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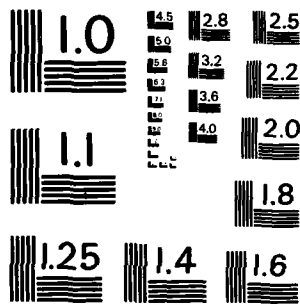
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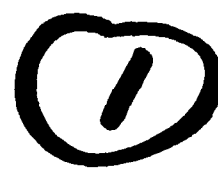
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Preliminary Report on Floodplain Animals of the Upper
Mississippi River and the Illinois Waterway
Including Some Probable Impacts of
Increased Commercial Traffic

by

Charles J. Newling

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January 1975

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Prepared for U.S. Army Engineer District, St. Louis
Corps of Engineers, St. Louis, Missouri

under

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Probable impacts of increased commercial towboat traffic resulting from construction of Locks and Dam No. 26 (Replacement) are discussed. These included: dredge spoil disposal, noise pollution, air pollution, building up and wearing down of sandbars, wave wash, higher or lower water levels in pools, interruption of food chains, increased ground water levels, increased chance of accidents and spillage, indirect effects associated with economic growth, and other impacts.

Increased incidence of accidents and spillages, possible harassment of waterfowl concentrations and disruptions of their food sources, and interference with the breeding of shore dwelling species were the most significant impacts. Recommendations are made for research needed to further evaluate the impacts of increased towboat traffic on terrestrial and semi-aquatic wildlife.

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SUMMARY

The following is a preliminary report on the terrestrial and semi-aquatic vertebrates occurring or expected to occur in the floodplains of the Mississippi River from Cairo, Illinois, to St. Paul, Minnesota, and of the Illinois Waterway from Grafton to Chicago, Illinois. Habitats occurring in the study area are defined. Animals occurring in the study area are summarized in the Appendices with reference to habitat utilized. In total, 529 animal species occurred including: 37 amphibians, 89 reptiles, 332 birds and 71 mammals.

Probable impacts of increased commercial towboat traffic resulting from construction of Locks and Dam No. 26 (Replacement) are discussed. These included: dredge spoil disposal, noise pollution, air pollution, building up and wearing down of sandbars, wave wash, higher or lower water levels in pools, interruption of food chains, increased ground water levels, increased chance of accidents and spillage, indirect effects associated with economic growth, and other impacts.

Increased incidence of accidents and spillages, possible harrassment of waterfowl concentrations and disruption of their food sources, and interference with the breeding of shore dwelling species were the most significant impacts.

Recommendations are made for research needed to further evaluate the impacts of increased towboat traffic on terrestrial and semi-aquatic wildlife.

PREFACE

This report was prepared under Purchase Order No. LMSSD 75-1481, dated 16 December 1974, between Charles J. Newling and the U.S. Army Engineer District, St. Louis. Charles J. Newling was the zoologist. Mr. John Brady, biologist, monitored the project for the U.S. Army Engineer District, St. Louis.

Prepared under an extremely restricted time regimen, this report is not intended to take the place of an environmental impact statement. The report is intended only to point out problem areas and recommend needed research for better understanding and possible resolution of adverse impacts associated with the project, Locks and Dam No. 26 (Replacement).

ACKNOWLEDGEMENTS

Sincere appreciation is extended to Mrs. Virginia A. Terpening and Dr. W. D. Klimstra of the Cooperative Wildlife Research Laboratory, Southern Illinois University at Carbondale, for their generous assistance to the author and for use of their research facilities and materials. The author also thanks the following who contributed suggestions, criticisms or materials for compilation of this report: G. Arthur, D. Harper, D. Kennedy and V. Kleen, Illinois Department of Conservation; F. C. Bellrose and Dr. R. Sparks, Illinois Natural History Survey; A. Artus, Missouri Department of Conservation; D. L. Damrau, J. R. Nawrot, and M. J. Sweet, Southern Illinois University at Carbondale; Dr. R. N. Vose, Saint Mary's College, Winona, Minnesota; Kent Keenlyne, Upper Mississippi River Conservation Committee; Dr. W. E. Green and Dr. D. L. Trauger, U.S. Fish & Wildlife Service; and, Dr. C. R. Fremling, Winona State College, Winona, Minnesota.

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INTRODUCTION

The purpose of this project was to prepare a preliminary report describing the terrestrial vertebrate species and their habitats in a study area consisting of the flood plain of the Mississippi River between Cairo, Illinois, and St. Paul, Minnesota, and of the Illinois Waterway from Grafton, Illinois, to Chicago, Illinois (Figure 1). Further, the contractor was to describe the probable impacts that will be sustained by these vertebrate species as a result of construction and operation of Locks and Dam No. 26 (Replacement). For the purposes of this report, "terrestrial vertebrates" refers to amphibians, reptiles, birds and mammals.

Background

The U.S. Army Corps of Engineers is planning the replacement of the dam and navigational locks on the upper Mississippi River at Alton, Illinois, Locks and Dam 26. Several alternatives regarding reconstruction of the locks and dam were considered. Except for the alternatives of no action and of replacing the existing structure with a dam and navigational locks of equal capacity, remaining alternatives call for greater lock capacity which will permit increased traffic

on the river. The most significant portion of the traffic would be increased tonnage of commercial tows and barges. Table 1, projects Corps of Engineers' estimates of increased tonnage in the year 2030 at various points along the Mississippi River and Illinois River resulting from each of the replacement alternatives.

The replacement plans call for a sill depth of 18 feet on the navigation locks (COE, 1974b:5); however, no plans are proposed for deepening the present 9-foot navigation channel. With a possible 15 percent increase in rate of revement repair, river maintenance is not expected to increase above the levels presently necessitated for operation of the 9-foot channel (personal communication, 17 December 1974, E. Degenhardt, U.S. Army Engineers, St. Louis). This report is based upon the assumptions above, and upon increased tonnage rates as listed in Table 1. For the purposes of discussion, the maximum increase in commercial tonnage will be rounded to 2 times present levels.

Methods

This report was prepared under a most abbreviated time regimen. Complete review of the literature was impossible and there was no possibility of field research. Sufficient

Table 1. Proposed increases in tonnage at various points along the Mississippi and Illinois Rivers resulting from alternatives available regarding replacement of Lock and Dam 26 (Data supplied by U.S. Army Engineers District, St. Louis)

	2030 TONNAGE (In Millions)														
	UNDER EXISTING AND 5 ALTERNATIVES AT LOCKS 1, 6, 11, 15, 20, 25, 26, 27														
	No Action			Rehab			1200'+600' Locks			1500'x150' Locks			2-1200'x110' Locks		
	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
A=No Systems Improvements															
B-Illinois River 1972 Plan Improvements															
C-Illinois & Upper Mississippi Improvements															
LOCK #1	2.4	2.4	2.5	2.4	2.4	2.5	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
LOCK #6	16.0	16.0	16.2	16.0	16.0	16.2	25.9	25.9	25.9	25.9	25.9	25.9	25.9	25.9	25.9
LOCK #11	18.3	18.3	18.5	18.3	18.3	18.5	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0
LOCK #16	24.9	24.9	25.1	24.9	24.9	25.1	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0
LOCK #20	30.6	30.6	30.8	30.6	30.6	30.6	46.6	46.6	46.7	46.6	46.6	54.7	46.6	46.6	54.7
LOCK #25	33.8	33.8	34.0	33.8	33.8	34.0	50.0	50.0	54.4	50.0	50.0	63.9	50.0	50.0	63.9
LOCK #26	70.3	70.3	70.3	70.3	70.3	70.3	114.3	168.9	168.9	114.3	168.9	183.4	114.3	168.9	183.4
LOCK #27	84.5	84.5	84.5	84.5	84.5	84.5	124.2	168.9	168.9	124.2	168.9	206.0	124.2	168.9	206.0
LOCKPORT	30.0	35.5	35.5	30.0	35.5	35.5	30.0	71.9	71.9	30.0	71.9	71.9	30.0	71.9	71.9
LA GRANGE	37.9	43.4	43.4	37.9	43.4	43.4	60.0	114.5	114.5	60.0	114.5	114.5	60.0	114.5	114.5

((CORES EDITOR NOTE: THE FIGURES SHOWN ARE PRELIMINARY))

literature was available to make an adequate compilation of the species and habitat types in the study area. However, data on potential impacts to terrestrial vertebrates due to increased commercial traffic was sparse or non-existent in many cases. Considering the limited time available, the author decided to contact persons familiar with the study area and its vertebrate species, requesting their opinions on possible impacts. It was felt that this would be the quickest way to identify significant problem areas.

Without hard data from field observations, it is not possible to be conclusive about the effects of impacts. Unless otherwise referenced, material in this report should be considered the opinion of the author. It is hoped, however, that the significant impacts of increased traffic sustained by terrestrial vertebrates will be identified. The final section recommends research necessary for further clarification of the specific nature and severity of problem areas.

HABITATS IN THE STUDY AREA

As might be expected, habitats in the study area were extremely diverse. The study area included the entire floodplain of Mississippi River from the mouth of the Ohio at Cairo, Illinois, 848 river miles upstream to St. Paul, Minnesota. Further, it included the entire Illinois Waterway from the mouth of the Illinois River at Grafton, Illinois, 327 river miles through the Illinois River and the Chicago Sanitary and Ship Canal to Chicago. For simplicity, consideration of habitat in the study area were limited to the following categories based on Terpening et al. (1975) and COE (1974c): floodplain forest, backwater areas, rivers and streams, old field-disturbed, cultivated field, buildings, hill prairie, and upland forest.

Floodplain forest included areas having woody vegetation 10 feet or greater in height. This habitat most commonly occurred at the base of the bluffs; bordering streams, sloughs, and drainage ditches throughout the protected floodplain (area behind levees); on islands within the river channels; and as belts between the levees and the unprotected floodplain. Three layers of vegetation (tree, shrub, herbaceous) were generally exhibited in the forest. The island forests, as well

as the forests of the unprotected floodplain, were subject to frequent inundation during periods of high water (Terpening et al. 1975:18). Variation in species composition of floodplain forest is evident in the study area, particularly from north to south.

Backwater areas included lakes, ponds, marshes, sloughs, and drainage ditches. All had low, often temporary water levels which fluctuated with the level of the main river channel with local precipitation. Only a herbaceous layer of vegetation was present (Terpening et al. 1975:21).

The Mississippi and Illinois Rivers were the only two bodies of water designated as rivers within the study area; all tributaries were classified as streams. This habitat lacked emergent and floating aquatic vegetation, except in restricted areas where elevated sand and mud deposits retarded current sufficiently to enable submergent vegetation to exist during periods of normal or below normal pool levels (Terpening et al. 1975:23).

Sandbanks and mudflats were closely associated with rivers, streams and certain backwater areas, representing land which was newly formed, or was uncovered by the recession of water. These areas also occur near lakes and downstream from wing dams. Temporary sandbanks were created by dredging operations and were usually located within the river channel. Mud-

flats formed around the edges of sloughs, lakes and ponds. Vegetation associated with mudbanks was more diverse than that associated with sandbanks (Terpening et al. 1975:25). This category was used also to include "sand prairies." These are elevated sand areas upon which develop floral and faunal communities similar to drier prairies of the West.

Old field occurred where cultivated fields had been abandoned due to seasonal inundation and inaccessibility as the water receded. Disturbed habitats were represented by levees, roadsides and areas of early secondary succession where natural disturbances had opened the canopy vegetation (Terpening et al. 1975:27). These areas exhibited great species diversity.

Cultivated field was land which had been tilled within the present year (Terpening et al. 1975:28). This land usually occurred in the protected floodplain. Major crops were corn, soybeans, wheat; truck crops (watermelon and cantaloupe) were grown in the extremely sandy soil of the sand areas of the central Illinois River and of the upper Mississippi River.

The habitat termed buildings included any occupied or abandoned structure and its grounds, such as industrial developments, towns, farm buildings and river-front cottages. The vegetation of the areas generally included selected native

tree species and maintained understory and ground cover (Terpening et al. 1975:30).

Upland forest included areas of woody vegetation covering the slopes of bluffs bordering the rivers. The primary climax association was oak-hickory, however, variation in species composition and importance values differs from area to area.

Hill prairies occurred near the tops of south and west facing bluffs containing the flood plain. These areas are generally surrounded by upland forest, but are dry and similar to the sand prairies assume a prairie-like floral and faunal community. In most cases, upland forest and hill prairies were not considered as directly related to the rivers as the other habitats.

TERRESTRIAL VERTEBRATES OF THE STUDY AREA

The amphibians, reptiles, birds, and mammals of the study area were determined from four major sources. Terpening et al. (1974) surveyed the fauna and flora of the Mississippi River floodplain between Cairo, Illinois, and St. Louis, Missouri. Appendix A, is a slightly modified reproduction of their list of terrestrial and semi-aquatic vertebrates occurring or expected to occur in that study area.

Terpening et al. (1975) inventoried animals and their habitats in the floodplain of the Mississippi River from Alton, Illinois, to Hannibal, Missouri, and in the floodplain of the Illinois River from Grafton to Beardstown, Illinois. Appendix B is a slightly modified reproduction of their list of terrestrial and semi-aquatic vertebrates occurring or expected to occur in that study area.

Table C, Appendix is a slightly modified reproduction of a list of terrestrial and semi-aquatic vertebrates occurring or expected to occur in the floodplain of the Illinois Waterway from the junction of the Calumet-Sag Channel and the Chicago Sanitary and Ship Canal to the La Grange Lock and Dam. This data was obtained from a Draft Environment Statement prepared by the U.S. Army Engineer District, Chicago (COE, 1974a).

Appendix D is modified from a preliminary working draft of vertebrates occurring in the floodplain associated with the navigation pools of the upper Mississippi River, from Pool 1 to open channel below Pool 27. This data was provided by the compiler, Kent Keenlyne, Coordinator, Upper Mississippi River Conservation Committee.

Appendix E was the listing the amphibians, reptiles, birds and mammals occurring or expected to occur in the study area with a statement of the habitat in which each species is most likely to occur. It was compiled by Terpening et al. (1975) and covers the central region of the present study area.

In total, 529 species or subspecies occur including 37 amphibians, 89 reptiles, 332 birds and 71 mammals. For a discussion of the threatened vertebrates included in this group, see Newling (1975).

PROBABLE IMPACTS TO TERRESTRIAL AND SEMI-AQUATIC VERTEBRATES

Impacts to the terrestrial and semi-aquatic vertebrates of the study area will result from two sources: the actual construction of Lock and Dam 26 (replacement), and increased barge traffic and river maintenance associated with this traffic. Because of time restrictions, impacts of construction were not treated. For a preliminary discussion, however, refer to the Final Environmental Impact Statement, Locks and Dam No. 26 (replacement), by the U.S. Army Engineers District, St. Louis (COE 1975b). The remainder of this section discusses probable impacts associated with increased barge traffic.

Dredge Spoil Disposal

Disposal of materials resulting from dredging is a perpetual problem. Although dredging itself may cause temporary increases in turbidity and can destroy benthic organisms, spoil disposal can also cover beds of vegetation or benthic organisms and is subject to whims of water current if placed in water. On land, it can cover existing vegetation and temporarily or permanently eliminate the vegetation as well as bank dwellers such as amphibians, muskrats and beaver.

Assuming dredging is not increased above present levels, the problems associated with waste disposal should not intensify. However, great care must be taken in choosing disposal sites. Ideally, biological sampling and observation should be part of any plans to dispose spoil. Since very little data exists on specific biological conditions at any one point along the rivers, it is possible to choose, unknowingly and unintentionally, a disposal site which has significant biological importance such as areas producing great quantities of benthic food organisms. Preliminary sampling in the field would be an extremely valuable indicator, particularly of areas of obvious biological importance.

Research conducted on the size and shape of disposal areas could indicate optimum configurations for subsequent use by wildlife. It may be possible to provide additional nesting habitats for species such as the least tern and for turtles. Consideration should be given to closing to human disturbance any disposal areas now utilized by rare forms like the least tern during critical periods in the life cycle such as the breeding season.

Noise Pollution

At present, the effects of noise on wildlife are virtually unknown. Without data from field observation and associated

laboratory research as outlined by the report of Memphis State University (1971), impacts, positive or negative, would be difficult to predict. Places within the study area where noise may become a problem are at narrows or where the main channel closely approaches the shoreline, and at loading and docking facilities.

It is possible that noise of barge trains and towboats has little or no effect on wildlife; wild animals may easily habituate to chronic increase in frequency of "barge-noise." However, there is no data to substantiate any assumptions on these effects. Further, should towboats become more powerful and presumably, more noisy, effects of increased intensity of noise are likewise unknown. It is likely, however, that increased noise combined with increased human activity such as that associated with loading facilities would be deleterious to species requiring more secluded breeding or resting areas. Nesting colonies of herons and the rare double-crested cormorant are examples of such species. Their nesting areas should be identified and protected from further disturbance, either by human harrassment, or by encroachment resulting from construction and operation of loading facilities in the vicinity.

Air Pollution

It is doubtful that air pollution from barge towboats has a significant impact on the environment of the rivers.

Even a two-fold increase in emissions from towboats probably would not be significant, particularly if the engines are correctly tuned. It is possible that air pollution could increase from sources on the shores as a result of barge cargoes. Inadequate enforcement of emission control requirements on power plants burning high sulfur coal, for instance, could be a problem. Such an effect would be rather indirectly associated with increased river traffic.

Building Up and Wearing Down of Sandbars

Sandbar formation and disappearance is a natural occurrence, sometimes facilitated by man's activity. If no new revetment or wing dam construction is planned, only dredging and spoil disposal would be significant on this point. Scour from propeller turbulence may gouge the river bottom in shallow areas (Karaki and Van Hoften 1974), but unless benthos is destroyed or conditions of lasting turbidity are encouraged, subsequent effects on terrestrial wildlife seem minimal. Wave-action resulting from barge traffic probably would have less effect on sandbar deterioration than that of flooding. However, wave action might seriously disturb species using shorelines of sandbars for nesting, a possibility discussed in further detail in the following section. Quantitative field observations on formation and

deterioration of sandbars in relation to various types of boat traffic is essential for further discussion of impacts.

Wave Wash

Assuming that twice the present tonnage is moved by commercial barges, effects of barge-generated wave wash should likewise double. Amplitude of the waves will probably not increase, but frequency of wave impact will double. Erosion resulting from wave-wash will increase, being more significant along the narrower Illinois River. Wherever the main channel approaches the shoreline, effects will be greatest.

Shore dwelling animals such as the muskrat and beaver will be adversely affected by increased wave wash. Amphibians and reptiles using shorelines for breeding areas will be adversely affected, most directly by nest destruction. Wave wash destroying aquatic vegetation, or washing out trees at shorelines will eliminate food sources and shelter for terrestrial vertebrates. Revetment of additional erosion prone banks will eliminate habitat for muskrat and beaver, but may increase habitat for amphibians and reptiles.

Additional wave wash during high water periods may effect backwater areas by increased addition of silt and increased threat of washing out rooted aquatic vegetation. Research studies may prove high water effects of wave wash

insignificant, compared to that of flood waters; however, such quantitative data are not available at present.

In addition to effects on the shorelines, increased traffic will have a direct effect on feeding and resting rafts of waterfowl. Deterioration of the Illinois River forced major concentrations of migrating waterfowl to shift their utilization to the Mississippi River (Mills et al. 1966, Starrett 1972).

Each fall, great concentrations of waterfowl, particularly diving ducks, congregate at "staging" areas along the Mississippi River. These include the long famous Pools 19 and 18 near Keokuk, Iowa, and Oquawka, Illinois (personal communication, 16 January 1975, F. C. Bellrose, Illinois Natural History Survey). More recently, Pools 7, 8, and 9 near La Crosse, Wisconsin, have grown in importance with migrating populations of Canvasback ducks superceding in numbers those on the Keokuk pool (personal communication, D. L. Trauger, U.S. Fish and Wildlife Service). During certain periods in the fall, as much as half of the entire continental population of canvasbacks have been known to rest at concentration points on the upper Mississippi River. In addition, even greater numbers of more common diving ducks and other waterfowl share the area. During this period, the diving ducks rebuild energy

reserves feeding on fingernail clams, insect larvae and other benthic fauna (Thompson 1973). Some of these ducks remain along the river all winter, utilizing areas of open water ahead of the ice. Resting and feeding areas in open water are critical to the diving ducks. Dabbling ducks can utilize a greater variety of habitats to rest, feed and escape from molestation.

Increased disturbance drives ducks out of an area. When the diving ducks leave their staging areas, they fly directly to Chesapeake Bay, the Gulf Coast of Florida, or the Gulf Coast of Louisiana. Making this flight insufficiently rested and with low energy reserves puts stress on the ducks and forces them to spend additional time on their wintering grounds.

Human activity, mainly boating, has great influence on movements of diving ducks in the Keokuk Pool (Thornburg 1973). However, barge traffic through resting and feeding areas of these ducks, particularly at night, disturbs the ducks and may force them off preferred areas. General agreement among experts contacted indicated that the effects of such harassment may be a critical factor to continued utilization of the navigation pools.

Because of their behavior of congregating in great numbers and the severely limited amount of suitable habitat,

possible harassment of concentrations of migrating and wintering waterfowl in the study area is one of the most significant impacts of increased barge traffic. Field research indentifying the magnitude of this problem and seeking possible methods to avert it, is recommended as a high priority consideration.

Higher or Lower Water Levels in Pools

Locks and Dam 26 Replacement would be built 2 miles downstream from the present structure, inundating new areas, eliminating terrestrial habitat, but creating new aquatic habitat. Assuming maintenance of a 9-foot channel, the remainder of the study area should be unaffected by pool level fluctuation. Drawdown of pool levels would have an adverse effect on animals which cannot migrate such as fish and benthos; in winter muskrats, beavers, turtles and amphibians can all suffer. Pool levels sufficiently high to inundate land masses can cause temporary abandonment of the areas by some species, some mortality to many species, and extreme mortality to bank dwellers when inundation coincides with production of young. Generally, constant pool levels are more desirable than fluctuating levels.

Passage of barge trains causes localized water level fluctuations. In constricted sections of channel, this effect is more pronounced. Along narrow sections of the

Illinois River, change in water level with the passage of a barge train is readily observable and it is followed by a rush of water across the shallows which is probably part of the transverse wave generated by the towboat (Karaki and Van-Hoften 1974:3). Turbidity increases along the shorelines at these times and erosion probably increases; benthic reduction is likely. Field research could verify these factors. Effect of localized water level fluctuations seems to decrease with distance from shore.

Interruption of Food Chains

Concern was expressed by many of the experts contacted that increased barge traffic would increase turbidity in the rivers depressing primary production. Turbidity as well as increased turbulence during passage of barge trains might affect benthos directly. The major effects would be in the main channel which tends to be somewhat sterile biologically. However, in feeding areas of diving ducks immediately adjacent to or in the main channel, any disruption of the food chain could be significant.

Data collected on the immediate and chronic effects of turbidity and turbulence on benthic organisms would clarify the magnitude of this impact. It is recommended that such

studies include known feeding areas of diving ducks since, at present, these areas are of critical importance.

Increased Ground Water Levels

In areas adjoining the new lands to be flooded by construction of Locks and Dam 26 Replacement, a rise in the water table is expected (COE 1974_b). Some marshy areas may develop favoring wetland species locally but such impacts would not be significant in terms of the entire study area.

Accidents and Spillages

Doubling the amount of barge traffic on the rivers implies at least an arithmetic increase in the rate of navigational accidents and spillages. The increase could be geometric, however. The Illinois Waterway, generally more narrow than the Mississippi River, would probably be more prone to mishaps. Authorities contacted were in general agreement that the threat of navigational accidents poses a most potentially dangerous impact. Accidents resulting in spills have two modes of impact: short term and long term.

Short term or immediate effects are obvious. A petroleum spill in a waterfowl concentration area could kill the birds present. Considering the great numbers of waterfowl present at certain times of year, the potential for destruction is significant. In the case of the canvasback, it is conceivable that a large oil spill in a concentration area during the peak migration period could destroy a substantial percentage of the entire continental population. Such a spill would affect any species directly dependent on the rivers. Double-crested cormorants follow the rivers in migration and depend on fish as a food source. The bald eagle is primarily a fisherman.

Long term effects are less direct, but potentially more dangerous in chronic action. Should a chemical spill be lethal to molluscs, for instance, the remaining feeding grounds for the great concentrations of diving ducks could be eliminated. The Illinois River concentrations of migrating waterfowl shifted to the Mississippi at the same time benthic food sources disappeared (Mills et al. 1966). If these sources on the Mississippi River are lost, suitable alternative habitat may not be available.

Some questions involving the effects of spills include the following: Would current disperse contaminants more quickly or would it carry them downstream rapidly in active concentrations? Could spilled substances have dangerous synergistic effects? What effects would spills have on the human population of towns using the rivers for water sources? How will accidental spills be minimized? What plans exist to "clean-up" after spills? The need for a comprehensive report on navigational accidents and research on prevention and clean-up should receive priority consideration.

Secondary Impacts Associated With Increased Economic Activity

Twice the flow of traffic on the Upper Mississippi and Illinois Rivers will necessitate increased docking capabilities

for loading and unloading of barges. Construction of these facilities will eliminate habitat for wildlife; the increased human activity associated with operation may also be detrimental to existing wildlife populations. Locations of new loading sites should be selected as to minimize impact to remaining habitat.

It seems likely that increased commercial traffic and greater capacity for transporting materials will spur economic growth in the areas adjacent to loading facilities. Any new construction of roads, parking lots, buildings or factories will eliminate more of the remaining habitat for wildlife. Provisions should be made to insure refuge or greenbelt areas in the best remaining habitat in order to preserve at least a minimal viable wildlife population.

Other Impacts

As the navigational capability of the Illinois Waterway and Mississippi River increase, it seems likely that the power of towboats will increase. Such an evolution would permit more rapid handling of larger barge trains. It is possible that the immediate physical impacts created by barge trains would be subsequently increased. Heavier river traffic and more powerful towboats may keep the normally frozen portions of the river open later in the season. Such a possibility

opens another area for consideration. Increased traffic during normally slack periods may have an effect on late migrating or wintering bird populations. For instance, large numbers of bald eagles remain at various areas along the Mississippi River during the winter. One such area, Read's Landing, Minnesota, is a narrows just below Lake Pepin. The water usually remains open all winter, providing fishing areas for the eagles. Whether increased traffic would harrass the normal feeding and roosting patterns of the eagles is not known. Further, an accidental spill in the remaining open water areas during normal freeze-up periods, may multiply impacts to wildlife utilizing the open water in addition to compounding the problem of clean-up. Research on the effects of late season traffic and field observation of present conditions could clarify possible problems associated with this question.

Another question raised in regard to increased traffic is that of competition between commercial barge passage and passage of pleasure craft. Since commercial barge traffic has priority in locking activities, long waits are sometimes required by non-commercial traffic moving between pools. Under the present system, increased commercial traffic could mean only longer waits for pleasure boaters, fishermen and hunters using the rivers. This impact is mentioned as a possible source of discontent among people utilizing the wildlife resources of the river.

FURTHER RESEARCH

Completing the Locks and Dam 26 (Replacement) project implies greater capacity to handle commercial traffic on the Mississippi River and Illinois Waterway. Areas necessitating further research were mentioned in discussion of the significant impacts of increased towboat traffic. The most important priorities for research are repeated here:

1. Navigational Accidents and Spillages. An inventory of existing knowledge on accidents and spills in river systems is needed. A projection of numbers and types of anticipated spills should be prepared, and methods to prevent such accidents should be developed. Means to deal with cleaning up spills and methods to implement them should be developed and deployed for use.
2. Harrassment of Waterfowl Concentrations. Waterfowl concentrations in the study area, particularly diving ducks, represent a unique and extremely vulnerable wildlife resource. Research should commence immediately to investigate the significance of the harrassment factor involved in barge train traffic. Such research should also consider

effects of traffic on the benthic food sources of the waterfowl.

3. Impact on breeding sites. Significance of wave wash, noise pollution and general disturbance of towboat passage on animals using the banks or trees along the shoreline for breeding areas should be investigated thoroughly.

Perhaps the single most beneficial step regarding river research generating data of a valuable nature, would be the establishment of a series of field stations monitoring conditions on the river and making observations at regular intervals. Such a system could provide benchmarks studies which become increasingly valuable with each additional year; further, it could be a sensitive indicator of potential problem areas. Such a program could be implemented quite easily by enlisting the expertise and facilities available at the many colleges and universities located along the upper Mississippi River and Illinois Waterway. Such a system of regular data input would be an invaluable aid in taking the biotic pulse of the river system, understanding man's effect on the system, and maintaining it as a viable entity.

It would appear that increased traffic on the rivers is diametrically opposed to preservation and any increase in the

overall wildlife values associated with the river. The possibility is not ruled out, however, that with intensified research on problem areas, solutions may evolve providing mutually acceptable levels of river traffic and minimal levels of disturbance to associated wildlife.

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APPENDIX A

Annotated Checklist of Amphibians, Reptiles, Birds and Mammals Occurring or Expected to Occur in the Floodplain of the Mississippi River Between Cairo, Illinois, and St. Louis, Missouri. (reproduced from Terpening et al. 1974).

The amphibians, reptiles, birds and mammals in this checklist are those species that are known or expected to occur in the unprotected floodplain of the Mississippi River between St. Louis, Missouri, and Cairo, Illinois. Included are animals that have been observed in field work, reported in the literature and unpublished research, and reported by competent workers through personal communications. Those animal species which are undocumented but expected are included due to the proximity of their known range, and to the knowledge that their habitat requirements are satisfied in the unprotected floodplain. Some species which met the first two qualifications were excluded because of insufficient extent or availability of their habitat. Subject to these criteria, an asterisk indicates that the species is not known from the unprotected floodplain of that state but does in all probability occur there.

The categories of distribution, abundance, and habitat apply to the state in general and not to the unprotected floodplain alone. Distribution of each species in Illinois and

Missouri was taken from the sources cited. Ranges of some species are better delineated than others. Seven adjectives were used to indicate abundance: common (C), uncommon (UC), casual, accidental, rare (R), endangered (E), and status unknown (SU). In each case these terms were used in terms of state distribution and habitat. The term "common" as used here means that within the described range and in the described habitat one would frequently encounter the species. "Uncommon" as used here means that the species would infrequently be encountered within its range and habitat. "Casual" as used here refers to those species outside their normal range, but not so far away as to cause great surprise. "Accidental" refers to a species whose occurrence is so removed from its normal range that its appearance can not be taken as a range extension, but as a result of some chance factor such as a storm. The terms "rare," "endangered," and "status unknown" are defined as previously. Categories of abundance were determined from the sources cited and from the Illinois and Missouri lists of rare and endangered plants and animals, and were assumed to apply to both states unless otherwise indicated. The habitat category includes (1) the name of the cover types in which the animal was observed or trapped, and (2) habitat recorded in the literature. If the written habitat description

fitted one of the cover types delineated in this study, that habitat was recorded under the name of the cover type.

