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**THE PRAIRIE PENINSULA —
IN THE “SHADOW” OF TRANSEAU:
PROCEEDINGS OF THE SIXTH
NORTH AMERICAN PRAIRIE CONFERENCE
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Edited By

RONALD L. STUCKEY
Department of Botany
College of Biological Sciences
The Ohio State University
Columbus, Ohio 43210

and

KAREN J. REESE
Ohio Biological Survey
College of Biological Sciences
The Ohio State University
Columbus, Ohio 43210

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THREATENED, ENDANGERED, AND EXTIRPATED BIRDS OF ILLINOIS PRAIRIES

Marlin L. Bowles
Natural Land Institute
320 S. Third
Rockford, Illinois 61108

Kathryn Kerr¹
Illinois Natural Areas Inventory
University of Illinois
Urbana, Illinois 61801

Richard H. Thom²
Illinois Nature Preserves Commission
Rockford, Illinois 61103

Dale E. Birkenholz
Department of Biological Sciences
Illinois State University
Normal, Illinois 61761

The contrast between historical accounts of the avifauna of Illinois by ornithologists, such as Nelson (1876), Ridgway (1889, 1895), and Cory (1909), and contemporary accounts of bird populations is well-documented. Ridgway (1873) wrote of the character and, later, of the destruction (1889), of the Fox Prairie and its bird life. He correctly predicted a similar demise for all Illinois prairies. Settlement, and the concomitant destruction of the prairies of Illinois, were the major factors in the decline of most rare prairie bird species. The Illinois prairie, about 8 million ha (20 million acres) in 1800, has almost disappeared. Although supplemented by about 2 million ha (5 million acres) of substitute prairie of pasture and hayfields, this amount still represents a 75 percent decrease in habitat for prairie species. Recent loss of this artificial habitat has continued as pasture, which constituted over 2.4 million ha (6 million acres) in 1907, had dropped 67 percent by 1957 (Graber and Graber, 1963). As a result, relatively few tracts of prairie or substitute prairie are large enough to support the larger territorial prairie species remaining in Illinois. Smaller existing tracts may be too isolated to be repopulated if nesting species fail to return; thus, a biogeographical island results.

PROCEDURES

A provisional list of endangered Illinois birds was compiled by the Illinois Nature Preserves Commission (INPC) in 1971. In 1976 in cooperation with the Department of Conservation, Illinois Natural History Survey, Illinois State Museum, and various universities, the INPC published an interim list of 143 endangered, vulnerable, and rare vertebrates of Illinois (Thom, 1977).

In 1977 the Natural Land Institute received a Joyce Foundation grant to compile information about and to determine the status of Illinois' threatened and endangered vascular plant and vertebrate species. This project included a museum search, literature review, interviews, and field investigations. A series of workshops was held with specialists to review and augment the information previously gathered, and to make recommendations on management and protection. Criteria used at the endangered bird workshop in establishing the bird species list included naturally low populations; decreasing populations; and rare, vulnerable, or disappearing habitat. State endangered species were defined as those being in danger of extirpation as breeding species in Illinois, while state threatened species were considered likely to become endangered species.

The list resulting from the bird workshop was recommended to the Illinois Endangered Species Protection Board, which has authority to determine state endangered species. After receiving public comment, this board published a list of 72 endangered and threatened vertebrates of Illinois (Kenney, 1978). Ten endangered and two threatened avian species of the Illinois prairie were included. At least four prairie bird species have been extirpated.

We considered birds to be prairie species if the literature or observer noted that they nest in grassland or savanna communities. Some species that may occur within prairie regions are not included because an aquatic habitat is a requirement for nesting and foraging.

Scientific names follow those of the American Ornithologists' Union (1957). General range distribution and habitat are from Bull and Farrand (1977). More detailed Illinois distribution is from Bohlen (1978). Illinois counties are delineated in Figure 1.

STATE THREATENED SPECIES

Loggerhead Shrike (*Lanius ludovicianus*)

This shrike is a common permanent resident in the southern third of Illinois, although current nesting records are rare. It is an occasional summer resident in the central and northern counties. Prior to 1900 this species had a state-wide distribution, adapting primarily to osage orange hedgerows for nesting and feeding. With the elimination of hedgerows, the central and northern Illinois populations began to decline in the 1950's and have almost disappeared (Graber et al., 1973).

