

BIRDS *of* MIDEWIN

NATIONAL TALLGRASS PRAIRIE



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foreword



Grazing by cows and bison at Midwin National Tallgrass Prairie is one of the main reasons the area supports such large and diverse grassland bird populations. Continued grazing is essential to maintaining grassland bird populations at the site.

When I grew up in the Joliet area, the locals knew about the Joliet Army Ammunition Plant (“Arsenal”). You couldn’t help but know someone who worked there, and yet the place was a big unknown, a large empty piece of land.

My first visit to the Arsenal was while I was in graduate school at the University of Illinois at Chicago. My entomology class went out to collect insects in Jackson Creek, right at Baseline Road. Our professor was conducting an experiment on high tension powerlines and honey bees, and his research site was just west of Baseline Road under the high-tension lines. We weren’t within the fenced off/guarded area and some of us were intrigued: what was beyond the high chain-link fence? It wasn’t until 1984 that I got a chance to go behind that fence as a Natural Heritage Biologist with the Illinois Department of Conservation (IDOC), the predecessor of the Illinois Department of Natural Resources.

In about 1982, the late Carl Becker of the Illinois Endangered Species Board, attended a meeting at the Arsenal and saw upland sandpipers there. At the time the upland sandpiper was listed as endangered in Illinois. Permission

was granted by the Arsenal staff to let Randy Heidorn, IDOC Natural Heritage Biologist, survey a few fields. He confirmed that upland sandpipers were using some areas grazed by cattle. In 1984 I helped Heidorn and we found upland sandpipers in additional grazed areas. We knew the Arsenal was an important breeding area for upland sandpipers, but how important? I then was the Natural Heritage Biologist covering Will County. My supervisor Fran Harty and I realized we needed to survey as much of the likely habitat at the Arsenal as possible and do this on a yearly basis. The Arsenal was a government-owned, contractor-operated facility, operated by Uniroyal. Surveying for birds wasn’t something Uniroyal had much interest in, especially on the scale we wanted, but we found a sympathetic ear in the Army’s representative at the plant, Bob Zerboglio. Zerboglio gave us access to all the areas we wanted to survey. Hal Holz, the land manager at the Arsenal, escorted us on our surveys. After his retirement, his son, Art Holz, took on this responsibility.

We had access to most of the Arsenal and wanted to cover all 5,000+ acres of grazing tracts and hayfields. We needed to develop a method to cover these acres in a matter of days. Bob Montgomery, a wildlife biologist with Max McGraw Wildlife Foundation, helped me devise a survey method for upland sandpipers. To cover the land in only a few days, we enlisted the help of many of the state’s ornithologists. Large numbers of upland sandpipers were found wherever there was pastureland or hayfields. It quickly became apparent the Arsenal was an important bird area. Nesting Illinois-threatened loggerhead shrikes were found, as well as large numbers of other grassland birds. Over the years, individuals from the U.S. Fish and Wildlife Service, Illinois Natural History Survey and many universities—probably several hundred people—helped with these surveys.

It became apparent that the Arsenal was a special area, particularly for grassland birds. When the Army proposed closing the facility and excessing the land, the conservation community was well prepared. The U.S. Forest Service got most of the land shown to be important bird areas, and the Midwin National Tallgrass Prairie (Midwin) was created.

Although the upland sandpiper has declined to the point they are rarely seen today, other grassland birds have done quite well. The future is bright and hopefully the upland sandpiper, which was so instrumental in protecting the land, will return. This booklet authored by Jim Herkert will help the Midwin staff manage and protect this

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important grassland bird area. Herkert helped me in many ways through the years; refining the monitoring protocols, analyzing the data and providing management suggestions.

I still remember the day years ago when we found a northern harrier nest (another state-listed bird) at the Arsenal. The harrier had killed an upland sandpiper. One endangered bird preying upon another. It isn't often you see something like that. Hopefully in the future upland sandpipers will be so common that the loss of an upland sandpiper to a harrier will be no big deal. And, in that vein, Midewin will become the premier habitat for these special birds.

—Bill Glass,
Former Ecologist
Midewin National Tallgrass Prairie

acknowledgements

I thank The Nature Conservancy of Illinois for their support of the production of this booklet. I also thank the U.S. Forest Service and Midewin National Tallgrass Prairie for allowing me to conduct more than two decades of field-research on site. Scott Robinson, Natasha Harroff, Bill Davison and Dan Niven have assisted me with my censusing at Midewin over the years and I gratefully acknowledge their help. Finally, I thank Bill Glass and Fran Harty for their friendship, collaboration, and inspiration during decades of work on a project, and site, we all love.

I am also grateful to the Audubon Council of Illinois, Illinois Department of Natural Resources, Illinois Wildlife Preservation Fund, The Nature Conservancy, National Fish and Wildlife Foundation, Illinois Endangered Species Protection Board and Illinois Audubon Society as all have provided support for my field work at Midewin over the years.

Site History Overview and Prairie Plan



Midewin National Tallgrass Prairie (Midewin) is a unit of the U.S. Forest Service (USFS) that is located 40 miles southwest of the City of Chicago. Midewin was created on February 10, 1996 by the Illinois Land Conservation Act (Public Law 104-106), which transferred 19,165 acres of land from the U.S. Army to the USFS. The Act identified four purposes (1) to maintain the land and water resources of the Midewin National Tallgrass Prairie in a manner that will conserve and enhance the native populations and habitats of fish, wildlife, and plants, (2) to provide opportunities for scientific, environmental, and land use education and research, (3) to allow the continuation of existing agricultural uses of lands within Midewin National Tallgrass Prairie for the next 20 years, or for compatible resource management uses there after consistent with the purposes, and (4) to provide a variety of recreational opportunities that are not inconsistent with the purposes.

The name Midewin (mi-DAY-win) is a Potawatomi word referring to the tribe's Healing Society. It was chosen because thousands of acres of land will need healing.

Prior to the USFS assuming ownership and management, the land was part of the Joliet Army Ammunition Plant (Arsenal). The Arsenal was initially opened in 1940 during World War II. It was reactivated for the Korean War and the Vietnam War. Production of TNT at the site ended in 1976, and major plant operations closed shortly thereafter. The plant was closed in the 1980s. In the late 1980s-early 1990s the Army leased out por-

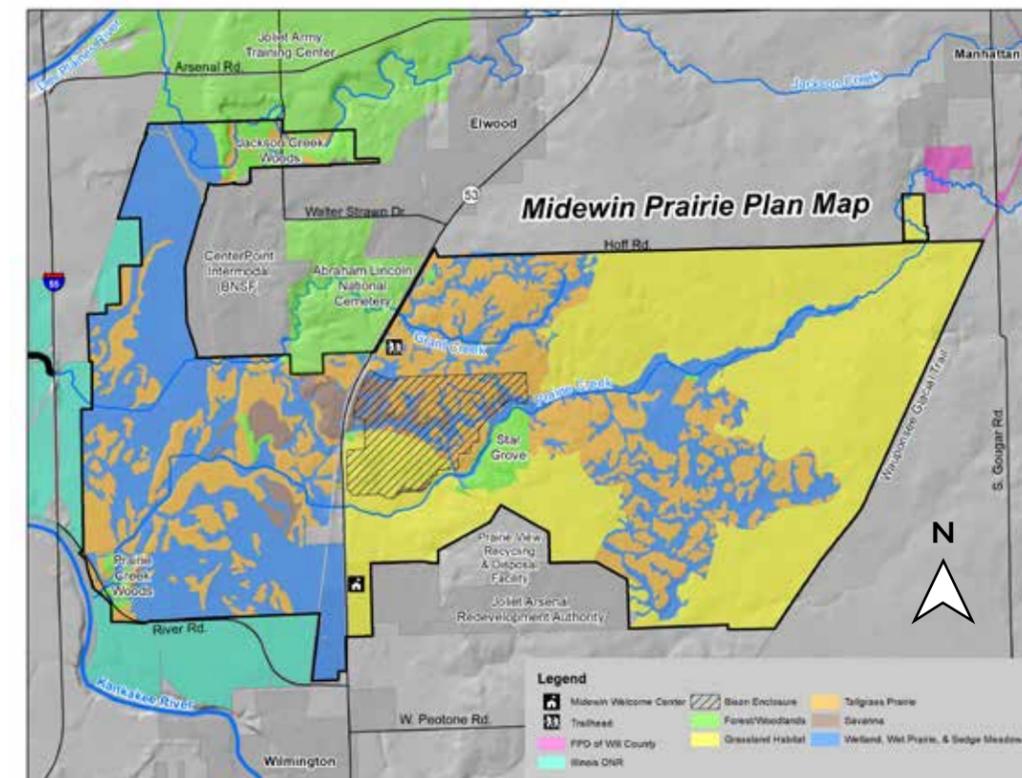
tions of the plant, in excess of 5,000 acres, as grazing tracts and hayfields. For security reasons, access to the plant was restricted, but in the early 1980s it was discovered that the Illinois-endangered upland sandpiper was breeding at the plant. As a result, biologists from the Illinois Department of Natural Resources (then Department of Conservation) initiated an annual survey of breeding birds. It soon became evident that the ammunition plant supported, in addition to upland sandpipers, large numbers of grassland birds, such as eastern meadowlark, grasshopper sparrow, bobolink and savannah sparrow, and was an important grassland bird area in the Midwest. In addition, a small but stable population of the state-endangered migrant loggerhead shrike was found on the site. The grazing and haying at the Arsenal, along with the large unfragmented grassland tracts it contained, created a landscape that was ideal for many species of area sensitive grassland birds.

