

MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

ADA 133011

①

ADA 133 010

**TERRESTRIAL AND AQUATIC BIOLOGICAL INVENTORY
MEREDOSIA, ILLINOIS; MEREDOSIA; WILLOW CREEK;
AND COON RUN DRAINAGE AND LEVEE DISTRICT
SCOTT AND MORGAN COUNTIES, ILLINOIS
FINAL REPORT**

Submitted to:

**ST. LOUIS DISTRICT
U.S. ARMY CORPS OF ENGINEERS
210 TUCKER BLVD., NORTH
ST. LOUIS, MO 63101**

Submitted by:

**U.S. FISH AND WILDLIFE SERVICE
SOUTHERN ILLINOIS SUBOFFICE
DIVISION OF ECOLOGICAL SERVICES
MARION, ILLINOIS**

DECEMBER 1982

DTIC
ELECTE
SEP 29 1983
A

This document has been approved
for public release and sale; its
distribution is unlimited.

DTIC FILE COPY

83 08 24 142

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER	2. GOVT ACCESSION NO. ADA133 CIV	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) TERRESTRIAL AND AQUATIC BIOLOGICAL INVENTORY MEREDOSIA, ILLINOIS; MEREDOSIA; WILLOW CREEK; AND COON RUN DRAINAGE AND LEVEE DISTRICT SCOTT AND MORGAN COUNTIES, ILLINOIS		5. TYPE OF REPORT & PERIOD COVERED Final Report May 1982 to December 1982
7. AUTHOR(s) Alan L. Balliett		6. PERFORMING ORG. REPORT NUMBER
9. PERFORMING ORGANIZATION NAME AND ADDRESS U.S. Fish & Wildlife Service Marion Illinois Suboffice (ES) Marion, Illinois 62959		8. CONTRACT OR GRANT NUMBER(s) Interagency Transfer ED 82-41
11. CONTROLLING OFFICE NAME AND ADDRESS U.S. Army Engineer District, St. Louis 210 Tucker Blvd., North St. Louis, Missouri 63101		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office) Same		12. REPORT DATE December 1982
		13. NUMBER OF PAGES 23 pp.
		15. SECURITY CLASS. (of this report) Unclassified
		15a. DECLASSIFICATION/DOWNGRADING SCHEDULE
16. DISTRIBUTION STATEMENT (of this Report) Unlimited		
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report) Unlimited		
18. SUPPLEMENTARY NOTES		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number) Environmental Inventory, Illinois River, Morgan Co., wildlife habitat, Smith Lake Endangered Species, Flora, Fauna		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) A qualitative evaluation of the terrestrial aquatic biological resources within the Meredosia, Illinois; Meredosia; Willow Creek; and Coon Run Drainage and Levee District in Scott and Morgan Counties, Illinois was performed during May and June of 1982. Quantitative sampling was conducted to support qualitative observations. Wildlife habitat is generally limited to the western half of the study area. The dry, sandy soils were observed to support flora and fauna typical of that in the Illinois River Sands Area Natural Division. Smith Lake and lower Coon Run (cont		

and Willow Creeks were found to have the most productive fishery in the study area. Because no riverfront levee is present, there is a greater exchange between internal fish populations and those of the Illinois River. During low flows, movement is confined to available drainageways connected to the Illinois River. More extensive movement (e.g. into Smith Lake) occurs during flood events.

ABSTRACT

V
A qualitative evaluation of the terrestrial aquatic biological resources within the Meredosia, Illinois; Meredosia; Willow Creek; and Coon Run Drainage and Levee District in Scott and Morgan Counties, Illinois was performed during May and June of 1982. Quantitative sampling was conducted to support qualitative observations.

Wildlife habitat is generally limited to the western half of the study area. The dry, sandy soils were observed to support flora and fauna typical of that in the Illinois River Sands Area Natural Division. Smith Lake and lower Coon Run and Willow Creeks were found to have the most productive fishery in the study area. Because no riverfront levee is present, there is a greater exchange between internal fish populations and those of the Illinois River. During low flows, movement is confined to available drainageways connected to the Illinois River. More extensive movement (e.g. into Smith Lake) occurs during flood events.

Accession For

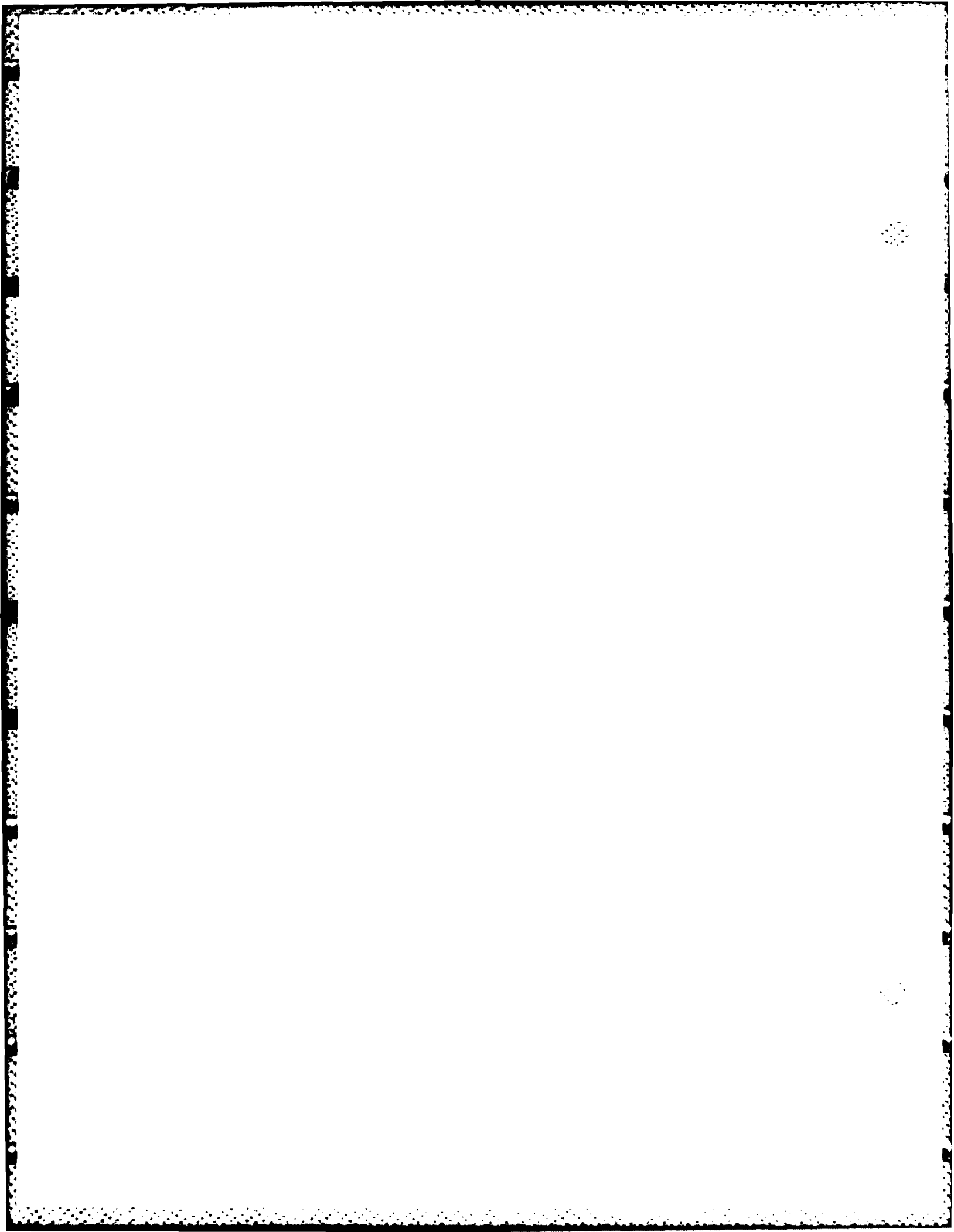
1982	<input checked="" type="checkbox"/>
	<input type="checkbox"/>
	<input type="checkbox"/>

A



TABLE OF CONTENTS

	<u>PAGE</u>
Introduction	1
Terrestrial and Biological Inventory	
I. Study Area	2
II. Materials and Methods	2
III. Results and Discussion	6
IV. Summary	12
Aquatic Biological Inventory	
V. Study Area	13
VI. Materials and Methods	13
VII. Results and Discussion	17
VIII. Summary	23



LIST OF APPENDICES

APPENDIX

- A Aquatic and Terrestrial Spermatophytes Observed in the Study Area
- B Terrestrial and Semiaquatic Vertebrates Captured or Observed in the Study Area
- C Terrestrial Reconnaissance Surveys
- D Quantitative Vegetational Analysis Field Reports
- E Telephone Conversation Logs
- F Phytoplankton, Zooplankton, and Benthos Tables
- G Fish Data Tables and Graphs
- H Fishing License Sales in Scott and Morgan Counties
- I Fish Survey Field Reports
- J Aquatic Reconnaissance Surveys
- K Resumes of Principal Investigators
- L Literature Cited

LIST OF FIGURES

	<u>PAGE</u>
#1 Location of the Study Area	3
#2 Terrestrial Habitat Map	4
#3 Aquatic Habitat Map	14

LIST OF TABLES

#1 Land Use and Habitat Types in the Study Area	7
#2 Illinois State-Threatened and Endangered Plants and Animals in Scott and Morgan Counties	11
#3 Phytoplankton Collected in the Study Area	F-1
#4 Zooplankton Collected in the Study Area	F-3
#5 Benthos Collected in the Study Area	F-8
#6 Fish Collected in the Study Area	G-1
#7 Lengths and Weights of Commercial and Sport Fish Collected in the Study Area	G-8
#8 Catch Per Unit Effort for Fish Taken in the Study Area	G-12
#9 Fishing License Sales in Scott and Morgan Counties	H-1

INTRODUCTION

The St. Louis District of the U.S. Army Corps of Engineers is conducting Phase I advanced engineering studies for this local flood control project. The plan presented in House Document No. 472, 87th Congress, Second Session, was authorized by the Flood Control Act of October 1962 (Public Law 87-874). The authorized project provides for construction of 11 miles of new or enlarged levee, drainage facilities, seepage control measures, a closure structure, and a pumping station. The authorized plan would protect some 8,215 acres from flooding.

This report provides a qualitative evaluation (supported by quantitative analysis) of terrestrial and aquatic habitats in the project area. The purpose of this report is to provide environmental information which will be used by the Corps of Engineers in identifying and formulating project alternatives.

The assistance of persons who provided information on biological resources of the study area is acknowledged and appreciated. Thanks also to Dr. Ronald Brandon and Michael Morris of Southern Illinois University for identification of amphibians. Special thanks is reserved for Tammy Hoy who had the difficult task of typing the manuscript, tables, and appendices.

TERRESTRIAL BIOLOGICAL INVENTORY

I. Study Area

The study area is bordered on the north by Willow Creek and on the south by Coon Run Creek (Figure 1, Page 3). The base of the bluffs form the eastern boundary of the study area and the Illinois River and Meredosia Lake discharge channel form the western boundary. The study area encompasses a total of 9,425 acres. The proposed project area is included within the study area and consists of 8,215 acres.

II. Material and Methods

Quantitative Sampling

Three forest tracts located within the project area were sampled by transects. One transect was completed in each of two forest tracts. Two transects were made in one large forest tract due to the greater habitat diversity represented. The four transects are outlined on the attached habitat map (Figure 2, Page 4).

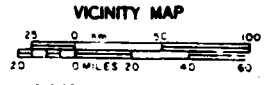
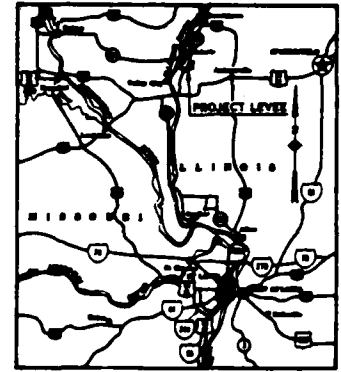
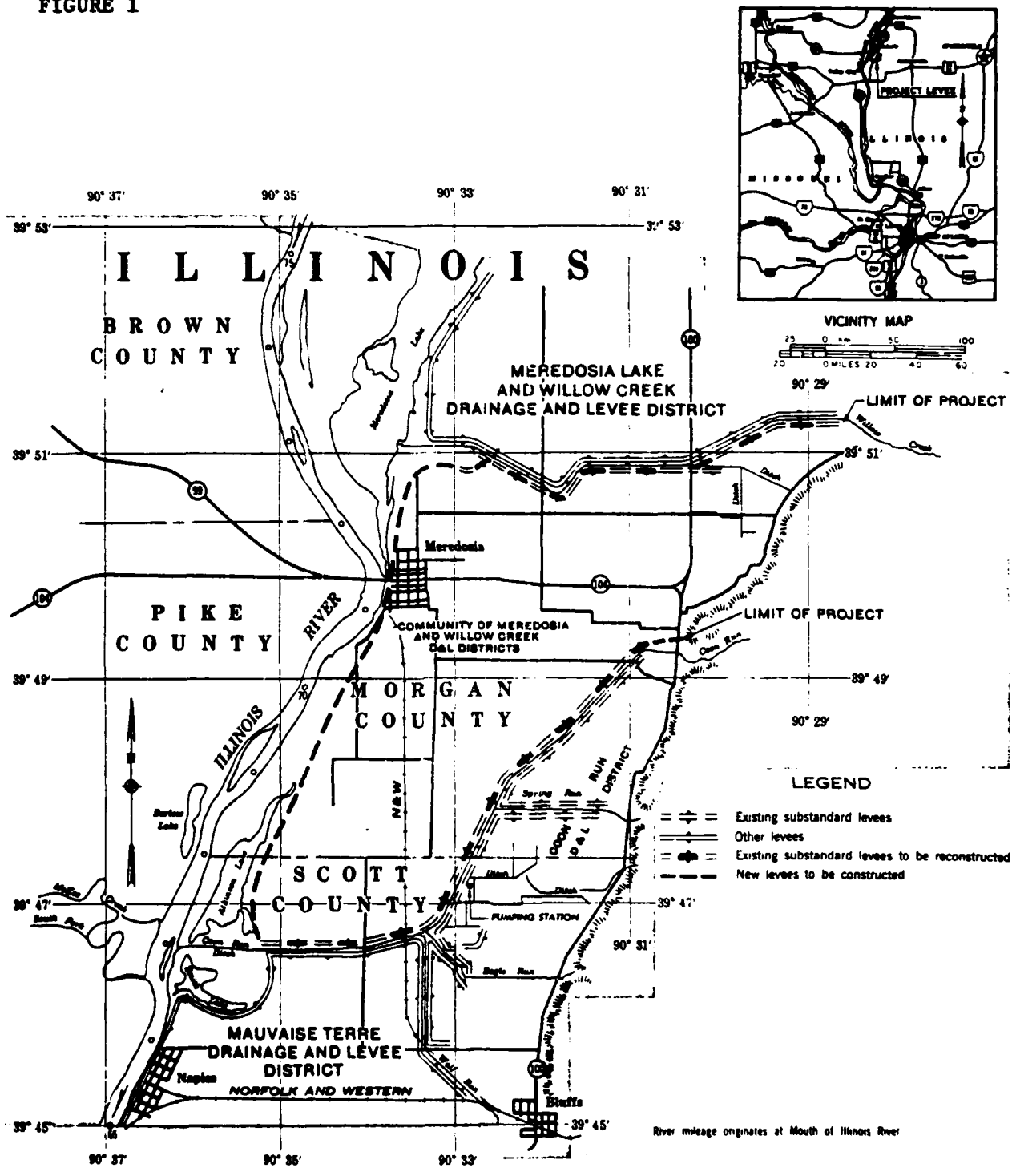
Starting at the edge of each forest tract, concentric circular plots were established along the transect lines. The distance between these plots was 300 feet. The radius of the circular plots was determined by use of chain and stake. The circumference of the circular plots was marked by flags and flagging tape. Using a common center, the size of overstory plots were 0.20 acre (52.66 foot radius), the understory plots were 0.05 acre (26.33 foot radius), and groundcover plots were 0.01 acre (11.78 foot radius). Two plots were analyzed in Transect A, 4 in Transect B, 2 in Transect C, and 4 in Transect D.

Trees greater than 10 inches diameter breast height (dbh) or greater than or equal to 12 feet in height were considered as part of the overstory. Trees and shrubs less than 12 feet in height were considered part of the understory. Vegetation typically less than 3 feet in height was considered part of the groundcover.

A Lemmon, Model C, spherical densiometer was used to record canopy closure. The total amount of understory and groundcover was estimated. The amount of cover provided by individual species was reported as the percentage of that species in a sample plot. Stem counts of overstory and understory vegetation were made. The dbh of overstory vegetation was measured with a Biltmore stick. Mid-summer and autumn blooming species were undoubtedly missed due to the timing of the survey. In addition, the lack of key taxonomic characteristics such as flowers and fruit made the identification of some specimens impossible.

Qualitative observations were also made at each plot. Information was recorded on density or percent crown closure, dominant species or generic groupings, age classes, and any special characteristics that would influence the evaluation of the quality of wildlife habitat. Field reports are included in Appendix C.

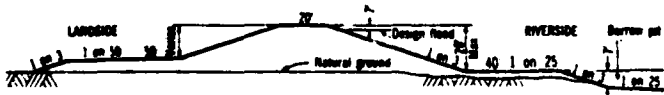
FIGURE 1



LEGEND

- Existing substandard levees
- Other levees
- Existing substandard levees to be reconstructed
- New levees to be constructed

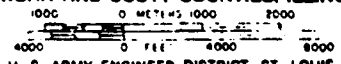
River mileage originates at Mouth of Illinois River



TYPICAL PROJECT LEVEE SECTION



FLOOD CONTROL PROJECT
ILLINOIS RIVER
MEREDOSIA, WILLOW CREEK & COON RUN
DRAINAGE & LEVEE DISTRICTS
MORGAN AND SCOTT COUNTIES, ILLINOIS



U. S. ARMY ENGINEER DISTRICT, ST. LOUIS
CORPS OF ENGINEERS
ST. LOUIS, MISSOURI
SEPTEMBER 30, 1981

SOURCE: ILLINOIS RIVER LEVEE MAPS, 1971

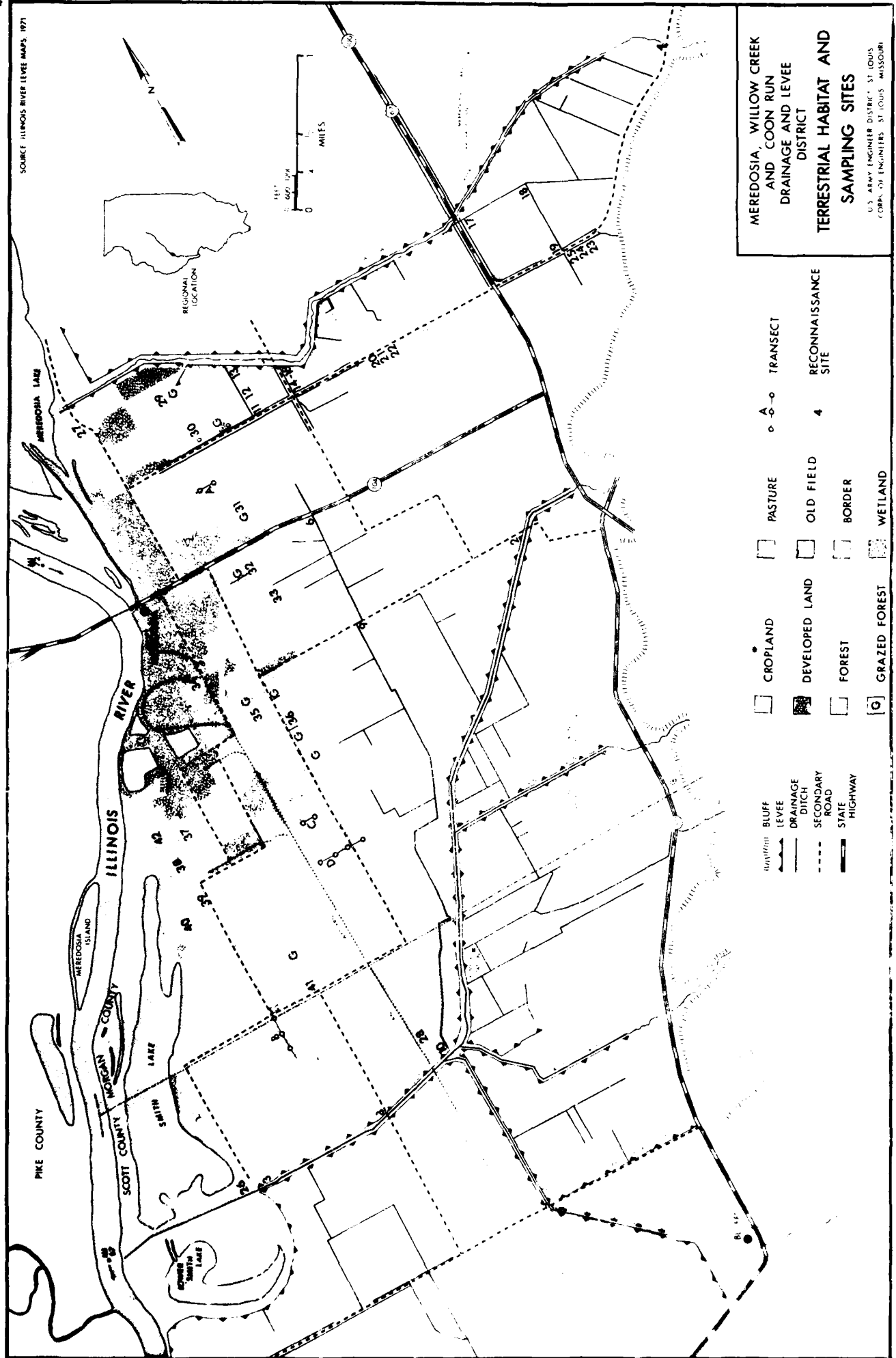


FIGURE 2

Qualitative Sampling

Field reconnaissance was conducted at 41 sites in the study area. Ocular estimates of canopy closure, understory and groundcover were made. Information on density or crown closure; dominant species or generic groupings; age classes; and any special characteristics that would influence the evaluation of the quality of wildlife habitat such as high percentages of mast- or fruit-producing trees or shrubs, special den or nest potential, and percentage of grasses or forbs in the groundcover were recorded. Notes were made concerning the semiaquatic or terrestrial vertebrates observed (sightings, tracks, scats, or calls). Field reports are included in Appendix C.

Age classes referred to in the report and field notes are as follows:

- Overmature - physical senescence apparent.
- Mature - seed producing.
- Juvenile - pre-seed producing.
- Reproduction - less than 2 inches in diameter.

Photo Interpretation

Habitat acreages were measured with a map measurer and Lasico, Model L-10, compensating polar planimeter from 9- by 9-inch, nonstereo, 1:24,000 scale, color aerial photographs taken in 1979. Terrestrial and aquatic habitats were mapped on 1:14,400 scale, mylar base maps provided by the Corps of Engineers.

Habitat types depicted on the maps are as follows:

- 1) Floodplain forest - areas that are dominated by trees and are located within the historical floodplain of the Illinois River. Communities adapted to both hydric and non-hydric conditions are included in this classification.
- 2) Cropland - areas utilized for the growth of agricultural crops which are planted and harvested annually, excluding pasture and hayland.
- 3) Pasture and hayland - areas dominated by perennial grasses or forbs, native or introduced, that are mowed at least once per year or periodically plowed and planted primarily for livestock grazing.
- 4) Old field - former cropland and otherwise disturbed areas which have been allowed to revert back to natural vegetation.
- 5) Border - narrow strips of idle land occurring on levees and along streams, ditches, fencerows, ephemeral drainage, roads, and railroad beds. The type varies from site to site, dependent upon the successional age of the community and the condition with which it is associated.
- 6) Developed Land - this habitat includes urban areas, homesteads,

and other areas affected by non-agricultural disturbance.

- 7) Riverine - this type is comprised of all live drainages including streams and ditches.
- 8) Lakes - Meredosia, Atkinson and Smith Lakes are flooded, shallow water bodies included in this classification.
- 9) Wetland - an area where hydric soils and hydrophytes, other than trees, predominate. This includes seasonally and perennially flooded lowlands, normally too moist for agricultural use. This general definition was used to facilitate interpretation and mapping for this report. A more detailed definition, that may be used for impact analysis, is found in Cowardin, et al. (1979).

Literature Review

A literature review of relevant published and unpublished materials pertaining to wetlands and terrestrial biological resources in the study area was conducted. These materials are cited in the text of this report.

Consultation

Persons with knowledge of wetland and terrestrial biological resources in the study area were contacted. Dick Lutz (Head of Impact Analysis Section, Illinois Department of Conservation) was contacted and provided information on published material regarding the study area. Mike Sweet (Endangered Species Coordinator, Illinois Department of Conservation) reported an American bittern (Botaurus lentiginosus) was observed near Meredosia Lake. He also indicated the area may contain the yellow mud turtle (Kinosternon flavescens) and Strecker's chorus frog (Pseudacris streckeri). Frank Belrose (Waterfowl Specialist, Illinois Natural History Survey) said that censuses of waterfowl are conducted on Meredosia Lake during spring and fall and censuses of wintering bald eagles (Haliaeetus leucocephalus) are taken in the study area along the Illinois River. He said that construction of levees along the Illinois River between Diamond Island and Smith Lake has reduced waterfowl habitat in that stretch of river. Frank Kulfinski (Professor of Botany, Southern Illinois University - Edwardsville) was contacted but did not have any information on the study area. Phone conversation records are included in Appendix E.

III. Results and Discussion

The project area is located in the Illinois River Bottomlands and Illinois River Sand Areas Natural Divisions of Illinois (Mohlenbrock, 1975). Two distinct habitat groupings exist within the study area. The western half of the area is a heterogenous mixture of cropland, developed land, bottomland forest, wetland, pasture, and old field interspersed with border habitat, grazed and ungrazed woodlots. The eastern half of area is virtually all cropland with scattered developed tracts. Coon Run and Willow Creek have been channelized and leveed except at their extreme upper and lower ends. The study area

has no riverfront levee.

A total of 801 acres of developed land are present, which compose 8.5 percent of the study area. The Village of Meredosia is part of this developed area. According to the 1970 census, Meredosia had a population of 1,178 persons. It does not appear to have experienced much growth since the census. A coal-fired electrical-generating station, adhesive factory, and ammonia storage facility are the major industrial developments. Farmsteads, roads, railroads, and a recreational development along Meredosia Lake forms the balance of the developed land. Wildlife species in these developed areas are limited to those most tolerant of human disturbances. Most common species observed were starling (*Sturnus vulgaris*), house sparrow (*Passer domesticus*), American robin (*Turdus migratorus*), common grackle (*Quiscalus quiscula*), eastern fox squirrel (*Sciurus niger*), and eastern cottontail (*Sylvilagus floridanus*).

TABLE 1: LAND USE AND HABITAT TYPES IN THE MEREDOSIA, ILLINOIS; MEREDOSIA; WILLOW CREEK; AND CROWN CREEK DRAINAGE AND LEVEE DISTRICT; SCOTT AND MORGAN COUNTIES, ILLINOIS

HABITAT	ACREAGE WITHIN THE PROJECT AREA		ACREAGE OUTSIDE THE PROJECT AREA		TOTAL ACREAGE OF THE STUDY AREA	
		(%)		(%)		(%)
Floodplain Forest	199	(4.8)	681	(56.3)	1,080	(11.5)
Cropland	6,709	(81.7)	56	(4.6)	6,765	(71.8)
Pasture	18 ^a	(0.8)	--	(--)	68	(0.7)
Old field	162	(2.0)	--	(--)	162	(1.7)
Border	104	(1.3)	3	(0.2)	107	(1.1)
Developed Land	735	(8.9)	66	(5.5)	801	(8.5)
Riverine	38	(0.5)	7	(0.6)	45	(0.5)
Lakes	--	(--)	310	(25.6)	310	(3.3)
Wetland	--	(--)	87	(7.2)	87	(0.9)
TOTAL	8,215	(100.0)	1,210	(100.0)	9,425	(100.0)

^aIncludes 21 acres of pastured levee

A 681-acre strip of bottomland forest along the Illinois River forms the western border of the study area. The strip varies in width and is continuous except in the Village of Meredosia where it has been cleared for urban development. Overstory of the bottomland forest tract is dominated by overmature cottonwoods (*Populus deltoides*) and silver maples (*Acer saccharinum*). Understory vegetation is scarce and groundcover vegetation is limited to a few silver maple seedlings and smartweeds.

The absence of understory and groundcover vegetation is attributed to the periodic flooding. Lack of understory and groundcover vegetation limits the carrying capacity of the area for ground-nesting and -dwelling birds and mammals. The area appears to provide good habitat for tree-nesting birds and the presence of primarily overmature trees indicates a good potential for cavity-nesters such as the wood duck (*Aix sponsa*) and woodpeckers. During flooding, this area is likely to provide cover for migratory waterfowl.

A number of scattered forest woodlots are located within the western half of the study area. They comprise 399 acres (4.2% of study area). Approximately seventy acres (17.5%) of the woodlots are actively grazed by hogs and cattle. The forest type is typical of that described by Mohlenbrock (Op. Cit.) for the Illinois River Sand Areas Natural Division, with blackjack oak (Quercus marilandica) dominating the stands. Oak-hickory is the most common overstory association; however, several small woodlots were observed to be dominated by honey locust (Gleditsia triacanthos). Dense understory and groundcover vegetation is typical of most woodlots examined with the exception of those currently being grazed or allowed to develop into an undisturbed climax stage. A variety of birds species were observed in these woodlots. American robin, blue jay (Cyanocitta cristata), bobwhite (Colinus virginianus), and cardinal (Cardinalis cardinalis) were commonly observed. Eastern cottontail and eastern fox squirrel were the most commonly observed species.

Old field accounted for 162 acres (1.7% of the study area). A large tract of old field is located along the southern boundary of the study area. Grasses (Graminae), spiderworts (Tradescantia sp.), and prickly pear (Opuntia sp.), were the most commonly observed species. The areas appear to provide adequate habitat for ground-nesting birds and small mammals. Pasture made up 68 acres (0.7% of the study area).

An 87-acre wetland is located in the northwest corner of the study area. Water levels in the wetland appear to be influenced by those of the Illinois River. The wetland appears to maintain standing water even though an adjacent bottomland forest is dry. Cottonwoods, silver maple, and willows (Salix sp.) comprise the open overstory. Silver maple and willow make up most of the understory. Areas of standing water were covered with duckweed. The area appears to provide good feeding and nesting habitat for waterfowl. Blue-winged teal (Anas discors), wood duck, killdeer (Charadrius vociferous), red-winged blackbird (Agelaius phoeniceus), and bullfrog (Rana catesbeiana) were observed at the site.

Cropland makes up 6,765 acres and the majority (71.8%) of the study area. Corn, wheat, soybeans, and melons are most commonly planted. In the western half of the study area where cropland is interspersed with other habitats, it provides an available source of food for such species as the whitetail deer (Odocoileus virginianus), fox squirrel, and blue jay. In addition, it provides a feeding site for raptors. In the eastern half of the study area where protective cover is absent, the use of croplands as a food source is limited to species such as starlings, common grackles, red-winged blackbirds, common crows (Corvus brachyrhynchos), and small mammals. Large numbers of waterfowl were observed feeding in the flooded fields in April of 1982.

Border habitat makes up approximately 107 acres or 1.1 percent of the study area. Some border habitats were not included in acreage figures or on the habitat maps because of their size. The 4 major border habitats encountered in the study area include idle land on levees, grassed border, brushy border, and wooded border. Vegetation of the

border habitat on the Coon Run and Willow Creek levees is dominated by grasses and forbs. Woody vegetation is removed from the Coon Run Creek levee by mowing and herbicide application. Pasturing of cattle is conducted on the Willow Creek levee. The lower end of the Coon Run Creek levee is wooded with mature cottonwood and juvenile willow. Grassed border is common along ditches and roads and is usually maintained by mowing. Brushy border is found along several ditches in the north end of the study area. Juvenile cottonwoods and willows were the most commonly observed woody vegetation. Wooded fencerows make up most of the wooded border habitat.

Border habitat in the study area provides cover for ground-nesting species such as bobwhite, ring-necked pheasant (Phasianus colchinus), and eastern cottontail. These areas also provide protected travel lanes for wildlife moving between isolated habitat tracts. Wooded borders along old fields, cropland, and pasture provide perches for raptors.

Quantitative Vegetational Analysis

The existing vegetational composition of the woodlots examined appears to have been influenced by past human disturbance such as grazing or logging. Disturbed woodlots are typified as having a dense understory and groundcover, greater species diversity, and low regeneration of oaks and hickories in the groundcover. The undisturbed areas appear to be at or near climax stage having an open understory, sparse groundcover, generally less diverse species composition, and greater revegetation of oaks and hickories in the groundcover. The woodlot in which Transect A was conducted and plot 3 of Transect D (which was previously fenced from the rest of the woodlot) do not appear to have been recently disturbed.

Transect A - Vegetational analysis indicates that a young, vigorous forest community near climax stage exists in this woodlot. Four tree species were identified in the overstory with blackjack oak and sweet pignut hickory (Carya ovalis) most prevalent. Eight taxa were found in the understory. Pignut hickory (Carya glabra), mockernut hickory (Carya tomentosa), hackberry (Celtis occidentalis), and rough-leaved dogwood (Cornus drummondii) were the most common species. A total of 16 taxa were identified in the groundcover with gooseberry (Ribes sp.), Virginia creeper (Parthenocissus quinquefolia), and cleavers (Galium aparine) predominating. The understory was generally open and groundcover sparse. Regeneration of pignut hickory and blackjack oak was noted in the groundcover. Blackjack oak were largest of the tree species with half over 10 inches dbh.

Oaks and hickories in the woodlot should provide an excellent source of hard mast for wildlife such as blue jays, eastern fox squirrels, and whitetail deer. However, the absence of overmature trees limits the potential for cavities, which is a limiting factor for cavity-nesting bird populations. The scarcity of understory and groundcover vegetation limits the carrying capacity for ground-dwelling species.

Transect B - Black oak (Quercus velutina), sassafras (Sassafras albidum), and white mulberry (Morus alba) were most prevalent of the 9 taxa identified in the overstory. Sassafras, rough-leaved dogwood, and white mulberry were the most common of the 14 species identified in the understory. A total of 27 taxa were found in the groundcover with cleavers, Virginia creeper, and mayapple (Podophyllum peltatum) most prevalent. In general the area has a moderate to dense understory and dense groundcover. Few oak and hickory seedlings were noted in the groundcover.

Trees with cavities and snags were observed along the transect showing a good potential for tree-denning mammals and cavity-nesting birds. Black oak was the most mature and had the highest cavity potential. Adequate hard- and soft-mast production was noted. The dense understory and groundcover provides ample cover for ground-dwelling wildlife.

Transect C - Blackjack oak, sweet pignut hickory, and white mulberry were most common of the 6 species identified in the overstory. Five species were observed in the understory with white mulberry and rough-leaved dogwood dominating. Common blackberry (Rubus allegheniensis), common morning glory (Ipomoea purpurea), and Virginia creeper were most prevalent of the 23 species in the groundcover. Open areas with prickly pear and spiderworts were observed adjacent to the transect.

Few mature trees were observed along the transect, thus habitat for cavity dwellers is limited. Understory and groundcover vegetation appeared to provide adequate wildlife cover. Excellent soft-mast production was evident, but hard-mast production appeared to be more limited.

Transect D - A total of 10 tree species were found in the overstory of which blackjack oak, sweet pignut hickory and white mulberry predominate. Ten species were also found in the understory with blackjack oak, sweet pignut hickory, and rough-leaved dogwood dominating. Common blackberry, Virginia creeper, rough-leaved dogwood, and white snakeroot (Eupatorium rugosum), were the most common plants of the 35 taxa found in the groundcover. The understory was moderate to dense except in plot 3 where it was open. Ample oak and hickory regeneration in the groundcover was noted.

Ample cover for ground-dwelling wildlife species was found all along this transect except in the area surrounding plot 3. Adequate soft- and hard-mast production was noted. Numerous snags were noted indicating good cavity potential.

Natural and Wildlife Management Areas

No natural areas have been identified within the study area (Illinois Department of Conservation, 1977). Two natural areas and one wildlife refuge are located just outside the study area. Descriptions are included for informational purposes.

Northeast Meredosia Hill Prairie (Morgan County) - This 24-acre, sandy loess hill prairie is located on the base of the bluffs approximately one-quarter mile north of Willow Creek (NW 1/4 Sec. 9, T. 16 N., R. 12 W., 3 P.M.). It contains the pink milkwort (*Polygata incarnata*), an Illinois endangered species. It is under private ownership, not protected by the owner or lessee, and is potentially threatened by grazing and mining.

Outdoor Education Laboratory (Scott County) - This 15 acre natural area is located in the bluffs approximately one mile northeast of the Village of Bluffs (NE 1/4 Sec. 10, T. 15 N., R. 13 W., 3 P.M.). It is owned and protected by the Bluffs Community Unit School District.

Meredosia National Wildlife Refuge - This refuge is located on Meredosia Lake and managed by U.S. Fish and Wildlife Service's Chautauqua National Wildlife Refuge personnel. The 1,850-acre refuge was established in 1973 as a wildlife sanctuary. No hunting is allowed.

Illinois State-Threatened and Endangered Species

A list of Illinois state-threatened and endangered species found in Scott and Morgan Counties is included in Table 2. The potential for the yellow mud turtle, Strecker's chorus frog, western hognose snake, false tarragon, pink milkwort, and prairie spiderwort is high, given their habitat requirements for dry and/or sandy areas. The potential for the pink milkwort is especially high, given the existing community in the nearby Northeast Meredosia Hill Prairie Natural Area. The possibility of the American bittern being found in the study area is also high since it has recently been observed adjacent to the study area near Meredosia Lake. The potential for golden seal and ginseng is low due to the absence of mesic forests. Discussions pertaining to the potential for Federal species are outside the scope of this study and will be handled by U.S. Fish and Wildlife Service during Section 7 Consultation.

TABLE 2: ILLINOIS STATE-THREATENED AND ENDANGERED PLANTS AND ANIMALS IN SCOTT AND MORGAN COUNTIES¹

COMMON NAME	SCIENTIFIC NAME	STATUS	COUNTY	HABITAT
Indiana bat ²	<u><i>Myotis sodalis</i></u>	Endangered	Morgan	Wintering habitat consists of caves and mines. Nests and forages in riparian forest.
American bittern ³	<u><i>Botaurus lentiginosus</i></u>	Endangered	Morgan	Wet prairie, marshes, and marshy lake shore.
Yellow mud turtle	<u><i>Kinosternon flavescens</i></u>	Endangered	Morgan	Relatively undisturbed sand areas that have semi-permanent or permanent ponds and sloughs.
Strecker's chorus frog	<u><i>Pseudacris streckeri</i></u>	Threatened	Morgan	Open sandy areas of a river lowland.
Western hognose snake	<u><i>Heterodon nasicus</i></u>	Threatened	Morgan	Dry areas, especially sandy ones with little sand areas.
False tarragon	<u><i>Artemisia dracunculoides</i></u>	Threatened	Morgan	Areas of dry sand and gravel and loess bluffs along the Illinois and Sangamon Rivers.
Golden seal	<u><i>Hydrastis canadensis</i></u>	Threatened	Morgan Scott	Mesic and wet-mesic upland forests.
Ginseng	<u><i>Panax quinquefolia</i></u>	Threatened	Morgan Scott	Rich-mesic woodlands.
Pink milkwort	<u><i>Polygata incarnata</i></u>	Endangered	Morgan	Sand and gravel prairies and dry open sites.
Prairie spiderwort	<u><i>Tradescantia bracteata</i></u>	Endangered	Morgan	Dry prairies, sand areas, and occasionally disturbed sites in the western part of Illinois.

¹Taken from Endangered and Threatened Vertebrate Animals and Vascular Plants of Illinois (Natural Land Institute, 1981)

²Federally endangered

³Now listing. Not included in source document.

Hunting and Trapping Opportunities

Private ownership of land within the study area limits recreational opportunities to landowners or to those individuals obtaining permission from landowners to hunt or trap. Waterfowl hunting on Smith Lake is limited to a few individuals who have obtained a lease agreement.

Eastern cottontail and eastern fox squirrel are the most common upland game species. Bobwhite, mourning dove, ring-necked pheasant provide upland game bird hunting opportunities. Waterfowl hunting is limited to the streams and ditches and periods when flooding of cropland coincides with the hunting season. Whitetail deer numbers appeared low within the study area. A total of 106 and 159 deer were harvested in Scott and Morgan Counties, respectively, during the 1981 shotgun season (Illinois Department of Conservation, 1982). Furbearers observed in the study area are beaver, muskrat, and raccoon.

IV. Summary

The mixture of bottomland forest, woodlots, agricultural and developed land in the western half of the study area provides habitat for a number of wildlife species, most of which are tolerant of human activity. The pronounced edge effect caused by the interspersation of the wildlife habitat and developed areas increases the carrying capacity of the land for wildlife. Grazing of woodlots is common practice and detrimental to wildlife in the study area.

Extensive agriculture in the eastern part of the study area has seriously diminished the area's potential for wildlife. It does provide a source of food for a limited number of wildlife.

All terrestrial habitats in the project area are used to some extent by wildlife. Ungrazed woodlots, bottomland forests, wetlands and border areas are generally considered to be higher in value than other types, because of their ability to satisfy life requirements during all seasons. Finer lines of distinction between these high value habitats are beyond the scope of this study and would require value judgements based on the importance of species using them. For example; quail, rabbits, pheasants and songbirds are commonly more abundant in border areas because of the increased ecotone these habitats provide. These are poor habitats for waterfowl and climax woodland species.