Basic herpetological nomenclature follows Schmidt (1953), with accepted revisions listed by Smith (1961) for all but two species (Cemophora coccinea and Matrix fasciata confluens) in Illinois, and for most species in Missouri. Anderson (1965) is the basis for Missouri species not present in Illinois. Several other taxonomic changes have been suggested since 1961. Since they are not uniformly accepted, they have not been included.

All winter residents and breeding birds are included. When more than one subspecies occurs in the study area, all are listed after the species name. Birds utilizing the unprotected floodplain only during migration and those species whose occurrence in this area is considered casual or accidental are listed only if recorded during our field work or cited as occurring in the unprotected floodplain. Nomenclature follows the American Ornithologists Union Check-List of North American Birds (1957) and the 32nd Supplement (1973). In a few cases where ranges have not been adequately delineated for subspecies, Mengel (1965) is followed.

Mammal families follow the system of classification of Hall and Kelson (1959). Four genera and one species have undergone accepted name changes since 1959 (Anderson and

Jones (1967); these are incorporated. Common names are taken from Hall and Kelson; where there is a major, recent change, the common name from Burt and Grossenheider (1964) is included.

Appreciation is expressed to Mrs. Virginia Terpening for permission to use this table.

LIST OF AMPHIBIANS AND REPTILES IN THE PROJECT AREA^{1,2,3}

Common Name	Scientific Name	Illinois Distribution	Missouri Distribution	Habitat	Abundance	Comments
Family: Cryptobranchidae (Giant Salamanders)						
1. Hellbender	<i>Cryptobranchus alleganiensis</i> (Daudin)	*Ohio River valley	Narrow belt east central to southwest	fast-running water of large rivers & streams	E-II. SU-Mo.	very restricted habitat
Family: Ambystomatidae (Mole Salamanders)						
2. Spotted salamander	<i>Ambystoma maculatum</i> (Shaw)	Southern third, north & east corners	*Southern half	woodland with temporary or semi-permanent ponds, swamps, creeks	C	fossorial
3. Marbled salamander	<i>Ambystoma opacum</i> (Gravenhorst)	Southern third to Madison Co. west, Iroquois Co. east	*Southeast quarter	wooded hilly regions, floodplains, swamp edges	C	fossorial, terrestrial
4. Mole salamander	<i>Ambystoma talpoideum</i> (Holbrook)	*Extreme south	Unknown	wooded hilly regions, floodplains, swamps	R	range in the River valley yet to be delineated
5. Small-mouthed salamander	<i>Ambystoma texanum</i> (Matthes)	*Southern three-fourths	*Northern half & east & west borders	all habitats, usually near moisture	C	fossorial
6. Eastern tiger salamander	<i>Ambystoma tigrinum tigrinum</i> (Green)	*Statewide	*Statewide	any habitat with permanent ponds & burrowing substrate	C	fossorial
Family: Salamandridae (Newts)						
7. Central newt	<i>Notophthalmus viridescens louisianensis</i> Wolterstorff	*South & northern one-fifth	*Statewide except north-west	land form: moist woodlands; aquatic form: ponds, marshes, streams	UC	
Family: Amphiumidae (Amphiumas)						
8. Three-toed amphiuma	<i>Amphium means tridactylum</i> Cuvier	*Unknown	*Bootheel	Mud in ditches and swamps of permanent water	---	southern species
Family: Proteidae (Giant Salamanders)						
9. Mudpuppy	<i>Necturus maculosus maculosus</i> (Rafinesque)	Statewide	Statewide	lakes, lagoons, rivers, large creeks	C	spawn in Miss. R. backwaters
Family: Sirenidae (Sirens)						
10. Western lesser siren	<i>Siren intermedia nettingi</i> Goin	*Southern third, up Illinois R. system to Marshall Co.	*Southeast one-fifth	swamps, ditches, sloughs	C-II. --Mo.	reduced to floodplain swamp along major rivers in Illinois
Family: Pelobatidae (Spadefoot Toads)						
11. Eastern spadefoot toad	<i>Scaphiopus holbrookii</i> (Harlan)	*Southern quarter	*Southeast quarter	loose or sandy soils	R-II. C-Mo.	subterranean
Family: Bufonidae (Toads)						
12. American toad	<i>Bufo americanus americanus</i> Holbrook	Northern two-thirds, extending to Jackson Co. on west	*Southcentral	all habitats including levees	C	

¹ Anderson (1965).² Smith (1961).³ Wiley (1968).

*Species expected.

LIST OF AMPHIBIANS AND REPTILES IN THE PROJECT AREA

Common Name	Scientific Name	Illinois Distribution	Missouri Distribution	Habitat	Abundance	Comments
13. Dwarf toad	<i>Bufo americanus charlesmithi</i> Bragg	South, south-central, southwest extending to Adams Co.	*Southern third	forested areas, levees	UC-II. -Mo.	breeds in floodplain, intergrades with Am. toad in westcentral Il.
14. Fowler's toad	<i>Bufo woodhousei fowleri</i> Hinckley	Southern two-thirds, Lake & Cook Co.	Southeast two-thirds	levees, sandy areas along lakes, rivers, & streams	C	
Family: Hylidae (Treefrogs and Allies)						
15. Blanchard's cricket frog	<i>Acris crepitans blanchardi</i> Harper	*Statewide	Statewide	levees, nearly any wet place	C	
16. Western chorus frog	<i>Pseudacris triseriata triseriata</i> (Wied)	Statewide except extreme south	*Statewide except Bootheel, Scott & Mississippi Co.	flooded cultivated fields, temporary pools & ditches, cultivated areas	C	
17. Upland chorus frog	<i>Pseudacris triseriata feriarum</i> (Baird)	*Extreme south & southeast	*Bootheel, Scott & Mississippi Co.	floodplains & mesic woods	C	intergrades with w. chorus frog in se. Il. & Jackson & Union Co.
18. Illinois chorus frog	<i>Pseudacris streckeri illinoensis</i> Smith	Westcentral & Alexander Co.	*Bootheel	flooded farmland, sandy floodplains, cypress swamps	R-II. SU-Mo.	scattered distribution
19. Western bird-voiced treefrog	<i>Hyla avivoca avivoca</i> Viosca	*Union, Alexander & Johnson Co.	Unknown	floodplains & cypress swamps of the Mississippi R.	R	locally abundant
20. Green treefrog	<i>Hyla cinerea</i> (Schneider)	*Union, Alexander & Johnson Co.	*Bootheel, Scott & Mississippi Co.	cypress swamps, floodplain sloughs & marshes	R-II. SU-Mo.	locally abundant
21. Northern spring peeper	<i>Hyla crucifer crucifer</i> Wied	Statewide	*Statewide except extreme northwest	mesic forests, water	C	
22. Gray treefrog	<i>Hyla versicolor</i> LeConte	*Statewide	*Statewide	forested areas	C	
Family: Ranidae (True Frogs)						
23. Northern crayfish frog	<i>Rana areolata circulosa</i> Rice & Davis	*Southern half	North & central	crayfish burrows, associated with clay soils	C	breeds on flooded fields & pastures
24. Bullfrog	<i>Rana catesbeiana</i> Shaw	Statewide	*Statewide	any permanent water	C	
25. Green frog x bronze frog	<i>Rana clamitans melanota</i> (Rafinesque) x <i>clamitans</i> Latreille	*Jackson, Union, & Alexander Co.	*Bootheel	swampy areas	UC	intergrade
26. Pickerel frog (southern race)	<i>Rana palustris</i> LeConte	*Union & Alexander Co.	*Southern half & Mississippi R. valley	floodplain swamps, relatively clear water	UC	range poorly defined
27. Southern leopard frog	<i>Rana pipiens sphenoccephala</i> Cope	Southern half	Southern three-fourths	near any type of water, secondary succession	C	
Family: Microhylidae (Narrow-mouthed Toads)						
28. Eastern narrow-mouthed toad	<i>Gastrophryne carolinensis carolinensis</i> (Holbrook)	Monroe & Randolph Co.	*Scattered in southern half	ponds, streams, swamp edges	R-II. SU-Mo.	

LIST OF AMPHIBIANS AND REPTILES IN THE PROJECT AREA

Common Name	Scientific Name	Illinois Distribution	Missouri Distribution	Habitat	Abundance	Comments
Family: Chelydridae (Snapping Turtles)						
29. Snapping turtle	<i>Chelydra serpentina</i> (Linnaeus)	Statewide	Statewide	any permanent or semipermanent body of water	C	
30. Alligator snapping turtle	<i>Macrolemys temmincki</i> (Troost)	Mississippi, lower Illinois, Ohio & Wabash R. systems & swamps	Southern quarter & eastern one-fifth	bottoms of muddy streams	E-II R-Mo.	
Family: Kinosternidae (Musk and Mud Turtles)						
31. Stinkpot	<i>Sternotherus odoratus</i> (Latreille)	Statewide	*Southern two-thirds & Mississippi R. valley	permanent ponds, shallow lakes, rivers & streams	C	bottom-dweller
32. Mississippi mud turtle	<i>Kinosternon subrubrum hippocrepis</i> Gray	Unknown	*Extreme southeast, Jackson Co.	shallow water in swamps, ponds & ditches	UC	
33. Eastern mud turtle x Mississippi mud turtle	<i>Kinosternon s. subrubrum</i> (Lacepede) x <i>hippocrepis</i> Gray	*Southern one-fifth, Calhoun Co.	Unknown	mud of shallow ponds, sloughs	R	
Family: Testudinidae (Box and Water Turtles)						
34. Western chicken turtle	<i>Deirochelys reticularis minoris</i> Schwartz	Unknown	*Butler, Dunklin, Stoddard, New Madrid Co.	still water of ponds, marshes, ditches	R	northern range extension
35. Eastern box turtle	<i>Terrapene carolina carolina</i> (Linnaeus)	Southern half	Unknown	open wooded areas, sometimes mud holes & marshy areas, younger stands	C	
36. Three-toed box turtle	<i>Terrapene carolina triunguis</i> (Agassiz)	Unknown	Statewide except extreme north	timbered hillsides, open flat lands, stream valleys, levees	C	
37. Midland painted turtle	<i>Chrysemys picta marginata</i> Agassiz	Statewide except west from Pike Co. north	Unknown	ponds, lakes, river sloughs	C	
38. Western painted turtle	<i>Chrysemys picta belli</i> (Gray)	West edge from Pike Co. north	*Statewide except southeast one-third & extreme south	shallows of sloughs & ponds, mud bottoms	C	intergrades with midland painted nearly statewide in Illinois
39. Southern painted turtle	<i>Chrysemys picta dorsalis</i> (Agassiz)	Unknown	*Extreme southeast	quiet water of drainage & roadside ditches	C	
40. Southern painted turtle x midland painted turtle	<i>Chrysemys picta dorsalis</i> (Agassiz) x <i>marginata</i> Agassiz	Alexander, Polaski & Massac Co.	Unknown	quiet waters	---	intergrade
41. Red-eared turtle	<i>Pseudemys scripta elegans</i> (Wied)	Southern four-fifths	Statewide except northwest	slow streams, lakes, river sloughs	C-II UC-Mo.	
42. Missouri slider	<i>Pseudemys floridana hoyi</i> (Agassiz)	Unknown	*Southern quarter	rivers & large bodies of permanent water	UC	
43. Slider	<i>Pseudemys concinna hieroglyphica</i> (Holbrook)	Unknown	Southern fifth, Mississippi R. valley to Ste. Genevieve Co.	drainage ditches, floodplain sloughs, quiet stretches of rivers	UC	intergrades with Mo. slider

LIST OF AMPHIBIANS AND REPTILES IN THE PROJECT AREA

Common Name	Scientific Name	Illinois Distribution	Missouri Distribution	Habitat	Abundance	Comments
44. Hieroglyphic turtle	<i>Pseudemys concinna hieroglyphica</i> (Holbrook) x <i>floridana hoyi</i> (Agassiz)	Mississippi, Wabash & Ohio R. valleys	*Dunklin Co., possibly southern quarter	large rivers & adjacent lakes & sloughs	R-II, --Mo.	hybrid
45. Map turtle	<i>Graptemys geographica</i> (Le Sueur)	Statewide	*Statewide except north-central	large rivers, backwater sloughs	UC	
46. False map turtle	<i>Graptemys pseudogeographica</i> (Gray)	Statewide	Statewide	large rivers & their bays, large lakes, young bar	UC	
47. Mississippi map turtle	<i>Graptemys kohni</i> Baur	Unknown	*Statewide except extreme north	quiet rivers & bayous, with areas of vegetation	---	
Family: Trionychidae (Softshell Turtles)						
48. Smooth soft-shell turtle	<i>Trionyx muticus muticus</i> Le Sueur	Southern half, Mississippi & Illinois R. north	Statewide	soft sandy bottoms of rivers, water	C	utilizes sand-bars
49. Eastern spiny softshell turtle	<i>Trionyx spinifer spinifer</i> Le Sueur	Statewide	Unknown	sand & mud flats, rivers, lakes, ponds with soft bottoms	C	
50. Western spiny softshell turtle	<i>Trionyx spinifer hartwegi</i> Conant & Goin	Unknown	Statewide	rivers, lakes, ponds with soft bottoms	C	intergrades with w. spiny in e. Mo. & w. IL, Miss. R.
Family: Iguanidae (Iguanids)						
51. Northern fence lizard	<i>Sceloporus undulatus hyacinthinus</i> (Green)	Southern third except Wabash R. area	*Southern two-thirds	dry wooded areas, old fields	C	
Family: Anguidae (Glass Lizards)						
52. Western slender glass lizard	<i>Ophisaurus attenuatus attenuatus</i> Cope	*Probably statewide	*Probably statewide	relatively dry woods & grasslands, fields	R	fossorial, known from bottomland fields
Family: Scincidae (Skinks)						
53. Ground skink	<i>Scincella laterale</i> (Say)	*Southern third & Mason Co.	*Southern half	wooded areas	C	
54. Five-lined skink	<i>Eumeces fasciatus</i> (Linnaeus)	*Southern half	*Statewide	moist, wooded areas	C	
55. Broad-headed skink	<i>Eumeces laticeps</i> (Schneider)	*Southern half, extending to Rock Is. Co. on the west	*Southern half	moist wooded areas	C	
Family: Teiidae (Whiptails)						
56. Six-lined race-runner	<i>Cnemidophorus sexlineatus sexlineatus</i> Linnaeus	*Co. bordering Wabash, Saline, Illinois & Mississippi R.	Statewide except north & central	sand & hill prairies, minor sand areas	C	
Family: Colubridae (Colubrids)						
57. Western mud snake	<i>Farancia abacura reinwardti</i> (Schlegel)	*Extreme south to Randolph Co.	*Southeast	shallow ponds, sloughs, swamps	---	secretive
58. Dusty hognose snake	<i>Heterodon nasicus gloydi</i> Edgren	*Scattered in northwest & Monroe Co.	*Scott & Mississippi Co.	prairies, sand areas	R-II, E-Mo.	relict populations, total distribution undetermined

LIST OF AMPHIBIANS AND REPTILES IN THE PROJECT AREA

Common Name	Scientific Name	Illinois Distribution	Missouri Distribution	Habitat	Abundance	Comments
59. Eastern hognose snake	<i>Heterodon platyrhinos</i> Latreille	*Statewide	*Statewide	floodplains, forest-edge, open woods, clay or sandy loam	C	
60. Rough green snake	<i>Ophedrys aestivus</i> (Linnaeus)	*Southern half	*Southern three-fourths	most commonly seen in vegetation overhanging water	C	
61. Eastern yellow-bellied racer	<i>Coluber constrictor flaviventris</i> Say	Statewide	Statewide except southeast	forest edge, cultivated fields, brushy areas	C	
62. Southern black racer	<i>Coluber constrictor priapus</i> Dunn & Wood	Unknown	*Southeast	fields, brushy areas	C	present in extreme s. Il. & se. Mo. as intergrade with eastern yellow-bellied racer
63. Black rat snake	<i>Elaphe obsoleta obsoleta</i> (Say)	Statewide except northeast fifth	Statewide except southeast	moist woodlands, most habitats, levees	C	
64. Gray rat snake	<i>Elaphe obsoleta spiloides</i> Dumeril, Bibron & Dumeril	*South & southeast	*Southeast	drainage ditches, moist woodlands	C	intergrades with black rat snake in southcentral Il. & Mo.
65. Prairie kingsnake	<i>Lampropeltis calligaster calligaster</i> (Harlan)	*Southern two-thirds	*Statewide	old fields, brushy areas	C	
66. Black kingsnake	<i>Lampropeltis getulus niger</i> (Yarrow)	South & south-east & south-central	Unknown	levees, hills, open woods, stream valleys	C	
67. Black kingsnake x speckled kingsnake	<i>Lampropeltis getulus niger</i> (Yarrow) x <i>holbrooki</i> Stejneger	*Southcentral	*Extreme southeast	open woods, stream valleys, bottomlands	C-Il UC-Mo.	
68. Red milksnake	<i>Lampropeltis triangulum sypila</i> (Cope)	Southern half	*Statewide	younger stand, woodlands, rotten logs, under rocks	UC	secretive
69. Scarlet snake	<i>Cemophora coccinea</i> (Blumenbach)	*Union Co.	Phelps & Dunklin Co.	variety of habitats, under moist ground cover	E-Il R-Mo.	fossorial, secretive
70. Western ribbon snake	<i>Thamnophis sauritus proximus</i> (Say)	Statewide except central & southeast	*Statewide	levees, swamp & marsh edges, stream banks	C	
71. Eastern garter snake	<i>Thamnophis sirtalis sirtalis</i> (Linnaeus)	Statewide except northeast	*Eastern half	forest-edge preferred, levees, variety of habitats	C	
72. Northern lined snake	<i>Tropidoclonion lineatum lineatum</i> (Hallowell)	Putnam, Sangamon, Macon & Macoupin Co.	*Northern half, St. Louis & Jefferson Co.	urban areas, under rocks & leaves	E-Il UC-Mo.	
73. Midland brown snake	<i>Storeria dekayi wrightorum</i> Trapido	*Statewide	*Statewide	forest, prairie, fields, floodplains, uplands	C	intergrades with Texas brown snake in Mo.
74. Northern red-bellied snake	<i>Storeria occipitomaculata occipitomaculata</i> (Storer)	*Statewide	*Southern three-fourths	pastures, wet meadows, moist woodlands	UC	

LIST OF AMPHIBIANS AND REPTILES IN THE PROJECT AREA

Common Name	Scientific Name	Illinois Distribution	Missouri Distribution	Habitat	Abundance	Comments
75. Green water snake	<i>Natrix cyclopion cyclopion</i> Dumeril, Bibron & Dumeril	*Union, Alexander & Pulaski Co.	*Extreme southeast	sluggish streams, R bayous, lakes		
76. Yellow-bellied water snake	<i>Natrix erythrogaster flavigaster</i> Conant	*Southcentral & southwest, up Illinois R. system	*Southeast	quiet water of ponds, lakes, swamps	C	
77. Northern copperbelly water snake	<i>Natrix erythrogaster neglecta</i> Conant	*Southeast & southcentral, Rock Is. Co.	Unknown	quiet water of ponds, lakes, swamps	UC	intergrades with yellow-bellied water snake in Rock Is. Co. & s. central IL.
78. Graham's water snake	<i>Natrix grahami</i> (Baird & Girard)	Statewide except extreme north, & Ohio & Wabash R. counties	*Statewide	sluggish water of lakes, river bottom sloughs & marshes	C	shy, secretive
79. Diamond-backed water snake	<i>Natrix rhombifera rhombifera</i> (Hallowell)	Southern quarter & Illinois & Mississippi R. systems	*Statewide except extreme north	sloughs, shallow ponds, marshes, wet cultivated fields	C-II. -Mo.	
80. Broad-banded water snake	<i>Natrix fasciata confluens</i> Blanchard	*Alexander Co.	*Southeast	slow, shallow waters with mud bottom	R-II. Uc-Mo.	
Family: Crotalidae (Crotalids)						
81. Western cottonmouth	<i>Agkistrodon piscivorus leucostomus</i> (Troost)	*Extreme south & Monroe Co.	*Southern third & Livingston Co.	sloughs, swamps, marsh areas, gravel bars at some Mo. locations	C-II. UC-Mo.	
82. Southern copperhead	<i>Agkistrodon contortrix contortrix</i> (Linnaeus)	Unknown	*Extreme southeast	lowland woods, hillsides	UC	
83. Southern x northern copperhead	<i>Agkistrodon c. contortrix</i> (Linnaeus) x <i>mokeson</i> (Daudin)	*Mississippi R. valley to Adams Co.	*Southeast	lowland woods & hillsides	C-II. UC-Mo.	intergrade
84. Eastern massasauga rattlesnake	<i>Sistrurus catenatus catenatus</i> (Rafinesque)	*Northern four-fifths	*St. Charles Co.	bogs, wet woodlands, old fields	UC-II. R-Mo.	
85. Canebrake rattlesnake	<i>Crotalus horridus atricaudatus</i> Latreille	Unknown	*Southeast	bottomland, swamp flatlands	R	
86. Canebrake rattlesnake x timber rattlesnake	<i>Crotalus horridus atricaudatus</i> Latreille x <i>horridus</i> Linnaeus	*Union, Alexander, Pulaski & Massac Co.	*South & eastcentral	bottom woodlands	E-II. R-Mo.	intergrade

LIST OF BIRDS IN THE PROJECT AREA^{1,2,3}

Common Name	Scientific Name	Illinois Distribution	Missouri Distribution	Habitat	Abundance	Comments
Order: Gaviiformes (Loons)						
1. Common loon	<i>Gavia immer</i> Brunnich	Statewide in migration	Statewide in migration	open water	UC	winter transient
2. Red-throated loon	<i>Gavia stellata</i> Pontoppidan	---	---	open water	Casual	winter visitant
3. Arctic loon	<i>Gavia arctica</i> Linnaeus	---	---	open water	Casual	winter visitant
Order: Podicipediformes (Grebes)						
4. Horned grebe	<i>Podiceps auritus</i> Linnaeus	Statewide	Eastern	water	UC	winter transient
5. Eared grebe	<i>Podiceps caspicus</i> Habizel	---	---	water	Casual	a few records for River
6. Red-necked grebe	<i>Podiceps grisegera</i> Boddaert	---	A few St. Louis records	water	Casual	
7. Western grebe	<i>Aechmophorus occidentalis</i> Lawrence	---	---	water	Casual	1 winter record for St. Louis
8. Pied-billed grebe	<i>Podilymbus podiceps podiceps</i> Linnaeus	Statewide	Statewide, more common in south	water, sloughs, flooded fields	C	summer resident
Order: Pelecaniformes (Pelicans and Allies)						
9. Double-crested cormorant	<i>Phalacrocorax auritus auritus</i> Lesson	Southwest	Southeast	water	E	several recent sightings, no recent breeding records
10. Anhinga	<i>Anhinga anhinga leucogaster</i> Vieillot	*Unknown	*Southeast	hardwood swamps	E	post-season wanderer, summer resident
Order: Ciconiiformes (Hérons and Allies)						
11. Great blue heron	<i>Ardea herodias wardi</i> Ridgway	Statewide	Statewide	flooded fields, sandbars, older stand timber, chutes, sloughs	C	recent decline in Midwest, permanent resident
12. Green heron	<i>Butorides virescens virescens</i> Linnaeus	Statewide	Statewide	older stand timber	C	summer resident
13. Little blue heron	<i>Florida caerulea caerulea</i> Linnaeus	Restricted to Mississippi River	Restricted to Mississippi River	flooded fields, roadside ditches	R	summer resident, post-breeding wanderer
14. Cattle egret	<i>Buhulcus ibis ibis</i> Linnaeus	Scattered	Scattered	fields	UC	recent range extension, summer resident
15. Great egret	<i>Casmerodius albus egretta</i> Gmelin	Statewide	Statewide	fields, older stand timber, side channels	C	summer resident, post-breeding visitant
16. Snowy egret	<i>Egretta thula thula</i> Molina	---	---	fields, side channels	UC	summer visitant
17. Black-crowned night heron	<i>Nycticorax nycticorax hoactli</i> Gmelin	Statewide	Statewide	older stand timber	R	summer resident
18. Yellow-crowned night heron	<i>Nyctanassa violacea violacea</i> Linnaeus	Southwest	Southeast	older stand timber, flooded fields	C	summer resident
19. Least bittern	<i>Ixobrychus exilis exilis</i> (Gmelin)	*Scattered	*Scattered	marshes, grass near water	UC	summer resident, marginal if present here

¹ American Ornithologist's Union (1957).² Graber, Graber and Kirk (1972).³ Robbins, Bruun and Zim (1966).

* Species expected.

LIST OF BIRDS IN THE PROJECT AREA

Common Name	Scientific Name	Illinois Distribution	Missouri Distribution	Habitat	Abundance	Comments
20. American bittern	<i>Icthyophaga lentiginosa</i> (Rackett)	*Statewide	*Statewide	marshes, grass near water	UC	summer resident, marginal if present here
21. Wood ibis or wood stork	<i>Mycteria americana</i> Linnaeus	---	---	---	R	two records from American Bottoms
22. Glossy ibis	<i>Plegadis falcinellus</i> Linnaeus	---	---	---	Accidental	one collected Madison Co., Ill. in 1880
23. Roseate spoonbill	<i>Ajaja ajaja</i> Linnaeus	---	---	---	Accidental	one collected Miss. R. Bottoms near St. Louis
Order: Anseriformes (Waterfowl)						
24. Canada goose	<i>Branta canadensis</i> Linnaeus	Statewide in winter	Statewide in winter	sandbars, sloughs	C	winter resident at refuges
25. Mallard	<i>Anas platyrhynchos platyrhynchos</i> Linnaeus	Statewide in winter	Statewide in winter	side channels, sloughs, sandbars	C	winter resident
26. Blue-winged teal	<i>Anas discors discors</i> Linnaeus	Statewide	Statewide	flooded fields	C	uncommon summer resident
27. American wigeon	<i>Anas americana</i> Gmelin	Statewide	Statewide	flooded fields	C	transient
28. Northern shoveler	<i>Anas clypeata</i> Linnaeus	Statewide	Statewide	flooded fields	UC	transient
29. Black duck	<i>Anas rubripes</i> Brewster	Statewide	Statewide	rivers	UC	winter resident
30. Wood duck	<i>Aix sponsa</i> Linnaeus	Statewide	Statewide	sloughs, flooded woods	C	summer resident
31. Lesser scaup	<i>Aythya affinis</i> Eyton	Statewide	Statewide	side channels, sloughs	UC	transient
32. Common goldeneye	<i>Bucephala clangula</i> Linnaeus	Statewide	Statewide	rivers	UC	winter resident
33. Hooded merganser	<i>Lophodytes cucullatus</i> (L.)	*Statewide	*Statewide	mature forest with water	R	summer resident
34. Common merganser	<i>Mergus merganser</i> Linnaeus	Statewide	Statewide	rivers	UC	winter resident
Order: Falconiformes (Vultures, Hawks and Falcons)						
35. Turkey vulture	<i>Cathartes aura septentrionalis</i> Linnaeus	Statewide	Statewide	most habitats	C	summer resident, uncommon winter resident
36. Black vulture	<i>Coragyps atratus</i> (Bechstein)	South	Southeast	most habitats	R	summer resident
37. Mississippi kite	<i>Ictinia mississippiensis</i> (Wilson)	Restricted to Miss. R. & some floodplains	Restricted to Miss. R.	older stand timber	R	increasing in recent years
38. Cooper's hawk	<i>Accipiter cooperii</i> (Bonaparte)	Statewide	Statewide	deciduous forest edge	E	permanent resident
39. Red-tailed hawk (Eastern)	<i>Buteo jamaicensis borealis</i> Gmelin	Statewide	Statewide	fields, edge of older stand timber	C	permanent resident
40. Harlan's hawk	<i>Buteo jamaicensis harlani</i> Audubon	Appears to be restricted to Miss. R. & floodplain	*Unknown	fields	R	winter visitant

LIST OF BIRDS IN THE PROJECT AREA

Common Name	Scientific Name	Illinois Distribution	Missouri Distribution	Habitat	Abundance	Comments
41. Red-shouldered hawk	<i>Buteo lineatus lineatus</i> Gmelin	Statewide	Statewide	bottomland forests with clearings	E-IL R-Mo.	summer resident rare in winter
42. Broad-winged hawk	<i>Buteo platypterus platypterus</i> Vieillot	Statewide	Statewide	forests	UC	summer resident
43. Rough-legged hawk	<i>Buteo lagopus</i> Pontoppidan	Statewide	Statewide	fields	R	winter visitant
44. Marsh hawk	<i>Circus cyaneus</i> Linnaeus	Statewide	Statewide	fields near water	R	winter resident
45. Osprey	<i>Pandion haliaetus carolinensis</i> (Gmelin)	Scattered	Scattered	along rivers and waterways	E	summer resident
46. Bald eagle	<i>Haliaeetus leucocephalus</i> Linnaeus	Restricted to Mississippi R. in winter	Restricted to Mississippi R. in winter	sandbars, older stand timber, flooded fields	E	winter resident, C in project area
47. Golden eagle	<i>Aquila chrysaetos</i> Linnaeus	Unknown (Apparently not as restricted to the river as the bald eagle)	Unknown	over rivers	UC	winter resident
48. Peregrine falcon	<i>Falco peregrinus anatum</i> Bonaparte	*Scattered	*Scattered	cliffs	E	
49. Sparrow hawk	<i>Falco sparverius sparverius</i> Linnaeus	Statewide	Statewide	old and cultivated fields	C	permanent resident
Order: Galliformes (Gallinaceous Birds)						
50. Bobwhite	<i>Colinus virginianus virginianus</i> Linnaeus	Statewide	Statewide	old and cultivated fields	UC	permanent resident
51. Turkey	<i>Meleagris gallopavo nivestris</i> Vieillot	Scattered	*Scattered	deciduous woods	UC	
Order: Gruiformes (Cranes and Allies)						
52. King rail	<i>Rallus elegans elegans</i> Audubon	*Statewide	*Statewide	marshy habitat	UC	summer resident, marginal
53. Virginia rail	<i>Rallus limicola limicola</i> Vieillot	*Statewide	*Statewide	marshy habitat	UC	summer resident, marginal
54. Sora	<i>Porzana carolina</i> Linnaeus	Statewide	Statewide	flooded fields	R	transient
55. American coot	<i>Fulica americana americana</i> Gmelin	Statewide	Statewide	flooded fields and woods, sloughs	C	transient, uncommon summer resident
56. Common gallinule	<i>Gallinula chloropus cachinnans</i> Bangs	Scattered	*Scattered	marshy areas	UC	locally common
Order: Charadriiformes (Shorebirds, Gulls and Terns)						
57. Killdeer	<i>Charadrius vociferus vociferus</i> Linnaeus	Statewide	Statewide	cultivated and barren fields	C	summer resident
58. Spotted sandpiper	<i>Actitis macularia</i> Linnaeus	Statewide	Statewide	sand and mud flats	C	summer resident
59. Dunlin	<i>Calidris alpina</i> Linnaeus	Statewide	Statewide	sand and mud flats	C	transient
60. Pectoral sandpiper	<i>Calidris menalotos</i> Vieillot	Statewide	Statewide	sand and mud flats	UC	transient
61. Buff-breasted sandpiper	<i>Tryngites subruficollis</i> Vieillot	Statewide	Statewide	sand and mud flats	UC	transient
62. American golden plover	<i>Puvialis dominica</i> Muller	Statewide	Statewide	sand and mud flats	C	transient
63. American woodcock	<i>Philohela minor</i> (Gmelin)	*Statewide	*Statewide	fields, wet woodlands	UC	summer resident
64. Upland sandpiper	<i>Bartremis americana</i> (Bechstein)	*Scattered	*Scattered	fields	UC	summer resident
65. Greater yellowlegs	<i>Tringa melanoleucus</i> Gmelin	Statewide	Statewide	cultivated and barren fields	UC	transient