The large populations of grassland birds at the site were a significant factor in the protection of the land.¹ Without the data and knowledge gained from the annual grassland bird surveys² it is doubtful that such a large tract of land would have been protected.

Shortly after taking over ownership, the USFS developed the initial management plan for the prairie.³ The plan calls for the establishment of at least 10,260 acres of unfragmented grasslands, including at least two tracts in excess of 3,000 acres each.³ The plan also established goals for creating and maintaining a mosaic of differing grassland heights to benefit specific birds, including short stature grassland (4-12 inches tall from late April to July), medium stature grassland (8-14 inches tall), and tall stature grassland (16-32 inches tall). Acreage goals for these habitats were also identified in the Prairie Plan; 4,000 acres of short stature grasslands, 2,400 acres of medium stature grasslands and 2,000 acres per year of unburned tall stature grasslands.³

The USFS has maintained much of the hayfield and grazed pasture habitat previously managed by the Army. Tallgrass prairie and wetland restoration was initiated in 2002 and continues today. Currently, the tallgrass prairie restorations that have been initiated on the site are providing approximately 3,000 acres of tall- and medium-stature grasses. Cattle grazing continues on approximately 3,500 acres to provide short- and medium-stature grasses. Bison were experimentally introduced onto an additional 1,200 acres of grassland in October 2015. It is anticipated that the bison will help maintain short- and medium-stature grassland bird

breeding habitat comparable to that provided in prior years by cattle.



Habitats at Midewin



DOLOMITE PRAIRIE

Dolomite prairie is considered the rarest and most unique natural community at Midewin.⁴ Dolomite prairie occurs where shallow soils (<20 inches) occur over dolomite limestone bedrock. Because of the shallow soils and close proximity of the underlying bedrock, dolomite prairie can range from very wet in the spring to very dry in the summer.⁴ Characteristic grasses include prairie cordgrass (*Spartina pectinata*), tufted hair grass (*Deschampsia cespitosa*), sedges (*Carex* spp.), switch grass (*Panicum virgatum*) and big bluestem (*Andropogon gerardii*).⁴ Currently, 116 acres of dolomite prairie exists

at Midewin⁴ and the Prairie Plan calls for the establishment/maintenance of 1,380 acres of dolomite prairie.³ Common birds in dolomite prairie at the adjacent Des Plaines Conservation Area include grasshopper sparrow, field sparrow, Henslow's sparrow, eastern meadowlark, American goldfinch, song sparrow and dickcissel.⁵



UPLAND TALLGRASS PRAIRIE

This habitat group includes dry tallgrass, dry-mesic tallgrass and mesic tallgrass prairies. These prairie communities were combined in the Prairie Plan because they are all non-wetland, non-dolomite prairie vegetation. Dominant grasses include prairie dropseed (*Sporobolus heterolepis*), little bluestem (*Schizachyrium scoparium*), big bluestem, Indian grass (*Sorghastrum nutans*) and switch grass.³ When Midewin was established only 4 acres of remnant mesic tallgrass prairie existed on the site.⁴ The Prairie Plan calls for the creation of 4,020 acres. The primary bird species of management interest in upland tallgrass prairies is the Henslow's sparrow.³



WET TALLGRASS PRAIRIE

This category includes wet-prairie and wet-mesic-prairie communities, both containing wetland, non-dolomite prairie vegetation.³ Wet prairie soils tend to be saturated in winter and spring, whereas wet-mesic-prairie soils are often saturated after rain events.⁴ Dominant grasses in these communities include prairie cordgrass, big bluestem and switch grass, with bluejoint grass (*Calamagrostis canadensis*) occurring on wetter sites.³ In 2002, 26 acres of wet tallgrass prairie existed at Midewin.⁴ The Prairie Plan calls for the restoration of 4,640 acres of wet prairie/sedge meadow. Common birds of wet-prairie and wet-mesic-prairie include common yellowthroat, red-winged blackbird, willow flycatcher, swamp sparrow, sedge wren, song sparrow and American goldfinch.⁶ The last two species are usually associated with woody vegetation, often common in this habitat.



SEDE MEADOW

Sedge meadows are wetlands that occur on relatively deep, poorly drained soils. Sedge meadow soils are usually saturated to within 6 inches of the surface throughout the growing season and they are often inundated during the spring.³ These meadows are typically dominated by large hummock-forming sedges. The dominant species is often tussock sedge (*Carex stricta*), which tends to occur on outwash plains or on other moist, sandy soils.³ Long-scaled tussock sedge (*Carex haydenii*) also may be common and may even be the dominant sedge in some areas.³ Other common plant species include

blue flag (*Iris shrevei virginicus*), northern bugleweed (*Lycopus uniflorus*) and rushes (*Juncus* spp.). Most sedge meadows occupy lowland depressions, but they are also sometimes associated with seepage areas.⁴ Common birds include red-winged blackbird, sedge wren and swamp sparrow.



MARSH

Marsh includes both shallow marsh and deep marsh communities. Marsh vegetation is typically dominated by relatively monotypic stands of herbaceous, emergent perennials. In shallower marshes, the dominants are usually graminoids, including common cattail (*Typha latifolia*), common bur-reed (*Sparganium eurycarpum*), great bulrush (*Schoenoplectus tabernemontani*), river bulrush (*Bolboschoenus fluviatilis*) and common arrowhead (*Sagittaria latifolia*). In deeper areas, the vegetation is dominated by floating or submersed aquatic plants.³ Birds of primary interest in marsh habitat are the king rail, least bittern and American bittern.



SAVANNA

In savannas, the trees grow as widely spaced individuals, or in small groups. The original understory was mostly herbaceous vegetation (grasses and shrubs), but most remnant savannas now have a dense understory of exotic and native shrubs. Two types of savanna are present at Midewin, based on soil moisture. Bur oaks (*Quercus macrocarpa*) are commonly found in wet-mesic savannas. Two examples of this community type are found along the old cut-off meander of Jackson Creek. A few grasses survive at the margins of these remnants, including wood reed (*Cinna arundinacea*). Bur oaks are

also common to mesic savannas, but white oak (*Quercus alba*) occurs only in mesic savannas. At Midewin, mesic savanna is found in Prairie Creek Woods, around the edges of Starr Grove, in isolated areas adjacent to Prairie Creek and in Jackson Creek Woods. The primary bird species of interest in savanna habitat at Midewin is the red-headed woodpecker.³



FOREST

Forest, woodland and shrubland habitats also exist at Midewin, but are not expanded on in this section. The goal for forest/woodland habitat at Midewin is less than 500 acres and there are no explicit goals for shrubland habitats at the site. The Prairie Plan recognized shrubs as components of forest/woodland, savanna, short-stature grassland, medium-stature grassland, upland typical prairie, wet prairie and seeps. Goals for the prairie and grassland communities call for maintaining exceptionally low densities of shrubs (<1 per 2.5 acres). It is assumed that the needs of shrubland birds will be met by

a combination of habitats at Midewin including savanna, forest/woodland, riparian and small-scattered shrub areas within the prairie, grassland and wetland portions of the site.

Habitats at Midewin: Grasslands

Grassland habitat at Midewin consists of agricultural grasslands that are dominated by non-native cool-season grasses and forbs, but they may contain native elements. These areas were grazed by cattle or periodically cut for grass hay but as Army leases were converted to USFS Special Use Permits. Vegetation within these grasslands has been managed for certain grassland birds using a variety of agricultural techniques, including livestock grazing, cutting and removal of grass hay (after nesting season), and mowing to control noxious weeds and shrubs. Predominant grasses include Hungarian brome (*Bromus inermis*), Kentucky bluegrass (*Poa pratensis*), tall fescue (*Festuca arundinacea*) and redtop (*Agrostis alba*). Common non-native forbs include clovers (*Trifolium* spp.), yarrow (*Achillea millefolium*), common hound's tongue (*Cynoglossum officinale*), chicory (*Cichorium intybus*), thistles (*Cirsium* spp.) and horse nettle (*Solanum carolinense*). These grasslands often contain a minor element of native prairie graminoids and forbs, primarily west of Illinois Route 53 (on the outwash plain). Scattered woody plants in agricultural grasslands include osage orange (*Maclura pomifera*), red haw (*Crataegus mollis*),

multiflora rose (*Rosa multiflora*), autumn olive (*Elaeagnus umbellata*), coralberry (*Symphoricarpos orbiculatus*), white mulberry (*Morus alba*) and eastern cottonwood (*Populus deltoides*).⁴ Grassland habitat at Midewin is divided into three subcategories based on vegetation height during the breeding season.



