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Unusual Recovery and Longevity Record of a Banded Le Conte's Sparrow

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ABSTRACT

Since 2000, a comprehensive study of grassland birds, emphasizing the Le Conte's Sparrow (*Ammodramus leconteii*), has been conducted at Munuscong Wildlife Management Area in the eastern Upper Peninsula of Michigan. Banding efforts thus far have resulted in the capture of 312 Le Conte's Sparrows. A chance encounter of one of these birds nearly 30 km to the west has provided the most distant recapture of this furtive species. This recovery also constitutes a novel longevity record (4 yr, 1 mo) and supports an observed tendency for juveniles to disperse from their natal grounds.

INTRODUCTION

In the spring of 2000, we initiated a long-term study on grassland birds at Munuscong Wildlife Management Area in the eastern Upper Peninsula of Michigan. Bird banding and other monitoring techniques were used to estimate densities, demographic composition, territory size, seasonal chronology, survivorship and site fidelity for a variety of breeding species. From the inception of the project, we have principally focused on the Le Conte's Sparrow (*Ammodramus leconteii*), an uncommon and local summer resident represented by few known populations scattered among pastoral lands and large sedge bogs of Michigan's Upper Peninsula (Brewer et al. 1991). Due to the paucity of detections on Breeding Bird Survey routes in Michigan (Sauer et al. 2008), its statewide

status and trend remain unclear. However, surveys and anecdotal observations had indicated that Munuscong Wildlife Management Area hosts unusually high numbers for Michigan (D. Johnson, unpubl. data), and historically, the first state record of this species was obtained from this area in 1934 (Olsen 1935). Their local abundance provided an impetus to fill certain voids in the knowledge of this enigmatic species.

METHODS

Study Area. Our Munuscong Wildlife Management Area study site is located 5.5 km (3.5 mi) northeast of the village of Pickford, in Chippewa County, in the eastern Upper Peninsula of Michigan. The habitat primarily consists of wet to mesic reclaimed grassland with isolated clusters of deciduous saplings and shrubs, primary willows (*Salix* spp.). Several shallow ponds have been excavated in order to emulate the prairie pothole landscape of the Great Plains (Ainslie 2003). Though principally managed for waterfowl and grassland birds, Munuscong Wildlife Management Area is part of a large agricultural area, encompassing about 1,700 km², known as the Rudyard Clay Lake Plain (Albert 1995). Primarily devoted to hay production, this region is cultivated more intensively than any other area in the Upper Peninsula. The consequent exclusion of wooded habitats has promoted a large and diverse population of breeding grassland birds.

Bird Banding. From April to October, Le Conte's Sparrows, as well as other local species, were captured in mist nets (12 x 2.6 m, 30 mm mesh). Thorough area searches were conducted in order to locate and quantify breeding males, non-territorial males, females, and juvenile birds. Although passive netting was used frequently with success, captures were generally obtained by flushing target sparrows into hastily erected nets. Audio-

recordings were utilized occasionally to facilitate the discovery and capture of individuals. All birds were banded with standard US Fish and Wildlife Service aluminum bands, and they were sexed and aged to the extent possible. Color-banding was not employed, but to expedite the field identification of general cohorts, birds were banded on the left leg during even-numbered years and on the right leg during odd-numbered years. A suite of morphometric and physiologic measurements included wing chord, tail length, bill dimensions, weight, fat (DeSante et al. 2007), keel (Bairlein 1995), molt status, feather wear, and parasite loads. Photos were taken of almost every Le Conte's Sparrow captured, and GPS coordinates were acquired at each capture location.

RESULTS

Through the 2008 breeding season, we banded 312 Le Conte's Sparrows at Munuscong Wildlife Management Area. These have included 170 males, 31 females, and 111 birds (almost entirely juveniles) of unknown sex. Annual banding totals have ranged from 10 (in 2005) to 104 individuals (in 2006 and 2007), with the lower results reflecting seasons of limited coverage or unsuitable habitat conditions.

