

# Recent Barn Owl Records in Minnesota

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The Barn Owl (*Tyto alba*) is listed as an Accidental species by the Minnesota Ornithologists' Union (Minnesota Ornithologists' Union 2018), as there have been accepted reports in two or fewer of the last ten years. The Wisconsin Society for Ornithology lists it as Casual (Wisconsin Society for Ornithology 2017), with one record in at least every five years. The Iowa Ornithologists' Union classifies it as Regular, occurring in at least eight of the last ten years (Iowa Ornithologists' Union 2018). The state of Minnesota does not classify the Barn Owl as Endangered, Threatened, or a Species of Special Concern (State of Minnesota 2013). The species has no listing status in Wisconsin (Wisconsin Department of Natural Resources 2017), but it is considered Endangered in Iowa (State of Iowa 2010).

Most Midwestern states have seen a severe decline in Barn Owls since 1970, probably due to changes in farming practices which reduced and eliminated grassy habitats where their main prey live (Martí et al. 2005). They are not well adapted for cold weather (Johnson 1974), having exposed legs and only bristle-like feathers on their toes.

Both Iowa (1983–1987) and Wisconsin (1982–1987) attempted reintroduction programs, breeding captive owls and releasing the offspring to the wild (Ehresman et al. 1988, Matteson and Petersen 1988). Numbers of wild Barn Owls did not increase significantly in either state, and so reintroduction efforts were discontinued. Minnesota did not attempt a breeding and release program for the species.

There have been increased sightings of Barn Owls in Wisconsin in recent years with confirmed records from Manitowoc in 2011, Ferryville and Eagle River in 2012, near La Crosse in 2013 and 2015, Portage County in 2014, Kewaunee County and the town of

Reedsburg (Saulk County) in 2017, and the counties of Iowa and Grant in 2018 (Ryan Brady, pers. com.).

Barn Owl observations also have been on the rise in Iowa, with sightings increasing each year from 2014–2017. Sixty-six Barn Owl records from 35 counties were reported in Iowa in 2017, including 38 nests (Iowa Department of Natural Resources 2017). Nests were found in the second-from-northern tier of counties including Chickasaw, Sioux, and Clay.

In Minnesota, Jenny Doty (pers. com.) reported being shown Barn Owls in a barn in an Amish area in Fillmore County about 2006, although she did not know at the time that it was significant. Barb Bolin photographed a Barn Owl in Rice County in 2017, which was accepted by the Minnesota Ornithologists' Union Records Committee (*The Loon* 90:3–5).

## Recent Sound Recordings of Barn Owls in Minnesota

As part of our vocal research program on Great Horned Owls (*Bubo virginianus*), we have monitored captive Great Horned Owls by a 24-hour recording setup in Houston County since October 2010. We have seven Vivotek security cameras with Super Circuits super high gain microphones attached to each camera in the breeding and release training facility. The microphones record the sound inside the aviaries as well as outside sounds up to about 500 m away. This audio and video feed can be accessed by the public via the International Owl Center's website, [www.InternationalOwlCenter.org](http://www.InternationalOwlCenter.org). Two of the authors (M.S. and R.Y.) made nearly all-night observational notes most nights from October 2013 through April 2018. Karla Bloem has also possessed a captive-bred Barn Owl for educational purposes through the International Owl Center since May 2016.

Our first recording of a wild Barn Owl screaming occurred on 1 August 2014. Subsequent recordings were made in 2017 on 1 and 8 April; 6 August; 11, 12, 13, 17, and 27 September; and 17 October. Recordings in 2018 (through the end of September) were made 18 March, 21 May, and 1 August. On at least two nights, there may have been more than one Barn Owl. On most occasions, our captive Barn Owl vocally interacted with the wild owl(s) by screaming.