Synonyms: Pasture, short grassland or grazed agricultural grassland. These areas are dominated by grasses 4 to 12 inches in height, with approximately half of grass cover less than 8 inches tall. The type of dominant grass is not important and may be non-native pasture grasses, such as Kentucky bluegrass, redtop, Hungarian brome or fescue, or natives such as prairie dropseed, little bluestem or porcupine grass (*Hesperostipa spartea*). The density and diversity of forbs may be important under certain conditions. Scattered shrubs <3 feet tall should not exceed 5% of total cover. Birds species of interest are upland sandpiper, loggerhead shrike and grasshopper sparrow.³



Synonyms: Hayland, hayfield, low-intensity pasture, medium-height grassland or hayed agricultural grassland. These areas are dominated by grasses 8 to 14 inches in height during late May/early June. Again, grass species composition is not important and may include Kentucky bluegrass, redtop, brome, fescue and legumes (*Trifolium* spp.) or native grasses and forbs. Scattered shrubs/small trees (>3 feet in height) may be present at low densities (<3/acre) within 100 yards of woody edge. The presence of a well-developed litter layer is important.³ The bobolink, eastern meadowlark and savannah sparrow are the primary bird species of interest.³



Synonyms: Non-native grassland, typic prairie (upland or wet), fallow hayland, fallow pasture, tall-height grassland or fallow pasture; may include some sedge meadow and dolomite prairie. These grasslands occur on wide range of soils, from poorly drained to well-drained soils; some may be drained artificially through tile or ditch systems. The vegetation in tall-stature grasslands is dominated by live grasses or standing dead grasses >15 inches tall in late May/early June. Grass composition is not important and may be taller non-native pasture grasses (e.g., Kentucky bluegrass, redtop, brome) and legumes or prairie grasses (e.g., little bluestem, big bluestem, switch grass, panic grass or prairie dropseed) and forbs. Scattered shrubs/small trees (>3 feet in height) may be present at very low densities (<3/acre) within 100 yards of woody edge. Well-developed litter is important in tall-stature grasslands as well. Henslow's sparrow, northern harrier and sedge wren are the species of primary interest.³

Birds of Midewin

The following shows a list of the 234 species of birds that have been reported at Midewin National Tallgrass Prairie (and formerly the Joliet Army Arsenal), of which at least 113 species are known or suspected breeders. This includes 18 orders and 49 families. The site bird list was compiled from the annual Grassland Bird Survey (2009–2018),¹ surveys by Dale Birkenholz (1993)², surveys of nesting birds on the site (1995–1997),⁷ eBird data (data from all Midewin Hotspots through January 2020) and personal observations. Breeders were identified from the Birkenholz study, the 1995–1997 nesting bird study, Midewin Monitoring Reports⁸ and personal observations. There are also 11 species identified as Regional Forester's Sensitive Species (RFSS) at Midewin.⁹ RFSS are those species identified by the USFS Regional Forester for which population viability is a concern, as evidenced by downward trends in population numbers or density, or downward trends in habitat capability that would reduce a species' existing distribution. RFSS must receive special management emphasis to ensure their viability and to preclude trends toward endangerment. There must be no impacts to sensitive species without an analysis of the significance of adverse effects on the populations, its habitat, and on the viability of the species as a whole. The RFSS at Midewin are king rail, upland sandpiper, American bittern, least bittern, northern harrier, bald eagle, short-eared owl, red-headed woodpecker, loggerhead shrike and bobolink.

No federally threatened or endangered birds have been documented at Midewin. When the Prairie Plan was written the bald eagle was a federally threatened species and was considered a rare migrant visitor to Midewin.⁴ Bald eagle populations have since recovered and eagles have started nesting at Midewin. There have been two active eagle nests at Midewin in recent years. Whooping cranes sighted on the site are from the reintroduced population in Wisconsin and are considered an experimental non-essential population by the USFWS. Experimental, nonessential populations of endangered species are treated as threatened species on public land (such as Midewin), for consultation purposes with the USFWS.

Eleven state endangered and threatened species occur on Midewin, including three threatened species (black-billed cuckoo, least bittern and osprey) and eight endangered species (king rail, common gallinule, upland sandpiper, American bittern, black-crowned night-heron, northern harrier, short-eared owl and loggerhead shrike).¹⁰

The cerulean warbler, which is a RFSS and state-threatened, has not been recorded on Midewin but does occur on the Joliet Training Area immediately north of Midewin.¹¹ The Illinois Land Conservation Act (Public Law 104-106) calls for the transfer of the Joliet Training Area to Midewin in the future and thus the cerulean warbler is included on the Midewin list.

Species that are known or suspected breeders at Midewin are designated with an asterisk (*) in the following table.

Midewin Bird List with Orders and Families

ANSERIFORMES

Anatidae (Ducks, Geese & Waterfowl)

Snow Goose
 Ross's Goose
 Greater White-fronted Goose
 Cackling Goose
 Canada Goose
 Mute Swan
 Wood Duck
 Blue-winged Teal
 Northern Shoveler
 Gadwall
 American Wigeon
 Mallard
 American Black Duck
 Northern Pintail
 Green-winged Teal
 Redhead
 Ring-necked Duck
 Lesser Scaup
 Bufflehead
 Common Goldeneye
 Hooded Merganser*
 Common Merganser
 Red-breasted Merganser
 Ruddy Duck

GALLIFORMES

Odontophoridae (New World Quail)

Northern Bobwhite*

Phasianidae (Pheasants, Grouse, & Allies)

Ring-necked Pheasant*
 Wild Turkey*

PODICIPEDIFORMES

Podicipedidae (Grebes)

Pied-billed Grebe*
 Horned Grebe

COLUMBIFORMES

Columbidae (Pigeons & Doves)

Rock Pigeon*
 Eurasian Collared-dove
 Mourning Dove*

CUCULIFORMES

Cuculidae (Cuckoos)

Yellow-billed Cuckoo*
 Black-billed Cuckoo*

CAPRIMULGIFORMES

Caprimulgidae (Nightjars & Allies)

Common Nighthawk*

Apodidae (Swifts)

Chimney Swift*

Trochilidae (Hummingbirds)

Ruby-throated Hummingbird*

GRUIFORMES

Rallidae (Rails, Gallinules & Coots)

King Rail*
 Virginia Rail*
 Sora*
 Common Gallinule*
 American Coot*
 Yellow Rail

Gruidae (Cranes)

Sandhill Crane
 Whooping Crane

CHARADRIIFORMES

Charadriidae (Plovers & Lapwings)

American Golden Plover
 Semipalmated Plover
 Killdeer*

Scolopacidae (Sandpipers & Allies)

Upland Sandpiper*
 Least Sandpiper
 White-rumped Sandpiper
 Pectoral Sandpiper
 Semipalmated Sandpiper
 Short-billed Dowitcher
 American Woodcock*
 Wilson's Snipe*
 Spotted Sandpiper*
 Solitary Sandpiper
 Greater Yellowlegs
 Lesser Yellowlegs

Laridae (Gulls, Terns & Skimmers)

Bonaparte's Gull
 Ring-billed Gull
 Herring Gull
 Iceland Gull
 Slaty-backed Gull
 Caspian Tern

SULIFORMES

Phalacrocoracidae (Cormorants & Shags)

Double-crested Cormorant

PELECANIFORMES

Pelecanidae (Pelicans)

American White Pelican

Ardeidae (Herons, Egrets & Bitterns)

American Bittern*
 Least Bittern*
 Great Blue Heron*
 Great Egret
 Cattle Egret
 Green Heron*
 Black-crowned Night-heron

CATHARTIFORMES

Cathartidae (New World Vultures)

Turkey Vulture

ACCIPITRIFORMES

Accipitridae (Hawks, Eagles & Kites)

Northern Harrier*
 Sharp-shinned Hawk
 Cooper's Hawk*
 Bald Eagle*
 Red-shouldered Hawk
 Broad-winged Hawk
 Red-tailed Hawk*
 Rough-legged Hawk

Pandionidae (Osprey)

Osprey

STRIGIFORMES

Strigidae (Owls)

Eastern Screech-owl*
 Great Horned Owl*
 Snowy Owl
 Barred Owl*
 Long-eared Owl
 Short-eared Owl

CORACIIFORMES

Alcedinidae (Kingfishers)

Belted Kingfisher*

PICIFORMES

Picidae (Woodpeckers)

