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Historical and Recent Records and First Nest Records of Henslow's Sparrow in North Dakota

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ABSTRACT -- The northwestern limit of the Henslow's sparrow (*Ammodramus henslowii*) breeding distribution occurs in southern Minnesota and central Wisconsin. In North Dakota, observations of Henslow's sparrows are reported infrequently, and there are no published nest records in the state. Herein, we summarize and review previous reports of Henslow's sparrows in North Dakota and document the first two nest records of Henslow's sparrow in the state.

Key words: *Ammodramus henslowii*, Henslow's sparrow, nest records, North Dakota, status.

The Henslow's sparrow (*Ammodramus henslowii*) is a shy and secretive emberizid that breeds in North American grassland habitats. The species requires tall, dense herbaceous vegetation with well-developed litter, standing residual vegetation, substrates for song perches, and little or no woody vegetation (Pruitt 1996, Rising 1996, Herkert 2001, Herkert et al. 2002). The species tolerates a wide variety of moisture regimes, but moisture probably is secondary to vegetation structure as a habitat requirement (Pruitt 1996). The Henslow's sparrow breeds in the northeastern United States and extreme southern Ontario, and reaches the northwestern limits of its breeding distribution in southern Minnesota and central Wisconsin (Pruitt 1996, Herkert et al. 2002). Of the two subspecies, the western subspecies (*A. h. henslowii*) occurs over most of the species' breeding range. The eastern subspecies (*A. h. susurrans*) now breeds only locally along the Atlantic

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Coast. Our objectives were to summarize the historical and recent records of Henslow's sparrow in North Dakota and to document the first two nest records in the state.

HISTORICAL AND RECENT RECORDS IN NORTH DAKOTA

Henslow's sparrows have been sighted sporadically in North Dakota since the mid-1800's (Table 1). There are 24 records of Henslow's sparrows in North Dakota, plus several records without specific reference to date. The historical breeding status of the Henslow's sparrow in North Dakota is unclear, largely because the validity of several early records of this species are questionable or unsubstantiated. J. G. Bell, the taxidermist on J. J. Audubon's expedition up the Missouri River in 1843, shot three birds on 29 July 1843 that resembled Henslow's sparrows (McDermott 1951). Coues (1897 in Wood 1923) was unable to verify the identification of those birds. The Henslow's sparrow was listed by Abbott (1880) as occurring in Pembina, Dakota Territory, in 1879. However, Hyde (1939) stated that a letter written by W. Stone discounted Abbott's assertion. Stone wrote that no specimens of Henslow's sparrows from North Dakota were in Abbott's collection of North American birds that was donated to the Academy of Natural Sciences of Philadelphia in 1887, and that Abbott had not disposed of any specimens. Brewster (1891) suggested that the western subspecies likely bred in the Dakota Territory and the eastern edge of the Great Plains, but he did not mention specific locations in North Dakota. Based on observations by several prominent ornithologists, Schmidt (1904) considered the species a summer resident that breeds in North Dakota. Cooke (1910) listed two spring arrival dates (2 May 1904 and 8 May 1905) for the species in North Dakota, but provided no supporting details. Williams (1926) collected one purported Henslow's sparrow on 30 April 1922 and another on 23 May 1923 at Grafton in Walsh County. The 1923 specimen was sent to N. A. Wood at the University of Michigan Museum of Zoology in Ann Arbor, Michigan. However, the specimen at the museum was that of the closely related Nelson's sharp-tailed sparrow (*Ammodramus nelsoni*) (Hyde 1939). Based on this misidentification, Hyde (1939) also rejected Williams' 1922 record of a Henslow's sparrow. Notes on the bird observations of H. C. Kyllingstad indicated that he observed a Henslow's sparrow in Valley City in Barnes County on 2 June 1930, and on several other dates, although those dates were not given (R. E. Martin, North Dakota Birding Society, Sawyer, North Dakota, personal communication). Graber (1968) indicated that the western subspecies was casual near Kenmare in Ward County in northwestern North Dakota. Smith (1968) reported two spring arrival dates (30 April in the Red River Valley and 27 May in McKenzie County) and one fall departure date (29 October in McKenzie County) for the eastern subspecies. These arrival and departure dates for the eastern subspecies

Table 1. Records of Henslow's sparrow in North Dakota.

