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## Review of The Breeding Status of Lewis's Woodpecker in Nebraska

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### KNOWN HISTORY IN NEBRASKA

Lewis's Woodpecker (*Melanerpes lewis*) was first mentioned as a possible breeder in Nebraska by Bruner (1901), who included it in a list of birds that breed in the state. None of the authorities he cited, however, had published conclusive evidence of breeding, and one of them (Bates 1900) cited only a winter record.

The species was mentioned in reports from the University of Nebraska field parties that worked in the Pine Ridge in 1900 and 1901. Crawford (1901) reports the discovery of only a single empty nest, despite weeks of fieldwork concentrated specifically on gathering nesting data on western species found in Nebraska's Pine Ridge. The nest which they reported was investigated between 18 May and 1 June 1900. It was "found about 60 feet from the ground in a dead tree, but contained no eggs. This same tree yielded a set of five Sparrow Hawk's eggs." He did not mention whether the nest was visited at a later date for proof of breeding. This remarkable absence of nesting data might be explained in part because the species frequently chooses the tallest available dead pine snag for a nest site, a site dangerous to visit under the best of conditions, and usually difficult or impossible to reach without specialized tree climbing equipment.

Cary (1902) comments that the species was "Nesting throughout the range of *Pinus ponderosa*--a characteristic species of the canyon sides," but he cited no details of nesting.

Despite the initial assessment by Bruner et al. (1904) that the species was a "Common summer resident and breeder in the pine-covered canyon districts of Sioux, Dawes, northern Sheridan and Scott's Bluff counties....," it is more likely that the species has always been uncommon or rare since first recorded in Nebraska. This interpretation is supported by the paucity of reports from other early field workers, and the failure to report more nests. Dawson (1921) remarks that he had spent "from two to three weeks in camp in the Pine Ridge Region of northwestern Nebraska for several years, namely, 1905, 1908, 1911, 1912, 1913, 1919, and 1920, with the seasons varying from June 15 to October 9. On all of these trips at least a part of the time has been devoted to bird study, but not until the past season [1920] did he [Dawson] succeed in finding the Lewis Woodpecker." He goes on to say that "While possibly a common migrant...the Lewis Woodpecker probably does not nest as commonly within the state as we have supposed." Similarly, in the late summer of 1911, while studying the bird

life of Fall River County, South Dakota, from the Nebraska border to the Black Hills, Visser (1912) failed to even find the species, at the season when they are most easily found.

The next report of breeding in Nebraska was from Logan County, where "In 1944 a pair apparently decided to nest in a cavity in a dead cottonwood tree seven miles southwest of Stapleton. In mid-July one of the pair disappeared. Its mate stayed on for a week and then it also left" (Glandon & Glandon 1948). When considered in the context of the dates and other reports, it seems likely that this nesting attempt was unsuccessful.

Rosche (1982) commented that the species "Bred in 1980 and 1981, and probably during the previous two years, among the dead standing timber resulting from the 1973 Deadhorse Fire in and adjacent to Chadron State Park." He gave no further details, however, of timing or what type of breeding activity he observed. He listed arrival and departure dates of 22 May and 24 September.

During the Nebraska Breeding Bird Atlas Project, the only breeding report was of a pair occupying a nest hole on 18 May 1985 in a pine snag at the site in Chadron State Park noted above by Rosche (Mollhoff in press). It was accepted as "confirmed" breeding in the block, and indeed it may well have been successful; however, in retrospect, due to the early date (18 May), it should have been listed as "probable."

Finally, Johnsgard (1998), in the absence of any detailed reports with conclusive evidence of breeding, and with few recent reports of any kind, rightly speculated that the species is "now either extremely rare or perhaps extirpated as a breeding species."

#### HABITAT

In Nebraska, Lewis's Woodpecker has been regarded as a species restricted to old forest fire burn areas in the ponderosa pine forests of the Pine Ridge in Sioux, Dawes and Sheridan counties in the northwest corner of the state. Throughout most of their range, however, the species breeds not only in old burn areas and in open ponderosa pine forest, but also in riparian cottonwoods and in the scattered trees of farm- and ranch-lands (Tobalske 1997). The latter habitat describes much of the western half of Nebraska. Indeed, the 1944 report of nesting was in a cottonwood grove in Logan County, 200 km away from the Pine Ridge (Glandon & Glandon 1948). A more recent sighting of a single bird during breeding season was in a similar setting in Loup County, in the central Sandhills (Mollhoff 1989). Thus, although the species is found most frequently in the Pine Ridge, where birders tend to go to look for it, observers should be alert to the possibility of breeding whenever the species is found during the breeding season, anywhere in the western half of the state.