AQUATIC BIOLOGICAL INVENTORY

V. Study Area

The study area is identical to that described in the terrestrial section of this report.

VI. Materials and Methods

Fish Sampling

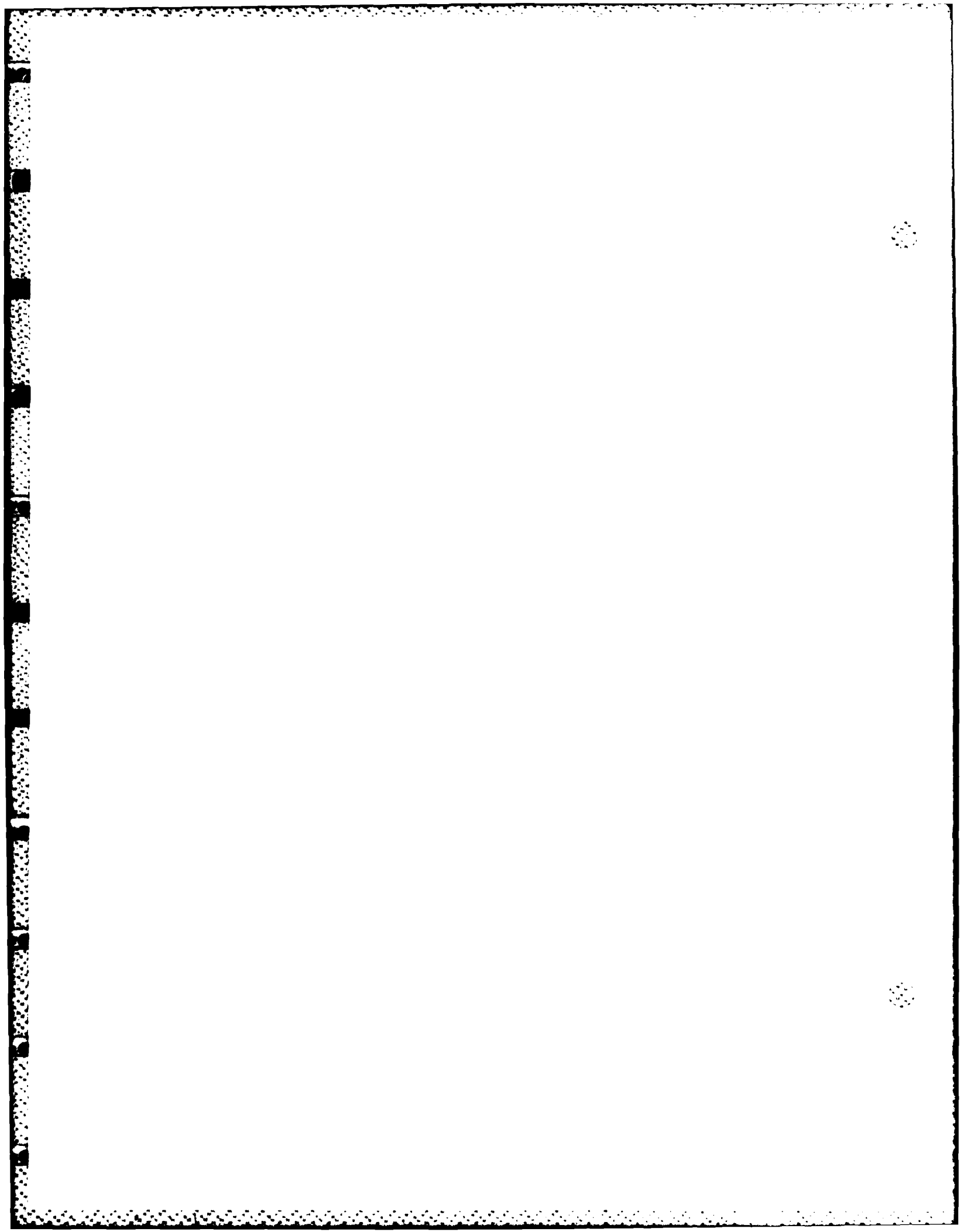
Fish were sampled from the six aquatic sampling sites identified on the attached aquatic habitat map (Figure 3, Page 14). The upper and lower ends of stream sampling sites were enclosed with block seines. Sites 1 and 3 were electrofished with a 230-volt A.C., 3-phase, 180 Hertz boat shocker and sites 2, 4, and 6 were electrofished with a 110-volt A.C., portable electrofishing unit until diminishing returns were obtained. All stations, except #3, were then seined with a one-fourth inch mesh, 50-foot bag seine until diminishing returns were obtained. Deep muck prevented seining at site 3. Smith Lake (site 5) was electrofished at different locations along the shoreline with the boat shocker described previously. Three 4 X 5-foot three-quarter inch fyke nets with 50 foot leads were also set overnight at Smith Lake. Sampling areas were established in areas that were easily accessible and had habitats representative of the surrounding water body. The three different sampling techniques were used in an attempt to compensate for sampling inefficiencies inherent to each individual technique and obtain a representative fish sample from each site. Fish sampling reports are included in Appendix I.

Easily identifiable species were weighed and measured in the field and released. More difficult specimens were weighed and measured in the field, preserved in 10% formalin, and identified in the lab.

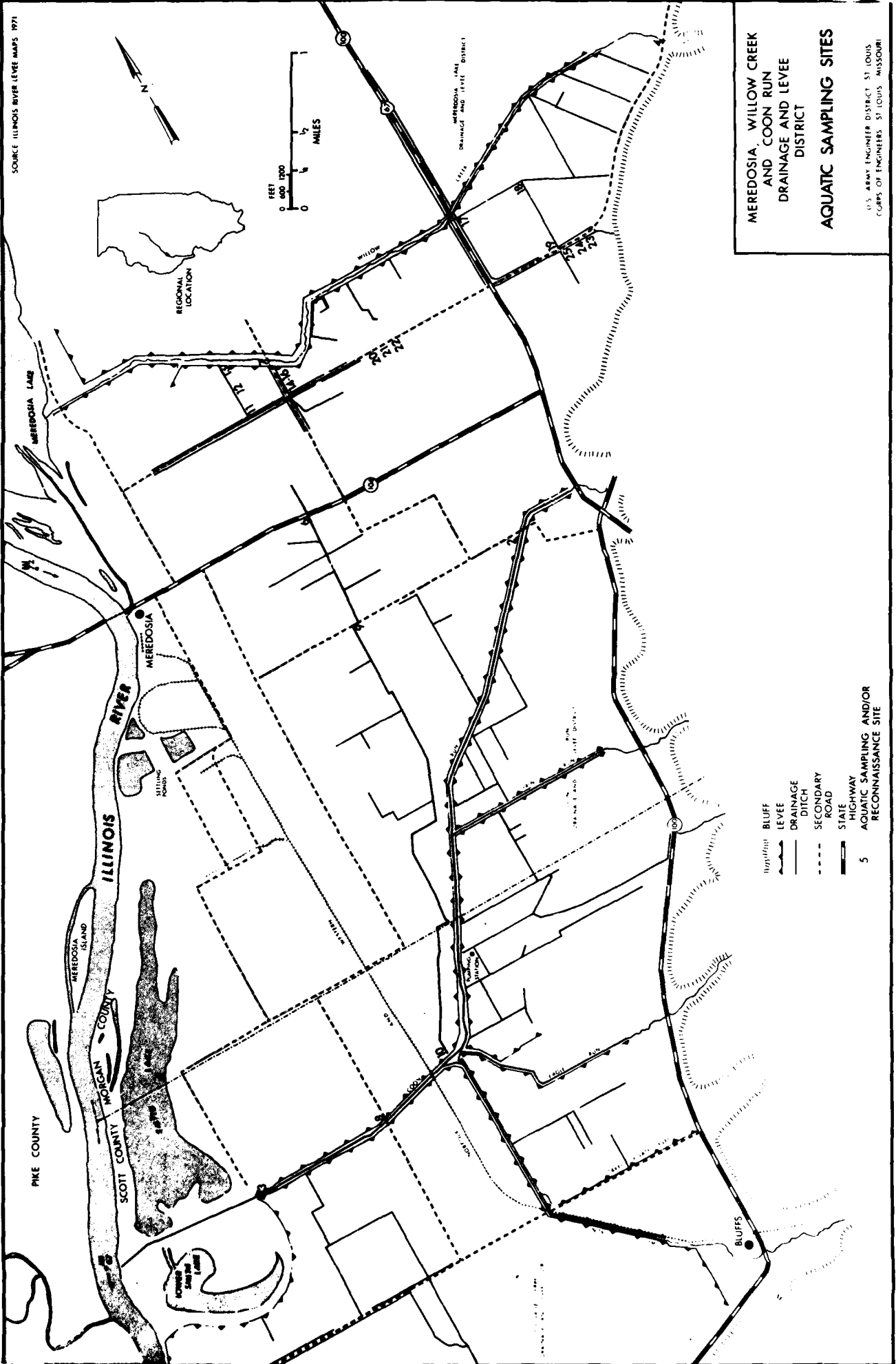
Length frequencies and length-weight relationships were graphed for important sport and commercial species. In cases where less than 10 individuals for a certain species was taken, graphs were not completed.

Benthos

Five benthic samples were collected at each of the six aquatic sites. The samples were distributed to be representative of the habitats and substrates found in the sampling sites. Benthos was collected according to substrate type. A 12 X 12-inch surber sampler with a number 30 mesh conical collection bag was used in the sandy, gravelly, and rocky substrates of sites 2 and 4. A six by six-inch ponar grab sampler was used to collect samples in the mucky substrates of sites 1, 3, 5, and 6. Samples collected with the ponar were passed through a number 30 mesh wash bucket. All samples were live sorted and preserved in 70% ethanol. Where possible, qualitative sampling was conducted to complete the inventory of benthic organisms.



SOURCE ILLINOIS RIVER LEVEE MAPS 1971



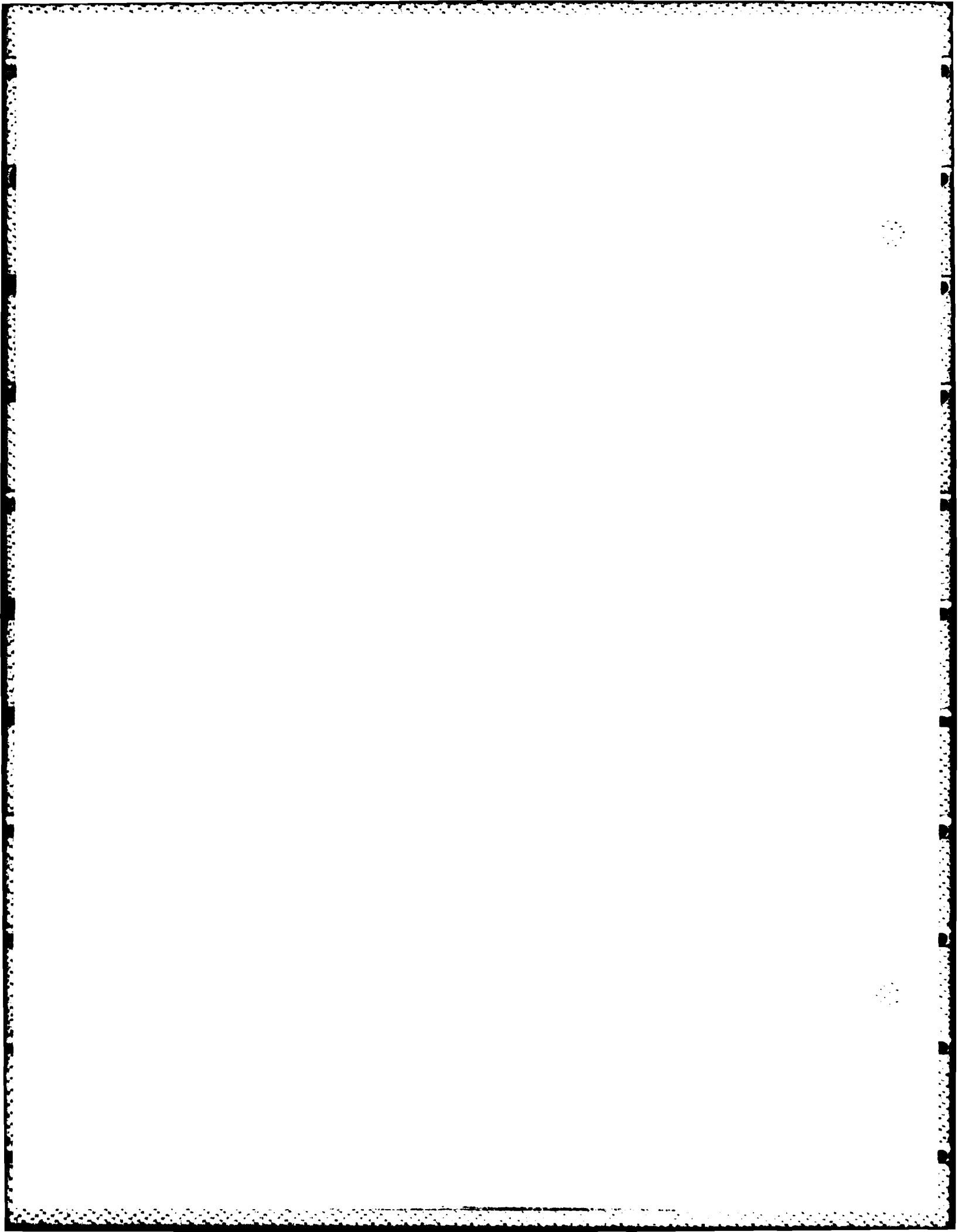
**MEREDOSIA, WILLOW CREEK
AND COON RUN
DRAINAGE AND LEVEE
DISTRICT**

AQUATIC SAMPLING SITES

U.S. ARMY ENGINEER DISTRICT ST. LOUIS
CORPS OF ENGINEERS ST. LOUIS, MISSOURI

FIGURE 3

- Bluff
- Levee
- Drainage
- Ditch
- Secondary Road
- State Highway
- 5 Aquatic Sampling and/or Reconnaissance Site



Phytoplankton

A four-liter water sample was collected at each of the six aquatic sampling sites and passed through a 153-micron mesh size plankton net. Samples were preserved with Lugol's iodine solution and identified by Dr. Louis Lipsey formerly of Southern Illinois University - Carbondale.

One milliliter (ml) of the concentrated sample was transferred into a Sedgwick-Rafter counting cell by means of a 1 ml pipette. The cell was allowed to stand 15 minutes prior to examination to allow the majority of the organisms to settle to the bottom. Phytoplankters were enumerated using the strip counting method. Cells were counted in terms of units (i.e., unicellular organisms, natural colonies, and filamental length). Data were expressed as the number of units per ml of total sample (4 liters).

In order to determine more carefully the diatom species encountered, permanent slides were made of all samples. A 2.2-centimeter square glass coverslip containing 0.15 ml of the concentrated sample was heated at 500 °C, for 20 minutes to remove the organic material by incineration. Following incineration, the coverslip was inverted on a standard microscope slide containing a drop of Carmount mounting medium. The coverslip was heated on a hot plate (at 90 °C) for 2-3 minutes to remove the mounting medium solvent.

A horizontal strip on the slide was chosen at random for the counting of and recording of the respective taxa. Examination of the slide was considered complete when a count of 300 cells was obtained. The number (n) of any given species per ml was determined by the relationship: $n = (\% \text{ in diatom count}) \times (\text{total diatom count per ml obtained from the Sedgwick-Rafter cell count})$.

Zooplankton

A 30-liter water sample was collected from each of the 6 aquatic sampling sites and passed through a Wisconsin style plankton net with a number 25 stainless steel mesh bucket. Samples were fixed in 70% ethanol and identified by Dr. Joseph A. Beatty of Southern Illinois University - Carbondale. Counts were made of individual organisms except at sites 1 and 5. Numbers of organisms from sites 1 and 5 were too high to count individually. These samples were concentrated to 10 ml, shaken, and a 1 ml subsample taken. Organisms in the subsample were counted in a Sedgwick-Rafter counter and the result multiplied by 10 to obtain the given figures. The remainder of the collection from site 1 was then examined for the larger, scarcer organisms and individual counts made.

Diversity and Evenness Indices

Diversity for organisms collected in this study were calculated by the Shannon-Weaver(Wiener) formula. The formula for the Shannon-Weaver(Wiener) function reported by Weber (1973) is:

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

where S is the number of species, and p_i is the proportion of the total number of individuals consisting of the i th species.

The Shannon-Weaver(Wiener) index is a dual-concept measure of diversity because it is sensitive to both the number of species present (species richness component) and distribution of individuals among the species present (evenness component). To make the diversity information in this report more complete and easier to interpret, the MacArthur evenness index as described by Weber (Op. cit.) was provided. The formula is as follows:

$$e = s'/s$$

where s equals the number of taxa in the sample and s' equals the tabulated value.

The formulas were calculated from individual counts of organisms rather than the total density of organisms which was calculated as the total number collected multiplied by a metric conversion. Phytoplankton indices were based on the metric concentrations presented and converted to whole numbers for purposes of calculation.

The indices presented should be interpreted very cautiously by the reader with the following qualification of the data in mind. The Shannon-Weaver(Wiener) index is dependent on a random sample which contains all the species of the community (Poole, 1974). Given only one sample at one specific time, certain species were undoubtedly missed due to water conditions unfavorable to the species at the time of the sample and seasonal variations in populations. Inefficiencies intrinsic to the sampling methods used is another factor limiting capture of all species. In order for the species richness figure to be most equitable the organisms should be classified to an identical taxonomic level. Identification to the same taxonomic level was not always possible. Evenness figures based on samples with generally less than 100 individuals are considered statistically invalid. Low populations at several sites precluded obtaining a sufficient sample for valid calculations.

Water Chemistry

Conductivity readings were taken at the six aquatic sampling sites with a Hach mini-conductivity meter. Dissolved oxygen was determined by use of a Hach kit Winkler titration. Hach colorimetric methods were also used to determine pH, total hardness and total alkalinity. Flow was determined by the "floating chip" method whenever feasible.

Field Reconnaissance

Qualitative data was collected at 24 sites in the study area. They included one site in the upper, middle, and lower portions of the 2 streams, 1 major and 5 minor lateral ditches. Information was collected at each site on approximate low flow width, length in

miles, acreage, sinuosity, depth range, length of pools, bottom type, estimated velocity, color, clarity, distribution and type of instream cover, and percentage and type of streamside cover or shading for each reach of water.

Photo Interpretation

Mapping and measurement techniques are identical to those described in the terrestrial section of the report.

Literature Review

A literature review of relevant published and unpublished materials pertaining to aquatic biological resources of the study area was conducted. These materials are cited in the text of the report.

Consultation

Persons with knowledge of aquatic biological resources in the study area were contacted. Dick Lutz (Head of Impact Analysis Section, Illinois Department of Conservation) was contacted and provided information on published material regarding the study area. Richard Sparks (Aquatic Biologist, Illinois Natural History Survey) reported that Meredosia Lake is becoming shallow and suffers from low dissolved oxygen concentration due to sedimentation. He said that levee construction along the lower Illinois River has greatly reduced backwater fish habitat. Jamie Thomerson (Professor of Biology, Southern Illinois University - Edwardsville) did not have any readily available information on the study area. Phone conversations logs are found in Appendix E.

VII. RESULTS AND DISCUSSION

Aquatic habitats in the study area consist of Coon Run Creek, Willow Creek, one major lateral ditch, several minor lateral ditches, several small oxbow lakes, and Smith (Atkinson) Lake. Coon Run and Willow Creek comprise approximately 30 acres (0.3%) of the study area and lateral ditches 8 acres (0.1%). Smith lake has a surface area of 299 acres or 3.2% of the study area. The oxbow lakes made up 11 acres.

Coon Run Creek has been channelized and leveed except at its extreme upper and lower ends. Woody vegetative growth on the levee is controlled by herbicides. Grasses are predominant. Thus vegetation provides little cover and thermal protection of aquatic systems. Mature streambank vegetation on the lower section consists of cottonwoods, immature willows, and grasses. This vegetation provides shade for approximately 50% of the stream. The stream has moderate velocity in its upper half and low velocity in the lower end. The substrate is rocky and gravelly in the area where the stream issues from the bluffs, sandy in the mid-section and mucky at the lower end. Water levels in the lower end of the stream are influenced by those of the Illinois River. Numerous springs issue into the stream from under the levee. The stream was observed to be turbid. Rogers

(1970b) reported yellow bullhead (Ictalurus natalis), green sunfish (Lepomis cyanellus), bluegill (Lepomis macrochirus), carp (Cyprinus carpio), and minnows from the stream.

Willow Creek has been straightened and leveed except at its extreme upper and lower ends. A mixture of juvenile willows, cottonwoods, silver maples, slippery elm and white mulberry occur along the banks on the upper end and shade approximately 80% of the stream. The leveed part of the stream is grazed, dominated by grasses, and receives no shading. Approximately half of the lower section of stream is shaded by mature to overmature cottonwoods and willows. Groundcover vegetation along this section of stream is limited by periodic flooding to a few scattered silver maple seedlings and smartweeds. The stream has moderate flows in its upper end and low flows in its lower reaches. The mid-section of the stream has very little water during low flow and it typified as a mud flat with a trickle of water through the center. The substrate is rocky and gravelly at the extreme upper end and mucky for the remainder. The water is turbid. Water levels at the lower and middle sections of the stream are influenced by those of Meredosia Lake. The stream suffers from head cutting at the upstream end. The banks have become steep, approximately 20 feet high, and are eroding and collapsing into the stream.

One major lateral ditch is found in the study area. It is located in the central portion of the study area and transverses in a north to south direction. The ditch has a mucky bottom, emergent vegetation, and is slightly turbid. The upper end of the ditch is narrow and shallow. The lower end is wider and deeper and enters Coon Run Creek via a capped tile through the levee. The upper end of this ditch apparently becomes dry during periods of low precipitation. Grasses and forbs, which provide little shading predominate along the banks of this ditch. Woody vegetation, consisting mainly of white mulberry grows along one bank at the extreme lower end of the ditch and provides some shading.

Several minor lateral ditches are located in the study area. They consist of minor drainages leading to capped tiles in the levees and roadside ditches. They have intermittent flows and provide little aquatic habitat except during periods of heavy surface runoff. The ditches receive little shading from the grasses and forbs which are usually found along their banks. Several of the ditches have banks with dense stands of juvenile willows and receive ample shading.

Smith Lake is a shallow oxbow of the Illinois River. The lake discharges into Coon Run Creek and is periodically inundated by floodwaters from the Illinois River. The substrate is generally mucky but somewhat sandier along the eastern shore, where developed. Rogers (Op. cit.) reports that the lake nearly goes dry in drought years. The lake was turbid during the survey. The lake is surrounded by bottomland timber and the shoreline is brushy. Emergent aquatic vegetation is common. Rogers reported duckweed, sago pondweed, broadleaf pondweed, bulrush, smartweed, arrowhead, filamentous algae, and buck brush. Fish species are common to those

of the Illinois River. The lake is privately owned and fishing is limited to the owners and those individuals who obtain permission.

Several small oxbow lakes are located in the bottomland forest along the Illinois River. They are quite small and are not assumed to have major fishery value, due to their shallowness, and susceptibility to drought and winterkill. They appear to provide amphibian spawning and nursery habitat as well as feeding and roosting sites for waterfowl. This study was not designed though to verify use for these purposes.

Phytoplankton

Thirty-six genera of phytoplankton were collected from the study area (See Appendix F, Table 3). Nitzschia sp. and Melosira sp. were the most abundant genera in Coon Run Creek. Phytoplankters in Willow Creek were dominated by Dinobryon sp. and Chlamydomonas sp. Chlamydomonas and Mougeotia sp. were the most common genera in the major lateral ditch. Melosira sp. was dominant in Smith Lake. Palmer (1969) reports that Nitzschia sp., Melosira sp., and Chlamydomonas sp. are highly tolerant of organic pollution.

Genera collected are generally common to Illinois waters in the spring. Frustularia sp., Pinnularia sp., Closterium sp., Micrasterias sp., and Spirotaenia sp. which are indicators of soft water environments (Dr. Louis Lipsey, personal communication) were found only in the major lateral ditch.

Weber (Op. cit.) reported that diversity index values of unpolluted waters range between 0.6 and 0.8. Phytoplankton diversity and evenness values for this study (Appendix F, Table 3) indicate that Coon Run Creek is least polluted. Values for the upper sampling site in this stream (#2) indicate unpolluted conditions, while those for the lower site (#3) indicate a modest level of pollution. Values for the remaining sites indicate higher levels of pollution. Turbidity is considered to be a major limiting factor for phytoplankton.

Zooplankton

Thirty-three taxa of zooplankton were collected from the study area (Appendix F, Table 4). Zooplankton density was high at sites 1, 5, and 6 and low at the remainder. Rotifers were generally the most abundant species collected.

Zooplankton diversity and evenness values (Appendix F, Table 4) indicate moderate environmental stress for all sites except lower Willow Creek (#1) and the upper section of the main ditch (#6) which appear relatively unpolluted. Turbidity and pesticides may play a major role in limiting species diversity.

Benthos

Thirty-six taxa of benthos were collected from the study area (Appendix F, Table 5). Chironomids and oligochaetes were generally

most abundant at sites with soft substrates. Isopods were most abundant in the coarse substrates of upper Willow Creek (Site 4).

Benthic diversity and evenness values (Appendix F, Table 5) indicate moderate environmental stress at all sites, except the upper portion of the main ditch (#6) which shows a high degree of stress. Lack of water during dry periods apparently limits benthic productivity at Site #6. Turbidity, agricultural runoff, and fine substrates appear to be limiting productivity at the other sites.

Fish

Coon Run Creek - An upper and lower site (2 and 3) was sampled on this stream. Water levels were approximately one-foot above normal during the survey. A total of 106 fish comprising 20 species were collected (Appendix G, Table 6). Gizzard shad (Dorosoma cepedianum) and minnows made up the bulk of collections in the upper portion of stream. The fishery in the lower section of the stream appears to be influenced by that of the Illinois River. Carp and river carpsucker (Carpiodes carpio), common Illinois River fish, were numerically most dominant. Sport fish in the lower section of stream included largemouth bass (Micropterus salmoides), green sunfish, and bluegill.

In general, the fishery in the upper portion of Coon Run Creek is limited to minnows and small fish, due to its shallowness, lack of instream cover and less diverse habitats; apparently resulting in part from past dredging activities. The lower portions of the stream have characteristics typical to those defined by Smith (1979) for spawning and nursery requirements by a number of Illinois River fish. Water levels in the lower stream fluctuate drastically and undoubtedly have an influence on fish populations. The lower part of the stream provides some sport fishing opportunity but appears to receive low fishing pressure.

Willow Creek - An upper and lower site (1 and 4) was sampled on this stream. Water levels were slightly higher than normal during the survey. A total of 111 fish comprising 22 species were taken. This stream is similar in many respects to Coon Run Creek in that smaller fish and minnows dominate the upper portion. Creek chubs (Semotilus atromaculatus) and bigmouth shiners (Notropis dorsalis) are numerically most prevalent. The fishery in the lower portion of the stream is influenced by that of Meredosia Lake; with bluegill, largemouth bass, carp, and gizzard shad being numerically most common. Sport fish in the lower portion of stream include channel catfish (Ictalurus punctatus), largemouth bass, green sunfish, bluegill, and white crappie (Pomoxis annularis). A grass pickerel (Esox americanus), approximately seven inches in length, was accidentally taken while collecting benthos with the surber sampler. This species was not taken later during intensive fish sampling.

Fish populations in Willow Creek, especially the middle section, are influenced by water level fluctuations. During low flows, the streambed is virtually dry. Adequate numbers of sport fish exist in the lower section to support fishing. The area receives moderate

fishing pressure. The stream appears to provide nursery habitat for Meredosia Lake fishes.

Major Lateral Ditch - One sample (Site 6) was taken at the upper end of this ditch. Water levels were normal during the survey. Carp fry, unidentifiable cyprinid larvae, and fathead minnows (Pimephales promelas) were taken. The upper and middle sections of the ditch provide generally poor fish habitat due to general lack of water at low flows and absence of shading. The extreme lower portion of the ditch appears to have a slightly higher fishery potential, since it is wider and deeper. The ditch provides good spawning habitat for amphibians and large numbers of larvae were observed during sampling activities. Sport fishing in the ditch is assumed to be non-existent.

Smith Lake - A total of 327 fish representing 24 species were collected from this lake. The water level was approximately 3 feet above normal. Largemouth bass, bluegill, black crappie (Pomoxis nigromaculatus), and freshwater drum (Aplodinatus grunniens) were numerically most prevalent. Sport fish taken were diverse and included black bullhead (Ictalurus melas), white bass (Morone chrysops), yellow bass, largemouth bass, green sunfish, bluegill, black crappie, white crappie, sauger (Stizostedion canadense), and walleye (Stizostedion vitreum).

Capture of young walleye and sauger indicates that this area provides nursery conditions and possibly spawning habitat for populations of these species moving into the area from the Illinois River. Since the lake is not a closed system, fish populations are assumed to fluctuate in response to flood events on the Illinois River. In general, the lake supports a diverse sport and commercial fishery. Private ownership is the major factor limiting use of this resource.

Threatened and Endangered Species

No threatened or endangered fish species have been listed by the State of Illinois from Scott and Morgan Counties. Semiaquatic species are listed in the terrestrial section of this report.

Mussels

Mussels are considered in this report because of the potential for adverse impacts from dredging to obtain borrow material. Starrett (1971) reported 2 commercial mussel beds along the right bank of the Illinois River at River Miles 66.6 - 66.9 and 68.9 - 69.4.

User-Day Analysis of Recreational Fishing

A user-day analysis was conducted to assess recreational fishing in the study area. Basic reference sources used by the Corps of Engineers to devise the basic assumptions and formulas were obtained from FY 1978, Illinois Sport Fishing Survey and consultation with Illinois Department of Conservation.

The first basic assumption is that the aquatic system is limited. The second assumption is that not all the aquatic system will provide recreational fishing opportunities. Both assumptions are valid for the study area. The major and minor lateral ditches do not appear to maintain recreational fish populations and are thus disqualified from further consideration. The upper ends of Coon Run and Willow Creeks are too shallow to normally maintain recreational fish populations. They are also disqualified from further consideration. The 11-acres of oxbow lakes in the bottomland forest were considered inaccessible and of unknown fishery value, and likewise disqualified. Fishable habitat considered consists of Smith Lake (299 acres), the lower 1.25 miles of Coon Run Creek (6.8 acres), and the lower 0.68 miles of Willow Creek (2.5 acres).

The third assumption is that the resource is of limited quality and would not be likely to draw fishermen from surrounding counties. Thus fishermen were limited solely to Scott and Morgan Counties. It is estimated that 45.3% of the fishermen in Illinois are unlicensed. Therefore, total fishermen equals number licensed fishermen (10 year average from Appendix H, Table 9) plus estimated number of unlicensed fishermen. The total number of resident fishermen was calculated to be 6,355 with 783 in Scott County and 5,572 in Morgan County. There were an estimated 52 non-resident fishermen.

The fourth assumption is fishermen make an average of 25 trips per year in Illinois. It can then be estimated that resident fishermen in Scott and Morgan Counties fished 158,875 days per year (total fishermen X 25) and non-residents 1,300 days.

The fifth assumption is that on a regional basis, fishermen vary in the percentage of time that they fish a habitat type. In Scott and Morgan Counties, resident fishermen were reported to spend 8.1% of their time fishing small streams like Coon Run and Willow Creeks and 6.9% in organizational lakes such as Smith Lake. Non-residents spent 3.6% of their time fishing organizational lakes and 2.6% of their time fishing small streams. Thus, in Scott and Morgan Counties, residents spent 12,869 fishermen days/year fishing small streams and 10,962 fishermen days/year fishing organizational lakes. Non-residents spent 34 fishermen days/year fishing small streams and 47 fishermen days/year fishing organizational lakes.

The sixth assumption is that fishing pressure is distributed evenly within a given type of water. Rogers (1970a,b) reports a total of 546.9 acres of small streams and 362.3 acres of organizational lakes in Scott and Morgan Counties. The fishermen days/acre/year for Scott and Morgan Counties is obtained by dividing the fishermen days/year for a particular type of water by the total number of acres of that type of water in those counties. Thus, residents spent 23.53 fishermen days/acre/year fishing small streams and 30.26 fishermen days/acre/year fishing organizational lakes. Non-resident fishermen spent 0.06 fishermen days/acre/year fishing small streams and 0.13 days/acre/year fishing organizational lakes.

To obtain calculated fishermen days/year in the study area, fishermen

days/acre/year for a particular type of water is multiplied by the number of fishable acres in the study area. The calculated resident fishermen days/year is, therefore, 9,047.7 for Smith Lake, 160.0 for Coon Run Creek, and 58.8 for Willow Creek. Non-residents spend a calculated 38.9 fishermen days/year at Smith Lake, 0.4 at Coon Run Creek, and 0.2 at Willow Creek.

The last assumption is that the dollar value of recreational fishing is \$2.50 per fisherman day. To obtain the dollar value of recreational fishing in the study area, fishermen days/year are multiplied by \$2.50. Thus, the dollar value for both residents and non-residents fishing is estimated as follows: Coon Run Creek \$401.00, Willow Creek \$147.50 and Smith Lake \$22,715.75. The total annual value of recreational fishing in the study area is \$23,264.25.

The reader should consider that the \$2.50 per fisherman day figure is probably outdated. According to the 1975 National Survey of Hunting, Fishing and Wildlife Associated Recreation, warmwater fishermen spent 7.48 billion dollars while fishing 831.5 million days or \$9.00 per fishing day.

VIII. Summary

The fishery of upper Coon Run and Willow Creeks is limited to minnows and smaller fish, due to shallowness and past channelization. The lower portions of these streams provide a sport fishery which is influenced by the aquatic systems into which they enter. These streams are assumed to serve as nursery and spawning areas for Illinois River and Meredosia Lake fish populations.

One major lateral ditch is located in the study area. While it supports a limited fishery, it is valuable as spawning and nursery habitat for amphibians. The several minor drainages located within the study areas periodically dry out and are of less value to fish. However, they appear to provide adequate spawning habitat for amphibians and feeding and resting areas for waterfowl when sufficient water is available.

Evaluations of aquatic habitats surveyed based on the diversity of invertebrates and phytoplankton are unreliable, due to the inconsistencies that exist among various biological communities at a particular location. For example, Site #6 has calculated diversity and evenness values for zooplankton which indicate a habitat relatively free of environmental stress. Values for benthos, on the other hand, indicate a highly degraded environment. Limited sampling effort in addition to sampling biases and inefficiencies, are apparently responsible for these inconsistencies.

APPENDIX A: AQUATIC AND TERRESTRIAL SPERMATOPHYTES OBSERVED IN THE
MEREDOSIA, ILLINOIS; MEREDOSIA; WILLOW CREEK; AND COON
RUN DRAINAGE AND LEVEE DISTRICT, SCOTT AND MORGAN COUNTIES,
ILLINOIS

APPENDIX A: AQUATIC AND TERRESTRIAL SPERMATOPHYTES OBSERVED IN THE
MEREDOSIA, ILLINOIS; MEREDOSIA; WILLOW CREEK; AND COON
RUN DRAINAGE AND LEVEE DISTRICT, SCOTT AND MORGAN COUNTIES,
ILLINOIS

GYMNOSPERMAE

PINACEAE (Pine Family)

Juniperus virginiana (Red cedar) 1-0

ANGIOSPERMAE

CLASS I. MONOCOTYLEDONEAE

ALISMACEAE (Water-plantain Family)

Sagittaria sp. (Arrowhead) 7,9-C

GRAMINEAE (Grass Family)

(Grasses) 1,4,5,6,7-A

CYPERACEAE (Sedge Family)

Eleocharis obtusa (Spike rush) 7-0

LEMNACEAE (Duckweed Family)

Lemna sp. (Duckweed) 8,9-A

COMMELINACEAE (Spiderwort Family)

Tradescantia sp. (Spiderwort) 1,4-A

LILIACEAE (Lily Family)

Polygonatum commutatum (Solomon's seal) 1-0

Smilax sp. (Greenbrier) 1-A

CLASS II. DICOTYLEDONEAE

SUBCLASS I. ARCHICHLAMYDEAE

SALICACEAE (Willow Family)

Salix sp. (Willow) 5,7,9-A

Populus deltoides (Cottonwood) 1,5,7,9-A

JUGLANDACEAE (Walnut Family)

Juglans cinerea (Butternut) 1-0

Carya sp. (Hickory) 1-0

C. ovata (Shagbark hickory) 1-0

C. tomentosa (Mockernut hickory) 1-0

C. glabra (Pignut hickory) 1,5-A

C. ovalis (Sweet pignut hickory) 1-A

CORYLACEAE (Hazel Family)

Corylus americana (American hazelnut) 1-C

FAGACEAE (Beech Family)

- Quercus alba (White oak) 1-0
Q. macrocarpa (Bur oak) 1-0
Q. velutina (Black oak) 1-0
Q. marilandica (Blackjack oak) 1-A

ULMACEAE (Elm Family)

- Ulmus rubra (Slippery elm) 1,5-A
U. americana (American elm) 1-0
Celtis occidentalis (Hackberry) 1-A

MORACEAE (Mulberry Family)

- Morus alba (White mulberry) 1,5-A
Maclura pomifera (Osage orange) 1-0

CANNABINACEAE (Hemp Family)

- Cannabis sativa (Marijuana) 1,5-0

URTICACEAE (Nettle Family)

- Urtica dioica (Stinging nettle) 1-C

POLYGONACEAE (Buckwheat Family)

- Rumex sp. (Dock) 5-0
Polygonum sp. (Smartweed) 1,7,9-A

CHENOPODIACEAE (Goosefoot Family)

- Chenopodium sp. (Pigweed) 1-0
Chenopodium album (Lamb's quarters) 1-A

PHYTOLACCACEAE (Pokeweed Family)

- Phytolacca americana (Pokeweed) 1-C

BERBERIDACEAE (Barberry Family)

- Podophyllum peltatum (Mayapple) 1-C

ANNONACEAE (Custard-apple Family)

- Asimina triloba (Pawpaw) 1-0

LAURACEAE (Laurel Family)

- Sassafras albidum (Sassafras) 1-A

PAPAVERACEAE (Poppy Family)

- Corydalis sp. (Corydalis) 1-0

CRUCIFERAE (Mustard Family)

- Lepidium sp. (Peppergrass) 5-0

SAXIFRAGACEAE (Saxifrage Family)

- Ribes sp. (Gooseberry) 1-C

PLATANACEAE (Plane-tree Family)

- Platanus occidentalis (Sycamore) 1-0

ROSACEAE (Rose Family)

- Amelanchier sp. (Serviceberry) 1-0
Duchesnea indica (Indian strawberry) 1-0
Geum sp. (Avens) 1-0
Rubus allegheniensis (Common blackberry) 1-A
Rosa multiflora (Multiflora rose) 1-0
Prunus serotina (Wild black cherry) 1-0

LEGUMINOSAE (Pulse Family)

- Gleditsia triacanthos (Honey locust) 1-0
Melilotus officinalis (Yellow sweet clover) 5-0
M. alba (White sweet clover) 5-0

OXALIDACEAE (Wood-sorrel Family)

- Oxalis sp. (Wood-sorrel) 1-0

RUTACEAE (Rue Family)

- Ptelea trifoliata (Wafer ash) 1-C

ANACARDIACEAE (Cashew Family)

- Rhus glabra (Smooth sumac) 1,5-C
Toxicodendron radicans (Poison ivy) 1-C

CELASTRACEAE (Staff-tree Family)

- Celastrus scandens (American bittersweet) 1-C

ACERACEAE (Maple Family)

- Acer saccharinum (Silver maple) 1,5,9-A

VITACEAE (Vine Family)

- Parthenocissus quinquefolia (Virginia creeper) 1-A
Vitis sp. (Grape) 1-A

VIOLACEAE (Violet Family)

- Viola sp. (Violet) 1-0

CACTACEAE (Cactus Family)

- Opuntia sp. (Prickly pear) 1,4-A

UMBELLIFERAE (Parsley Family)

- Sanicula marilandica (Black snakeroot) 1-0

CORNACEAE

- Cornus drummondii (Rough-leaved dogwood) 1-A

SUBCLASS II. METACHLAMYDEAE

EBENACEAE (Ebony Family)

- Diospyros virginiana (Common persimmon) 1-0

APOCYNACEAE (Dogbane Family)

- Vinca minor (Myrtle) 1-0

ASCLEPIADACEAE (Milkweed Family)

- Asclepias sp. (Milkweed) 5-0

- CONVOLVULACEAE (Convolvus Family)
Ipomoea purpurea (Common morning glory) 1-0
Calystegia sp. (Bindweed) 1-0
C. arvensis (Field bindweed) 1-0
- HYDROPHYLLACEAE (Waterleaf Family)
Hydrophyllum sp. (Waterleaf) 1-0
- SOLANACEAE (Nightshade Family)
Solanum nigrum (Black nightshade) 1-0
- SCROPHULARIACEAE (Figwort Family)
Scrophularia lanceolata (Early figwort) 1-0
Penstemon pallidus (Beards tongue) 1-0
- BIGNONIACEAE (Bignonia Family)
Catalpa sp. (Catalpa) 1-0
- RUBIACEAE (Madder Family)
Galium sp. 1-0
G. aparine (Cleavers) 1-A
G. triflorum (Fragrant bedstraw) 1-0
G. asprellum (Rough bedstraw) 1-0
- CAPRIFOLIACEAE (Honeysuckle Family)
Viburnum prunifolium (Black haw) 1-0
Sambucus canadensis (Elderberry) 5-0
- COMPOSITAE (Composite Family)
Eupatorium rugosum (White snakeroot) 1-C
Solidago sp. (Goldenrod) 1,5-0
Erigeron sp. (Daisy fleabane) 5-C
Ambrosia sp. (Ragweed) 1-0
Xanthium sp. (Cocklebur) 1,5-C
Sonchus arvensis (Field sow thistle) 1-0
Lactuca sp. (Wild lettuce) 1-0

