIDAE				
2	EUPARYPHUS	9.62	9.62	-1.00	0.2
	TOTAL	6230.75	6230.75	-1.00	100.0
	DIVERSITY (H PRIME)	2.23	2.23	-1.00	
	DIVERSITY (J PRIME)	0.61	0.61	-1.00	

NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

BENTHIC MACROINVERTEBRATE NUMERICAL ABUNDANCE (NO/SQ M)

STATION REPORT

LS TAXA

21

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S.E. REL

X

REL

ABX

NUMBER OF TAXA

20

20

BOTTOM TYPE 0

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NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

BENTHIC MACROINVERTEBRATE NUMERICAL ABUNDANCE (NO/SQ M)

STATION REPORT

LS	TAXA		X	S.E.	REL ABX
		21			
0	PLATYHELMINTHES (TOTAL)	9.62	9.62	-1.00	0.2
1	TURBELLARIA-(LPIL)	9.62	9.62	-1.00	0.2
0	NEMATODA (TOTAL)	86.54	86.54	-1.00	1.4
1	NEMATODA (LPIL)	86.54	86.54	-1.00	1.4
0	OLIGOCHAETA (TOTAL)	4682.69	4682.69	-1.00	75.2
0	NAIDIDAE				
1	NAIDIDAE (LPIL)	2500.00	2500.00	-1.00	40.1
0	TUBIFICIDAE				
1	TUBIFICIDAE (LPIL)	2182.69	2182.69	-1.00	35.0
0	HIRUDINEA (TOTAL)	9.62	9.62	-1.00	0.2
0	HIRUDINIDAE				
1	HAEMOPIS	9.62	9.62	-1.00	0.2
0	BIVALVIA (TOTAL)	384.61	384.61	-1.00	6.2
0	SFHAERIIDAE				
5	SFHAERIUM (LPIL)	259.62	259.62	-1.00	4.2
1	SFHAERIUM (LPIL)	67.31	67.31	-1.00	1.1
5	PISIDIUM (LPIL)	28.85	28.85	-1.00	0.5
1	PISIDIUM (LPIL)	28.85	28.85	-1.00	0.5
0	OSTRACODA (TOTAL)	38.46	38.46	-1.00	0.6
1	OSTRACODA (LPIL)	38.46	38.46	-1.00	0.6
0	ISOPODA (TOTAL)	173.08	173.08	-1.00	2.8
0	ASELLIDAE				
1	ASELLUS (LPIL)	173.08	173.08	-1.00	2.8
0	EPHEMEROPTERA (TOTAL)	9.62	9.62	-1.00	0.2
0	CAENIDAE				
10	CAENIS (LPIL)	9.62	9.62	-1.00	0.2
0	DIPTERA NEMATOCERA (TOTAL)	826.92	826.92	-1.00	13.3
0	CERATOPOGONIDAE				
2	CERATOPOGONIDAE (LPIL)	567.31	567.31	-1.00	9.1
0	CHIRONOMIDAE				
2	CHIRONOMUS (LPIL)	9.62	9.62	-1.00	0.2
2	TANYTARSUS (LPIL)	57.69	57.69	-1.00	0.9
2	DICROTENDIPES (LPIL)	86.54	86.54	-1.00	1.4
2	POLYPEDILUM (LPIL)	19.23	19.23	-1.00	0.3
2	ABLABESMYIA (LPIL)	28.85	28.85	-1.00	0.5
2	PROCLADIUS (LPIL)	9.62	9.62	-1.00	0.2
2	PSECTROCLADIUS (LPIL)	28.85	28.85	-1.00	0.5
2	CHIRONOMIDAE (LPIL)	19.23	19.23	-1.00	0.3
0	DIPTERA BRACHYCERA (TOTAL)	9.62	9.62	-1.00	0.2
0	STRATIOMYIDAE				
2	EUPARYPHUS	9.62	9.62	-1.00	0.2
	TOTAL	6230.75	6230.75	-1.00	100.0
	DIVERSITY (H PRIME)	2.23	2.23	-1.00	
	DIVERSITY (J PRIME)	0.61	0.61	-1.00	

NORTHERN INDIANA PUBLIC SERVICE COMPANY (49720)

BAILEY GENERATING PLANT

BENTHIC MACROINVERTEBRATE NUMERICAL ABUNDANCE (NO/SQ M)

STATION REPORT

LS TAXA

21

-

REL

X

S.E.

ABX

NUMBER OF TAXA

20

20

BOTTOM TYPE 0

ABOVE COMPUTED USING SAMPLE IDS

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