Date	Location	Observer	Number observed	Source
29 July 1843	Fort Union, Dakota Territory (present-day Williams County)	J. G. Bell	three	Wood 1923, McDermott 1951
July 1879	Pembina, Dakota Territory (present-day Pembina County)	W. L. Abbott	unknown	Abbott 1880
2 May 1904	Larimore, Grand Forks County	unknown	unknown	Cooke 1910
8 May 1905	Larimore, Grand Forks County	unknown	unknown	Cooke 1910
30 April 1922	Grafton, Walsh County	H. V. Williams	one	Williams 1926
23 May 1923	Grafton, Walsh County	H. V. Williams	one	Williams 1926
20 May 1924	McKenzie County	A. Larson	unknown	Larson 1928
2 June 1930	Valley City, Barnes County	H. C. Kyllingstad	unknown	R. E. Martin[1]
25 October 1947	western Dickey County	J. D. Webster	one	Webster 1952
25 May 1948	Spiritwood Lake, Stutsman County	J. D. Webster	two	Webster 1952
22 September 1962	south of Kenmare, Ward County	A. M. Gammel, L. Mackenzie	one	Nero 1963
11-15 September 1968	Burleigh County	K. L. Hansen, G. M. Johnson	one after-hatch year (banded)	G. A. Knutsen[2] and M. K. Klimkiewicz[3]
5 July 1978	Sheyenne National Grassland, Ransom County, T134N, R53W	C. A. Faanes	one male	Faanes 1981

Table 1, continued.

Date	Location	Observer	Number observed	Source
9, 15 June 1981	near Woodworth, Stutsman County, T142N, R68W	R. B. Renken	one male	Renken and Dinsmore 1982
5-18 July 1995	J. Clark Salyer National Wildlife Refuge, McHenry County, T158N, R76W	G. B. Berkey, T. A. Grant	one male	T. A. Grant[4]
Mid-July - early-August 1997	near Woodworth, Stutsman County, T144N, R67W	N. A. Buskness	one male	N. A. Buskness[2]; also see Schneider (1998)
3-13 June 1998	Lostwood National Wildlife Refuge, Burke County, T159N, R91W	R. K. Murphy	one male	Martin 1998
4-9 June 1999	Grand Forks County, T152N, R51W	D. O. Lambeth	one	D. O. Lambeth[5]; also see Martin 1999
June-July 2000[6]	Sheyenne National Grassland, Ransom County, T135N, R54W	S. S. Patterson, K. L. Phelps, D. M. Scheiman	three males	Martin 2000
May-July 2001	Sheyenne National Grassland, Richland County, T134N, R52W	J. A. Shaffer, F. Vanhove	one breeding pair and nest	our paper
late June 2001[7]	11 km south of Tappen, Kidder County, T138N, R71W	K. Eckert and M. Iliff	one male	K. Eckert[8] and M. Iliff[8]
2 July - 15 August 2001[9]	5 km southeast of Robinson, Kidder County, T142N, R71W	L. D. Igl	one breeding pair and nest	our paper

Table 1, continued.

Date	Location	Observer	Number observed	Source
22 June 2002	1 km south of Hamar, Eddy County, T150N, R62W	L. D. Igl	one male	our paper
27 June - 3 July 2002	21 km north of Steele, Kidder County, T141N, R71W	L. D. Igl	two males	our paper

[1]North Dakota Birding Society, Sawyer, North Dakota, personal communication.
[2]U.S. Fish and Wildlife Service, Moffit, North Dakota, personal communication.
[3]U.S. Geological Survey, Laurel, Maryland, personal communication.
[4]U.S. Fish and Wildlife Service, Upham, North Dakota, personal communication.
[5]University of North Dakota, Grand Forks, North Dakota, personal communication.
[6]One male also observed by J. A. Shaffer on 29 June 2000.
[7]Also observed by L. D. Igl on 27 July 2001.
[8]Victor Emanuel Nature Tours, Austin, Texas, personal communication.
[9]Also observed by R. E. Martin and D. N. Svingen on 12 August.

are doubtful, given that the eastern subspecies breeds along the Atlantic Coast and likely would not migrate through North Dakota.