CODE

Habitat in Which Species was Observed

- 1 - Floodplain Forest
- 2 - Cropland
- 3 - Pasture and Hayland
- 4 - Old Field
- 5 - Border
- 6 - Developed
- 7 - Riverine
- 8 - Lakes
- 9 - Wetland

Observed Relative Occurrence

- A - Abundant
- C - Common
- O - Occasional

APPENDIX B: TERRESTRIAL AND SEMIAQUATIC VERTEBRATES CAPTURED OR OBSERVED
IN THE MEREDOSIA, ILLINOIS; MEREDOSIA; WILLOW CREEK; AND COON
RUN DRAINAGE AND LEVEE DISTRICT, SCOTT AND MORGAN COUNTIES,
ILLINOIS

APPENDIX B: TERRESTRIAL AND SEMIAQUATIC VERTEBRATES CAPTURED OR OBSERVED
IN THE MEREDOSIA, ILLINOIS; MEREDOSIA; WILLOW CREEK; AND COON
RUN DRAINAGE AND LEVEE DISTRICT, SCOTT AND MORGAN COUNTIES,
ILLINOIS

AMPHIBIA

CAUDATA

AMBYSTOMATIDAE (Ambystomid Family)

Ambystoma texanum (Small-mouthed salamander) 7-C

Ambystoma tigrinum (Tiger salamander) 7-C

SALIENTIA

RANIDAE (True Frog Family)

Rana sp. 5,7-0

Rana catesbeiana (Bullfrog) 1,7,9-C

BUFONIDAE (Toad Family)

Bufo woodhousei fowleri (Fowler's toad) 4-C

HYLIDAE (Tree Frog Family)

Pseudacris sp. (Chorus frog) 7-C

Pseudacris triseriata (Chorus frog) 7-C

AVES

CICONIIFORMES

ARDEIDAE (Heron and Bittern Family)

Butorides striatus (Green heron) 9-0

ANSERIFORMES

ANSERINAE (Goose Family)

Branta canadensis (Canada goose) 2-S

ANATINAE (Surface-Feeding Duck Family)

Anas platyrhynchos (Mallard) 7-0

A. discors (Blue-winged teal) 9-0

Aix sponsa (Wood duck) 9-S

FALCONIFORMES

CATHARTIDAE (Vulture Family)

Cathartes aura (Turkey vulture) 1-0

FALCONINAE (Falcon Family)

Falco sparverius (American kestrel) 4-0

GALLIFORMES

PHASIANIDAE (Quail, Partridge, and Pheasant Family)

Colinus virginianus (Bobwhite) 1,4,5-0Phasianus colchicus (Ring-necked pheasant) 5-S

CHARADRIIFORMES

CHARADIIDAE (Plover and Turnstone Family)

Charadrius vociferous (Killdeer) 5,6,9-0

COLUMBIFORMES

COLUMBIDAE (Pigeon and Dove Family)

Zenaida macroura (Mourning dove) 1,5,6,9-0

CUCULIFORMES

CUCULIDAE (Cuckoo Family)

Coccyzus americanus (Yellow-billed cuckoo) 1-S

STRIGIFORMES

STRIGIDAE (Typical Owl Family)

Strix varia (Barred owl) 1-0

APODIFORMES

APODIDAE (Swift Family)

Chaetura pelagica (Chimney swift) 4-0

PICIFORMES

PICIDAE (Woodpecker Family)

Colaptes auratus (Common flicker) 4,5-0Melanerpes carolinus (Red-bellied woodpecker) 1-SM. erythrocephalus (Red-headed woodpecker) 1-0Picoides pubescens (Downy woodpecker) 1-0

PASSERIFORMES

TYRANNIDAE (Flycatcher Family)

Tyrannus tyrannus (Eastern kingbird) 4-0Sayornis phoebe (Eastern phoebe) 5-0

HIRUNDINIDAE (Swallow Family)

Hirundo rustica (Barn swallow) 4-0

CORVIDAE (Crow and Jay Family)

Corvus brachyrhynchos (Common crow) 1-0Cyanocitta cristata (Blue jay) 1-0

PARIDAE (Titmouse Family)

- Parus atricapillus (Black-capped chickadee) 1-S
P. bicolor (Tufted titmouse) 1-S

MIMIDAE (Mockingbird Family)

- Mimus polyglottos (Mockingbird) 1-0
Toxostoma rufum (Brown thrasher) 5-0

TURDIDAE (Thrush Family)

- Turdus migratorius (American robin) 1,9-0
Sialia sialis (Eastern bluebird) 5-0
Hylocichla mustelina (Wood thrush) 1-S

STURNIDAE (Starling Family)

- Sturnus vulgaris (Starling) 6-0

PARULIDAE (Warbler Family)

- Geothlypis trichas (Common yellowthroat) 1-0

PLOCEIDAE (Weaver Finch Family)

- Passer domesticus (House sparrow) 6-0

ICTERIDAE (Blackbird Family)

- Sturnella magna (Eastern meadowlark) 4-0
Agelaius phoeniceus (Red-winged blackbird) 5,6,9-0
Quiscalus quiscula (Common grackle) 1,5,6-0

FRINGILLIDAE (Grosbeak, Finch, Sparrow and Bunting Family)

- Cardinalis cardinalis (Cardinal) 1-0
Spiza americana (Dickcissel) 5-S
Pipilo erythrophthalmus (Rufous-sided towhee) 1-S

MAMMALIA

INSECTIVORA

TALIPIDAE (Mole Family)

- Scalopus aquaticus (Eastern mole) 4-S

CARNIVORA

PROCYONIDAE (Raccoon and Coatis Family)

- Procyon lotor (Raccoon) 1,5,6-S

MUSTELIDAE (Weasel Family)

- Mephitis mephitis (Striped skunk) 5,6-S

RODENITA

SCIURIDAE (Squirrel Family)

- Sciurus niger (Eastern fox squirrel) 1,6-0

CASTORIDAE (Beaver Family)
Castor canadensis (Beaver) 7,8-S

CRICETIDAE (Mice, Rat, Lemming, and Vole Family)
Ondatra zibethica (Muskrat) 7-S

LAGOMORPHA

LEPORIDAE (Hare and Rabbit Family)
Sylvilagus floridanus (Eastern cottontail) 1,4,5-0

ARTIODACTYLA

CERVIDAE (Deer Family)
Odocoileus virginianus (Whitetail deer) 1,2-S

CODE

Habitat in Which Species Was Observed

- 1 - Floodplain Forest
- 2 - Cropland
- 3 - Pasture and Hayland
- 4 - Old Field
- 5 - Border
- 6 - Developed Land
- 7 - Riverine
- 8 - Lakes
- 9 - Wetland

Type of Observation

- C - Captured
- 0 - Visual Observation
- S - Sign (Scats, Calls, Tracks, Etc.)

APPENDIX C: TERRESTRIAL RECONNAISSANCE SURVEYS

U.S. FISH AND WILDLIFE SERVICE
TERRESTRIAL RECONNAISSANCE INVENTORY

Location: # 1, Lower Willow Creek
Date: 6/22/82
Time: 6:00 p.m.
Habitat Type: Floodplain forest
Weather: Partly cloudy, breezy
Investigator(s): Balliett

Vegetative Cover

Overstory:

Crown Closure: 25
Dominant Species: Silver maple, cottonwood
Age Classes: Mature to overmature

Understory:

Percent Cover: Less than 1
Dominant Species: A few scattered silver maple saplings.

Ground Cover:

Percent Cover: Less than 1
Dominant Species: Smartweed, silver maple seedlings
Grass/Forb Ratio: 0 % grass/ 100 % forb

Wildlife

<u>Species</u>	<u>Sign</u>
Black-capped chickadee	Call
Mourning dove	Call
Raccoon	Tracks

AVAILABILITY OF WILDLIFE PREFERRED FOOD PLANTS

Type of Food	Availability		
	Scarce	Adequate	Abundant
Soft Mast		x	
Hard Mast	x		
Browse	x		
Succulents	x		

Comments: (den sites, successional trends, etc.) Periodic and sustained
flooding greatly reduces ground cover and understory revegetation

U.S. FISH AND WILDLIFE SERVICE
TERRESTRIAL RECONNAISSANCE INVENTORY

Location: # 2, Upper Coon Run Creek
Date: 6/22/82
Time: 12:50 p.m.
Habitat Type: Levee
Weather: Partly cloudy, breezy
Investigator(s): Balliett

Vegetative Cover

Overstory: None

Crown Closure: _____

Dominant Species: _____

Age Classes: _____

Understory: None

Percent Cover: _____

Dominant Species: _____

Ground Cover:

Percent Cover: Toe of levee has been plowed. 100% of ground covered elsewhere

Dominant Species: Grasses

Grass/Forb Ratio: 100% grass / 0% forb

U.S. FISH AND WILDLIFE SERVICE
TERRESTRIAL RECONNAISSANCE INVENTORY

Location: #3, Lower Coon Run Creek
Date: 6/22/82
Time: 11:10 a.m.
Habitat Type: Riparian border
Weather: Sunny, breezy
Investigator(s): Balliett

Vegetative Cover

Overstory:

Crown Closure: 25%

Dominant Species: Cottonwood, willow

Age Classes: Cottonwood-mature, willow-juvenile

Understory:

Percent Cover: 5

Dominant Species: Silver maple, white mulberry

Ground Cover:

Percent Cover: Lower half of ditch bank bare. Upper half has 100% of ground covered.

Dominant Species: Grasses

Grass/Forb Ratio: 95% grass / 5% forb

U.S. FISH AND WILDLIFE SERVICE
 TERRESTRIAL RECONNAISSANCE INVENTORY

Location: # 4, Upper Willow Creek
 Date: 6/30/82
 Time: 7:15 p.m.
 Habitat Type: Riparian border
 Weather: Partly cloudy, breezy
 Investigator(s): Balliett

Vegetative Cover

Overstory:

Crown Closure: 60 %
 Dominant Species: Willows, cottonwoods, silver maple, slippery elm,
white mulberry
 Age Classes: Most are juvenile

Understory:

Percent Cover: 50
 Dominant Species: White mulberry and slippery elm

Ground Cover:

Percent Cover: 50 % ground covered except where banks are eroding.
 Dominant Species: Grasses and cocklebur
 Grass/Forb Ratio: 50% grass / 50% forb

U.S. FISH AND WILDLIFE SERVICE
TERRESTRIAL RECONNAISSANCE INVENTORY

Location: #6, Upper Main Ditch

Date: 6/22/82

Time: 2:05 p.m.

Habitat Type: Ditch bank

Weather: Partly cloudy, breezy

Investigator(s): Balliett

Vegetative Cover

Overstory: None

Crown Closure: _____

Dominant Species: _____

Age Classes: _____

Understory:

Percent Cover: 0-10

Dominant Species: Cottonwood, willows

Ground Cover:

Percent Cover: _____

Dominant Species: Grasses, yellow sweet clover, milkweed, daisy fleabane
smartweed, arrowhead, spikerush

Grass/Forb Ratio: 50% grass / 50% forb

U.S. FISH AND WILDLIFE SERVICE
TERRESTRIAL RECONNAISSANCE INVENTORY

Location: # 7, Middle Willow Creek

Date: 6/22/82

Time: 2:50 p.m.

Habitat Type: Grazed levee

Weather: Partly cloudy, breezy

Investigator(s): Balliett

Vegetative Cover

Overstory: None

Crown Closure: _____

Dominant Species: _____

Age Classes: _____

Understory:

Percent Cover: Less than 1

Dominant Species: Two small groups of willow and silver maple observed.

Ground Cover:

Percent Cover: 75

Dominant Species: Grasses, arrowhead

Grass/Forb Ratio: 99% grass / 1% forb

Wildlife

<u>Species</u>	<u>Sign</u>
Common grackle	Observed
Killdeer	Observed
Mourning dove	Call
Red-winged blackbird	Observed

AVAILABILITY OF WILDLIFE PREFERRED FOOD PLANTS

Type of Food	Availability		
	Scarce	Adequate	Abundant
Soft Mast	x		
Hard Mast	x		
Browse	x		
Succulents		x	

Comments: (den sites, successional trends, etc.) Grazing has limited woody
vegetation at site.

U.S. FISH AND WILDLIFE SERVICE
TERRESTRIAL RECONNAISSANCE INVENTORY

Location: #8, Middle Coon Run Creek

Date: 6/22/82

Time: 11:55 a.m.

Habitat Type: Levee

Weather: Sunny, breezy

Investigator(s): Balliett

Vegetative Cover

Overstory: None

Crown Closure: _____

Dominant Species: _____

Age Classes: _____

Understory: None

Percent Cover: _____

Dominant Species: _____

Ground Cover:

Percent Cover: 100

Dominant Species: Grasses

Grass/Forb Ratio: 100% grass / 0% forb

Wildlife

<u>Species</u>	<u>Sign</u>
Bobwhite	Call
Common grackle	Observation
Mallard	Observation
Mourning dove	Observation
Raccoon	Tracks
Skunk	Tracks

AVAILABILITY OF WILDLIFE PREFERRED FOOD PLANTS

Type of Food	Availability		
	Scarce	Adequate	Abundant
Soft Mast	x		
Hard Mast	x		
Browse	x		
Succulents			x

Comments: (den sites, successional trends, etc.) Dead trees and shrubs along levee. Appear to have been killed with herbicide.

U.S. FISH AND WILDLIFE SERVICE
TERRESTRIAL RECONNAISSANCE INVENTORY

Location: #9, Middle Main Ditch

Date: 6/22/82

Time: 1:35 p.m.

Habitat Type: Ditch bank

Weather: Partly cloudy, breezy

Investigator(s): Balliett

Vegetative Cover

Overstory: None

Crown Closure: _____

Dominant Species: _____

Age Classes: _____

Understory:

Percent Cover: Less than 1

Dominant Species: Scattered cottonwood saplings

Ground Cover:

Percent Cover: 90

Dominant Species: Grasses, daisy fleabane, milkweed, yellow sweet clover

Grass/Forb Ratio: 50% grass / 50% forb

U.S. FISH AND WILDLIFE SERVICE
TERRESTRIAL RECONNAISSANCE INVENTORY

Location: # 10, Lower Main Ditch

Date: 6/24/82

Time: 9:07 a.m.

Habitat Type: Riparian border

Weather: Sunny, breezy

Investigator(s): Balliett

Vegetative Cover

Overstory: Row of trees on one side of ditch only

Crown Closure: 25%

Dominant Species: White mulberry, silver maple

Age Classes: Silver maple-juvenile. White mulberry-mature.

Understory: None

Percent Cover: _____

Dominant Species: _____

Ground Cover:

Percent Cover: 100

Dominant Species: Grasses

Grass/Forb Ratio: 90% grass / 10% forb

U.S. FISH AND WILDLIFE SERVICE
TERRESTRIAL RECONNAISSANCE INVENTORY

Location: #11
Date: 6/24/82
Time: 12:10 p.m.
Habitat Type: Ditch border
Weather: Sunny, breezy
Investigator(s): Balliett

Vegetative Cover

Overstory: None
Crown Closure: _____
Dominant Species: _____
Age Classes: _____

Understory:
Percent Cover: Less than 1
Dominant Species: Willow saplings

Ground Cover:
Percent Cover: 100
Dominant Species: Grasses, smartweed
Grass/Forb Ratio: 99% grass / 5% forb

U.S. FISH AND WILDLIFE SERVICE
TERRESTRIAL RECONNAISSANCE INVENTORY

Location: # 12

Date: 6/24/82

Time: 12:20 p.m.

Habitat Type: Ditch border

Weather: Sunny, breezy

Investigator(s): Balliett

Vegetative Cover

Overstory: None

Crown Closure: _____

Dominant Species: _____

Age Classes: _____

Understory: None

Percent Cover: _____

Dominant Species: _____

Ground Cover:

Percent Cover: 100

Dominant Species: Smartweed, grasses

Grass/Forb Ratio: 25% grass / 75% forb

U.S. FISH AND WILDLIFE SERVICE
TERRESTRIAL RECONNAISSANCE INVENTORY

Location: # 13

Date: 6/24/82

Time: 12:35

Habitat Type: Ditch border

Weather: Sunny, breezy

Investigator(s): Balliett

Vegetative Cover

Overstory: None

Crown Closure: _____

Dominant Species: _____

Age Classes: _____

Understory:

Percent Cover: 0-100, scattered patches of willow saplings

Dominant Species: Willows

Ground Cover:

Percent Cover: 75

Dominant Species: Grasses, smartweed

Grass/Forb Ratio: 50% grass / 50% smartweed

Wildlife

<u>Species</u>	<u>Sign</u>
Bullfrog	Observation
Common grackle	Observation
Mallard (3)	Observation
Red-winged blackbird	Observation

AVAILABILITY OF WILDLIFE PREFERRED FOOD PLANTS

Type of Food	Availability		
	Scarce	Adequate	Abundant
Soft Mast	x		
Hard Mast	x		
Browse		x	
Succulents		x	

Comments: (den sites, successional trends, etc.) Area provides excellent resting and feeding habitat for ducks.

U.S. FISH AND WILDLIFE SERVICE
TERRESTRIAL RECONNAISSANCE INVENTORY

Location: # 14

Date: 6/22/82

Time: 3:07 p.m.

Habitat Type: Ditch and roadside vegetation

Weather: Partly cloudy, breezy

Investigator(s): Balliett

Vegetative Cover

Overstory: None

Crown Closure:

Dominant Species:

Age Classes:

Understory:

Percent Cover: Less than 1. A few individual trees and shrubs.

Dominant Species: Pignut hickory, smooth sumac, and white mulberry

Ground Cover:

Percent Cover: 75

Dominant Species: Grasses, arrowhead, dock, yellow and white sweetclover

Grass/Forb Ratio: 25% grass / 75% forb

Wildlife

<u>Species</u>	<u>Sign</u>
Red-winged blackbird on nest	Observation

AVAILABILITY OF WILDLIFE PREFERRED FOOD PLANTS

Type of Food	Availability		
	Scarce	Adequate	Abundant
Soft Mast	x		
Hard Mast	x		
Browse	x		
Succulents		x	

Comments: (den sites, successional trends, etc.) Slight bank erosion noted.

U.S. FISH AND WILDLIFE SERVICE
TERRESTRIAL RECONNAISSANCE INVENTORY

Location: # 15

Date: 6/22/82

Time: 3:24 p.m.

Habitat Type: Ditch

Weather: Partly cloudy, breezy

Investigator(s): Balliett

Vegetative Cover

Overstory: None

Crown Closure: _____

Dominant Species: _____

Age Classes: _____

Understory:

Percent Cover: Less than 1

Dominant Species: 2 white mulberries observed.

Ground Cover:

Percent Cover: 90

Dominant Species: Grasses, smartweed

Grass/Forb Ratio: 50% grasses / 50% forbs

Wildlife

<u>Species</u>	<u>Sign</u>
None observed	

AVAILABILITY OF WILDLIFE PREFERRED FOOD PLANTS

Type of Food	Availability		
	Scarce	Adequate	Abundant
Soft Mast	x		
Hard Mast	x		
Browse	x		
Succulents		x	

Comments: (den sites, successional trends, etc.) Land cultivated up to ditch bank.

U.S. FISH AND WILDLIFE SERVICE
TERRESTRIAL RECONNAISSANCE INVENTORY

Location: # 16

Date: 6/22/82

Time: 3:35 p.m.

Habitat Type: Ditch and roadside vegetation

Weather: Partly cloudy, breezy

Investigator(s): Balliett

Vegetative Cover

Overstory: None

Crown Closure: _____

Dominant Species: _____

Age Classes: _____

Understory:

Percent Cover: Less than 1

Dominant Species: A few scattered willow and cottonwood saplings.

Ground Cover:

Percent Cover: 95

Dominant Species: Grasses, smartweed, dock

Grass/Forb Ratio: 25% forb / 75% grasses

Wildlife

<u>Species</u>	<u>Sign</u>
Red-winged blackbird	Observed

AVAILABILITY OF WILDLIFE PREFERRED FOOD PLANTS

Type of Food	Availability		
	Scarce	Adequate	Abundant
Soft Mast	x		
Hard Mast	x		
Browse	x		
Succulents		x	

Comments: (den sites, successional trends, etc.) _____

U.S. FISH AND WILDLIFE SERVICE
TERRESTRIAL RECONNAISSANCE INVENTORY

Location: # 17
Date: 6/24/82
Time: 10:35 a.m.
Habitat Type: Ditch border
Weather: Sunny, breezy
Investigator(s): Balliett

Vegetative Cover

Overstory:

Crown Closure: 40%

Dominant Species: Willows, silver maple, slippery elm

Age Classes: All trees immature

Understory:

Percent Cover: 30

Dominant Species: Willows, slippery elm

Ground Cover:

Percent Cover: 100

Dominant Species: Grasses, cocklebur

Grass/Forb Ratio: 50% grass / 50% forb

Wildlife

<u>Species</u>	<u>Sign</u>
Eastern bluebird	Observed
Mourning dove	Observed
Muskrat	Den
Raccoon	Tracks
Red-winged blackbird	Observed

AVAILABILITY OF WILDLIFE PREFERRED FOOD PLANTS

Type of Food	Availability		
	Scarce	Adequate	Abundant
Soft Mast	x		
Hard Mast	x		
Browse			x
Succulents			x

Comments: (den sites, successional trends, etc.) Immaturity of trees indicates area is periodically disturbed by maintenance dredging. Good nesting cover for songbirds.

U.S. FISH AND WILDLIFE SERVICE
TERRESTRIAL RECONNAISSANCE INVENTORY

Location: # 18

Date: 6/24/82

Time: 11:15 a.m.

Habitat Type: Riparian border

Weather: Sunny, breezy

Investigator(s): Balliett

Vegetative Cover

Overstory: None

Crown Closure: _____

Dominant Species: _____

Age Classes: _____

Understory:

Percent Cover: 100

Dominant Species: Willow saplings, elderberry

Ground Cover:

Percent Cover: 100

Dominant Species: Grasses, goldenrod

Grass/Forb Ratio: 50% grass / 50% forb

Wildlife

<u>Species</u>	<u>Sign</u>
Red-winged blackbird	Observation

AVAILABILITY OF WILDLIFE PREFERRED FOOD PLANTS

Type of Food	Availability		
	Scarce	Adequate	Abundant
Soft Mast	x		
Hard Mast	x		
Browse			x
Succulents			x

Comments: (den sites, successional trends, etc.) Very dense understory which
provides good cover.

U.S. FISH AND WILDLIFE SERVICE
TERRESTRIAL RECONNAISSANCE INVENTORY

Location: # 19
Date: 6/24/82
Time: 11:10 a.m.
Habitat Type: Riparian border
Weather: Sunny, breezy
Investigator(s): Balliett

Vegetative Cover

Overstory: None

Crown Closure: _____

Dominant Species: _____

Age Classes: _____

Understory:

Percent Cover: 80

Dominant Species: Willow saplings

Ground Cover:

Percent Cover: 100

Dominant Species: Grasses, cocklebur

Grass/Forb Ratio: 50% grass / 50% forb

Wildlife

<u>Species</u>	<u>Sign</u>
Red-winged blackbird	Observed
Ring-necked pheasant	Call

AVAILABILITY OF WILDLIFE PREFERRED FOOD PLANTS

Type of Food	Availability		
	Scarce	Adequate	Abundant
Soft Mast	x		
Hard Mast	x		
Browse			x
Succulents			x

Comments: (den sites, successional trends, etc.) Area is disturbed by periodic maintenance dredging. Cover is ideal for pheasants.

U.S. FISH AND WILDLIFE SERVICE
TERRESTRIAL RECONNAISSANCE INVENTORY

Location: # 20

Date: 6/24/82

Time: 1:40 p.m.

Habitat Type: Ditch and roadside vegetation

Weather: Sunny, breezy

Investigator(s): Balliett

Vegetative Cover

Overstory: None

Crown Closure: _____

Dominant Species: _____

Age Classes: _____

Understory: None

Percent Cover: _____

Dominant Species: _____

Ground Cover:

Percent Cover: 80

Dominant Species: Grasses, dock, daisy fleabane

Grass/Forb Ratio: 50% grass / 50% forb

Wildlife

<u>Species</u>	<u>Sign</u>
Red-winged blackbird	Observed

AVAILABILITY OF WILDLIFE PREFERRED FOOD PLANTS

Type of Food	Availability		
	Scarce	Adequate	Abundant
Soft Mast	x		
Hard Mast	x		
Browse	x		
Succulents		x	

Comments: (den sites, successional trends, etc.) Vegetation strip about 20 feet

wide.

U.S. FISH AND WILDLIFE SERVICE
TERRESTRIAL RECONNAISSANCE INVENTORY

Location: # 21

Date: 6/24/82

Time: 2:45 p.m.

Habitat Type: Ditch and roadside vegetation

Weather: Sunny, breezy

Investigator(s): Balliett

Vegetative Cover

Overstory: None

Crown Closure: _____

Dominant Species: _____

Age Classes: _____

Understory: None

Percent Cover: _____

Dominant Species: _____

Ground Cover:

Percent Cover: 75

Dominant Species: Grasses, dock, daisy fleabane

Grass/Forb Ratio: 50% grass / 50% forb

Wildlife

<u>Species</u>	<u>Sign</u>

AVAILABILITY OF WILDLIFE PREFERRED FOOD PLANTS

Type of Food	Availability		
	Scarce	Adequate	Abundant
Soft Mast	x		
Hard Mast	x		
Browse	x		
Succulents		x	

Comments: (den sites, successional trends, etc.)

U.S. FISH AND WILDLIFE SERVICE
TERRESTRIAL RECONNAISSANCE INVENTORY

Location: # 22

Date: 6/24/82

Time: 2:55 p.m.

Habitat Type: Roadside and ditch bank

Weather: Clear, sunny

Investigator(s): Balliett

Vegetative Cover

Overstory: None

Crown Closure: _____

Dominant Species: _____

Age Classes: _____

Understory: None

Percent Cover: _____

Dominant Species: _____

Ground Cover:

Percent Cover: 50%

Dominant Species: Grass, peppergrass, smartweed

Grass/Forb Ratio: 50% grass / 50% forb

Wildlife

<u>Species</u>	<u>Sign</u>

AVAILABILITY OF WILDLIFE PREFERRED FOOD PLANTS

Type of Food	Availability		
	Scarce	Adequate	Abundant
Soft Mast	x		
Hard Mast	x		
Browse	x		
Succulents		x	

Comments: (den sites, successional trends, etc.) Bank erosion.

U.S. FISH AND WILDLIFE SERVICE
TERRESTRIAL RECONNAISSANCE INVENTORY

Location: # 23

Date: 5/24/82

Time: 5:00 p.m.

Habitat Type: Ditch and roadside vegetation

Weather: Sunny

Investigator(s): Balliett

Vegetative Cover

Overstory: None

Crown Closure: _____

Dominant Species: _____

Age Classes: _____

Understory: None

Percent Cover: _____

Dominant Species: _____

Ground Cover:

Percent Cover: 50

Dominant Species: Grasses, goldenrod

Grass/Forb Ratio: 75% grasses / 25% forb

Wildlife

<u>Species</u>	<u>Sign</u>

AVAILABILITY OF WILDLIFE PREFERRED FOOD PLANTS

Type of Food	Availability		
	Scarce	Adequate	Abundant
Soft Mast	x		
Hard Mast	x		
Browse	x		
Succulents		x	

Comments: (den sites, successional trends, etc.) Ditch has recently been dug and banks are eroding.

U.S. FISH AND WILDLIFE SERVICE
TERRESTRIAL RECONNAISSANCE INVENTORY

Location: # 24

Date: 6/24/82

Time: 5:20 p.m.

Habitat Type: Ditch and roadside vegetation

Weather: Sunny

Investigator(s): Balliett

Vegetative Cover

Overstory: None

Crown Closure: _____

Dominant Species: _____

Age Classes: _____

Understory:

Percent Cover: Less than 1

Dominant Species: A few willow saplings which survived digging.

Ground Cover:

Percent Cover: 50

Dominant Species: Grasses, cocklebur

Grass/Forb Ratio: 50% grass / 50% forb

Wildlife

<u>Species</u>	<u>Sign</u>
Red-winged blackbird	Observed

AVAILABILITY OF WILDLIFE PREFERRED FOOD PLANTS

Type of Food	Availability		
	Scarce	Adequate	Abundant
Soft Mast	x		
Hard Mast	x		
Browse	x		
Succulents		x	

Comments: (den sites, successional trends, etc.) Banks eroding. Very little cover available.

U.S. FISH AND WILDLIFE SERVICE
TERRESTRIAL RECONNAISSANCE INVENTORYLocation: # 25Date: 6/24/82Time: 5:35 p.m.Habitat Type: Ditch and roadside vegetationWeather: SunnyInvestigator(s): Balliett

Vegetative Cover

Overstory: None

Crown Closure: _____

Dominant Species: _____
_____Age Classes: _____

Understory:

Percent Cover: Less than 1Dominant Species: A few elderberry and willow saplings.

Ground Cover:

Percent Cover: 50Dominant Species: Grasses, cocklebur
_____Grass/Forb Ratio: 25% grass / 75% forb

Wildlife

<u>Species</u>	<u>Sign</u>
Common grackle	Observed
Raccoon	Tracks
Red-winged blackbird	Observed

AVAILABILITY OF WILDLIFE PREFERRED FOOD PLANTS

Type of Food	Availability		
	Scarce	Adequate	Abundant
Soft Mast	x		
Hard Mast	x		
Browse	x		
Succulents		x	

Comments: (den sites, successional trends, etc.) Banks eroding. Very little cover provided.

U.S. FISH AND WILDLIFE SERVICE
TERRESTRIAL RECONNAISSANCE INVENTORY

Location: # 26

Date: 6/23/82

Time: 8:30 a.m.

Habitat Type: Floodplain forest

Weather: Sunny

Investigator(s): Balliett

Vegetative Cover

Overstory:

Crown Closure: 75%

Dominant Species: Cottonwoods, silver maple, pignut hickory

Age Classes: Cottonwoods-over mature, others are mature

Understory:

Percent Cover: 1

Dominant Species: Silver maple

Ground Cover:

Percent Cover: 1

Dominant Species: Grape, willow

Grass/Forb Ratio: 0% grass / 100% forb

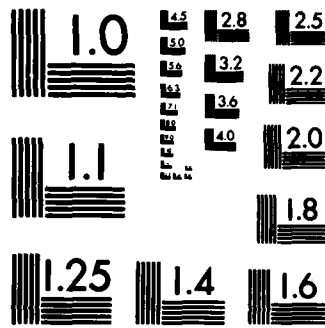
Wildlife

<u>Species</u>	<u>Sign</u>
Bullfrog	Call
Common grackle	Observation
Raccoon	Tracks
Red-headed woodpecker	Observation
Whitetail deer	Tracks

AVAILABILITY OF WILDLIFE PREFERRED FOOD PLANTS

Type of Food	Availability		
	Scarce	Adequate	Abundant
Soft Mast		x	
Hard Mast	x		
Browse	x		
Succulents	x		

Comments: (den sites, successional trends, etc.) Periodic flooding limits
ground cover and understory growth.



MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

U.S. FISH AND WILDLIFE SERVICE
TERRESTRIAL RECONNAISSANCE INVENTORY

Location: # 27

Date: 6/23/82

Time: 5:00 p.m.

Habitat Type: Wetland

Weather: Sunny

Investigator(s): Balliett

Vegetative Cover

Overstory:

Crown Closure: 0-25%

Dominant Species: Cottonwoods, silver maple, willows

Age Classes: Cottonwoods-over mature, silver maple-mature, willows-immature.

Understory:

Percent Cover: 10%

Dominant Species: Silver maple, willow

Ground Cover:

Percent Cover: Less than 1

Dominant Species: Arrowhead, smartweed

Grass/Forb Ratio: 0% grass / 100% forb

Wildlife

<u>Species</u>	<u>Sign</u>
American robin	Observed
Blue-winged teal	Observed
Bullfrog	Call
Killdeer	Call
Mourning dove	Call
Red-winged blackbird	Call
Wood duck	Call

AVAILABILITY OF WILDLIFE PREFERRED FOOD PLANTS

Type of Food	Availability		
	Scarce	Adequate	Abundant
Soft Mast		x	
Hard Mast	x		
Browse	x		
Succulents	x		

Comments: (den sites, successional trends, etc.) Periodic and sustained flooding greatly limits understory and ground cover vegetation. Part of area is still flooded. Standing water is covered with duckweed which is being fed upon by waterfowl.

U.S. FISH AND WILDLIFE SERVICE
TERRESTRIAL RECONNAISSANCE INVENTORY

Location: # 28

Date: 6/24/82

Time: 7:00 p.m.

Habitat Type: Old field

Weather: Sunny

Investigator(s): Balliett

Vegetative Cover

Overstory: None

Crown Closure: _____

Dominant Species: _____

Age Classes: _____

Understory: None

Percent Cover: _____

Dominant Species: _____

Ground Cover:

Percent Cover: 60

Dominant Species: Grasses, prickly pear, spiderworts

^u Grass/Forb Ratio: 50% grass/50% forb

Wildlife

<u>Species</u>	<u>Sign</u>
<u>Bobwhite</u>	<u>Call</u>

AVAILABILITY OF WILDLIFE PREFERRED FOOD PLANTS

Type of Food	Availability		
	Scarce	Adequate	Abundant
Soft Mast	x		
Hard Mast	x		
Browse	x		
Succulents		x	

Comments: (den sites, successional trends, etc.) Sandy soil. Very sparse
vegetation. Little wildlife cover.

U.S. FISH AND WILDLIFE SERVICE
TERRESTRIAL RECONNAISSANCE INVENTORY

Location: # 29
Date: 6/23/82
Time: 3:00 p.m.
Habitat Type: Grazed hardwood forest
Weather: Sunny
Investigator(s): Balliett

Vegetative Cover

Overstory:

Crown Closure: 80%Dominant Species: Blackjack oak, pignut hickory, sweet pignut hickoryAge Classes: Blackjack oak-mature, Hickories-juvenileUnderstory: None

Percent Cover: _____

Dominant Species: _____

Ground Cover:

Percent Cover: 90Dominant Species: Black nightshade, lamb's quartersGrass/Forb Ratio: 0% grass / 100% forb

Wildlife

<u>Species</u>	<u>Sign</u>
American robin	Call
Blue jay	Call
Bobwhite	Call
Common grackle	Call

AVAILABILITY OF WILDLIFE PREFERRED FOOD PLANTS

Type of Food	Availability		
	Scarce	Adequate	Abundant
Soft Mast	x		
Hard Mast		x	
Browse	x		
Succulents		x	

Comments: (den sites, successional trends, etc.) This area is currently being grazed.

U.S. FISH AND WILDLIFE SERVICE
 TERRESTRIAL RECONNAISSANCE INVENTORY

Location: #30
 Date: 6/23/82
 Time: 3:15 p.m.
 Habitat Type: Hardwood forest
 Weather: Sunny
 Investigator(s): Balliett

Vegetative Cover

Overstory:

Crown Closure: 60%

Dominant Species: Blackjack oak, butternut, hackberry

Age Classes: Blackjack oak and hackberry-mature, butternut-juvenile

Understory: None

Percent Cover:

Dominant Species:

Ground Cover:

Percent Cover: 100%

Dominant Species: Poison ivy, cleavers, stinging nettle, Solomon's seal

Grass/Forb Ratio: 0% grass / 100% forb

Wildlife

<u>Species</u>	<u>Sign</u>
Bobwhite	Call
American robin	Call

AVAILABILITY OF WILDLIFE PREFERRED FOOD PLANTS

Type of Food	Availability		
	Scarce	Adequate	Abundant
Soft Mast	x		
Hard Mast		x	
Browse	x		
Succulents		x	

Comments: (den sites, successional trends, etc.) Woodlot was grazed in past.

U.S. FISH AND WILDLIFE SERVICE
TERRESTRIAL RECONNAISSANCE INVENTORY

Location: # 31

Date: 6/23/82

Time: 4:00 p.m.

Habitat Type: Grazed hardwood forest

Weather: Sunny

Investigator(s): Balliett

Vegetative Cover

Overstory:

Crown Closure: 0-50%

Dominant Species: Blackjack oak, pignut hickory

Age Classes: Most all trees mature

Understory: None

Percent Cover: _____

Dominant Species: _____

Ground Cover:

Percent Cover: 90

Dominant Species: Ragweed, stinging nettle

Grass/Forb Ratio: 0% grass / 100% forb

Wildlife

<u>Species</u>	<u>Sign</u>
Bobwhite	Call
Mourning dove	Call

AVAILABILITY OF WILDLIFE PREFERRED FOOD PLANTS

Type of Food	Availability		
	Scarce	Adequate	Abundant
Soft Mast	x		
Hard Mast		x	
Browse	x		
Succulents		x	

Comments: (den sites, successional trends, etc.) Woodlot had been grazed in
past.

U.S. FISH AND WILDLIFE SERVICE
TERRESTRIAL RECONNAISSANCE INVENTORY

Location: # 32

Date: 6/25/82

Time: 8:25 p.m.

Habitat Type: Grazed hardwood forest

Weather: Sunny, breezy

Investigator(s): Balliett

Vegetative Cover

Overstory:

Crown Closure: 50%

Dominant Species: Honey locust, blackjack oak

Age Classes: Most overstory trees mature

Understory: None

Percent Cover: _____

Dominant Species: _____

Ground Cover:

Percent Cover: 10

Dominant Species: Cocklebur, stinging nettle

Grass/Forb Ratio: 0% grass / 100% forb

Wildlife

<u>Species</u>	<u>Sign</u>
American robin	Observed
Bluejay	Observed

AVAILABILITY OF WILDLIFE PREFERRED FOOD PLANTS

Type of Food	Availability		
	Scarce	Adequate	Abundant
Soft Mast	x		
Hard Mast		x	
Browse	x		
Succulents	x		

Comments: (den sites, successional trends, etc.) This area is being grazed.

U.S. FISH AND WILDLIFE SERVICE
TERRESTRIAL RECONNAISSANCE INVENTORY

Location: # 33

Date: 6/24/82

Time: 8:05 a.m.

Habitat Type: Hardwood forest

Weather: Sunny breezy

Investigator(s): Balliett

Vegetative Cover

Overstory:

Crown Closure: 50%

Dominant Species: Blackjack oak, white mulberry

Age Classes: Blackjack oak-overmature, white mulberry-mature

Understory:

Percent Cover: 80

Dominant Species: White mulberry, catalpa, smooth sumac

Ground Cover:

Percent Cover: 100

Dominant Species: Blackberry, Virginia creeper, Ribes sp.

Grass/Forb Ratio: 0% grass / 100% forb

Wildlife

<u>Species</u>	<u>Sign</u>
American robin	Call
Blue jay	Call
Common grackle	Call

AVAILABILITY OF WILDLIFE PREFERRED FOOD PLANTS

Type of Food	Availability		
	Scarce	Adequate	Abundant
Soft Mast		x	
Hard Mast		x	
Browse		x	
Succulents		x	

Comments: (den sites, successional trends, etc.) Area has extremely large oak
with good den - site potential.

U.S. FISH AND WILDLIFE SERVICE
 TERRESTRIAL RECONNAISSANCE INVENTORY

Location: # 34

Date: 6/22/82

Time: 12:30 p.m.

Habitat Type: Hardwood forest

Weather: Sunny

Investigator(s): Balliett

Vegetative Cover

Overstory:

Crown Closure: 60%

Dominant Species: Blackjack oak, white mulberry, pignut hickory

Age Classes: Blackjack oak-mature, pignut hickory-mature, white mulberry -
 juvenile to mature

Understory:

Percent Cover: 10

Dominant Species: White mulberry, pignut hickory

Ground Cover:

Percent Cover: 90

Dominant Species: Virginia creeper, Ribes sp., poison ivy

Grass/Forb Ratio: 0% grass / 100% forb

Wildlife

<u>Species</u>	<u>Sign</u>
Blue jay	Call
Bobwhite	Call

AVAILABILITY OF WILDLIFE PREFERRED FOOD PLANTS

Type of Food	Availability		
	Scarce	Adequate	Abundant
Soft Mast			x
Hard Mast			x
Browse	x		
Succulents	x		

Comments: (den sites, successional trends, etc.) Area adjacent to power plant.

Entire woodlot encircled by an eight-foot high woven-wire fence with barbed wire strands on top.

U.S. FISH AND WILDLIFE SERVICE
TERRESTRIAL RECONNAISSANCE INVENTORY

Location: # 35

Date: 6/23/82

Time: 1:10 p.m.

Habitat Type: Grazed woodlot

Weather: Sunny

Investigator(s): Balliett

Vegetative Cover

Overstory:

Crown Closure: 50%

Dominant Species: White mulberry, honey locust

Age Classes: Both mature

Understory: None

Percent Cover: _____

Dominant Species: _____

Ground Cover:

Percent Cover: 10

Dominant Species: Grasses, marijuana

Grass/Forb Ratio: 95% grass / 5% forb

Wildlife

<u>Species</u>	<u>Sign</u>
Morning dove	Call
American robin	Observation

AVAILABILITY OF WILDLIFE PREFERRED FOOD PLANTS

Type of Food	Availability		
	Scarce	Adequate	Abundant
Soft Mast			x
Hard Mast	x		
Browse	x		
Succulents	x		

Comments: (den sites, successional trends, etc.) Heavy grazing has reduced ground cover and understory vegetation.