LIST OF BIRDS IN THE PROJECT AREA

Common Name	Scientific Name	Illinois Distribution	Missouri Distribution	Habitat	Abundance	Comments
66. Herring gull	<i>Larus argentatus</i> Pontoppidan	Statewide	Statewide	rivers, sloughs, sandbars, side channels	UC	winter resident
67. Ring-billed gull	<i>Larus delawarensis</i> Ord	Statewide	Statewide	river, sloughs, sandbars, side channels	C	winter resident
68. Common tern	<i>Sterna hirundo</i> Linnaeus	Statewide	Statewide	rivers	UC	transient
69. Interior Least tern	<i>Sterna albifrons</i> <i>athalassos</i> Burleigh & Lowery	Mississippi & Ohio Rivers	Missouri & Mississippi Rivers	sandbars	R	summer resident
70. Black tern	<i>Chlidonias niger</i> Linnaeus	Statewide	Statewide	rivers, sloughs, sandbars	UC	transient, for- merly bred in small num- bers near St. Louis
Order: Columbiformes (Pigeons and Doves)						
71. Rock dove	<i>Columba livia</i> Gmelin	Statewide	Statewide	fields near farms	C	permanent resident
72. Mourning dove	<i>Zenaida macroura</i> <i>carolinensis</i> Linnaeus	Statewide	Statewide	sloughs, woods, fields, second- ary succession	C	permanent resident
Order: Cuculiformes (Cuckoos)						
73. Yellow-billed cuckoo	<i>Coccyzus americanus</i> <i>americanus</i> Linnaeus	Statewide	Statewide	edge of forests	C	summer resident
Order: Strigiformes (Owls)						
74. Screech owl	<i>Otus asio asio</i> Linnaeus	Statewide	Statewide	younger stand timber	C	permanent resident
75. Great horned owl	<i>Bubo virginianus</i> <i>virginianus</i> (Gmelin)	Statewide	Statewide	mature forest	UC	permanent resident
76. Barred owl	<i>Strix varia varia</i> Barton	Statewide	Statewide	younger and older stand	C	permanent resident
77. Short-eared owl	<i>Asio flammus flam-</i> <i>meus</i> (Pontoppidan)	Scattered	Scattered	old field	R	winter resident
Order: Caprimulgiformes (Goatsuckers)						
78. Common night- hawk	<i>Chordeiles minor</i> <i>minor</i> (Forster)	*Statewide	*Statewide	known to rest on roofs, de- veloped land	C	summer resident
Order: Apodiformes (Swifts and Hummingbirds)						
79. Chimney swift	<i>Chaetura pelagica</i> Linnaeus	*Statewide	*Statewide	breeds in chim- neys, developed land	UC	summer resi- dent, locally common
80. Ruby-throated hummingbird	<i>Archilochus colubris</i> (Linnaeus)	*Statewide	*Statewide	bottomland forest	UC	summer resident
Order: Coraciiformes (Kingfishers)						
81. Belted king- fisher	<i>Megasceryle alcyon</i> <i>alcyon</i> Linnaeus	Statewide	Statewide	side channels, sloughs	UC	summer resident
Order: Piciformes (Woodpeckers)						
82. Yellow-shafted flicker	<i>Colaptes auratus</i> <i>luteus</i> Bangs	Statewide	Statewide	younger and older stands, edges of old fields	C	permanent resident
83. Pileated woodpecker	<i>Dryocopus pileatus</i> <i>pileatus</i> Linnaeus	Statewide	Statewide	older stand	UC	permanent resident
84. Red-bellied woodpecker	<i>Centurus carolinus</i> <i>zebra</i> Boddart	Statewide	Statewide	older stand, younger stand, secondary succession	C	permanent resident

LIST OF BIRDS IN THE PROJECT AREA

Common Name	Scientific Name	Illinois Distribution	Missouri Distribution	Habitat	Abundance	Comments
85. Red-headed woodpecker	<i>Melanerpes erythrocephalus erythrocephalus</i> Linnaeus	Statewide	Statewide	bottomland forests, preferably oak-hickory	C	summer resident only
86. Yellow-bellied sapsucker	<i>Sphyrapicus varius varius</i> (Linnaeus)	Scattered	Scattered	older stand	R	winter resident
87. Downy woodpecker	<i>Dendrocopos pubescens medianus</i> Swainson	Statewide	Statewide	older and younger stands, secondary succession	C	permanent resident
88. Hairy woodpecker	<i>Dendrocopos villosus villosus</i> (L.)-No.; <i>D. v. auduboni</i> (Swainson)-So.	*Statewide	*Statewide	deciduous forest	C	permanent resident
Order: Passeriformes (Perching Birds)						
89. Eastern kingbird	<i>Tyrannus tyrannus</i> Linnaeus	Statewide	Statewide	old and cultivated fields	C	summer resident
90. Great-crested flycatcher	<i>Myiarchus crinitus boreus</i> Bangs	Statewide	Statewide	variety of habitats	C	summer resident
91. Eastern phoebe	<i>Sayornis phoebe</i> Latham	Statewide	Statewide	woodlands near water	C	summer resident
92. Eastern wood pewee	<i>Contopus virens</i> Linnaeus	Statewide	Statewide	woodlands near water	C	summer resident
93. Acadian flycatcher	<i>Empidonax virescens</i> (Vieillot)	*Statewide	*Statewide	bottomland forest	UC	summer resident
94. Traill's flycatcher	<i>Empidonax traillii traillii</i> (Audubon)	*Statewide	*Statewide	bottomland	UC	summer resident
95. Horned lark	<i>Eremophila alpestris praticola</i> Henshaw	Statewide	Statewide	old and cultivated fields	C	permanent resident
96. Tree swallow	<i>Iridoprocne bicolor</i> Vieillot	Statewide	Statewide	bottomland	UC	summer resident
97. Bank swallow	<i>Riparia riparia riparia</i> Linnaeus	Statewide	Statewide	bottomland, exposed banks	SU	summer resident
98. Rough-winged swallow	<i>Stelgidopteryx ruficollis serripennis</i> Audubon	Statewide	Statewide	bottomlands	C	summer resident
99. Barn swallow	<i>Hirundo rustica erythrogaster</i> Boddaert	Statewide	Statewide	over water, fields, nests on man-made structures	C	summer resident
100. Cliff swallow	<i>Petrochelidon pyrrhonota</i> Vieillot	Statewide	Statewide	exposed banks	SU	summer resident
101. Purple martin	<i>Progne subis subis</i> Linnaeus	Scattered	Scattered	natural cavities	UC	summer resident
102. Blue jay	<i>Cyanocitta cristata cristata</i> Linnaeus-So.; <i>C. c. bromia</i> Oberholser-No.	Statewide	Statewide	younger and older stands, secondary succession, young hars	C	permanent resident
103. Common crow	<i>Corvus brachyrhynchos brachyrhynchos</i> Brehm	Statewide	Statewide	older stands, sandbars	C	permanent resident
104. Fish crow	<i>Corvus ossifragus</i> Wilson	Restricted to Mississippi R.	Miss. R. as far north as St. Louis	sandbars	R	permanent resident
105. Carolina chickadee	<i>Parus carolinensis extimus</i> Todd & Sutton	South	South	older and younger stands, secondary succession, young sandbars	C	permanent resident

LIST OF BIRDS IN THE PROJECT AREA

Common Name	Scientific Name	Illinois Distribution	Missouri Distribution	Habitat	Abundance	Comments
106. Black-capped chickadee	<i>Parus atricapillus</i> <i>atricapillus</i> Linnaeus	North	North	older and younger stands, secondary succession	C	permanent resident, locally common
107. Tufted titmouse	<i>Parus bicolor</i> Linnaeus	Statewide	Statewide	older and younger stands, secondary succession	C	permanent resident
108. White-breasted nuthatch	<i>Sitta carolinensis</i> <i>cookei</i> Oberholser	Statewide	Statewide	younger stand	UC	permanent resident
109. Brown creeper	<i>Certhia familiaris</i> Linnaeus	Restricted to Miss. R.-?	Restricted to Miss. R.-?, southeast	younger stand, secondary succession, bottomland	R	appears to be permanent resident
110. House wren	<i>Troglodytes aedon</i> <i>baldwini</i> Oberholser	*Statewide	*Statewide	in proximity to man	C	summer resident
111. Carolina wren	<i>Thryothorus ludovicianus</i> <i>ludovicianus</i> Latham	Statewide	Statewide	secondary succession	C	permanent resident
112. Bewick's wren	<i>Thryomanes bewickii</i> <i>bewickii</i> (Audubon)	Statewide	Statewide	around homes, secondary succession	R	summer resident
113. Short-billed marsh wren	<i>Cistothorus platensis</i> <i>stellaris</i> (Naumann)	*Scattered	*Scattered	marshy areas, fields	UC	summer resident
114. Long-billed marsh wren	<i>Telmatorhynchus palustris</i> <i>dissaepeus</i> (Bangs)	*Scattered	*Scattered	marshy areas, fields	UC	summer resident (?)
115. Mockingbird	<i>Mimus polyglottis</i> <i>polyglottis</i> Linnaeus	Statewide	Statewide	edge	C	permanent resident
116. Catbird	<i>Dumetella carolinensis</i> (Linnaeus)	*Statewide	*Statewide	secondary succession, younger stand	C	summer resident
117. Brown thrasher	<i>Taxostoma rufum</i> <i>rufum</i> Linnaeus	Statewide	Statewide	younger stand, secondary succession	C	summer resident
118. Robin	<i>Turdus migratorius</i> <i>migratorius</i> (L.)-No.; <i>T. m. chrusterus</i> -So. (Batchelder)	*Statewide	*Statewide	forest, grassy areas (dry)	C	permanent resident
119. Wood thrush	<i>Hylocichla ustulata</i> <i>mustelina</i> (Gmelin)	*Statewide	*Statewide	bottomland, deciduous forest	C	summer resident
120. Eastern bluebird	<i>Sialia sialis</i> <i>sialis</i> Linnaeus	Statewide	Statewide	older and younger stands, secondary succession, old fields	C	permanent resident
121. Blue-gray gnatcatcher	<i>Polioptrila caerulea</i> <i>caerulea</i> Linnaeus	Statewide	Statewide	older stand	UC	summer resident
122. Golden-crowned kinglet	<i>Regulus satrapa</i> Lichtenstein	Statewide	Statewide	younger stand, secondary succession	C	winter resident
123. Ruby-crowned kinglet	<i>Regulus calendula</i> Linnaeus	Statewide	Statewide	younger stand, secondary succession	C	winter resident
124. Loggerhead shrike	<i>Lanius ludovicianus</i> <i>nigrans</i> Palmer	Statewide	Statewide	fields	R	permanent resident
125. Starling	<i>Sturnus vulgaris</i> Linnaeus	Statewide	Statewide	cultivated fields, older stand	C	permanent resident
126. White-eyed vireo	<i>Vireo griseus noveboracensis</i> (Gmelin)	*Statewide	*Statewide	shrubby areas, forest edge	C	summer resident

LIST OF BIRDS IN THE PROJECT AREA

Common Name	Scientific Name	Illinois Distribution	Missouri Distribution	Habitat	Abundance	Comments
127. Yellow-throated vireo	<i>Vireo flavifrons</i> Vieillot	*Statewide	*Statewide	bottomland forest	UC	summer resident
128. Red-eyed vireo	<i>Vireo olivaceus</i> (L)	*Statewide	*Statewide	deciduous forest	C	summer resident
129. Warbling vireo	<i>Vireo gilvus gilvus</i> (Vieillot)	*Statewide	*Statewide	mature forest, riverbanks	UC	summer resident
130. Prothonotary warbler	<i>Protonotaria citrea</i> Boddaert	Statewide	Statewide	woods near water	UC	summer resident
131. Swainson's warbler	<i>Limnithlypis swainsonii</i> (Audubon)	*South	*Southeast	canebrakes with mature forest	R	summer resident
132. Blue-winged warbler	<i>Vermivora pinus</i> (L)	*Statewide	*Statewide	woodland, fields	UC	summer resident
133. Parula warbler	<i>Parula americana</i> (L)	*Statewide	*Statewide	bottomland forest	UC	summer resident
134. Yellow warbler	<i>Dendroica petechia aestiva</i> (Gmelin)	*Statewide	*Statewide	bottomland forest	C	summer resident
135. Yellow-rumped warbler	<i>Dendroica coronata</i> Linnaeus	Statewide	Statewide	younger stand	C	winter resident
136. Cerulean warbler	<i>Dendroica cerules</i> (Wilson)	*Statewide	*Statewide	bottomland forest	UC	summer resident
137. Yellow-throated warbler	<i>Dendroica dominica albifrons</i> Ridgway	*Statewide	*Statewide	bottomland forest, especially sycamores	C	summer resident
138. Louisiana waterthrush	<i>Seturus motacilla</i> (Vieillot)	*Statewide	*Statewide	slough woods	C	summer resident
139. Yellowthroat	<i>Geothlypis trichas brachidactylus</i> Swainson-No.; <i>G. t. trichas</i> Linnaeus-So.	Statewide	Statewide	woods near water	UC	summer resident
140. Kentucky warbler	<i>Oporornis formosus</i> (Wilson)	*Statewide	*Statewide	deciduous woods	UC	summer resident
141. Yellow-breasted chat	<i>Icteria virens virens</i> (L)	*Statewide	*Statewide	edge, brushy areas	C	summer resident, marginal
142. Hooded warbler	<i>Wilsonia citrina</i> (Boddaert)	*Statewide	*Statewide	deciduous woods	UC	summer resident
143. American redstart	<i>Setophaga ruticilla ruticilla</i> (L)	*Statewide	*Statewide	younger stand, secondary succession, young bar	C	summer resident
144. House sparrow	<i>Passer domesticus domesticus</i> Linnaeus	Statewide	Statewide	cultivated fields	C	permanent resident
145. Eastern meadowlark	<i>Sturnella magna argutula</i> Bangs	Statewide	Statewide	old and cultivated fields	C	permanent resident
146. Western meadowlark	<i>Sturnella neglecta</i> Bangs	---	---	old and cultivated fields	Casual	winter visitant
147. Red-winged blackbird	<i>Agelaius phoeniceus phoeniceus</i> Linnaeus	Statewide	Statewide	old and cultivated fields	C	permanent resident in So.
148. Baltimore oriole	<i>Icterus galbula galbula</i> Linnaeus	Statewide	Statewide	older stand	C	summer resident
149. Orchard oriole	<i>Icterus spurius</i> Linnaeus	Statewide	Statewide	orchards, younger stands	UC	summer resident
150. Rusty blackbird	<i>Euphagus carolinus</i> (Muller)	Statewide	Statewide	younger stand, secondary succession, old & cultivated fields	C	transient, winter resident in So.
151. Common grackle	<i>Quiscalus quiscula versicolor</i> Vieillot	Statewide	Statewide	older stand, old and cultivated fields	C	permanent resident

LIST OF BIRDS IN THE PROJECT AREA

Common Name	Scientific Name	Illinois Distribution	Missouri Distribution	Habitat	Abundance	Comments
152. Brown-headed cowbird	<i>Molothrus ater ater</i> Boddaert	Statewide	Statewide	cultivated fields near farms	C	permanent resident
153. Scarlet tanager	<i>Piranga olivacea</i> Gmelin	Statewide	Statewide	mature forests	UC	summer resident
154. Summer tanager	<i>Piranga rubra rubra</i> (L)	*Statewide	*Statewide	deciduous woods	C	summer resident
155. Cardinal	<i>Cardinalis cardinalis cardinalis</i> Linnaeus	Statewide	Statewide	older & younger stands, old fields, young sandbars, secondary succession	C	permanent resident
156. Indigo bunting	<i>Passerina cyanea</i> Linnaeus	Statewide	Statewide	older stand, edge, secondary succession	C	summer resident
157. Dickcissel	<i>Spiza americana</i> (Gmelin)	*Statewide	*Statewide	disturbed areas, fields, brush	C	summer resident
158. American goldfinch	<i>Spinus tristis tristis</i> Linnaeus	Statewide	Statewide	older & younger stands, secondary succession, young bars	C	permanent resident
159. Rufous-sided towhee	<i>Pipilo erythrophthalmus erythrophthalmus</i> Linnaeus	Statewide	Statewide	secondary succession	C	permanent resident, rare in winter
160. Dark-eyed junco	<i>Junco hyemalis</i> Linnaeus	Statewide	Statewide	all habitats except water	C	winter resident
161. Oregon junco	<i>Junco hyemalis oreganus</i> Townsend	---	---	secondary succession	Casual	regular in winter but out of range
162. Savannah sparrow	<i>Passerculus sandwichensis</i> Gmelin	Statewide in migration	Statewide in migration	cultivated fields	UC	winter resident in So.
163. Grasshopper sparrow	<i>Ammodramus sava-narum pratensis</i> (Vieillot)	*Statewide	*Statewide	fields, brush	UC	summer resident
164. Le Conte's sparrow	<i>Passerherbulus caudatus</i> Latham	Statewide in migration	Statewide in migration	cultivated fields	E	winter resident in So., marginal winter resident
165. Vesper sparrow	<i>Pooecetes gramineus</i> Gmelin	Statewide in migration	Statewide in migration	cultivated fields	UC	winter resident in So.
166. Tree sparrow	<i>Spizella arborea</i> Wilson	Statewide	Statewide	secondary succession	UC	winter resident
167. Chipping sparrow	<i>Spizella passerina passerina</i> Bechstein	Statewide	Statewide	secondary succession, younger stands	C	summer resident
168. Field sparrow	<i>Spizella pusilla pusilla</i> Wilson	Statewide	Statewide	secondary succession, old & cultivated fields	C	permanent resident
169. White-crowned sparrow	<i>Zonotrichia leucophrys</i> Forster	Statewide	Statewide	cultivated fields, secondary succession (edge)	UC	winter resident
170. White-throated sparrow	<i>Zonotrichia albicollis</i> Gmelin	Statewide	Statewide	secondary succession (edge), younger stands	C	winter resident
171. Fox sparrow	<i>Passerella iliaca iliaca</i> (Merrem)	*South	*Southeast	brushy areas	C	winter resident
172. Swamp sparrow	<i>Melospiza georgiana</i> Latham	Statewide	Statewide	young bar	UC	winter resident
173. Song sparrow	<i>Melospiza melodia euphonia</i> Wetmore	Statewide	Statewide	all habitats	C	permanent resident
174. Lapland longspur	<i>Calcarius lapponicus</i> Linnaeus	---	---	barren fields	Casual	in winter

LIST OF MAMMALS IN THE PROJECT AREA^{1,2,3,4,5}

Common Name	Scientific Name	Illinois Distribution	Missouri Distribution	Habitat	Abundance	Comments
Family: Didelphidae: (Opossums)						
1. Opossum	<i>Didelphis marsupialis</i> Linnaeus	Statewide	Statewide	woods, fields, young bar	C	
Family: Soricidae (Shrews)						
2. Southeastern shrew	<i>Sorex longirostris</i> Bachman	*Extreme south, Coles & Fayette Co.	Barry Co.	woods, old field	R	appears to be rare in project area
3. Short-tailed shrew	<i>Blarina brevicauda</i> (Say)	Statewide	*Statewide	early secondary succession, woods, old fields, grasslands	C	appears to be rare in project area
4. Least shrew	<i>Cryptotis parva</i> (Say)	*Statewide	*Statewide	early secondary succession, old fields	UC	appears to be rare in project area
Family: Talpidae (Moles)						
5. Eastern mole	<i>Scalopus aquaticus</i> (Linnaeus)	Statewide	*Statewide	woods, fields	C	
Family: Vespertilionidae (Plainnose Bats)						
6. Little brown bat	<i>Myotis lucifugus</i> (Le Conte)	*Statewide	*Statewide	caves in winter, woods in summer	C	
7. Southeastern (Mississippi) bat	<i>Myotis austroriparius</i> (Rhoads)	*Union, Alexander & Hardin Co.	Unknown	caves, mines, woods, tunnels	R	possibly in southeast Missouri
8. Gray bat	<i>Myotis grisescens</i> Howell	*Pike & Hardin Co., probably south half	*Southern two-thirds	limestone caves	R-II. E-Mo.	
9. Keen's bat	<i>Myotis keenii</i> (Merriam)	*Statewide	*Statewide	caves in winter, unknown in summer	UC-II. R-Mo.	
10. Indiana bat	<i>Myotis sodalis</i> Miller & Allen	*Union, Hardin, La Salle, & Jo Daviess Co.	*Statewide except north-west	caves in winter, unknown in summer, possibly woods	E	
11. Silver-haired bat	<i>Lasiorycteris noctivagans</i> (Le Conte)	*Statewide	*Statewide	woodlands	C	most migrate south in winter
12. Eastern pipistrelle	<i>Pipistrellus subflavus</i> (Cuvier)	*Statewide	*Statewide	caves, buildings	C	usually near water
13. Big brown bat	<i>Eptesicus fuscus</i> (Beauvois)	*Statewide	*Statewide	caves, trees, buildings	C	
14. Red bat	<i>Lasiurus borealis</i> (Muller)	*Statewide	*Statewide	woodlands	C	known to carry rabies in Mo.
15. Hoary bat	<i>Lasiurus cinereus</i> (Beauvois)	*Statewide	*Statewide	woodlands	R	migrates
16. Evening bat	<i>Nycticeius humeralis</i> (Rafinesque)	*Statewide except northwest	*Statewide except extreme n.	woods, buildings	UC	migrates south in winter
17. Eastern big-eared bat	<i>Plecotus rafinesquii</i> (Le Conte)	*Union, Wabash & Alexander Co.	*Southeast	caves, crevices, mines	R-II. E-Mo.	
18. Western big-eared bat	<i>Plecotus townsendi</i> Cooper	Unknown	*Southwest	caves, mines, buildings	E	

¹Burt and Grossenheider (1964).²Hoffmeister and Mohr (1957).³Schwartz and Schwartz (1959).⁴Terrel (1972).⁵Verbal communication on 13 July 1973, with W. D. Klimstra, Cooperative Wildlife Research Laboratory, Southern Illinois University, Carbondale.

*Species expected.

LIST OF MAMMALS IN THE PROJECT AREA

Common Name	Scientific Name	Illinois Distribution	Missouri Distribution	Habitat	Abundance	Comments
Family: Leporidae (Rabbits and Hares)						
19. Eastern cottontail	<i>Sylvilagus floridanus</i> (Allen)	Statewide	Statewide	woods, early secondary succession, fields	C	
20. Swamp rabbit	<i>Sylvilagus aquaticus</i> Bachman	Southern one-third, up the Miss. R. & Wabash R.	Mississippi R. lowlands & south	brushy wet lowlands along water	UC-II. R-Mo.	may be locally common
Family: Sciuridae (Squirrels)						
21. Eastern chipmunk	<i>Tamias striatus</i> (Linnaeus)	*Statewide	*Statewide	unpastured, hilly woodlands, edges	C	
22. Woodchuck	<i>Marmota monax</i> (Linnaeus)	Statewide	*Statewide	grassy areas in summer, woods or brushy areas in winter	C	hibernates
23. Eastern gray squirrel	<i>Sciurus carolinensis</i> Gmelin	Statewide	Statewide	brushy woods, bottomlands	C	
24. Eastern fox squirrel	<i>Sciurus niger</i> Linnaeus	Statewide	Statewide	open woods	C	
Family: Geomyidae (Gophers)						
25. Plains pocket gopher	<i>Geomys bursarius</i> (Shaw)	*Area between Il. & Kankakee R. & south to Kaskaskia R.	*Statewide except extreme south	open grassy areas, fields, levees	C	fossorial
Family: Castoridae (Beaver)						
26. Beaver	<i>Castor canadensis</i> Kuhl	Statewide	Statewide	sand & mud flats, along rivers, streams, & marshes	UC	may be locally abundant
Family: Cricetidae (New World Mice)						
27. Rice rat	<i>Oryzomys palustris</i> (Harlan)	*Southern third	*Extreme southwest	wet grassy areas, dense cover	R-II. UC-Mo.	locally abundant
28. Deer mouse	<i>Peromyscus maniculatus</i> (Wagner)	Statewide	Statewide	early secondary succession, fields	C	
29. White-footed mouse	<i>Peromyscus leucopus</i> (Rafinesque)	Statewide	Statewide	woods, sand bars, fields	C	very abundant in project area
30. Cotton mouse	<i>Peromyscus gossypinus</i> (Le Conte)	*Extreme south	*Southeast	brushy swamps, river bottoms	E-II. UC-Mo.	
31. Golden mouse	<i>Peromyscus nuttalli</i> (Harlan)	*Extreme south	*Southeast	thickets, woods	R-II. UC-Mo.	
32. Hispid cotton rat	<i>Sigmodon hispidus</i> Say & Ord	Unknown	*South half	early secondary succession, fields	UC	population fluctuates widely
33. Prairie vole	<i>Microtus ochrogaster</i> (Wagner)	Statewide	Statewide	early secondary succession, fields, levees	C	
34. Pine vole	<i>Pitymys pinetorum</i> (Le Conte)	*Statewide	Statewide	woods, grassy fields, loose soils preferred	UC	fossorial
35. Muskrat	<i>Ondatra zibethicus</i> (Linnaeus)	Statewide	Statewide	slow-moving water with vegetation present	C	semi-aquatic
36. Southern bog lemming	<i>Synaptomys cooperi</i> Baird	*Presumed statewide	*Presumed statewide	moist dense grass or damp woods	UC	

LIST OF MAMMALS IN THE PROJECT AREA

Common Name	Scientific Name	Illinois Distribution	Missouri Distribution	Habitat	Abundance	Comments
Family: Muridae (Old World Mice)						
37. Norway rat	<i>Rattus norvegicus</i> (Berkenhout)	*Statewide	*Statewide	areas near human habitation, often fields in summer	C	
38. House mouse	<i>Mus musculus</i> (Linnaeus)	Statewide	Statewide	woods, early secondary succession, sand bars, buildings	C	
Family: Zapodidae						
39. Meadow jumping mouse	<i>Zapus hudsonius</i> (Zimmermann)	Statewide	*Statewide	fields, moist grassy areas, edges	R	
Family: Canidae (Dogs)						
40. Domestic dog	<i>Canis familiaris</i> Linnaeus	Statewide	*Statewide	most habitats	- - -	free-ranging or feral
41. Coyote	<i>Canis latrans</i> Say	*Statewide	Statewide	brush, forest edge, farmland	UC	
42. Red fox	<i>Vulpes vulpes</i> (Linnaeus)	Statewide	Statewide	edge, semi-open woods	C	
43. Gray fox	<i>Urocyon cinereoargenteus</i> (Schreber)	Statewide	Statewide	woods, brush	C	
Family: Ursidae (Bears)						
44. Black bear	<i>Ursus americanus</i> Pallas	Undetermined	*Extreme south	wooded swamps	Casual-IL E-Mo.	
Family: Procyonidae (Raccoons)						
45. Raccoon	<i>Procyon lotor</i> (Linnaeus)	Statewide	Statewide	wooded areas, often near water	C	
Family: Mustelidae (Weasels)						
46. Long-tailed weasel	<i>Mustela frenata</i> Lichtenstein	Statewide	*Statewide	brushy or shrubby areas, woods	UC-IL R-Mo.	
47. Mink	<i>Mustela vison</i> Schreber	Statewide	Statewide	areas around permanent water	C-IL UC-Mo.	
48. Eastern spotted skunk	<i>Spilogale putorius</i> (Linnaeus)	Unknown	*Statewide	open grasslands, brushy areas, fields	C	
49. Striped skunk	<i>Mephitis mephitis</i> (Schreber)	Statewide	Statewide	most habitats, near a water source	C	
50. River otter	<i>Lutra canadensis</i> (Schreber)	Presumed statewide except northeast	Presumed statewide	permanent water areas bordered by woods	R-IL E-Mo.	probably restricted to major waterways
Family: Felidae (Cats)						
51. Bobcat	<i>Lynx rufus</i> (Schreber)	Southern	South & southeast	rocky wooded areas, bottomlands	E-IL --Mo.	probably along all major waterways
52. Housecat	<i>Felis catus</i> Linnaeus	*Statewide	*Statewide	most habitats	- - -	free-ranging or feral
Family: Cervidae (Deer)						
53. White-tailed deer	<i>Odocoileus virginiana</i> (Zimmermann)	Statewide	Statewide	woods & forest edge, fields	C	

APPENDIX B

Annotated Checklist of Amphibians, Reptiles, Birds and Mammals
Occurring or Expected to Occur in the Floodplains of the
Mississippi River from Alton, Illinois, to Hannibal, Missouri,
and of the Illinois River from Grafton to Beardstown, Illinois
(Reproduced from Terpening et al. 1975)

The mammals, birds, amphibians, and reptiles in this checklist are those species known or expected to occur in the unprotected floodplain of the Illinois River between Grafton and Beardstown, Illinois, and the Mississippi River between Alton, Illinois, and Hannibal, Missouri. Included are those species that have been observed in field work, reported in the literature and unpublished research, and reported by knowledgeable individuals. Those animal species undocumented but expected are included due to the proximity of their known range and to the knowledge that their habitat requirements are satisfied in the unprotected floodplain.