Yellow-bellied Sapsucker
 Red-headed Woodpecker*
 Red-bellied Woodpecker*
 Downy Woodpecker*
 Hairy Woodpecker
 Pileated Woodpecker
 Northern Flicker*

FALCONIFORMES

Falconidae (Falcons & Caracaras)

American Kestrel*
 Merlin
 Peregrine Falcon

PASSERIFORMES

Tyrannidae (Tyrant Flycatchers)

Olive-sided Flycatcher
 Eastern Wood-Pewee*
 Yellow-bellied Flycatcher
 Acadian Flycatcher*
 Alder Flycatcher
 Willow Flycatcher*
 Least Flycatcher*
 Eastern Phoebe*
 Great Crested Flycatcher*
 Western Kingbird
 Eastern Kingbird*

Laniidae (Shrikes)

Loggerhead Shrike*
 Northern Shrike

Vireonidae (Vireos, Shrike-Babblers & Erpornis)

White-eyed Vireo*
 Bell's Vireo*
 Yellow-throated Vireo*
 Blue-headed Vireo
 Philadelphia Vireo
 Warbling Vireo*
 Red-eyed Vireo*

Corvidae (Crows, Jays & Magpies)

Blue Jay*
 American Crow*

Alaudidae (Larks)

Horned Lark*

Hirundinidae (Swallows)

Northern Rough-winged Swallow*
 Purple Martin*
 Tree Swallow*
 Bank Swallow*
 Barn Swallow*
 Cliff Swallow

Paridae (Tits, Chickadees & Titmice)

Black-capped Chickadee*
 Tufted Titmouse*

Sittidae (Nuthatches)

Red-breasted Nuthatch
 White-breasted Nuthatch*

Certhiidae (Treecreepers)

Brown Creeper

Troglodytidae (Wrens)

House Wren*
 Winter Wren
 Sedge Wren*
 Marsh Wren*
 Carolina Wren*

Poliptilidae (Gnatcatchers)

Blue-gray Gnatcatcher*

Regulidae (Kinglets)

Golden-crowned Kinglet
 Ruby-crowned Kinglet

Turdidae (Thrushes & Allies)

Eastern Bluebird*
 Veery
 Gray-cheeked Thrush
 Swainson's Thrush
 Hermit Thrush
 Wood Thrush*
 American Robin*

Mimidae (Mockingbirds & Thrashers)

Gray Catbird*
 Brown Thrasher*
 Northern Mockingbird*

Sturnidae (Starlings)

European Starling*

Motacillidae (Wagtails & Pipits)

American Pipit

Bombacillidae (Waxwings)

Cedar Waxwing*

Fringillidae (Finches, Euphonias & Allies)

House Finch*
 Purple Finch
 Common Redpoll
 American Goldfinch*

Calcariidae (Longspurs & Snow Buntings)

Lapland Longspur
 Snow Bunting

Passerellidae (New World Sparrows)

Grasshopper Sparrow*
 Chipping Sparrow*
 Clay-colored Sparrow
 Field Sparrow*
 Brewer's Sparrow
 Lark Sparrow
 American Tree Sparrow
 Fox Sparrow
 Dark-eyed Junco
 White-crowned Sparrow
 Harris's Sparrow
 White-throated Sparrow
 Vesper Sparrow*
 Nelson's Sparrow
 Savannah Sparrow*

Henslow's Sparrow*

Song Sparrow*

Lincoln's Sparrow

Swamp Sparrow

Eastern Towhee*

Icteriidae (Yellow-breasted Chat)

Yellow-breasted Chat*

Icteridae (Troupials & Allies)

Bobolink*

Western Meadowlark*

Eastern Meadowlark*

Orchard Oriole*

Baltimore Oriole*

Red-winged Blackbird*

Brown-headed Cowbird*

Rusty Blackbird

Common Grackle*

Parulidae (New World Warblers)

Ovenbird*

Louisiana Waterthrush

Northern Waterthrush

Blue-winged Warbler*

Black-and-white Warbler

Prothonotary Warbler

Tennessee Warbler

Orange-crowned Warbler

Nashville Warbler

Connecticut Warbler

Mourning Warbler

Kentucky Warbler*

Common Yellowthroat*

American Redstart*

Cape May Warbler

Cerulean Warbler

Northern Parula

Magnolia Warbler

Bay-breasted Warbler

Blackburnian Warbler

Yellow Warbler*

Chestnut-sided Warbler

Blackpoll Warbler

Black-throated Blue Warbler

Palm Warbler

Pine Warbler

Yellow-rumped Warbler

Yellow-throated Warbler

Prairie Warbler

Black-throated Green Warbler

Canada Warbler

Wilson's Warbler

Cardinalidae (Cardinals & Allies)

Summer Tanager

Scarlet Tanager*

Northern Cardinal*

Rose-breasted Grosbeak*

Blue Grosbeak*

Indigo Bunting*

Painted Bunting

Dickcissel*

Passeridae (Old World Sparrows)

House Sparrow*

Upland Sandpiper



STATUS

Upland sandpipers are an uncommon to rare migrant and summer resident in Illinois.¹² It is state endangered¹⁰ and a Regional Forester Sensitive Species at Midewin.⁹ The vast acreage of short stature grassland habitat at Midewin historically supported the largest upland sandpiper population in Illinois,³ but numbers at the site have decreased greatly in recent years.¹ Upland sandpipers were seen annually at Midewin between 1990 and 2016, but they have been sporadic since, with recent records only in 2018 and 2020.

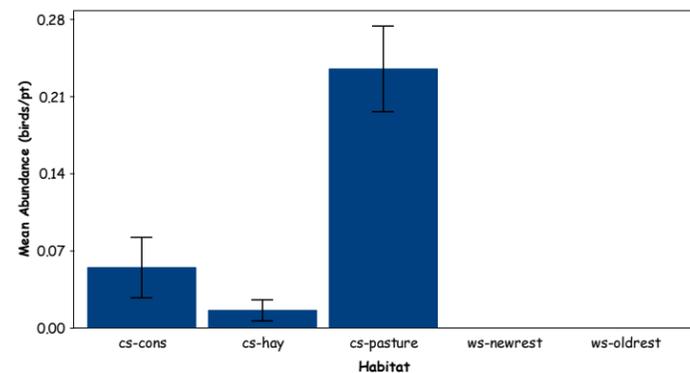
HABITAT

Upland sandpipers are area-sensitive¹³ and prefer large open grassland areas.¹⁴ This species has an average home range of more than 2,000 acres which may explain its reliance on large grasslands.¹⁵ At Midewin, upland sandpipers show a significant preference for cool-season grass pastures (see Figure).¹⁶ They require short vegetation for foraging, taller vegetation for nesting, and short to medium vegetation for brood cover.¹⁷ In general, upland sandpipers forage in vegetation <12 inches high, nest in vegetation 4 to 24 inches high, and typically rear broods in vegetation <6 inches high.¹⁷ Observations from Illinois indicate that upland sandpipers rarely use restored prairies under traditional fire management.⁵ Grazed restored prairies might provide appropriate habitat but that has not been shown to date, perhaps because few restored prairies are large enough and/or grazed.

MANAGEMENT RECOMMENDATIONS

The key to management for upland sandpipers is providing grasslands of varying heights with few shrubs.¹⁷ Upland sandpipers at Midewin appear to require large unfragmented grasslands for breeding and are dependent on grazing; reductions in grazing would likely negatively affect populations at the site.¹⁸ Upland sandpipers would be a good umbrella species for grassland landscape needs since their needs would benefit other high-priority grassland species. As restoration of native upland prairie proceeds at Midewin, a challenge will be to restore prairie habitat that upland sandpipers and other grassland birds readily adapt to and utilize. Once land managers are assured that the upland sandpiper, and other grassland birds, successfully nest and breed in restored native prairie, they can begin converting more of the agricultural grasslands now dominated by non-native cool-season grasses to native tallgrass prairie vegetation.³ Increased fragmentation of Midewin's grasslands may be playing a role in the recent population decline of upland sandpipers. Many of Midewin's pastures are now surrounded by trees and shrubs, which was not the case years ago when upland sandpipers were plentiful on the site. Management should seek to remove woody vegetation surrounding pastures in an effort to reduce fragmentation. Bird species most often found in association with upland sandpipers at Midewin include eastern meadowlark, grasshopper sparrow and dickcissel.¹⁹

Upland Sandpiper Habitat Association¹⁶



Short-Eared Owl



STATUS

Although the short-eared owl is one of the world's most widely distributed owls, it is rare and sporadic in occurrence throughout much of its breeding range. It is considered an uncommon migrant and winter resident, and rare summer resident in Illinois.¹² The species may have nested infrequently at Midewin in the past, but there is little evidence of current nesting.²⁴ Although uncommon winter residents statewide, short-eared owls can be a fairly common in winter at Midewin, especially when their main prey items, voles (*Microtus* spp.), are common.²⁴ Short-eared owls are state endangered¹⁰ and a Regional Forester Sensitive Species at Midewin.⁹

