

Final Report: Bird Point Counts at Neal Smith National Wildlife Refuge, Summer of 2000

Bird point counts have been done at Neal Smith National Wildlife Refuge (NSNWR) for the last 6 years. Liessa Thomas began the point counts as part of her thesis work to document avian response to large scale prairie restoration. There is little existing documentation that records this (Thomas) and so the point counts continued after her graduation. The largest change in the landscape over the years was the conversion of hundreds of acres of row crop to native prairie; however, another plant community being developed is a savanna. For the most part, remnant grass areas, woody areas, and riparian areas have been left undisturbed.

The methods used to do the counts were those listed in Liessa's thesis. One modification this year was to do just one count from each point. In past years there were 3 counts done from each point. For economic and statistical reasons, it was decided that only one count from each point was necessary.

Particular to the summer 2000 set of data are two other modifications. A period at the end of the 4 character AOU code on the data sheet meant the bird was counted during the second half of the survey (5-10 minutes or T2). Also, an AOU code was created to account for unidentified meadowlarks. It was UNME for 'unknown meadowlark'.

The counts were done between the dates of June 13th and July 14th. The last 2 days, July 13th and 14th, counts were done in the bison confinement. The daily time frame counts could be done were from about 5:40 a.m. (half hour before sunrise) to 10 a.m. There were 3 occasions where the weather either caused the counts for the day to be terminated completely or concluded well before the 10a.m. finish time. One cause was rain, and the other 2 were due to heavy winds. Steady winds blowing at 12mph or greater prevented counts from being done. The winds were gauged by observing American flags in and around the town of Roland, Iowa. It takes a steady wind of about 12mph to blow and keep a flag flying straight out.

There were a total of 54 species of birds identified on the point counts (see Table 1). Species associated with edge habitat were the most prevalent. The most common species was the red-winged blackbird (RWBL) which appeared on 51 of the counts and had a

total of 143 birds, followed by the common yellowthroat (COYE), 49,69 and the American goldfinch (AMGO), 43,68. There were 10 species who appeared only on a single count. They were the American crow (AMCR), northern bobwhite (BOBW), cliff swallow (CLSW), eastern phoebe (EAPH), great-crested flycatcher (GCFL), mallard (MALL), purple martin (PUMA), rough-winged swallow (RWSW), tree swallow (TRES), and upland sandpiper (UPSA). It's important to note that many of these species were observed traveling between points and so appearing on a single count doesn't necessarily mean that all of these species are uncommon.

The breakdown of the 4 major vegetation types and the number of counts per vegetation type are as follows: Herbaceous-36, Riparian-29, Woody-23, Crop-22 for a total of 110 point counts. The Riparian habitats consistently had the highest number of bird observations and the species richness. The crop had the lowest numbers in both bird observations and species richness. There were 5 points that had NONE recorded in the data as there were no birds observed within the 50 meters during the 10 minute count. Four of these were in crop fields (points 127,134, 137, 139), and one was in a herbaceous field (point 7).

In general, the bird numbers seemed to be lower than previous years counts. Fledgling birds were extremely rare suggesting that reproduction, and least to mid July, was low. From personal observations, the later counts from the summer of 1996 had many fledged birds. There were numerous young red-winged blackbirds and dickcissels flying about. There were several prescribed burnings this past spring and perhaps that delayed the bird community, in particular edge and grass species, from nesting early on the refuge.

An important observation from this years counts was the discovery of Henslow's sparrows (HESP) on the north end of the refuge. These observations near highway 163 (points 12 and 17) were the first recorded of HESP on the refuge outside the bison confinement. HESP is a species of special concern nationally and is a species very specific to vast tracts of grassland. If this species continues to appear on points spread throughout the refuge and not restricted to the bison confinement, then this could be a positive indicator for the general good condition of the prairie restoration.

REFERENCE:

Thomas, Liessa H., E.E. Klaas. Breeding Birds of a Large-Scale Tallgrass Prairie Restoration in Iowa: Monitoring Abundance and Frequency of Occurrence. Master's Thesis, Iowa State University, Ames. 1999.

TABLE 1: The list of species, number of points the species was observed, and the total number of birds for that species from the year 2000 NSNWR bird point counts.

SPECIES	AOU CODE	# POINTS OBS.	TOTAL #
American Crow	AMCR	1	1
American Goldfinch	AMGO	43	68
American Robin	AMRO	30	39
Barn Swallow	BARS	6	6
Black-capped Chickadee	BCCH	7	8
Brown-headed Cowbird	BHCO	20	40
Blue Jay	BLJA	11	18
Bobolink	BOBO	3	3
Northern Bobwhite	BOBW	1	1
Brown Thrasher	BRTH	6	6
Cliff Swallow	CLSW	1	1
Common Grackle	COGR	8	12
Common Yellowthroat	COYE	49	69
Dickcissel	DICK	22	30
Downy Woodpecker	DOWO	14	14
Eastern Bluebird	EABL	2	2
Eastern Kingbird	EAKI	8	11
Eastern Meadowlark	EAME	4	4
Eastern Phoebe	EAPH	1	1
Eastern Wood-Pee-wee	EAWP	3	3
Tufted Titmouse	ETTI	2	2
European Starling	EUST	2	2
Field Sparrow	FISP	9	11
Great Crested Flycatcher	GCFL	1	1
Gray Catbird	GRCA	35	49
Grasshopper Sparrow	GRSP	10	12
Hairy Woodpecker	HAWO	2	2
Henslow's Sparrow	HESP	3	4
House Wren	HOWR	30	50
Indigo Bunting	INBU	14	16
Killdeer	KILL	7	8
Mallard	MALL	1	1
Mourning Dove	MODO	29	37
Northern Cardinal	NOCA	27	38
Northern Flicker	NOFL	6	6
Northern Oriole	NOOR	12	13
Orchard Oriole	OROR	3	3
Purple Martin	PUMA	1	1
Rose-breasted Grosbeak	RBGR	15	16
Red-bellied Woodpecker	RBWO	7	7
Red-eyed Vireo	REVI	3	3
Red-headed Woodpecker	RHWO	4	4
Ring-necked Pheasant	RNPH	5	11
Red-tailed Hawk	RTHA	2	2
Red-winged Blackbird	RWBL	51	143
Rough-winged Swallow	RWSW	1	1
Sedge Wren	SEWR	12	16

Song Sparrow	SOSP	21	30
Tree Swallow	TRES	1	1
Unknown Meadowlark	UNME	2	2
Upland Sandpiper	UPSA	1	1
Vesper Sparrow	VESP	9	10
White-breasted Nuthatch	WBNU	3	4
Willow Flycatcher	WIFL	7	10
Yellow-billed Cuckoo	YBCU	5	5
Yellow Warbler	YWAR	5	5