Distribution of the animals applies to the states in general and not to the unprotected floodplain alone and was taken from the sources cited. Abundance of mammals, amphibians, and reptiles refers to Illinois and Missouri as a whole; in the case of birds, abundance refers only to the study area. Those birds of rare or endangered status are noted in the comments column. Five categories were used to indicate

abundance: common (C), uncommon (UC), rare (R), endangered (E), and status unknown (SU). Two additional terms, casual and accidental, were used to describe the status of certain bird species. The term "common" as used here means that within the described range and in the correct habitat one would frequently encounter the species. "Uncommon" as used here means that the species would infrequently be encountered within its range and habitat. The terms "rare," "endangered," and "status unknown" were previously defined in Section B. "Casual" as used here refers to those species outside their normal range, but not so far away as to never occur in the study area. "Accidental" refers to a species whose occurrence is so removed from its normal range that its appearance can not be taken as a range extension, but as a result of some chance factor such as a storm. Categories of abundance were determined from the sources cited, from the Illinois and Missouri lists of rare and endangered animals, and from the species accounts of the Mark Twain National Wildlife Refuge. Residential status of the birds was indicated by four descriptions: permanent resident (PR), summer resident (SR), winter resident (WR), and transient (T).

Basic herpetological nomenclature follows Schmidt (1953), with accepted revision listed by Smith (1961) for Illinois and

for most species in Missouri. Anderson (1965) is the basis for Missouri species not present in Illinois.

All winter residents and breeding birds are included. When more than one subspecies occurs in the study area, all are listed after the species name. Species considered migrants, casuals, or accidentals are listed only if recorded during our field work or cited as occurring in the unprotected floodplain. Nomenclature follows the American Ornithologists Union Check-List of North American Birds (1957) and the 32nd Supplement (1973).

Mammal families follow the system of classification of Hall and Kelson (1959). Common names are taken from Hall and Kelson.

Appreciation is expressed to Mrs. Virginia A. Terpening for permission to use this table.

LIST OF AMPHIBIANS AND REPTILES IN THE PROJECT AREA^{1,2,3}

Common Name	Scientific Name	Illinois Distribution	Missouri Distribution	Abundance	Comments
Family: Ambystomatidae (Mole Salamanders)					
1. Spotted salamander	<u>Ambystoma maculatum</u> (Shaw)	Southern third, north-west & north-east corners	Southern half	C	reported from Cannon Refuge
2. Small-mouthed salamander	<u>Ambystoma texanum</u> (Matthes)	Southern three-fourths	Southeast quarter	C	most common on Mark Twain Refuge
3. Eastern tiger salamander	<u>Ambystoma tigrinum</u> (Green)	Statewide	Statewide	C	
Family: Salamandridae (Newts)					
4. Central newt	<u>Notophthalmus viridescens</u> <u>Louisianensis</u> Wolterstorff	Southern & northern one-fifth	Statewide except north-west	UC	occurs sporadically on Mark Twain Refuge
Family: Plethodontidae (Long-tailed Salamanders)					
5. Long-tailed salamander	<u>Eurycea longicauda</u> <u>longicauda</u> (Green)	Southwest river counties & Shawnee Hills	Southern half & Miss. R. counties	C	most common in upland areas

¹Anderson (1965).

²Smith (1961).

³Wiley (1968).

LIST OF AMPHIBIANS AND REPTILES IN THE PROJECT AREA

Common Name	Scientific Name	Illinois		Abundance	Comments
		Distribution	Distribution		
6. Red-backed salamander	<u>Plethodon cinereus</u> <u>cinereus</u> (Green)	Extreme east-central region	Southeast quarter	UC	
7. Dark-sided salamander	<u>Eurycea longicauda</u> <u>melanopleura</u> (Cope)	Southern Miss. R. counties	Presumed southern half	C	common along Miss. R. bluffs
Family: Proteidae (Giant Salamanders)					
8. Mudpuppy	<u>Necturus maculosus</u> <u>maculosus</u> (Rafinesque)	Statewide	Statewide	C	spawns in Miss. R. backwaters
Family: Sirenidae (Sirens)					
9. Western lesser siren	<u>Siren intermedia</u> <u>nettingi</u> Goin	Southern third & up Il. R. to Marshall Co.	Southeast one-fifth	C-II. --Mo.	floodplain swamps of major rivers
Family: Bufonidae (Toads)					
10. American toad	<u>Bufo americanus</u> <u>americanus</u> Holbrook	Northern two-thirds	South-central	C	abundant on the Mark Twain Refuge
11. Dwarf toad	<u>Bufo americanus</u> <u>charlesmithi</u> Bragg	Southern two-thirds	Southern third	UC-II --Mo.	uncommon on the Mark Twain Refuge

LIST OF AMPHIBIANS AND REPTILES IN THE PROJECT AREA

Common Name	Scientific Name	Illinois		Abundance	Comments
		Distribution	Distribution		
12. Fowler's toad	<u>Bufo woodhousei</u> <u>fowleri</u> Hinckley	Southern two-thirds, Lake & Cook counties	Southeast two-thirds	C	most common toad Mark Twain Refuge
Family: Hylidae (Treefrogs and Allies)					
13. Blanchard's cricket frog	<u>Acris crepitans</u> <u>blanchardi</u> Harper	Statewide	Statewide	C	most common amphibian on Mark Twain Refuge
14. Western chorus frog	<u>Pseudacris triseriata</u> <u>triseriata</u> (Wied)	Statewide except extreme south	Statewide except extreme south	C	
15. Upland chorus frog	<u>Pseudacris triseriata</u> <u>feriarum</u> (Baird)	South & southeast	Southeast	C	specimen reported from Cannon Refuge
16. Illinois chorus frog	<u>Pseudacris streckeri</u> <u>illinoensis</u> Smith	Middle Il. R. counties	Bootheel	R-Il. SU-Mo.	disjunct distribution
17. Northern spring peeper	<u>Hyla crucifer</u> <u>crucifer</u> Wied	Statewide	Statewide except extreme northwest	C	
18. Eastern gray treefrog	<u>Hyla versicolor</u> <u>versicolor</u> LeConte	Statewide	Statewide	C	

LIST OF AMPHIBIANS AND REPTILES IN THE PROJECT AREA

Common Name	Scientific Name	Illinois		Abundance	Comments
		Distribution	Distribution		
Family: Ranidae (True Frogs)					
19. Northern crayfish frog	<u>Rana aereolata</u> <u>circulosa</u> Rice & Davis	Southern half	North & central	C-Il. SU-Mo.	breeds in flooded fields and pastures
20. Bullfrog	<u>Rana catesbeiana</u> Shaw	Statewide	Statewide	C	
21. Green frog	<u>Rana clamitans</u> <u>melanota</u> (Rafinesque)	Statewide except central portion	Statewide except northwest	C	
22. Pickerel frog	<u>Rana palustris</u> LeConte	Northern fifth & Miss. R. counties	Southern half & Miss. R. Valley	UC	limited distribution
23. Northern leopard frog	<u>Rana pipiens pipiens</u> Schreber	Northern two-thirds	Northern quarter except northwest	C	intergrades with so. subspecies on Mark Twain Refuge
24. Southern leopard frog	<u>Rana pipiens sphenoccephala</u> Cope	Southern half	Southern three-fourths	C	intergrades with no. subspecies on Mark Twain Refuge

LIST OF AMPHIBIANS AND REPTILES IN THE PROJECT AREA

Common Name	Scientific Name	Illinois Distribution	Missouri Distribution	Abundance	Comments
Family: Chelydridae (Snapping Turtles)					
25. Common snapping turtle	<u>Chelydra serpentina serpentina</u> (Linnaeus)	Statewide	Statewide	C	
26. Alligator snapping turtle	<u>Macroclemys temmincki</u> (Troost)	Miss., lower Ill., Ohio & Wabash R. systems & swamps	Southern quarter & eastern fifth	E-II. R-Mo.	rare on Mark Twain Refuge
Family: Kinosternidae (Musk and Mud Turtles)					
27. Stinkpot	<u>Sternothaerus odoratus</u> (Latreille)	Statewide	Southern two-thirds & Miss. R. Valley	C	
28. Illinois mud turtle	<u>Kinosternon flavescens</u> <u>spooneri</u> Smith	Middle Il. R. Valley & north-west Miss. R. counties	Northeast	R-II. --Mo.	restricted to sand prairie areas
29. Mud turtle	<u>Kinosternon subrubrum subrubrum</u> (Lacepede) x <u>hippocrepis</u> Gray	Southern fifth & Calhoun Co.	Unknown	R	

LIST OF AMPHIBIANS AND REPTILES IN THE PROJECT AREA

Common Name	Scientific Name	Illinois Distribution	Missouri Distribution	Abundance	Comments
Family: Testudinidae (Box and Water Turtles)					
30. Blanding's turtle	<u>Emydoidea blandingi</u> (Holbrook)	Northern half	Extreme northeast	UC-II. E or Ex-Mo.*	discontinuous distribution in Il.
31. Eastern box turtle	<u>Terrapene carolina carolina</u> (Linnaeus)	Southern half	Unknown	C	
32. Three-toed box turtle	<u>Terrapene carolina triunguis</u> (Agassiz)	Golden Eagle, Calhoun Co., Il.	Statewide except extreme north	C	rare on Mark Twain Refuge
33. Ornate box turtle	<u>Terrapene carolina ornata</u> (Agassiz)	South-central	Statewide	C	recorded from Calhoun & Cannon Refuge Divisions
34. Midland painted turtle	<u>Chrysemys picta marginata</u> Agassiz	Statewide except from Pike Co. north	Unknown	C	recorded from Cannon & Calhoun Refuge Divisions
35. Western painted turtle	<u>Chrysemys picta belli</u> (Gray)	West edge from Pike Co. north	Statewide except south-east third & extreme south	C	intergrades with Midland painted turtle

*Ex means extirpated from the state.

LIST OF AMPHIBIANS AND REPTILES IN THE PROJECT AREA

Common Name	Scientific Name	Illinois Distribution	Missouri Distribution	Abundance	Comments
36. Red-eared turtle	<u>Pseudemys scripta elegans</u> (Wied)	Southern four-fifths	Statewide except north-west	C-II. UC-Mo.	
37. Slider	<u>Pseudemys concinna hieroglyphica</u> (Holbrook) x <u>floridana hoyi</u> (Agassiz)	Miss., Wabash, & Ohio R.	Possibly southern one-fourth	R-II. --Mo.	intergrades
38. False map turtle	<u>Graptemys pseudogeographica</u> (Gray)	Statewide	Statewide	UC	
39. Quachita map turtle	<u>Graptemys pseudogeographica quachitensis</u> Cagle	Unknown	Statewide	UC	
40. Map turtle	<u>Graptemys geographica</u> (La Sueur)	Statewide	Statewide except north-central	UC	
41. Mississippi map turtle	<u>Graptemys kohni</u> Baur	Unknown	Statewide except extreme north	UC	

LIST OF AMPHIBIANS AND REPTILES IN THE PROJECT AREA

Common Name	Scientific Name	Illinois Distribution	Missouri Distribution	Abundance	Comments
Family: Trionychidae (Softshell Turtles)					
42. Smooth soft-shell turtle	<u>Trionyx muticus</u> <u>muticus</u> La Sueur	Southern half, Miss. & Ill. R. north	Statewide	C	utilizes sand bars
43. Eastern spiny softshell turtle	<u>Trionyx spinifer</u> <u>spinifer</u> La Sueur	Statewide	Unknown	C	
Family: Iguanidae (Iguanids)					
44. Northern fence lizard	<u>Sceloporus undulatus</u> <u>hyacinthinus</u> (Green)	Southern third except Wabash R. area	Southern two-thirds	C	
Family: Anguidae (Glass Lizards)					
45. Western slender glass lizard	<u>Ophisaurus attenuatus</u> <u>attenuatus</u> Cope	Statewide	Statewide	R	rare on Mark Twain Refuge
Family: Teiidae (Whiptails)					
46. Six-lined race-runner	<u>Cnemidophorus sexlineatus</u> <u>sexlineatus</u> Linnaeus	Counties along Wabash, Saline, Ill., & Miss. R.	Statewide except north & central	C	common along sandy levees

LIST OF AMPHIBIANS AND REPTILES IN THE PROJECT AREA

Common Name	Scientific Name	Illinois		Abundance	Comments
		Distribution	Distribution		
Family: Scincidae (Skinks)					
47. Ground skink	<u>Scincella laterale</u> (Say)	Southern third & Mason Co.	Southern half	C	rare on Mark Twain Refuge
48. Five-lined skink	<u>Eumeces fasciatus</u> (Linnaeus)	Southern half	Statewide	C	rare on Mark Twain Refuge
49. Broad-headed skink	<u>Eumeces laticeps</u> (Schneider)	Southern half extending to Rock Island Co. on west	Southern half	C	
Family: Colubridae (Colubrids)					
50. Midwest worm snake	<u>Carpophis amoenus helena</u> (Kennicott)	Southern half & lower Ill. R. counties	Unknown	C	along river bluffs
51. Western worm snake	<u>Carpophis amoenus verm</u> (Kennicott)	Calhoun, Adams & Hancock Co.	Statewide	R-Il. C-Mo.	
52. Northern ring-neck snake	<u>Diadophis punctatus edwardsi</u> (Merrem)	Southeastern & lower Miss. R. counties	Unknown	C	

LIST OF AMPHIBIANS AND REPTILES IN THE PROJECT AREA

Common Name	Scientific Name	Illinois		Abundance	Comments
		Distribution	Distribution		
53. Prairie ring-neck snake	<u>Diadophis punctatus arnyi</u> Kennicott	Miss. R. counties except extreme south	Statewide except south east lowland	C	
54. Plains hog-nose snake	<u>Heterodon nasicus</u> Baird & Girard	Middle Il. R. counties	Extreme northwest	R-Il. E-No.	restricted to sand prairie areas
55. Eastern hog-nose snake	<u>Heterodon platyrhinos</u> Latreille	Statewide	Statewide	C	
56. Rough green snake	<u>Ophedrys aestivus</u> (Linnaeus)	Southern half	Southern three-fourths	C	specimen reported from Calhoun
57. Western smooth green snake	<u>Ophedrys vernalis blanchardi</u> Grobman	Northern half	Northern half	UC-Il. R-Mo.	
58. Eastern yellow-bellied racer	<u>Coluber constrictor flaviventris</u> Say	Statewide	Statewide except southeast	C	
59. Great plains rat snake	<u>Elaphe gutta emoryi</u> (Baird & Girard)	Five Miss. R. counties south of Grafton, Il.	Southern half except extreme southeast	R-Il. C-Mo.	

LIST OF AMPHIBIANS AND REPTILES IN THE PROJECT AREA

Common Name	Scientific Name	Illinois		Abundance	Comments
		Distribution	Distribution		
60. Black rat snake	<u>Elaphe obsoleta obsoleta</u> (Say)	Statewide except north-east one-fifth	Statewide except south-east	C	
61. Western fox snake	<u>Elaphe vulpina vulpina</u> (Baird & Girard)	Northern half	Northern third	C	
62. Bullsnake	<u>Pituophis melanoleucus sayi</u> (Schlegel)	Northwest - central	Statewide except south-east	C-II. UC-Mo.	common on sand prairie areas
63. Prairie kingsnake	<u>Lampropeltis calligaster</u> (Harlan)	Southern two-thirds	Statewide	C	
64. Speckled kingsnake	<u>Lampropeltis getulus holbrooki</u> Stejneger	Southwest half except Shawnee Hills region	Statewide	UC-II. C-Mo.	
65. Eastern milk snake	<u>Lampropeltis triangulum triangulum</u> (Lacepede)	Northern half	Unknown	UC	
66. Red milk snake	<u>Lampropeltis triangulum sypila</u> (Cope)	Southern half	Statewide	UC	

LIST OF AMPHIBIANS AND REPTILES IN THE PROJECT AREA

Common Name	Scientific Name	Illinois		Abundance	Comments
		Distribution	Distribution		
67. Western ribbon snake	<u>Thamnophis sauritus proximus</u> (Say)	Statewide except central & southeast	Statewide	C	
68. Eastern plains garter snake	<u>Thamnophis radix radix</u> (Baird & Girard)	Northern half	Northeast	C	
69. Eastern garter snake	<u>Thamnophis sirtalis sirtalis</u> (Linnaeus)	Statewide except northeast	Eastern half	C	
70. Northern lined snake	<u>Tropidoclonion lineatum lineatum</u> (Hallowell)	Putnam, Sangamon, Macon & Macoupin counties	Northern half, St. Louis & Jefferson Co.	E-Il. UC-Mo.	
71. Western earth snake	<u>Virginia valeriae elegans</u> (Kennicott)	Southern third	Southern half	C-Il. UC-Mo.	
72. Midland brown snake	<u>Storeria dekayi wrightorum</u> Trapido	Statewide	Statewide	C	
73. Northern red-bellied snake	<u>Storeria occipitomaculata occipitomaculata</u> (Storer)	Statewide	Southern three-fourths	UC	

LIST OF AMPHIBIANS AND REPTILES IN THE PROJECT AREA

Common Name	Scientific Name	Illinois		Abundance	Comments
		Distribution	Distribution		
74. Yellow-bellied water snake	<u>Natrix erythrogaster flavigaster</u> Conant	Southern-central & south-west, up Ill. R.	Southeast	C	
75. Graham's water snake	<u>Natrix grahami</u> (Baird & Girard)	Statewide except extreme north & Ohio & Wabash R. Co.	Statewide	C	
76. Diamond-backed water snake	<u>Natrix rhombifera rhombifera</u> Hallowell	Southern quarter & Ill. & Miss. R.	Statewide except extreme north	C	
77. Northern water snake	<u>Natrix sipedon sipedon</u> (Linnaeus)	Northern two-thirds	Northern three-fourths	C	most common water snake on Mark Twain Refuge
78. Midland water snake	<u>Natrix sipedon pleuralis</u> Cope	Southern two-thirds	Southern one-fourth except extreme southeast	C	
Family: Crotalidae (Crotalids)					
79. Northern copperhead	<u>Agkistrodon contortrix contortrix</u> (Linnaeus) x <u>mokeson</u> (Daudin)	Miss. R. Valley to Adams Co.	Southeast	C-II. UC-Mo.	intergrade, observed at Hardin, Ill.

LIST OF AMPHIBIANS AND REPTILES IN THE PROJECT AREA

Common Name	Scientific Name	Illinois		Missouri		Abundance	Comments
		Distribution	Distribution	Distribution	Distribution		
80. Eastern massasauga	<u>Sistrurus</u> <u>catenatus</u> <u>catenatus</u> (Rafinesque)	Northern four-fifths		St. Charles Co.		UC-II. R-Mo.	
81. Timber rattlesnake	<u>Crotalus</u> <u>horridus</u> <u>horridus</u> Linnaeus	Southern third & Miss. R. counties		Statewide except extreme southeast		E-II. UC-Mo.	

LIST OF BIRDS IN THE PROJECT AREA^{1,2,3,4,5,6,7,8,9,10}

Common Name	Scientific Name	Illinois Distribution	Missouri Distribution	Abundance	Comments
Order: Gaviiformes (Loons)					
1. Common loon	<u>Gavia immer</u> (Brunnich)	Statewide	Statewide	UC	T
2. Red-throated loon	<u>Gavia stellata</u> (Pontopiddan)	Northeast	--	Casual	T in northeast Il.
Order: Podicipediformes (Grebes)					
3. Horned grebe	<u>Podiceps auritus cornutus</u> (Gmelin)	Statewide	Eastern one-third	UC	T
4. Pied-billed grebe	<u>Podilymbus podiceps podiceps</u> (Linnaeus)	Statewide	Statewide	UC	SR

¹American Ornithologist's Union (1957).
²Bellrose (1968).
³Barske (1968).
⁴Fleig (1971).
⁵Graber, Graber, and Kirk (1970, 1971, 1973, 1974).
⁶Kleen and Bush (1971).
⁷Palmer (1962).
⁸Robbins, Bruun, and Zim (1966).
⁹Rue (1970).
¹⁰Webster (1973).

LIST OF BIRDS IN THE PROJECT AREA

Common Name	Scientific Name	Illinois		Missouri		Abundance	Comments
		Distribution	Distribution	Distribution	Distribution		
Order: Pelecaniformes (Pelicans and Allies)							
5. White pelican	<u>Pelecanus erythrorhynchos</u> Gmelin	Statewide	Statewide	Statewide	Casual	T	
6. Double-crested cormorant	<u>Phalacrocorax auritus</u> auritus (Lesson)	Statewide	Statewide	Statewide	E	T	local breeder,
Order: Ciconiiformes (Hérons and Allies)							
7. Great blue heron	<u>Ardea herodias herodias</u> Linnaeus; <u>A. h. wardi</u> Ridgway	Statewide	Statewide	Statewide	C		SR; WR in southern half
8. Green heron	<u>Butorides virescens</u> virescens (Linnaeus)	Statewide	Statewide	Statewide	C		SR
9. Little blue heron	<u>Florida caerulea</u> caerulea (Linnaeus)	Statewide	Statewide	Statewide	C		rare SR in Il.; postbreeding wanderer
10. Cattle egret	<u>Bubulcus ibis ibis</u> Linnaeus	Statewide	Statewide	Statewide	UC		scattered SR; wanderer
11. Great egret	<u>Casmerodius albus</u> egretta (Gmelin)	Statewide	Statewide	Statewide	C		SR
12. Snowy egret	<u>Egretta thula thula</u> (Molina)	Statewide	Statewide	Statewide	UC		SR in extreme south, summer visitor

LIST OF BIRDS IN THE PROJECT AREA

Common Name	Scientific Name	Illinois		Abundance	Comments
		Distribution	Distribution		
13. Louisiana heron	<u>Hydranassa tricolor ruficollis</u> (Gosse)	--	--	Casual	
14. Black-crowned night heron	<u>Nycticorax nycticorax hoactli</u> (Gmelin)	Statewide	Statewide	UC	rare SR in Il.
15. Yellow-crowned night heron	<u>Nyctanassa violacea violacea</u> (Linnaeus)	Statewide	Statewide	UC	SR in southwest Il. & southeast Mo.; postbreeding wanderer
16. Least bittern	<u>Ixobrychus exilis exilis</u> (Gmelin)	Statewide	Statewide	UC	SR
17. American bittern	<u>Botaurus lentiginosus</u> (Rackett)	Statewide	Statewide	UC	rare SR in Il.
18. Wood stork	<u>Mycteria americana</u> Linnaeus	--	--	Casual	
19. Glossy ibis	<u>Plegadis falcinellus falcinellus</u> (Linnaeus)	--	--	Accidental	
20. White ibis	<u>Eudocimus albus</u> (Linnaeus)	Southwest	Southeast	UC to Casual	SR
Order: Anseriformes (Waterfowl)					
21. Mute swan	<u>Cygnus olor</u> (Gmelin)	--	--	Accidental	

LIST OF BIRDS IN THE PROJECT AREA

Common Name	Scientific Name	Illinois		Abundance	Comments
		Distribution	Distribution		
22. Whistling swan	<u>Olor columbianus</u> (Ord)	Northeast corner	--	Accidental	T
23. Canada goose	<u>Branta canadensis</u> <u>canadensis</u> (Linnaeus); <u>B. c. interior</u> Todd; <u>B. c. parvipes</u> (Cassin); <u>B. c.</u> <u>hutchinsii</u> Richardson	Statewide	Statewide	C	T; winters on refuges
24. Brant	<u>Branta bernicla hrota</u> (Müller)	--	--	Accidental	
25. White-fronted goose	<u>Anser albifrons frontalis</u> Baird	--	West	Casual	
26. Snow goose	<u>Chen caerulescens caerulescens</u> (Linnaeus); <u>C. c. atlantica</u> Kennard	Statewide	Statewide	C	WR at mouth of Il. R.; T
27. Mallard	<u>Anas platyrhynchos platyrhynchos</u> Linnaeus	Statewide	Statewide	C	PR
28. Black duck	<u>Anas rubripes</u> Brewster	Statewide	Statewide	C	rare PR in north-east Il.; WR
29. Gadwall	<u>Anas strepera</u> Linnaeus	Statewide	Statewide	C	T

LIST OF BIRDS IN THE PROJECT AREA

Common Name	Scientific Name	Illinois		Abundance	Comments
		Distribution	Distribution		
30. Pintail	<u>Anas acuta</u> Linnaeus	Statewide	Statewide	C	rare SR in north- ern Ill.; WR in south Mo. & Ill.; T
31. Green-winged teal	<u>Anas crecca</u> <u>carolinensis</u> Gmelin	Statewide	Statewide	C	T
32. Blue-winged teal	<u>Anas discors</u> <u>discors</u> Linnaeus	Statewide	Statewide	C	Sl. in north Ill.; recent nesting in south Ill. along Miss. R.; T
33. American wigeon	<u>Anas americana</u> (Gmelin)	Statewide	Statewide	C	T
34. Northern shoveler	<u>Anas clypeata</u> (Linnaeus)	Statewide	Statewide	C	rare T in Ill.
35. Wood duck	<u>Aix sponsa</u> (Linnaeus)	Statewide	Statewide	C	SR; WR in south Ill. & Mo.
36. Redhead	<u>Aythya americana</u> (Eyton)	Statewide	Statewide	UC	T
37. Ring-necked duck	<u>Aythya collaris</u> (Donovan)	Statewide	Statewide	C	winter in south- ern Ill.; T

LIST OF BIRDS IN THE PROJECT AREA

Common Name	Scientific Name	Illinois Distribution	Missouri Distribution	Abundance	Comments
38. Canvasback	<u>Aythya valisineria</u> (Wilson)	Statewide	Statewide	UC	rare WR restricted to Miss. R. north of Alton to Keokuk Pool; T
39. Greater scaup	<u>Aythya marila</u> <u>nearctica</u> Stejneger	Statewide	Statewide	UC	T
40. Lesser scaup	<u>Aythya affinis</u> (Eyton)	Statewide	Statewide	C	WR along south half of Miss. R.; T
41. Common goldeneye	<u>Bucephala clangula</u> <u>americana</u> (Bonaparte)	Statewide	Statewide	C	WR
42. Barrow's goldeneye	<u>Bucephala islandica</u> (Gmelin)	--	--	Accidental	
43. Bufflehead	<u>Bucephala albeola</u> (Linnaeus)	Statewide	Statewide	UC	WR
44. Oldsquaw	<u>Clangula hyemalis</u> (Linnaeus)	--	--	Casual	
45. White-winged scoter	<u>Melanitta deglandi</u> <u>deglandi</u> (Bonaparte)	Northeast	--	Casual	T
46. Surf scoter	<u>Melanitta perspicillata</u> (Linnaeus)	--	--	Accidental	

LIST OF BIRDS IN THE PROJECT AREA

Common Name	Scientific Name	Illinois Distribution	Missouri Distribution	Abundance	Comments
47. Black scoter	<u>Melanitta nigra americana</u> Swainson	--	--	Accidental	
48. Ruddy duck	<u>Oxyura jamaicensis rubida</u> (Wilson)	Statewide	Statewide	C	rare SR in northern Ill.; T
49. Hooded merganser	<u>Lophodytes cucullatus</u> (Linnaeus)	Statewide	Statewide	UC	rare SR in Ill.
50. Common merganser	<u>Mergus merganser</u> Linnaeus	Statewide	Statewide	C	WR
51. Red-breasted merganser	<u>Mergus serrator serrator</u> Linnaeus	Statewide	Statewide	UC	T
Order: Falconiformes (Vultures, Hawks and Falcons)					
52. Turkey vulture	<u>Cathartes aura teter</u> Friedman	Statewide	Statewide	C	SR; uncommon WR in extreme south Ill. & Mo.
53. Black vulture	<u>Coragyps atratus</u> (Bechstein)	Southern one-third	Southeast	Casual	rare PR in Mo.
54. Mississippi kite	<u>Ictinia mississippiensis</u> (Wilson)	--	Southeast corner	Casual	rare in Mo.