HABITAT

The short-eared owl is an area-sensitive, open country, ground-nesting species that inhabits marshes and grasslands throughout much of North America.²⁵ They are irruptive breeders²² and appear able to colonize new areas that can provide sufficient habitat and food supply.²⁶

MANAGEMENT RECOMMENDATIONS

Key to management for short-eared owls is providing large grasslands and wetlands that can support high densities of voles.²⁷ In southeastern Illinois this species preferentially located their nests in grasslands that had been managed (e.g., mowed, burned or grazed) the previous year.²² They also appeared to favor cool-season grass fields for nesting in southeastern Illinois grasslands, with more than 90% of their nests occurring in cool-season grass fields and less than 10% in warm-season restorations.²²

Northern Harrier



STATUS

The northern harrier is considered a common migrant, uncommon winter resident and rare summer resident in Illinois.¹² Northern harriers are a Regional Forester Sensitive Species at Midewin⁹ and also state endangered.¹⁰ They are a rare summer resident at Midewin, and are more commonly seen in the fall, winter and spring from October through April. Northern harriers have been seen on Midewin during the breeding season in every year between 2009 and 2020,²⁰ however, their nesting status in most years is uncertain. They are believed to have nested on site in 2009.²¹ This species is seen most often at Iron Bridge Trailhead and Explosives Road areas within Midewin.

HABITAT

The northern harrier is area sensitive. Nesting is usually restricted to relatively large grasslands and marshes with tall-dense vegetation. The nest is usually placed on the ground in open, treeless habitats. Harriers in Illinois nest in both warm-season and cool-season grasslands and do not appear to prefer one habitat over the other.²²

MANAGEMENT RECOMMENDATIONS

Key to management for the northern harrier is providing extensive wetlands or tall, densely vegetated mesic or xeric grasslands.²³ In southeastern Illinois, harrier nest placement was influenced by habitat management, with the species showing a significant preference for locating nests in undisturbed, idle fields.²² Management for harriers at Midwin is focused on maintaining large (>2,000 acre) unfragmented areas of undisturbed (no grazing, mowing or burning) tallgrass prairie or emergent wetland habitat with abundant residual cover.⁴ Northern harriers are known to nest in the prairie restorations at Goose Lake Prairie State Natural Area, just 6 miles west of Midwin, so breeding in Midwin's prairies restorations in the future seems likely as long as large areas of undisturbed habitat are provided.

Loggerhead Shrike



STATUS

The loggerhead shrike is a rare migrant and uncommon to rare summer and winter resident in Illinois. It is more common in the southern part of the state.¹² Populations in the state have declined significantly since 1966²⁸ and from 4 to 14 pairs have nested at Midwin between 2005 and 2016.²⁹ Shrikes are state endangered¹⁰ and a Regional Forester Sensitive Species at Midwin.⁹

HABITAT

Loggerhead shrikes prefer short grasses with some scattered thorn trees.⁴ At Midwin, shrikes like to nest in relatively young thorny trees, such as osage orange (*Maclura pomifera*), located in grazed pastures and rarely use mature trees for nesting. Nest trees are often the same as those used the previous year, or located near the previous nest site, but annual territory boundaries may vary.²⁹

MANAGEMENT RECOMMENDATIONS

Keys to management are providing short grass areas with scattered thorn trees for foraging, nesting and perching.³⁰ Grazing can provide ideal habitat by shortening vegetation in grassland areas in Illinois.³¹ At Midwin the primary habitat needs are to protect and maintain habitat of large (>1,186 acres) grassland areas with short-stature grasses and scattered thorny trees, especially osage orange and hawthorn (*Crataegus* spp.). Practices that have benefited shrikes at Midwin include fire management, grazing, selective cutting of trees and/or mowing.⁴ Both osage orange and hawthorns need to be cut periodically and allowed to resprout to provide future habitat. Shrikes at Midwin prefer shrubs with the coppice shape that are multi-stemmed and under 20 feet in height. Management needs to provide a cycle of cutting and resprouting to provide enough trees of the correct size. As Midwin managers have tried to enlarge grassland areas and expand the openness of them by removing trees and shrubs, small groupings of coppice thorn trees have been left along the perimeters for loggerhead shrikes. This action has been successful in maintaining loggerhead shrike populations in the past³² and should continue.

Grasshopper Sparrow



STATUS

The grasshopper sparrow was formerly considered a fairly common migrant and summer resident in Illinois that nested in grasslands, prairies, old fields, airports and savannas.¹² It is currently one of the fastest declining bird species in Illinois. Breeding Bird Survey data from Illinois indicate a statewide population decline of more than 95% between 1966 and 2017.²⁸ Grasshopper sparrows are widespread in Midwin's grazed pastures and are one of the most common grassland birds on the site.¹ Long-term (1985–2015) population trends at Midwin are stable.¹

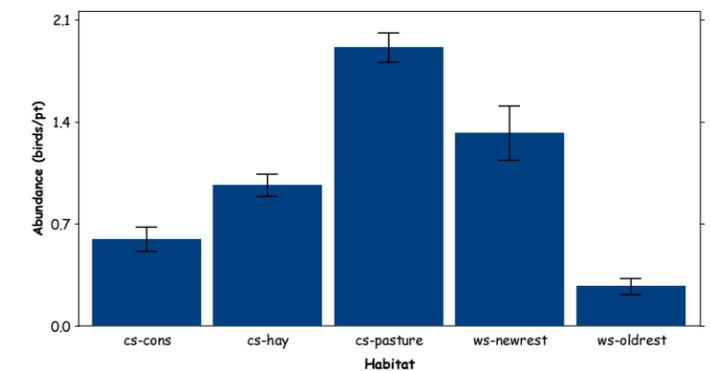
HABITAT

Grasshopper sparrows are an area sensitive bird species.¹⁴ They prefer areas with short vegetation and low levels of accumulated litter. At Midwin, the species is most common in grazed pastures and least common in idle grasslands and old restorations (see Figure).¹⁶ Grasshopper sparrows are abundant in newly planted prairie restorations but become rare as such fields mature.³³ Species most often found in association with grasshopper sparrows at Midwin are dickcissels, eastern meadowlarks and bobolinks.³⁵

MANAGEMENT RECOMMENDATIONS

Keys to management are providing large areas of contiguous grassland of intermediate height with moderately deep litter cover and low shrub density.³⁴ Grazing has provided these habitat conditions at Midwin and should be continued. Grasshopper sparrows avoid trees and shrubs and the presence of these features significantly reduces abundance.¹⁸ In northern Illinois, nest success tends to be higher in areas with abundant grass in the surrounding landscape, especially within 1.5 to 3 miles.¹⁸ Nest parasitism levels are higher in landscapes dominated by row crops and forest with little grassland.¹⁸

Grasshopper Sparrow Habitat Association¹⁶



Savannah Sparrow



STATUS

The savannah sparrow is area-sensitive in Illinois.¹⁴ It is a common migrant and fairly common summer resident in Illinois, nesting in open grassy areas, meadows, airports and pastures.¹² The species is relatively common in Midewin's grazed pastures.¹ Savannah sparrows have a stable population trend at Midewin¹ but have declined significantly statewide.²⁸

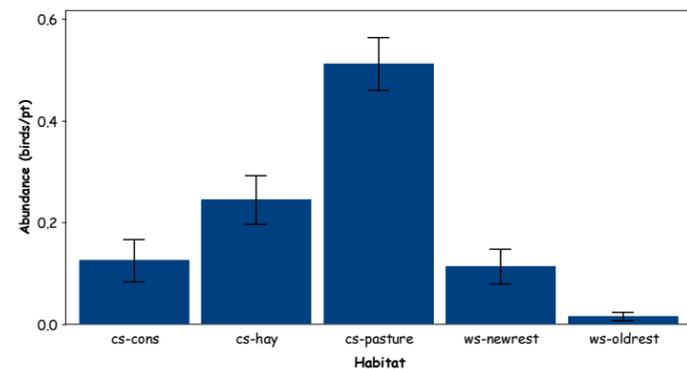
HABITAT

Savannah sparrows prefer habitats with short to intermediate vegetation height, intermediate vegetation density, and a well-developed litter layer.³⁶ At Midewin, they are most common in grazed pasture habitat and least common in warm-season restorations (see Figure).¹⁶ Species most often found in association with savannah sparrows at Midewin are eastern meadowlarks, grasshopper sparrows and dickcissels.³⁷

MANAGEMENT RECOMMENDATIONS

Keys to management are providing large areas of suitable habitat (grasslands of intermediate height and density, with well-developed litter), controlling succession, and protecting nesting habitat from disturbance during the breeding season.³⁶ Savannah sparrows appear to be largely dependent on grazing at Midewin and their numbers would be greatly influenced by reductions in pasture acreage. Savannah sparrows avoid trees and shrubs and their abundance is significantly reduced by the presence of these features.¹⁸