Early accounts of this shrike (Ridgway, 1889) indicated that it preferred open areas with thorn trees, such as honey locust, wild crabapple, and the then common hedgerows. Most of the recent nests in central and northern Illinois have been in osage orange trees. In the south, red cedar trees and rose bushes may also be used (Graber et al., 1973).

The decline of the loggerhead shrike in the northern two-thirds of Illinois is partially due to hedgerow removal, but a very rapid decline occurred from 1957 to 1965 from unknown causes. No current sign of recovery is evident (Graber et al., 1973). Until the cause for the decline in shrike populations is discovered, few management recommendations can be made. Hedgerows and other plant species with thorns provide nesting and foraging habitat.

¹ Current address: 904 S. Anderson, Urbana, Illinois 61801.

² Current address: Missouri Department of Conservation, Natural History Section, Jefferson City, Missouri 65101.

Brewer's Blackbird (*Euphagus cyanocephalus*)

This species occurs as a locally uncommon summer resident in northeastern Illinois in Lake and, possibly, Cook Counties. Stephney and Power (1973) cited nesting only as far east as the Red River valley in western Minnesota before 1900. The Minnesota population then increased and expanded eastward into cleared forest land. Woodruff (1907) reported this species as a rare visitor in the Chicago area; nesting was first noted there in 1928 (Ford, 1956).

Brewer's blackbird now nests near Lake Michigan in prairie and disturbed habitat. Protection from human disturbance and maintenance of natural prairie near the lakeshore seem to be the only immediate needs for this peripheral species.

Henslow's Sparrow (*Ammodramus henslowii*)

At present, this species is a very local summer resident in northern and central Illinois counties and a very rare summer resident in the south. Ridgway (1895) indicated that this sparrow formerly was exceedingly common or even abundant in Illinois, and noted its occurrence in Fox Prairie, east-central Illinois (Ridgway, 1873). Henslow's sparrow probably nested state-wide in prairie where shrubs or tallgrasses provided singing perches. It now also nests in fields with dense ground cover.

Destruction of prairie nesting habitat seems to be the cause for the decline of this sparrow. Many nesting sites are in unprotected successional fields in the Chicago region. Safeguarding prairie nesting sites and maintaining cover through the nesting season are critical, as well as maintaining fallow fields in the proper stages of succession. Because of cover requirements, burning programs could prohibit or delay nesting.

STATE ENDANGERED SPECIES

American Bittern (*Botaurus lentiginosus*)

At present in Illinois, the American bittern is a rare summer resident. Breeding may occur in large marshes in Fulton, Grundy, Cook, and Lake Counties, and possibly in marshes along the major rivers (Graber et al., 1978). This species is a regular summer resident at Goose Lake Prairie, Grundy County (Birkenholz, 1975). Presumably, this bittern once nested in wet prairies and marshes throughout Illinois. Old records (Cory, 1909; Nelson, 1876) noted that this species was a common summer resident in northern Illinois. Ford (1956) still considered the species abundant in northeastern Illinois.

The American bittern generally inhabits lake edges and brackish and freshwater marshes. Specific information from Illinois is scarce. Beecher (1942) recorded a nest located just above the water level in cat-tails, bulrushes, and sedges at a marsh edge. Nesting has also been noted at woodland ponds (Graber et al., 1978).

This solitary and secretive bittern has a large territory and low population density. The nesting population has declined with the destruction of prairie and marsh habitat. Until more is known about this species' ecology, management recommendations are the preservation of large tracts of prairie wetlands and marshes, as well as protection from human disturbance.

Swainson's Hawk (*Buteo swainsoni*)

Swainson's hawk is now a rare, local summer resident in northeastern Illinois. The species probably occurred locally in the northern two-thirds of Illinois where habitat was available. Ridgway (1889) recorded this hawk at Fox Prairie, Richland County. Nesting occurred in northern Illinois in Winnebago and Boone Counties until the mid-1960's, and was last documented in Kane County in 1974 (Keir, 1976).

Nesting requirements are not well-known in Illinois for this species. Swainson's hawk probably forages in prairies or open fields, and has recently been noted to nest in bur oak woodlands. Breeding at the eastern limits of its range in Illinois, this hawk now appears to be a sporadic and declining species. Protection of nesting birds from human disturbance is critical because nest desertion, which has been observed in Illinois (Keir, 1976), can be frequent.

Marsh Hawk (*Circus cyaneus*)

Now an occasional summer resident throughout Illinois, the marsh hawk or northern harrier probably was once distributed nearly state-wide in suitable marsh and prairie sites. Recent breeding sites are in north-central Illinois in LaSalle County and Goose Lake Prairie State Park, Grundy County (Birkenholz, 1977).