LIST OF BIRDS IN THE PROJECT AREA

Common Name	Scientific Name	Illinois Distribution	Missouri Distribution	Abundance	Comments
55. Goshawk	<u>Accipiter gentilis atricapillus</u> (Wilson)	Statewide	Statewide	UC	rare WR in Il.
56. Sharp-shinned hawk	<u>Accipiter striatus velox</u> (Wilson)	Statewide	Statewide	UC	rare PR in Il.; endangered PR in Mo.
57. Cooper's hawk	<u>Accipiter cooperii</u> (Bonaparte)	Statewide	Statewide	UC	endangered PR in Il. & Mo.
58. Red-tailed hawk	<u>Buteo jamaicensis borealis</u> (Gmelin)	Statewide	Statewide	UC	SR in north Il.; PR in study area
59. Red-shouldered hawk	<u>Buteo lineatus lineatus</u> (Gmelin)	Statewide	Statewide	UC	rare PR in Mo.; endangered PR in Il.; SR in northern Il.
60. Broad-winged hawk	<u>Buteo platypterus platypterus</u> (Vieillot)	Statewide	Statewide	UC	SR
61. Swainson's hawk	<u>Buteo swainsoni</u> Bonaparte	Extreme west	Statewide	UC	SR; T in Il.
62. Rough-legged hawk	<u>Buteo lagopus sanctijohannis</u> (Gmelin)	Statewide	Statewide	UC	WR
63. Golden eagle	<u>Aquila chrysaetos canadensis</u> (Linnaeus)	Unknown	Unknown	UC	WR

LIST OF BIRDS IN THE PROJECT AREA

Common Name	Scientific Name	Illinois		Abundance	Comments
		Distribution	Distribution		
64. Bald eagle	<u>Haliaeetus leucocephalus</u> <u>leucocephalus</u> (Linnaeus); <u>H. l. alasanus</u> (Townsend)	Miss. & south Ill. R., local elsewhere	Miss. R., local elsewhere	C	endangered WR in Ill.; rare WR in Mo.
65. Marsh hawk	<u>Circus cyaneus hudsonius</u> (Linnaeus)	Statewide	Statewide	UC	PR in north & central Ill. & Mo.; WR in south Ill. & Mo.; rare SR in northern Ill.
66. Osprey	<u>Pandion haliaetus carolinensis</u> (Gmelin)	Statewide	Statewide	UC	endangered T in Ill. & Mo.
67. Peregrine falcon	<u>Falco peregrinus anatum</u> Bonaparte	Statewide	Statewide	UC	T in northern Ill.; endangered in Ill. & Mo.
68. Merlin	<u>Falco columbarius columbarius</u> Linnaeus; <u>F. c. richardsonii</u> Ridgway	Statewide	Statewide	UC	WR
69. American kestrel	<u>Falco sparverius sparverius</u> Linnaeus	Statewide	Statewide	UC	PR

LIST OF BIRDS IN THE PROJECT AREA

Common Name	Scientific Name	Illinois Distribution	Missouri Distribution	Abundance	Comments
Order: Galliformes (Gallinaceous Birds)					
70. Bobwhite	<u>Colinus virginianus virginianus</u> (Linnaeus)	Statewide	Statewide	C	PR
71. Ring-necked pheasant	<u>Phasianus colchicus</u> Linnaeus	Northern two-thirds	Northern one-half	UC	PR
Order: Gruiformes (Cranes and Allies)					
72. Whooping crane	<u>Grus americana</u> (Linnaeus)	--	--	Accidental	
73. Sandhill crane	<u>Grus canadensis tabida</u> (Peters)	Statewide	Statewide	UC	T
74. King rail	<u>Rallus elegans elegans</u> Audubon	Statewide	Statewide	UC	rare SR in Mo.
75. Virginia rail	<u>Rallus limicola limicola</u> Vieillot	Statewide	Statewide	UC	SR
76. Sora	<u>Porzana carolina</u> (Linnaeus)	Statewide	Statewide	UC	breeds in north half of Il. & one-third of Mo.;
77. Yellow rail	<u>Coturnicops noveboracensis noveboracensis</u> (Gmelin)	Statewide	Statewide	UC	T

LIST OF BIRDS IN THE PROJECT AREA

Common Name	Scientific Name	Illinois Distribution	Missouri Distribution	Abundance	Comments
78. Purple gallinule	<u>Porphyryla martinica</u> (Linnaeus)	--	--	Casual	
79. Common gallinule	<u>Gallinula chloropus</u> <u>cachinnans</u> Bangs	Statewide	Statewide	UC	SR
80. American coot	<u>Fulica americana</u> <u>americana</u> Gmelin	Statewide	Statewide	UC	SR; PR in south Il.
Order: Charadriiformes (Shorebirds, Gulls and Terns)					
81. Semipalmated plover	<u>Charadrius</u> <u>semipalmatus</u> Bonaparte	Statewide	Statewide	UC	T
82. Piping plover	<u>Charadrius melodus</u> Ord	Statewide	Statewide	UC	T
83. Killdeer	<u>Charadrius vociferus</u> <u>vociferus</u> Linnaeus	Statewide	Statewide	C	SR; irregular WR in Il.
84. American golden plover	<u>Pluvialis dominica</u> <u>dominica</u> (Müller)	Statewide	Statewide	UC	T
85. Black-bellied plover	<u>Pluvialis squatarola</u> (Linnaeus)	Statewide	Statewide	C	T

LIST OF BIRDS IN THE PROJECT AREA

Common Name	Scientific Name	Illinois		Abundance	Comments
		Distribution	Distribution		
86. Ruddy turnstone	<u>Arenaria interpres morinella</u> (Linnaeus)	Statewide	Statewide	UC	T
87. American woodcock	<u>Philohela minor</u> (Gmelin)	Statewide	Statewide	C	SR
88. Common snipe	<u>Capella gallinago delicata</u> (Linnaeus)	Statewide	Statewide	UC	rare SR in north Il.; WR elsewhere
89. Upland sandpiper	<u>Bartramia longicauda</u> (Bechstein)	Statewide	Statewide	UC	SR of north Mo.; endangered SR of north two-thirds of Il.; local, T
90. Spotted sandpiper	<u>Actitis macularia</u> (Linnaeus)	Statewide	Statewide	C	SR
91. Solitary sandpiper	<u>Tringa solitaria solitaria</u> Wilson	Statewide	Statewide	C	T
92. Willet	<u>Catoptrophorus semipalmatus inornatus</u> (Brewster)	--	--	Accidental	
93. Greater yellowlegs	<u>Tringa melanoleucus</u> (Gmelin)	Statewide	Statewide	C	T

LIST OF BIRDS IN THE PROJECT AREA

Common Name	Scientific Name	Illinois		Abundance	Comments
		Distribution	Distribution		
94. Lesser yellow- legs	<u>Tringa flavipes</u> (Gmelin)	Statewide	Statewide	C	T
95. Pectoral sandpiper	<u>Calidris melanotos</u> (Vieillot)	Statewide	Statewide	C	T
96. White-rumped sandpiper	<u>Calidris fuscicollis</u> (Vieillot)	Statewide	Statewide	UC	T
97. Baird's sandpiper	<u>Calidris bairdii</u> (Coues)	Statewide	Statewide	UC	T
98. Least sandpiper	<u>Calidris minutilla</u> (Vieillot)	Statewide	Statewide	C	T
99. Dunlin	<u>Calidris alpina</u> <u>pacifica</u> (Coues)	Statewide	Statewide	UC	T
100. Semipalmated sandpiper	<u>Calidris pusillus</u> (Linnaeus)	Statewide	Statewide	UC	T
101. Western sandpiper	<u>Calidris mauri</u> Cabanis	Statewide	Statewide	UC	T
102. Sanderling	<u>Calidris alba</u> (Pallas)	Statewide	Statewide	UC	T
103. Short-billed dowitcher	<u>Limnodromus griseus</u> <u>hendersoni</u> Rowan; <u>L.</u> <u>g. griseus</u> (Gmelin)	Statewide	Statewide	UC	T

LIST OF BIRDS IN THE PROJECT AREA

Common Name	Scientific Name	Illinois		Abundance	Comments
		Distribution	Missouri Distribution		
104. Long-billed dowitcher	<u>Limnodromus scolopaceus</u> (Say)	Statewide	Statewide	UC	T
105. Stilt sandpiper	<u>Micropalama himantopus</u> (Bonaparte)	Statewide	Statewide	UC	T
106. Buff-breasted sandpiper	<u>Tryngites subruficollis</u> (Vieillot)	--	Western one-fourth	Accidental	T
107. Marbled godwit	<u>Limosa fedoa</u> (Linnaeus)	--	--	Accidental	
108. Hudsonian godwit	<u>Limosa haemastica</u> (Linnaeus)	Western one-fourth	Statewide	UC	T
109. American avocet	<u>Recurvirostra americana</u> (Gmelin)	--	West	Accidental	
110. Black-necked stilt	<u>Himantopus mexicanus</u> (Müller)	--	--	Accidental	
111. Wilson's phalarope	<u>Steganopus tricolor</u> Vieillot	--	--	Accidental	
112. Northern phalarope	<u>Lobipes lobatus</u> (Linnaeus)	--	--	Accidental	
113. Parasitic jaeger	<u>Stercorarius parasiticus</u> (Linnaeus)	--	--	Accidental	

LIST OF BIRDS IN THE PROJECT AREA

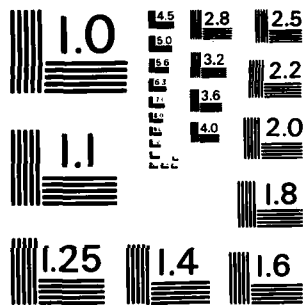
Common Name	Scientific Name	Illinois		Missouri	Abundance	Comments
		Distribution	Distribution			
114. Glaucous gull	<u>Larus hyperboreus</u> <u>hyperboreus</u> Gunnerus	--	--	--	Accidental	
115. Iceland gull	<u>Larus glaucooides</u> Meyer	--	--	--	Accidental	
116. Herring gull	<u>Larus argentatus</u> <u>smithsonianus</u> Coues	Statewide	Statewide	Statewide	C	WR near large bodies of water
117. Ring-billed gull	<u>Larus delawarensis</u> Ord	Statewide	Statewide	Statewide	C	WR in south & near Lake Michi- gan; T
118. Laughing gull	<u>Larus atricilla</u> Linnaeus	--	--	--	Accidental	
119. Franklin's gull	<u>Larus pipixcan</u> Wagler	Southwest	Statewide	Statewide	UC	T
120. Bonaparte's gull	<u>Larus philadelphia</u> (Ord)	Statewide	Statewide	Statewide	UC	T
121. Black-legged kittiwake	<u>Rissa tridactyla</u> (Linnaeus)	--	--	--	Accidental	
122. Sabine's gull	<u>Xema sabini sabini</u> (Sabine)	--	--	--	Accidental	

LIST OF BIRDS IN THE PROJECT AREA

Common Name	Scientific Name	Illinois Distribution	Missouri Distribution	Abundance	Comments
123. Forster's tern	<u>Sterna forsteri</u> Nuttall	Statewide	Statewide	UC	rare T in Il.
124. Common tern	<u>Sterna hirundo</u> <u>hirundo Linnaeus</u>	Statewide	Statewide	UC	T; rare SR in northeast Il.
125. Least tern	<u>Sterna albifrons</u> <u>athalassos Burleigh</u> & Lowery	Miss. & Ohio R.	Miss. & Mo. R.	UC	rare SR in Il. & Mo.
126. Caspian tern	<u>Hydroprogne caspia</u> (Pallas)	Statewide	Statewide	UC	T
127. Black tern	<u>Chlidonias niger</u> (Linnaeus)	Statewide	Statewide	C	T
Order: Columbiformes (Pigeons and Doves)					
128. Rock dove	<u>Columbia livia</u> Gmelin	Statewide	Statewide	C	PR
129. Mourning dove	<u>Zenaida macroura</u> <u>carolinensis</u> (Linnaeus)	Statewide	Statewide	C	PR
Order: Cuculiformes (Cuckoos)					
130. Yellow-billed cuckoo	<u>Coccyzus americanus</u> <u>americanus (Linnaeus)</u>	Statewide	Statewide	C	SR

LIST OF BIRDS IN THE PROJECT AREA

Common Name	Scientific Name	Illinois		Missouri		Abundance	Comments
		Distribution	Distribution	Distribution	Distribution		
131. Black-billed cuckoo	<u>Coccyzus erythrophthalmus</u> (Wilson)	Statewide	Statewide	UC	SR		
Order: Strigiformes (Owls)							
132. Screech owl	<u>Otus asio naevius</u> (Gmelin); <u>O. a. asio</u> (Linnaeus)	Statewide	Statewide	C	PR		
133. Great horned owl	<u>Bubo virginianus virginianus</u> (Gmelin)	Statewide	Statewide	UC	PR		
134. Snowy owl	<u>Nyctea scandiaca</u> (Linnaeus)	--	---		Casual		
135. Barred owl	<u>Strix varia varia</u> Barton	Statewide	Statewide	C	PR		
136. Long-eared owl	<u>Asio otus wilsonianus</u> (Lesson)	Statewide	Statewide	UC	rare PR in Il.		
137. Short-eared owl	<u>Asio flammeus flammeus</u> (Pontoppidan)	Statewide	Statewide	UC	rare WR in south Il; PR elsewhere		
138. Saw-whet owl	<u>Aegolius acadicus acadicus</u> (Gmelin)	Statewide	Statewide	UC	WR; rare PR in north 1/2 of Il. & north 1/3 of Mo.		



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LIST OF BIRDS IN THE PROJECT AREA

Common Name	Scientific Name	Illinois		Abundance	Comments
		Distribution	Distribution		
Order: Caprimulgiformes (Goatsuckers)					
139. Chuck-will's-widow	<u>Caprimulgus carolinensis</u> Gmelin	Southern one-half	Statewide	UC	SR
140. Whip-poor-will	<u>Caprimulgus vociferus vociferus</u> Wilson	Statewide	Statewide	UC	SR
141. Common night-hawk	<u>Chordeiles minor minor</u> (Forster)	Statewide	Statewide	UC	SR
Order: Apodiformes (Swifts and Hummingbirds)					
142. Chimney swift	<u>Chaetura pelagica</u> (Linnaeus)	Statewide	Statewide	C	SR
143. Ruby-throated hummingbird	<u>Archilochus colubris</u> (Linnaeus)	Statewide	Statewide	C	SR
Order: Coraciiformes (Kingfishers)					
144. Belted kingfisher	<u>Megasceryle alcyon alcyon</u> (Linnaeus)	Statewide	Statewide	C	PR
Order: Piciformes (Woodpeckers)					
145. Common flicker	<u>Colaptes auratus auratus</u> (Linnaeus)	Statewide	Statewide	C	PR

LIST OF BIRDS IN THE PROJECT AREA

Common Name	Scientific Name	Illinois		Abundance	Comments
		Distribution	Missouri Distribution		
146. Pileated woodpecker	<u>Dryocopus pileatus pileatus</u> (Linnaeus)	Statewide	Statewide	C	PR
147. Red-bellied woodpecker	<u>Centurus carolinus zebra</u> (Boddaert)	Statewide	Statewide	C	PR
148. Red-headed woodpecker	<u>Melanerpes erythrocephalus erythrocephalus</u> (Linnaeus)	Statewide	Statewide	C	PR
149. Yellow-bellied sapsucker	<u>Sphyrapicus varius varius</u> (Linnaeus)	Statewide	Statewide	UC	rare in Il.; SR in north half of Il. & northeast Mo.; WR in Mo. & central Il.
150. Hairy woodpecker	<u>Dendrocopos villosus villosus</u> (Linnaeus); <u>D. v. auduboni</u> Swainson	Statewide	Statewide	UC	PR
151. Downy woodpecker	<u>Dendrocopos pubescens medianus</u> (Swainson)	Statewide	Statewide	C	PR
Order: Passeriformes (Perching Birds)					
152. Eastern kingbird	<u>Tyrannus tyrannus</u> (Linnaeus)	Statewide	Statewide	C	SR
153. Western kingbird	<u>Tyrannus verticalis</u> Say	Northern half	Northern two-thirds	UC	rare SR in Il. & Mo.

LIST OF BIRDS IN THE PROJECT AREA

Common Name	Scientific Name	Illinois Distribution	Missouri Distribution	Abundance	Comments
154. Scissor-tailed flycatcher	<u>Muscivora forficata</u> (Gmelin)	--	--	Accidental	
155. Great crested flycatcher	<u>Myiarchus crinitus boreus</u> Bangs	Statewide	Statewide	C	SR
156. Eastern phoebe	<u>Sayornis phoebe</u> (Latham)	Statewide	Statewide	UC	SR
157. Yellow-bellied flycatcher	<u>Empidonax flaviventris</u> (Baird and Baird)	Statewide	Statewide	UC	T
158. Acadian flycatcher	<u>Empidonax virescens</u> (Vieillot)	Statewide	Statewide	C	SR
159. Alder fly-catcher	<u>Empidonax alnorum</u> Brewster	Statewide	Statewide	SU	T
160. Willow flycatcher	<u>Empidonax traillii</u> (Audubon)	Statewide	Statewide	C	SR
161. Least fly-catcher	<u>Empidonax minimus</u> (Baird and Baird)	Statewide	Statewide	UC	T; SR in northern one-third of IL.
162. Eastern wood pewee	<u>Contopus virens</u> (Linnaeus)	Statewide	Statewide	C	SR

LIST OF BIRDS IN THE PROJECT AREA

Common Name	Scientific Name	Illinois Distribution	Missouri Distribution	Abundance	Comments
163. Vermilion flycatcher	<u>Pyrocephalus rubinus</u> (Boddaert)	--	---	Accidental	
164. Horned lark	<u>Eremophila alpestris praticola</u> (Henshaw)	Statewide	Statewide	C	PR
165. Tree swallow	<u>Iridoprocne bicolor</u> (Vieillot)	Statewide	Statewide	C	T; SR of northern half Mo. & north 2/3 of Il.
166. Bank swallow	<u>Riparia riparia riparia</u> (Linnaeus)	Statewide	Statewide	C	SR
167. Rough-winged swallow	<u>Stelgidopteryx rubicollis serripennis</u> (Audubon)	Statewide	Statewide	C	SR
168. Barn swallow	<u>Hirundo rustica erythrogaster</u> Boddaert	Statewide	Statewide	C	SR
169. Cliff swallow	<u>Petrochelidon pyrrhonota pyrrhonota</u> (Vieillot)	Statewide	Statewide	C	SR
170. Purple martin	<u>Progne subis subis</u> (Linnaeus)	Statewide	Statewide	C	SR
171. Blue jay	<u>Cyanocitta cristata cristata</u> (Linnaeus); <u>C. c. bromia</u> Oberholser	Statewide	Statewide	C	PR

LIST OF BIRDS IN THE PROJECT AREA

Common Name	Scientific Name	Illinois		Abundance	Comments
		Distribution	Distribution		
172. Common crow	<u>Corvus brachyrhynchos</u> <u>brachyrhynchos</u> Brehm	Statewide	Statewide	C	PR
173. Fish crow	<u>Corvus ossifragus</u> Wilson	Southwest	Southeast	Casual	PR
174. Black-capped chickadee	<u>Parus atricapillus</u> <u>atricapillus</u> Linnaeus	Statewide	Statewide	C	WR; PR in north Il. & Mo.
175. Carolina chickadee	<u>Parus carolinensis</u> <u>extimus</u> (Todd & Sutton)	Southern half	Southern two-thirds	C	PR
176. Tufted titmouse	<u>Parus bicolor</u> Linnaeus	Statewide	Statewide	C	PR
177. White-breasted nuthatch	<u>Sitta carolinensis</u> <u>cookei</u> Oberholser	Statewide	Statewide	C	PR
178. Red-breasted nuthatch	<u>Sitta canadensis</u> Linnaeus	Statewide	Statewide	UC	rare WR in Il.
179. Brown creeper	<u>Certhia familiaris</u> <u>americana</u> Bonaparte	Statewide	Statewide	UC	rare PR in Il.; only WR in Mo.; possibly PR in Eastern Mo.

LIST OF BIRDS IN THE PROJECT AREA

Common Name	Scientific Name	Illinois Distribution	Missouri Distribution	Abundance	Comments
180. House wren	<u>Troglodytes aedon parkmanii</u> Audubon	Statewide	Statewide	UC	SR
181. Winter wren	<u>Troglodytes troglodytes hiemalis</u> Vieillot	Statewide	Statewide	UC	WR in south half Il. & south two-thirds Mo.; T
182. Bewick's wren	<u>Thryomanes bewickii bewickii</u> (Audubon)	Statewide	Statewide	UC	PR; rare SR in north half Il.; SR in north half Mo.
183. Carolina wren	<u>Thryothorus ludovicianus ludovicianus</u> (Latham)	Statewide	Statewide	C	PR
184. Long-billed marsh wren	<u>Telmatodytes palustris dissaepatus</u> (Bangs)	Statewide	Statewide	UC	T; SR in north three-fourths Il. & north half Mo.
185. Short-billed marsh wren	<u>Cistothorus platensis stellaris</u> (Naumann)	Statewide	Statewide	UC	T; SR in north 2/3 Il. & north & east Mo.
186. Mockingbird	<u>Mimus polyglottos polyglottos</u> (Linnaeus)	Statewide	Statewide	C	PR
187. Gray cat-bird	<u>Dumetella carolinensis</u> (Linnaeus)	Statewide	Statewide	UC	SR

LIST OF BIRDS IN THE PROJECT AREA

Common Name	Scientific Name	Illinois		Missouri		Abundance	Comments
		Distribution	Distribution	Distribution	Distribution		
188. Brown thrasher	<u>Toxostoma rufum rufum</u> (Linnaeus)	Statewide	Statewide	Statewide	Statewide	C	SR
189. American robin	<u>Turdus migratorius migratorius</u> Linnaeus; <u>T. m. achrusterus</u> (Batchelder)	Statewide	Statewide	Statewide	Statewide	C	PR
190. Wood thrush	<u>Hylocichla mustelina</u> (Gmelin)	Statewide	Statewide	Statewide	Statewide	UC	SR
191. Swainson's thrush	<u>Catharus ustulata swainsoni</u> (Tchudi); <u>H. u. incana</u> Godfrey	Statewide	Statewide	Statewide	Statewide	UC	T
192. Gray-cheeked thrush	<u>Catharus minima minima</u> (Lafresnaye)	Statewide	Statewide	Statewide	Statewide	UC	T
193. Veery	<u>Catharus fuscescens salicicola</u> Ridgway	Statewide	Statewide	Statewide	Statewide	UC	T; rare SR in northeast Il.
194. Eastern bluebird	<u>Sialia sialis sialis</u> (Linnaeus)	Statewide	Statewide	Statewide	Statewide	UC	PR
195. Blue-gray gnat-catcher	<u>Polioptila caerulea caerulea</u> (Linnaeus)	Statewide	Statewide	Statewide	Statewide	C	SR

LIST OF BIRDS IN THE PROJECT AREA

Common Name	Scientific Name	Illinois Distribution	Missouri Distribution	Abundance	Comments
196. Golden-crowned kinglet	<u>Regulus satropa satropa</u> Lichtenstein	Statewide	Statewide	UC	WR
197. Ruby-crowned kinglet	<u>Regulus calendula calendula</u> (Linnaeus)	Statewide	Statewide	UC	WR
198. Water pipit	<u>Anthus spinoletta rubescens</u> (Tunstall)	Statewide	Statewide	UC	T
199. Sprague's pipit	<u>Anthus spragueii</u> (Audubon)	--	--	Accidental	
200. Cedar waxwing	<u>Bombycilla cedrorum</u> Vieillot	Statewide	Statewide	UC	WR; PR in north 2/3 Il. & north half Mo.
201. Northern shrike	<u>Lanius excubitor borealis</u> Vieillot	Northern fourth	--	Casual	WR
202. Loggerhead shrike	<u>Lanius ludovicianus migrans</u> Palmer	Statewide	Statewide	UC	rare SR in northern 2/3 Il.; SR in northern 1/3 Mo.; PR
203. Starling	<u>Sturnus vulgaris vulgaris</u> Linnaeus	Statewide	Statewide	C	PR

LIST OF BIRDS IN THE PROJECT AREA

Common Name	Scientific Name	Illinois		Abundance	Comments
		Distribution	Missouri Distribution		
204. White-eyed vireo	<u>Vireo griseus noveboracensis</u> (Gmelin)	Statewide	Statewide	C	SR
205. Yellow-throated vireo	<u>Vireo flavifrons Vieillot</u>	Statewide	Statewide	UC	SR
206. Red-eyed vireo	<u>Vireo olivaceus</u> (Linnaeus)	Statewide	Statewide	C	SR
207. Warbling vireo	<u>Vireo gilvus gilvus</u> (Vieillot)	Statewide	Statewide	C	SR
208. Black-and-white warbler	<u>Mniotilta varia</u> (Linnaeus)	Statewide	Statewide	UC	SR
209. Prothonotary warbler	<u>Protonotaria citrea</u> (Boddaert)	Statewide	Statewide	C	SR
210. Worm-eating warbler	<u>Helminthos vermivorus</u> (Gmelin)	All but north one-eighth	Southern two-thirds & east	UC	SR
211. Golden-winged warbler	<u>Vermivora chrysoptera</u> (Linnaeus)	Statewide	Statewide	UC	T; SR in north one-eighth of IL.

LIST OF BIRDS IN THE PROJECT AREA

Common Name	Scientific Name	Illinois		Missouri		Comments
		Distribution	Abundance	Distribution	Abundance	
212. Blue-winged warbler	<u>Vermivora pinus</u> (Linnaeus)	Statewide	UC	Statewide	UC	T; SR of north half Mo. & north two-thirds of Il.
213. Tennessee warbler	<u>Vermivora peregrina</u> (Wilson)	Statewide	UC	Statewide	UC	T
214. Orange-crowned warbler	<u>Vermivora celata celata</u> (Say)	Statewide	UC	Statewide	UC	T
215. Nashville warbler	<u>Vermivora ruficapilla ruficapilla</u> (Wilson)	Statewide	UC	Statewide	UC	T; rare SR in northeast Il.
216. Northern parula warbler	<u>Parula americana</u> (Linnaeus)	Statewide	UC	Statewide	UC	SR
217. Yellow warbler	<u>Dendroica petechia nestiva</u> (Gmelin); <u>D. P. amnicola</u> Batchelder	Statewide	UC	Statewide	UC	SR
218. Magnolia warbler	<u>Dendroica magnolia</u> (Wilson)	Statewide	UC	Statewide	UC	T
219. Black-throated blue warbler	<u>Dendroica caerulescens</u> (Gmelin)	Statewide	UC	East	UC	T

LIST OF BIRDS IN THE PROJECT AREA

Common Name	Scientific Name	Illinois Distribution	Missouri Distribution	Abundance	Comments
220. Yellow-rumped warbler	<u>Dendroica coronata coronata</u> (Linnaeus)	Statewide	Statewide	UC	T; WR in south, central & north-east Mo. & Il.
221. Cerulean warbler	<u>Dendroica cerulea</u> (Wilson)	Statewide	Statewide	UC	SR
222. Yellow-throated warbler	<u>Dendroica dominica albiflora</u> Ridgway	Statewide	Southern half & eastern half	UC	SR
223. Chestnut-sided warbler	<u>Dendroica pensylvanica</u> (Linnaeus)	Statewide	Statewide	UC	T
224. Blackpoll warbler	<u>Dendroica striata</u> (Forster)	Statewide	Statewide	UC	T
225. Prairie warbler	<u>Dendroica discolor discolor</u> (Vieillot)	Statewide	Statewide	UC	SR
226. Palm warbler	<u>Dendroica palmarum palmarum</u> (Gmelin); <u>D. p. hypochrysea</u> Ridgway	Statewide	Statewide	UC	T
227. Ovenbird	<u>Seiurus aurocapillus aurocapillus</u> (Linnaeus); <u>S. a. cinereus</u> Miller	Statewide	Statewide	UC	SR

LIST OF BIRDS IN THE PROJECT AREA

Common Name	Scientific Name	Illinois		Abundance	Comments
		Distribution	Distribution		
228. Northern water-thrush	<u>Seiurus noveboracensis notabilis</u> Ridgway	Statewide	Statewide	UC	T
229. Louisiana waterthrush	<u>Seiurus motacilla</u> (Vieillot)	Statewide	Statewide	UC	SR
230. Kentucky warbler	<u>Oporornis formosus</u> (Wilson)	Statewide	Statewide	UC	SR
231. Common yellow-throat	<u>Geothlypis trichas brachidactylus</u> (Swainson)	Statewide	Statewide	C	SR
232. Yellow-breasted chat	<u>Icteria virens virens</u> (Linnaeus)	Statewide	Statewide	UC	SR
233. Hooded warbler	<u>Wilsonia citrina</u> (Boddaert)	Statewide	Statewide	UC	SR
234. Wilson's warbler	<u>Wilsonia pusilla pusilla</u> (Wilson)	Statewide	Statewide	UC	T
235. Canada warbler	<u>Wilsonia canadensis</u> (Linnaeus)	Statewide	Statewide	UC	T

LIST OF BIRDS IN THE PROJECT AREA

Common Name	Scientific Name	Illinois		Missouri		Abundance	Comments
		Distribution	Distribution	Distribution	Distribution		
236. American redstart	<u>Setophaga ruticilla tricolora</u> (Miller); <u>S. r. ruticilla</u> (Linnaeus)	Statewide	Statewide	Statewide	Statewide	C	SR
237. House sparrow	<u>Passer domesticus domesticus</u> (Linnaeus)	Statewide	Statewide	Statewide	Statewide	C	PR
238. European tree sparrow	<u>Passer montanus montanus</u> (Linnaeus)	West	West	Center east	Center east	Locally C	PR
239. Bobolink	<u>Dolichonyx oryzivorus</u> (Linnaeus)	Statewide	Statewide	Statewide	Statewide	UC	T; SR in northern half of Il.
240. Eastern meadowlark	<u>Sturnella magna magna</u> (Linnaeus); <u>S. m. argutula</u> Bangs	Statewide	Statewide	Statewide	Statewide	C	PR
241. Western meadowlark	<u>Sturnella neglecta neglecta</u> Audubon	North two-thirds	North two-thirds	North two-thirds & west	North two-thirds & west	UC	SR
242. Yellow-headed blackbird	<u>Xanthocephalus xanthocephalus</u> (Bonaparte)	Northern half	Northern half	Western half & northern half	Western half & northern half	UC	T; rare SR in Mo.
243. Red-winged blackbird	<u>Agelaius phoeniceus phoeniceus</u> (Linnaeus); <u>A. P. arctolegus</u> Oberholser	Statewide	Statewide	Statewide	Statewide	C	PR; SR in northern quarter of Il.

LIST OF BIRDS IN THE PROJECT AREA

Common Name	Scientific Name	Illinois		Abundance	Comments
		Distribution	Missouri Distribution		
244. Orchard oriole	<u>Icterus spurius</u> (Linnaeus)	Statewide	Statewide	UC	SR
245. Northern oriole	<u>Icterus galbula galbula</u> (Linnaeus)	Statewide	Statewide	C	SR
246. Rusty black-bird	<u>Euphagus carolinus carolinus</u> (Müller)	Statewide	Statewide	UC	WR
247. Brewer's blackbird	<u>Euphagus cyanocephalus</u> (Wagler)	Statewide	Statewide	UC	T; rare SR in northeast Il.
248. Common grackle	<u>Quiscalus quiscula versicolor</u> Vieillot	Statewide	Statewide	C	PR
249. Brown-headed cowbird	<u>Molothrus ater ater</u> (Boddaert)	Statewide	Statewide	C	PR; SR of northern Il. & Mo.
250. Scarlet tanager	<u>Piranga olivacea</u> (Gmelin)	Statewide	Statewide	C	SR
251. Summer tanager	<u>Piranga rubra rubra</u> (Linnaeus)	Statewide	Statewide	UC	SR
252. Cardinal	<u>Cardinalis cardinalis cardinalis</u> (Linnaeus)	Statewide	Statewide	C	PR

LIST OF BIRDS IN THE PROJECT AREA

Common Name	Scientific Name	Illinois		Abundance	Comments
		Distribution	Distribution		
253. Rose-breasted grosbeak	<u>Pheucricus ludovicianus</u> (Linnaeus)	Statewide	Statewide	UC	T; SR in west & north half Mo. & north 2/3 of IL.
254. Blue grosbeak	<u>Guiraca caerulea caerulea</u> (Linnaeus)	Southern half	Southern two-thirds	UC	SR
255. Indigo bunting	<u>Passerina cyanea</u> (Linnaeus)	Statewide	Statewide	C	SR
256. Dickcissel	<u>Spiza americana</u> (Gmelin)	Statewide	Statewide	C	SR
257. Evening grosbeak	<u>Hesperiphona vespertina vespertina</u> (Cooper)	Statewide	Statewide	UC	WR
258. Purple finch	<u>Carpodacus purpureus purpureus</u> (Gmelin)	Statewide	Statewide	UC	WR
259. Pine grosbeak	<u>Pinicola enucleator leucura</u> (Müller)	---	---	Casual	
260. Pine siskin	<u>Spinus pinus pinus</u> (Wilson)	Statewide	Statewide	UC	WR
261. American goldfinch	<u>Spinus tristis tristis</u> (Linnaeus)	Statewide	Statewide	C	PR

LIST OF BIRDS IN THE PROJECT AREA

Common Name	Scientific Name	Illinois		Abundance	Comments
		Distribution	Distribution		
262. Red crossbill	<u>Loxia curvirostra minor</u> (Brehm); <u>L. c. benti</u> Griscom	--	--	Casual	
263. White-winged crossbill	<u>Loxia leucoptera leucoptera</u> Gmelin	Northern thirds	Northern two-thirds half	Casual	
264. Green-tailed towhee	<u>Chlorura chlorura</u> (Audubon)	--	--	Accidental	
265. Rufous-sided towhee	<u>Pipilo erythrophthalmus erythrophthalmus</u> (Linnaeus)	Statewide	Statewide	UC	PR
266. Savannah sparrow	<u>Passerculus sandwichensis labradorius</u> Howe; <u>P. s. savanna</u> (Wilson); <u>P. s. oblitus</u> Peters & Griscom	Statewide	Statewide	UC	T; SR in north quarter of Il.
267. Grasshopper sparrow	<u>Ammodramus savannarum pratensis</u> (Vieillot)	Statewide	Statewide	UC	SR
268. Henslow's sparrow	<u>Ammodramus henslowii henslowii</u> (Audubon)	Statewide	Statewide	UC	T; SR in north 2/3 Il. & north half of Mo.