### Identification of Barn Owl Calls

Barn Owl screams can be easily confused with the begging calls of juvenile Great Horned Owls. While Barn Owl subspecies in Europe have screams that range from 1–2 seconds in duration (Robb et al. 2015), the mainland North American Barn Owl (*T. a. pratincola*) screams last for about half a second, very similar to the duration of a juvenile Great Horned Owl begging call. All references to “Barn Owls” herein specifically refer to the North American subspecies. Juvenile Great Horned Owl begging calls have a softer attack and cover a broader frequency range, while Barn Owl screams have an abrupt beginning and end, a much harsher voice quality, and the loudest part of the call is in the 1.7–3.0 kHz range with an upward inflection. Barred Owl (*Strix varia*) begging calls are weaker with more of a whistled voice quality than Great Horned Owl begging calls, and can also sometimes be confused with Barn Owl screams. Figure 1 shows a spectrographic comparison of a wild American Barn Owl scream, a Great Horned Owl begging call, and a Barred Owl begging call. On 1 April 2017, I also recorded the *kleak-kleak* vocalization, which is reportedly given by male Barn Owls in the vicinity of the nest (Marti et al. 2005), although Gerrit Vyn stated that it is given by unpaired males (Robb et al. 2015).

### Further Documentation of Barn Owls in Southern Minnesota

Despite the number of our recent recordings, no one in the area has seen a Barn Owl and a nest has not been located. Barn Owls are highly nocturnal, which reduces the likelihood of encounters (Marti 2005).

Barn Owls typically have short lifespans in the wild. The majority (85%) of owls in a

20-year study in Utah only survived a single breeding season, although one was known to live to eight years of age (Marti 1997). This suggests that the owls we recorded in 2014, 2017, and 2018 were at least two different individuals.

Within an approximate one-mile radius of our recordings there are seven old wooden barns. There are also significant amounts of pasture, hayfields, and prairie adjacent to corn and bean fields and woodlands, which should provide appropriate habitat for Barn Owls.

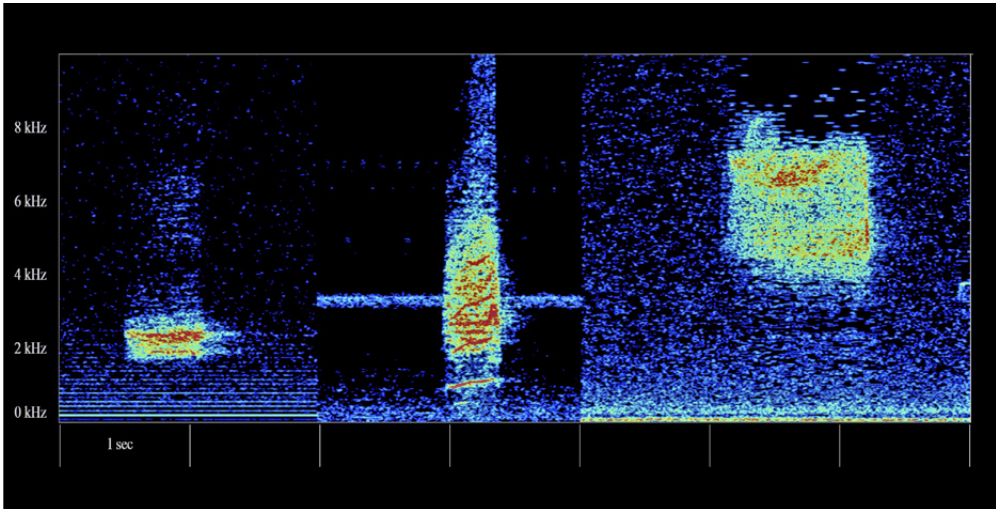
Installation of nest boxes is the only measure that has been proven to increase the number of successfully nesting Barn Owls in a given area (Marti 2005.) Nest box programs have been successful in Ohio (Ohio Department of Natural Resources 2018), and Illinois’ program, using pole-mounted boxes, has been especially successful (*vide* Iowa Department of Natural Resources 2016). At least 26 of Iowa’s 200+ nest boxes have been used (Iowa Department of Natural Resources 2016). Based on the success of these nest box programs, perhaps more Barn Owls could be documented in Minnesota if nest boxes were erected in suitable habitat in the southern part of the state.

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**Figure 1.** Spectrograms of an “American” Barn Owl (left, recorded 1 August 2018 by Karla A. Bloem), a juvenile Great Horned Owl begging call (middle, recorded 19 September 2016 by Lance Benner, XC335481), and a juvenile Barred Owl begging call (right, recorded 10 June 2011 by Ian Cruickshank, XC156195).

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