

Northern Saw-whet Owl

Chris Gentes

Northern Saw-whet Owls (*Aegolius acadicus*) can be found year-round in Massachusetts. They are perhaps most often encountered during Christmas Bird Counts (CBC), when birders play tapes at traditional locations with the hope of luring them in for census-taking. During the 2000 CBC there were a total of sixty saw-whets counted in thirteen different count circles. The largest number of saw-whets discovered were in three central Massachusetts count circles: Quabbin (23), Athol (18), and Sturbridge (6). This area consistently produces high counts nationwide of Northern Saw-whets <www.birdsource.org, 2001>.

Vocalizations

Northern Saw-whet Owls have a variety of calls and vocalizations. In February, male saw-whets on territory begin their courtship call. This call is a monosyllabic resonant *toot – toot – toot – toot*, repeated at the rate of two or three per second for a few minutes up to several hours. This call is used to establish a nesting territory and attract a female. Steve Sauter (pers. comm.) of Ashfield has observed that, for the past fifteen years, every February and March “has brought a saw-whet to incessant calling.” The call note of the Northern Saw-whet is a metallic *whurdle*, often given in series of threes. It has been likened to the whetting of a saw, and is widely believed to be the source of the owl’s name. Other vocalizations include a whistled flight call, soft rasping calls around the nest, begging calls of owlets, and a variety other calls (Johnsgard 1988).

David Spector (Massbird 2000) observes that: “All owls, but especially, apparently, saw-whets have a wide variety of vocalizations beyond the standard, most commonly heard calls. These include a variety of barks and hisses. A bird responding to a saw-whet tape is probably a saw-whet, and if the odd vocalizations are mixed in with the standard tooting the responder is almost certainly a saw-whet. In my experience and that of others with whom I have compared notes, saw-whets respond with something other than the standard tooting roughly half the time that they do respond.”

Mark Lynch (Massbird 2000) describes the many strange vocalizations he heard at a large communal roost in Petersham, during the 2000 CBC: “Twice we had three birds calling in one place. The variety of calls was outstanding and even featured a few I had not heard before. There were the typical toots, yelps, screams, wails, caterwauling, and bill clacking as well as other noises I can’t describe.”

Swengel and Swengel (1997) conducted a ten-year auditory survey of Northern Saw-whets in Southern Wisconsin from February through April. They played tapes of the courtship call along established routes and listened for a response. Their data



GEORGE C. WEST

showed that saw-whets responded to tapes more frequently around midnight than at sunset. They also had more responses in February-March than in April-May. Listening surveys for calling saw-whets throughout the state during February and March would help add valuable information regarding their breeding status in Massachusetts.

Breeding

There are thirty-two towns in Massachusetts (Appendix A) with breeding records of Northern Saw-whets. The first nest found in the Connecticut River Valley was in Amherst on April 23, 1893 (Bagg and Eliot 1937). A square mile of suitable habitat, food availability, and nesting cavities can support several nesting owls (Johnsgard 1988), and Norman Smith (pers. comm.) knows of at least three locations where saw-whets nest on the Blue Hills in Milton.

Northern Saw-whets breed in a wide variety of habitats and elevations, including open deciduous woodlands, cedar swamps, coniferous forests, and pitch pine barrens (Veit and Petersen 1993). Harrison (1975) observed that the owl's preferred nesting site is in an old flicker nest-hole cavity in a dead tree. Of twelve nests he found, two were in conifers, while ten were in deciduous trees. The owls will also utilize artificial nesting boxes. Egg dates for saw-whets in Massachusetts are from April 4 through May 31 (Veit and Petersen 1993); a single egg is laid every other-day until there are 5-7 eggs. The female incubates while the male hunts. Incubation lasts for 27 days. Eighteen days after the last chick hatches, the female parent bird leaves the nest for good. The brood remains together with the male parent feeding the owlets for up to one month (del Hoyo et al. 1999).

