Natural Heritage &
Endangered Species
Program

Commonwealth of Massachusetts
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MASSACHUSETTS SPECIES OF SPECIAL CONCERN

Barn Owl
(Tyto alba)

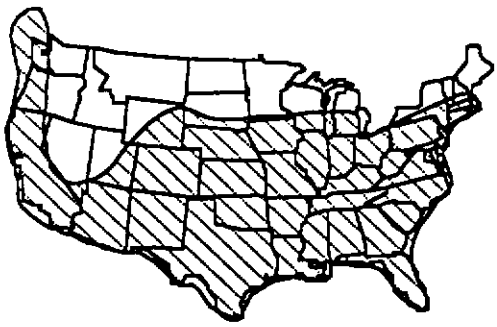
DeGraff, Richard M. and Rudis, Deborah D. New England Wildlife: Habitat, Natural History, & Distribution. U.S. Dept. of Agriculture/Forest Service, Tech.Report NE-108, 1986.

DESCRIPTION: The Barn Owl, also known as the Monkey-faced owl, is quite different in appearance from other owls owing to its distinctive heart-shaped face and dark eyes. Its large head lacks feathered ear tufts and its plumage is buff or light tan in color with brown specks on the upper portions. Females have a buff-colored breast lightly spotted with black; males have a white breast with fewer spots. The wings are long and rounded with ten primaries; the tail is short. They have long sparsely-feathered legs and powerful feet tipped with needle-sharp talons. This medium-sized owl is approximately 13-14 inches tall, with a wing span of 38-44 inches. Females are generally larger than males, weighing an average of 20 ounces to a male's 16 ounces.

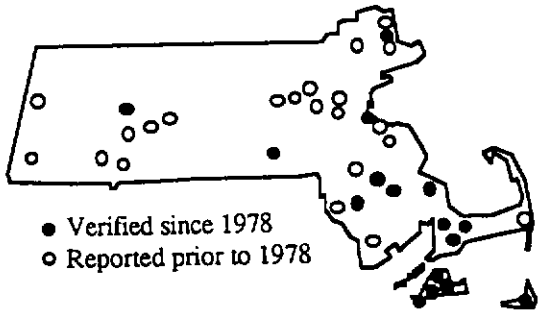
SIMILAR SPECIES IN MASSACHUSETTS: The Barred Owl (*Strix varia*) and the Northern Saw-whet Owl (*Aegolius acadicus*), both present in Massachusetts, similarly lack feathered ear tufts. Four other owls species present in Massachusetts have prominent ear tufts and these are: Great Horned Owl (*Bubo virginianus*), Eastern Screech Owl (*Otus asio*), Long-eared Owl (*Asio otus*), Short-eared Owl (*Asio flammeus*).

HABITAT IN MASSACHUSETTS: Barn Owls require grassy habitats for foraging, such as fresh and salt water marshes and agricultural fields. They rarely occur apart from populations of the Meadow Vole (*Microtus pennsylvanicus*), a primary food source, and avoid areas of deep snow and prolonged cold, which can preclude successful foraging. The Barn Owl is resourceful in making use of such nesting sites as hollow trees, cavities in cliffs or riverbanks, and artificial structures such as, nest boxes, old barns, and bridges.

RANGE: The Barn Owl prefers warmer climates with mild winters and occurs on all continents except Antarctica. They breed in North America south of a line extending from southwestern British Columbia through southern Idaho, southern Wisconsin, southern Ontario, and southern Vermont. In Massachusetts this species is found mainly along the coastal plain from Newburyport south to Cape Cod and the surrounding islands. It also turns-up occasionally in the Connecticut and Housatonic River Valleys.



Range of Barn Owl



Massachusetts Breeding Distribution of the Barn Owl

1995

During this century, notable population expansion into the milder southeast coastal area of Massachusetts has occurred.

LIFE CYCLE/BEHAVIOR: Barn Owls are nocturnal and secretive, yet they are also extremely curious and investigate holes and crevices. The Barn Owl is, for the most part, monogamous and mates for life. Its short life span averages about two years, therefore most breed only once or twice during their lifetime and usually breeding first occurs at one year of age. Mating pairs may produce more than one brood in a year and eggs have been found at active nests in Massachusetts in every month of the year. Courting behavior, however, usually begins by March, initiated by the male with display flights. A chase follows, where the male pursues the female. The male also engages in "moth flights" in which he hovers with his feet dangling in front of the perched female for several seconds. Both sexes solicit copulation by crouching in front of each other. The female may encourage the male by swaying and vibrating her wings. Egg laying begins about one month later with 3-11 dull white eggs laid. The female begins incubating upon laying the first egg and continues for 29-34 days. The male is the primary hunter, yet only the female feeds the young. After about two weeks, the young can swallow prey whole, and at this time the female starts to assist in hunting. The owlets attempt their first flight about 50-55 days after hatching; fledging occurs at about 60 days. Fledglings return to the nest cavity to roost for several weeks and may roost in the vicinity for 7-8 weeks after flying. The Barn Owl's nesting success is related to and closely dependent upon vole populations. When vole numbers are low, perhaps due to a dry spring, the owls produce fewer eggs and, unable to provide enough food, fledge fewer young. Older siblings will often cannibalize younger nest mates. In cases of extreme lack of food, adults will abandon their young.

Unlike other owls, Barn Owls do not hoot. Instead, both sexes utter short harsh note when returning to the nest site. Their alarm call is a loud, piercing screech.

HUNTING/FEEDING: Barn Owls eat a variety of prey, mostly rodents and small mammals, and have an overwhelming preference for Meadow Voles (*Microtus pennsylvanicus*). Occasionally, they will eat other birds. Barn Owls hunt mainly at night, starting an hour after sunset and ending an hour before sunrise. They detect prey with their excellent low-light vision and hearing-senses found to be the most accurate of all animals tested. Barn Owls are capable of capturing prey in total darkness using their hearing alone. The prey is usually nipped through the back of the skull with the beak. Most prey is swallowed whole, head first.

POPULATION STATUS IN MASSACHUSETTS: The Barn Owl is listed as a Species of Special Concern in Massachusetts. A special concern species occurs in small numbers, has specialized habitat requirements and a restricted range, or has been found to be declining in numbers to the extent that its existence may be threatened. The fact that these birds have a weakly developed migratory pattern and will succumb to cold and starvation rather than migrate has contributed to their tenuous status in Massachusetts. Changes in agricultural practices are the most likely cause of population declines in the past 20 years. These changes have meant decreased availability of open farm structures for nesting and roosting and a decline in agricultural lands that support high densities of small mammals. Better grain storage and fewer grasslands constrict rodent food sources resulting in fewer prey items.

Records of Barn Owls in Massachusetts date back to the late 1800's. In western Massachusetts the last known nesting attempt was 1981. The owl appears extremely rare or nonexistent throughout much of the state, but it is difficult to detect because of its secretive nature. Therefore, our knowledge of its current status is somewhat speculative.

Common threats to the Barn Owl include predation, starvation due to severe winter or drought, collisions with vehicles and electrocution from power lines. Also, as inhabitants of farmsteads, Barn Owls are potentially exposed to a variety of insecticides and rodenticides. Humans have primarily affected Barn Owls through habitat destruction, illegal shooting, and nest disturbance.

Selected References

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