U.S. FISH AND WILDLIFE SERVICE
TERRESTRIAL RECONNAISSANCE INVENTORY

Location: # 36
Date: 6/23/82
Time: 1:45 p.m.
Habitat Type: Hardwood forest
Weather: Sunny
Investigator(s): Balliett

Vegetative Cover

Overstory:

Crown Closure: 80%
Dominant Species: Blackjack oak, rough-leaved dogwood
Age Classes: Blackjack oak-mature, rough-leaved dogwood-juvenile

Understory:

Percent Cover: 50
Dominant Species: Rough-leaved dogwood, hackberry, white mulberry

Ground Cover:

Percent Cover: 90
Dominant Species: Rough-leaved dogwood, Virginia creeper, Solomon's seal
Grass/Forb Ratio: 0% grass / 100% forb

Wildlife

<u>Species</u>	<u>Sign</u>
Mourning dove	Call
Blue jay	Call

AVAILABILITY OF WILDLIFE PREFERRED FOOD PLANTS

Type of Food	Availability		
	Scarce	Adequate	Abundant
Soft Mast		x	
Hard Mast			x
Browse		x	
Succulents		x	

Comments: (den sites, successional trends, etc.) Ungrazed section of forest
block. Other areas have been grazed.

U.S. FISH AND WILDLIFE SERVICE
TERRESTRIAL RECONNAISSANCE INVENTORY

Location: # 37
Date: 6/28/82
Time: 12:15 p.m.
Habitat Type: Hardwood forest
Weather: Sunny
Investigator(s): Balliett

Vegetative Cover

Overstory:

Crown Closure: 80 %

Dominant Species: Blackjack oak, hickory

Age Classes: Blackjack oak-mature, hickory-juvenile

Understory:

Percent Cover: 5

Dominant Species: White mulberry

Ground Cover:

Percent Cover: 10

Dominant Species: Virginia creeper, lamb's quarters

Grass/Forb Ratio: 0% grass / 100% forb

Wildlife

<u>Species</u>	<u>Sign</u>
None observed	

AVAILABILITY OF WILDLIFE PREFERRED FOOD PLANTS

Type of Food	Availability		
	Scarce	Adequate	Abundant
Soft Mast		x	
Hard Mast			x
Browse	x		
Succulents	x		

Comments: (den sites, successional trends, etc.) Woodlot has some openings.

U.S. FISH AND WILDLIFE SERVICE
TERRESTRIAL RECONNAISSANCE INVENTORY

Location: # 38
Date: 6/23/82
Time: 11:30 a.m.
Habitat Type: Hardwood forest
Weather: Sunny
Investigator(s): Balliett

Vegetative Cover

Overstory:

Crown Closure: 75%Dominant Species: Blackjack oakAge Classes: Mature

Understory:

Percent Cover: 20Dominant Species: Sweet pignut hickory, white mulberry

Ground Cover:

Percent Cover: 95Dominant Species: Virginia creeper, pokeweedGrass/Forb Ratio: 0% grass / 100% forb

Wildlife

<u>Species</u>	<u>Sign</u>
Blue jay	Call
Bobwhite	Call
Rufous-sided towhee	Call

AVAILABILITY OF WILDLIFE PREFERRED FOOD PLANTS

Type of Food	Availability		
	Scarce	Adequate	Abundant
Soft Mast	x		
Hard Mast			x
Browse	x		
Succulents	x		

Comments: (den sites, successional trends, etc.) Noticed seedling blackjack oak in understory. Good oak-hickory rejuvenation.

U.S. FISH AND WILDLIFE SERVICE
TERRESTRIAL RECONNAISSANCE INVENTORY

Location: # 39

Date: 6/23/82

Time: 9:50 a.m.

Habitat Type: Upland forest

Weather: Sunny

Investigator(s): Balliett

Vegetative Cover

Overstory:

Crown Closure: 85 %

Dominant Species: Slippery elm, honey locust

Age Classes: Slippery elm - juvenile to mature, honey locust - mature

Understory: None

Percent Cover: _____

Dominant Species: _____

Ground Cover:

Percent Cover: 5

Dominant Species: Virginia creeper, lamb's quarters, honey locust

Grass/Forb Ratio: 0% grass / 100% forb

Wildlife

<u>Species</u>	<u>Sign</u>
Blue jay	Observation
Bobwhite	Observation
Downy woodpecker	Observation
Whitetail deer	Tracks

AVAILABILITY OF WILDLIFE PREFERRED FOOD PLANTS

Type of Food	Availability		
	Scarce	Adequate	Abundant
Soft Mast		x	
Hard Mast	x		
Browse	x		
Succulents	x		

Comments: (den sites, successional trends, etc.) Numerous snags very thick ground litter. Area may have been grazed in past.

U.S. FISH AND WILDLIFE SERVICE
TERRESTRIAL RECONNAISSANCE INVENTORY

Location: # 40

Date: 6/23/82

Time: 9:30 a.m.

Habitat Type: Hardwood forest

Weather: Sunny

Investigator(s): Balliett

Vegetative Cover

Overstory:

Crown Closure: 80%

Dominant Species: Blackjack oak

Age Classes: Mature

Understory:

Percent Cover: 30

Dominant Species: Rough-leaved dogwood, hackberry, white mulberry

Ground Cover:

Percent Cover: 50

Dominant Species: Virginia creeper, grape

Grass/Forb Ratio: 0% grass / 100% forb

Wildlife

<u>Species</u>	<u>Sign</u>
Blue jay	Call

AVAILABILITY OF WILDLIFE PREFERRED FOOD PLANTS

Type of Food	Availability		
	Scarce	Adequate	Abundant
Soft Mast		x	
Hard Mast			x
Browse		x	
Succulents	x		

Comments: (den sites, successional trends, etc.) The portion of the woodlot
observed appears to be virtually a pure stand of blackjack oak.

U.S. FISH AND WILDLIFE SERVICE
TERRESTRIAL RECONNAISSANCE INVENTORY

Location: # 41

Date: 6/23/82

Time: 6:30 p.m.

Habitat Type: Grazed hardwood forest

Weather: Sunny

Investigator(s): Balliett

Vegetative Cover

Overstory:

Crown Closure: 0-50 %

Dominant Species: Celtis occidentalis, osage orange, American elm, bur oak, pignut hickory

Age Classes: All trees observed were mature.

Understory: None

Percent Cover: _____

Dominant Species: _____

Ground Cover:

Percent Cover: 60%

Dominant Species: Ragweed, lamb's quarters

Grass/Forb Ratio: 1% grass, 99% forb

Wildlife

<u>Species</u>	<u>Sign</u>
Blue jay	Call
Bobwhite	Call

AVAILABILITY OF WILDLIFE PREFERRED FOOD PLANTS

Type of Food	Availability		
	Scarce	Adequate	Abundant
Soft Mast	x		
Hard Mast	x		
Browse	x		
Succulents	x		

Comments: (den sites, successional trends, etc.) This woodlot is being grazed
which has resulted in loss of the understory.

U.S. FISH AND WILDLIFE SERVICE
TERRESTRIAL RECONNAISSANCE INVENTORY

Location: # 42

Date: 6/23/82

Time: 7:00 p.m.

Habitat Type: Bottomland forest

Weather: Sunny

Investigator(s): Balliett

Vegetative Cover

Overstory:

Crown Closure: 60%

Dominant Species: Silver maple, cottonwoods

Age Classes: Over mature, several openings with juvenile silver maple.

Understory:

Percent Cover: Less than 5

Dominant Species: Slippery elm

Ground Cover: None- floodwaters recently receded.

Percent Cover: _____

Dominant Species: _____

Grass/Forb Ratio: _____

Wildlife

<u>Species</u>	<u>Sign</u>
Downy woodpecker	Observed

AVAILABILITY OF WILDLIFE PREFERRED FOOD PLANTS

Type of Food	Availability		
	Scarce	Adequate	Abundant
Soft Mast		x	
Hard Mast	x		
Browse	x		
Succulents	x		

Comments: (den sites, successional trends, etc.) Trees have good potential for denning sites.

APPENDIX D: QUANTITATIVE VEGETATIONAL ANALYSIS FIELD REPORTS

U.S. FISH AND WILDLIFE SERVICE
QUANTITATIVE VEGETATIONAL INVENTORY

Transect: A Quadrant: 1 Date: 5-25-82 Time: 5:30 P.M. - 8:00 P.M. Weather: Sunny, breezy, cool Investigator(s): Rybak, Balliett Crown Closure: North 79.2% South 79.2% East 85.4% West 92.7% Average 84.1%

Comments: Sandy soil. Woven wire fence at east end of woodlot forms the edge
 of the quadrant.

OVERSTORY

(Trees greater than or equal to 10 inch DBH or 12 feet in height)

Species	Range in DBH	No.	Percent Cover
<i>Carya ovalis</i>	less than 6 inches to 9 inches	27	71.1
<i>Maclura pomifera</i>	less than 6 inches to 14 inches	4	10.5
<i>Quercus marilandica</i>	less than 6 inches to 14 inches	7	18.4
TOTAL		38	100.0

Transect A Quadrant 1

UNDERSTORY

(Trees and shrubs less than 12 feet high or 10 inch DBH)

Species	No.	Percent Cover
<i>Carya tomentosa</i>	2	40.0
<i>Celtis occidentalis</i>	1	20.0
<i>Cornus drummondii</i>	2	40.0
	5	100.0

GROUND COVER

Species	Percent Cover
<i>Chenopodium album</i>	less than 1
<i>Chenopodium sp.</i>	less than 1
<i>Galium aparine</i>	50
<i>Galium sp.</i>	less than 1
<i>Quercus marilandica</i>	5
<i>Ribes sp.</i>	40
<i>Sanicula marilandica</i>	less than 1
<i>Smilax sp.</i>	less than 1
<i>Sonchus arvensis</i>	less than 1
Unidentifiable species (1)	less than 1

U.S. FISH AND WILDLIFE SERVICE
TERRESTRIAL RECONNAISSANCE INVENTORY

Location: Transect A Quadrant 1

Date: 5-26-82

Time: 8:45 A.M.

Habitat Type: Hardwood forest

Weather: Cloudy, rainy

Investigator(s): Rybak, Balliett

Vegetative Cover

Overstory:

Crown Closure: 84.1%

Dominant Species: Carya ovalis (71.1%), Quercus marilandica (18.4%), Maclura
pomifera (10.5%)

Age Classes: C. ovalis - 18 under 6 in., 9 at 6-9 inches.
(DBH)

Q. marilandica - 4 under 6 in., 3 at 10-14 inches.

M. pomifera 1 under 6 in., 1 at 6 in., 1 at 10 in., 1 at 14 in.

Understory:

Percent Cover: 5

Dominant Species: Carya tomentosa (40.0%), Cornus drummondii (40.0%),
Celtis occidentalis (20.0%)

Ground Cover:

Percent Cover: 10% ground covered

Dominant Species: Galium aparine (50%), Ribes sp. (40%), Q marilandica
(5%)

Grass/Forb Ratio: 0% grass/ 100% forb

Wildlife

<u>Species</u>	<u>Sign</u>
Blue Jay	Call
Bobwhite	Call
Common Crow	Observation

AVAILABILITY OF WILDLIFE PREFERRED FOOD PLANTS

Type of Food	Availability		
	Scarce	Adequate	Abundant
Soft Mast		X	
Hard Mast			X
Browse	X		
Succulents	X		

Comments: (den sites, successional trends, etc.) No snags or den sites
 observed.

U.S. FISH AND WILDLIFE SERVICE
QUANTITATIVE VEGETATIONAL INVENTORY

Transect: A Quadrant: 2 Date: 5-26-82 Time: 9:15 A.M. - 11:00 A.M. Weather: Cloudy, rainy clearing to partly cloudy Investigator(s): Rybak, Balliett Crown Closure: North 85.4% South 75.0% East 94.8% West 82.3% Average 84.4%

Comments: Carya ovalis and Carya glabra appear to be hybridized, showing signs
 of both.

OVERSTORY

(Trees greater than or equal to 10 inch DBH or 12 feet in height)

Species	Range in DBH	No.	Percent Cover
<i>Carya glabra</i>	1 @ 6 inches	1	2.1
<i>Carya ovalis</i>	less than 6 inches to 8 inches	26	55.3
<i>Quercus marilandica</i>	less than 6 inches to 16 inches	20	42.6
TOTAL		47	100.0

Transect AQuadrant 2

UNDERSTORY

(Trees and shrubs less than 12 feet high or 10 inch DBH)

Species	No.	Percent Cover
<i>Carya glabra</i>	4	23.5
<i>Carya ovalis</i>	1	5.9
<i>Celtis occidentalis</i>	5	29.4
<i>Celtis sp.</i>	1	5.9
<i>Cornus drummondii</i>	1	5.9
<i>Morus alba</i>	2	11.8
<i>Ulmus rubra</i>	3	17.6
TOTAL	17	100.0

GROUND COVER

Species	Percent Cover
<i>Carya glabra</i>	approximately 1
<i>Celtis occidentalis</i>	approximately 1
<i>Parthenocissus quinquefolia</i>	15
<i>Quercus marilandica</i>	approximately 1
<i>Ribes sp.</i>	75
<i>Rubus allegheniensis</i>	appriximately 1
<i>Smilax sp.</i>	approximately 1
<i>Vitis spp. (2)</i>	approximately 1
Unidentifiable species (1)	approximately 1

U.S. FISH AND WILDLIFE SERVICE
 TERRESTRIAL RECONNAISSANCE INVENTORY

Location: Transect A, Quadrant 2
 Date: 5-26-82
 Time: 9:15 A.M. - 11:00 A.M.
 Habitat Type: Hardwood forest
 Weather: Cloudy, rainy clearing to partly cloudy
 Investigator(s): Rybak, Balliett

Vegetative Cover

Overstory:

Crown Closure: 84.4%

Dominant Species: Carya ovalis (55.3%), Quercus marilandica (42.6%),
Carya glabra (2.1%)

Age Classes: C. ovalis - 22 less than 6 in., 4 at 7 to 8 inches.
 (DBH) Q. marilandica - 3 less than 6 in., 7 at 6 to 8 inches.
9 at 10 to 14 inches, 1 at 16 inches.
C. glabra - 1 at 6 inches.

Understory:

Percent Cover: Approximately 5

Dominant Species: Celtis occidentalis (29.4%), C. glabra (23.5%),
Ulmus rubra (17.6%), Morus alba (11.8%)

Ground Cover:

Percent Cover: 45% ground covered

Dominant Species: Ribes sp. (75%), Parthenocissus quinquefolia (15%)

Grass/Forb Ratio: 0% grass/100% forb

Wildlife

<u>Species</u>	<u>Sign</u>
Blue jay	Call
Canada goose	Call
Common grackle	Observation
Yellow-billed cuckoo	Call

AVAILABILITY OF WILDLIFE PREFERRED FOOD PLANTS

Type of Food	Availability		
	Scarce	Adequate	Abundant
Soft Mast			X
Hard Mast			X
Browse		X	
Succulents	X		

Comments: (den sites, successional trends, etc.) Several small snags less than 6 inches DBH.

U.S. FISH AND WILDLIFE SERVICE
QUANTITATIVE VEGETATIONAL INVENTORY

Transect: B Quadrant: 1 Date: 5-26-82 Time: 11:45 A.M. - 2:00 P.M. Weather: Partly cloudy, breezy changing to rainy Investigator(s): Rybak, Balliett Crown Closure: North 88.6% South 81.3% East 85.4% West 84.4% Average 84.9%

Comments: Edge of transect in 20 feet from road. One oak in quadrant had cavity. Ptelea in ground cover may be pubescent mollis variety.

OVERSTORY

(Trees greater than or equal to 10 inch DBH or 12 feet in height)

Species	Range in DBH	No.	Percent Cover
<i>Carya ovalis</i>	less than 6 inches to 10 inches	4	15.4
<i>Morus alba</i>	all under 6 inches	6	23.1
<i>Quercus marilandica</i>	1 at 19 inches	1	3.8
<i>Quercus velutina</i>	8 to 22 inches	7	26.9
<i>Sassafras albidum</i>	all under 6 inches	8	30.8
TOTAL		26	100.0

Transect BQuadrant 1

UNDERSTORY

(Trees and shrubs less than 12 feet high or 10 inch DBH)

Species	No.	Percent Cover
<i>Carya ovalis</i>	4	12.5
<i>Celtis occidentalis</i>	4	12.5
<i>Cornus drummondii</i>	12	37.5
<i>Corylus americana</i>	5	15.6
<i>Diospyros virginiana</i>	1	3.1
<i>Morus alba</i>	2	6.3
<i>Ptelea trifoliata</i>	1	3.1
<i>Rhus glabra</i>	1	3.1
<i>Sassafras albidum</i>	2	6.3
TOTAL	32	100.0

GROUND COVER

Species	Percent Cover
<i>Celastrus scandens</i>	less than 1
<i>Cornus drummondii</i>	less than 1
<i>Galium aparine</i>	33
<i>Parthenocissus quinquefolia</i>	33
<i>Podophyllum peltatum</i>	33
<i>Ptelea trifoliata</i>	less than 1
<i>Rubus allegheniensis</i>	less than 1
<i>Sassafras albidum</i>	less than 1
Unidentifiable species (2)	less than 2

U.S. FISH AND WILDLIFE SERVICE
TERRESTRIAL RECONNAISSANCE INVENTORY

Location: Transect B, Quadrant 1
 Date: 5-26-82
 Time: 11:45 A.M. - 2:00 P.M.
 Habitat Type: Hardwood forest
 Weather: Partly cloudy, breezy changing to rainy
 Investigator(s): Rybak, Balliett

Vegetative Cover

Overstory:

Crown Closure: 84.9%

Dominant Species: Sassafras albidum (30.8%), Quercus velutina (26.9%),
 Morus alba (23.1%), Carya ovalis (15.4%)

Age Classes: S. albidum - 8 less than 6 inches.
 (DBH)

Q. velutina - 1 at 8 inches, 4 at 12 to 15 inches, 1 at 18
 inches, 1 at 22 inches.

M. alba - 6 less than 6 inches.

C. ovalis - 2 less than 6 inches, 1 at 7 inches, 1 at 10
 inches. Quercus marilandica 1 at 19 inches.

Understory:

Percent Cover: 50

Dominant Species: Cornus drummondii (37.5%), Corylus americana (15.6%),
 C. ovalis (12.5%), Celtis occidentalis (12.5%)

Ground Cover:

Percent Cover: 98% ground covered

Dominant Species: Galium aparine (33%), Parthenocissus quinquefolia (33%),
 Podophyllum peltatum (33%)

Grass/Forb Ratio: 0% grass/100% forb

Wildlife

<u>Species</u>	<u>Sign</u>
Blue jay	Call
Yellow-billed cuckoo	Call

AVAILABILITY OF WILDLIFE PREFERRED FOOD PLANTS

Type of Food	Availability		
	Scarce	Adequate	Abundant
Soft Mast		X	
Hard Mast		X	
Browse		X	
Succulents		X	

Comments: (den sites, successional trends, etc.) Large oak in quadrant had
cavity.

U.S. FISH AND WILDLIFE SERVICE
QUANTITATIVE VEGETATIONAL INVENTORY

Transect: B Quadrant: 2 Date: 5-26-82 Time: 2:30 P.M. - 3:30 P.M. Weather: Sunny Investigator(s): Rybak, Balliett

Crown Closure: North 86.5 South 82.3 East 84.4

West 94.8 Average 87.0

Comments: Snags present.

OVERSTORY

(Trees greater than or equal to 10 inch DBH or 12 feet in height)

Species	Range in DBH	No.	Percent Cover
<i>Carya glabra</i>	less than 6 inches to 7 inches	2	13.3
<i>Carya ovalis</i>	1 @ 11 inches	1	6.7
<i>Morus alba</i>	less than 6 inches	2	13.3
<i>Quercus marilandica</i>	6 to 11 inches	2	13.3
<i>Quercus velutina</i>	6 to 16 inches	4	26.7
<i>Sassafras albidum</i>	all less than 6 inches	4	26.7
TOTAL		15	100.0

Transect B Quadrant 2

UNDERSTORY

(Trees and shrubs less than 12 feet high or 10 inch DBH)

Species	No.	Percent Cover
<i>Asimina triloba</i>	1	4.0
<i>Celtis occidentalis</i>	1	4.0
<i>Cornus drummondii</i>	12	48.0
<i>Corylus americana</i>	6	24.0
<i>Morus alba</i>	1	4.0
<i>Sassafras albidum</i>	3	12.0
<i>Ulmus rubra</i>	1	4.0
TOTAL	25	100.0

GROUND COVER

Species	Percent Cover
<i>Celastrus scandens</i>	approximately 2
<i>Chenopodium album</i>	approximately 2
<i>Corylus americana</i>	approximately 2
<i>Galium aparine</i>	60
<i>Galium asprellum</i>	approximately 2
<i>Oxalis sp.</i>	approximately 2
<i>Parthenocissus quinquefolia</i>	approximately 2
<i>Podophyllum peltatum</i>	5
<i>Rubus allegheniensis</i>	approximately 2
<i>Smilax sp.</i>	approximatley 2

U.S. FISH AND WILDLIFE SERVICE
 TERRESTRIAL RECONNAISSANCE INVENTORY

Location: Transect B, Quadrant 2
 Date: 5-26-82
 Time: 2:30 P.M. - 3:30 P.M.
 Habitat Type: Hardwood forest
 Weather: Sunny
 Investigator(s): Rybak, Balliett

Vegetative Cover

Overstory:

Crown Closure: 87.0%

Dominant Species: Quercus velutina (26.7%), Sassafras albidum (26.7%)

Age Classes: Carya glabra - 1 less than 6 inches, and 1 at 7 inches.
 (DBH)

Carya ovalis - 1 at 11 inches. Morus alba - 2 less than

6 inches. Quercus marilandica - 1 at 6 inches, 1 at 11 inches.

Q. velutina - 1 at 6 inches, 1 at 13 inches, and 2 at 16 inches.

S. albidum - 4 less than 6 inches.

Understory:

Percent Cover: 40

Dominant Species: Cornus drummondii (48.0%), Corylus americana (24.0%),
S. albidum (12.0%)

Ground Cover:

Percent Cover: 95% ground covered

Dominant Species: Galium aparine (60.0%), Unidentifiable species (20.0%),
Podophyllum peltatum (5.0%)

Grass/Forb Ratio: 0% grass/100% forb

Wildlife

<u>Species</u>	<u>Sign</u>
Mockingbird	Observed
Tufted titmouse	Call

AVAILABILITY OF WILDLIFE PREFERRED FOOD PLANTS

Type of Food	Availability		
	Scarce	Adequate	Abundant
Soft Mast		X	
Hard Mast	X		
Browse		X	
Succulents		X	

Comments: (den sites, successional trends, etc.) Sandy soil. Area possibly
grazed in the past.

U.S. FISH AND WILDLIFE SERVICE
QUANTITATIVE VEGETATIONAL INVENTORY

Transect: B Quadrant: 3 Date: 5-26-82 Time: 4:00 P.M. - 5:30 P.M. Weather: Sunny, breezy Investigator(s): Rybak, Balliett Crown Closure: North 82.3% South 88.6% East 85.4% West 86.5% Average 85.7% Comments: Several snags less than 6 inches DBH

OVERSTORY

(Trees greater than or equal to 10 inch DBH or 12 feet in height)

Species	Range in DBH	No.	Percent Cover
Quercus marilandica	7 to 9 inches	3	13.0
Quercus velutina	8 to 26 inches	9	39.1
Sassafras albidum	6 inches and less	11	47.8
TOTAL		23	99.9

Transect B Quadrant 3

UNDERSTORY

(Trees and shrubs less than 12 feet high or 10 inch DBH)

Species	No.	Percent Cover
<i>Celtis occidentalis</i>	1	2.2
<i>Cornus drummondii</i>	8	17.4
<i>Corylus americana</i>	2	4.3
<i>Morus alba</i>	3	6.5
<i>Prunus serotina</i>	3	6.5
<i>Quercus alba</i>	1	2.2
<i>Sassafras albidum</i>	16	34.8
<i>Ulmus rubra</i>	9	19.6
<i>Viburnum prunifolium</i>	3	6.5
TOTAL	46	100.0

GROUND COVER

Species	Percent Cover
<i>Amelanchier</i> sp.	less than 1
<i>Cornus drummondii</i>	less than 1
<i>Galium aperine</i>	less than 1
<i>Galium triflorum</i>	less than 1
<i>Parthenocissus quinquefolia</i>	90
<i>Podophyllum peltatum</i>	less than 1
<i>Ptelea trifoliata</i>	less than 1
<i>Rubus allegheniensis</i>	less than 1
<i>Smilax</i> sp.	less than 1
<i>Toxicodendron radicans</i>	less than 1

U.S. FISH AND WILDLIFE SERVICE
 TERRESTRIAL RECONNAISSANCE INVENTORY

Location: Transect B, Quadrant 3

Date: 5-26-82

Time: 4:00 P.M. - 5:30 P.M.

Habitat Type: Hardwood forest

Weather: Sunny, breezy

Investigator(s): Rybak, Balliett

Vegetative Cover

Overstory:

Crown Closure: 85.7%

Dominant Species: Sassafras albidum (47.8%), Quercus velutina (39.1%),

Quercus marilandica (13.0%)

Age Classes: Q. marilandica - 1 at 7 inches, 1 at 8 inches, 1 at 9 inches.
 (DBH)

Q. velutina - 1 at 8 inches, 6 at 10 to 14 inches, 1 at 21
inches, 1 at 26 inches.

S. albidum - 10 less than 6 inches, 1 at 6 inches.

Understory:

Percent Cover: 30

Dominant Species: S. albidum (34.8%), Ulmus rubra (19.6%), Cornus

drummondii (17.4%)

Ground Cover:

Percent Cover: 95% ground covered

Dominant Species: Parthenocissus quinquefolia (90%)

Grass/Forb Ratio: 0% grass/100% forb

Wildlife

<u>Species</u>	<u>Sign</u>
Black-capped chickadee	Call
Blue jay	Call
Common grackle	Call
Mourning dove	Call

AVAILABILITY OF WILDLIFE PREFERRED FOOD PLANTS

Type of Food	Availability		
	Scarce	Adequate	Abundant
Soft Mast		X	
Hard Mast	X		
Browse		X	
Succulents		X	

Comments: (den sites, successional trends, etc.) Several snags less than 6
inches DBH.

U.S. FISH AND WILDLIFE SERVICE
QUANTITATIVE VEGETATIONAL INVENTORY

Transect: BQuadrant: 4Date: 5-26-82Time: 6:05 P.M. - 6:50 P.M.Weather: Cloudy, breezy clearing to sunnyInvestigator(s): Rybak, BalliettCrown Closure: North 81.3 % South 62.6% East 63.6%West 69.8% Average 69.3%Comments: Dense understory with brier thickets adjacent to quadrant.

OVERSTORY

(Trees greater than or equal to 10 inch DBH or 12 feet in height)

Species	Range in DBH	No.	Percent Cover
<i>Carya ovalis</i>	less than 6 inches	2	11.1
<i>Carya sp.</i>	less than 6 inches	1	5.5
<i>Diospyros virginiana</i>	less than 6 inches	1	5.5
<i>Morus alba</i>	6 inches and less	5	27.8
<i>Platanus occidentalis</i>	less than 6 inches	1	5.5
<i>Sassafras albidum</i>	less than 6 inches	5	27.8
<i>Quercus velutina</i>	15 to 18 inches	3	16.7
TOTAL		18	99.9

Transect B Quadrant 4

UNDERSTORY

(Trees and shrubs less than 12 feet high or 10 inch DBH)

Species	No.	Percent Cover
<i>Cornus drummondii</i>	15	62.5
<i>Morus alba</i>	7	29.2
<i>Sassafras albidum</i>	1	4.2
<i>Ulmus rubra</i>	1	4.2
TOTAL	24	100.1

GROUND COVER

Species	Percent Cover
<i>Carya glabra</i>	approximately 1
<i>Celtis occidentalis</i>	approximately 1
<i>Cornus drummondii</i>	approximately 1
<i>Corylus americana</i>	approximately 1
<i>Galium aparine</i>	approximately 1
<i>Oxalis sp.</i>	approximately 1
<i>Parthenocissus quinquefolia</i>	80
<i>Ptelea trifoliata</i>	approximately 1
<i>Rubus allegheniensis</i>	approximately 1
<i>Smilax sp.</i>	approximatley 1

U.S. FISH AND WILDLIFE SERVICE
 TERRESTRIAL RECONNAISSANCE INVENTORY

Location: Transect B, Quadrant 4
 Date: 5-26-82
 Time: 6:05 P.M. - 6:50 P.M.
 Habitat Type: Hardwood forest
 Weather: Cloudy, breezy clearing to sunny
 Investigator(s): Rybak, Balliett

Vegetative Cover

Overstory:

Crown Closure: 69.3%
 Dominant Species: Morus alba (27.8%), Sassafras albidum (27.8%),
Quercus velutina (16.7%), Carya ovalis (11.1%).
 Age Classes: C. ovalis - all under 6 inches. Carya sp. under 6 inches.
 (DBH)
M. alba - 4 under 6 inches and 1 at 6 inches. Platanus
occidentalis - 1 under 6 inches. S. albidum - all under 6
inches. Q. velutina - 3 at 15, 16 and 18 inches. Diospyros
virginiana - under 6 inches.

Understory:

Percent Cover: 70
 Dominant Species: Cornus drummondii (62.5%), Morus alba (29.2%)

Ground Cover:

Percent Cover: 80% of ground covered
 Dominant Species: Parthenocissus quinquefolia (80%), Urtica dioica (5%)
 Grass/Forb Ratio: 0% grass/100% forb

Wildlife

<u>Species</u>	<u>Sign</u>
Blue jay	Call
Cardinal	Call
Red-bellied woodpecker	Call
Wood thrush	Call

AVAILABILITY OF WILDLIFE PREFERRED FOOD PLANTS

Type of Food	Availability		
	Scarce	Adequate	Abundant
Soft Mast		X	
Hard Mast		X	
Browse			X
Succulents		X	

Comments: (den sites, successional trends, etc.) Very few snags.

U.S. FISH AND WILDLIFE SERVICE
QUANTITATIVE VEGETATIONAL INVENTORY

Transect: C Quadrant: 1 Date: 5-27-82 Time: 10:15 A.M. - 11.00 A.M. Weather: Cloudy, cool Investigator(s): Rybak, Balliett Crown Closure: North 57.4% South 73.0% East 73.0% West 67.8% Average 67.8%

Comments: Edge of quadrant at field edge, 300 feet north of road. Good snag
 in quadrant. Area densely covered with blackberry.

OVERSTORY

(Trees greater than or equal to 10 inch DBH or 12 feet in height)

Species	Range in DBH	No.	Percent Cover
<i>Carya ovalis</i>	all less than 6 inches	3	17.6
<i>Celtis occidentalis</i>	less than 6 inches	1	5.9
<i>Morus alba</i>	all less than 6 inches	10	58.8
<i>Quercus marilandica</i>	7 to 14 inches	3	17.6
TOTAL		17	99.9

Transect CQuadrant 1

UNDERSTORY

(Trees and shrubs less than 12 feet high or 10 inch DBH)

Species	No.	Percent Cover
<i>Morus alba</i>	7	100.0
TOTAL	7	100.0

GROUND COVER

Species	Percent Cover
<i>Chenopodium album</i>	less than 1
<i>Erigon</i> sp.	less than 1
<i>Eupatorium rugosum</i>	less than 1
<i>Galium</i> sp.	less than 1
<i>Ipomoea purpurea</i>	10
<i>Lactuca</i> sp.	less than 1
<i>Parthenocissus quinquefolia</i>	less than 1
<i>Phytolacca americana</i>	less than 1
<i>Rubus allegheniensis</i>	85
<i>Vitis</i> sp.	less than 1

Transect C Quadrant 1 GROUND COVER
(Continuation)

Species	Percent Cover
Unidentifiable species (1)	less than 1

U.S. FISH AND WILDLIFE SERVICE
 TERRESTRIAL RECONNAISSANCE INVENTORY

Location: Transect C, Quadrant 1

Date: 5-27-82

Time: 10:15 A.M. - 11:00 A.M.

Habitat Type: Hardwood forest

Weather: Cloudy, cool

Investigator(s): Rybak, Balliett

Vegetative Cover

Overstory:

Crown Closure: 67.8%

Dominant Species: Morus alba (58.8%), Carya ovalis (17.6%) Quercus
marilandica (17.6%)

Age Classes: C. ovalis, Celtis occidentalis, and M. alba - all less
 (DBH) than 6 inches. Quercus marilandica, 1 at 7 and 2 at 14 inches.

Understory:

Percent Cover: 20

Dominant Species: M. alba (100.0%)

Ground Cover:

Percent Cover: 100% ground covered

Dominant Species: Rubus allegheniensis (85%), Ipomoea purpurea (10%)

Grass/Forb Ratio: 0% grass/100% forb

Wildlife

<u>Species</u>	<u>Sign</u>
American robin	Call
Black-capped chickadee	Call
Blue jay	Call
Cardinal	Call
Turkey vulture	Observation
Yellow-billed cuckoo	Call

AVAILABILITY OF WILDLIFE PREFERRED FOOD PLANTS

Type of Food	Availability		
	Scarce	Adequate	Abundant
Soft Mast			X
Hard Mast	X		
Browse			X
Succulents	X		

Comments: (den sites, successional trends, etc.) Blackberries made the quadrant almost impenetrable.

U.S. FISH AND WILDLIFE SERVICE
QUANTITATIVE VEGETATIONAL INVENTORY

Transect: C Quadrant: 2 Date: 5-27-82 Time: 11:55 A.M. - 1:05 P.M. Weather: Sunny, breezy Investigator(s): Rybak, Balliett

Crown Closure: North 61.5 South 39.7 East 51.1

West 68.8 Average 55.3%

Comments: Adjacent to opening with spiderworts and prickly pear.

OVERSTORY

(Trees greater than or equal to 10 inch DBH or 12 feet in height)

Species	Range in DBH	No.	Percent Cover
<i>Carya ovalis</i>		3	15.0
<i>Juglans cinerea</i>		2	10.0
<i>Morus alba</i>		2	10.0
<i>Quercus marilandica</i>		10	50.0
<i>Ulmus rubra</i>		3	15.0
TOTAL		20	100.0

Transect C Quadrant 2

UNDERSTORY

(Trees and shrubs less than 12 feet high or 10 inch DBH)

Species	No.	Percent Cover
<i>Carya ovalis</i>	3	7.0
<i>Cornus drummondii</i>	34	79.1
<i>Juniperus virginiana</i>	1	2.3
<i>Quercus marilandica</i>	5	11.6
TOTAL	43	100

GROUND COVER

Species	Percent Cover
<i>Calystegia</i> sp.	less than 2
<i>Carya ovalis</i>	less than 2
<i>Celastrus scandens</i>	less than 2
<i>Chenopodium album</i>	less than 2
<i>Corydalis</i> sp.	less than 2
<i>Duchesnea indica</i>	less than 2
<i>Erigeron</i> sp.	less than 2
<i>Eupatorium rugosum</i>	less than 2
<i>Ipomoea purpurea</i>	less than 2
<i>Parthenocissus quinquefolia</i>	50

Transect C Quadrant 2 GROUND COVER
(Continuation)

Species	Percent Cover
<i>Phytolacca americana</i>	less than 2
<i>Quercus marilandica</i>	less than 2
<i>Rubus allegheniensis</i>	25
<i>Scrophularia lanceolata</i>	less than 2
<i>Solidago</i> sp.	less than 2
<i>Tradescantia</i> sp.	less than 2
<i>Viola</i> sp.	less than 2
Unidentifiable species (2)	less than 4

U.S. FISH AND WILDLIFE SERVICE
 TERRESTRIAL RECONNAISSANCE INVENTORY

Location: Transect C, Quadrant 2
 Date: 5-27-82
 Time: 11:55 A.M. - 1:05 P.M.
 Habitat Type: Hardwood forest
 Weather: Sunny, breezy
 Investigator(s): Rybak, Balliett

Vegetative Cover

Overstory:

Crown Closure: 55.3%
 Dominant Species: Quercus marilandica (50.0%), Carya ovalis (15.0%),
Ulmus rubra (15.0%)
 Age Classes: Q. marilandica - 1 under 6 in., 6 at 6-10 in., 2 at 12 in.,
 (DBH) 1 at 17 in.
C. ovalis - 2 under 6 in., 1 at 8 in.,
Juglans cinerea, Morus alba, U. rubra - all under 6 in.

Understory:

Percent Cover: 30
 Dominant Species: Cornus drummondii (79.1%), Quercus marilandica (11.6%),

Ground Cover:

Percent Cover: 80
 Dominant Species: Parthenocissus quinquefolia (50%), Rubus allegheniensis
(25%).
 Grass/Forb Ratio: 0% grass/100% forb

Wildlife

<u>Species</u>	<u>Sign</u>
Black-capped chickadee	Call
Tufted titmouse	Call

AVAILABILITY OF WILDLIFE PREFERRED FOOD PLANTS

Type of Food	Availability		
	Scarce	Adequate	Abundant
Soft Mast			X
Hard Mast		X	
Browse			X
Succulents	X		

Comments: (den sites, successional trends, etc.) Approximately one-fourth of quadrant was berry patch. Quadrant was next to opening in forest.

U.S. FISH AND WILDLIFE SERVICE
QUANTITATIVE VEGETATIONAL INVENTORY

Transect: DQuadrant: 1Date: 5-27-82Time: 3:15 P.M. - 4:15 P.M.Weather: Clear, sunnyInvestigator(s): Rybak, BalliettCrown Closure: North 60.5% South 70.9% East 89.6%West 55.3% Average 69.1%Comments: Brush was heavily browsed by rabbits. Numerous snags observed.Edge of quadrant was 20 feet from fence. Transect line was in from wood'sedge 100 feet.

OVERSTORY

(Trees greater than or equal to 10 inch DBH or 12 feet in height)

Species	Range in DBH	No.	Percent Cover
<i>Acer saccharinum</i>	under 6 in.	1	3.1
<i>Carva ovalis</i>	all under 6 in.	8	25.0
<i>Celtis occidentalis</i>	under 6 in.	1	3.1
<i>Morus alba</i>	1 at 6 in., 14 under 6 in.	15	46.9
<i>Quercus marilandica</i>	20 in.	1	3.1
<i>Sassafras albidum</i>	all under 6 in.	4	12.5
<i>Ulmus rubra</i>	all under 6 in.	2	6.3
TOTAL		32	100.0

Transect DQuadrant 1

UNDERSTORY

(Trees and shrubs less than 12 feet high or 10 inch DBH)

Species	No.	Percent Cover
<i>Carya glabra</i>	1	2.5
<i>Carya ovalis</i>	6	15.0
<i>Celtis occidentalis</i>	2	5.0
<i>Cornus drummondii</i>	25	62.5
<i>Morus alba</i>	2	5.0
<i>Quercus marilandica</i>	1	2.5
<i>Sassafras albidum</i>	2	5.0
<i>Ulmus rubra</i>	1	2.5
TOTAL	40	100.0

GROUND COVER

Species	Percent Cover
<i>Calystegia arvensis</i>	approximately 2
<i>Carya glabra</i>	approximately 2
<i>Carya ovata</i>	approximately 2
<i>Celastrus scandens</i>	approximately 2
<i>Chenopodium album</i>	approximately 2
<i>Cornus drummondii</i>	35
<i>Corydalis</i> sp.	approximately 2
<i>Eupatorium rugosum</i>	approximately 2
<i>Galium aparine</i>	approximately 2
<i>Juniperus virginiana</i>	approximately 2

Transect D Quadrant 1 GROUND COVER
(Continuation)

Species	Percent Cover
<i>Parthenocissus quinquefolia</i>	approximately 2
<i>Phytolacca americana</i>	approximately 2
<i>Polygonatum commutatum</i>	approximately 2
<i>Quercus marilandica</i>	approximately 2
<i>Rosa multiflora</i>	approximately 2
<i>Rubus allegheniensis</i>	25
<i>Sassafras albidum</i>	approximately 2
<i>Toxicodendron radicans</i>	approximately 2
<i>Ulmus rubra</i>	approximately 2
Unidentifiable species	15

Transect D Quadrant 1

GROUND COVER
(Continuation)

Species	Percent Cover
Unidentifiable species (3)	approximately 6

U.S. FISH AND WILDLIFE SERVICE
TERRESTRIAL RECONNAISSANCE INVENTORY

Location: Transect D, Quadrant 1
 Date: 5-27-82
 Time: 3:15 P.M. - 4:15 P.M.
 Habitat Type: Hardwood forest
 Weather: Clear, sunny
 Investigator(s): Rybak, Balliett

Vegetative Cover

Overstory:

Crown Closure: 69.1%
 Dominant Species: Morus alba (46.9%), Carya ovalis (25.0%), Sassafras
albidum (12.5%)
 Age Classes: Acer saccharinum, C. ovalis, Celtis occidentalis,
 (DBH) S. albidum, Ulmus rubra - all under 6 in.
Morus alba - 1 at 6 in., 14 under 6 in., Quercus marilandica
- 1 at 20 in.

Understory:

Percent Cover: 50
 Dominant Species: Cornus drummondii (62.5%), C. ovalis (15.0%)

Ground Cover:

Percent Cover: 50
 Dominant Species: C. drummondii (35.0%), Rubus allegheniensis (25.0%),
unidentifiable species (15.0%)
 Grass/Forb Ratio: 0 grass/100% forb

Wildlife

<u>Species</u>	<u>Sign</u>
Black-capped chickadee	Call
Cardinal with young	Observed
Rufous-sided towhee	Call

AVAILABILITY OF WILDLIFE PREFERRED FOOD PLANTS

Type of Food	Availability		
	Scarce	Adequate	Abundant
Soft Mast		X	
Hard Mast	X		
Browse			X
Succulents	X		

Comments: (den sites, successional trends, etc.) Area heavily browsed by
rabbits. Many den sites.