Over half of the Henslow's sparrow records in North Dakota have occurred since 1960 (Table 1). Several recent records involved more than one individual, and most recent records occurred during the breeding season and involved birds that were observed or present for multiple days. The Henslow's sparrow currently is not considered a breeding species in North Dakota. Faanes and Stewart (1982) listed the Henslow's sparrow as an occasional visitor (occurring every 3 to 5 years) in summer and as an accidental visitor (having occurred in the state ≤ 3 times) during fall, but they did not include the species as a breeder in the state. Berkey et al. (1994) included the Henslow's sparrow in their *Checklist of North Dakota Birds* but did not recognize it as a breeding species, despite several sporadic records of this species between late April and late October.

BREEDING RECORDS IN NORTH DAKOTA

In 2001, we recorded two Henslow's sparrow nests in North Dakota during two independent studies. One nest was found in Richland County, and the other nest was found in Kidder County.

Richland County -- Between 1998 and 2001, staff from Northern Prairie Wildlife Research Center (NPWRC) of the U.S. Geological Survey conducted annual surveys of breeding birds in over 40 tallgrass prairie remnants in six counties in Minnesota and North Dakota as part of a larger study examining passerine nest success in tallgrass prairie (Winter et al. 2001). During those four years, a male Henslow's sparrow was recorded once in Clay County in northwestern Minnesota in 1998 (Winter et al. 1998; Maiken Winter, State University of New York, Syracuse, New York, personal communication) and once in 1999 (JAS, personal observation). A breeding pair also was recorded in North Dakota in 2001 (our paper; Table 1). On 29 May 2001 at about 0600 CDT, JAS observed a male Henslow's sparrow singing in upland tallgrass prairie in the U.S. Forest Service's Sheyenne National Grassland, 8.8 km east of McLeod, North Dakota, in Richland County (T134N, R52W). The bird was seen and heard again the next day. On 12 June during periodic nest searches in the same 14-ha unit in which the bird survey had been conducted, a Henslow's sparrow flushed from the ground. The flush site was marked, and a bird was observed later that day singing and pursuing a female Henslow's sparrow. The male was again recorded singing on 21 and 22 June. On 24 June, two Henslow's sparrows were flushed near the marked site. A nest with four young (about 2 to 3 days old) was found by FV. The nest was a cup made of litter and grass. The young were brownish-gray and downy, with a yellowish gape. The nest was visited on 26, 28, and 30 June, and 3 July. On 30 June, one nestling

was in the nest and three were outside of but near the nest. No sign of predation was evident, and the adult Henslow's sparrows were chipping nearby. By 3 July, the nest was empty, and the young and adults presumably had left the area.

The study unit was embedded within a landscape composed of tallgrass prairie, wetlands, wet meadows, cropland, shelterbelts, gravel roads, and pastures. Vegetation at and around the nest was measured on 6 July. The nest was built 7 cm above the ground in litter and grass and was estimated as 90% concealed by vegetation. Vegetation height, vegetation obstruction (Robel et al. 1970), litter depth, number of woody stems less than or equal to 30 cm and greater than 30 cm, and percent cover (Daubenmire 1959) were measured in four cardinal directions at the nest and 50 cm from the nest. Around the nest, average measurements were 53 cm vegetation height, 33 cm vegetation obstruction, 0.6 cm litter depth, and zero woody stems. Vegetation cover within the Daubenmire frame (50 cm by 25 cm) averaged 80% grass, 10% standing dead vegetation, 5% matted litter, and 5% forb. Based on four locations 50 cm from the nest, average measurements were 56 cm vegetation height, 34 cm vegetation obstruction, 0.7 cm litter depth, zero woody stems less than or equal to 30 cm, and 0.3 woody stems greater than 30 cm. Vegetation cover within the Daubenmire frame averaged 47.5% grass, 30% matted litter, 20% forb, 1.25% standing dead vegetation, and 1.25% woody debris. Distance from the nest to the nearest shrub less than or equal to 2 m tall was 1.5 m, to the nearest shrub clump was 45 m, to the nearest tree greater than 2 m tall was 100 m, and to the nearest tree clump was 250 m. Distance to the nearest habitat edge (interface between tallgrass prairie and woodland) was 250 m.