LIST OF BIRDS IN THE PROJECT AREA

Common Name	Scientific Name	Illinois		Missouri		Abundance	Comments
		Distribution	Distribution	Distribution	Distribution		
269. LeConte's sparrow	<u>Amospiza leconteii</u> (Audubon)	Statewide	Statewide	Statewide	Statewide	UC	T
270. Nelson's sparrow	<u>Amospiza caudacuta nelsoni</u> (Allen)	Statewide	Statewide	Statewide	Statewide	UC	T
271. Vesper sparrow	<u>Poocetes gramineus gramineus</u> (Gmelin)	Statewide	Statewide	Statewide	Statewide	UC	T; SR in north 2/3 Il. & north half Mo.; WR in south 1/3 Il.
272. Lark sparrow	<u>Chondestes grammacus grammacus</u> (Say); <u>C. g. strigatus</u> Swainson	Statewide	Statewide	Statewide	Statewide	UC	SR
273. Dark-eyed junco	<u>Junco hyemalis hyemalis</u> (Linnaeus); <u>J. h. carolinensis</u> Brewster	Statewide	Statewide	Statewide	Statewide	C	WR
274. Tree sparrow	<u>Spizella arborea arborea</u> (Wilson)	Statewide	Statewide	Statewide	Statewide	C	WR
275. Chipping sparrow	<u>Spizella passerina passerina</u> (Bechstein)	Statewide	Statewide	Statewide	Statewide	UC	SR
276. Clay-colored sparrow	<u>Spizella pallida</u> (Swainson)	--	--	--	--	Casual	

LIST OF BIRDS IN THE PROJECT AREA

Common Name	Scientific Name	Illinois Distribution	Missouri Distribution	Abundance	Comments
277. Field sparrow	<u>Spizella pusilla pusilla</u> (Wilson)	Statewide	Statewide	C	PR; SR in west & north third of Mo. & north half Il.
278. White-crowned sparrow	<u>Zonotrichia leucophrys leucophrys</u> (Forster)	Statewide	Statewide	UC	T; WR in south two-thirds Mo. & south third Il.
279. White-throated sparrow	<u>Zonotrichia albicollis</u> (Gmelin)	Statewide	Statewide	UC	T; WR in south two-thirds Mo. & south third Il.
280. Fox sparrow	<u>Passerella iliaca iliaca</u> (Merrem); <u>P. i. zaboria</u> Oberholser	Statewide	Statewide	UC	WR
281. Lincoln's sparrow	<u>Melospiza lincolnii lincolnii</u> (Audubon)	Statewide	Statewide	UC	T; WR in south third Mo. & Il.
282. Swamp sparrow	<u>Melospiza georgiana ericrypta</u> Oberholser; <u>M. G. georgiana</u> (Latham)	Statewide	Statewide	C	WR; PR in north quarter of Il.

LIST OF BIRDS IN THE PROJECT AREA

Common Name	Scientific Name	Illinois		Abundance	Comments
		Distribution	Distribution		
283. Song sparrow	<u>Melospiza melodia melodia</u> (Wilson); <u>M. m. euphonia</u> Wetmore; <u>M. m. judii</u> Bishop	Statewide	Statewide	C	PR
284. Lapland longspur	<u>Calcarius lapponicus lapponicus</u> (Linnaeus)	Statewide	Statewide	UC	WR
285. Smith's longspur	<u>Calcarius pictus</u> (Swainson)	--	--	Casual	
286. Snow bunting	<u>Plectrophenax nivalis nivalis</u> (Linnaeus)	Statewide	Statewide	UC	WR

LIST OF MAMMALS IN THE PROJECT AREA^{1,2,3}

Common Name	Scientific Name	Illinois Distribution	Missouri Distribution	Abundance	Comments
Family: Didelphidae (Opossums)					
1. Opossum	<u>Didelphis marsupialis virginiana</u> Linnaeus	Statewide	Statewide	C	
Family: Soricidae (Shrews)					
2. Short-tailed shrew	<u>Blarina brevicauda carolinensis</u> (Say)	Statewide	Statewide	C	uncommon in unprotected floodplain forest
3. Least shrew	<u>Cryptotis parva parva</u> (Say)	Statewide	Statewide	UC	seldom seen in unprotected floodplain
Family: Talpidae (Moles)					
4. Eastern mole	<u>Scalopus aquaticus machrinus</u> (Linnaeus); <u>S. a. machrinoides</u>	Statewide	Statewide	C	uncommon in Mark Twain Refuge
Family: Vespertilionidae (Plainnose Bats)					
5. Little brown bat	<u>Myotis lucifugus lucifugus</u> (LeConte)	Statewide	Statewide	C	forages over river & backwater areas

¹Burt and Grossenheider (1964).

²Hoffmeister and Mohr (1957).

³Schwartz and Schwartz (1959).

LIST OF MAMMALS IN THE PROJECT AREA

Common Name	Scientific Name	Illinois		Abundance	Comments
		Distribution	Distribution		
6. Gray bat	<u>Myotis grisescens</u> Howell	Southern half	Southern two-thirds	R-II. E-Mo.	reported from Pike Co., Il.
7. Keen's bat	<u>Myotis keenii septentrionalis</u> (Merriam)	Statewide	Statewide	UC-II. R-Mo.	forages over river & backwater areas
8. Indiana bat	<u>Myotis sodalis</u> Miller and Allen	Statewide, except north-east	Statewide, except north-west	E	Federal endangered species
9. Small-footed brown bat	<u>Myotis subulatus leibii</u> (Say)	Unknown	Statewide	UC	range poorly defined
10. Silver-haired bat	<u>Lasionycteris noctivagans</u> (LeConte)	Statewide	Statewide	C	most migrate south in winter
11. Eastern pipistrelle	<u>Pipistrellus subflavus subflavus</u> (Cuvier)	Statewide	Statewide	C	forages over water
12. Big brown bat	<u>Eptesicus fuscus fuscus</u> (Beauvois)	Statewide	Statewide	C	
13. Red bat	<u>Lasiurus borealis borealis</u> (Muller)	Statewide	Statewide	C	known to carry rabies in Mo.
14. Hoary bat	<u>Lasiurus cinereus</u> (Beauvois)	Statewide	Statewide	R	spring and fall migrant

LIST OF MAMMALS IN THE PROJECT AREA

Common Name	Scientific Name	Illinois		Missouri		Comments
		Distribution	Distribution	Abundance	Abundance	
15. Evening bat	<u>Nycticeius humeralis humeralis</u> (Rafinesque)	Statewide, except north-west.	Statewide, except extreme north	UC	UC	migrates south in winter
Family: Leporidae (Rabbits and Hares)						
16. Eastern cottontail	<u>Sylvilagus floridanus mearnsii</u> (Allen)	Statewide	Statewide			
Family: Sciuridae (Squirrels)						
17. Woodchuck	<u>Marmota monax monax</u> (Linnaeus)	Statewide	Statewide		C	uncommon in un-protected flood-plain
18. Thirteen-lined ground squirrel	<u>Citellus tridecemlineatus tridecemlineatus</u> (Mitchill)	Northern two-thirds	Northwest and prairie area		C-II, UC-Mo.	rare in Mark Twain Refuge
19. Franklin's ground squirrel	<u>Citellus franklinii</u> (Sabine)	Northern two-thirds	Northwest and prairie area		C-II, UC-Mo.	rare in Mark Twain Refuge
20. Eastern chipmunk	<u>Tamias striatus griseus</u> (Linnaeus)	Statewide	Statewide		C	
21. Eastern gray squirrel	<u>Sciurus carolinensis carolinensis</u> Gmelin	Statewide	Statewide		C	prefers dense forests

LIST OF MAMMALS IN THE PROJECT AREA

Common Name	Scientific Name	Illinois		Abundance	Comments
		Distribution	Distribution		
22. Eastern fox squirrel	<u>Sciurus niger rufiventer</u> Linnaeus	Statewide	Statewide	C	outnumbers gray squirrel in Mark Twain Refuge
23. Southern flying squirrel	<u>Glaucomys volans volans</u> (Linnaeus)	Statewide	Statewide	UC	rarely seen in Mark Twain Refuge
Family: Geomyidae (Gophers)					
24. Plains pocket gopher	<u>Geomys bursarius illinoensis</u> (Shaw); <u>G. b. bursarius</u>	Area between Ill. & Kankakee R. & south to Kaskaskia R.	Statewide, except extreme south	C	reported from Cannon Refuge
Family: Castoridae (Beavers)					
25. Beaver	<u>Castor canadensis carolinensis</u> Kuhl	Statewide	Statewide	UC	sign frequently seen along Ill. & Miss. R.
Family: Cricetidae (New World Mice)					
26. Western harvest mouse	<u>Reithrodontomys megalotis dychei</u> (Baird)	Northern two-thirds	Statewide, except southwest	UC	found at Pike Co. Conservation Area, Ill.
27. Deer mouse	<u>Peromyscus maniculatus bairdii</u> (Wagner)	Statewide	Statewide	C	

LIST OF MAMMALS IN THE PROJECT AREA

Common Name	Scientific Name	Illinois		Missouri		Abundance	Comments
		Distribution	Distribution	Distribution	Distribution		
28. White-footed mouse	<u>Peromyscus leucopus noveboracensis</u> (Rafinesque)	Statewide	Statewide	Statewide	Statewide	C	most abundant small mammal in unprotected flood-plain
29. Southern bog lemming	<u>Synaptomys cooperi gossii</u> Baird	Southern two-thirds	Southern two-thirds	Statewide, except south-west	Statewide, except south-west	UC	
30. Prairie vole	<u>Microtus ochrogaster ochrogaster</u> (Wagner)	Statewide	Statewide	Statewide	Statewide	C	common on levees & roadsides
31. Pine vole	<u>Pitymys pinetorum nemoralis</u> (LeConte)	Statewide	Statewide	Statewide	Statewide	UC	habitat destroyed by heavy silt deposit
32. Muskrat	<u>Ondatra zibethicus zibethicus</u> (Linnaeus)	Statewide	Statewide	Statewide	Statewide	C	frequently use bank dens
Family: Muridae (Old World Mice)							
33. Norway rat	<u>Rattus norvegicus norvegicus</u> (Berkenhout)	Statewide	Statewide	Statewide	Statewide	C	
34. House mouse	<u>Mus musculus domesticus</u> (Linnaeus)	Statewide	Statewide	Statewide	Statewide	C	

LIST OF MAMMALS IN THE PROJECT AREA

Common Name	Scientific Name	Illinois Distribution	Missouri Distribution	Abundance	Comments
Family: Zapodidae (Jumping Mice)					
35. Meadow jumping mouse	<u>Zapus hudsonius intermedius</u> (Zimmerman); <u>Z. h. pallidus</u>	Statewide	Statewide	R	
Family: Canidae (Dogs)					
36. Domestic dog	<u>Canis familiaris</u> Linnaeus	Statewide	Statewide	C	
37. Coyote	<u>Canis latrans thomomys</u> Say; <u>C. l. frustror</u>	Statewide	Statewide	UC	occurs sporadically on Mark Twain Refuge
38. Red fox	<u>Vulpes vulpes fulva</u> (Linnaeus)	Statewide	Statewide	C	
39. Gray fox	<u>Urocyon cinereoargenteus cinereoargenteus</u> (Schreber); <u>U. c. ocythous</u>	Statewide	Statewide	C	seen at Meredosia, Cass Co., Ill.
Family: Procyonidae (Raccoons)					
40. Raccoon	<u>Procyon lotor hirtus</u> (Linnaeus)	Statewide	Statewide	C	abundant furbearer of unprotected floodplain

LIST OF MAMMALS IN THE PROJECT AREA

Common Name	Scientific Name	Illinois Distribution	Missouri Distribution	Abundance	Comments
Family: Mustelidae (Weasels)					
41. Long-tailed weasel	<u>Mustela frenata novaboracensis</u> Lichtenstein; <u>M. f. primulina</u>	Statewide	Statewide	UC-II. R-Mo.	
42. Mink	<u>Mustela vison</u> <u>mink</u> Schreber	Statewide	Statewide	C-II. UC-Mo.	common on Mark Twain Refuge
43. Eastern spotted skunk	<u>Spilogale putorius interrupta</u> (Linnaeus)	Unknown	Statewide	C	rare on Mark Twain Refuge
44. Striped skunk	<u>Mephitis mephitis avia</u> (Schreber)	Statewide	Statewide	C	
45. River otter	<u>Lutra canadensis canadensis</u> (Schreber)	Presumed statewide except north-east	Presumed statewide	R-II. E-Mo.	very rare on Mark Twain Refuge
46. Badger	<u>Taxidea taxus taxus</u> (Schreber)	South to Fulton & Douglas Co.	Northern half	UC	Rare on the Mark Twain Refuge
Family: Felidae (Cats)					
47. Bobcat	<u>Lynx rufus rufus</u> (Schreber)	Southern	South & south-east	E-II. UC-Mo.	

LIST OF MAMMALS IN THE PROJECT AREA

Common Name	Scientific Name	Illinois		Abundance	Comments
		Distribution	Distribution		
48. House cat	<u>Felis catus</u> Linnaeus	Statewide	Statewide	--	
Family: Cervidae (Deer)					
49. White-tailed deer	<u>Odocoileus virginianus borealis</u> (Zimmermann); <u>O. v. macroura</u>	Statewide	Statewide	C	

APPENDIX C

Species Checklist of Amphibians, Reptiles, Birds and Mammals
Occurring or Expected to Occur in the Floodplain of the
Illinois Waterway from the Junction of the Calumet-Sag
Channel and the Chicago Sanitary and Ship Canal to the
LaGrange Lock and Dam (from COE 1974a)

Amphibians and Reptiles

Order Caudata

- C Ambystoma texanum - small-mouthed salamander
- U Ambystoma tigrinum tigrinum - eastern tiger salamander
- R Notophthalmus viridescens louisianensis - central newt
- C Necturus maculosus maculosus - mud puppy
- C Siren intermedia nettingi - western lesser siren

Order Salientia

- C Bufo americanus americanus - american toad
- C Bufo woodhousei fowleri - Fowler's toad
- C Acris crepitans blanchardi - Blanchard's cricket frog
- C Pseudacris triseriata triseriata - western chorus frog
- R Pseudacris streckeri illinoensis - Illinois chorus frog
- C Hyla crucifer crucifer - northern spring peeper
- C Hyla versicolor versicolor - eastern gray treefrog
- C Rana catesbeiana - bullfrog
- C Rana clamitans melanota - green frog
- C Rana pipiens pipiens - northern leopard frog
- C Rana pipiens x sphenoccephala - intergrade between northern and southern leopard frog

Order Testudines

- C Chelydra serpentina serpentina - common snapping turtle
- R Macrolemys temmincki - alligator snapping turtle
- C Sternotherus odoratus - stinkpot
- U Kinosternon flavescens spooneri - Illinois mud turtle
- R Kinosternon subrubrum subrubrum x hippocrepis - intergrade of mud turtle
- C Emydoidea blandingi - Blanding's turtle
- U Terrapene ornata ornata - ornate box turtle
- C Chrysemys picta marginata x belli - intergrade between midland and western painted turtle
- C Pseudemys scripta elegans - red-eared turtle
- U Graptemys pseudogeographica - false map turtle
- U Graptemys geographica - map turtle
- U Trionyx muticus muticus - smooth softshell
- C Trionyx spinifer spinifer - eastern spiny softshell

Amphibians and Reptiles (Continued)

Order Squamata

Suborder Sauria

- R Ophisaurus attenuatus attenuatus - western slender grass lizard
 U Cnemidophorus sexlineatus sexlineatus - six-lined racerunner
 U Eumeces fasciatus - five-lined skink
 U Eumeces laticeps - broad-headed skink

Suborder Serpentes

- U Diadophis punctatus edwardsi - northern ringneck snake
 U Heterodon nasicus nasicus x gloydi - intergrade of plains hognose snake
 C Heterodon platyrhinos - eastern hognose snake
 U Opheodrys vernalis blanchardi - western smooth green snake
 C Coluber constrictor flaviventris - blue racer
 C Elaphe obsoleta obsoleta - black rat snake
 C Elaphe vulpina vulpina - western fox snake
 C Pituophis melanoleucus sayi - bullsnake
 C Lampropeltis calligaster calligaster - prairie kingsnake
 U Lampropeltis getulus holbrooki - speckled kingsnake
 C Lampropeltis triangulum triangulum x sypila - red milk snake intergrade with eastern milk snake
 R Thamnophis sauritus proximus - western ribbon snake
 C Thamnophis radix radix - eastern plains garter snake
 C Thamnophis sirtalis sirtalis - eastern garter snake
 C Thamnophis sirtalis sirtalis x semifasciata - intergrade between eastern and Chicago garter snake
 R Tropidoclonion lineatum lineatum - northern lined snake
 C Storeria dekayi wrightorum - midland brown snake
 U Storeria occipitomaculata occipitomaculata - northern red-bellied snake
 U Natrix erythrogaster flavigaster - yellow-bellied water snake
 C Natrix grahami - Graham's water snake
 C Natrix rhombifera rhombifera - diamond-backed water snake
 U Natrix septemvittata - queen snake
 C Natrix sipedon sipedon - northern water snake
 C Natrix sipedon sipedon x pleuralis - intergrade between northern and midland water snake
 R Agkistrodon contortrix Mokeson northern copperhead
 R Agkistrodon contortrix contortrix x Mokeson - intergrade between northern and eastern copperhead
 C Sistrurus catenatus catenatus - eastern massasauga rattlesnake
 U Crotalus horridus horridus - timber rattlesnake

- C = Common
 U = Uncommon
 R = Rare

Source: Philip W. Smith. 1961. The Amphibians and Reptiles of Illinois. Ill. Nat. Hist. Surv. 28:1, Urbana, Ill.

Birds

Seasonal status and abundance are indicated as follows:

PR - permanent resident	a - abundant
SR - summer resident	c - common
WV - winter visitor	u - uncommon
SV - summer visitor	r - rare
TV - transient visitor	* - endangered

Class AVES

Order GAVIIFORMES

Family GAVIIDAE - loons

Gavia immer

Common Loon TV-u

Gavia stellata

Red-throated Loon TV-u

Order PODICIPEDIFORMES

Family PODICIPEDIDAE - grebes

Podiceps grisegena

Red-necked Grebe TV-r

Podiceps auritus

Horned Grebe TV-u

Podiceps caspicus

Eared Grebe TV-r

Podilymbus podiceps

Pied-billed Grebe SR-c

Order PELECANIFORMES

Family PELECANIDAE - pelicans

Pelecanus erythrorhynchos

White Pelican TV-r

Family PHALACROCORACIDAE - cormorants

Phalacrocorax auritus

Double-crested Cormorant TV-r

Order CICONIIFORMES

Family ARDEIDAE - herons and bitterns

Ardea herodias

Great Blue Heron SR-c

Butorides virescens

Green Heron SR-c

Florida caerules

Little Blue Heron SR-u

Bubulcus ibis

Cattle Egret SR-u

Casmerobolus albus

Great Egret SR-c

Leucophoyx thula

Snowy Egret SV-r

Nycticorax nycticorax

Black-crowned Night Heron SR-c

Nyctanassa violacea

Yellow-crowned Night Heron SR-r

Ixobrychus exilis

Least Bittern SR-u

Botaurus lentiginosus

American Bittern SR-u

**Modified from Robbins, 1966; Peterson, 1967; Smith, 1972; U.S. Fish and Wildlife Service, 1967.

Birds (Continued)

Order ANSERIFORMES

Family ANATIDAE - swans, geese, ducks

Olor columbianus
Branta canadensis
Anser albitrons
Chen hyperborea
Anas platyrhynchos
Anas rubripes
Anas acuta
Anas strepera
Anas carolinensis
Anas discors
Mareca americana
Spatula clypeata
Aix sponsa
Aythya americana
Aythya collaris
Aythya valisineria
Aythya marila
Aythya affinis
Bucephala clangula
Bucephala albeola
Clangula hyemalis
Melanitta deglandi
Oxyura jamaicensis
Lophodytes cucullatus
Mergus merganser
Mergus serrator

Whistling Swan TV-r
 Canada Goose TV-c
 White-fronted Goose TV-r
 Snow Goose TV-c
 Mallard TV-a
 Black Duck TV-c
 Pintail TV-c
 Gadwall TV-u
 Green-winged Teal TV-u
 Blue-winged Teal SR-c
 American Wigeon TV-c
 Northern Shoveler TV-c
 Wood Duck SR-c
 Redhead TV-c
 Ring-necked Duck TV-c
 Canvasback TV-u
 Greater Scaup WV-r
 Lesser Scaup TV-a
 Common Goldeneye WV-c
 Bufflehead TV-u
 Oldsquaw WV-r
 White-winged Scoter WV-r
 Ruddy Duck TV-c
 Hooded Merganser TV-u
 Common Merganser WV-c
 Red-breasted Merganser TV-c

Order FALCONIFORMES

Family CATHARTIDAE - vultures

Cathartes aura

Turkey Vulture SR-u

Family ACCIPITRIDAE - hawks, eagles

Accipiter gentilis
Accipiter striatus
Accipiter cooperii
Buteo jamaicensis
Buteo lineatus
Buteo platynerus
Buteo lagopus
Aquila chrysaetos
Haliaeetus leucocephalus
Circus cyaneus
Pandion haliaetus
Falco peregrinus
Falco columbarius
Falco sparverius

Goshawk WV-r
 Sharp-shinned Hawk TV-u
 Cooper's Hawk TV-u
 Red-tailed Hawk RR-c
 Red-shouldered Hawk PR-u
 Broad-winged Hawk TV-u
 Rough-legged Hawk WV-c
 Golden Eagle TV-r
 *Bald Eagle WV-u
 Marsh Hawk TV-c
 Osprey TV-u
 *Peregrine Falcon TV-r
 Merlin TV-r
 American Kestrel PR-c

Order GALLIFORMES

Family PHASIANIDAE - quails, partridges, pheasants

<u>Colinus virginianus</u>	Bobwhite PR-c
<u>Phasianus colchicus</u>	Ring-necked Pheasant PR-a

Order GRUIFORMES

Family GRUIDAE - cranes

<u>Grus canadensis</u>	Sandhill Crane TV-r
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Family RALLIDAE - rails,

<u>Rallus elegans</u>	King Rail SR-u
<u>Rallus limicola</u>	Virginia Rail SR-u
<u>Porzana carolina</u>	Sora SR-c
<u>Coturnicops noveboracensis</u>	Yellow Rail TV-r
<u>Gallinula chloropus</u>	Common Gallinule SR-u
<u>Fulica americana</u>	American Coot TV-a

Order CHARADRIIFORMES

Family CHARADRIIDAE - plovers, turnstones, surfbirds

<u>Charadrius semipalmatus</u>	Semipalmated Plover TV-u
<u>Charadrius melodus</u>	Piping Plover TV-r
<u>Charadrius vociferus</u>	Killdeer SR-c
<u>Pluvialis dominica</u>	American Golden Plover TV-u
<u>Squatarola squatarola</u>	Black-bellied Plover TV-u
<u>Arenaria interpres</u>	Ruddy Turnstone TV-u

Family SCOLOPACIDAE - woodcock, snipe

<u>Philohela minor</u>	American Woodcock SR-u
<u>Capella gallinago</u>	Common Snipe TV-c
<u>Bartramia longicauda</u>	Upland Sandpiper SR-u
<u>Actitis macularia</u>	Spotted Sandpiper SR-c
<u>Tringa solitaria</u>	Solitary Sandpiper TV-c
<u>Catoptrophorus semipalmatus</u>	Willet TV-r
<u>Totanus melanoleucus</u>	Greater Yellowlegs TV-c
<u>Totanus flavipes</u>	Lesser Yellowlegs TV-c
<u>Calidris canutus</u>	Knot TV-r
<u>Erolia melanotos</u>	Pectoral Sandpiper TV-c
<u>Erolia fuscicollis</u>	White-rumped Sandpiper TV-r
<u>Erolia bairdii</u>	Baird's Sandpiper TV-r
<u>Erolia minutilla</u>	Least Sandpiper TV-c
<u>Erolia alpina</u>	Dunlin TV-u
<u>Limnodromus griseus</u>	Short-billed Dowitcher TV-u
<u>Limnodromus scolopaceus</u>	Long-billed Dowitcher TV-r
<u>Micropalama himantopus</u>	Stilt Sandpiper TV-r
<u>Ereunetes pusillus</u>	Semipalmated Sandpiper TV-c
<u>Ereunetes mauri</u>	Western Sandpiper TV-u
<u>Tryngites subruficollis</u>	Buff-breasted Sandpiper TV-c
<u>Crocethia alba</u>	Sanderling TV-c

Family JACANIDAE - jacanas

<u>Recurvirostra americana</u>	American Avocet TV-r
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Family PHALAROPODIDAE - phalaropes

<u>Steganopus tricolor</u>	Wilson's Phalarope TV-r
<u>Lobipes lobatus</u>	Northern Phalarope TV-r

Family LARINAE - Gulls

Larus argentatus
Larus delawarensis
Larus atricilia
Larus pipixcan
Larus philadelphia
Larus minutus
Sterna forsteri
Sterna hirundo
Sterna albifrons
Hydroprogne caspia
Chlidonias niger

120
Herring Gull WV-a
Ring-billed Gull WV-c
Laughing Gull SV-r
Franklin's Gull TV-r
Bonapartes Gull TV-u
Little Gull TV-r
Forster's Tern TV-c
Common Tern TV-c
Least Tern SV-r
Caspian Tern TV-r
Black Tern SR-u

Order COLUMBIFORMES

Family COLUMBIDAE - pigeons and doves

Columba livia
Coccyzus erythrophthalmus

Rock Dove PR-a
Mourning Dove PR-

Order CUCULIFORMES

Family CUCULIDAE - cuckoos, anis and roadrunners

Coccyzus americanus
Coccyzus erythrophthalmus

Yellow-billed Cuckoo SR-c
Black-billed Cuckoo SR-c

Order STRIGIFORMES

Family TYTONIDAE - barn owls

Tyto alba

Barn Owl PR-r

Family STRIGIDAE - owls

Otus asio
Bubo virginianus
Nyctea scandiaca
Strix varia
Asio otus
Asio flammeus
Aegolius acadicus

Screech Owl PR-c
Great-horned Owl PR-c
Snowy Owl WV-r
Barred Owl PR-c
Long-eared Owl WV-u
Short-eared Owl WV-u
Saw-whet Owl WV-r

Order CAPRIMULGIFORMES

Family CAPRIMULGIDAE - goatsuckers

Caprimulgus carolinensis
Caprimulgus vociferus
Chordeiles minor

Chuck-Wills-Widow SR-r
Whip-poor-will SR-c
Common Nighthawk SR-c

Family APODIDAE - swifts

Chaetura pelagica

Chimney Swift SR-c

Family TROCHILIDAE - hummingbirds

Archilochus colubris

Ruby-throated Hummingbird SR-c

Order CORACIIFORMES

Family ALCEDINIDAE - kingfishers

Megaceryle alcyon

Belted Kingfisher SR-c

Order PICIFORMES

Family PICIDAE - woodpeckers

Colaptes auratus
Dryocopus pileatus

Common Flicker SR-c
Pileated Woodpecker PR-u

Centurus carolinus
Melanerpes erythrocephalus
Sphyrapicus varius
Dendrocopos villosus
Dendrocopos pubescens

Red-bellied Woodpecker PR-c
 Red-headed Woodpecker SR-c
 Yellow-bellied Sapsucker TV-c
 Hairy Woodpecker PR-u
 Downy Woodpecker PR-c

Order PASSERIFORMES

Family TYRANNIDAE - tyrant flycatchers

Tyrannus tyrannus
Tyrannus verticalis
Myiarchus crinitus
Sayornis phoebe
Empidonax flaviventris
Empidonax virescens
Empidonax traillii
Empidonax minimus
Contopus virens
Nuttallornis borealis

Eastern Kingbird SR-c
 Western Kingbird SV-r
 Great-crested Flycatcher SR-c
 Eastern Phoebe SR-c
 Yellow-bellied Flycatcher TV-u
 Acadian Flycatcher SR-u
 Willow Flycatcher SR-u
 Least Flycatcher SR-u
 Eastern Wood Pewee SR-c
 Olive-sided Flycatcher TV-r

Family ALAUDIDAE - larks

Eremophila alpestris

Horned Lark PR-c

Family HIRUNDINIDAE - swallows

Iridoprocne bicolor
Riparia riparia
Stelgidopteryx ruficollis
Hirundo rustica
Petrochelidon pyrrhonota
Progne subis

Tree Swallow SR-c
 Bank Swallow SR-c
 Rough-winged Swallow SR-c
 Barn Swallow SR-c
 Cliff Swallow TV-u
 Purple Martin SR-c

Family CORVIDAE - jays, magpies, and crows

Cyanocitta cristata
Corvus brachyrhynchos
Corvus ossifragus

Blue Jay PR-c
 Common Crow PR-c
 Fish Crow PR-r

Family PARIDAE - chickadees, titmice

Parus atricapillus
Parus carolinensis
Parus bicolor

Black-capped Chickadee PR-c
 Carolina Chickadee PR-c
 Tufted Titmouse PR-c

Family SITTIDAE - nuthatches

Sitta carolinensis
Sitta canadensis

White-breasted Nuthatch PR-c
 Red-breasted Nuthatch TV-u

Family CERTHIIDAE - creepers

Certhia familiaris

Brown Creeper TV-c

Family TROGLODYTIDAE - wrens

Troglodytes aedon
Troglodytes troglodytes
Thryomanes bewickii
Thryothorus ludovicianus
Telmatodytes palustris
Cistothorus palustris

House Wren SR-c
 Winter Wren TV-u
 Bewick's Wren SR-r
 Carolina Wren PR-c
 Long-billed Marsh Wren SR-c
 Short-billed Marsh Wren SR-u