U.S. FISH AND WILDLIFE SERVICE
QUANTITATIVE VEGETATIONAL INVENTORY

Transect: D Quadrant: 2 Date: 5-27-82 Time: 4:45 P.M. - 5:15 P.M. Weather: Cloudy changing to rainy Investigator(s): Rybak, Balliett Crown Closure: North 77.1% South 89.6% East 81.3% West 87.5% Average 83.9% Comments: Few snags. Few seedlings in ground cover.

OVERSTORY

(Trees greater than or equal to 10 inch DBH or 12 feet in height)

Species	Range in DBH	No.	Percent Cover
Carya glabra	under 6 in.	1	4.5
Carya ovalis	under 6 in.	1	4.5
Morus alba	all under 6 in.	4	18.2
Quercus marilandica	6 under 6 inches, 1 each at 10, 14, and 16 in.	9	40.9
Rhus glabra	under 6 in.	1	4.5
Sassafras albidum	all under 6 in.	5	22.7
Ulmus rubra	under 6 in.	1	4.5
TOTAL		22	99.8

Transect D Quadrant 2

UNDERSTORY

(Trees and shrubs less than 12 feet high or 10 inch DBH)

Species	No.	Percent Cover
<i>Carya ovalis</i>	3	15.0
<i>Celtis occidentalis</i>	2	10.0
<i>Cornus drummondii</i>	4	20.0
<i>Morus alba</i>	2	10.0
<i>Quercus marilandica</i>	5	25.0
<i>Rhus glabra</i>	2	10.0
<i>Sassafras albidum</i>	2	10.0
TOTAL	20	100.0

GROUND COVER

Species	Percent Cover
<i>Calystegia arvensis</i>	less than 1
<i>Carya ovalis</i>	less than 1
<i>Celtis occidentalis</i>	less than 1
<i>Chenopodium album</i>	less than 1
<i>Cornus drummondii</i>	less than 1
<i>Duchesnea indica</i>	less than 1
<i>Galium aparine</i>	less than 1
<i>Parthenocissus quinquefolia</i>	90
<i>Phytolacca americana</i>	less than 1
<i>Rubus allegheniensis</i>	less than 1

Transect D Quadrant 2 GROUND COVER
(Continuation)

Species	Percent Cover
Sassafras albidum	less than 1
Smilax sp.	less than 1
Toxicodendron radicans	less than 1
Vitis sp.	less than 1
Unidentififable sp.	less than 1

U.S. FISH AND WILDLIFE SERVICE
 TERRESTRIAL RECONNAISSANCE INVENTORY

Location: Transect D, Quadrant 2
 Date: 5-27-82
 Time: 4:45 P.M. - 5:15 P.M.
 Habitat Type: Hardwood forest
 Weather: Cloudy changing to rainy
 Investigator(s): Rybak, Balliett

Vegetative Cover

Overstory:

Crown Closure: 83.9%
 Dominant Species: Quercus marilandica (40.9%), Sassafras albidum (22.7%),
Morus alba (18.2%)
 Age Classes: Carya glabra, Carya ovalis, M. alba, Rhus glabra, S. albidum
 (DBH) and Ulmus rubra - all under 6 in. Q. marilandica - 6 under
6 in., 1 each at 10, 14, and 16 in.

Understory:

Percent Cover: 50
 Dominant Species: Q. marilandica (25.0%), Cornus drummondii (20.0%),
C. ovalis (15.0%)

Ground Cover:

Percent Cover: 70
 Dominant Species: Parthenocissus quinquefolia (90%)
 Grass/Forb Ratio: 0% grass/100% forb

Wildlife

<u>Species</u>	<u>Sign</u>
Blue jay	Call

AVAILABILITY OF WILDLIFE PREFERRED FOOD PLANTS

Type of Food	Availability		
	Scarce	Adequate	Abundant
Soft Mast		X	
Hard Mast	X		
Browse		X	
Succulents		X	

Comments: (den sites, successional trends, etc.)

U.S. FISH AND WILDLIFE SERVICE
 QUANTITATIVE VEGETATIONAL INVENTORY

Transect: D

Quadrant: 3

Date: June 27, 1982

Time: 6:30 p.m. - 7:00 p.m.

Weather: Clear, calm changing to breezy

Investigator(s): Rybak, Balliett

Crown Closure: North 88.8% South 92.7% East 93.8%
 West 84.4% Average 89.9%

Comments: Large snag noticed in quadrant.

OVERSTORY

(Trees greater than or equal to 10 inch DBH or 12 feet in height)

Species	Range in DBH	No.	Percent Cover
<i>Carya ovalis</i>	All under 6 in.	13	40.6
<i>Quercus marilandica</i>	5 under 6 in., 3 at 6 to 10 in., 1 each at 13, 14, 17, 19, 21 in.	14	43.8
<i>Sassafras albidum</i>	All under 6 in.	5	15.6
Total		32	100.0

Transect D Quadrant 3

UNDERSTORY

(Trees and shrubs less than 12 feet high or 10 inch DBH)

Species	No.	Percent Cover
<i>Carya ovalis</i>	6	20.7
<i>Cornus drummondii</i>	15	51.7
<i>Morus alba</i>	2	6.9
<i>Prunus serotina</i>	1	3.4
<i>Quercus marilandica</i>	1	3.4
<i>Rhus glabra</i>	2	6.9
<i>Sassafras albidum</i>	2	6.9
Total	29	99.9

GROUND COVER

Species	Percent Cover
<i>Celastrus scandens</i>	approximately 2
<i>Cornus drummondii</i>	40
<i>Eupatorium rugosum</i>	40
<i>Galium aparine</i>	approximately 2
<i>Ipomoea purpurea</i>	approximately 2
<i>Oxalis sp.</i>	approximately 2
<i>Parthenocissus quinquefolia</i>	approximately 2
<i>Quercus marilandica</i>	approximately 2
<i>Sassafras albidum</i>	approximately 2
<i>Vitis sp.</i>	approximately 2

Transect D Quadrant 3 GROUND COVER
(Continuation)

Species	Percent Cover
Unidentifiable species (3)	approximately 6

U.S. FISH AND WILDLIFE SERVICE
 TERRESTRIAL RECONNAISSANCE INVENTORY

Location: Transect D. Quadrant 3

Date: May 27, 1982

Time: 6:30 p.m. - 7:00 p.m.

Habitat Type: Hardwood forest

Weather: Clear, calm changing to breezy

Investigator(s): Rybak, Balliett

Vegetative Cover

Overstory:

Crown Closure: 89.9%

Dominant Species: Quercus marilandica (43.8%), Carya ovalis (40.6%) Sassa-
fras albidum (15.6%)

Age Classes: C. ovalis and S. albidum - all under 6 in. Q. marilandica - 6
under 6 in., 3 at 6 to 10., 5 at 13 to 21 in.

Understory:

Percent Cover: 30%

Dominant Species: Cornus drummondii (51.7%), C. ovalis (20.7%)

Ground Cover:

Percent Cover: 10% ground covered

Dominant Species: C. drummondii (40%), Eupatorium rugosum (40%)

Grass/Forb Ratio: 0% grass / 100% forb

Wildlife

<u>Species</u>	<u>Sign</u>
<u>Fox squirrel</u>	<u>Call</u>

AVAILABILITY OF WILDLIFE PREFERRED FOOD PLANTS

Type of Food	Availability		
	Scarce	Adequate	Abundant
Soft Mast	x		
Hard Mast			x
Browse	x		
Succulents	x		

Comments: (den sites, successional trends, etc.) One large snag. Understory
much more open than previous quadrants. Perhaps this area was not grazed.

U.S. FISH AND WILDLIFE SERVICE
QUANTITATIVE VEGETATIONAL INVENTORY

Transect: D Quadrant: 4 Date: 5-27-82 Time: 7:30 - 8:00 P.M. Weather: Clear, calm Investigator(s): Rybak, Balliett Crown Closure: North 87.5% South 95.8% East 64.6% West 81.3% Average 82.3% Comments: Virtually impenetrable understory comprised predominately of Cornus drummondii.

OVERSTORY

(Trees greater than or equal to 10 inch DBH or 12 feet in height)

Species	Range in DBH	No.	Percent Cover
Carya ovalis	All under 6 in.	4	28.6
Celtis occidentalis	Under 6 in.	1	7.1
Cornus drummondii	Under 6 in.	1	7.1
Morus alba	All under 6 in.	3	21.4
Quercus marilandica	All under 6 in.	4	28.6
Ulmus rubra	Under 6 in.	1	7.1
TOTAL		14	99.9

Transect D Quadrant 4

UNDELF STORY

(Trees and shrubs less than 12 feet high or 10 inch DBH)

Species	No.	Percent Cover
<i>Carya ovalis</i>	4	6.6
<i>Celtis occidentalis</i>	3	4.9
<i>Cornus drummondii</i>	52	85.2
<i>Quercus marilandica</i>	1	1.6
<i>Sassafras albidum</i>	1	1.6
TOTAL	61	99.9

GROUND COVER

Species	Percent Cover
<i>Calystegia arvensis</i>	Approximately 4
<i>Celastrus scandens</i>	Approximately 4
<i>Cornus drummondii</i>	Approximately 4
<i>Eupatorium rugosum</i>	10
<i>Galium aparine</i>	Approximately 4
<i>Galium sp.</i>	Approximately 4
<i>Geum sp.</i>	Approximately 4
<i>Hydrophyllum sp.</i>	Approximately 4
<i>Lactuca sp.</i>	Approximately 4
<i>Parthenocissus quinquefolia</i>	40

Transect D Quadrant 4 GROUND COVER
(Continuation)

Species	Percent Cover
Penstemon pallidus	Approximately 4
Phytolacca americana	Approximately 4
Quercus marilandica	Approximately 4
Rubus allegheniensis	Approximately 4
Sassafras albidum	Approximately 4
Smilax sp.	Approximately 4

U.S. FISH AND WILDLIFE SERVICE
TERRESTRIAL RECONNAISSANCE INVENTORY

Location: Transect D, Quadrant 4
 Date: 5-27-82
 Time: 7:30 - 8:00 P.M.
 Habitat Type: Hardwood forest
 Weather: Clear, calm
 Investigator(s): Rybak, Balliett

Vegetative Cover

Overstory:

Crown Closure: 82.3

Dominant Species: Quercus marilandica (28.6%), Carya ovalis (28.6%),
Morus alba (21.4%)

Age Classes: All trees are less than 6 in. DBH.
 (DBH)

Understory:

Percent Cover: 80

Dominant Species: Cornus drummondii (85.2%)

Ground Cover:

Percent Cover: 50% ground covered

Dominant Species: Parthenocissus quinquefolia (40%), Eupatorium rugosum (10%)

Grass/Forb Ratio: 0% grass/100% forb

Wildlife

<u>Species</u>	<u>Sign</u>
American robin	Call
Blue jay	"
Cardinal	"
Mourning dove	"

AVAILABILITY OF WILDLIFE PREFERRED FOOD PLANTS

Type of Food	Availability		
	Scarce	Adequate	Abundant
Soft Mast	X		
Hard Mast	X		
Browse			X
Succulents		X	

Comments: (den sites, successional trends, etc.) Area probably grazed in past.

APPENDIX E: TELEPHONE CONVERSATION LOGS

TELEPHONE CONVERSATION RECORD
U.S. FISH AND WILDLIFE SERVICE
Regional Office - Region 3

ROUTING			DATE
1	Internal	4	7/22/82
2	External	5	FILE REFERENCE Meredosia Studies
3		6	

RECORD	
RECEIVED BY (NAME) Dick Lutz (IDOC)	RECEIVED FROM (NAME) Alan Balliett (CISO)

CONVERSATION

Dick suggested that the following sources would provide the information I needed:

"Endangered and Threatened Species of Illinois"

"Scott and Morgan County Surface Water Bulletins"

"Abundance and Harvest of Doves, Pheasants, Bobwhites, Squirrels and Cottontails in Illinois, 1956-1969"

Natural Areas Inventory Maps

Dick suggested I contact the district biologists for more information. I told Dick that I would send him a map of the area for further scrutiny.

WHITE: ROUTING COPY
YELLOW: SUBJECT FILE COPY
PINK: RO READING FILE COPY

TELEPHONE CONVERSATION RECORD

U.S. FISH AND WILDLIFE SERVICE
Regional Office - Region 3

ROUTING		DATE
1	Internal	7/9/82 FILE REFERENCE Merodosia Studies
2	External	
3		

RECORD	
RECEIVED BY (NAME) Mike Sweet (IDOC)	RECEIVED FROM (NAME) Alan Balliett (CISO)

CONVERSATION
Mike informed me that the area may have the yellow mud turtle and Strecker's chorus frog. He said that Don Steffeck (RIFO) observed an American bittern near Merodosia Lake. I sent him a map of the area and requested more detailed accounts of threatened and endangered species, if available.

[Empty lines for additional notes]

WHITE: ROUTING COPY
YELLOW: SUBJECT FILE COPY
PINK: RO READING FILE COPY

TELEPHONE CONVERSATION RECORD

FISH AND WILDLIFE SERVICE
Regional Office - Region 3

ROUTING			DATE
1	Internal	4	7/23/82
2	External	5	FILE REFERENCE Meredosia Studies
3		6	

RECORD

RECEIVED BY (NAME)

Alan Balliett (CISO)

RECEIVED FROM (NAME)

Frank Belrose (INHS)

CONVERSATION

Frank informed me that waterfowl censuses are conducted on Meredosia Lake in the spring and fall. Censuses are also taken of wintering bald eagles along the Illinois River.

Frank informed me that construction of levees along the Illinois River between Smith Lake and Diamond Island has reduced waterfowl habitat.

He said that a private duck hunting club in the Big Prairie Drainage and levee District provides good waterfowl habitat. The area had been purchased by another party who had cleared much of the bottomland forest and constructed levees.

Frank believes that construction of the Lagrange Lock had raised the level of the river, inundating the area and hindering the landowner's attempt to convert the area to cropland.

WHITE: ROUTING COPY
YELLOW: SUBJECT FILE COPY
PINK: NO READING FILE COPY

TELEPHONE CONVERSATION RECORD

U.S. FISH AND WILDLIFE SERVICE
Regional Office - Region 3

ROUTING			DATE
1	Internal	4	7/27/82
2	External	5	FILE REFERENCE Meradosia Studies
3		6	

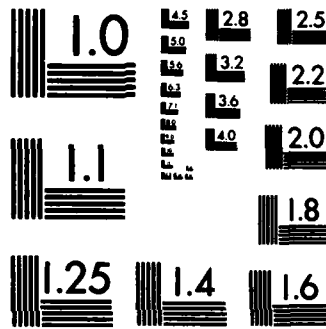
RECORD

RECEIVED BY (NAME): Alan Balliett (CSO)	RECEIVED FROM (NAME): Frank Kulfinski (TU-E)
--	---

CONVERSATION

Mr. Kulfinski did not have any information on the study area.

WHITE: ROUTING COPY
 YELLOW: SUBJECT FILE COPY
 PINK: READING FILE COPY



MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

TELEPHONE CONVERSATION RECORD

U.S. FISH AND WILDLIFE SERVICE
Regional Office - Region 3

ROUTING		DATE 7/23/82
1	Internal	FILE REFERENCE Meredosia Studies
2	External	
3		

RECORD

RECEIVED BY (NAME) Richard Sparks (INHS)	RECEIVED FROM (NAME) Alan Balliett (CISO)
---	--

CONVERSATION

Richard has done much work on Meredosia Lake in conjunction with studies on the deterioration the lake is suffering from sedimentation. The lake is becoming shallow and suffers from low dissolved oxygen concentrations. He said that IDOC has done much fish sampling on the lake and found high numbers of fish in a ditch leading into Meredosia Lake. He recommended that I contact the district biologist to gain further information.

He informed me that Meredosia Lake is a satellite of the Chataqua NWR.

He said that he has taken sauger in the main channel of the Lower Illinois River.

He informed me that water quality generally improves as you go downstream in the Illinois River, however, levees along the lower river have greatly reduced back-water fish habitat.

WHITE: ROUTING COPY
YELLOW: SUBJECT FILE COPY
PINK: RO READING FILE COPY

TELEPHONE CONVERSATION RECORD

U.S. FISH AND WILDLIFE SERVICE

Regional Office - Region 3

ROUTING

1	Internal	4	
2	External	5	
3		6	

DATE

8/3/82

FILE REFERENCE

Meredosia
Studies

RECORD

RECEIVED BY (NAME)

Jamie Thomerson (SIU-E)

RECEIVED FROM (NAME)

Alan Balliett (CISO)

CONVERSATION

Jamie said that he did not have any readily available information on the study area. He said that he would look through the literature and inform me of what references he finds.

WHITE: ROUTING COPY
YELLOW: SUBJECT FILE COPY
PINK: RO READING FILE COPY

APPENDIX F: PHYTOPLANKTON, ZOOPLANKTON, AND BENTHOS TABLES

TABLE 3: PHYTOPLANKTON COLLECTED IN THE MEREDOSIA, ILLINOIS; MEREDOSIA; WILLOW CREEK; AND COON RUN DRAINAGE AND LEVEE DISTRICT

SPECIES	SITE #1		SITE #2		SITE #3		SITE #4		SITE #5		SITE #6	
	f/ML	%	f/ML	%	f/ML	%	f/ML	%	f/ML	%	f/ML	%
CRYPTOPHYTES												
<i>Annoeoneis</i> sp.	-	-	0.96	1.5	-	-	-	-	-	-	-	-
<i>Asterionella</i> sp.	3.83	0.5	3.83	6.0	-	-	-	-	283.24	6.0	-	-
<i>Cymbella</i> sp.	0.85	0.1	0.48	0.7	1.38	0.6	0.64	0.9	-	-	-	-
<i>Dinobryon</i> sp.	404.32	53.5	-	-	-	-	-	-	3.99	0.1	-	-
<i>Fragilaria</i> sp.	3.40	0.4	0.48	0.7	-	-	-	-	-	-	-	-
<i>Frustulia</i> sp.	-	-	-	-	-	-	-	-	-	-	3.19	0.3
<i>Gomphonema</i> sp.	-	-	0.96	1.5	5.53	2.3	1.28	1.7	-	-	-	-
<i>Gyrosigma</i> sp.	-	-	4.15	1.9	4.15	1.9	-	-	-	-	-	-
<i>Melosira</i> sp.	26.81	3.5	16.27	25.5	2.77	1.3	2.55	3.4	2,832.37	60.0	-	-
<i>Nitzschia</i> sp.	-	-	3.83	6.0	22.13	10.0	1.28	1.7	-	-	2.13	0.2
<i>Pinnularia</i> sp.	3.40	0.4	16.27	25.5	88.52	40.2	7.02	9.4	-	-	1.06	0.1
<i>Rhodospira</i> sp.	-	-	0.96	1.5	-	-	-	-	-	-	4.26	0.4
<i>Stauroneis</i> sp.	-	-	-	-	1.38	0.6	-	-	-	-	-	-
<i>Stauroneis</i> sp.	-	-	-	-	2.77	1.3	-	-	-	-	-	-
<i>Stauroneis</i> sp.	2.98	0.4	-	-	-	-	-	-	354.05	7.5	-	-
<i>Surirella</i> sp.	-	-	1.92	3.0	4.15	1.9	1.92	2.5	-	-	-	-
<i>Synedra</i> sp. **	0.43	0.1	1.92	3.0	5.53	2.3	1.28	1.7	35.40	0.7	-	-
<i>Tribonema</i> sp.	-	-	-	-	-	-	-	-	-	-	32.72	3.2
CHLOROPHYTES												
<i>Actinastrum</i> sp.	-	-	-	-	-	-	-	-	2.66	0.1	-	-
<i>Ankistrodesmus</i> sp.	15.96	2.1	-	-	-	-	-	-	1.33	A	13.30	1.3
<i>Characium</i> sp.	21.28	2.8	-	-	-	-	-	-	-	-	-	-
<i>Chlamydomonas</i> sp.	106.40	14.1	7.98	12.5	37.24	16.9	55.86	75.0	405.65	8.6	542.64	53.6
<i>Clonasterium</i> sp.	-	-	-	-	-	-	-	-	-	-	7.98	0.8

<i>Crucigenia</i> sp. *	-	-	-	-	-	-	-	-	-	1.33	A	-
<i>Eudorina</i> sp.	5.32	0.7	-	-	-	-	-	-	-	1.33	A	39.90
<i>Microsterias</i> sp.	-	-	-	-	-	-	-	-	-	-	-	2.66
<i>Mougeotia</i> sp. **	-	-	-	-	-	-	-	-	-	348.46	7.4	281.96
<i>Pandorina</i> sp.	-	-	-	-	-	-	-	-	-	9.31	0.2	-
<i>Scenedesmus</i> sp. *	5.32	0.7	2.66	4.2	-	-	-	-	-	21.28	0.5	37.24
<i>Spirotaenia</i> sp.	-	-	-	-	-	-	-	-	-	-	-	2.66
CYANOPHYTA												
<i>Anabaena</i> sp. **	41.49	5.5	-	-	31.39	14.3	-	-	-	136.99	2.9	3.72
<i>Microcystis</i> sp. *	2.66	0.4	-	-	-	-	-	-	-	-	-	-
<i>Oscillatoria</i>	-	-	-	-	-	-	-	-	-	111.72	2.4	4.26*
EUGLENOPHYTA												
<i>Euglena</i> sp.	106.40	14.1	2.66	4.2	10.64	4.8	2.66	3.6	-	163.59	3.5	13.30
<i>Phacus</i> sp.	-	-	-	-	2.66	1.2	-	-	-	10.64	0.2	-
<i>Trachelomonas</i> sp.	5.32	0.7	2.66	4.2	-	-	-	-	-	-	-	18.62
TOTAL DENSITY	756.17	100.0	63.84	100.0	120.24	99.6	74.49	99.9	4,723.34	100.1	1,011.60	99.9
TOTAL # TAXA	17	15	15	14	14	17	9	17	17	17	17	17
DIVERSITY	2.59	3.09	3.09	2.73	2.73	2.14	1.39	2.14	2.14	2.14	2.04	2.04
EVENNESS	0.47	0.80	0.80	0.64	0.64	0.35	0.33	0.35	0.35	0.35	0.29	0.29

* - Colonies
 ** - Filament length
 A - Numerically insignificant percentage

TABLE 4: ZOOPLANKTON COLLECTED IN THE MEREDOSIA, ILLINOIS; MEREDOSIA; WILLOW CREEK; AND COON RUN DRAINAGE AND LEVEE DISTRICT

SPECIES	SITE #1	SITE #2	SITE #3	SITE #4	SITE #5	SITE #6
	#/M ³	#/M ³	#/M ³	#/M ³	#/M ³	#/M ³
PROTOZOA						
ARCILLIDAE						
<i>Arcella</i> sp.	-	-	-	-	-	300 2.1
CENTROPYXIDAE						
<i>Centropyxis</i> sp.	-	-	-	-	-	100 0.6
DIPYLICIIDAE						
<i>Dipylagia coronata</i>	666 1.0	-	-	-	-	4,063 25.8
<i>D. oblonga</i>	-	-	-	-	-	533 3.4
<i>D. urceolata</i>	-	-	-	-	-	266 1.7
TINTINNIDAE						
?	-	-	-	-	666 0.2	-
COLELTERATA						
HYDRIDAE						
<i>Hydra</i> sp.	2,131 3.0	-	133 9.3	-	-	-
TURBELLARIA						
DALYELLIIDAE						
<i>Dalryella</i> sp.	-	-	-	-	-	67 0.4
TYPHLOPLANIDAE						
?	-	-	-	-	-	67 0.4

TABLE 4: (Continued)

SPECIES	SITE #1		SITE #2		SITE #3		SITE #4		SITE #5		SITE #6	
	I/M ³	%	I/M ³	%	I/M ³	%	I/M ³	%	I/M ³	%	I/M ³	%
BRYOZOA												
FLUMINELLIDAE												
<i>Flumstellia</i> sp. (statoblasts)	3,330	4.8	33	1.0	33	2.3	-	-	-	-	366	2.3
OLICOCHAETA*												
MAIDIDAE												
<i>Chestopaster</i> sp.	-	-	366	11.4	-	-	-	-	-	-	-	-
<i>Mais</i> sp.	-	-	-	-	33	2.3	-	-	-	-	-	-
?	-	-	-	-	-	-	33	4.7	-	-	67	0.4
CLADOCERA												
CHYDORIDAE												
<i>Chydorus sphaericus</i>	10,989	15.7	-	-	-	-	-	-	999	0.3	-	-
<i>Pleuroxus denticulatus</i>	333	0.5	-	-	133	9.3	-	-	-	-	2,331	14.8
DAPHNIDAE												
<i>Daphnia pulex</i>	333	0.5	33	1.0	-	-	-	-	-	-	133	0.8
<i>Scapholeberis kingi</i>	333	0.5	-	-	-	-	-	-	-	-	167	1.1
<i>Simoccephalus serrulatus</i>	333	0.5	-	-	-	-	-	-	333	0.1	-	-
BOSMINIDAE												
<i>Bosmina longirostris</i>	7,659	10.9	400	12.5	-	-	33	4.7	13,986	3.8	-	-
COPPEPODA												
CYCLOPIDAE												
<i>Eucyclops scyllis</i>	5,328	7.6	300	9.4	33	2.3	33	4.7	11,655	3.2	733	4.7

LARVAL NAUPLII ?	16,317	23.3	300	9.4	-	-	154,179	41.6	1,232	7.8
OSTRACODA										
CYPRIDAE										
<i>Candona simpsoni</i>	-	-	67	2.1	-	-	-	-	-	-
<i>Physocypris gustulosa</i>	333	0.5	-	-	-	-	333	0.1	-	-
?	-	-	67	2.1	-	-	-	-	-	-
COLLEMBOLA*										
FORURIDAE										
<i>Aurida</i> sp.	-	-	-	-	67	4.7	-	-	-	-
ISOTOMIDAE										
?	-	-	-	-	33	2.3	-	-	-	-
EPREPHOPTERA*										
Unidentifiable hatching	-	-	-	-	33	2.3	-	-	-	-
HEMIPTERA*										
NOTONECTIDAE										
<i>Notonecta</i> sp.	-	-	-	-	-	-	-	-	100	0.6
COLEOPTERA*										
HETEROCERIDAE										
?	-	-	-	-	67	4.7	-	-	-	-
HYDROPHILIDAE										
?	-	-	-	-	-	-	-	-	33	0.2

TABLE 4: (Continued)

SPECIES	#/M ³	%	#/M ³	%	#/M ³	%	#/M ³	%	#/M ³	%	#/M ³	%
DIPTERA*												
CHIRONOMIDAE	366	0.5	533	16.7	799	55.9	466	66.8	-	-	133	0.8
CERATOPOGONIDAE	-	-	-	-	-	-	33	4.7	-	-	-	-
GASTROPODA*												
LYNAEIDAE	33	0.1	-	-	-	-	-	-	-	-	-	-
- <i>spes</i> sp.												
TOTAL DENSITY	70,129	100.4	3,198	99.9	1,430	100.0	698	99.9	170,296	100.0	15,751	99.7
TOTAL # TAXA	20		11		12		7		14		25	
DIVERSITY	3.36		2.02		2.75		1.5		1.91		3.39	
EVENNESS	0.83		0.71		1.12		1.3		0.42		0.68	

*Benthic organisms not included in diversity and evenness figures.

TABLE 5: BENTHOS COLLECTED IN THE HEREDOSIA, ILLINOIS; HEREDOSIA; WILLOW CREEK; AND COON RUN DRAINAGE AND LEVEE DISTRICT

SPECIES	SITE #1		SITE #2		SITE #3		SITE #4		SITE #5		SITE #6	
	#/ML	%	#/ML	%	#/ML	%	#/ML	%	#/ML	%	#/ML	%
NEMATODA	-	-	-	-	-	-	-	-	43	0.9	-	-
?	-	-	-	-	-	-	-	-	-	-	-	-
OLIGOCHAETA	-	-	-	-	-	-	-	-	-	-	-	-
NAIDIDAE	6,673	41.3	-	-	1,722	63.5	75	3.1	43	0.9	86	1.2
LUMBRICULIDAE	-	-	-	-	-	-	11	0.5	-	-	-	-
AELOSOMATIDAE	215	1.3	-	-	43	1.6	-	-	258	5.5	-	-
BRANCHIOBELLIDAE	1,076	6.7	-	-	-	-	-	-	-	-	-	-
Unidentifiable Species	86	0.5	-	-	-	-	-	-	-	-	-	-
HIRUDINEA	-	-	-	-	-	-	-	-	-	-	-	-
GLOSSIPHANIIDAE	86	0.5	-	-	-	-	-	-	-	-	-	-
ISOPODA	-	-	-	-	-	-	-	-	-	-	-	-
ASELLIDAE	-	-	11	6.7	-	-	915	38.4	-	-	-	-
DECAPODA	-	-	-	-	-	-	-	-	-	-	-	-
ASTACIDAE	-	-	-	-	-	-	11	0.5	-	-	-	-
HYDRACARINA	-	-	-	-	-	-	-	-	-	-	-	-
UNIONICOLIDAE	-	-	-	-	-	-	-	-	43	0.9	-	-
PLONIDAE	129	0.8	-	-	-	-	-	-	517	11.0	-	-
EPHEMEROPTERA	-	-	-	-	-	-	-	-	-	-	-	-
POTAMTHIDAE	-	-	-	-	-	-	11	0.5	-	-	-	-
TRICORYTHIDAE	-	-	-	-	-	-	22	0.9	-	-	-	-
HEPTAGENIIDAE	-	-	-	-	-	-	11	0.5	-	-	-	-

MEMPTERA	-	-	-	-	-	22	0.9	-	-	43	0.6
7	-	-	-	-	-	-	-	-	-	-	-
TRICHOPTERA	-	-	-	-	-	463	19.4	-	-	-	-
HYDROPSYCHIDAE	-	11	6.7	-	-	-	-	-	-	-	-
PSYCHOMYIIDAE	-	-	-	-	-	-	-	129	2.7	-	-
LIMNIPHILIDAE	-	-	-	-	-	-	-	129	2.7	-	-
COLEOPTERA	-	-	-	-	-	-	-	-	-	-	-
GYRINIDAE	-	-	-	-	-	-	-	-	-	43	0.6
GEORYSIIDAE	129	0.8	-	-	-	-	-	-	-	86	1.2
HYDROPHILIDAE	-	-	11	6.7	-	-	-	-	-	-	-
DIPTERA	-	-	-	-	-	-	-	-	-	-	-
TIPULIDAE	-	-	11	6.7	-	-	-	-	-	-	-
CHAOBORIDAE	-	-	11	6.7	-	-	-	-	-	43	0.6
CULICIDAE	172	1.1	-	-	-	54	2.3	-	-	-	-
SIMULIDAE	-	-	-	-	-	151	6.3	-	-	-	-
CERATOPOGONIDAE	258	1.6	-	-	-	11	0.5	602	12.8	43	0.6
CHIRONOMIDAE	6,845	42.4	86	52.8	689	538	22.6	2,755	58.7	6,759	95.2
STATIONOMYIDAE	-	-	-	-	43	-	-	-	-	-	-
TABANIDAE	-	-	-	-	-	43	1.8	-	-	-	-
DOLICHOPODIDAE	43	0.3	-	-	-	22	0.9	-	-	-	-
MUSCIDAE	-	-	-	-	-	11	0.5	-	-	-	-
Unidentified Species	129	0.8	22	13.5	-	11	0.5	43	0.9	-	-
GASTROPODA	-	-	-	-	-	-	-	-	-	-	-
PHYSIDAE	-	-	-	-	43	-	-	-	-	-	-
LYNAEIDAE	129	0.8	-	-	172	-	-	63	0.9	-	-
PLANORBIDAE	-	-	-	-	-	-	-	86	1.8	-	-

TABLE 5: (Cont Inued)

SPECIES	SITE #1		SITE #2		SITE #3		SITE #4		SITE #5		SITE #6	
	#/M ²	%	#/M ²	%	#/M ²	%	#/M ²	%	#/M ²	%	#/M ²	%
PELECTPODA												
SPHAERTIDAE	172	1.1	-	-	-	-	-	-	-	-	-	-
TOTAL DENSITY	16,142	100.0	163	99.8	2,712	100.0	2,382	100.1	4,691	99.7	7,103	100.0
TOTAL # TAXA	14		7		6		17		12		7	
DIVERSITY	1.97		2.31		1.46		2.61		2.11		0.40	
EVENNESS	0.41		1.17*		0.50		0.47		0.55		0.14	

*This figure is invalid due to low number of specimens.

APPENDIX G: FISH DATA TABLES AND GRAPHS

TABLE 6: FISH COLLECTED IN THE MEREDOSIA, ILLINOIS; WILLOW CREEK; AND COON RUN DRAINAGE, AND LEVEE DISTRICT

SPECIES	SITE					
	#1	#2	#3	#4	#5	#6
Shorthead gar (<u>Lepisosteus platostomus</u>)	Number	-	-	-	-	-
	Σ of Catch	4	-	-	-	-
	Weight (lbs.)	6.8	-	-	-	-
Bowfin (<u>Amei calva</u>)	Harvest (lbs./acre)	3.64	-	-	-	-
	Number	11.74	-	-	-	-
	Σ of Catch	-	-	-	-	-
Gizzard shad (<u>Dorosoma cepedianum</u>)	Weight (lbs.)	-	-	-	-	-
	Harvest (lbs./acre)	-	-	-	-	-
	Number	-	-	-	-	-
Threadfin shad (<u>Dorosoma petenense</u>)	Σ of Catch	7	6	6	-	-
	Weight (lbs.)	11.9	12.0	10.7	-	-
	Harvest (lbs./acre)	2.71	0.06	1.48	-	-
Goldfish (<u>Carassius auratus</u>)	Harvest (lbs./acre)	8.74	0.25	2.24	-	-
	Number	-	-	-	-	-
	Σ of Catch	-	-	-	-	-
Cyprinid larvae	Weight (lbs.)	-	-	-	-	-
	Harvest (lbs./acre)	-	-	-	-	-
	Number	-	-	-	-	-
Cyprinid larvae	Σ of Catch	-	-	-	-	-
	Weight (lbs.)	-	-	-	-	-
	Harvest (lbs./acre)	-	-	-	-	-
Cyprinid larvae	Number	-	-	-	-	17
	Σ of Catch	-	-	-	-	45.0
	Weight (lbs.)	-	-	-	-	0.01
Cyprinid larvae	Harvest (lbs./acre)	-	-	-	-	0.17

<u>Carp (<i>Cyprinus carpio</i>)</u>	7	11.9	-	12	3	23	18
% of Catch	8.42	21.4	5.8	7.0	7.0	47.0	0.02
Weight (lbs.)	27.16	15.70	0.32	21.58	21.58	0.02	0.33
Harvest (lbs./acre)	-	23.74	3.20	-	-	-	-
<u>Golden shiner (<i>Notemigonus crysoleucas</i>)</u>	-	-	1	10	-	-	-
Number	-	-	1.9	3.1	-	-	-
% of Catch	-	-	0.01	0.40	-	-	-
Weight (lbs.)	-	-	0.10	-	-	-	-
Harvest (lbs./acre)	-	-	-	-	-	-	-
<u>Creek chub (<i>Semotilus atromaculatus</i>)</u>	-	-	18	-	-	-	-
Number	-	-	34.6	-	-	-	-
% of Catch	-	-	0.54	-	-	-	-
Weight (lbs.)	-	-	5.40	-	-	-	-
Harvest (lbs./acre)	-	-	-	-	-	-	-
<u>Suckermouth minnow (<i>Pimephales promelas</i>)</u>	-	6	8.0	-	-	-	-
Number	-	0.07	-	-	-	-	-
% of Catch	-	0.29	-	-	-	-	-
Weight (lbs.)	-	-	-	-	-	-	-
Harvest (lbs./acre)	-	-	-	-	-	-	-
<u>Bigsouth shiner (<i>Notropis dorsalis</i>)</u>	-	9	16	-	-	-	-
Number	-	18.0	26.9	-	-	-	-
% of Catch	-	0.06	0.12	-	-	-	-
Weight (lbs.)	-	0.33	1.20	-	-	-	-
Harvest (lbs./acre)	-	-	-	-	-	-	-
<u>Red shiner (<i>Notropis lutrensis</i>)</u>	-	9	4	-	-	-	-
Number	-	18.0	7.1	-	-	-	-
% of Catch	-	0.10	0.06	-	-	-	-
Weight (lbs.)	-	0.42	0.09	-	-	-	-
Harvest (lbs./acre)	-	-	-	-	-	-	-
<u>Sand shiner (<i>Notropis stramineus</i>)</u>	-	13	-	-	-	-	-
Number	-	26.0	-	-	-	-	-
% of Catch	-	0.11	-	-	-	-	-
Weight (lbs.)	-	0.46	-	-	-	-	-
Harvest (lbs./acre)	-	-	-	-	-	-	-

TABLE 6: (Continued)

SPECIES	SITE					
	71	72	73	74	75	76
Southern redbelly dace (<u><i>Phoxinus erythrogaster</i></u>)	Number	-	-	1	-	-
	% of Catch	-	-	1.9	-	-
	Weight (lbs.)	-	-	0.01	-	-
Silvery minnow (<u><i>Hybomathus nuchalis</i></u>)	Harvest (lbs./acre)	-	-	0.10	-	-
	Number	-	2	-	4	-
	% of Catch	-	4.0	-	7.7	-
Bluntnose minnow (<u><i>Pimephales notatus</i></u>)	Weight (lbs.)	-	0.01	-	0.05	-
	Harvest (lbs./acre)	-	0.04	-	0.50	-
	Number	-	3	-	-	-
Fathead minnow (<u><i>Pimephales promelas</i></u>)	% of Catch	-	6.0	-	-	-
	Weight (lbs.)	-	0.11	-	-	-
	Harvest (lbs./acre)	-	0.04	-	-	-
Central stoneroller (<u><i>Camptostoma anomalum</i></u>)	Number	-	1	-	6	3
	% of Catch	-	2.0	-	11.5	8.0
	Weight (lbs.)	-	0.01	-	0.04	0.04
Smallmouth buffalo (<u><i>Ictiobus bubalus</i></u>)	Harvest (lbs./acre)	-	0.04	-	0.40	0.67
	Number	-	-	-	3	-
	% of Catch	-	-	-	5.8	-
Smallmouth buffalo (<u><i>Ictiobus bubalus</i></u>)	Weight (lbs.)	-	-	-	0.01	-
	Harvest (lbs./acre)	-	-	-	0.10	-
	Number	2	-	2	-	13
Smallmouth buffalo (<u><i>Ictiobus bubalus</i></u>)	% of Catch	3.4	-	3.6	-	4.0
	Weight (lbs.)	0.50	-	0.24	-	5.11
	Harvest (lbs./acre)	1.61	-	0.36	-	-

TABLE 6: (Continued)

SPECIES	SITE					
	#1	#2	#3	#4	#5	#6
<u>Channel catfish (<i>Ictalurus punctatus</i>)</u>	Number	-	1	-	-	-
	% of Catch	1.7	1.8	-	-	-
	Weight (lbs.)	1.39	0.16	-	-	-
<u>Blackstripe topminnow (<i>Fundulus notatus</i>)</u>	Harvest (lbs./acre)	4.48	0.24	-	-	-
	Number	-	2	-	-	1
	% of Catch	-	3.6	-	-	0.3
<u>White bass (<i>Morone chrysops</i>)</u>	Weight (lbs.)	-	2.0	-	-	0.01
	Harvest (lbs./acre)	-	0.01	-	-	-
	Harvest (lbs./acre)	-	0.04	-	-	-
<u>Yellow bass (<i>Morone mississippiensis</i>)</u>	Number	-	-	-	-	4
	% of Catch	-	-	-	-	1.2
	Weight (lbs.)	-	-	-	-	1.34
<u>Largemouth bass (<i>Micropterus salmoides</i>)</u>	Harvest (lbs./acre)	-	-	-	-	-
	Number	-	-	2	-	1
	% of Catch	-	-	3.6	-	0.3
<u>Green sunfish (<i>Lepomis cyanellus</i>)</u>	Weight (lbs.)	-	-	0.04	-	0.05
	Harvest (lbs./acre)	-	-	0.06	-	-
	Number	8	-	3	-	36
<u>Channel catfish (<i>Ictalurus punctatus</i>)</u>	% of Catch	13.6	-	5.4	-	11.0
	Weight (lbs.)	5.65	-	1.57	-	22.32
	Harvest (lbs./acre)	17.58	-	2.38	-	-
<u>Green sunfish (<i>Lepomis cyanellus</i>)</u>	Number	1	-	6	-	8
	% of Catch	1.7	-	10.7	-	2.4
	Weight (lbs.)	0.10	-	0.62	-	1.20
<u>Channel catfish (<i>Ictalurus punctatus</i>)</u>	Harvest (lbs./acre)	0.32	-	0.94	-	-

