

ILLINOIS NATURAL HISTORY SURVEY

The 2007 Survey of Breeding Birds at Prairie Ridge State Natural Area

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Summary

Prairie Ridge State Natural Area (SNA) is a network of restored grassland habitat in the Southern Till Plain natural division of south-central Illinois, consisting of two distinct units in Jasper (1,180 ha) and Marion (525 ha) counties. Prairie Ridge SNA hosts a diverse grassland bird community, including the last remnant flocks of greater prairie-chickens in Illinois. Surveys in June 2007 indicated the most common grassland nesting birds are red-winged blackbird, dickcissel, eastern meadowlark, Henslow's sparrow, northern bobwhite and common yellowthroat. Abundances were similar to those recorded in 2004, 2005, and 2006.

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Methods

Survey points have been systematically established throughout Prairie Ridge SNA, at least 400 m apart, and have been sampled annually since 2004. As new lands are added to the site, additional points are established. Points are sampled on mornings in June with satisfactory weather conditions (low wind, free of precipitation), beginning at one-half hour before sunrise. When possible, the same observers sample the same points among years, and sample points in the same or similar order. Observers record all birds seen and heard in distance intervals of <25 m, 25 to 50 m, 50 to 100 m, and >100 m for 5 minutes. Aerialists and birds flying though the area but not nesting in the immediate area (e.g., great blue herons) are recorded separately.

Densities of individual species are estimated based on birds observed within 100 m of point counts, and presented as birds per 100 ha. The total number of birds observed on point counts (at all distances) may include "double-counted" individuals of some species that may be seen or heard beyond 400 m and noted at multiple points (e.g., northern bobwhite).

Results & Discussion

Four observers sampled 51 points on 12 June 2007 and 25 points on 13 June 2007 at the Jasper and Marion county units of Prairie Ridge SNA, respectively. Weather conditions were excellent on both mornings (dawn temperatures near 60 degrees F, clear skies, and calm to light winds), and surveys were complete by 0830 AM (12 June) and 0730 AM (13 June).

Jasper County Unit. Fifty-two (52) species were recorded during point counts (Appendix I). Species with an average of one or more individuals recorded per point (and total number recorded) included: red-winged blackbird (487), common grackle (226; mostly fly-by observations), eastern meadowlark (219), dickcissel (159), northern bobwhite (134), European starling (86; mostly fly-by observations), Henslow's sparrows (63), and mourning doves (57; mostly fly-by observations). Population densities were estimated for 12 grassland-nesting species (Table 1).

Among the threatened and endangered species, 63 Henslow's sparrows were tallied on point-counts. Upland sandpipers (6 adults, 5 young) were recorded from 3 areas. Greater prairie-chickens, including one brood, were observed between points in two locations. King rails, northern harriers, short-eared owls, and loggerhead shrikes were not recorded during or between points in 2007, but have been observed in one or more previous years.

Marion County Unit. Forty-four (44) species were recorded during point counts (Appendix I). Species with an average of one or more individuals recorded per point (and total number recorded) included: red-winged blackbird (211), eastern meadowlark (146), dickcissel (125), northern bobwhite (86), common grackle (76; mostly fly-by observations), Henslow's sparrow (33), and mourning dove (28; mostly fly-by observations). Population densities were estimated for 12 grassland-nesting species (Table 1).

Among the threatened and endangered species, 33 Henslow's sparrows were tallied on point-counts. An upland sandpiper was noted on a single point, and a female northern harrier (likely the same bird) was recorded between points by two observers. Greater prairie-chickens

were heard booming in three areas, and noted on several points. King rails, American bitterns, and loggerhead shrikes were not recorded during or between points in 2007, but have been observed in one or more previous years.

Table 1. Total number of birds observed, 2007 density estimates, and 2004-2007 mean densities for the 12 most commonly-encountered grassland-nesting birds at Prairie Ridge SNA, Jasper County, Illinois.

Species	Total # Birds Observed	2007 Density (per 100 ha)	Mean Density 2004-2007 (per 100 ha)
Red-winged blackbird	487	198.6	264.7
Eastern meadowlark	219	111.8	104.5
Dickcissel	159	90.5	107.8
Northern bobwhite	134	37.5	27.9
Henslow's sparrow	63	38.1	30.5
Common yellowthroat	43	22.4	23.9
Killdeer	31	16.2	11.3
Grasshopper sparrow	23	14.4	14.4
Field sparrow	23	13.1	12.6
Song sparrow	19	8.7	7.9
Indigo bunting	18	7.5	4.8
Sedge wren	3	1.9	7.1

Table 2. Total number of birds observed, 2006 and 2005 density estimates, and 2006 site population estimates for the 10 most commonly-encountered grassland-nesting birds at Prairie Ridge SNA, Marion County, Illinois.

Species	Total # Birds Observed	2007 Density (per 100 ha)	Mean Density 2004-2007 (per 100 ha)
Red-winged blackbird	211	192.4	264.8
Eastern meadowlark	146	129.9	114.7
Dickcissel	125	137.6	155.8
Northern bobwhite	86	30.6	26.1
Henslow's sparrow	33	40.8	39.0
Common yellowthroat	12	15.3	16.8
Field sparrow	10	11.5	8.2
Killdeer	5	4.2	6.4
Grasshopper sparrow	4	5.1	8.4
Indigo bunting	4	5.1	3.5
Song sparrow	4	5.1	4.5
Sedge wren	1	1.3	7.4

Appendix I. Species recorded on point counts at Prairie Ridge SNA, June 2007. (X's indicate units within which each species was observed.)

Species	Jasper	Marion
Mallard	X	
Ring-necked Pheasant		X
Greater Prairie-Chicken		X
Northern Bobwhite	X	X
Wild Turkey	X	
Great Blue Heron	X	
Green Heron		X
Cooper's Hawk		X
Red-tailed Hawk	X	X
American Kestrel		X
Killdeer	X	X
Upland Sandpiper	X	X
Pectoral Sandpiper	X	
Rock Pigeon		X
Mourning Dove	X	X
Yellow-billed Cuckoo	X	
Great Horned Owl	X	
Chimney Swift	X	
Red-bellied Woodpecker	X	X
Downy Woodpecker	X	
Northern Flicker	X	
Eastern Wood-Pewee	X	
Great Crested Flycatcher		X
Willow Flycatcher	X	X
Eastern Kingbird	X	X
Bell's Vireo		X
Warbling Vireo	X	
Blue Jay	X	
American Crow	X	X
Horned Lark	X	X
N. Rough-winged Swallow		X

Species	Jasper	Marion
Barn Swallow	X	X
Tufted Titmouse	X	X
Carolina Wren	X	
House Wren	X	
Sedge Wren	X	X
Blue-gray Gnatcatcher	X	
Eastern Bluebird		X
American Robin	X	
Gray Catbird	X	X
Northern Mockingbird	X	X
Brown Thrasher	X	X
European Starling	X	X
Common Yellowthroat	X	X
Yellow-breasted Chat	X	
Eastern Towhee	X	X
Field Sparrow	X	X
Grasshopper Sparrow	X	X
Henslow's Sparrow	X	X
Song Sparrow	X	X
Northern Cardinal	X	X
Rose-breasted Grosbeak	X	X
Blue Grosbeak	X	X
Indigo Bunting	X	X
Dickcissel	X	X
Red-winged Blackbird	X	X
Eastern Meadowlark	X	X
Common Grackle	X	X
Brown-headed Cowbird	X	X
Orchard Oriole	X	X
Baltimore Oriole	X	
American Goldfinch	X	X