On 9 Jul 2007, while conducting aural surveys of grassland birds for Michigan Natural Features Inventory (Gibson and Enander 2007), we encountered a singing Le Conte's Sparrow 2.5 km (1.5 mi) south of the small community of Dryburg (southwest of Rudyard) in Chippewa County. This location was about 1.5 km from the thick forests bounding the southwest edge of the Clay Lake Plain. In our experience and that of other researchers (Walkinshaw 1968), Le Conte's Sparrows are notoriously furtive and usually sing from low, concealed perches. However, this individual was singing aggressively in plain view atop nearby grass stalks. This provided a good opportunity to digiscope this bird, and in the process we were surprised to notice that it was banded on its right leg. Since all of the males banded in 2007 were still on territory, it seemed that

this bird may have either been banded by another research party or banded by us at Munuscong Wildlife Management Area in some prior year where we banded on the right leg. Very curious as to the identity of this bird, we returned later in the day with our mist nets and banding equipment. Working the spot where the bird had been singing, we netted three fledged juveniles before we caught our target bird at 18:32 EDT. As with all of our captures, we took a variety of measurements and photographs. We recognized the band, 1881-80405, as one of our own and subsequently referenced the original capture data.

The bird was originally caught near the center of our Munuscong study site at UTM coordinates 16 T 707379 5118961 on 5 Aug 2003. At that time, it was a juvenile that had recently initiated its prebasic molt. The wing (chord 51 mm) and tail (48 mm) were fully grown. None of the juvenal greater coverts had yet dropped. The tarsus measured 18.1 mm and mass 12.5 g. The bird was never recaptured until it was encountered near Dryburg. Upon recapture on 9 Jul 2007 at UTM coordinates 16 T 679336 5117590, the wing chord measured 53 mm, tail (slightly worn) 46 mm, tarsus 18.0 mm, culmen 7.3 mm, and mass 13.7 g. It had not yet commenced its prebasic molt. A fully swollen cloacal protuberance confirmed that it was a male and indicated that it was in breeding condition. The recovery site was 28.1 km (17.4 mi) west of the original capture location. Interestingly, despite the longitudinal displacement, the two sites were situated very closely in latitude, only 16 seconds apart.

DISCUSSION

This record is noteworthy for three reasons. First, of the 100 banded juveniles presumably hatched within or close to our Munuscong study site, this is the first that has been recaptured during a subsequent breeding season. Like many other bird species (Drilling and Thompson 1988, Morton 1992, Weatherhead and Forbes 1994), young Le Conte's Sparrows may show a proclivity to acquire breeding territories away from their natal grounds.

Despite a major fire event and limited coverage during a few years of the study, birds banded as adults, both males and females, have demonstrated an annual return rate as high as 60% and an overall average of about 11%. However, the longest span between first and last capture of a juvenile at Munuscong has been only 27 days within the same breeding season. So far, apparently none have subsequently returned to Munuscong to establish a nesting territory. The Dryburg recovery reinforces such observations.

Second, this record becomes only the second foreign recovery of a banded Le Conte's Sparrow. Previous to the report of this individual, the US Bird Banding Laboratory (2009) listed only one recovery—a bird found dead during the same breeding season and within the same 10-min block of latitude and longitude in which it was banded (K. Klimciewicz, pers. comm.). Foreign recoveries tend to be comparatively low among passerines, at least in part due to their non-game status, shorter life spans, broad and diffuse distributions, smaller sizes, and lower ratios of marked birds per total population. Among Le Conte's Sparrows, the low yield of banded birds, only 1902 as of September 2004 (Bird Banding Laboratory 2009), further diminishes the likelihood of recoveries. The situation is exacerbated by the relatively remote breeding and wintering haunts, fairly localized populations, and secretive tendencies of this species (Lowther 2005). Since random recoveries are rare, this capture may emphasize that, in lieu of more advanced research techniques, intensively banding at multiple nearby locations may be an acceptable means of pursuing measures of local dispersal. The scarcity of information regarding dispersal (Weatherhead and Forbes 1994) imparts the benefit of cluster sampling as a valid method of assessing an ecologically important topic currently receiving scant attention.

Finally, this capture apparently establishes a longevity record for the species. Due to the lack of reported encounters and returns, the Bird Banding Lab had provided no such figure on its website prior to this submission (Klimciewicz 2008), and life

span and survivorship information is also lacking in published accounts (Lowther 2005). That we could tender such a statistic would seem reasonable because we have banded for several consecutive years at Munuscong and adult Le Conte's Sparrows have demonstrated a moderate rate of return there. However, it is interesting that such a record should be achieved via a singular foreign recovery and not a more typical return, yet no other individual has spanned as much time between first and final capture as this bird. Since the Dryburg recapture most likely hatched in early June (and almost certainly at Munuscong), its age was 4 yr, 1 mo at time of recovery. While this is far short of that recorded for several other sparrows, it must be noted that the number of returns and foreign recoveries among Le Conte's Sparrows is likewise lower (Bird Banding Laboratory 2009).

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Le Conte's Sparrow by
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