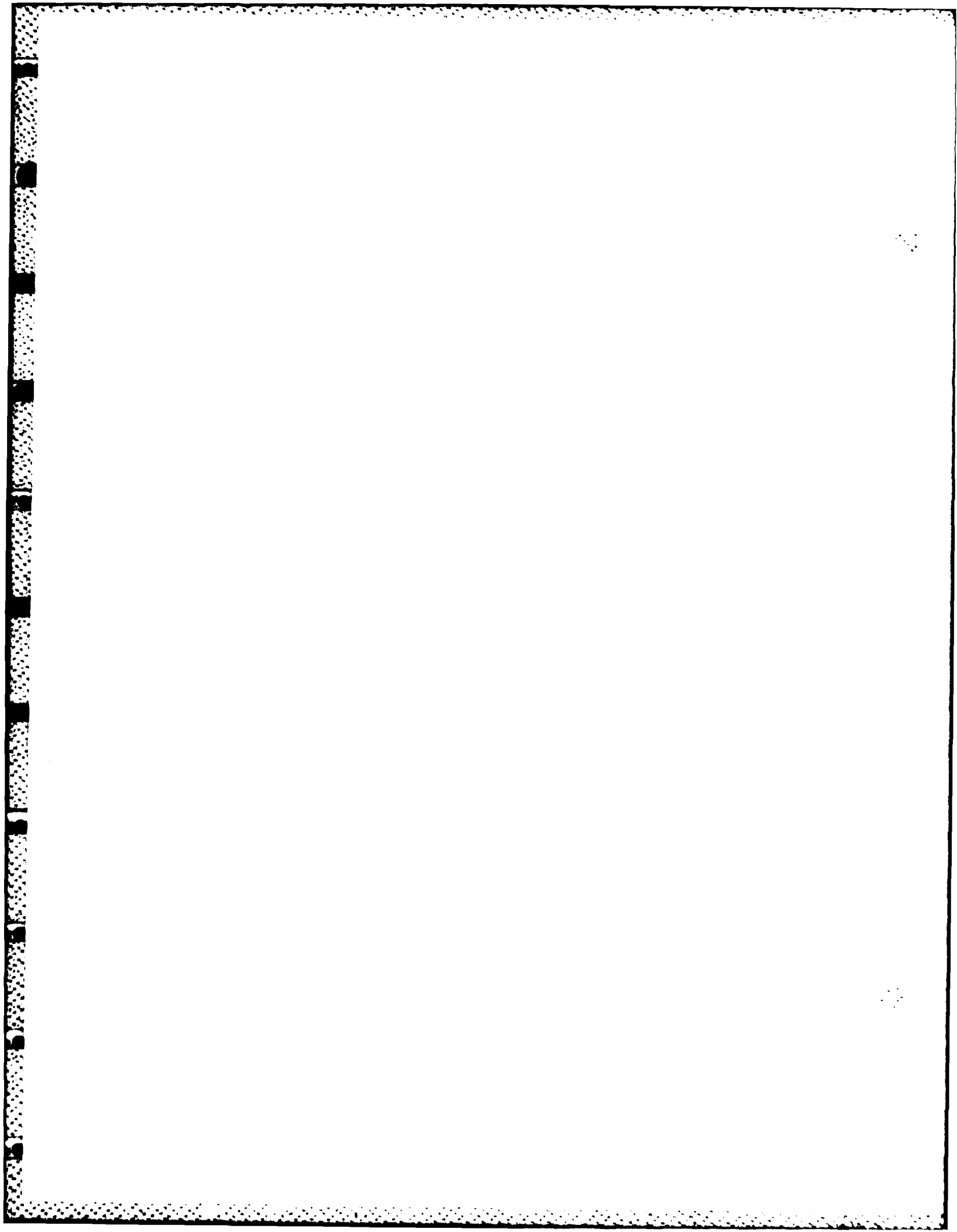


TABLE 6: (Continued)

SPECIES	SITE					
	#1	#2	#3	#4	#5	#6
Freshwater drum (<i>Aplodinotus grunniens</i>)	Number	-	1	-	45	-
	% of Catch	3.4	1.7	-	13.8	-
	Weight (lbs.)	0.36	0.20	-	12.02	-
	Harvest (lbs./acre)	1.16	0.20	-	-	-
	TOTAL NUMBER	59	56	52	327	38
	TOTAL DENSITY (#/acre)	64	85	69	-	633
	TOTAL WEIGHT (lbs.)	32.23	24.18	1.14	117.94	0.07
	TOTAL HARVEST (lbs./acre)	103.97	2.21	36.63	11.40	1.17
	TOTAL TAXA	13	11	15	24	3
	SPECIES DIVERSITY	3.09	2.94	3.39	3.66	1.32
	EVENNESS	0.92	1.0	1.0	0.9	1.0
	SAMPLE AREA (acres)	0.31	0.24	0.66	0.10	0.6
	STATION LENGTH (feet)	451	350	715	300	290

TABLE 7. LENGTHS AND WEIGHTS OF CAMP, DRUM, BUFFALO, WALL-EYE, SAUGER, ICTALURIDS, CENTRARCHIDS, WHITE AND YELLOW BASS TAKEN IN THE MERIDISIA, WILLOW CREEK, AND COON RUN DRAINAGE AND LEVEE DISTRICT

SPECIES	SITE #1	SITE #2	SITE #3	SITE #4	SITE #5	SITE #6
<u>Carp (Cyprinus carpio)</u>	7	-	12	3	23	18
Number	8,6-17.4	-	7,3-17.6	5,1-6.1	7,0-16.6	0,9-1.2
Range Length (in.)	12.9	-	13.6	5.5	11.6	-
Average Length (in.)	0.30-3.45	-	0.22-2.25	0.09-0.14	0.20-2.35	-
Range Weight (lbs.)	1.20	-	1.31	0.11	0.96	-
Average Weight (lbs.)						
<u>Smallmouth buffalo (Ictalobus bubalus)</u>	2	-	2	-	13	-
Number	7,7-7.9	-	5,5-6.1	-	5,9-12.9	-
Range Length (in.)	7.8	-	5.8	-	8.0	-
Average Length (in.)	0.25-0.25	-	0.11-0.13	-	0.10-1.49	-
Range Weight (lbs.)	0.25	-	0.12	-	0.39	-
Average Weight (lbs.)						
<u>Bigmouth buffalo (Ictalobus cyprinellus)</u>	2	-	-	-	6	-
Number	13,6-18.2	-	-	-	7,9-15.1	-
Range Length (in.)	15.9	-	-	-	12.6	-
Average Length (in.)	1.68-4.35	-	-	-	0.35-2.45	-
Range Weight (lbs.)	3.02	-	-	-	1.55	-
Average Weight (lbs.)						
<u>Black bullhead (Ictalurus melas)</u>	-	-	-	-	4	-
Number	-	-	-	-	8,7-10.0	-
Range Length (in.)	-	-	-	-	9.4	-
Average Length (in.)	-	-	-	-	0.34-0.55	-
Range Weight (lbs.)	-	-	-	-	0.43	-
Average Weight (lbs.)	-	-	-	-		-

TABLE 7: (Continued)

SPECIES	SITE #1	SITE #2	SITE #3	SITE #4	SITE #5
<u>Green sunfish hybrid (Lepomis cyanellus X ?)</u>	Number	-	1	-	4
	Range Length (in.)	-	-	-	3.7-7.5
	Average Length (in.)	-	-	-	5.8
	Range Weight (lbs.)	-	-	-	0.02-0.38
<u>Bluegill (Lepomis macrochirus)</u>	Average Weight (lbs.)	-	0.24	-	0.20
	Number	19	1	1	46*
	Range Length (in.)	3.0-5.7	-	-	2.7-7.8
	Average Length (in.)	3.9	3.3	3.2	5.4
<u>White crappie (Pomoxis annularis)</u>	Range Weight (lbs.)	0.02-0.15	-	-	0.10-0.40
	Average Weight (lbs.)	0.05	0.02	0.02	0.16
	Number	2	-	-	16
	Range Length (in.)	8.3-9.5	-	-	4.0-10.0
<u>Black crappie (Pomoxis nigromaculatus)</u>	Average Length (in.)	8.9	-	-	6.7
	Range Weight (lbs.)	0.35-0.48	-	-	0.04-1.00
	Average Weight (lbs.)	0.42	-	-	0.24
	Number	-	-	-	65
<u>Sauger (Stizostedion commersoni)</u>	Range Length (in.)	-	-	-	4.5-11.8
	Average Length (in.)	-	-	-	7.4
	Range Weight (lbs.)	-	-	-	0.04-0.90
	Average Weight (lbs.)	-	-	-	0.28
<u>Sauger (Stizostedion commersoni)</u>	Number	-	-	-	9
	Range Length (in.)	-	-	-	7.0-9.8
	Average Length (in.)	-	-	-	8.2
	Range Weight (lbs.)	-	-	-	0.10-0.28
Average Weight (lbs.)	-	-	-	0.24	

Walleye (Stizostedion vitreum)

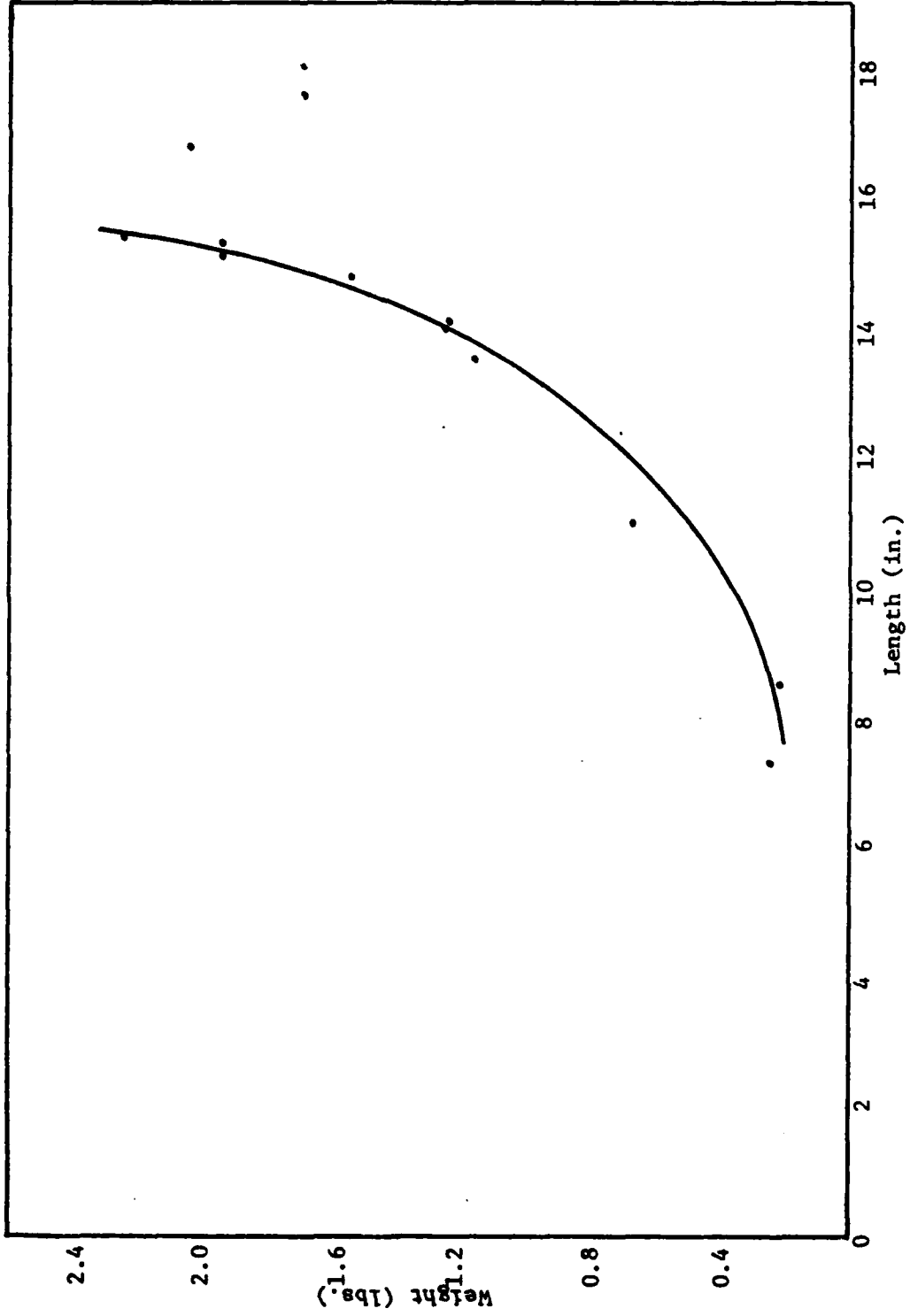
Number	-	-	-	-	-	-	-
Range Length (in.)	-	-	-	-	-	-	-
Average Length (in.)	-	-	-	-	-	-	-
Range Weight (lbs.)	-	-	-	-	-	-	-
Average Weight (lbs.)	-	-	-	-	-	-	-
Number	2	45	1	7.1	0.20		
Range Length (in.)	4.5-9.5	4.9-14.5					
Average Length (in.)	7.0	7.9					
Range Weight (lbs.)	0.05-0.31	0.05-1.27					
Average Weight (lbs.)	0.18	0.27					

Freshwater drum (Aplodinotus grunniens)

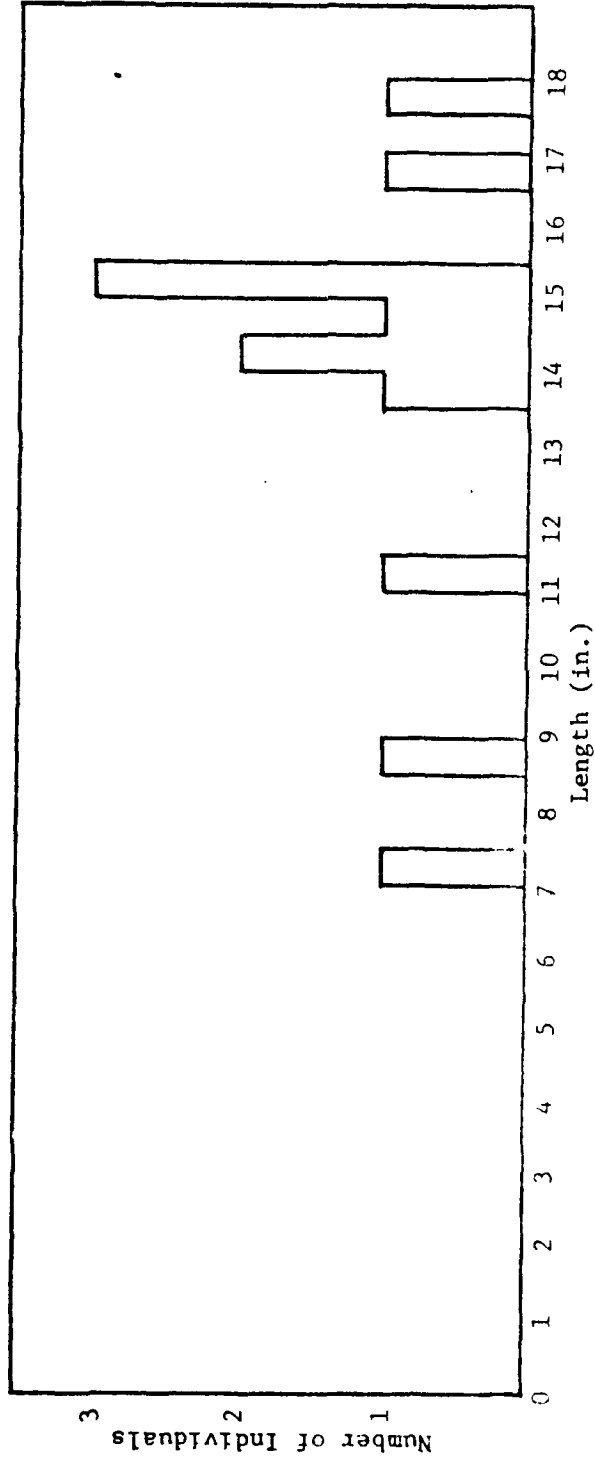
TABLE 8: CATCH PER HOUR FOR ELECTROFISHING AND FYKE NETTING AT SIX SITES IN THE MEREDOSIA, ILLINOIS; MEREDOSIA; WILLOW CREEK; AND COON RUN DRAINAGE AND NEARBY DISTRICT

	SITE #1	SITE #2	SITE #3	SITE #4	SITE #5	SITE #6
ELECTROFISHING (fish/hr.)	118	57	51	35	150	45
FYKE NETTING (fish/24-hr. net setting)	-	-	-	-	45	-

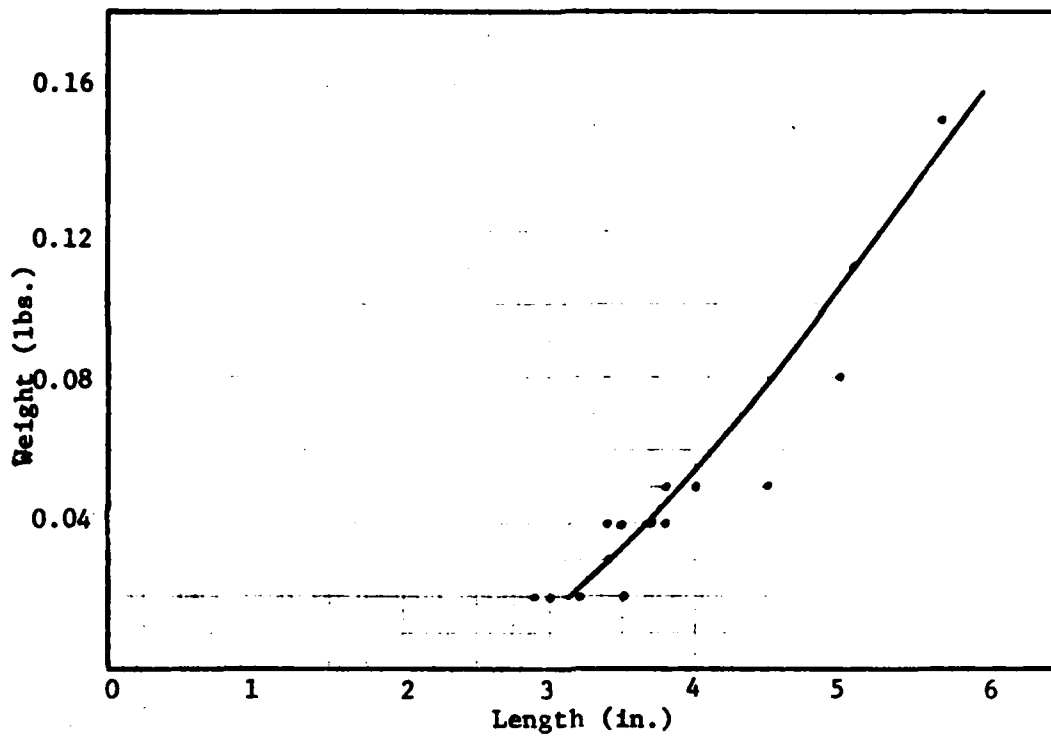
LENGTH-WEIGHT RELATIONSHIP OF CARP FROM COON RUN CREEK



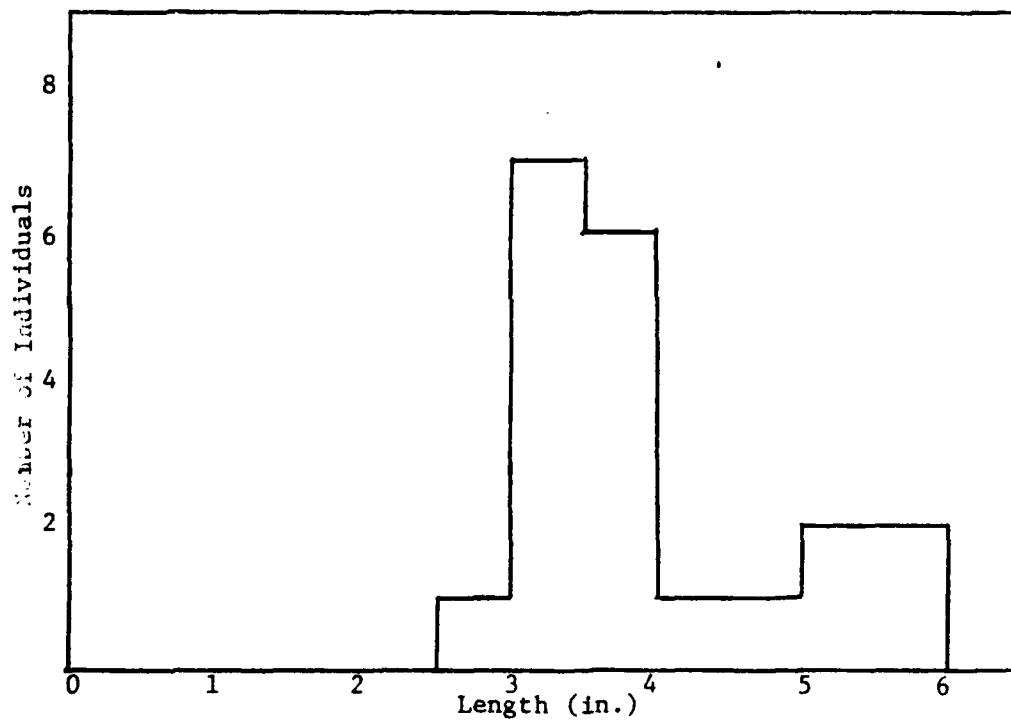
LENGTH DISTRIBUTION OF CARP FROM COON RUN CREEK



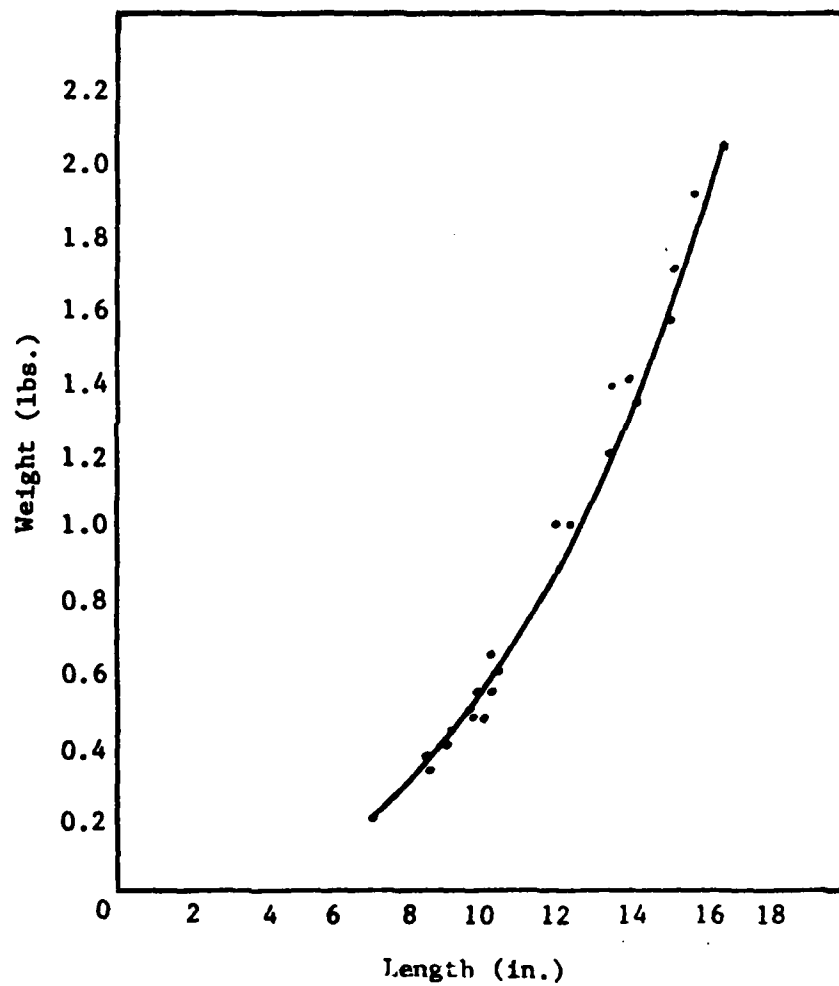
LENGTH-WEIGHT RELATIONSHIP OF BLUEGILL FROM WILLOW CREEK



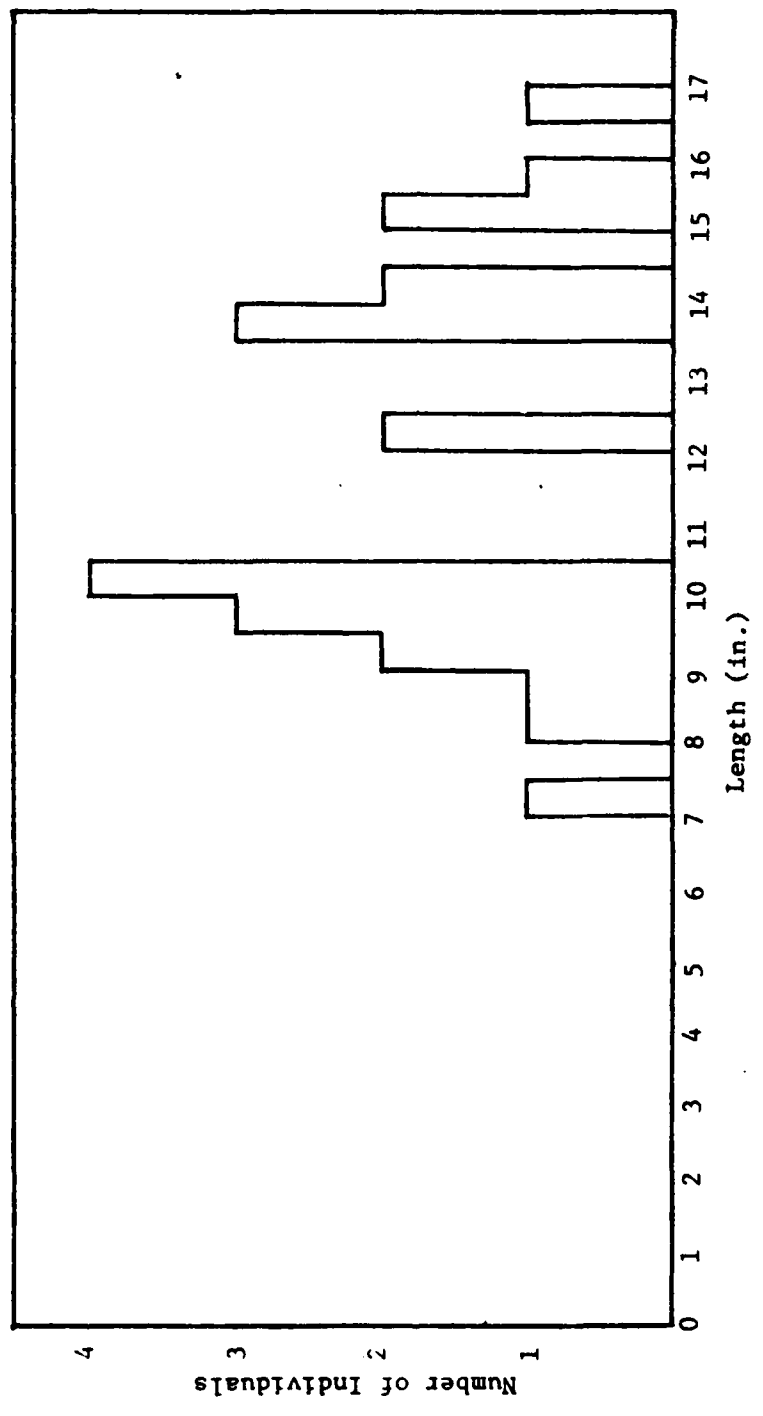
LENGTH FREQUENCY OF BLUEGILL FROM WILLOW CREEK



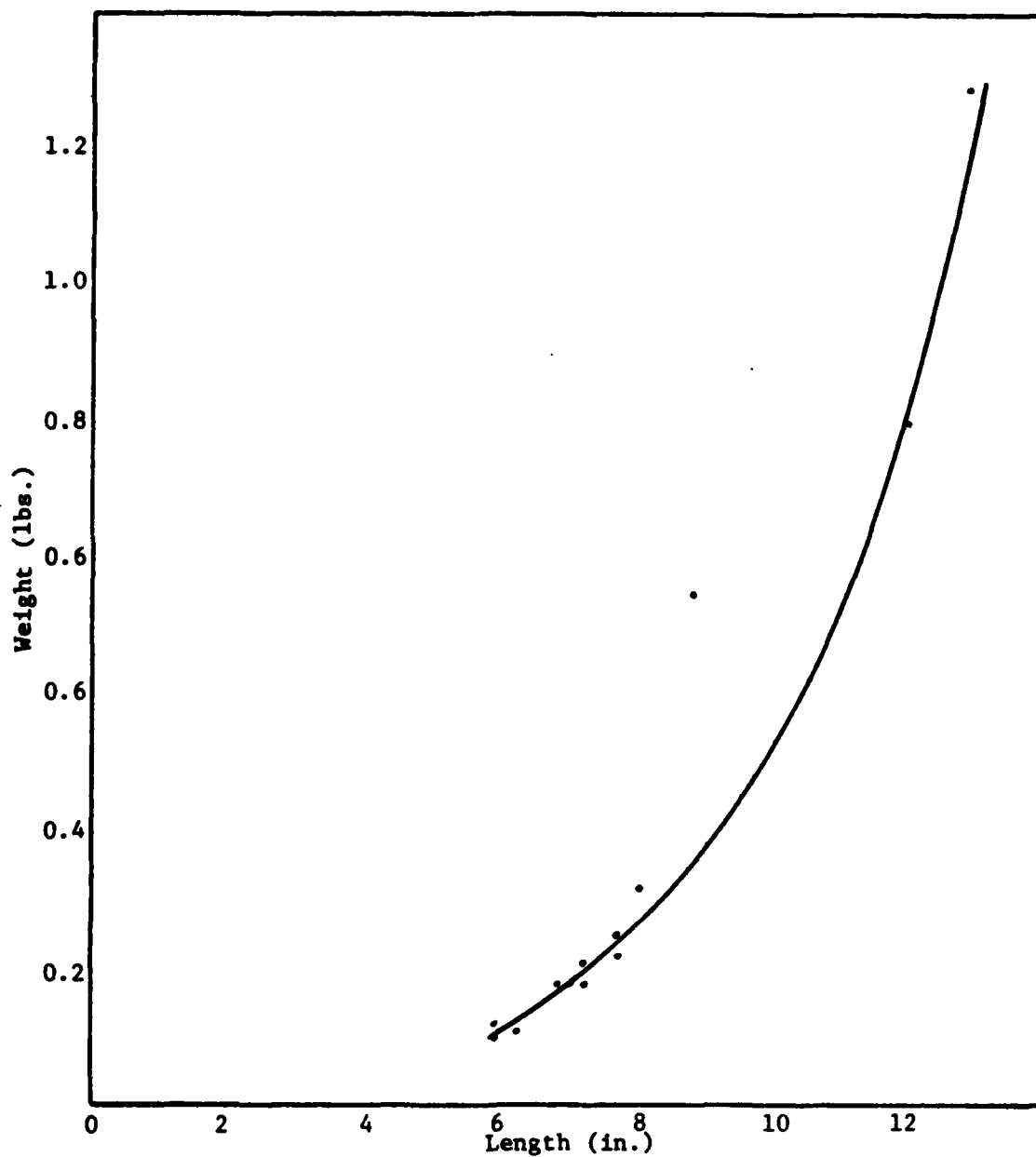
LENGTH-WEIGHT RELATIONSHIP OF CARP IN SMITH LAKE