## HABITS

The species may mate for life and is noted for long-term site fidelity, often re-using the same tree or hole year after year (Baicich & Harrison 1997, Bent 1939, Harrison 1979, Tobalske 1997). Its reported long-term site fidelity and pair bonding may explain the apparently advanced breeding-related activities the species exhibits almost immediately on arrival in the spring. Despite apparently paired birds simply re-occupying established territories upon arrival, however, the nesting cycle of Lewis's Woodpeckers, like its congener the Red-headed Woodpecker (*Melanerpes erythrocephalus*), is about two weeks later than the other woodpeckers and flickers found in the area.

Nests are usually placed high in the biggest dead tree available. The large size of the bird and the requirement for an entrance hole of 6 to 7 cm in diameter make for a minimum trunk diameter at the nest of about 15 to 20 cm.

## CURRENT FINDINGS

In 1998, I attempted to collect breeding data on the species. On 15 May 1998, I found a single Lewis's Woodpecker while systematically searching the 1250-hectare area burned by the 1985 McIntosh Fire in West Ash Canyon, Dawes County. On 22 May, a pair was present and aggressively defending a territory that extended at least several hundred meters, driving off any Red-headed Woodpeckers that dared enter the airspace. During a morning's observation, the birds repeatedly entered a nest hole, sometimes both at one time, and remained inside for up to 10 minutes. The hole was located 17.5 meters up a 23 meter tall dead pine snag, the tallest in the area. Upon checking, however, I found the nest empty. In remarkable coincidence with the nest reported a century earlier by Crawford (1901), six meters lower in the tree, I found an American Kestrel (*Falco sparverius*) nest that contained 5 eggs (Mollhoff 1999).

When I returned on 12 June, the birds were not seen in the immediate vicinity, and the nest was empty. (However, the American Kestrel nest now held five 1 to 2 week-old young.)

The following spring, between 22 and 23 May 1999, I searched the area again. On my third search through the area, I finally found two Lewis's Woodpeckers in another branch of the canyon, about 300 meters away from the 1998 location. They fed together and were seen entering a nest hole together. The birds were territorial, driving all Red-headed Woodpeckers from the area. On this occasion, copulation by the pair on a horizontal branch of a nearby dead pine was noted as well. After they left the immediate area, I climbed to the nest hole, 11.3 meters up a 15.5-meter tall snag, and found it empty, as I expected for this date.

I returned on 12 June 1999, accompanied by John Dinan of the Nebraska Game and Parks Commission. While climbing the snag, I flushed an incubating bird off the nest and found a clutch of 5 eggs. On 25 June, I found 5 young about 1 week of age. A final visit on 13 August revealed an empty nest; but I did find one adult and a fledged, dark-headed young with grayish underparts, about 300 meters away, at the snag where I had found a pair briefly occupying a nest in 1998.

I believe this report represents the first detailed documentation of successful nesting in Nebraska.

#### PHENOLOGY

Based on previous reports, published references, and my own observations, the following breeding phenology seems likely:

Return from the wintering area	~ 15 to 20 May
Courtship, occupy/establish territory, "nest site selection, etc."	
Egg laying begins	~ 25 May to 1 June
Clutch completed / incubation begins	~ 5 June
Hatching	~ 20 June
Young fledged	~ 25 July
Migration to wintering area	~ mid-September

#### POPULATION

Reviewing the 1980 to 1999 issues of the Nebraska Bird Review, and after eliminating what appear to be duplicate reports from the same location, I found about 27 reports that fall within the breeding season, 15 May to 31 August. However, over half of these reports fall near the beginning or the end of summer and could well represent migrants. This situation leaves about a dozen reports, spread over two decades, with a reasonable probability of breeding. This, combined with my own observations, leads me to estimate the total annual breeding population in the state at no more than 10 to 20 breeding pairs. Although the birds are reported most frequently from old burn areas, there is no indication reported thus far in the state to indicate that the population increases significantly in an area following a large fire.

#### FUTURE WORK

Any sightings of single or paired Lewis's Woodpeckers during the May to July time period should be reported and investigated immediately, so that further nesting data can be collected. Specific information concerning numbers, dates, habitat, and locations is vital. Climbing to the nest cavities is discouraged, due to the danger of climbing the tall, extremely unstable snags. Careful observations to establish when the adults begin delivering food to the nest, when young are first seen looking out of or leaving the nest hole,

and when they fledge, will allow us to further document their breeding phenology.

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