Before 2001, there were no previous records of Henslow's sparrows in Richland County (Table 1). However, male Henslow's sparrows were observed in adjacent Ransom County in 1978 and 2000. Those sightings were about 20 km northwest of the 2001 sighting.

Kidder County -- Between 1990 and 2002, staff from NPWRC conducted annual surveys of breeding birds in over 400 Conservation Reserve Program (CRP) grassland fields in nine counties in Minnesota, Montana, North Dakota, and South Dakota (Johnson and Igl 1995, 2001). During those 13 years, Henslow's sparrows were recorded three times in South Dakota (Igl 2002) and three times in North Dakota (our paper; Table 1). On 2 July 2001 at 1327 CDT, LDI observed a male Henslow's sparrow singing in a CRP grassland field in Kidder County, North Dakota, approximately 5 km southeast of Robinson (T142N, R71W). The male sang repeatedly from several exposed perches, including live plants and standing dead vegetation. Within 5 m of the male's original perch (standing dead sweet clover [*Melilotus* sp.]), LDI flushed a second adult Henslow's sparrow (presumably a female), which flew several meters before dropping into the vegetation. The pair seemed agitated and chipped emphatically from within and above the vegetation, which suggested that the pair probably was nesting in the field. LDI returned to

the site on 8 July, and observed the male singing in the same vicinity as 2 July, and flushed the female Henslow's sparrow from a well-concealed nest at the base of a clump of wheatgrass (*Agropyron* sp.).

The nest was approximately 6 cm above the ground, and loosely woven around vertical stems of wheatgrass. The nest was cup-shaped, constructed of grass, and lined with very fine grasses. Vegetative litter formed a partial dome over the nest, and vegetation height above the nest was about 40 cm. The nest contained four creamy white eggs with scattered reddish-brown blotches. On 12 July, LDI returned to the CRP field and found the nest empty and abandoned. The litter that formed the dome over the nest was pulled apart, presumably by a predator or scavenger. There were no eggs or eggshell fragments within 1 m of the nest. The male was singing in the area, and after a short search, LDI located the female approximately 50 m from the nest location. The pair's behaviors suggested that they were renesting. LDI could not locate a second nest on this or several other visits to the site between 8 July and 15 August, although both adults were observed in the area during each visit. However, R. E. Martin (personal communication) and D. N. Svingen (U.S. Forest Service, Bismarck, North Dakota, personal communication) visited the site on 12 August and observed an adult and possible juvenile Henslow's sparrow. On 15 August, the final visit to the site in 2001, LDI observed one of the adults carrying food material into dense vegetation.

The CRP field was 20.6 ha in size and was surrounded by grazed mixed-grass prairie, other CRP, and wetlands. The topography of the field was moderately rolling. The vegetation in the field was approximately 55 cm tall, and consisted of about 30% wheatgrass, 30% exposed vegetation litter, 25% smooth brome (*Bromus inermis*), 5% alfalfa (*Medicago sativa*), 5% Kentucky bluegrass (*Poa pratensis*), and 5% miscellaneous plant species. The male remained in a well-defined area, about 1.0 ha in size, throughout the observation period, although he concentrated his activities (e.g., singing, foraging, vigilance, etc.) to areas near the female or nest location. The male's territory bordered two semipermanent wetlands (totaling 0.89 ha), but neither Henslow's sparrow was observed in the wetland vegetation.

Before 2001, there were no previous records of Henslow's sparrows in Kidder County during the breeding season (Table 1). Another male Henslow's sparrow was observed in an idle grassland field in Kidder County in late June 2001, about 11 km south of Tappen and 35 km southeast of the above nest location (K. Eckert and M. Iliff, Victor Emanuel Nature Tours, Austin, Texas, personal communication; Igl, personal observation). In the following year, LDI observed two male Henslow's sparrows singing in a CRP grassland field in Kidder County, about 21 km north of Steele.