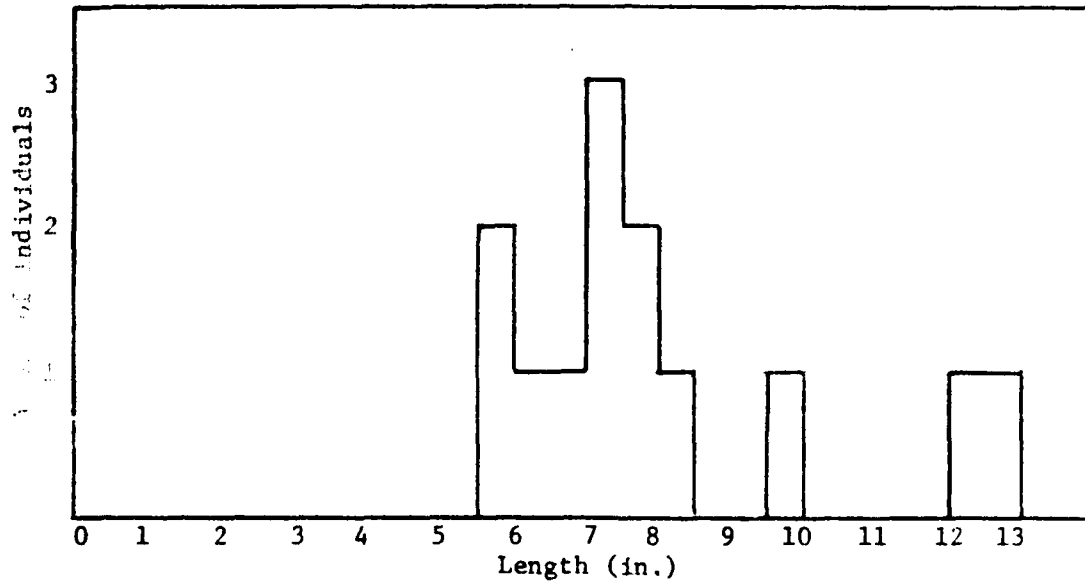
NUMBER OF CARP FROM SMITH LAKE



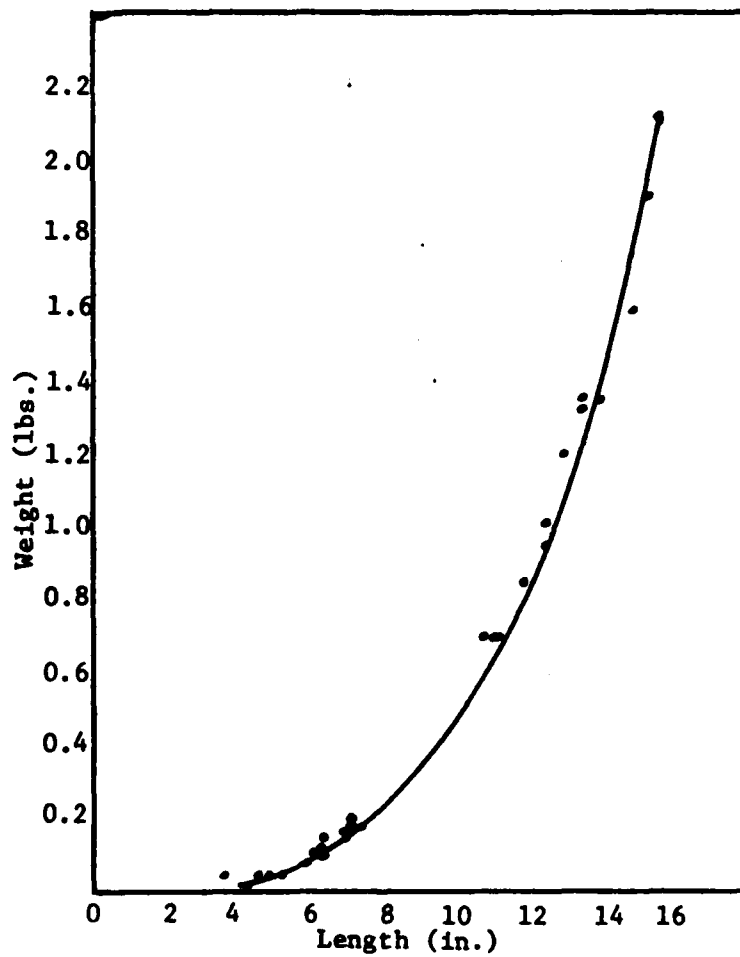
LENGTH-WEIGHT RELATIONSHIP OF SMALLMOUTH BUFFALO FROM SMITH LAKE



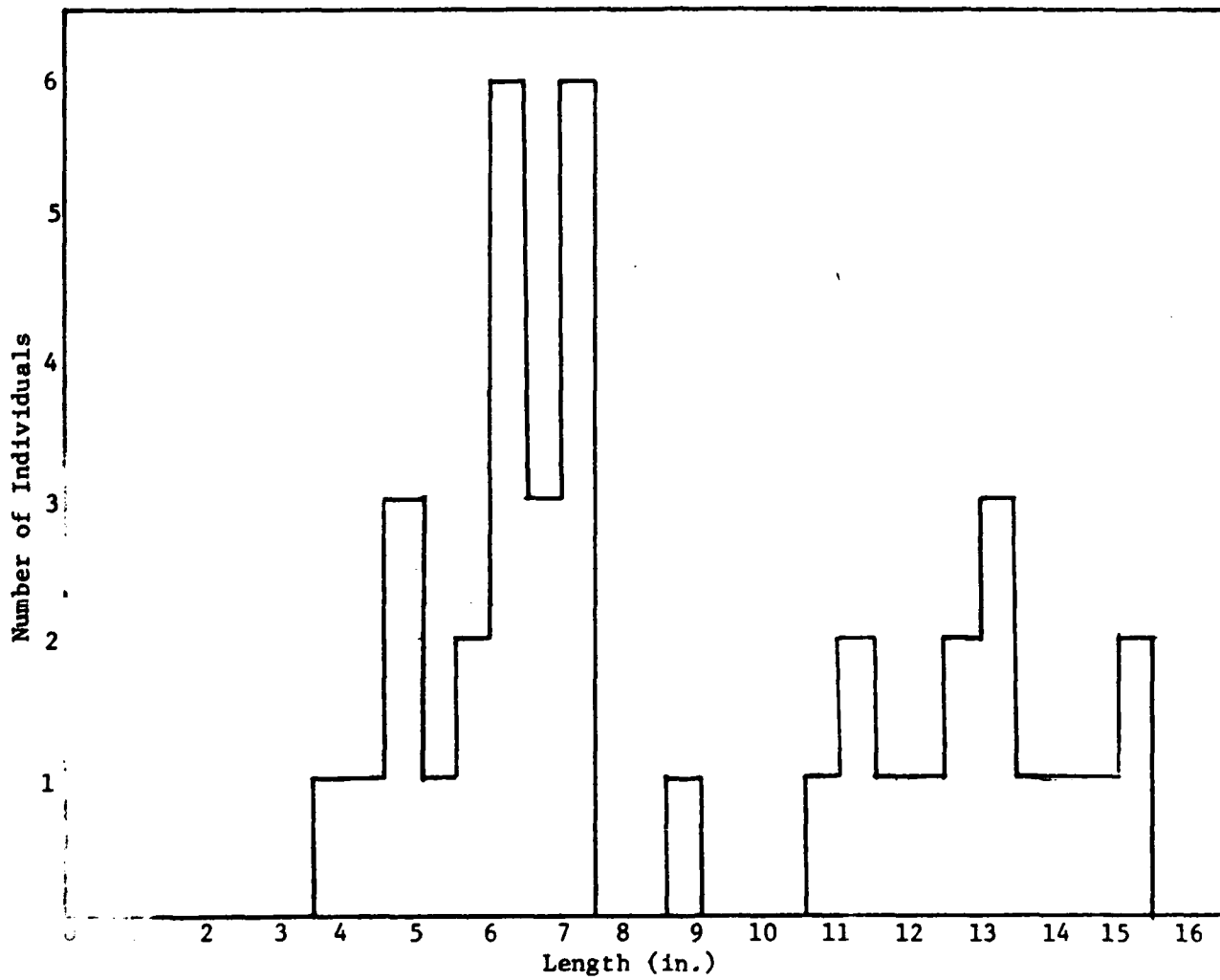
LENGTH FREQUENCY OF SMALLMOUTH BUFFALO FROM SMITH LAKE



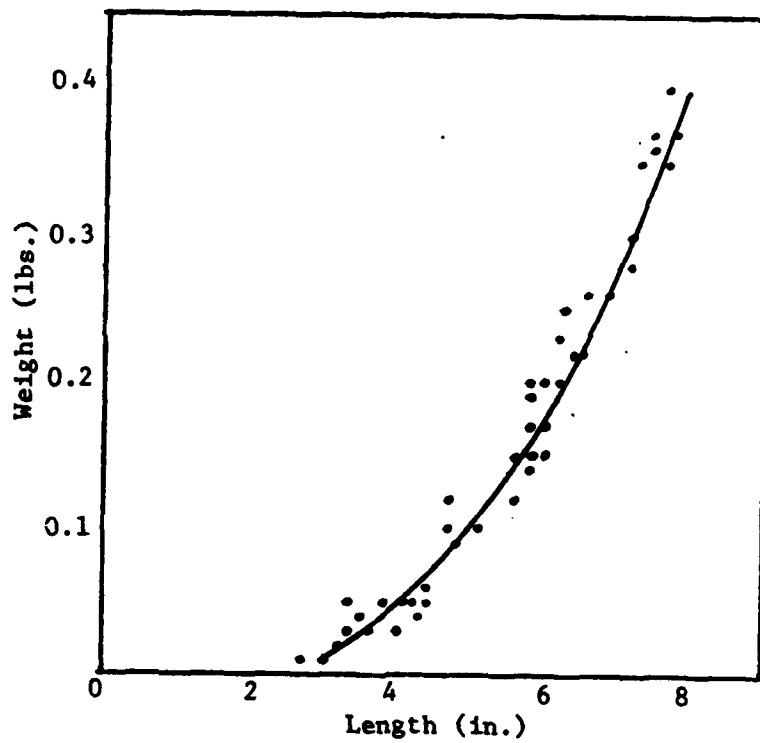
LENGTH-WEIGHT RELATIONSHIP OF LARGEMOUTH BASS FROM SMITH LAKE



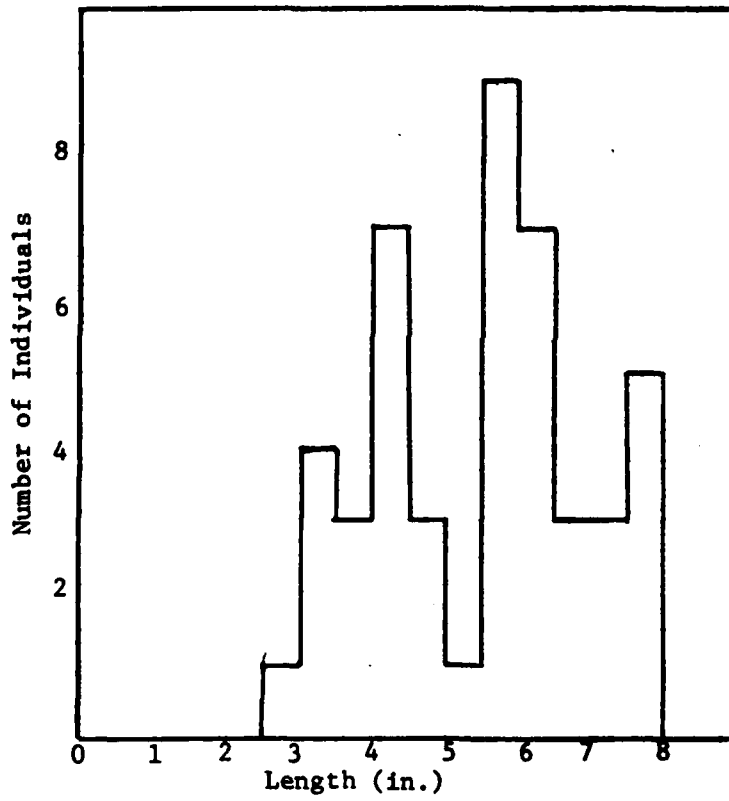
LENGTH FREQUENCY OF LARGEMOUTH BASS FROM SMITH LAKE



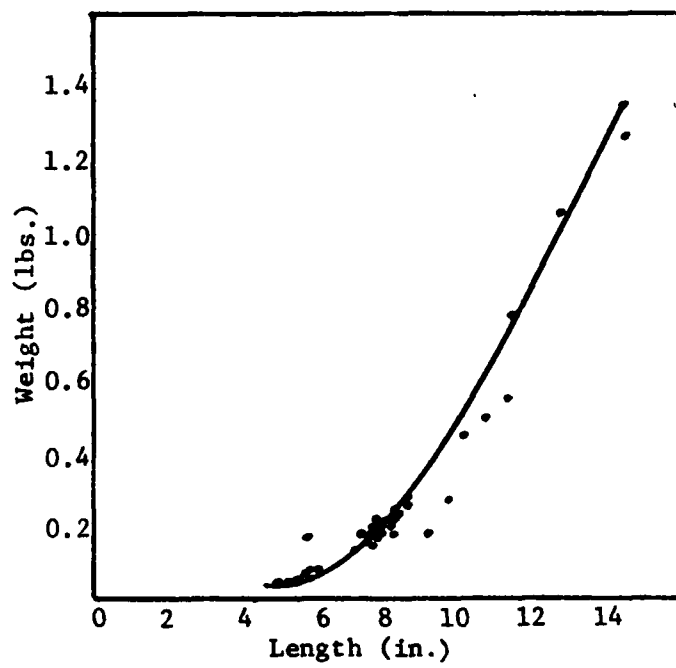
LENGTH-WEIGHT RELATIONSHIP OF BLUEGILL FROM SMITH LAKE



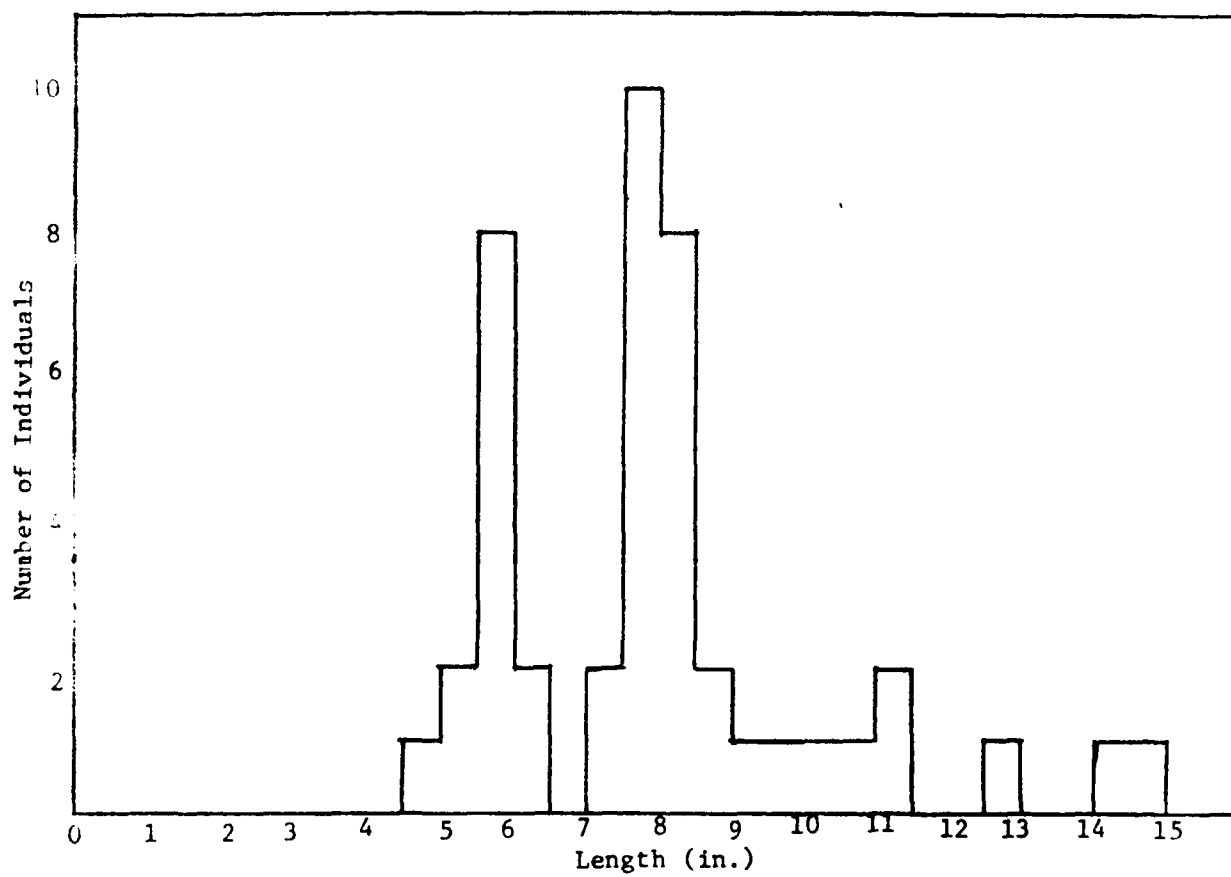
LENGTH FREQUENCY OF BLUEGILL FROM SMITH LAKE



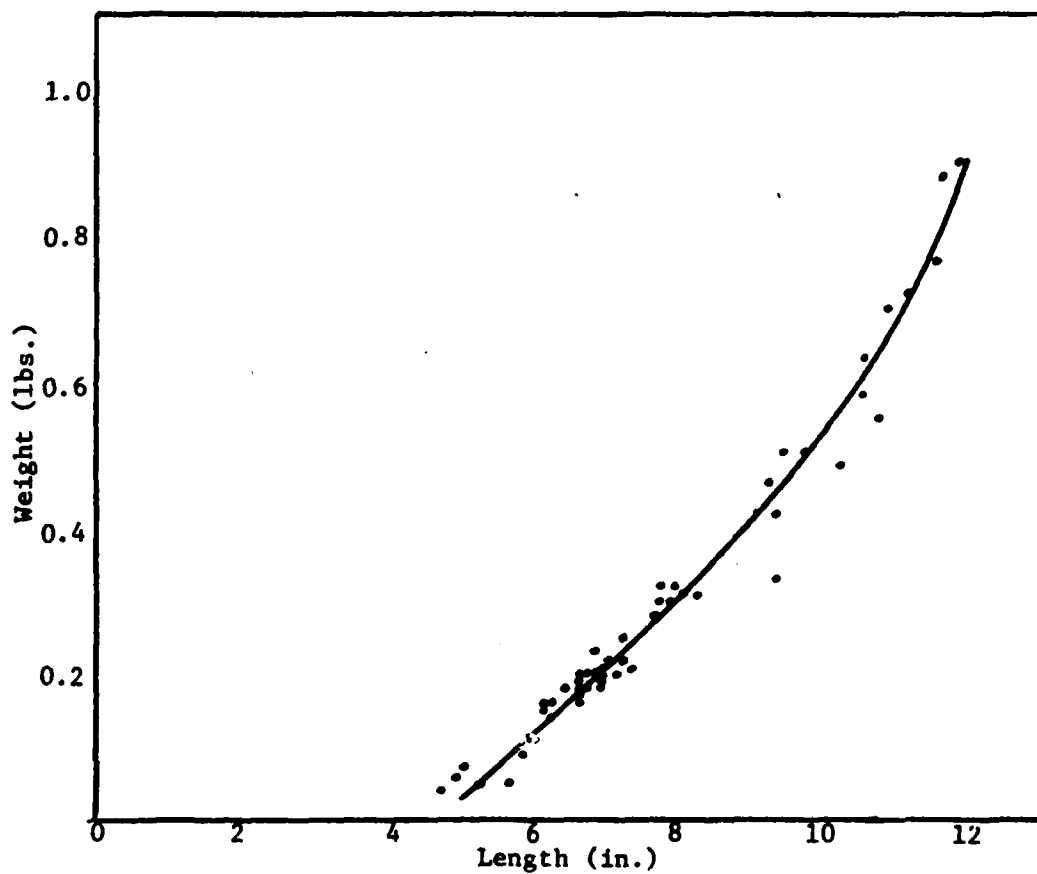
LENGTH-WEIGHT RELATIONSHIP OF FRESHWATER DRUM FROM SMITH LAKE



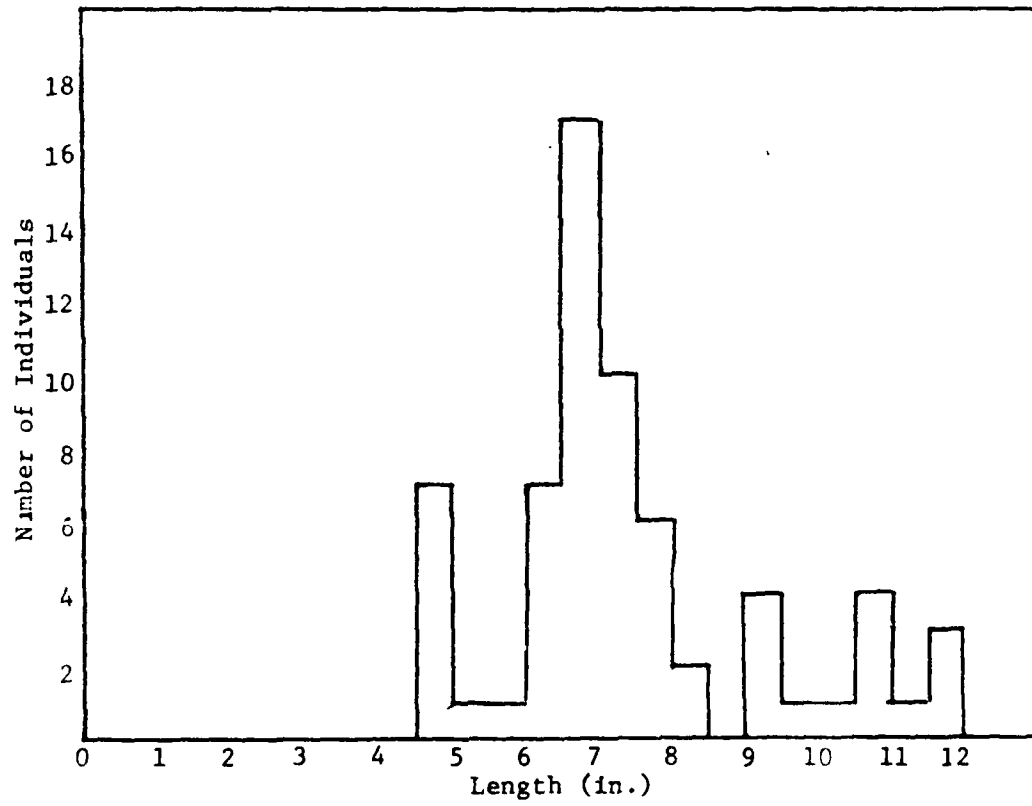
LENGTH FREQUENCY OF FRESHWATER DRUM FROM SMITH LAKE



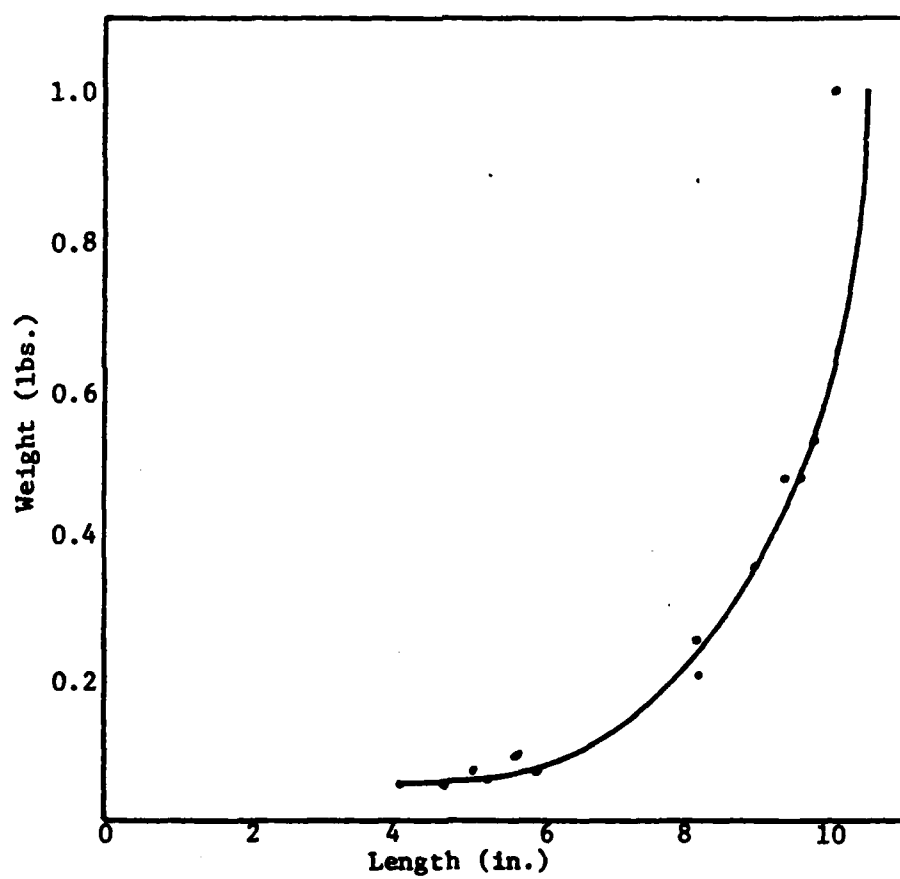
LENGTH-WEIGHT RELATIONSHIP OF BLACK CRAPPIE FROM SMITH LAKE



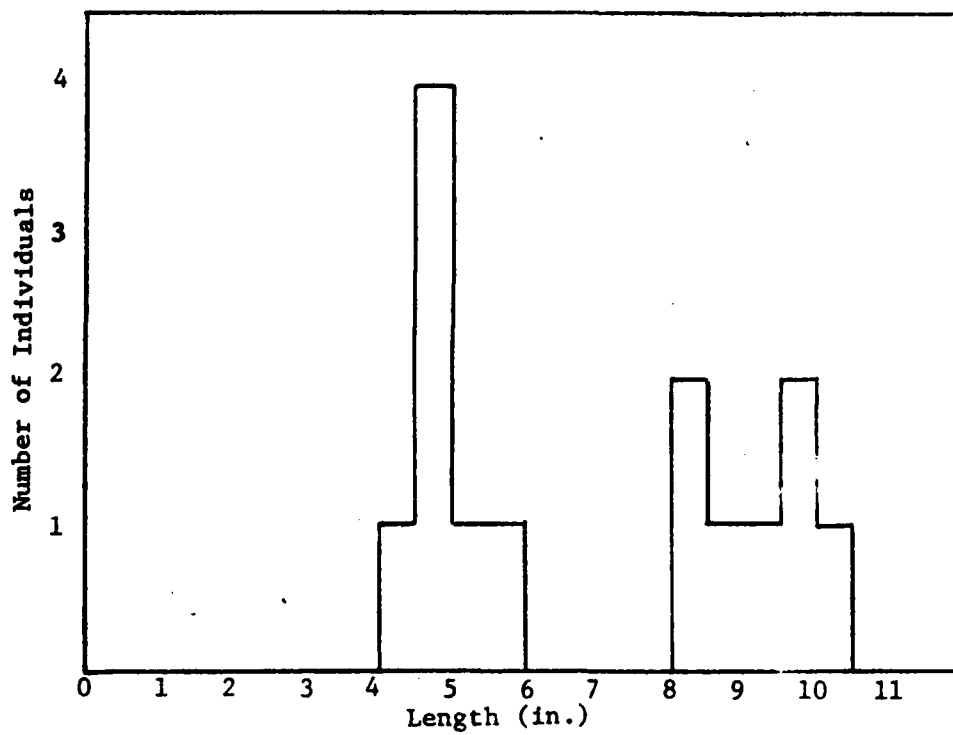
LENGTH FREQUENCY OF BLACK CRAPPIE FROM SMITH LAKE



LENGTH-WEIGHT RELATIONSHIP OF WHITE CRAPPIE FROM SMITH LAKE



LENGTH FREQUENCY OF WHITE CRAPPIE FROM SMITH LAKE



APPENDIX H: FISHING LICENSE SALES IN SCOTT AND MORGAN COUNTIES, ILLINOIS

TABLE 9: FISHING LICENSE SALES IN SCOTT AND MORGAN COUNTIES, ILLINOIS

YEAR	SCOTT COUNTY		MORGAN COUNTY	
	Resident	Non-Resident	Resident	Non-Resident
1971	552	2	4,800	40
1972	623	6	2,582	25
1973	497	5	4,428	42
1974	594	7	4,587	29
1975	704	2	4,448	44
1976	652	6	4,482	17
1977	531	5	4,298	74
1978	566	1	3,402	18
1979	329	1	2,489	13
1980	339	0	2,832	17
TOTAL	5,387	35	38,348	319
AVERAGE	539	4	3,835	32

APPENDIX I: FISH SURVEY FIELD REPORTS

U.S. FISH AND WILDLIFE SERVICE
FISH SURVEY REPORT

Location: # 1, Lower Willow Creek

Date: 6/29/82 Time: 4:30 p.m.

Weather: Sunny, hot

Collectors: Suprenaut, Balliett

Gear: 230 volt A.C., 3 phase, 180 Hertz boat shocker; seine

Effort: 30 minutes shocking, seined area twice

Conductivity: 240 micromhos/cm D.O.: 6.0 ppm pH: 7.5

Total Hardness: 120 ppm Total Alkalinity: 86 ppm

Station length: 451 feet Width: 30 feet

Air temperature: 87 °F Water temperature: 84 °F

Comments: Station begins 10 feet downstream from bridge and ends at lake.
Water highly turbid and fairly rapid. Made shocking difficult. Block
nets were difficult to keep in place. Too wide for flow sample.

Species	Length (in)	Weight (lbs)	Total Number	Total Weight	Range Weight	Range Length
ELECTORFISHING:						
Bigmouth buffalo	13.6	1.68				
"	18.2	4.35				
Bluegill	4.0	0.05				
"	5.7	0.15				
"	5.1	0.11				
"	3.5	0.04				
"	3.7	0.04				
"	2.9	0.02				
"	3.5	0.02				
"	3.8	0.04				
"	5.0	0.08				

U.S. FISH AND WILDLIFE SERVICE
FISH SURVEY CONTINUATION SHEET

Location: # 1, Lower Willow Creek

Date: 6/29/82

Species	Length (in.)	Weight (lbs)	Total Number	Total Weight	Range Weight	Range Length
Bluegill	3.4	0.04				
"	3.4	0.03				
"	3.8	0.05				
"	3.2	0.02				
Carp	10.3	0.60				
"	15.9	1.62				
"	17.4	2.45				
"	14.9	1.50				
"	14.6	1.50				
Channel catfish	15.9	1.39				
Freshwater Drum	9.5	0.31				
Gizzard shad	8.6	0.25				
"	9.0	0.30				
"	11.2	0.60				
"	8.7	0.26				
"	9.7	0.34				
"	9.1	0.28				
Green sunfish	5.2	0.10				
Largemouth bass	9.8	0.47				
"	10.9	0.79				

U.S. FISH AND WILDLIFE SERVICE
FISH SURVEY CONTINUATION SHEET

Location: # 1, Lower Willow Creek

Date: 6/29/82

Species	Length (in.)	Weight (lbs)	Total Number	Total Weight	Range Weight	Range Length
Largemouth bass	11.5	1.50				
"	8.2	0.28				
"	9.8	0.58				
"	14.1	1.50				
River carpsucker	8.5	0.36				
Shortnose gar	17.1	0.54				
"	23.5	1.70				
"	19.1	0.80				
White crappie	9.5	0.48				
White sucker	13.6	0.90				
SEINING:						
Bluegill	5.7	0.15				
"	4.5	0.05				
"	3.0	0.02				
"	3.4	0.02				
"	3.5	0.02				
"	3.0	0.02				
Carp	8.9	0.45				
"	8.6	0.30				

U.S. FISH AND WILDLIFE SERVICE
FISH SURVEY REPORT

Location: # 2, Upper Coon Run Creek

Date: 6/30/82 Time: 11:00 a.m.

Weather: Cloudy, rainy

Collectors: Suprenaut, Balliett

Gear: 110 volt A.C., portable electrofishing unit; seine

Effort: 25 minutes shocking and 3 seine pulls

Conductivity: 750 micromhos/cm D.O.: 8.0 pH: 8.0

Total Hardness: 428 ppm Total Alkalinity: 239 ppm

Station length: 350 feet Width: 30 feet

Air temperature: 77 °F Water temperature: 73 °F

Comments: Station from bridge downstream. Flow is 8.2 cfs. Water is approximately 1 foot above normal. Water was rapid and turbid making electrofishing difficult.

Species	Length (in)	Weight (lbs)	Total Number	Total Weight	Range Weight	Range Length
ELECTROFISHING:						
Bigmouth shiner	2.6	0.01				
"	2.2	0.005				
"	2.1	0.007				
"	3.0	0.01				
"	2.6	0.01				
"	2.3	0.01				
"	2.1	0.005				
"	2.5	0.01				
"	2.3	0.01				
Bluegill	3.3	0.02				
Fathead minnow	1.6	0.005				

U.S. FISH AND WILDLIFE SERVICE
FISH SURVEY CONTINUATION SHEET

Location: # 2, Upper Coon Run Creek

Date: 6/30/82

Species	Length (in.)	Weight (lbs)	Total Number	Total Weight	Range Weight	Range Length
Gizzard shad	2.5	0.01				
"	2.2	0.01				
"	2.8	0.01				
Red shiner	2.3	0.01				
"	2.8	0.01				
"	2.3	0.01				
Sand shiner	2.6	0.01				
"	2.5	0.01				
"	2.7	0.01				
Suckermouth minnow	3.5	0.03				
"	3.5	0.02				
"	3.6	0.02				
"	1.5	0.002				
SEINING - Blackstripe topminnow	2.5	0.01				
Bluntnose minnow	1.3	0.002				
"	1.4	0.002				
"	1.5	0.002				
Gizzard shad	2.8	0.01				
"	2.5	0.01				
"	2.6	0.01				

U.S. FISH AND WILDLIFE SERVICE
FISH SURVEY CONTINUATION SHEET

Location: # 2, Upper Coon Run Creek

Date: 6/30/82

Species	Length (in.)	Weight (lbs)	Total Number	Total Weight	Range Weight	Range Length
Red shiner	2.1	0.005				
"	2.3	0.01				
"	2.3	0.01				
"	2.5	0.01				
"	2.7	0.02				
"	2.1	0.01				
River carpsucker	4.2	0.05				
Sand shiner	2.6	0.01				
"	2.8	0.01				
"	3.0	0.01				
"	2.8	0.01				
"	1.4	0.002				
"	2.5	0.01				
"	2.6	0.01				
"	2.5	0.01				
"	2.5	0.01				
"	1.5	0.002				
Silvery minnow	3.0	0.01				
"	1.6	0.002				

U.S. FISH AND WILDLIFE SERVICE
FISH SURVEY REPORT

Location: # 3, Lower Coon Run Creek

Date: 6/17/82 Time: 10:00 a.m. - 1:15 p.m.

Weather: Sunny

Collectors: Balliett Suprenaut

Gear: 230 volt A.C., 3 phase, 180 Hertz boat zocker

Effort: 4 runs, 67 minutes

Conductivity: 800 micromhos/cm D.O.: 8.0 ppm pH: 8.5

Total Hardness: 445 ppm Total Alkalinity: 308 ppm

Station length: 715 feet Width: 40 feet

Air temperature: 82 °F Water temperature: 70 °F

Comments: Station too mucky to seine. Observed some gar, but were unable to shock.
Hardness of water limited gear efficiency.

Species	Length (in)	Weight (lbs)	Total Number	Total Weight	Range Weight	Range Length
RUN # 1, 23 MINUTES						
Carp	17.6	1.70				
"	13.5	1.17				
"	14.1	1.25				
Gizzard shad	5.2	0.45				
"	6.3	0.10				
Green sunfish	5.6	0.13				
"	3.9	0.05				
"	6.1	0.15				
"	5.2	0.10				
"	4.6	0.09				
Green sunfish, hybrid	6.6	0.24				

U.S. FISH AND WILDLIFE SERVICE
FISH SURVEY CONTINUATION SHEET

Location: # 3, Lower Coon Run Creek

Date: 6/17/82

Species	Length (in.)	Weight (lbs)	Total Number	Total Weight	Range Weight	Range Length
Largemouth bass	13.2	1.30				
"	7.7	0.22				
"	5.0	0.05				
Shorthead redhorse	8.7	0.25				
Quillback	9.7	0.37				
Red shiner	1.9	0.02				
River carpsucker	6.7	0.15				
"	5.5	0.09				
Yellow bass	3.5	0.01				
RUN # 2, 16 MINUTES						
Bluegill	3.1	0.04				
Carp	15.3	1.95				
"	11.0	0.68				
"	14.0	1.26				
"	7.3	0.25				
"	8.5	0.22				
Channel catfish	7.8	0.16				
Gizzard shad	6.1	0.09				

U.S. FISH AND WILDLIFE SERVICE
FISH SURVEY CONTINUATION SHEET

Location: # 3, Lower Coon Run Creek

Date: 6/17/82

Species	Length (in.)	Weight (lbs)	Total Number	Total Weight	Range Weight	Range Length
Gizzard shiner	8.0	0.24				
"	5.4	0.05				
Green sunfish	4.8	0.10				
Quillback	9.6	0.42				
"	6.2	0.14				
Red shiner	2.8	0.01				
"	3.0	0.01				
River carpsucker	9.5	0.46				
"	6.1	0.11				
"	5.9	0.11				
"	5.8	0.11				
"	8.2	0.30				
"	5.6	0.80				
Smallmouth buffalo	5.5	0.11				
Yellow bass	3.8	0.03				
RUN # 3, 15 MINUTES						
Blackstripe topminnow	2.2	0.01				
Carp	15.4	2.25				

U.S. FISH AND WILDLIFE SERVICE
FISH SURVEY REPORT

I-12

Location: # 4, Upper Willow Creek

Date: 6/31/82 Time: 2:50 p.m.

Weather: Cloudy, breezy

Collectors: Suprenaut, Balliett

Gear: 110 volt A.C., portable electrofishing unit; seine

Effort: 40 minutes shocking, seined area 3 times

Conductivity: 800 micromhos / cm D.O.: 8.0 pH: 8.0

Total Hardness: 496 ppm Total Alkalinity: 325 ppm

Station length: 300 feet Width: 15 feet

Air temperature: 75 °F Water temperature: 70 °F

Comments: Stream was rapid and turbid which made sampling difficult. Flow is 6.4 cfs. Several crayfish were taken by seining.

Species	Length (in)	Weight (lbs)	Total Number	Total Weight	Range Weight	Range Length
ELECTROFISHING:						
Bigmouth shiner			4	0.03	0.005-0.007	2.5-2.8
Bluegill	3.2	0.02				
Carp	6.1	0.14				
"	5.5	0.09				
Creek chub			6	0.11	0.005-0.017	2.8-3.9
Fathead minnow			5	0.01	0.002 and less	1.5-2.1
Golden rehorse	3.8	0.02				
Golden shiner	3.3	0.01				
Silvery minnow	3.1	0.01				
"	3.1	0.01				
"	3.3	0.02				

U.S. FISH AND WILDLIFE SERVICE
FISH SURVEY CONTINUATION SHEET

Location: # 4, Upper Willow Creek

Date: 6/31/82

Species	Length (in.)	Weight (lbs)	Total Number	Total Weight	Range Weight	Range Length
SEINING:						
Bigmouth shiner	2.5	0.01				
"	2.3	0.01				
"	2.5	0.01				
"	2.7	0.01				
"	2.8	0.01				
"	2.1	0.004				
"	2.6	0.007				
"	2.6	0.01				
"	2.4	0.01				
"	2.5	0.01				
Carp	5.1	0.09				
Central stoneroller	2.0	0.004				
"	1.1	0.002				
"	1.5	0.002				
Creek chub	5.2	0.08				
"	3.3	0.02				
"	4.9	0.06				
"	3.9	0.03				
"	4.2	0.04				

U.S. FISH AND WILDLIFE SERVICE
FISH SURVEY REPORT

Location: # 5, Smith Lake

Date: 6/15 and 16 of 1982 Time: _____

Weather: Cloudy and rainy on June 15. Sunny on June 16

Collectors: Suprenaut, Balliett

Gear: 230 volt A.C., 3 phase, 180 Hertz boat shocker; 3 fyke nets

Effort: 89 minutes shocking, set nets overnight.

Conductivity: 520 micromhos/cm D.O.: 9.0 pH: 9.0

Total Hardness: 325 Total Alkalinity: 222

Station length: _____ Width: _____

Air temperature: 75 °F Water temperature: 70 °F

Comments: Run #1- Developed shore, north section, 6-15-82, 22 minutes. Run #2- Developed shore, south section, 6-15-82, 27 minutes. Run #3- Undeveloped shore, west side, 6-16-82, 22 minutes. Run #4 Undeveloped shore, east side, 6-16-82, 18 minutes. Net #1- developed shore. Net #2- weed bed in west end of lake. Net #3- off point on west shore. Observed 1 dead channel catfish.

Species	Length (in)	Weight (lbs)	Total Number	Total Weight	Range Weight	Range Length
ELECTROFISHING, RUN #1						
Black crappie	7.2	0.22				
"	6.4	0.18				
Bluegill	7.2	0.28				
"	4.3	0.04				
"	4.4	0.05				
"	4.4	0.06				
"	4.4	0.05				
"	3.3	0.05				
"	4.0	0.03				
Carp	7.0	0.20				
"	14.0	1.40				

U.S. FISH AND WILDLIFE SERVICE
FISH SURVEY CONTINUATION SHEET

Location: #5, Smith Lake

Date: June 15 and 16 of 1982

Species	Length (in.)	Weight (lbs)	Total Number	Total Weight	Range Weight	Range Length
Carp	10.2	0.55				
"	9.6	0.50				
"	9.0	0.40				
Freshwater drum	5.6	0.07				
"	7.5	0.20				
"	10.6	0.50				
"	4.9	0.05				
"	7.7	0.20				
"	5.8	0.08				
"	7.7	0.20				
Gizzard shad	6.5	0.25				
"	7.8	0.16				
"	8.6	0.26				
Golden shiner	2.0	0.04				
Green sunfish	4.0	0.10				
"	6.1	0.18				
"	6.0	0.20				
"	4.4	0.08				
Green sunfish hybrid	6.1	0.21				
"	5.9	0.20				

U.S. FISH AND WILDLIFE SERVICE
FISH SURVEY CONTINUATION SHEET

Location: #5, Smith Lake

Date: June 15 and 16 of 1982

Species	Length (in.)	Weight (lbs)	Total Number	Total Weight	Range Weight	Range Length
Largemouth bass	12.4	1.09				
"	11.8	0.85				
"	13.9	1.34				
"	15.2	1.90				
"	13.4	1.32				
"	7.1	0.20				
"	6.0	0.11				
"	7.0	0.18				
"	7.0	0.20				
"	11.1	0.70				
"	6.1	0.71				
"	7.3	0.18				
"	3.6	0.05				
"	6.3	0.10				
"	6.1	0.10				
"	5.1	0.05				
"	4.5	0.05				
River carpsucker	8.5	0.30				
"	6.4	0.14				
"	5.0	0.06				

U.S. FISH AND WILDLIFE SERVICE
FISH SURVEY CONTINUATION SHEET

Location: #5, Smith Lake

Date: June 15 and 16 of 1982

Species	Length (in.)	Weight (lbs)	Total Number	Total Weight	Range Weight	Range Length
River carpsucker	8.0	0.28				
"	7.0	0.18				
Sauger	9.4	0.22				
"	7.6	0.11				
"	7.0	0.10				
"	7.4	0.11				
"	7.5	0.11				
"	8.3	0.15				
Walleye	11.6	0.53				
Yellow bass	4.8	0.05				
ELECTROFISHING, RUN #2						
Black crappie	9.4	0.50				
"	7.8	0.30				
"	6.8	0.23				
"	7.6	0.28				
Bluegill	5.6	0.14				
"	7.3	0.35				
"	6.0	0.15				

U.S. FISH AND WILDLIFE SERVICE
FISH SURVEY CONTINUATION SHEET

Location: #5, Smith Lake

Date: June 15 and 16 of 1982

Species	Length (in.)	Weight (lbs)	Total Number	Total Weight	Range Weight	Range Length
Bluegill	5.7	0.15				
"	5.8	0.17				
"	2.7	0.01				
Carp	12.0	1.00				
"	13.5	1.20				
"	12.4	1.01				
"	16.6	2.35				
"	9.8	0.55				
"	15.2	1.70				
Freshwater drum	9.0	0.18				
"	6.0	0.09				
"	5.7	0.07				
"	5.8	0.06				
"	5.9	0.08				
Gizzard shad	9.1	0.31				
"	1.5	0.01				
"	4.7	0.05				
"	1.5	0.01				
"	9.8	0.40				
"	1.5	0.01				

U.S. FISH AND WILDLIFE SERVICE
FISH SURVEY CONTINUATION SHEET

Location: #5, Smith Lake

Date: June 15 and 16 of 1982

Species	Length (in.)	Weight (lbs)	Total Number	Total Weight	Range Weight	Range Length
Golden shiner	5.4	0.05				
"	4.5	0.05				
Goldfish	7.6	0.22				
Green sunfish	6.0	0.15				
"	5.6	0.14				
"	6.3	0.20				
Green sun- fish hybrid	3.7	0.02				
Largemouth bass	15.5	2.12				
"	14.8	1.59				
"	11.0	0.70				
"	13.3	1.32				
"	12.9	1.20				
"	12.4	0.95				
"	13.2	1.35				
"	7.0	0.20				
"	5.8	0.08				
"	10.7	0.70				
"	4.7	0.05				
"	6.6	0.11				
"	6.9	0.17				

U.S. FISH AND WILDLIFE SERVICE
FISH SURVEY CONTINUATION SHEET

Location: #5, Smith Lake

Date: June 15 and 16 of 1982

Species	Length (in.)	Weight (lbs)	Total Number	Total Weight	Range Weight	Range Length
Largemouth bass	4.7	0.05				
"	4.2	0.02				
"	6.1	0.12				
"	6.9	0.15				
"	7.1	0.20				
Sauger	8.6	0.16				
"	9.8	0.28				
"	8.7	0.20				
Smallmouth buffalo	12.9	1.49				
"	12.0	1.00				
White bass	6.0	0.10				
"	6.2	0.10				
ELECTROFISHING, RUN #3						
Bigmouth buffalo	15.1	2.45				
"	12.7	1.50				
"	14.3	2.10				
"	7.9	0.35				
"	13.5	1.66				

U.S. FISH AND WILDLIFE SERVICE
FISH SURVEY CONTINUATION SHEET

Location: # 5, Smith Lake

Date: June 15 and 16 of 1982

Species	Length (in.)	Weight (lbs)	Total Number	Total Weight	Range Weight	Range Length
Bigmouth buffalo	12.2	1.21				
Black bullhead	8.7	0.34				
Black crappie	7.0	0.22				
"	10.7	0.55				
"	6.6	0.16				
"	6.9	0.21				
Blackstripe topminnow	2.3	0.01				
Bluegill	7.7	0.35				
"	6.4	0.22				
"	5.8	0.15				
"	3.2	0.02				
"	3.5	0.04				
"	5.6	0.12				
"	4.8	0.09				
"	3.0	0.01				
"	4.7	0.10				
"	4.2	0.05				
"	4.1	0.05				
Carp	13.5	1.21				
"	14.2	1.33				

U.S. FISH AND WILDLIFE SERVICE
FISH SURVEY CONTINUATION SHEET

Location: #5, Smith Lake

Date: June 15 and 16 of 1982

Species	Length (in.)	Weight (lbs)	Total Number	Total Weight	Range Weight	Range Length
Carp	15.2	1.56				
"	10.4	0.60				
"	9.1	0.44				
"	9.7	0.48				
Freshwater drum	14.4	1.35				
"	12.7	1.06				
"	14.5	1.27				
"	11.2	0.55				
"	7.5	0.15				
"	8.1	0.18				
"	7.4	0.16				
"	9.6	0.27				
"	7.6	0.17				
"	8.0	0.20				
"	6.0	0.08				
"	7.0	0.14				
Gizzard shad	9.1	0.32				
"	8.8	0.30				
"	8.2	0.22				
Golden shiner	4.3	0.02				

U.S. FISH AND WILDLIFE SERVICE
FISH SURVEY CONTINUATION SHEET

Location: #5, Smith Lake

Date: June 15 and 16 of 1982

Species	Length (in.)	Weight (lbs)	Total Number	Total Weight	Range Weight	Range Length
Golden shiner	5.2	0.05				
Largemouth bass	8.8	0.34				
"	14.2	1.55				
"	5.7	0.07				
Smallmouth buffalo	9.8	0.75				
"	7.7	0.22				
"	7.2	0.21				
"	7.2	0.18				
"	6.2	0.11				
"	5.9	0.10				
White bass	7.0	0.15				
White crappie	9.7	0.52				
"	4.6	0.05				
"	4.6	0.05				
ELECTROFISHING, RUN #4						
Black crappie	7.2	0.25				
"	9.3	0.42				
"	7.2	0.25				
"	7.9	0.32				

U.S. FISH AND WILDLIFE SERVICE
FISH SURVEY CONTINUATION SHEET

Location: 45. Smith Lake

Date: June 15 and 16 of 1982

Species	Length (in.)	Weight (lbs)	Total Number	Total Weight	Range Weight	Range Length
Bluegill	3.8	0.05				
"	7.8	0.37				
"	7.2	0.30				
"	3.3	0.03				
Carp	8.4	0.37				
"	13.5	1.38				
"	8.5	0.33				
"	10.2	0.65				
Freshwater drum	8.5	0.26				
"	5.7	0.17				
"	8.1	0.22				
"	8.0	0.22				
"	8.2	0.23				
"	11.4	0.78				
"	8.2	0.22				
"	7.2	0.18				
"	5.5	0.06				
"	5.4	0.06				
"	8.5	0.28				
"	10.0	0.45				

U.S. FISH AND WILDLIFE SERVICE
FISH SURVEY CONTINUATION SHEET

Location: # 5, Smith Lake

Date: June 15 and 16 of 1982

Species	Length (in.)	Weight (lbs)	Total Number	Total Weight	Range Weight	Range Length
Freshwater drum	7.9	0.22				
"	8.1	0.25				
"	5.5	0.06				
"	5.2	0.05				
"	7.6	0.20				
Gizzard shad	8.4	0.26				
"	8.2	0.25				
"	7.8	0.22				
Golden shiner	4.6	0.03				
"	4.1	0.03				
"	4.9	0.05				
"	3.8	0.03				
"	3.9	0.05				
Green sunfish	5.8	0.15				
Green sun- fish hybrid	7.5	0.38				
Largemouth bass	6.3	0.15				
River carpsucker	5.0	0.07				
Smallmouth buffalo	8.0	0.32				
"	7.0	0.18				
"	5.9	0.12				

U.S. FISH AND WILDLIFE SERVICE
FISH SURVEY CONTINUATION SHEET

Location: # 5, Smith Lake

Date: June 15 and 16 of 1982

Species	Length (in.)	Weight (lbs)	Total Number	Total Weight	Range Weight	Range Length
Smallmouth buffalo	6.8	0.18				
"	7.7	0.25				
Walleye	10.0	0.33				
White crappie	5.6	0.09				
"	5.0	0.07				
FYKE NET # 1						
Black crappie	7.2	0.25				
"	10.8	0.70				
"	7.2	0.25				
"	6.7	0.20				
"	6.1	0.16				
"	5.0	0.07				
"	4.5	0.17				
"	7.6	0.28				
"	4.7	0.05				
"	6.6	0.20				
"	6.6	0.20				
"	4.9	0.06				

U.S. FISH AND WILDLIFE SERVICE
FISH SURVEY CONTINUATION SHEET

Location: # 5, Smith Lake

Date: June 15 and 16, of 1982

Species	Length (in.)	Weight (lbs)	Total Number	Total Weight	Range Weight	Range Length
Black crappie	4.9	0.06				
"	6.9	0.18				
"	5.8	0.09				
"	6.8	0.20				
"	6.8	0.18				
"	6.2	0.14				
"	7.2	0.22				
"	6.7	0.18				
"	7.7	0.32				
"	6.4	0.16				
Bluegill	6.0	0.20				
Bowfin	18.3	2.10				
Carp	15.8	1.90				
Freshwater drum	7.5	0.18				
"	7.6	0.17				
"	7.7	0.18				
River carpsucker	9.5	0.46				
"	9.4	0.44				
"	7.4	0.22				
Shortnose gar	17.0	0.55				

U.S. FISH AND WILDLIFE SERVICE
FISH SURVEY CONTINUATION SHEET

Location: # 5, Smith Lake

Date: June 15 and 16 of 1982

Species	Length (in.)	Weight (lbs)	Total Number	Total Weight	Range Weight	Range Length
Threadfin shad	5.4	0.05				
FYKE NET #2						
Black bullhead	10.0	0.55				
"	9.0	0.40				
Black crappie	4.7	0.18				
"	10.5	0.63				
"	6.6	0.20				
"	11.5	0.77				
"	9.3	0.33				
"	10.5	0.58				
"	6.6	0.17				
"	7.2	0.22				
"	4.7	0.04				
"	6.9	0.20				
Bluegill	6.9	0.26				
"	6.3	0.25				
"	7.7	0.40				
"	7.5	0.36				

U.S. FISH AND WILDLIFE SERVICE
FISH SURVEY CONTINUATION SHEET

Location: # 5, Smith Lake

Date: June 15 and 16 of 1982

Species	Length (in.)	Weight (lbs)	Total Number	Total Weight	Range Weight	Range Length
Bluegill	5.8	0.20				
"	6.2	0.20				
"	7.5	0.37				
"	6.5	0.22				
"	6.2	0.23				
"	4.7	0.12				
"	6.6	0.26				
"	5.6	0.15				
"	5.8	0.19				
Carp	10.0	0.47				
Freshwater drum	8.2	0.22				
Gizzard shad	11.1	0.45				
"	9.0	0.28				
"	10.2	0.42				
"	9.1	0.30				
Quillback	6.1	0.10				
White bass	13.1	0.99				
White crappie	10.0	1.00				
"	9.3	0.47				
"	8.1	0.20				

U.S. FISH AND WILDLIFE SERVICE
FISH SURVEY CONTINUATION SHEET

Location: # 5, Smith Lake

Date: June 15 and 16 of 1982

Species	Length (in.)	Weight (lbs)	Total Number	Total Weight	Range Weight	Range Length
White crappie	9.5	0.47				
"	8.9	0.35				
"	4.9	0.04				
"	4.5	0.04				
"	5.9	0.07				
FYNE NET #3						
Black bullhead	9.8	0.44				
Black crappie	11.6	0.88				
"	6.6	0.18				
"	9.2	0.46				
"	11.8	0.90				
"	7.7	0.30				
"	7.1	0.20				
"	10.2	0.49				
"	11.1	0.72				
"	8.0	0.31				
"	6.5	0.19				
"	6.6	0.19				

U.S. FISH AND WILDLIFE SERVICE
FISH SURVEY CONTINUATION SHEET

Location: # 5, Smith Lake

Date: June 15 and 16 of 1982

Species	Length (in.)	Weight (lbs)	Total Number	Total Weight	Range Weight	Range Length
Black crappie	8.2	0.31				
"	6.1	0.15				
"	6.9	0.19				
"	4.6	0.05				
"	9.7	0.50				
"	6.0	0.11				
"	6.0	0.11				
"	7.3	0.21				
Bluegill	6.0	0.17				
"	5.6	0.15				
"	5.1	0.10				
"	3.6	0.03				
Shortnose gar	19.4	0.85				
White crappie	8.1	0.25				
"	5.2	0.06				
"	4.0	0.05				

U.S. FISH AND WILDLIFE SERVICE
FISH SURVEY REPORT

Location: #6, Upper Main Ditch

Date: 5/28/82 Time: 9:00 a.m.