Savannah Sparrow Habitat Association¹⁶



Henslow's Sparrow



STATUS

The Henslow's sparrow is an uncommon migrant and summer resident in Illinois.¹² Its population in Illinois has increased recently due to the creation of large amounts of grassland as part of the federal Conservation Reserve Program.³⁸ Henslow's sparrow is a Regional Forester Sensitive Species at Midewin.⁹ Its population at Midewin significantly increased between 1985 and 2015.¹ Although its population in Illinois has increased, it remains one of the rarest songbirds in the state.³⁹

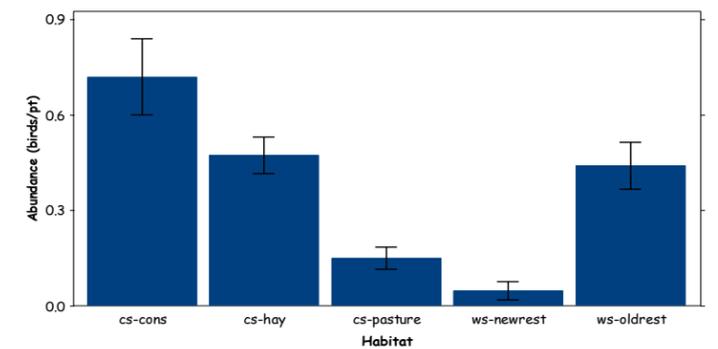
HABITAT

Henslow's sparrows are area-sensitive and are dependent on large grassland areas.¹⁴ Henslow's sparrows breed in a variety of grassland habitats with tall, dense grass and herbaceous vegetation.⁴⁰ Grassland management significantly influences Henslow's sparrow abundance and their abundance is reduced by grazing and mowing.¹⁸ Burning also significantly reduces the abundance of this species.⁴¹ Henslow's sparrows prefer grasslands >20 inches in height and their abundance is also significantly influenced by litter, with the species preferring areas with 1-2 inches of litter.¹⁸ At Midewin, they are most common in idle cool-season grasslands and least common in grazed pastures and young warm-season restorations (see Figure).¹⁶ Species most often found in association with Henslow's sparrows at Midewin are dickcissels, eastern meadowlarks and red-winged blackbirds.⁴²

MANAGEMENT RECOMMENDATIONS

Keys to management are providing large areas with tall, dense, herbaceous vegetation with well-developed litter, avoiding habitat disturbances during the breeding season, and controlling woody succession.⁴³ Burning should be conducted on a 3- to 4-year rotation.^{41,44} It is expected that restored prairie, managed with proper timing and periodicity of burning, mowing or hay-cutting, will be the primary habitat for this species at Midewin in the future.³

Henslow's Sparrow Habitat Association¹⁶



Bobolink



STATUS

Bobolinks are a common migrant and fairly common summer resident in northern Illinois.¹² They are a Regional Forester Sensitive Species at Midewin.⁹ Bobolinks at Midewin have a stable long-term population trend,¹ but are in steep decline elsewhere in the state with populations declining by more than 90% between 1966 and 2017.²⁸

HABITAT

Bobolinks are area-sensitive and are dependent on large grassland areas.¹⁴ They prefer grasslands with intermediate vegetation height (8-16 inches) and intermediate litter depth.¹⁸ At Midewin, they are most common in mowed hayfields, idle cool-season grass fields, and grazed cool-season pastures (see Figure).¹⁶ They are rarely encountered in warm-season prairie restorations.³³ In northeastern Illinois, they appear to prefer native over restored prairies.¹⁸ The presence of woody vegetation within grasslands significantly reduces the abundance of bobolinks.¹⁸ Species most often found in association with bobolinks at Midewin are dickcissels, eastern meadowlarks and grasshopper sparrows.⁴⁵

MANAGEMENT RECOMMENDATIONS

The keys to management for bobolinks are providing large areas of grassland habitat with moderate height and adequate litter, controlling woody succession, and protecting nesting habitat from disturbance during the breeding season.⁴⁶ There is evidence that bobolinks may show some avoidance of roads at Midwin.¹⁸

Eastern Meadowlark



STATUS

The eastern meadowlark is a common migrant and summer resident in Illinois.¹² Statewide populations have declined significantly between 1966 and 2017.²⁸ Although the species remains one of the most common grassland birds at Midwin, populations significantly declined at the site between 1985 and 2015.¹

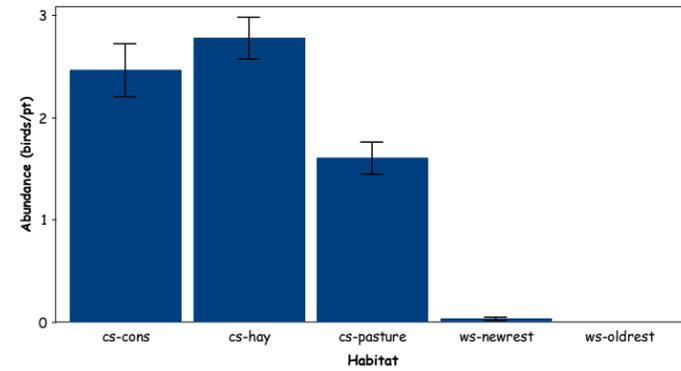
HABITAT

Eastern meadowlarks are area-sensitive in Illinois and require large grassland areas for breeding.¹⁴ Statewide they prefer prairie, grazed pastures, hayfields, idle or fallow fields, weedy edges of crop fields and roadsides.¹² At Midwin they are most common in pastures and idle cool-season grass fields and least common in warm-season restorations (see Figure). They appear to be more common in native than restored prairies.¹⁸ Species commonly found in association with eastern meadowlarks at Midwin are dickcissels, grasshopper sparrows and red-winged blackbirds.⁴⁸

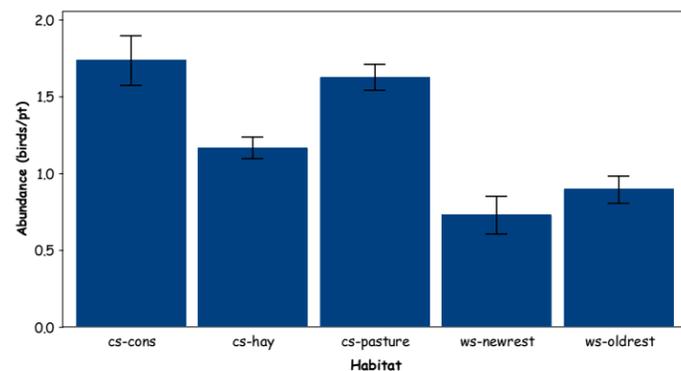
MANAGEMENT RECOMMENDATIONS

Keys to management are providing large areas of contiguous grassland of intermediate height with significant grass cover and moderate forb density.⁴⁷

Bobolink Habitat Association¹⁶



Eastern Meadowlark Habitat Association¹⁶



Red-winged Blackbird



STATUS

The red-winged blackbird is an abundant migrant and summer resident in Illinois.¹² It is one of the most common birds in Illinois,³⁹ and is one of the most common breeding birds at Midwin.¹ Populations have increased significantly at Midwin (1985–2015)¹ and statewide populations have been stable (1966–2017).²⁸

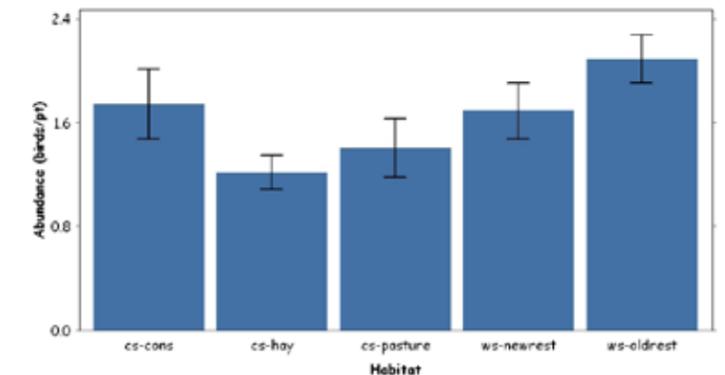
HABITAT

Red-winged blackbirds breed in marshes, riparian habitats and fields of all kinds.¹² At Midwin they are most common in warm-season restorations and idle cool-season grasslands and least common in cool-season hayfields (see Figure).¹⁶ Species most often found in association with red-winged blackbirds at Midwin are dickcissels, eastern meadowlarks and grasshopper sparrows.⁵⁰

MANAGEMENT RECOMMENDATIONS

Red-winged blackbirds are ubiquitous in grassland habitats at Midwin and are relatively common in all grassland habitats found on the site. As a result, no special management considerations are necessary for this species. Management focused on providing appropriate grassland habitat for other priority grassland birds will provide an abundance of habitat for red-winged blackbirds.