Family MIMIDAE - mockingbirds and thrashers

Mimus polyglottos
Dumetella carolinensis
Toxostoma rufum

Mockingbird SR-u
 Gray Catbird SR-c
 Brown Thrasher SR-c

Family TURIDAE - thrushes, bluebirds

Turdus migratorius
Hylocichla ustulata

American Robin SR-a
 Wood Thrush SR-c

- Hylocichla guttata
Hylocichla ustulata
Hylocichla minima
Hylocichla fuscescens
Sialia sialis
 Family SYLVIIDAE - gnatcatchers, kinglets
Poliioptila caerulea
Regulus satrapa
Regulus calendula
 Family MOTACILLIDAE - pipits
Anthus spinoletta
 Family BOMBYCILLIDAE - waxwings
Bombycilla garrulus
Bombycilla cedrorum
 Family LANIIDAE - shrikes
Lanius excubitor
Lanius ludovicianus
 Family STURNIDAE
Sturnus vulgaris
 Family VIREONIDAE - vireos
Vireo solitarius
Vireo griseus
Vireo bellii
Vireo flavifrons
Vireo olivaceus
Vireo philadelphicus
Vireo gilvus
 Family PURULIDAE - wood warblers
Mniotilta varia
Protonotaria citrea
Helmitheros vermivorus
Vermivora chrysoptera
Vermivora pinus
Vermivora peregrina
Vermivora celata
Vermivora ruficapilla
Parula americana
Dendroica petechia
Dendroica magnolia
Dendroica tigrina
Dendroica coronata
Dendroica virens
Dendroica coerulescens
Dendroica cerulea
Dendroica dominica
Dendroica fusca
Dendroica pennsylvanica
Dendroica castanea
Dendroica striata
Dendroica pinus
Dendroica discolor
Dendroica palmarum
Seiurus aurocapillus
Seiurus noveboracensis
- Hermit Thrush TV-c
 Swainson's Thrush TV-c
 Gray-checked Thrush TV-c
 Veery TV-c
 Eastern Bluebird SR-u

 Blue-gray Gnatcatcher SR-u
 Golden-crowned Kinglet TV-c
 Ruby-crowned Kinglet TV-c

 Water Pipit TV-r

 Bohemian Waxwing WV-r
 Cedar Waxwing PR-c

 Northern Shrike WV-r
 Loggerhead Shrike SR-u

 Starling PR-a

 Solitary Vireo TV-u
 White-eyed Vireo SR-u
 Bell's Vireo SR-u
 Yellow-throated Vireo SR-u
 Red-eyed Vireo SR-c
 Philadelphia Vireo TV-u
 Warbling Vireo SR-c

 Black-and-white Warbler TV-c
 Prothonotary Warbler SR-u
 Worm-eating Warbler SR-r
 Golden-winged Warbler SR-u
 Blue-winged Warbler SR-u
 Tennessee Warbler TV-c
 Orange-crowned Warbler TV-u
 Nashville Warbler TV-c
 Parula Warbler SR-u
 Yellow Warbler SR-c
 Magnolia Warbler TV-c
 Cape May Warbler TV-u
 Yellow-rumped Warbler TV-a
 Black-throated Green Warbler TV-c
 Black-throated Blue Warbler TV-u
 Cerulean Warbler SR-u
 Yellow-throated Warbler SR-u
 Blackburnian Warbler TV-u
 Chestnut-sided Warbler TV-c
 Bay-breasted Warbler TV-c
 Blackpoll Warbler TV-c
 Pine Warbler SR-r
 Prairie Warbler SR-r
 Palm Warbler TV-c
 Ovenbird SR-c
 Northern Waterthrush TV-c

- Seturus motacilla
Geothlypis trichas
Icteria virens
Oporornis formosus
Oporornis philadelphia
Oporornis agilis
Wilsonia citrina
Wilsonia pusilla
Wilsonia canadensis
Setophaga ruticilla
 Family PLOCEIDAE - weaver finches
Passer domesticus
 Family ICERIDAE - blackbirds and orioles
Dolichonyx oryzivorus
Sturnella magna
Sturnella neglecta
Xanthocephalus xanthocephalus
Agelaius phoeniceus
Euphagus carolinus
Euphagus cyanocephalus
Quiscalus quiscula
Molothrus ater
Icterus spurius
Icterus galbula
 Family THRAUPIDAE - tanagers
Piranga olivacea
Piranga rubra
 Family FRINGILLIDAE - rosbeaks, finches, sparrows, buntings
Richmondia cardinalis
Pheucticus ludovicianus
Hesperiphona vespertina
Passerina cyanea
Carpodacus purpureus
Pinicola enucleator
Acanthis flammea
Spinus pinus
Spinus tristis
Loxia curvirostra
Spiza americana
Pipilo erythrophthalmus
Passerculus sandwichensis
Ammodramus savannarum
Passerherbulus henslowii
Passerherbulus caudacutus
Amospiza caudacuta
Proocetes gramineus
Chondestes grammacus
Junco hyemalis
Amphispiza aestivalis
Spizella arborea
Spizella passerina
Spizella pallida
Spizella pusilla
Zonotrichia querula
 Louisiana Waterthrush SR-u
 Common Yellowthroat SR-c
 Yellow-breasted Chat SR-u
 Kentucky Warbler SR-u
 Mourning Warbler TV-u
 Connecticut Warbler TV-r
 Hooded Warbler SR-u
 Wilson's Warbler TV-c
 Canada Warbler TV-c
 American Redstart SR-c
 House Sparrow PR-a
 Bobolink TV-c
 Eastern Meadowlark SR-c
 Western Meadowlark SR-u
 Yellow-headed Blackbird SR-r
 Red-winged Blackbird SR-a
 Rusty Blackbird TV-u
 Brewer's Blackbird SR-r
 Common Grackle SR-a
 Brown-headed Cowbird SR-a
 Orchard Oriole SR-r
 Northern Oriole SR-c
 Scarlet Tanager SR-u
 Summer Tanager SR-r
 Cardinal PR-a
 Rose-breasted Grosbeak SR-c
 Evening Grosbeak WV-u
 Indigo Bunting SR-c
 Purple Finch WV-c
 Pine Grosbeak WV-r
 Common Redpoll WV-u
 Pine Siskin WV-u
 American Goldfinch PR-c
 Red Crossbill WV-u
 Dickcissel SR-c
 Rufous-sided Towhee SR-c
 Savannah Sparrow SR-u
 Grasshopper Sparrow SR-u
 Henslow's Sparrow SR-r
 LeConte's Sparrow TV-r
 Sharp-tailed Sparrow TV-r
 Vesper Sparrow SR-u
 Lark Sparrow SR-u
 Dark-eyed Junco WV-a
 Bachman's Sparrow SR-r
 Tree Sparrow WV-c
 Chipping Sparrow SR-c
 Clay-colored Sparrow TV-r
 Field Sparrow SR-c
 Harris' Sparrow TV-r

Birds (Continued)

<u>Zonotrichia leucophrys</u>	White-crowned Sparrow TV-c
<u>Zonotrichia albicollis</u>	White-throated Sparrow TV-c
<u>Passerella iliaca</u>	Fox Sparrow TV-c
<u>Melospiza lincolni</u>	Lincoln's Sparrow TV-u
<u>Melospiza georgiana</u>	Swamp Sparrow SR-c
<u>Melospiza melodia</u>	Song Sparrow PR-c
<u>Calcarius lapponicus</u>	Lapland Longspur WV-u
<u>Plectrophenax nivalis</u>	Snow Bunting WV-u

Sources:

Peterson, R. T. 1969. A Field Guide to Western Birds
Houghton Mifflin Co., Boston.

Robbins, Chandler S. 1966. Birds of North America.
Golden Press. New York. 340 p.

Mammals

Class Mammalia

Order MARSUPIALIA

Family DIDELPHIDAE - opossums

Didelphis marsupialis

Opossum C

Order INSECTIVORA

Family TALPIDAE - moles

Scalopus aquaticus

Eastern Mole C

Family SORICIDAE - shrews

Sorex cinereus

Masked Shrew U

Sorex longirostris

Southeastern Shrew O

Cryptotis parva

Least Shrew C

Blarina brevicauda

Short-tailed Shrew C

Order CHIROPTERA

Family VESPERTILIONIDAE - bats

Myotis lucifugus

Little Brown Bat C

Myotis keeni

Keen's Bat O

Myotis sodalis

Indiana Bat R

Myotis subulatus

Small-footed Bat O

Lasionycteris noctivagans

Silver-haired Bat O

Pipistrellus subflavus

Eastern Pipistrel O

Lasiurus borealis

Red Bat C

Eptesicus fuscus

Big Brown Bat U

Lasiurus cinereus

Hoary Bat U

Nycticeius humeralis

Evening Bat O

Plecotus townsendi

Western Big-eared Bat*

Order CARNIVORA

Family PROCYONIDAE - Raccoons

Procyon lotor

Raccoon C

Family MUSTELIDAE - weasels, skunks, etc.

Mustela rixosa

Least Weasel U

Mustela frenata

Longtail Weasel C

Mustela vison

Mink U

Lutra canadensis

River Otter R

Taxidea taxus

Badger R

Mephitis mephitis

Striped Skunk C

Family CANIDAE - wolves, foxes, etc.

Canis latrans

Coyote O

Vulpes fulva

Red Fox C

Urocyon cinereoargenteus

Gray Fox C

Family FELIDAE - cats

Lynx rufus

Bobcat R

Mammals (Continued)

Order RODENTIA

Family SCIURIDAE - squirrels

Marmota monax
Citellus tridecemlineatus
Citellus franklini
Tamias striatus
Sciurus carolinensis
Sciurus niger
Tamiasciurus hudsonicus
Glaucomys volans
Geomys bursarius

Woodchuck C
 Thirteen-lined Ground Squirrel U
 Franklin Ground Squirrel U
 Eastern Chipmunk U
 Eastern Gray Squirrel U
 Eastern Fox Squirrel C
 Red Squirrel R
 Southern Flying Squirrel O
 Plains Pocket Gopher R

Family CASTORIDAE - beavers

Castor canadensis

Beaver R

Family CRICETIDAE - native mice, rats,

Peromyscus leucopus lemmings, & voles
Peromyscus maniculatus
Synaptomys cooperi
Microtus pennsylvanicus
Microtus ochrogaster
Pitymys pinetorum
Ondatra zibethica

White-footed Mouse C
 Deer Mouse U
 Southern Bog Lemming U
 Meadow Vole C
 Prairie Vole C
 Pine Vole O
 Muskrat C

Family MURIDAE - Old World mice and rats

Rattus norvegicus

Norway Rat C
 House Mouse C

Mus musculus

Family ZAPODIDAE - jumping mice

Zapus hudsonius

Meadow Jump Mouse U

Order LAGOMORPHA

Family LEPORIDAE - hares, rabbits

Sylvilagus floridanus

Eastern Cottontail C

Order ARTIODACTYLA

Family CERVIDAE - deer

Odocoileus virginianus

Whitetail Deer U

*List obtained in part from:

W.H. Burt, and R. P. Grossenheider, 1964. A Field Guide to the Mammals
 Houghton Mifflin Co., Boston, Mass.

Charles W. Schwartz and Elizabeth R. Schwartz. 1959. The Wild Mammals of
Missouri. Univ. Mo. Press, Kansas City, Mo.

**Occurring at edge of range.

C = Common
 O = Occasional
 U = Uncommon
 R = Rare

APPENDIX D

Preliminary Working List of the Amphibians, Reptiles, Birds
and Mammals Associated with the Pools of the Upper
Mississippi River

The data in this table was graciously supplied by Kent Keenlyne, Coordinator, Upper Mississippi River Conservation Committee, from a preliminary working list of the vertebrates of the Upper Mississippi River on a pool-by-pool basis. Although this data has not been revised, it is included here as the only authoritative source of its kind illustrating species occurring and their distributions specifically for the Mississippi River.

Pools

AMPHIBIANS AND REPTILES 1 2 3 4 5 5A 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 24 25 26 27 open

Four-toed Salamander

U U U U U U U U U U U

Hemidactylium scutatum

Red-Backed Salamander

C C C C C C C C C C C C C C C C C

Plethodon cinereus cinereus

Zigzag Salamander

U

Plethodon dorsalis dorsalis

Slimy Salamander

C C C C C C C

Plethodon glutinosus glutinosus

Northern Dusky Salamander

U

Desmognathus fuscus conanti

Three-toed Amphiuma

C

Amphium means tridactylum

Mudpuppy

C C

Necturus maculosus

Western Lesser Siren

U C C C C C C

Siren intermedia nettingi

American Toad

C C

Bufo americanus

Pools

AMPHIBIANS AND REPTILES 1 2 3 4 5 5A 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 24 25 26 27 open

Gray Treefrog

C C

Hyla versicolor

Northern Crayfish Frog

C C

Rana areolata circulosa

Bullfrog

U U U U U U U U C

Rana catesbeiana

Green Frog

C C

Rana clamitans melanota

Pickrel Frog

C C

Rana palustris

Northern Leopard Frog

C C

Rana pipiens pipiens

Southern Leopard Frog

C C C C C C C C C C C

Rana piprens sphenocephala

Wood Frog

C C

Rana sylvatica

Eastern Narrow-mouthed Frog

U U U U U

Gastrophryne carolinensis

U U U U

Pools

AMPHIBIANS AND REPTILES 1 2 3 4 5 5A 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 24 25 26 27 open

Eastern Yellow-Bellied

Racer

Coluber constrictor

flaviventris

C C

Eastern Coachwhip

Masticophis flagellum

flagellum

C

Great Plains Rat Snake

Elaphe guttata emoryi

C C C C

Black Rat Snake

Elaphe obsoleta obsoleta

C C

Gray Rat Snake

Elaphe obsoleta spiloides

U

Fox Snake

Elaphe vulpina

C C

Bullsnake

Pituophis melanoleucus sayi

C C

Prairie Kingsnake

Lampropeltis calligaster

C C

Pools

AMPHIBIANS AND REPTILES 1 2 3 4 5 5A 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 24 25 26 27 open

Northern Water Snake

C C

Natrix sipedon sipedon

Midland Water Snake

C

Natrix sipedon pleuralis

Western Cottonmouth

C

Akistrodon piscivorus leucostoma

Southern Copperhead

C C C C C C C C C C

Akistrodon contortrix contortrix

Diamond-Backed Water Snake

C C C C C C C C C C C C C C C C

Natrix rhombifera rhombifera

Massasauga

C U U U C U U U U U U U U U U U U U U U U

Sistrurus catenatus catenatus

Timber Rattler

R R

Crotalis horridus horridus

Canebrake Rattlesnake

C

Crotalus horridus atricaudatus

Pools

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 24 25 26 27 open

BIRDS

Common Loon

U U

Gavia immer

Artic Loon

A A A A A A A A A A A A A

Gavia arctica

Red-Throated Loon

A A A A A A A A A A A A A

Gavia stellata

Red-Necked Grebe

U U

Podiceps grisegena

Eared Grebe

A A A A A A A A A A A A A

Podiceps caspicus

Horned Grebe

O O

Podiceps auritus

Western Grebe

A A A A A A A A A A A A A

Aechmophorus occidentalis

Pied-billed Grebe

C C

Podilymbus podiceps

White Pelican

U U

Pelecanus erythrorhynchos

Double-crested Cormorant

O O

Phalacrocorax auritus

Pools

1 2 3 4 5 5A 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 24225 26 27 open

BIRDS

Great Blue Heron

C C

Ardea herodias

Green Heron

C C

Butorides vireacens

Little Blue Heron

R R

Florida caerulea

Common Egret

C C

Casmerodius albus

Cattle Egret

U U

Bubulcus ibis

Snowy Egret

R R

Leucophoyx thula

Black-crowned Night Heron

C C

Nycticorax nycticorax

Yellow-crowned Night Heron

U U

Nyctanassa violacea

Least Bittern

U U

Irobrychus exilis

Pools

1 2 3 4 5 5A 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 24 25 26 27 open

BIRDS

American Bittern

0 0

Botaurus lentiginosus

Whistling Swan

0 0

Olor columbianus

Canada Goose

C C

Branta canadensis

Brant

A A A A A A A A A A A A A

Branta bernicla

Glossy Ibis

R R R R R R R R R R R R R R R R R

Plegadis falcinellus

White-faced Ibis

R R R R R R R R R R R R R R R R R

Plegadis chihi

White-fronted Goose

R R

Anser albifrons

Snow Goose

C C

Chen caerulescens

Mallard

C C

Anas platyrhynchos

Pools

1 2 3 4 5 5A 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 24 25 26 27 open

BIRDS

Black Duck

C C

Anas rubripes

Gadwall

C C

Anas strepera

Pintail

C C

Anas acuta

Greenwinged Teal

C C

Anas crecca

Blue-Winged Teal

C C

Anas discors

Cinnamon Teal

A A A A A A A A A A A A A

Anas cyanoptera

Northern Shoveler

C C

Anas clypeata

European Widgeon

A A A A A A A A A A A A A

Anas penelope

American Widgeon

C C

Anas americana

pools

1 2 3 4 5 5A 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 24 25 26 27 open

BIRDS

Wood Duck

C C

Aix sponsa

Redhead

C C

Aythya americana

Ring-necked Duck

C C

Aythya collaris

Canvasback

C C

Aythya valisineria

Greater Scaup

U U

Aythya marila

Lesser Scaup

C C

Aythya affinis

Common Goldeneye

C C

Bucephala clangula

Barrow's Goldeneye

R R R R R R R R R R R R R R R R R R

Bucephala islandica

Bufflehead

C C

Bucephala albeola

Pools

<u>BIRDS</u>	1	2	3	4	5	5A	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	24	25	26	27	open
Oldsquaw	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
<u>Clangula hyemalis</u>	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
White-winged Scoter	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
<u>Melanitta deglandi</u>	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
Surf Scoter	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
<u>Melanitta perspicillata</u>	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
Common Scoter	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
<u>Oidemia nigra</u>	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
Ruddy Duck	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
<u>Oxyura jamaicensis</u>	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
Hooded Merganser	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
<u>Lophodytes cucullatus</u>	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
Common Merganser	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
<u>Mergus merganser</u>	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
Red-breasted Merganser	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
<u>Mergus serrator</u>	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
Turkey Vulture	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
<u>Cathartes aura</u>	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C

Pools

1 2 3 4 5 5A 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 24 25 26 27 open

BIRDS

Marsh Hawk

U U

Circus cyaneus

U U

Osprey

Pandion haliaetus

R R

Merlin

Falco columbarius

C C

Kestrel

Falco sparverius

R R

Peregrine Falcon

Falco peregrinus

U U

Sandhill Crane

Grus canadensis

C C

Black-bellied Plover

Squatarola squatarola

U U

Ruddy Turnstone

Arenaria interpres

C C

American Woodcock

Philohela minor

Pools

1 2 3 4 5 5A 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 24 25 26 27 open

BIRDS

Common Snipe

C C

Capella gallinago

Long-billed Curlew

R R R R R R R R R R R R R R R

Numenius americanus

Upland Sandpiper

U U

Bartramia longicauda

Spotted Sandpiper

C C

Actitis macularia

Solitary Sandpiper

C C

Tringa solitaria

Willet

R R R R R R R R R R R R R R R

Cataprophorus semipalmatus

Greater Yellowlegs

C C

Totanus melanoleucus

Lesser Yellowlegs

C C

Totanus flavipes

Knot

A A A A A A A A A A A A A A A

Calidris canutus

Pools

BIRDS 1 2 3 4 5 5A 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 24 25 26 27 open

Pectoral Snadpiper

U U

Erolia melanotos

White-rumped Sandpiper

U U

Erolia fuscicollis

Baird's Sandpiper

U U

Erolia Bairdii

Least Sandpiper

C C

Erolia minutilla

Dunlin

U U

Erolia alpina

Long-billed Dowitcher

U U

Limnodromus scolopacchs

Stilt Sandpiper

C C

Micropalama himantopus

Semipalmated Sandpiper

C C

Ereunetes pusillus

C C

Western Sandpiper

C C

Ereunetes mauri

C C

Pools

1 2 3 4 5 5A 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 24 25 26 27 open

BIRDS

Sanderling

U U

Crocethia alba

Marbled Godwit

R R R R R R R R R R R R R R R R

Limosa fedoa

Wilson's Phalarope

R R R R R R R R R R R R R R R R

Steganopus tricolor

Northern Phalarope

R R R R R R R R R R R R R R R R

Lobipes lobatus

Glaucous Gull

R R R R R R R R R R R R R R R R

Larus hyperboreus

Herring Gull

C C

Larus argentatus

Wing-billed Gull

C C

Larus delawarensis

Franklin's Gull

R R

Larus pipixcan

Bonaparte's Gull

C C

Larus philadelphia

Pools

1 2 3 4 5 5A 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 24 25 26 27 open

BIRDS

Forster's Tern

C C

Sterna forsteri

Common Tern

C C

Sterna hirundo

Roseate Tern

R R R R R R R R R R R

Sterna dougallii

Least Tern

R R

Sterna albifrons

Caspian Tern

U U

Hydroprogne caspia

Black Tern

C C

Chlidonias niger

Rock Dove

C C

Columba livia

Mourning Dove

C C

Zenaidura macroura

Yellow-billed Cuckoo

C C

Coccyzus americanus

Pools

1 2 3 4 5 5A 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 24 25 26 27 open

BIRDS

Black-billed Cuckoo

C C

Coccyzus erythrophthalmus

Mockingbird

C C

Mimus polyglottos

Pileated Woodpecker

C C

Dryocopus pileatus

Red-bellied Woodpecker

C C

Centurus carolinus

Red-headed Woodpecker

O O

Melanerpes erythrocephalus

Yellow-bellied Sapsucker

C C

Sphyrapicus varius

Hairy Woodpecker

C C

Dendrocopus villosus

Downy Woodpecker

C C

Dendrocopus pubescens

Eastern Kingbird

O O

Tyrannus tyrannus

Pools

1 2 3 4 5 5A 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 24 25 26 27 open

BIRDS

Western Kingbird

A A A A A A A A A A A A A

Tyrannus verticalis

Great Crested Flycatcher

C C C C C C C C C C C C C C C C C C C

Myiarchus crinitus

Eastern Phoebe

C C C C C C C C C C C C C C C C C C C

Sayornis phoebe

Yellow-bellied Flycatcher

U U U U U U U U U U U U U U U U U U U

Empidonax flaviventris

Acadian Flycatcher

C C C C C C C C C C C C C C C C C C C

Empidonax virescens

Traill's Flycatcher

O O O O O O O O O O O O O O O O O O O

Empidonax traillii

Least Flycatcher

C C C C C C C C C C C C C C C C C C C

Empidonax minimus

Olive-sided Flycatcher

U U U U U U U U U U U U U U U U U U U

Nuttallornis borealis

Eastern Wood Pewee

C C C C C C C C C C C C C C C C C C C

Contopus virens

POOLS

1 2 3 4 5 5A 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 24 25 26 27 open

BIRDS

Horned Lark

C C

Eremophila alpestris

Eastern Meadowlark

C C

Sturnella magna

Western Meadowlark

C C

Sturnella neglecta

Bobolink

U U

Dolichonyx oryzivorus

Tree Swallow

C C

Tridoprocne bicolor

Bank Swallow

C C

Riparia riparia

Rough-winged Swallow

C C

Stelgidopteryx ruficollis

Barn Swallow

C C

Hirundo rustica

Cliff Swallow

C C

Petrochelidon pyrrhonota

Pools

1 2 3 4 5 5A 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 24 25 26 27 open

BIRDS

Purple Martin

C C

Progne subis

C C

Common Crow

C C

Corvus brachyrhynchos

Common Raven

R R R R R

Corvus corax

U U

Screech Owl

Otus asio

Great Horned Owl

C C

Bubo virginianus

Hawk Owl

R R

Surnia ulula

Snowy Owl

R R R R R

Nyctea scandiaca

Barred Owl

C C

Strix varia

Long-eared Owl

C C

Asio otus

Pools

1 2 3 4 5 5A 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 24 25 26 27 open

BIRDS

Short-eared Owl

C C

Asio flammeus

Saw-whet Owl

O O

Aegolius acadicus

Whip-poor-will

C C

Caprimulgus vociferus

Common Nighthawk

C C

Chordeiles minor

Chimney Swift

C C

Chaetura pelagica

Ruby-throated Hummingbird

C C

Archilochus colubris

Belted Kingfisher

C C

Megasceryle alcyon

Yellow-shafted Flicker

C C

Colaptes auratus

Blue Jay

C C

Cyanocitta cristata

Pools

<u>BIRDS</u>	1	2	3	4	5	5A	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	24	25	26	27	open
<u>Black-capped Chickadee</u>	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
<u>Parus atricapillus</u>																												
<u>Boreal Chickadee</u>	A	A	A	A	A	A																						
<u>Parus hudsonicus</u>																												
<u>Tufted Titmouse</u>	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
<u>Parus bicolor</u>																												
<u>White-breasted Nuthatch</u>	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
<u>Sitta carolinensis</u>																												
<u>Red-breasted Nuthatch</u>	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
<u>Sitta canadensis</u>																												
<u>Brown Creeper</u>	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
<u>Certhia familiaris</u>																												
<u>House Wren</u>	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
<u>Troglodytes aedon</u>																												
<u>Winter Wren</u>	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
<u>Troglodytes troglodytes</u>																												
<u>Bewick's Wren</u>	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
<u>Thryomanes bewickii</u>																												

((CORPS EDITOR NOTE: ERROR IN NUMBERING -
BLANK PAGE))

Pools

1 2 3 4 5 5A 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 24 25 26 27 open

BIRDS

Carolina Wren

U U

Thryothorus ludivicianus

Long-billed Marsh Wren

C C

Telmatodytes palustris

Short-billed Marsh Wren

C C

Cistothorus platensis

Catbird

C C

Dumetella carolinensis

Brown Thrasher

C C

Toxostoma rufum

Robin

C C

Turdus migratorius

Wood Thrush

C C

Hyllocichla mustelina

Hermit Thrush

C C

Hyllocichla guttata

Swainson's Thrush

C C

Hyllocichla ustulata

Pools

<u>BIRDS</u>	1	2	3	4	5	5A	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	24	25	26	27	open
Gray-checked Thrush	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
<u>Hylodichla minima</u>																												
Veery	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
<u>Hylodichla fuscescens</u>																												
Northern Waterthrush	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
<u>Seiurus noveboracensis</u>																												
Louisiana Waterthrush	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
<u>Seiurus motacilla</u>																												
Starling	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
<u>Sturnus vulgaris</u>																												
Blue-gray Gnatcatcher	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
<u>Poliophtila caerulea</u>																												
Eastern Bluebird	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
<u>Sialia sialis</u>																												
Ruby-crowned Kinglet	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
<u>Regulus calendula</u>																												
Golden-crowned Kinglet	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
<u>Regulus satrapa</u>																												

Pools

1 2 3 4 5 5A 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 24 25 26 27 open

BIRDS

Bohemian Waxwing

U U U U U U U U U U U U U U

Bombycilla garrulus

C C

Cedar Waxwing

Bombycilla cedrorum

C C

Loggerhead Shrike

Lanius ludovicianus

U U U U U U U U U U U U U U U U

Northern Shrike

Lanius excubitor

O O

Bell's Vireo

Vireo bellii

White-eyed Vireo

C C

Vireo griseus

Yellow-throated Vireo

C C

Vireo flavifrons

Solitary Vireo

C C

Vireo solitarius

Red-eyed Vireo

C C

Vireo olivaceus

Pools

BIRDS 1 2 3 4 5 5A 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 24 25 26 27 open

Warbling Vireo C

Vireo gilvus U

Blue-winged Warbler U

Vermivora pinus U

Orange-crowned Warbler U

Vermivora celata C

Magnolia Warbler C

Dendroica magnolia C

Cape May Warbler U

Dendroica tigrina C

Black-throated Blue Warbler U

Dendroica caerulescens C

Myrtle Warbler U

Dendroica coronata U

Black-throated Green Warbler U

Dendroica virens U

Cerulean Warbler O

Dendroica cerulea O

Pools

1 2 3 4 5 5A 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 24 25 26 27 open

BIRDS

Blackburnian Warbler

C C

Dendroica fusca

C C

Chestnut-sided

C C

Dendroica pennsylvanica

C C

Bay-breasted Warbler

C C

Dendroica castanea

C C

Blackpoll Warbler

C C

Dendroica striata

C C

Pine Warbler

C C

Dendroica pinus

C C

Palm Warbler

C C

Dendroica palmarum

C C

Ovenbird

C C

Seiurus aurocapillus

C C

Yellow-breasted Chat

C C

Icteria virens

C C

American Redstart

C C

Setophaga ruticilla

C C

Pools

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 24 25 26 27 open

BIRDS

Orchard Oriole

0 0

Icterus apurius

Baltimore Oriole

C C

Icterus galbula

Summer Tanager

A A A A A A A A A A A A A A

Piranga rubra

Scarlet Tanager

C C

Piranga olivacea

Western Tanager

R R R R R R R R R R R R

Piranga ludoviciana

Nashville Warbler

C C

Vermivora ruficapilla

Parula Warbler

U U

Parula americana

Yellow Warbler

C C

Dendroica petechia

Black-and-White Warbler

0 0

Miniotilta varia

Pools

<u>BIRDS</u>	1	2	3	4	5	5A	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	24	25	26	27	open
<u>Prothonotary Warbler</u>	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
<u>Protonotaria citrea</u>	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
<u>Tennessee Warbler</u>	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
<u>Vermivora peregrina</u>																												
<u>Kentucky Warbler</u>																												
<u>Oporornis formosus</u>																												
<u>Connecticut Warbler</u>	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
<u>Oporornis agilis</u>																												
<u>Mourning Warbler</u>	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
<u>Oporornis philadelphia</u>																												
<u>Yellow-throated Warbler</u>																												
<u>Dendroica dominica</u>																												
<u>Hooded Warbler</u>																												
<u>Wilsonia citrina</u>																												
<u>Wilson's Warbler</u>	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
<u>Wilsonia pusilla</u>																												
<u>Canada Warbler</u>	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
<u>Wilsonia canadensis</u>																												

Pools

BIRDS	1	2	3	4	5	5A	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	24	25	26	27	Open
Golden-winged Warbler	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<u>Vermivora chrysoptera</u>																												
Worm-eating																												
<u>Helmitheros vermivorus</u>																												
Cardinal	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
<u>Richmondia cardinalis</u>																												
Rose-breasted Grosbeak	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
<u>Pheucticus ludovicianus</u>																												
Evening Grosbeak	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<u>Hesperiphona vespertina</u>																												
Pine Grosbeak	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
<u>Pinocla enucleator</u>																												
Brewer's Blackbird	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
<u>Euphagus cyanocephalus</u>																												
Rusty Blackbird	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
<u>Euphagus carolinus</u>																												
Red-winged Blackbird	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
<u>Agelaius phoeniceus</u>																												