Weather: Clear, calm

Collectors: Rybak, Balliett

Gear: 110 volt A.C., portable electrofishing unit; seine

Effort: 28 minutes

Conductivity: 380 micromhos/cm D.O.: 5 pH: 7.5

Total Hardness: 188 ppm Total Alkalinity: 103 ppm

Station length: 290 feet Width: 9.3 feet

Air temperature: 69 °F Water temperature: 68 °F

Comments: Weeds made seining difficult. We were only able to make short hauls. Water was slightly murky. Numerous fry-size fish were missed because they slipped through the net mesh. Bullfrog adults and tadpoles, an adult chorus frog, small-mouth salamander tadpoles, tiger salamander tadpoles, Pseudacris sp. tadpoles and cray fish were taken at this site.

Species	Length (in)	Weight (lbs)	Total Number	Total Weight	Range Weight	Range Length
SEINING:						
Cyprinid larva			6	—	—	0.2-0.7
"			11	0.01	—	1.1-1.3
ELECTROFISHING:						
Carp (fry)			18	0.02	—	0.9-1.2
Fathead minnow	2.8	0.01				
	3.2	0.02				
	2.8	0.01				

APPENDIX J: AQUATIC RECONNAISSANCE SURVEYS

U.S. FISH AND WILDLIFE SERVICE
AQUATIC RECONNAISSANCE SURVEY

Location: #1, Lower Willow Creek

Habitat type: Floodplain stream

Date: 6/22/82 Time: 6:10 p.m.

Weather: Partly cloudy, breezy

Investigator(s): Balliett

Length: 5.5 miles (entire stream)

Low flow width: 30 feet

Acreage: 10.9 acres (entire stream)

Average depth: 4 feet Depth range: 4 to 6 feet

Velocity: Sluggish

Water Color: Brown Water Clarity: Turbid

Water level: 3 to 4 feet above normal

Instream cover: Snags, debris piles

Substrate: Muck

Pool-riffle ratio: All pool

Length of pools: Entire

Sinuosity: Straight

Fishing intensity: Moderate, heavy earlier in year for bass

Bank cover:

Dominant species: Cottonwood, silver maple

Percent cover: 1%, banks are devoid of ground cover.

Percent shading: 50

Comments: Stream periodically overtops banks. Water has started to recede
in past week. Part of forest still flooded.

U.S. FISH AND WILDLIFE SERVICE
AQUATIC RECONNAISSANCE SURVEY

Location: # 2, Upper Coon Run Creek

Habitat type: Ditched stream

Date: 6/22/82 Time: 12:45 p.m.

Weather: Partly cloudy, breezy

Investigator(s): Balliett

Length: 13.5 miles (entire stream)

Low flow width: 25 feet

Acreage: 379 acres (entire stream)

Average depth: 2 feet Depth range: 1-3 feet

Velocity: Moderate

Water Color: Brown Water Clarity: Very turbid

Water level: Slightly above normal.

Instream cover: None

Substrate: Sand with few areas of gravel

Pool-riffle ratio: 15% pool / 85% riffle

Length of pools: 5 feet

Sinuosity: Straight

Fishing intensity: None observed

Bank cover:

Dominant species: Grasses

Percent cover: 75%. Toe of levee has been plowed.

Percent shading: 0

Comments: Banks eroding in one location.

U.S. FISH AND WILDLIFE SERVICE
AQUATIC RECONNAISSANCE SURVEY

Location: # 3, Lower Coon Run Creek

Habitat type: Ditched stream

Date: 6/22/82 Time: 10:50 a.m.

Weather: Sunny, breezy

Investigator(s): Balliett

Length: 13.5 miles (entire stream)

Low flow width: 45 feet

Acreage: 37.9 acres (entire stream)

Average depth: 5 feet Depth range: 4-5 feet

Velocity: Moderate

Water Color: Brown Water Clarity: Highly turbid

Water level: 2 feet above normal

Instream cover: Few root wads and debris piles

Substrate: Silt and muck

Pool-riffle ratio: 100% pool

Length of pools: Entire

Sinuosity: Slight

Fishing intensity: Light

Bank cover:

Dominant species: Cottonwoods, willows and grasses

Percent cover: 75% bank covered, 25% exposed

Percent shading: 50

Comments: Very little water in stream during low flow.

U.S. FISH AND WILDLIFE SERVICE
AQUATIC RECONNAISSANCE SURVEY

Location: # 4, Upper Willow Creek

Habitat type: Stream

Date: 6/22/82 Time: 7:00 p.m.

Weather: Partly cloudy, breezy

Investigator(s): Balliett

Length: 5.5 miles (entire stream)

Low flow width: 15 feet

Acreage: 10.9 acres (entire stream)

Average depth: 1 1/2 feet Depth range: 1-3 feet

Velocity: Moderate (7.0 cfs on 6/30/82)

Water Color: Brown Water Clarity: Turbid

Water level: 1/2 foot above normal

Instream cover: Debris piles

Substrate: Sand, gravel, and cobble

Pool-riffle ratio: 50% pool / 50% riffle

Length of pools: Approximately 40 feet

Sinuosity: Moderate

Fishing intensity: None observed

Bank cover:

Dominant species: Willows, cottonwood, silver maple, grasses, slippery
elm, mulberry

Percent cover: 50

Percent shading: 80

Comments: This section of stream appears to be suffering from severe head
cutting. There is some severe erosion. Banks are collapsing and in some
instances have become steep cliffs 20-30 feet high.

U.S. FISH AND WILDLIFE SERVICE
AQUATIC RECONNAISSANCE SURVEYLocation: #6, Upper Main DitchHabitat type: DitchDate: 5/28/82 Time: 11:45 a.m.Weather: Partly cloudyInvestigator(s): Rybak, BalliettLength: 4.5 miles (entire ditch)Low flow width: 9 feetAcreage: 7.3 acres (entire ditch)Average depth: 1 foot Depth range: 1-1.5 feetVelocity: No flowWater Color: Slightly turbid Water Clarity: Clear to bottomWater level: Slightly higher than normal. Rained previously.Instream cover: Emergent and submergent aquatic plantsSubstrate: Firm bottom with silt layerPool-riffle ratio: All poolLength of pools: Sinuosity: StraightFishing intensity: None, possibly fished for crayfish

Bank cover:

Dominant species: Grasses, yellow sweet clover, milkweeds. Scattered
cottonwoods and willowsPercent cover: 100% ground covered. No bank erosion noted.Percent shading: Approximately 5%

Comments: Crops begin foot from top of bank. Ditch is likely intermittant.

U.S. FISH AND WILDLIFE SERVICE
AQUATIC RECONNAISSANCE SURVEY

Location: # 7, Middle Willow Creek

Habitat type: Leveed stream

Date: 6/22/82 Time: 2:40 p.m.

Weather: Partly cloudy, breezy

Investigator(s): Balliett

Length: 5.5 miles (entire stream)

Low flow width: 4 feet

Acreage: 10.9 acres (entire stream)

Average depth: 1 1/2 feet Depth range: 1-2 feet

Velocity: Slow

Water Color: Brown Water Clarity: Very turbid

Water level: Near normal

Instream cover: A few roots

Substrate: Silt and sand

Pool-riffle ratio: 50 % pool / 50 % riffle

Length of pools: 30 feet

Sinuosity: Moderate

Fishing intensity: None observed

Bank cover:

Dominant species: Grasses with scattered cottonwood and willows

Percent cover: 80 %

Percent shading: 0 %

Comments: Observed dead gar. Stream is grazed. During low flow periods, the
stream probably maintains depths of less than 6 inches.

U.S. FISH AND WILDLIFE SERVICE
AQUATIC RECONNAISSANCE SURVEY

Location: #8, Middle Coon Run Creek

Habitat type: Ditch

Date: 6/22/82 Time: 12:10 p.m.

Weather: Sunny, breezy

Investigator(s): Balliett

Length: 13.5 miles (entire stream)

Low flow width: 20 feet

Acreage: 378 acres (entire stream)

Average depth: 2 feet Depth range: 1-3 feet

Velocity: Moderate

Water Color: Brown Water Clarity: Very turbid

Water level: Slightly above normal

Instream cover: Roots and debris piles

Substrate: Sand and silt

Pool-riffle ratio: 5% pool / 95% riffle

Length of pools: 30 feet

Sinuosity: Nearly Straight

Fishing intensity: Observed trotline during high water in April.

Bank cover:

Dominant species: Grasses

Percent cover: Lower 10 feet of bank bare. Rest has 100% ground covered.

Percent shading: 0

Comments: Moderate erosion along banks.

U.S. FISH AND WILDLIFE SERVICE
AQUATIC RECONNAISSANCE SURVEY

Location: #9, Middle Main Ditch

Habitat type: Ditch

Date: 6/22/82 Time: 1:25 p.m.

Weather: Partly cloudy, breezy

Investigator(s): Balliett

Length: 4.5 miles (entire ditch)

Low flow width: 6 feet

Acreage: 7.3 acres (entire ditch)

Average depth: 1.5 feet Depth range: 1-2 feet

Velocity: None

Water Color: Brown Water Clarity: Clear to bottom

Water level: Normal

Instream cover: Emergent vegetation, filamentous algae

Substrate: Firm muck and sand

Pool-riffle ratio: All pool

Length of pools: Entire

Sinuosity: Straight

Fishing intensity: None

Bank cover:

Dominant species: Grasses, daisy fleabane, milkweed, yellow sweet clover

Percent cover: 90

Percent shading: Less than 5

AD-A133 011

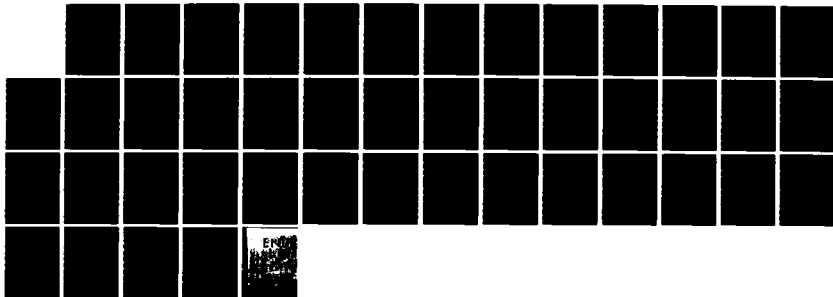
TERRESTRIAL AND AQUATIC BIOLOGICAL INVENTORY MEREDOSIA
ILLINOIS; MEREDOSIA (U) ARMY ENGINEER DISTRICT ST LOUIS
MO A L BALLIETT DEC 82

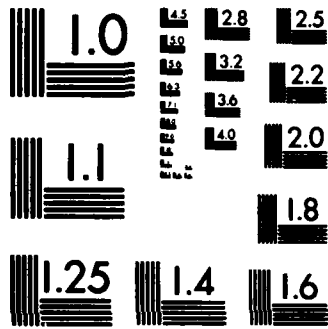
4/4

UNCLASSIFIED

F/G 6/3

NL





MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

Comments: Surface of ditch covered with duckweed.

U.S. FISH AND WILDLIFE SERVICE
AQUATIC RECONNAISSANCE SURVEY

Location: #10, Lower Main Ditch

Habitat type: Ditch

Date: 6/24/82 Time: 9:00 a.m.

Weather: Sunny, breezy

Investigator(s): Balliett

Length: 4.5 miles (entire ditch)

Low flow width: 25 feet

Acroage: 7.3 acres (entire ditch)

Average depth: 2 Depth range: 1-3 feet

Velocity: None observed

Water Color: Brown Water Clarity: Slightly turbid

Water level: Normal

Instream cover: Very little, a few branches

Substrate: Muck

Pool-riffle ratio: All pool

Length of pools: Entire

Sinuosity: Straight

Fishing intensity: None observed

Bank cover:

Dominant species: Grasses, Mulberries along one bank

Percent cover: 100%

Percent shading: 50%

Comments: Ditch enters Coon Run Creek through capped tile.

U.S. FISH AND WILDLIFE SERVICE
AQUATIC RECONNAISSANCE SURVEY

Location: # 11

Habitat type: Ditch

Date: 6/24/82 Time: 12:05 p.m.

Weather: Sunny, breezy

Investigator(s): Balliett

Length: 0.36 miles (entire ditch)

Low flow width: 2 feet

Acreage: 0.23 acres (entire ditch)

Average depth: Less than 1 inch Depth range: _____

Velocity: None

Water Color: Clear Water Clarity: Clear

Water level: Normal

Instream cover: Willow limbs

Substrate: Muck

Pool-riffle ratio: _____

Length of pools: _____

Sinuosity: Straight

Fishing intensity: None

Bank cover:

Dominant species: Grasses, willows

Percent cover: 100

Percent shading: 5

Comments: This ditch floods in spring. Low habitat value in this portion.

Almost dry.

U.S. FISH AND WILDLIFE SERVICE
AQUATIC RECONNAISSANCE SURVEY

Location: #12

Habitat type: Ditch

Date: 6/24/82 Time: 12:15 p.m.

Weather: Sunny, breezy

Investigator(s): Balliett

Length: 0.36 miles (entire ditch)

Low flow width: 6 feet

Acreage: 0.23 miles (entire ditch)

Average depth: 1.5 feet Depth range: 1-2 feet

Velocity: Slight

Water Color: Brown Water Clarity: Slightly turbid

Water level: Normal

Instream cover: A few emergent smartweed

Substrate: Muck

Pool-riffle ratio: All pool

Length of pools: Entire

Sinuosity: Straight

Fishing intensity: None

Bank cover:

Dominant species: Smartweed, grasses

Percent cover: 100

Percent shading: Less than 5

Comments: Only 3 feet of bank has native vegetation. Plowed close to ditch.

U.S. FISH AND WILDLIFE SERVICE
AQUATIC RECONNAISSANCE SURVEY

Location: # 13

Habitat type: Ditch

Date: 6/24/82 Time: 12:30 p.m.

Weather: Sunny, breezy

Investigator(s): Balliett

Length: 0.36 miles (entire ditch)

Low flow width: 8 feet

Acreage: 0.23 acres (entire ditch)

Average depth: 2 1/2 feet Depth range: 2-3 feet

Velocity: Slight

Water Color: Brown Water Clarity: Turbid

Water level: Normal

Instream cover: Willows and smartweed

Substrate: Muck

Pool-riffle ratio: All pool

Length of pools: Entire

Sinuosity: Straight

Fishing intensity: None

Bank cover:

Dominant species: Willows, smartweeds

Percent cover: 75

Percent shading: 50

Comments: Observed fish which were probably stranded when flood waters
receded.

U.S. FISH AND WILDLIFE SERVICE
AQUATIC RECONNAISSANCE SURVEY

Location: # 14

Habitat type: Ditch

Date: 6/22/82 Time: 3:00 p.m.

Weather: Partly cloudy, breezy

Investigator(s): Balliett

Length: 0.44 miles (entire ditch)

Low flow width: 1 feet

Acreage: 0.09 acres (entire ditch)

Average depth: 3 inches Depth range: 2 to 6 inches

Velocity: Slow

Water Color: Clear Water Clarity: Clear to bottom

Water level: Normal

Instream cover: Emergent vegetation and filamentous algae

Substrate: Sand, muck

Pool-riffle ratio: All riffle

Length of pools: _____

Sinuosity: Straight

Fishing intensity: None

Bank cover:

Dominant species: Arrowhead, smartweed, grasses, dock

Percent cover: 75

Percent shading: 50

Comments: Drainage ditch that enters Willow Creek through capped tile.

U.S. FISH AND WILDLIFE SERVICE
AQUATIC RECONNAISSANCE SURVEY

Location: # 15

Habitat type: Ditch

Date: 6/22/82 Time: 3:20 p.m.

Weather: Partly cloudy, breezy

Investigator(s): Balliett

Length: 0.44 miles (entire ditch)

Low flow width: 3 feet

Acreage: 0.09 acres (entire ditch)

Average depth: 6 inches Depth range: 4 to 8 inches

Velocity: None observed

Water Color: Brown Water Clarity: Slightly turbid

Water level: Normal. Ditch is probably intermittent.

Instream cover: Sparse emergent vegetation

Substrate: Sand, muck

Pool-riffle ratio: All pool

Length of pools: Entire

Sinuosity: Straight

Fishing intensity: None

Bank cover:

Dominant species: Grasses, smartweed

Percent cover: 90

Percent shading: 25

Comments: Slight erosion on banks noticed.

U.S. FISH AND WILDLIFE SERVICE
AQUATIC RECONNAISSANCE SURVEY

Location: # 16

Habitat type: Ditch

Date: 6/22/82 Time: 4:10 p.m.

Weather: Partly cloudy, breezy

Investigator(s): Balliett

Length: 0.44 miles (entire ditch)

Low flow width: 1 feet

Acreage: 0.09 acres (entire ditch)

Average depth: 4 inches Depth range: 2 to 6 inches

Velocity: Stagnant

Water Color: Clear Water Clarity: Clear

Water level: Normal. Ditch is probably intermittant.

Instream cover: None

Substrate: Sand, muck

Pool-riffle ratio: All pool

Length of pools: Entire

Sinuosity: Straight

Fishing intensity: None

Bank cover:

Dominant species: Grasses, smartweed, dock

Percent cover: 95

Percent shading: 50

Comments: None

U.S. FISH AND WILDLIFE SERVICE
AQUATIC RECONNAISSANCE SURVEY

Location: # 17

Habitat type: Ditch

Date: 6/24/82 Time: 10:45 a.m.

Weather: Sunny, breezy

Investigator(s): Balliett

Length: 0.94 miles (entire ditch)

Low flow width: 1.5 feet

Acres: 0.13 acres (entire ditch)

Average depth: 4 inches Depth range: 2-6 inches

Velocity: None noted

Water Color: Brown Water Clarity: Slightly turbid

Water level: Normal

Instream cover: Emergent grasses

Substrate: Silt

Pool-riffle ratio: All pool

Length of pools: Entire

Sinuosity: Straight

Fishing intensity: None noted

Bank cover:

Dominant species: Willows, silver maple, grasses, cocklebur.

Percent cover: 100

Percent shading: 50

Comments: Noticed fish fry in water.

U.S. FISH AND WILDLIFE SERVICE
AQUATIC RECONNAISSANCE SURVEYLocation: # 18Habitat type: DitchDate: 6/24/82 Time: 11:25 a.m.Weather: Sunny, breezyInvestigator(s): BalliettLength: 0.94 miles (entire ditch)Low flow width: 1.5 feetAcreage: 0.13 acres (entire ditch)Average depth: 3 inches Depth range: 2-4 inchesVelocity: Very slightWater Color: Clear Water Clarity: ClearWater level: NormalInstream cover: Emergent grassesSubstrate: SiltPool-riffle ratio: All poolLength of pools: EntireSinuosity: StraightFishing intensity: None

Bank cover:

Dominant species: Willows, grassesPercent cover: 100Percent shading: 90

Comments: Would suspect this is intermittant during dry periods.

U.S. FISH AND WILDLIFE SERVICE
AQUATIC RECONNAISSANCE SURVEY

Location: # 19

Habitat type: Ditch

Date: 6/24/82 Time: 11:00 a.m.

Weather: Sunny

Investigator(s): Balliett

Length: 0.94 miles (entire ditch)

Low flow width: 6 inches

Acreage: 0.13 acres (entire ditch)

Average depth: 1 inch Depth range: 1-2 inches

Velocity: Slight

Water Color: Clear Water Clarity: Clear

Water level: Normal

Instream cover: Very little

Substrate: Sand and silt

Pool-riffle ratio: All riffle

Length of pools: —

Sinuosity: Straight

Fishing intensity: None

Bank cover:

Dominant species: Willows, grasses

Percent cover: 100

Percent shading: 100

Comments: Area is almost dry. Ditch is completely covered by small willows.

Would suspect this portion of ditch dries up.

U.S. FISH AND WILDLIFE SERVICE
AQUATIC RECONNAISSANCE SURVEY

Location: # 20

Habitat type: Ditch

Date: 6/24/82 Time: 2:45 p.m.

Weather: Sunny, breezy

Investigator(s): Balliett

Length: 0.5 miles (entire ditch)

Low flow width: 1.5 feet

Acreage: 0.08 acres (entire ditch)

Average depth: 2 inches Depth range: 1-2 inches

Velocity: None noticed

Water Color: Clear Water Clarity: Clear

Water level: Normal

Instream cover: A few emergents

Substrate: Muck

Pool-riffle ratio: All pool

Length of pools: Entire

Sinuosity: Straight

Fishing intensity: None

Bank cover:

Dominant species: Grasses, daisy fleabane

Percent cover: 75

Percent shading: 5

Comments: Probably dries up.

U.S. FISH AND WILDLIFE SERVICE
AQUATIC RECONNAISSANCE SURVEY

Location: # 21

Habitat type: Ditch

Date: 6/24/82 Time: 2:20 p.m.

Weather: Sunny, breezy

Investigator(s): Balliett

Length: 0.5 miles (entire ditch)

Low flow width: 1.5 feet

Acreage: 0.08 acres (entire ditch)

Average depth: 1.5 inches Depth range: 1-2 inches

Velocity: None

Water Color: Clear Water Clarity: Clear

Water level: Normal

Instream cover: Clumps of spike grass

Substrate: Muck

Pool-riffle ratio: All pool

Length of pools: Entire

Sinuosity: Straight

Fishing intensity: None

Bank cover:

Dominant species: Dock, grass, daisy fleabane

Percent cover: 75

Percent shading: 10

Comments: _____

U.S. FISH AND WILDLIFE SERVICE
AQUATIC RECONNAISSANCE SURVEY

Location: # 22

Habitat type: Ditch

Date: 6/24/82 Time: 2:55 p.m.

Weather: Clear breezy

Investigator(s): Balliett

Length: 0.5 miles (entire ditch)

Low flow width: 1 foot

Acreeage: 0.08 acres (entire ditch)

Average depth: Dry Depth range: _____

Velocity: _____

Water Color: _____ Water Clarity: _____

Water level: Normal

Instream cover: Spike grass

Substrate: Muck

Pool-riffle ratio: _____

Length of pools: _____

Sinuosity: Straight

Fishing intensity: None

Bank cover:

Dominant species: Peppergrass, grasses

Percent cover: 50

Percent shading: 5

Comments: Water recently receded out of the ditch.

U.S. FISH AND WILDLIFE SERVICE
AQUATIC RECONNAISSANCE SURVEY

Location: # 23

Habitat type: Ditch

Date: 6/24/82 Time: 5:05 p.m.

Weather: Sunny

Investigator(s): Balliett

Length: 0.44 miles (entire ditch)

Low flow width: Dry

Acreage: 0.01 acres (entire ditch)

Average depth: Dry Depth range:

Velocity:

Water Color: Water Clarity:

Water level: Normal

Instream cover: Grasses

Substrate: Sand

Pool-riffle ratio:

Length of pools:

Sinuosity: Straight

Fishing intensity: None

Bank cover:

Dominant species: Grasses, goldenrod

Percent cover: 50

Percent shading: Less than 5

Comments: Ditch is dry at this site. Ditch bottom is approximately 3 feet wide.

U.S. FISH AND WILDLIFE SERVICE
AQUATIC RECONNAISSANCE SURVEY

Location: # 24

Habitat type: Ditch

Date: 6/24/82 Time: 5:15 p.m.

Weather: Sunny

Investigator(s): Balliett

Length: 0.44 miles (entire ditch)

Low flow width: Trickle of water present

Acreage: 0.01 acres (entire ditch)

Average depth: _____ Depth range: _____

Velocity: Slight

Water Color: Clear Water Clarity: Clear

Water level: Normal

Instream cover: Emergent vegetation

Substrate: Sand

Pool-riffle ratio: _____

Length of pools: _____

Sinuosity: Straight

Fishing intensity: None

Bank cover:

Dominant species: Grasses, cocklebur

Percent cover: 50

Percent shading: Less than 5

Comments: Water appears to be coming from ground seepage. Banks eroding.

U.S. FISH AND WILDLIFE SERVICE
AQUATIC RECONNAISSANCE SURVEY

Location: # 25

Habitat type: Ditch

Date: 6/24/82 Time: 5:30 p.m.

Weather: Sunny

Investigator(s): Balliett

Length: 0.44 miles (entire ditch)

Low flow width: 6 inches

Acreage: 0.01 acres (entire ditch)

Average depth: 0.5 inch Depth range: 0.25 to 0.5 inch

Velocity: Slight

Water Color: Clear Water Clarity: Clear

Water level: Normal

Instream cover: Emergent vegetation

Substrate: Sand

Pool-riffle ratio: _____

Length of pools: _____

Sinuosity: Straight

Fishing intensity: None

Bank cover:

Dominant species: Grasses, cocklebur, willow, elderberry

Percent cover: 50

Percent shading: 5

Comments: Ditch appears to dry up during low flows. Ditch had very little
aquatic habitat value.

APPENDIX K: RESUMES OF PRINCIPAL INVESTIGATORS

Alan L. Balliett**Address:**

Westshore Apts. #6
Route 2
Carbondale, IL 62901
(618) 457-8351

Education:

University of Wisconsin, Stevens Point, WI. 8/73-12/76. B.S. Water Resource Management/Soil Science.
University of Wisconsin, La Crosse, WI. 8/72-5/73 Undergraduate coursework leading to degree.

Experience:

Fish and Wildlife Biologist. U.S. Dept. of Interior, Fish and Wildlife Service, Ecological Services, Carbondale, IL. 6/80 - present.
Review of U.S. Army Corps of Engineers' projects and permits and other Federally sponsored or funded water-development projects in Illinois. Responsible for identification, avoidance, and mitigation of impacts to fish and wildlife.

Wildlife Biologist. U.S. Department of Interior, Fish and Wildlife Service, Ecological Services, Green Bay, WI. 1/79-5/80. Review of U.S. Army Corps of Engineers' Section 10 and 404 permits; State of Wisconsin, Section 208 plans, Section 201 and 402 permits; and Federally funded or sponsored water-development projects in Wisconsin. Responsible for identification, avoidance, and mitigation of impacts to fish and wildlife. Served as response coordinator for pollution emergencies.

Fisheries Biologist Assistant. Wisconsin Department of Natural Resources, Black River Falls, WI. 8/77-5/78. Surveyed fish populations, processed data, and prepared reports.

Publications:

Balliett, A.L. and S.J. Taft. 1978. Prevalence of Dracunculus (Nematoda: Dracunuloidea) and Paragonimus kellicotti (Trematoda: Troglotremitidae) in some Wisconsin mammals. The Museum of Natural History Reports on the Flora and Fauna of Wisconsin, No. 14.

Organizations:

Upper Mississippi River Conservation Committee
National Wildlife Federation
Illinois Wildlife Federation

Elaine W. Rybak

Personal Information:

Route 1 Box 70
Makanda, Illinois 62958
618/ 457-3660 or 549-3224

Education:

Michigan State University, E. Lansing, MI. 3/75-6/78 M.S. Fisheries and Wildlife
Bowling Green State University, Bowling Green, OH. 9/70-12/74 B.S. Biology
Colorado Outward Bound School, Denver, CO. 4/73 Ski mountaineering and backpacking.

Experience:

Fish and Wildlife Biologist. U.S. Dept. of Interior, Fish and Wildlife Service, Carbondale, IL. 10/80 - present. Habitat Preservation Program. Review of U.S. Army Corps of Engineers permits and projects, and strip mining activities. Responsible for identification and mitigation of fish and wildlife impacts.

Refuge Manager Trainee. U.S. Dept. of Interior, Fish and Wildlife Service, Oak Harbor, OH. and Saginaw, MI. 9/78-9/80. National Wildlife Refuge System. Wildlife censuses, wilderness management plan, Youth Conservation Program.

Technician Trainee. Environmental Services, Consumers Power Company, Jackson, MI. 10/78-12/78 Aided in design and implementation of environmental monitoring programs for fossil, nuclear, and woodburning power plants.

Environmental Ed. Coordinator. Keystone Youth Conservation Corps, Dingmans Ferry, PA. 6/78-8/78 Organized outdoor education program for high school students in summer resident camp. Supervised nine staff members.

Teaching Assistant. Sci. and Math. Teaching Center, Dept. of Zoology, M.S.U., MI. 9/75-6/78 Courses taught: Biological Science for Elementary Education Teachers and Nature and Man.

Habitat Analyst. Department of Resource Development, M.S.U., MI. 3/78-6/78 Aided in preparation of manuscript: Ecological Effects of Highway Construction on Michigan Woodlots and Wetlands for Michigan Dept. of Highways.

Research Technician and Resource Center Librarian. Envir. Studies Center, B.G. S.U., OH. 6/73-9/74 Responsible for Naturalist Program and Nature Center displays in Tar Hollow and Shawnee State Parks.

Publications:

Rybak, E.J., E.J. Neufarth, S.H. Vessey. 1975. Distribution of the meadow jumping mouse, Zapus hudsonius, in Ohio: a twenty-year update. Ohio J. Sci. 75(4):184-187.

Muchlinski, A.E. and E.W. Rybak. 1978. Energy consumption of resting and hibernating jumping mice. J. of Mamm. 59(2):435-437.

Teske, W.R., E.N. Rybak, and R.H. Baker. 1981. Reproduction and development of the pygmy spotted skunk (Spilogale pygmaea). Am. Midl. Nat. 105(2):390-392.

Organizations:

Southern Illinois Audubon Society
Southern Illinois University Orchestra
Little Egypt Student Grotto

William B. Ziegler

Address: 537 Riverview Dr.
Ann Arbor, Michigan 48104

Telephone: (313) 663-8826

Birth Date: July 9, 1955

Education:

University of Michigan, School of Natural Resources, Ann Arbor, Michigan.
Bachelor of Science degree, April 30, 1977. Major: Fish Biology/
Management and Aquatic Ecology.

Experience:

Fisheries Biologist, U.S. Fish and Wildlife Service, Ecological Services.
March 1981 to present. Chairman of the Fish and Wildlife work group,
GREAT III (Mississippi River) comprehensive resource study. Coordinate
resource management agencies, Illinois and Missouri Departments of Con-
servation, U.S. Fish and Wildlife Service, and Corps of Engineers, in a
management study on environmental factors (channel maintenance, navigation,
land development) affecting fish and wildlife habitat. Supervise several
contract studies and research assistants. Author the Fish and Wildlife
management plan. Review clean water permits and water development projects.

Fisheries Technician, U.S. Fish and Wildlife Service, Sea Lamprey Control.
June 1979 to March 1981. Leader of survey team to determine the presence,
distribution and age structure of lamprey ammocetes. Set up, apply and
analyze chemical treatments to eliminate lampreys.

Fisheries Biologist, Ottawa National Forest. May 1978 to June 1979.
Initiate fish management program in cooperation with Michigan Department of
Natural Resources. Plan and evaluate fish surveys and management practices.
Write and review district management plans, and environmental analyses.
Work with state biologist and the public on management problems.

**Fisheries Research Assistant, Great Lakes Research Division, University of
Michigan. October 1977 to April 1978.** Identification and dissection
workup of adult and larval fish. Process data and write technical reports.
Contribute to research studies and power plant environmental assessment studies.

Fisheries Research Assistant (field), Great Lakes Research Division.
May 1977 to September 1977. Conduct surveys on Lake Michigan including:
trawling, ichthyoplankton tows, netting, and electrofishing. Work on
research vessels up to 50 ft. in length.

Fisheries Aide, Hiawatha National Forest. June 1976 to September 1976.
Leader of a lake and stream inventory team. Plan and conduct aquatic
surveys. Work up the data for reports.

Volunteer Conservation Officer, Law Division, Michigan Department of Natural Resources. September 1976 to September 1977. Assist the conservation officer throughout the range of his duties.

Fisheries Aide, Institute for Fisheries Research, Michigan Department of Natural Resources. January 1976 to May 1976 (work-study).
Age-growth analysis through scale reading and back-calculations.

Water Quality Control Officer, Washtenaw County Drain Commission. January 1975- April 1975 (work-study). Monitor several watersheds for erosion, water quality and land-use practices.

Associated Activities and Awards:

SCUBA diver, NAUI certification.
Member of American Fisheries Society
School of Natural Resources War Memorial Award, 1976
University of Michigan Honor Roll, 1976

References:

Dr. Karl F. Lagler, Professor
School of Natural Resources
Dana Building
University of Michigan
Ann Arbor, Michigan 48109

Mr. DeWayne E. Campbell
Hiawatha National Forest
Forest Service
U.S. Department of Agriculture
Escanaba, Michigan 49829

Ranger Dick Brewster
Ottawa National Forest
Iron River, Michigan 49935

RESUME OF DOUGLAS A. CARNEY**PERSONAL DATA**

Home Address: Rural Route 4
#2 Gates Lane
Carbondale, Illinois 62901

Phone: (618) 549-2829

Age: 25 yrs.

Physical Status: Excellent Health

Marital Status: Single

Height: 6 ft. 1 in.

Weight: 170 lbs.

CAREER OBJECTIVES

Present objective is to earn a Master's degree in Biological Sciences with an emphasis in Aquatic Ecology. Long range career goals include work in an environmental capacity that allows me to apply acquired research skill.

EMPLOYMENT

6/81 to present: Volunteer work for Pollution Control, SIUC, Carbondale, Illinois. Duties include a wide range of activities from clerical work to water and sewage sampling. John Meister, Director.

7/79 to 6/81 Employed as a Chemist in the Microbiology Department, Sigma Chemical Company, St. Louis, Missouri. Duties included purification of enzymes from bacteria and yeasts, performing biochemical assays, and lyophilization of products. Dr. James Gill and Dr. Jobst Vandrey, Co-chairmen of Microbiology.

8/78 to 7/79 Hourly-rate employee for Hillsboro Glass Company, Hillsboro, Illinois. Duties included selecting and packing glass bottles. Ed Millhorn, Personnel Manager.

EDUCATION

6/81 to present:

Southern Illinois University, Carbondale, Illinois. Completed 7 semester hours towards M.S. in Biological Sciences. Current G.P.A.: 4.00/4.00.

8/73 to 12/77

Illinois State University, Normal, Illinois. Received B.S. in Biological Sciences with a minor in Chemistry. G.P.A.: 2.65/4.00.

8/70 to 5/73

Litchfield High School, Litchfield, Illinois. Class Rank: 39/106.

CREDENTIALS

Available upon request.

BRUCE EARL WEAVER

K-8

Permanent Address
1800 Cedar Ct.
Des Plaines, IL 60018
(312) 824-7544

Temporary Address
800 E. Grand Ave., Apt. 7C
Carbondale, IL 62901
(618) 529-3677

PROFESSIONAL OBJECTIVE

An opportunity for laboratory or field experience in applied biology leading to a responsible position in research or environmental control and monitoring. Interested in collection of field data, evaluation, and report writing. I am willing to travel with extended periods of field work.

EDUCATION

Bachelor of Science in Biological Sciences
Southern Illinois University
Carbondale, IL
August 1982

HONORS

Member of Phi Mu Alpha Sinfonia

EXPERIENCE

Spring Semester, 1981

Worked as an undergraduate assistant to Dr. Bruce Peterson on study of Micro-terrestrial Habitats in disturbed and undisturbed areas of Southern Illinois. Assisted in designing research including specimen collecting and data gathering. Identification, separation, and preparation of organisms and assisted in writing of report.

Summer of 1977 through 1981 and vacations

Employed at Lutheran General Hospital as a Phlebotomist. Duties included collection of blood from patients in all areas of the hospital: Collection of timed specimens, accurate labelling, proper handling and delivery of samples. Working with in-patients, out-patients, doctors, nurses, administrators, and other personnel to speed results and minimize draws.

INTERESTS AND HOBBIES

Skiing, camping, scuba diving, music, and travel.

PERSONAL DATA

Birthdate: November 5, 1958
Marital Status: Single
Willing to relocate.

REFERENCES

Furnished upon request from:
Career Planning and Placement Center
Southern Illinois University
Carbondale, IL 62901
(618) 453-2391

APPENDIX L: LITERATURE CITED

LITERATURE CITED

- Cowardin, L.M., et al. 1979. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Fish and Wildlife Service. FWS/OBS-79/31. 103 pp.
- Illinois Department of Conservation. 1977. Natural Areas Inventory. Springfield, Illinois.
- Illinois Department of Conservation. 1981. Endangered and Threatened Species of Illinois, Status and Distribution. Springfield, Illinois. 189 pp.
- Illinois Department of Conservation. 1982. DOC Compiles 1981 Deer Harvest Talley. Outdoor Highlights. 10(2):3.
- Mohlenbrock, R.H. 1975. Guide to the Vascular Flora of Illinois. Southern Illinois University Press, Carbondale and Edwardsville, Illinois. 494 pp.
- Palmer, C.M. 1969. A Composite Rating of Algae Tolerating Organic Pollution. Journal of Phycology. 5(1):78-82.
- Poole, R.W. 1974. An Introduction to Quantitative Ecology. McGraw, New York. 532 pp.
- Rogers, R.A. 1970a. Morgan County Surface Water Resources. Illinois Department of Conservation. Springfield, Illinois. 69 pp.
- Rogers, R.A. 1970b. Scott County Surface Water Resources. Illinois Department of Conservation. Springfield, Illinois. 51 pp.
- Rogers, R.A. 1980. FY 1978 Illinois Sport Fishing Survey, Special Fisheries Report No. 50. Illinois Department of Conservation, Springfield, Illinois. 53 pp.
- Smith, P.W. 1979. The Fishes of Illinois. Southern Illinois Press, Carbondale, Illinois. 314 pp.
- Starrett, W.C. 1971. A Survey of the Mussels (Unionacea) of the Illinois River: A Polluted Stream. Illinois Natural History Survey Bulletin 30(5):267-403.
- U.S. Fish and Wildlife Service. 1977. 1975 National Survey of Hunting, Fishing, and Wildlife - Associated Recreation. Washington, D.C. 91 pp.
- Weber, C.I. 1973. Biological Field and Laboratory Methods for Measuring the Quality of Surface Waters and Effluents. Environmental Protection Agency. EPA-670/4-73-001.