As a breeding species, the marsh hawk has declined to an extremely low population level because of destruction of grassland nesting habitat. Preservation of large areas of this habitat are essential for this species. Research on nesting behavior in relation to prairie management is needed.

Greater Prairie Chicken (*Tympanuchus cupido*)

This prairie chicken occurred in tallgrass prairie throughout the northern two-thirds of Illinois. The population reached a peak about 1860 as the birds extended their range into areas of cleared forest. With increased intensity of farming and hunting, the Illinois population then began a severe decline that paralleled the destruction of prairie habitat. This species is now a rare and local permanent resident in south-central Illinois, with remnant flocks of fewer than 300 birds in Jasper, Marion, Washington, and Wayne Counties where



Figure 1. Illinois counties.

1978 booming ground counts consisted of 124 cocks (Westemeier, 1978). It is rare and local at present despite absence of hunting pressure.

Sanderson et al. (1973) provided an account of status of the greater prairie chicken in Illinois. The species uses intensively managed nonindigenous grassland on preserves where reseeding and burning produce optimum nesting habitat. Species of native grasses are being reintroduced into sanctuaries and managed with burning. Well-drained, open booming grounds are critical for the mating of this species.

In northern and central Illinois, competition from the introduced ring-necked pheasant will probably prevent reestablishment of the greater prairie chicken. On the prairie chicken preserves, predators, booming ground harassment, and nest parasitism from released private game farm pheasants are a continual threat.

Yellow Rail (*Coturnicops noveboracensis*)

In Illinois the yellow rail is a rare summer resident in the northern counties. No current nesting sites are documented. Nelson (1876) reported this rail to be "not very rare" in northeastern Illinois and he cited a collection of eggs from Winnebago County. Woodruff (1896) reported it as quite common in Cook County. This species was probably present throughout northern Illinois in suitable habitat; its secretive nature may explain the lack of sightings. Marshes, wet prairies, and sedge meadows with good nesting cover probably serve as habitat for this species.

Illinois is at the southern limit of the breeding range of the Yellow Rail. Rare since 1900 because of loss of habitat, continued wetland destruction should further decrease the population of this rail. General management suggestions include the protection and proper management of wetland habitat in northern Illinois.

Black Rail (*Laterallus jamaicensis*)

The Black Rail appears to be a rare summer resident in the central and northern counties. No current nesting sites are known, probably because of its secretive nature and rarity, and little information is available on its former distribution. Although seldom observed, it probably inhabited marshes throughout central and northern Illinois. Nelson (1876) cited a nest in marshes of the Calumet River, Cook County, and Musselman (1937) banded young in Adams County in 1932 and 1936. Bohlen (1976) reported a possible nesting in Mason County during June 1975.

Sighting and nesting records for this elusive rail are so rare that little is known of its status. Destruction of marsh habitat probably decreased its population size and may continue. Until more is known about the nesting ecology of this species, management recommendations can only include the protection of wet prairie and sedge meadow nesting habitat.

Upland Sandpiper (*Bartramia longicauda*)

This species remains a summer resident in Illinois. The few current nesting records are from at least nine counties throughout the state. The species has apparently recovered from near extirpation, but its population level is low compared to early records (Graber and Graber, 1963).

Graber and Graber (1963) recorded greatest densities of this sandpiper in pasture and hay fields, especially red clover. Birkenholz (1975) observed nesting in bluegrass rather than prairie tallgrasses at Goose Lake Prairie. However, late spring burns and drought allowed this species to use areas of tallgrass in 1976 (Kleen, 1978).

Disappearance of habitat contributed to its current status, and preservation and management of existing habitat is critical for this species. Late prescribed burning which allows nesting in low cover areas, and the maintenance of pasture and hay fields may increase habitat.

Short-eared Owl (*Asio flammeus*)

This owl is a rare summer resident in central and northern Illinois. Recent nesting locations are in Grundy County at Goose Lake Prairie and in Lake County. Cory (1909) indicated that this species nested in

Cook County while Ford (1956) emphasized erratic nesting. Nesting may have formerly occurred sporadically across the northern half of Illinois in appropriate habitat. Apparently, wintering birds have always been locally common.

The short-eared owl nests on the ground in freshwater and saltwater marshes, open grasslands, prairies, and dunes. It probably nests in wet prairie in Illinois (Birkenholz, 1975). Wintering populations may use old fields and abandoned pastures. They often roost in pines in open areas.