Red-winged Blackbird Habitat Association¹⁶



Dickcissel



STATUS

The dickcissel is a common migrant and summer resident in Illinois, decreasing in abundance northward.¹² It is also an abundant bird statewide and is estimated to be the 16th most common bird in Illinois, with an estimated population size of 1.4 million birds.³⁹ The population has significantly increased at Midewin (1985-2015)¹ and statewide populations were stable between 1966 and 2017.²⁸

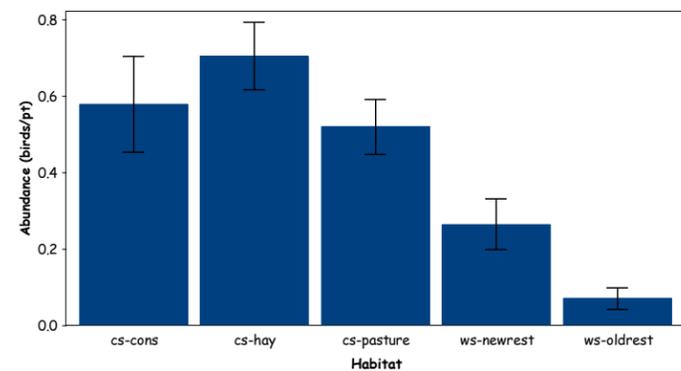
HABITAT

Dickcissels breed in extensive grasslands, meadows and abandoned fields, especially those dominated by forbs.¹² At Midewin they are most common in cool-season hayfields, and other cool-season grass habitats, and least common in warm-season restorations (see Figure).¹⁶ Their nest success in northern Illinois tends to be higher in areas with little forest cover and more grass in the surrounding landscape.¹⁸ Rates of brown-headed cowbird nest parasitism for dickcissel nests are higher in landscapes with abundant row crops and forest and little grassland.¹⁸ Species most often found in association with dickcissels at Midewin are eastern meadowlarks, red-winged blackbirds and grasshopper sparrow.⁴⁹

MANAGEMENT RECOMMENDATIONS

Keys to management for dickcissels include providing habitat with dense, moderate to tall vegetation, particularly with some forbs, and moderately deep litter and controlling succession.⁵¹

Dickcissel Habitat Association¹⁶



Future of Birds at Midewin



GREATER PRAIRIE-CHICKEN

GRASSLANDS & GRASSLAND BIRDS

Without question, the greatest opportunity for birds at Midewin lies in the creation of large unfragmented grasslands. Many grassland birds of the greatest local,⁵² regional,⁹ and continental⁵³ concern share the trait of sensitivity to habitat fragmentation.⁵⁴ Henslow's sparrow and bobolink, two species of continental concern, are relatively common in grasslands at Midewin and are both known to prefer large grasslands.¹⁴ Regional grassland species of concern such as upland sandpiper and northern harrier also would benefit from the creation, restoration and maintenance of large grassland areas.

With more than 19,000 acres under a single ownership, Midewin presents what may be a one-of-a-kind opportunity to create grasslands of unparalleled size and significance in Illinois and the Midwest region. Further, the site already is home to large populations of many of these area-sensitive species of concern, and colonization of any newly created grasslands at Midewin would be of immediate benefit to vulnerable populations. It is reasonable to assume that newly created grasslands at Midewin, with the proper habitat characteristics, would be readily colonized and used by high priority bird species.

The Chicago Wilderness Biodiversity Plan also recognizes the importance of large grassland areas for species of concern. The Biodiversity Plan states that "Of all the elements of the prairie community, the grassland birds are the most area-sensitive and are declining regionally and nationally. Focusing on the needs of these species will be necessary to fulfill this plan's goals for prairies. The region is fortunate to have Midewin, an exceptionally large, protected grassland site. Efforts to manage and restore the most area-dependent species should focus on this site."⁵⁵ Midewin is also an Audubon Global Important Bird Area⁵⁶ and a part of the Midewin-Des Plaines-Goose Lake Prairie Conservation Opportunity Area in the Illinois Wildlife Action Plan.⁵⁷ Midewin's designation as an Important Bird Area,⁵⁶ and its inclusion in the Chicago Wilderness Biodiversity Plan and the Illinois Wildlife Action Plan, all underscore the significance of Midewin to regional efforts to protect grassland birds.

The current Prairie Plan calls for the establishment of at least 10,260 acres of unfragmented grasslands, including at least two tracts in excess of 3,000 acres each.³ This should only be the beginning as larger grasslands could be achieved in future iterations of the Prairie Plan and a larger acreage of unfragmented grasslands should be sought in order to more fully achieve the site's incredible potential in this area.

Restoring large unfragmented areas at Midewin would also help mitigate climate-related impacts to grasslands in Illinois.⁵⁸ Habitat loss and degradation remains the primary threat to grassland dependent birds in Illinois, but climate change could accentuate the stress that habitat loss causes on grassland wildlife.⁵⁸ An adaptive approach that includes continued protection, restoration, active management, and monitoring of large grasslands will be needed to address climate related effects on grasslands in the state.⁵⁸ And as a result, local, state and federal agencies should continue to prioritize prairie conservation and restoration in order to provide critical habitat to grassland dependent wildlife, but also to provide opportunities to refine techniques needed to successfully restore prairie.⁵⁸

Creating large unfragmented grasslands at Midewin will require connecting existing large open grasslands and creating new grasslands to expand the sizes of current fields. These efforts also should include decommissioning unneeded roads, removing hedgerows and fencerows, and clearing open fields of woody vegetation.³

The Henslow's sparrow is a grassland species of national concern⁵³ that is relatively common at Midewin. Conservation efforts at Midewin could advance national conservation goals for the species which include: promoting the protection, restoration, and management of Henslow's sparrow breeding habitat on public lands; maximizing management opportunities on public land; and using successful examples of Henslow's sparrow management to educate public land managers in high priority landscapes about management and restoration strategies that benefit the Henslow's sparrow.⁵⁹ As mentioned earlier, a rotational management system will be required where areas targeted for this species are burned on a 3- to 4-year rotation. Preventing woody encroachment in Midewin grasslands also will be essential for maintaining populations of Henslow's sparrows and other grassland birds. The effects of woody encroachment on Henslow's sparrows was recently documented at Big Oaks National Wildlife Refuge in Indiana, where grassland habitat declined from 4,695 acres in 2005 to approximately 173 acres in 2007. The estimated breeding population of Henslow's sparrows on the refuge declined from a high of more than 1,100 singing males to 400 in response to the woody encroachment.⁶⁰

The bobolink is also a species of national concern⁵³ and a number of measures that could be taken at Midewin would support the strategies of the full life cycle bobolink conservation plan.⁶¹ Strategies include supporting grazing systems that provide the vegetative structure and levels of disturbance that are compatible with successful grassland bird nesting, using prescribed fire to prevent succession of grasslands into shrublands, maintaining hay and pasture, and, given Midewin's urban setting, strengthening and disseminating messages about the value of grasslands for human health.

Efforts to create very large unfragmented habitat at Midewin for species like upland sandpiper could also provide benefits to other area-sensitive species of concern, such as the Illinois-endangered greater prairie-chicken. The Illinois greater prairie-chicken recovery plan identifies establishing additional, geographically separate, prairie-chicken populations as an objective to upgrade the prairie-chicken from state-endangered to state-threatened.⁶²

The prairie-chicken plan recognizes that "...the eastern portion of Midewin National Tallgrass Prairie may have good potential for prairie-chicken reintroduction when grassland restoration and wooded fence line removal is complete." The prairie-chicken plan also identifies that "...more grazing throughout the macrosite is necessary to create vegetation structure suitable for prairie-chickens" at Midewin.⁶²



KING RAIL

WETLANDS & WETLAND BIRDS

Restoration of wet tallgrass prairie, sedge meadow and marsh habitats at Midewin will continue to benefit a variety of wetland birds that are also of local,⁵² regional,⁹ and national concern.⁶³

American bittern, least bittern and king rail are species of national and regional conservation concern that have high potential for expanded populations as wetland restoration at Midewin continues. Ongoing restoration activities at Midewin which have restored former wetlands drained by field tiles and drainage ditches, such as the South Patrol Road, Blodgett Road, Drummond and the Middle Grant Creek restoration projects, are providing habitat for king rails, American bitterns and least bitterns.²⁴ As these

wetland habitats expand and mature, use by these species should continue to increase. Birds of local concern, such as pied-billed grebe, Wilson's snipe, marsh wren, Virginia rail and sora, should also benefit from these wetland restorations.



LEAST BITTERN

As with the grassland areas, woody encroachment into wetland areas also must be strongly managed against. Keys to managing Midewin's wetlands for birds of concern include maintaining a complex of wetland habitats including densely vegetated sites for migration and nesting periods, and drying swales for brood rearing.⁶⁴ Management activities will include prescribed fire, mowing and brush cutting. Management should also continue to focus on maintaining existing natural wetlands with emergent aquatic vegetation, including cattails, bulrushes, bur-reeds and smartweeds (*Polygonum* spp.) to benefit least bitterns.