Pools

1 2 3 4 5 5A 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 24 25 26 27 open

BIRDS

Yellow-headed Blackbird

U U

Xanthocephalus xanthocephalus

C C

Quiscalus quiscula

Brown-headed Cowbird

C C

Bolothrus ater

Common Redpoll

C C C C C C C C C C C C C C C C U U U U U U U U U

Acanthis flammea

Pine Siskin

O O

Spinus pinus

Purple Finch

C C

Carpodacus purpureus

American Goldfinch

C C

Spinus tristis

Red Crossbill

U U U U U U U U R R R R R R R R R R R R R R R R R R R

Loxia curvirostra

Lapland Longspur

O O

Calcarius lapponicus

Pools

<u>BIRDS</u>	1	2	3	4	5	5A	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	24	25	26	27	open
Snow Bunting	U	U	U	U	U	U	U	U	U	U	U	U	R	R	R	R	R											
<u>Plectrophenax nivalis</u>																												
Slate-colored Junco	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
<u>Junco hyemalis</u>																												
Rufous-sided Towhee	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
<u>Pipilo erythrophthalmus</u>																												
Dickcissel	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
<u>Speza americana</u>																												
Indigo Bunting	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
<u>Passerina cyanea</u>																												
Water Pipit	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
<u>Anthus spinoletta</u>																												
House Sparrow	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
<u>Passer domesticus</u>																												
Savannah Sparrow	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
<u>Passerculus sandwichensis</u>																												
Grasshopper Sparrow	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
<u>Ammodramus savannarum</u>																												

Pools

1 2 3 4 5 5A 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 24 25 26 27 open

BIRDS

Henslow's Sparrow

U U

Passerherbulus henslowii

U U

Le Conte's Sparrow

Passerherbulus caudacutus

C C

Vesper Sparrow

Poocetes gramineus

O O

Lark Sparrow

Chondestes grammacus

C C

Tree Sparrow

Spizella arborea

C C

Chipping Sparrow

Spizella passerina

R R R R R R R R R R R R R R R R

Clay-colored Sparrow

Spizella pallida

C C

Field Sparrow

Spizella pusilla

O O

Harris' Sparrow

Zonotrichia querula

Pools

1 2 3 4 5 5A 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 24 25 26 27 open

BIRDS

Fox Sparrow

C C

Passerella iliaca

Lincoln's Sparrow

O O

Melospiza lincolni

Swamp Sparrow

C C

Melospiza georgiana

Song Sparrow

C C

Melospiza melodia

White-throated Sparrow

C C

Zonotrichia albicollis

White-crowned Sparrow

C C

Zonotrichia leucophrys

European Tree Sparrow

C R R R

Passer montanus

Least Grebe

C C

Podiceps dominicus

Trumpeter Swan

U U U U U

Olor buccinator

Pools

1 2 3 4 5 5A 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 24 25 26 27 open

BIRDS

Piping Plover

U U

Charadrius melodus

Short-billed Dowitcher

U U

Limnodromus grilseus

Barn Owl

U U

Tyto alba

Chuck-Will's-Widow

U U U U

Caprimulgus carolinensis

Carolina Chickadee

U U U U U

parus carolinensis

Philadelphia Vireo

U U

Vireo philadelphicus

Prairie Warbler

U U U U

Dendroica discolor

Yellowthroat

C C

Geothlypis trichas

Sharp-tailed Sparrow

R R

Ammoniza caudacuta

Pools

1 2 3 4 5 5A 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 24 25 26 27 open

MAMMALS

Mississippi Myotis

C

Myotis austroriparius

Gray Myotis

C C C C C C C

Myotis grisescens

Keen's Myotis

C C

Myotis keenii

Indiana Myotis

U U

Myotis sodalis

Small-footed Myotis

U U

Myotis leibii

Silver-haired Bat

U U U U U U U U U C C C C C C C C C C C C C C C C C C

Lasionycteris noctivagans

Eastern Pipistrel

U U U U U U U U U U U U U U U U U U C C C C C C C C C C

Pipistrellus subflavus

Big Brown Bat

O O

Eptesicus fuscus

Red Bat

O O

Lasiurus borealis

MAMMALS

Pools

1 2 3 4 5 5A 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 24 25 26 27 open

Eastern Chipmunk

C C C C C C C C C C U U U U U U U U U U U U U U U U R R R R R R R R R R

Tamias striatus

Red Squirrel

U U U U U U U U U U U U U U U

Tamiasciurus hudsonicus

Gray Squirrel

C C C C C C C C C C O

Sciurus carolinensis

Fox Squirrel

O O O O O O O O C

Sciurus niger

Northern Flying Squirrel

O O O O

Glaucomys sabrinus

Southern Flying Squirrel

U U U U U U U U U O

Glaucomys volans

Pocket Gopher

O O O O O O O O O O O O O O O C C C C C C C C C C C C C C C C C C

Geomys bursarius

Beaver

U U C U U U U U U U U U

Castor canadensis

Western Harvest Mouse

U U U U U U U U U U U U U U U C C C C C C C C C C C C C C C C C C C

Reithrontomys megalotis

Pools

MAMMALS

1 2 3 4 5 5A 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 24 25 26 27 open

Pine Vole

U U U U U U U U U U U U U U U U U U U

Pitymys pinetorum

Muskrat

C C

Ondatra zibethicus

Norway Rat

C C

Rattus norvegicus

House Mouse

C C

Hus musculus

Meadow Jumping Mouse

O O O O O O O O O O O O R R R R R R R R R R R R R R R

Zapus hudsonius

Coyote

R R

Canis laterans

Red Fox

C C

Vulpes fulva

Gray Fox

U U

Urocyon cinereoargenteus

Raccoon

C C

Procyon lotor

APPENDIX E

Appendix E is Table 2 from Terpening et al. (1975).

This data is representative of vertebrates found in the flood-plains of the Upper Mississippi River and the Illinois Waterway. The specific region covered by this data, however, is only that portion of the Mississippi River from Alton, Illinois, to Hannibal, Missouri, and of the Illinois Waterway from Grafton to Beardstown, Illinois.

Sincere appreciation is extended to Mrs. Virginia A. Terpening for the use of this data.

Table 2. Species observed, captured, or expected in each habitat type in the unprotected floodplains of the Illinois and Mississippi Rivers with study site designated.

Name	Habitat Type						
	Floodplain Forest	Backwater Areas	Rivers & Streams	Sandbanks & Mudflats	Old Field-Disturbed	Cultivated Field	Buildings
<u>Mammals</u>							
Family: Didelphidae							
Opossum	MPHCLE*			X**		X	
Family: Soricidae							
Short-tailed shrew	X				X		
Least shrew					X		
Family: Talpidae							
Eastern mole					X		
Family: Vespertilionidae							
Little brown bat		X					X
Gray bat							X

*M=Meredosia, P = Pike County Conservation Area, C = Calhoun Point, H = Hardin, L = Cincinnati Landing, E = Elsberry, and I = Portage Island.

**X = A species expected in the unprotected floodplain but not observed.

+ = Rare in Illinois and/or Missouri.

++ = Endangered in Illinois and/or Missouri.

Table 2. (Continued)

Name	Floodplain Forest	Backwater Areas	Rivers & Streams	Habitat Type		Cultivated Field	Buildings
				Sandbanks & Mudflats	Old Field-Disturbed		
+Keen's bat	X						X
++Indiana bat	X						X
Small-footed brown bat							
Silver-haired bat	X						
Eastern pip-istrelle	X						X
Big brown bat	X						X
Red bat	X						X
Hoary bat	X						
Evening bat	X						X
Family: Leporidae							
Eastern cotton-tail	C					MHC	
Family: Sciuridae							
Woodchuck	P						X
Thirteen-lined ground squirrel							X

Table 2. (Continued)

Name	Habitat Type					
	Floodplain Forest	Backwater Areas	Rivers & Streams	Sandbanks & Mudflats	Old Field-Disturbed	Cultivated Field Buildings
Franklin's ground squirrel					X	X
Eastern chipmunk	X				X	
Eastern gray squirrel	X				X	
Eastern fox squirrel	MPHCLE				MP	
Southern flying squirrel	X					
Family: Geomyidae						
+Plains pocket gopher					X	X
Family: Castoridae						
Beaver	X	H	MHCEI	X		
Family: Cricetidae						
Western harvest mouse					P	X
Deer mouse					P	X

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PRELIMINARY REPORT ON FLOODPLAIN ANIMALS OF THE UPPER
MISSISSIPPI RIVER A..(U) SOUTHERN ILLINOIS UNIV
CARBONDALE COOPERATIVE WILDLIFE RESEAR.. C J NEWLING
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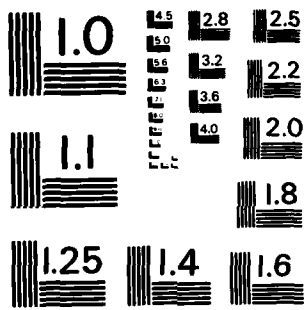
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Table 2. (Continued)

Name	Habitat Type						Buildings
	Floodplain Forest	Backwater Areas	Rivers & Streams	Sandbanks & Mudflats	Old Field- Disturbed	Cultivated Field	
White-footed mouse	MPHCLEI				MFHCLE		I
Southern bog lemming					X	X	
Prairie vole					PHC	L	
Pine vole					X		
Muskrat		HCEI	MPHLI	MCE			
Family: Muridae					X	X	P
Norway rat							X
House mouse					MPCE	X	
Family: Zapodidae							
Meadow jumping mouse					X	X	
Family: Canidae							
Domestic dog	H				CL		
Coyote					X	X	
Red fox					X	X	

Table 2. (Continued)

Name	Habitat Type							Total Species
	Floodplain Forest	Backwater Areas	Rivers & Streams	Sandbanks & Mudflats	Old Field Disturbed	Cultivated Field	Buildings	
Gray fox	X				M			
Family: Procyonidae								
Raccoon	MPHCLEI	C		MHCE	MPHE	H		
Family: Mustelidae								
+Long-tailed weasel					X			
Mink	CI	X	X	M				
Striped skunk	MCE				PHE	X		
Spotted skunk					X	X		
Badger					X	X		
++River otter		X	X					
Family: Felidae								
Domestic cat					X	X	X	
++Bobcat	X							
Family: Cervidae								
White-tailed deer	MPHCLE			CE	MPHCE	H		
Total Species	27	5	4	6	32	24	11	185

Table 2. (Continued)

Name	Floodplain Forest	Backwater Areas	Rivers & Streams	Habitat Type		Old Field- Disturbed	Cultivated	Buildings
				Sandbanks & Mudflats				
Order: Gaviiformes								
Common loon		X		X				
Red-throated loon		X		X				
Order: Podicipediformes								
Horned grebe								
Pied-billed grebe		X		X				
Order: Pelecaniformes								
White pelican		X						
++Double-crested cormorant		X		X				
Order: Ciconiiformes								
Great blue heron	PCE	MEI	PC	E		PC		P
Green heron	CLEI	CEI	I			H		
+Little blue heron		X						
Cattle egret		X				M		X
Great egret		X		X				

Table 2. (Continued)

Name	Floodplain Forest	Backwater Areas	Rivers & Streams	Habitat Type			Buildings
				Sandbanks & Mudflats	Old Field- Disturbed	Cultivated Field	
Snowy egret		X					
Louisiana heron		X		X			
+Black-crowned night heron	X	X					
Yellow-crowned night heron	C						
Least bittern		X					
+American bittern		X					
Wood stork		X					
Glossy ibis		X					
White ibis		X					
Order: Anseriformes							
Mute swan		X					
Whistling swan		X					
Canada goose		X	X	X		X	
Brant		X				X	
White-fronted goose		X				X	

Table 2. (Continued)

Name	Habitat Type						
	Floodplain Forest	Backwater Areas	Rivers & Streams	Sandbanks & Mudflats	Old Field- Disturbed	Cultivated Field	Buildings
Snow goose		X				X	
Mallard	P	C	P	C	P	X	
+Black duck	X	X				X	
Gadwall	X	X					
+Pintail		X				X	
Green-winged teal		X	X				
Blue-winged teal		X				M	
American wigeon		X				X	
+Northern shoveler		X				X	
Wood duck	MH	CLEI	MLE	C	H	M	X
Redhead		X	X				
Ring-necked duck		X	X				
+Canvasback			X				
Greater scaup			X				
Lesser scaup		X	X				
Common goldeneye		X	X				

Table 2. (Continued)

Name	Habitat Type						
	Floodplain Forest	Backwater Areas	Rivers & Streams	Sandbanks & Mudflats	Old Field-Disturbed	Cultivated Field	Buildings
Barrow's goldeneye			X				
Euflehead	X	X	X				
Oldsquaw		X	X				
White-winged scoter		X	X				
Surf scoter		X	X				
Common scoter			X				
+Ruddy duck		X	X				
+hooded merganser	X	X	X				
Common merganser		X	X				
Red-breasted merganser		X					
Order: Falconiformes							
Turkey vulture	CL	C	C	C	P	X	
+Black vulture					X	X	X
+Mississippi kite	X		X		X		
Goshawk	X						
+Sharp-shinned hawk	X				X		X

Table 2. (Continued)

Name	Habitat Type						
	Floodplain Forest	Backwater Areas	Rivers & Streams	Sandbanks & Mudflats	Old Field-Disturbed	Cultivated Field	Buildings
++Cooper's hawk	X				X	X	
Red-tailed hawk	PC				PC	L	
++Red-shouldered hawk	X	X			X	X	
Broad-winged hawk		X			X		
Swainson's hawk					X		
Rough-legged hawk					X	X	
Golden eagle			X				X
++Bald eagle		X	X				
+Marsh hawk		X					X
++Osprey		X	X				
++Peregrine falcon	X		X				
Merlin					X		
American kestrel					E	L	
Order: Galliformes							
Bobwhite	MPL				MPL	E	L

Table 2. (Continued)

Name	Habitat Type						
	Floodplain Forest	Backwater Areas	Rivers & Streams	Sandbanks & Mudflats	Old Field-Disturbed	Cultivated Buildings	Field
Ring-necked pheasant	X				X		X
Order: Gruiformes							
Whooping crane		X			X		
Sandhill crane		X					
+King rail		X					
Virginia rail		X					
Sora		X					
Yellow rail		X					X
Purple gallinule		X					
Common gallinule		X					
American coot		X					X
Order: Charadriiformes							
Semipalmated plover						X	
Piping plover						X	
Killdeer		C			X		X
American golden plover					X		X

Table 2. (Continued)

Name	Floodplain Forest	Backwater Areas	Rivers & Streams	Habitat Type		
				Sandbanks & Mudflats	Old Field- Disturbed	Cultivated Field
Black-bellied plover	X	X				X
Ruddy turnstone				X		
American woodcock	HI				X	
+Common snipe		X		X	X	
++Upland sandpiper					X	X
Spotted sandpiper	I	CEI	I	ME		
Solitary sandpiper		CE		E		
Willet		X		X		
Greater yellowlegs		X		X		X
Lesser yellowlegs		C		C		
Pectoral sandpiper		X		X		X
White-rumped sandpiper				X		
Baird's sandpiper		X		X		
Least sandpiper		C		C		
Dunlin						X

Table 2. (Continued)

Name	Floodplain Forest	Backwater Areas	Rivers & Streams	Habitat Type		
				Sandbanks & Mudflats	Old Field-- Disturbed	Cultivated Buildings Field
Short-billed dowitcher				X		
Long-billed dowitcher				X		
Stilt sandpiper	X			X		
Semipalmated sandpiper	X			X		
Western sandpiper				X		
Buff-breasted sandpiper	X			X	X	
Marbled godwit	X			X	X	
Hudsonian godwit	X			X		
Sanderling				X		
American avocet	X					
Black-necked stilt	X					
Wilson's phalarope	X					
Northern phalarope	X					
Parasitic jaeger	X		X			
Glaucaous gull						X

Table 2. (Continued)

Name	Habitat Type						
	Floodplain Forest	Backwater Areas	Rivers & Streams	Sandbanks & Mudflats	Old Field-Disturbed	Cultivated Field	Buildings
Iceland gull		X	X				
Herring gull		X	X	X			
Ring-billed gull		X	X			X	
Laughing gull		X	X		X		
Franklin's gull		X					
Bonaparte's gull		X					
Black-legged kittiwake			X				
Sabine's gull			X				
+Forster's tern		X	X	X			
+Common tern		X	X				
+Least tern			X	X			
Caspian tern			X				
Black tern		X	M	X			
Order: Columbiformes							
Rock dove					X	X	X
Mourning Dove	L	X			L	X	X

Table 2. (Continued)

Name	Habitat Type					
	Floodplain Forest	Backwater Areas	Rivers & Streams	Sandbanks & Mudflats	Old Field- Disturbed	Cultivated Buildings Field
Order: Cuculiformes						
Yellow-billed cuckoo			MPH		P	
Black-billed cuckoo	X					
Order: Strigiformes						
Screech owl	X					X
Great horned owl	I					
Snowy owl					X	
Barred owl	X	X				
+Long-eared owl	X				X	
+Short-eared owl		X			X	
+Saw-whet owl	X				X	
Order: Caprimulgiformes						
Chuck-will's-widow	X					
Whip-poor-will	X				X	
Common nighthawk					X	

Table 2. (Continued)

Name	Habitat Type						
	Floodplain Forest	Backwater Areas	Rivers & Streams	Sandbanks & Mudflats	Old Field- Disturbed	Cultivated Field	Buildings
Order: Apodiformes							
Chimney swift	X		M				MP
Ruby-throated hummingbird	CLE	E			CLE		L
Order: Coraciiformes							
Belted kingfisher	M	E	ML				
Order: Piciformes							
Common flicker	MHCLEI	C			L		X
Pileated woodpecker	MHCLEI				L		
Red-bellied wood- pecker	HCLEI	CE	E		HC		C
Red-headed wood- pecker	MHCLEI	C	ML		MHC		CL
+Yellow-bellied sapsucker	X						X
Hairy woodpecker	E	E					
Downy woodpecker	MPHCLEI	E	MPE		PCLE		C
Order: Passeriformes							

Table 2. (Continued)

Name	Floodplain Forest	Backwater Areas	Rivers & Streams	Habitat Type		Old Field- Disturbed	Cultivated Field	Buildings
				Sandbanks & Mudflats	MP			
Eastern kingbird			M			MP		
+Western kingbird			X			X		X
Scissor-tailed flycatcher					X			
Great crested flycatcher	MCLEI	LEI	M		ML			L
Eastern phoebe	MP		MP		M			X
Yellow-bellied flycatcher	X							
Acadian flycatcher	E							
Alder flycatcher		X						
Willow flycatcher	X					X		
Least flycatcher	P					P		
Eastern wood pewee	HCLEI		L			C		C
Vermilion flycatcher			X					
Horned lark	P					P		E
Tree swallow	I			X				MI

Table 2. (Continued)

Name	Habitat Type						
	Floodplain Forest	Backwater Areas	Rivers & Streams	Sandbanks & Mudflats	Old Field-Disturbed	Cultivated Field	Buildings
Bank swallow		X	X	X	M		
Rough-winged swallow	MHCLEI	CEI	HCLEI	C	MCLE		CL
Barn swallow	PCI	PC	PLI		MPCL	X	MPH
Cliff swallow		X	X				
Purple martin	CE		C		CE	M	H
Blue jay	MPHCLEI		ML		MCL		L
Common crow	MCLI		MCLI	C	LE		
+Fish crow				X			
Chickadee spp.	MPHCLEI	E	MPE		MPCL		L
Black-capped chickadee	X				X		X
Carolina chickadee	X				X		X
Tufted titmouse	MPHCLEI	CE	PCI		E		C
White-breasted nuthatch	MPHCLEI	CE	ME		PHLE		M
+Red-breasted nuthatch	X						
+Brown creeper	E						

Table 2. (Continued)

Name	Habitat Type						
	Floodplain Forest	Backwater Areas	Rivers & Streams	Sandbanks & Mudflats	Old Field-Disturbed	Cultivated Field	Buildings
House wren	MPL	M	ML		PL		PL
Winter wren	X						
+Bewick's wren	P		P				X
Carolina wren	PCEI	CLE	PE		PL		X
Long-billed marsh wren		X			X		
Short-billed marsh wren		X			X		
Mockingbird	H				H		
Gray catbird	MP	M	M		M		M
Brown thrasher	L				L		X
American robin	MPHCLEI	CL	CL		MHCL		X
Wood thrush	L				L		X
Swainson's thrush	X						
Gray-checked thrush	X						
+Veery	X						
Eastern bluebird	X				X		X

Table 2. (Continued)

Name	Habitat Type					
	Floodplain Forest	Backwater Areas	Rivers & Streams	Sandbanks & Mudflats	Old Field-Disturbed	Cultivated Field Buildings
Blue-gray gnat-catcher	HCEI	E			CE	
Golden-crowned kinglet	X					
Ruby-crowned kinglet	X					X
Water Pipit		X			X	
Sprague's Pipit						X
Cedar waxwing	X				X	
Northern shrike					X	
+Loggerhead shrike					X	MPHL
Starling	CEI	E	CI		C	
White-eyed vireo	PE	E			P	
Yellow-throated vireo	X					
Red-eyed vireo	CI					
Warbling vireo	X			X		
Black-and-white warbler	X					

Table 2. (Continued)

Name	Habitat Type						
	Floodplain Forest	Backwater Areas	Rivers & Streams	Sandbanks & Mudflats	Old Field-Disturbed	Cultivated Field	Buildings
Prothonotary warbler	MHCLEI	CLE	HEI		C		
Worm-eating warbler	X						
Golden-winged warbler	X				X		
Blue-winged warbler	X				X		
Tennessee warbler	X						
Orange-crowned warbler	X						
+Nashville warbler	X					X	
Northern parula warbler	X						X
Yellow warbler	X						
Magnolia warbler	X						
Black-throated blue warbler	X						
Yellow-rumped warbler	X						

Table 2. (Continued)

Name	Habitat Type						
	Floodplain Forest	Backwater Areas	Rivers & Streams	Sandbanks & Mudflats	Old Field- Disturbed	Cultivated Field	Buildings
Cerulean warbler	X		X				
Yellow-throated warbler	X		X				
Chestnut-sided warbler	X						
Blackpoll warbler	X						
Prairie warbler	X						
Palm warbler		X			X		
Ovenbird	X						
Northern waterthrush		X					
Louisiana water- thrush		X					
Kentucky warbler	X						
Common yellowthroat		L					CE
Yellow-breasted chat	L						
Hooded warbler	X						
Wilson's warbler	X						
Canada warbler	X						

Table 2. (Continued)

Name	Habitat Type						
	Floodplain Forest	Backwater Areas	Rivers & Streams	Sandbanks & Mudflats	Old Field-Disturbed	Cultivated Field	Buildings
American redstart	PC				PC		
House sparrow	MCL	E	MCL		MPHCE	E	MCL
European tree sparrow							X
Bobolink		X			X		
Meadowlark spp.					P	PLE	
Eastern meadowlark	X	X			X	X	
Western meadowlark					X		
+Yellow-headed blackbird		X					
Red-winged blackbird	MHCLEI	CE	HCLE	HL	MCLE	X	C
Orchard oriole	X				E		
Northern oriole	MPHCLEI		MP		MPHCLE		CL
Rusty blackbird	X	X					
+Brewer's blackbird	X			X	X	X	
Common grackle	MPHCLEI	HI	MPHCLI	H	MPHCLE	PE	L
Brown-headed cowbird					L	X	X
Scarlet tanager	X						

Table 2. (Continued)

Name	Habitat Type						
	Floodplain Forest	Backwater Areas	Rivers & Streams	Sandbanks & Mudflats	Old Field-Disturbed	Cultivated Field	Buildings
Summer tanager	X		X				
Cardinal	MPHCLEI	CLEI	MPHCEI	X	MPHCLE	X	X
Rose-breasted grosbeak	X		M		X	M	X
Blue grosbeak	X						
Indigo bunting	MPHCLEI	C	MPCEI		MPHCLE	L	P
Dickcissel			E		MP	HL	
Evening grosbeak	X						
Purple finch	X						
Pine grosbeak	X						
Pine siskin	X				X	X	
American goldfinch	MPHCLI		MPI		PHCLE	M	C
Red crossbill	X						
White-winged crossbill	X						
Green-tailed towhee	X						
Rufous-sided towhee	M		M				

Table 2. (Continued)

Name	Habitat Type						
	Floodplain Forest	Backwater Areas	Rivers & Streams	Sandbanks & Mudflats	Old Field-Disturbed	Cultivated Field	Buildings
Savannah sparrow					X	X	
Grasshopper sparrow					X		
LeConte's sparrow		X			X		
Henslow's sparrow					X		
Nelson's sparrow		X					
Vesper sparrow					X	X	
Lark sparrow	X				X	X	
Dark-eyed junco	X				X	X	X
Tree sparrow	X				X	X	
Chipping sparrow	X				X		
Clay-colored sparrow					X		
Field sparrow					P	L	
White-crowned sparrow					X		
White-throated sparrow		X			X		
Fox sparrow					X		

Table 2. (Continued)

Name	Habitat Type							Total Species
	Floodplain Forest	Backwater Areas	Rivers & Streams	Sandbanks & Mudflats	Old Field-Disturbed	Cultivated Field	Buildings	
Lincoln's sparrow			X		X			
Swamp sparrow	P	X		X	P			
Song sparrow	MPCL		PLE	X	MPCLE	X	P	
Lapland longspur					X	X		
Smith's longspur					X			
Snow bunting					X	X		
Total Species	141	140	91	50	119	59	47	

Table 2. (Continued)

Name	Habitat Type					Buildings
	Floodplain Forest	Backwater Areas	Rivers & Streams	Sandbanks & Mudflats	Old Field-Disturbed	
Family: Ambystomatidae						
Spotted salamander	X	X	X			
Small-mouthed salamander	X	X				
Eastern tiger salamander	X	X				
Family: Salamandridae						
Central newt	X					
Family: Plethodontidae						
Long-tailed salamander			X			
+Dark-sided salamander			X			
Red-backed salamander			X			
Family: Proteidae						
Mudpuppy						X
Family: Sirenidae						
Western lesser siren						X

Table 2. (Continued)

Name	Habitat Type					
	Floodplain Forest	Backwater Areas	Rivers & Streams	Sandbanks & Mudflats	Old Field- Disturbed	Cultivated Buildings Field
Family: Bufonidae						
American toad	LEI	X			LE	X
Dwarf toad	X	X				
Fowler's toad	HLEI	X		E	M	E
Family: Hylidae						
Blanchard's cricket frog	MPHLEI	X	X		E	
Western chorus frog	P	X				
Upland chorus frog	X	X				
+Illinois chorus frog		X				X
Northern spring peeper	X	X				
Eastern gray treefrog	HLE	X				X
Family: Ranidae						
Northern crayfish frog	X	X				X

Table 2. (Continued)

Name	Floodplain Forest	Backwater Areas	Rivers & Streams	Habitat Type		Old Field- Disturbed	Cultivated Field	Buildings
				Sandbanks & Mudflats	C			
Bullfrog		MPHCLEI	MLEI					
Green frog		E	X					
Pickereel frog		CL	X					
Northern leopard frog		MPHLI	E		ME		E	
Southern leopard frog	C	LEI	X			E	X	
Family: Chelydridae								
Common snapping turtle		L	X					
++Alligator snapping turtle		X	X					
Family: Kinosternidae								
Stinkpot		E	X					
+Illinois mud turtle		X	X					X
+Mud turtle		X	X					X
Family: Testudinidae								
++Blandings turtle		X						X

Table 2. (Continued)

Name	Floodplain Forest	Backwater Areas	Rivers & Streams	Habitat Type		Old Field- Disturbed	Cultivated Field	Buildings
				Sandbanks & Mudflats				
Eastern box turtle	X					X		
Three-toed box turtle	X					X		
Ornate box turtle						X	X	
Midland painted turtle		MPCI	MP		X			
Western painted turtle		L	X		X			
Red-eared turtle		MGLE	MHL		C			
+Slider		X			X			
False map turtle		L			X			
Quachita map turtle		C	X		X			
Map turtle		HLEI	L		X			
Mississippi map turtle		X						X
Family: Trionychidae								
Smooth softshell		X	X					X

Table 2. (Continued)

Name	Habitat Type						
	Floodplain Forest	Backwater Areas	Rivers & Streams	Sandbanks & Mudflats	Old Field-Disturbed	Cultivated Field	Buildings
Eastern spiny softshell		X	X	X			
Family: Iguanidae							
Northern fence lizard					X		
Family: Anguillidae							
+Western slender glass lizard						X	
Family: Teiidae							
Six-lined racerunner				X	L	X	
Family: Scincidae							
Ground skink							X
Five-lined skink					X		
Broad-headed skink					X		
Family: Colubridae							
Midwest worm snake							X

Table 2. (Continued)

Name	Habitat Type				Old Field- Disturbed	Cultivated Field	Buildings
	Floodplain Forest	Backwater Areas	Rivers & Streams	Sandbanks & Mudflats			
Northern ringneck snake					X		
Prairie ringneck snake					X		
+Plains hognose snake				X	X		
Eastern hognose snake	X				X	X	
Rough green snake					X		
+Western smooth green snake					X	X	
Eastern yellow-bellied racer					H	X	
+Great plains rat snake			X		X		
Black rat snake					PLE		L
Western fox snake					X	X	
Bullsnake					X	X	
Prairie kingsnake					X	X	

Table 2. (Continued)

Name	Habitat Type						
	Floodplain Forest	Backwater Areas	Rivers & Streams	Sandbanks & Mudflats	Old Field-Disturbed	Cultivated Field	Buildings
Speckled kingsnake					X	X	
Eastern milk snake					X	X	
Red milk snake					X	X	
Western ribbon snake		X		X			
Eastern plains garter snake		X	X		X	X	
Eastern garter snake	HL	E			M		X
Northern lined snake					X		
Western earth snake					X		
Midland brown snake						X	
Northern red-bellied snake						X	X
Yellow-bellied water snake		CLEI		X			
Graham's water snake		X					X

Table 2. (Concluded)

Name	Habitat Type							Total Species
	Floodplain Forest	Backwater Areas	Rivers & Streams	Sandbanks & Mudflats	Old Field-Disturbed	Cultivated Field	Buildings	
Diamond-backed water snake		MCLI	H	X				
Northern water snake		CL	L	X				
Midland water snake			X					
Family: Crotalidae								
Northern copper-head	H				X			
+Eastern massasauga		X				X		
++Timber rattle-snake	X				X			
Total Species	26	45	26	26	33	19	4	

DATE
ILME