Destruction of prairie nesting habitat probably has been the primary factor in the population decline of this owl. Low nesting populations and erratic nesting behavior make its presence unpredictable even in suitable habitat. Preservation and management of large tracts of prairie and marsh habitat seem essential for this species. Protection from disturbance for wintering populations is also necessary.

Bachman's Sparrow (*Aimophila aestivalis*)

Bachman's sparrow is now restricted to southern Illinois where it is a rare summer resident. Observations were made in Johnson, Pope, and Jackson Counties from 1972 through 1975 (Bohlen, 1978), but no current nesting sites are known. Bachman's sparrow may have had a nearly state-wide distribution. Cory (1909) indicated that this species occurred in habitat in the southern and central portion of the state. Ford (1956) reported it as a very rare summer resident in the Chicago region.

Ridgway (1895:280) gave "oak-wood sparrow" as a popular synonym for Bachman's sparrow and described appropriate habitat: "emphatically a bird of open oak woods . . . with grass immediately adjoining . . . but neglected fields, grown up to weeds, and in which old dead trees are left standing, are also its favorite haunt." This statement indicates that even before 1900 the species occupied its current habitat of old fields with trees or shrubs and a grass understorey.

Bachman's sparrow breeds at the northwestern limits of its range in Illinois and may never have been abundant. Since 1900 it has declined and disappeared from northern Illinois and, now, rarely occupies old fields in southern Illinois. The survival of Bachman's sparrow in Illinois may depend upon burning of savanna or barren remnants, and control of old field succession.

STATE EXTIRPATED SPECIES

Sharp-tailed Grouse (*Pediocetes phasianellus*)

Kennicott (1855) reported this northwestern grassland species as formerly common in Cook County. Nelson (1876) indicated that the last record was a covey of 14 birds taken with prairie chickens near Waukegan, Lake County, in 1863 or 1864. Ridgway (1895) cited an older report for northeastern Illinois that described hunting grouse and noted their association with bur oak, the characteristic savanna vegetation of that region. The cause of decline is unknown; however, hunting, as with the prairie chicken, may have been a factor.

Whooping Crane (*Grus americana*)

Kennicott (1855) reported that the whooping crane was exceedingly rare, but once common in Cook County. Nelson (1876) stated that it was formerly an abundant migrant but "now" of rare occurrence except along the Illinois River and thinly settled portions of the state, and that a few pairs still bred in the large marshes in central Illinois. Parmalee (1958) referred to archaeological records of this species from sites in Peoria and Jackson Counties. This reference suggests a possible state-wide occurrence. The whooping crane now nests in northern bogs and winters in coastal prairies. Little is known of its habitat in Illinois. It apparently occurred where large prairies and marshes were present, probably in the northern two-thirds of the state. Intolerant of human presence, the whooping crane began to disappear even before destruction of its habitat.

Sandhill Crane (*Grus canadensis*)

Parmalee (1958) referred to archaeological specimens from midden refuse throughout Illinois. Kennicott (1855) reported the sandhill

crane had been abundant but was disappearing with settlement in Illinois. Nelson (1876) indicated it was formerly abundant on all large marshes, but by then it was breeding only in a few sites in the center of the state. Thus, even before 1900 this species was disappearing. Nelson (1876) and Cory (1909) referred to nesting in marshes. Ridgway (1895) noted that the sandhill crane fed more in meadows and prairies; it nested sometimes in marshes, but often on dry spots, suggesting the prairie border of marshes. Like the whooping crane, this species is relatively intolerant of human populations and apparently began to disappear long before actual destruction of its habitat.

Swallow-tailed Kite (*Elanoides forficatus*)

The inclusion of this species is based on a few accounts prior to 1900. The swallow-tailed kite was described by Kennicott (1855) as rare but formerly common in Cook County, and "still found in the middle of the state." Nelson (1876) cited its decline in northeastern Illinois, noting only "two or three instances of its occurrence within the last twenty years." Ridgway (1889) recorded it from east-central Illinois, Richland County. It may have occurred throughout the state but disappeared with settlement. Ridgway (1889) described this kite and the Mississippi kite as feeding on insects over clearings in Fox Prairie, Richland County. No nesting accounts are available.

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SOIL LOSS AND THE SEARCH FOR A PERMANENT AGRICULTURE

Wes Jackson

The Land Institute
Route 3
Salina, Kansas 67401

This paper has been published elsewhere and the references are listed below:

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