American bitterns are state endangered and are reliably known to occur at few locations in Illinois. American bitterns have been observed at Midewin during the breeding season in recent years, and it is believed that they have nested on site.²⁴ It is expected that the wetland and wet-prairie restorations at Midewin will continue to provide good nesting habitat for American bitterns and that its population at the site will increase in the future. King rail nesting at Midewin was first documented in 1993 in wetlands associated with the Drummond Dolomite Prairie.⁴ Since then, nesting likely occurred in wetlands on the west side in 2005 and 2006⁶⁵ and individuals have been heard in the Doyle Lake area, South Patrol Road²¹ and the Route 66 prairie restoration area.⁶⁶ The least bittern is a threatened species in Illinois and was found nesting at the Blodgett Road wetlands in 1999 and 2000. The yearly use of Midewin by least bitterns is unknown, but it is assumed that they are regular breeders that occur at low numbers on the site. Monitoring of the use of these restored wetlands by rails and bitterns can document the success of these wetland restorations.

Whooping cranes from the reintroduced population in Wisconsin seen on the site are considered an experimental non-essential population by the USFWS. For consultation purposes with the USFWS, experimental, nonessential populations of endangered species are treated as threatened species on public lands, such as Midewin. Sandhill cranes are also appearing in Midewin's wetlands. Successful colonization and breeding success by sandhill cranes could indicate potential for eventual whooping crane use of the site. As such, the status and nesting success of sandhill cranes should be monitored.

SHRUBLANDS & SHRUBLAND BIRDS

Midewin also has good potential for shrubland birds. Many shrubland birds known to occur at Midewin are also of conservation concern. The black-billed cuckoo has been identified as a species of national concern,⁵³ and the loggerhead shrike is a species of regional concern.⁹ Another eight shrubland birds occurring at Midewin have been identified as of local concern by the Bird Conservation Network (northern bobwhite, brown thrasher, willow flycatcher, field sparrow, yellow-breasted chat, Bell's vireo, blue-winged warbler and eastern kingbird).⁵²

The 2006 Chicago Wilderness Shrubland Bird Blitz found Midewin to be one of the best areas in northeastern Illinois for overall shrubland bird abundance. Midewin is the only place in northeastern Illinois that supports a breeding population of loggerhead shrikes. All 10 of the Bird Conservation Network⁵² shrubland birds of concern are also known to breed at Midewin.

Although Midewin supports both the region's largest grassland and shrubland bird populations, balancing the habitat needs of grassland and shrubland birds at Midewin will require careful consideration. Data from studies in Illinois grasslands show that many grassland birds, such as the bobolink, are most common in areas that do not have any shrubland birds. In fact, the presence of a single shrubland bird in an area significantly lowers bobolink abundance.⁶⁷ Similar reductions were observed for grasshopper sparrow, dickcissel and savannah sparrow where also just the presence of a single shrubland bird significantly reduced abundance compared to areas

without any shrubland birds.⁶⁷ Henslow's sparrows are one species of grassland bird that appears to be fairly tolerant of the presence of shrubland birds and, unlike most other grassland birds, its abundance appears to be unaffected by the presence of shrubland birds in the area.

Likewise, many shrubland birds, such as the Bell's vireo, reach their highest abundance in areas with few grassland birds and their abundance declines significantly as more grassland birds are found in the area.⁶⁷ Among shrubland birds in Illinois, a similar pattern of significantly declining abundance with increasing grassland bird abundance was found in many other species, including American goldfinch, common yellowthroat, field sparrow, gray catbird, indigo bunting, willow flycatcher, yellow-breasted chat and yellow warbler.⁶⁷ Like grassland birds, a few shrubland birds appear to be little affected by the presence of grassland birds in the area. Eastern kingbird and brown thrasher are the two species of shrubland birds that appear to be most compatible with grassland bird management and will likely occur in the scattered shrubs left on the margins of the large grassland areas at Midewin. Keeping the amount of woody vegetation within grassland areas at Midewin low is essential for maintaining large and productive populations of grassland birds, and success at this will require significant and constant attention within the site's grasslands. Management within the site's grasslands will run counter to the habitat needs of many shrubland birds. This, along with the observation that many grassland birds of highest conservation are most abundant in areas with no shrubland birds, along with the observation that many shrubland birds of highest conservation concern are most abundant in areas with no grassland birds, strongly suggests that management for these two groups of birds should be targeted in distinct areas and that management should not try to provide both grassland and shrubland habitat in the same fields.

As such, areas targeted for shrubland birds should be separate and distinct from areas that target grassland birds. This need for separation is the reason that management for shrubland birds that prefer relatively 'open areas,' such as the loggerhead shrike, is targeted at the periphery of fields being managed for grassland birds. Given the tendency for natural succession to drive habitats towards 'woody,' the needs of shrubland birds can likely be maintained relatively easily in smaller sections of the site, along edges and other areas not targeted for large unfragmented grasslands. The main issue in these areas will be keeping such areas from getting too dense to the point that the habitat moves beyond shrubland into more of a woodland or forest condition. Prescribed fire, mowing and selective cutting will be needed to keep the proper habitat structure intact.



SAVANNAS & SAVANNA BIRDS

Midewin has limited opportunity for savanna restoration with a site acreage goal of just 490 acres.³ The red-headed woodpecker is the primary bird of concern in open woodlands and savannas. Although red-headed woodpeckers have been known at Midewin for years and are assumed to nest there,⁶⁵ their status remains poorly known. It is believed the population is small. Red-headed woodpeckers are regularly seen in Prairie Creek Woods and Jackson Creek Woods. They can also be seen periodically in other wooded areas of Midewin and at the Abraham Lincoln Cemetery and adjacent Joliet Army Training Area, which is a planned addition to Midewin. Star Grove is another likely habitat for red-headed woodpeckers. The status of red-headed woodpeckers in Midewin's savanna habitats should continue to be monitored.

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between 1995-2014 by James R. Herkert. The analysis involved assessing the association between individual species abundance at a given point with the total number of grassland or shrubland birds also detected at the same point in the same year. Individual grassland bird species abundance was assessed as a function of the total abundance of all shrubland birds detected at the point in the same year. Individual shrubland bird species abundance was assessed in relation to the total number of grassland birds detected at the point. ANOVA was used to test for significant differences among abundance classes. A Tukey HSD all-pairwise comparison was used to test for significant differences among class. Bird habitat classifications were based on Herkert, J.R., 1995, *American Midland Naturalist* 134:41-50.

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postscript

The story of our tallgrass prairies is one of too much loss, with well over 99% of the Prairie State's native grasslands destroyed by plows and pavement. Out of necessity, conservationists in the Midwest have had plenty of practice in re-creating and restoring prairies. Midewin is home to some beautiful, high-diversity successes, with more being nurtured along.

Grassland birds had a divergent history from the native prairies because of their adaptability to grasslands of different composition. Thanks to early surveys by Alfred Gross and Stephen Forbes in the early 1900s and Richard and Jean Graber in the 1950s, we know grassland birds made an early and successful transition to the pastures and hayfields that replaced many prairies. Most remained abundant for nearly a century after the prairie was largely destroyed. The North American Breeding Bird Survey has documented the sharp decline of bobolinks, grasshopper sparrows and other grassland birds over the last 50 years, an era which largely aligns with the accelerated conversion of hayfields and pastures to row crops. Henslow's sparrows illustrate the trend in reverse: when the Conservation Reserve Program made a rare grassland type—ungrazed, unmowed and unburned—more widespread, a rare grassland bird made a remarkable recovery.

One challenge is that as we have re-created prairies, the return of grasslands birds has been a trickle; certainly not the flood needed to offset population losses of recent decades. While the plant diversity of restored prairies is vital, grassland birds remind us that other factors make a complete ecosystem: vegetation structure varying from short to tall and thin to dense, processes of fire and grazing that provide a mosaic of habitats, and scale. So many species need hundreds of acres and they prefer open horizons where they're not boxed in by encroaching trees and structures. As *Birds of Midewin National Tallgrass Prairie* makes clear, one restoration and management prescription will not conserve all grassland birds. Fortunately, Midewin is large enough to provide thousands of acres of vital grassland habitat, as well as adjacent and interspersed wetlands, shrublands and savannas.

Acknowledging there will be changes in climate, land use and agricultural practices, and in species distributions, landscape-scale places such as Midewin are vital to providing grassland birds and a myriad of species with places to adapt and thrive. These places also inspire us to dream big dreams, like reintroducing the signature bird of the tallgrass prairie, the greater prairie-chicken! Such plans have a chance of moving towards reality because a large area has been dedicated to conserving grassland birds.

—Jeff Walk,
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