CONCLUSIONS

Because there is little baseline information against which population changes can be assessed, we do not know whether the apparent increases in Henslow's sparrow observations are the result of recent changes in the species' distribution or abundance or whether they are the result of increases in observers or coverage in North Dakota in recent years. Realistically, one would not expect large numbers of Henslow's sparrows in North Dakota, as the state is outside of the species' current breeding range (Pruitt 1996, Herkert et al. 2002). Even within the breeding range, populations are scattered and localized. Although range maps sometimes depict the breeding range as reaching northeastern South Dakota (e.g., Rising 1996), no nests were documented in South Dakota until 2001 (Igl 2002). Since 1970, nesting records of Henslow's sparrow in Minnesota were reported in only two southeastern counties (Hertzel and Janssen 1998).

In recent years, however, Henslow's sparrow populations appear to be increasing throughout the species' breeding range (Herkert et al. 2002). From 1998 to 2001, reports of Henslow's sparrows increased in Arkansas, Illinois, Indiana, Iowa, Kansas, Kentucky, Minnesota, Missouri, Nebraska, New Jersey, New York, Ohio, Pennsylvania, Wisconsin, and southern Ontario (Brock 1998, 1999, 2000; Paxton et al. 1998; Leberman 1999, 2000; Tessen 1999; Granlund 2000; Dinsmore 2001). To illustrate this increase, we reviewed reports of Henslow's sparrow sightings in Minnesota between 1994 and 2001 (*Loon*, Volumes 67-73; *North American Birds*, Volume 55). In this 8-year period, at least 73 Henslow's sparrows were reported in 24 counties, including two new county records (Wiens 1998, 1999). Henslow's sparrows were reported in three counties in Minnesota during the breeding season in 1996 (≥ 11 birds; Wiens 1997), six counties in 1997 (≥ 6 birds; Wiens 1998), seven counties in 1998 (≥ 11 birds; Wiens 1999), six counties in 1999 (≥ 12 birds; Wiens 2000), ten counties in 2000 (≥ 23 birds; Wiens 2001), and eight counties in 2001 (≥ 8 birds; Svingen 2001). In 1997, Henslow's sparrows were reported in more Minnesota counties during the breeding season than in any of the previous 18 breeding seasons (Wiens 1998).

The recent increase in Henslow's sparrow observations in the Dakotas and surrounding states coincided with the wet conditions experienced in the northern Great Plains since 1993 and continuing through the present (NOAA 2002). The present wet cycle might be the wettest period during the past 130 years (Winter and Rosenberry 1998). These wet conditions might be contributing to suitable habitat conditions for Henslow's sparrow. Herkert and Glass (1999) found that the Henslow's sparrow was more abundant in years with high spring moisture conditions than in years with low spring moisture conditions, which indicates that the Henslow's sparrow might respond to year-to-year changes in moisture conditions. Similar patterns have been found in other *Ammodramus* sparrows,

including grasshopper sparrow (*A. savannarum*; Wiens 1974), Baird's sparrow (*A. bairdii*; Kantrud and Faanes 1979), Le Conte's sparrow (*A. leconteii*; Igl and Johnson 1999), and Nelson's sharp-tailed sparrow (Stewart 1975).

Recent shifts in distribution and the increases in abundance of Henslow's sparrow also might be associated with habitat changes, such as those associated with the large-scale CRP, which replaced millions of hectares of cropland with perennial grassland cover (Dinsmore 2001, Herkert et al. 2002, Igl 2002). Many grassland bird species, including the Henslow's sparrow (Herkert 1997), have benefitted from the network of perennial grasslands established by the CRP throughout the Midwest and the Great Plains (Johnson and Schwartz 1993, Reynolds et al. 1994, Best et al. 1997). Johnsgard (2001) credited CRP for recent increases and the westward range expansion of Henslow's sparrow in Nebraska. Indeed, many of the recent observations of Henslow's sparrow in South Dakota were in CRP grassland fields (Igl 2002).

Because the Henslow's sparrow is very cryptic and furtive, only people familiar with the species' insect-like call and secretive behavior might notice the presence of this species (Igl 2002). When flushed from nests, adults run along the ground rather than fly. Nests are well-concealed. Given that the Henslow's sparrow is not a species one expects to find commonly in North Dakota, it is not surprising that no nests were found until 2001.

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