Banding


For some time Northern Saw-whets were thought to be permanent year-round residents in their breeding range. Research by owl banders over the last thirty years has shown that they are in fact migratory. Data also show that the owls are irruptive and may be nomadic, and an increasing number of stations are conducting banding operations at winter roosts and during spring migration. In addition to locating reliable food sources, saw-whet migration may be related to trees losing their leaves in the fall. Saw-whets are preyed upon by larger owls, and with the loss of deciduous leaf cover, the small owls become more visible. They subsequently begin to roost in heavy conifers and thickets where they are more concealed (Brinker et al. 1997). In Massachusetts fall migration occurs in late October, while spring migration occurs in late March and early April.

In 1967 the Cedar Grove Ornithological Station in southern Wisconsin discovered that saw-whets could be captured in mist nets left open at night. In 1986 it was discovered that by playing an audiotape of the owl's mating call in close proximity to the mist nets, the numbers of birds captured increased dramatically. This audiolure is played throughout the night at 100-110 decibels and can be heard up to 1.5 kms away. The average yearly number of saw-whets captured solely by passive mist nets at Little Suamico, Wisconsin (1971-1985) was 57, while the average yearly number captured by utilizing the audiolure at the same station (1986-1990) was 668 (Erdman et al. 1997).

Project OwlNet, founded by David Brinker, an ecologist with the Maryland Department of Natural Resources, is the primary organization that unifies the growing number of saw-whet banders. The Project OwlNet website <www.projectowl.net> is designed to improve communication and coordination between saw-whet banding stations in North America. It advocates the use of comparable netting techniques and includes useful information that supports the expansion of a network of migrant owl banding stations. There are approximately fifty banding stations in North America, and through their efforts 2000 to 5000 saw-whets are banded each year (Brinker et al. 1997).

Captured saw-whets are aged and sexed by a discriminant function based on mass and wing length (Brinker et al. 1997). The majority of owls captured have been determined to be female and/or hatch-year birds (Brinker et al. 1997). There are several theories as to why this is the case. One is that females migrate south in the winter months for better hunting grounds, while males remain in more northerly locations to defend their breeding grounds. Another theory is that more female saw-whets are captured because they are responding to the male courtship call being played near the mist nets. Females may be more likely to investigate the call and get captured, while males may be more likely to avoid a competitor's territory. Duffy and Matheny (1997) captured an average of 80-percent female saw-whets utilizing an audiolume (1989-1994), but captured only 65-percent females with passive netting (1980-1988).

One of the pioneers in saw-whet owl banding in Massachusetts is Danielle Smith [see page 95], who has operated banding stations in Marshfield, at the Blue Hills Reservation in Milton, and in a residential neighborhood in Whitman. All three locations have produced good results in attracting migrating saw-whets and demonstrated that their migration routes are diverse, including coastal farmlands and even suburban neighborhoods (Smith 2001).

The autumn of 2001 saw the opening of a new banding station in Williamstown, Massachusetts. This station is run by Andrew Jones and Kenneth Schmidt. Jones has previously banded saw-whets in the Allegheny Mountains of West Virginia. They operated the station for a total of 150 hours from October 18 through November 26, and were successful in banding eighty-six saw-whets. The most they captured on any single night was eleven on October 27. Other nights with notable captures were October 18 (8), October 22 (7), and October 28 (7). The full moon on November 1 coincided with fewer captures, but as it waned in early November, the captures increased slightly. The vast majority of owls they banded were females, and approximately half were hatch-year birds. They didn't have any recaptures of foreign birds, and none of their owls have yet to be recaptured. 

Appendix A

Towns with records of Breeding NSW (Veit and Petersen 1993, Bagg and Eliot 1933, Griscom and Snyder 1955): Adams, Lenox, Greenfield, Ashfield, Chester, Huntington, Worthington, Westhampton, Northampton, Amherst, West Springfield, Springfield, Longmeadow, Ware, Brookfield, Rutland, West Newbury, North Andover, Boxford, Middleton, Topsfield, Ipswich, Salem, Wellesley, Milton, Scituate, Bridgewater, Taunton, Middleborough, Harwich, Martha's Vineyard, and Nantucket.

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