



Natural Heritage & Endangered Species Program

Massachusetts Division of Fisheries & Wildlife
1 Rabbit Hill Road, Westborough, MA 01581
tel: (508) 389-6360, fax: (508) 389-7891
www.nhesp.org

Short-eared Owl

Asio flammeus

State Status: **Endangered**
Federal Status: **None**

DESCRIPTION: The Short-eared Owl is a crow-sized bird, approximately 13 - 17 in. (33 - 43 cm) long, with a wingspan of 38 - 44 in. (76 - 91 cm). Its plumage is buffy colored, with a predominantly brownish back and a lighter head and underside with long streaks of brown. The Short-eared Owl has a white facial disk, with a black patch surrounding each yellow eye. The wings and tail are long and rounded (but the wings are longer than the tail). The undersurface of each wing is marked with a dark band near the bend of the wing and on the wingtip as well. The Short-eared Owl has very small ear tufts which are usually very difficult to observe. The legs are feathered to the feet. Females are generally larger than the males, and darker in coloration.

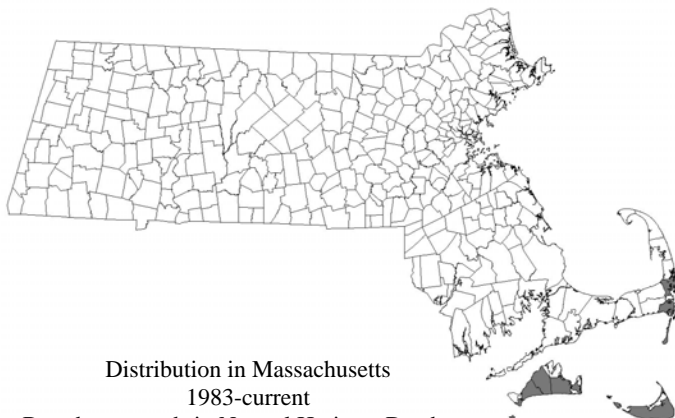
HABITAT IN MASSACHUSETTS: Short-eared Owls in Massachusetts reside in large, undeveloped expanses of coastal sandplain grassland and maritime heathland, habitats which are now almost as endangered as the owl itself. The vegetation of these habitats is comprised of clumped patches of shrubs (bayberry, huckleberry, blueberry, wild rose, dewberry, pitch pine and scrub oak) mixed with herbaceous vegetation consisting of sedges, forbs, and grasses (goldenrod, beachgrass, wild indigo, little bluestem). Short-eared Owl nests on the ground, usually near or within herbaceous vegetation or low shrubs under 1.6 ft. (0.5 m) in height. The territory of a single breeding pair may encompass over 100 acres.



Robbins, C., B. Bruun, and H. Zim. 1966. Birds of North America. Golden Press.

RANGE: Short-eared Owls are widely distributed all over the world; they can be found in Europe, Asia, North America, and scattered regions of South America. In North America, they breed from New England west to California, north to Alaska, and south to southeastern Pennsylvania. In Massachusetts, breeding pairs are found in the counties of Barnstable, Dukes, and Nantucket.

SIMILAR SPECIES: The only other large raptors occupying the same habitat as the Short-eared Owl in Massachusetts are the Northern Harrier and Barn Owl. The Northern Harrier is a hawk, bluish-gray (brown for females and juveniles) in coloration, with a bright white rump. The Barn Owl has a heart-shaped face and dark eyes; it has a buffy to brown back and a white underside. The Short-eared Owl is the only owl in Massachusetts which nests and roosts on the ground, hovers in flight, and frequently hunts during the day.



Distribution in Massachusetts
1983-current
Based on records in Natural Heritage Database

BREEDING / BEHAVIOR: In Massachusetts, Short-eared Owls begin territory establishment and courting behavior in March. Courtship displays consist of breathtaking flights in which the male owl climbs to an altitude of 100 feet (31 m) or more, flying in tight circles, and utters a soft call which is repeated 13 to 16 times. It then plummets towards the ground while clapping its wings together under its belly. If the male is successful in attracting a mate, he will start a long dive earthward and rock from side to side with his wings in a V pattern, closely pursued head-to-tail by the female. Copulation then occurs on the ground.

Short-eared Owls nest on the ground. The nest is constructed by the female out of dried grasses and a small amount of downy feathers. In late April, 4 to 10 eggs are laid over a period of several days. They are incubated by the female for 20 to 30 days, while her mate provides her with food. The eggs usually hatch over a period of several days in May or early June. The hatchlings leave the nest after 14 to 17 days and explore the general area on foot for the next two weeks, after which they begin their first flights. The dispersal of the hatchlings from the nest may be a defense against predators, since the nest is in such an open area. The hatchlings are fed by the parents until they learn how to fly, at which point the young return to the nest and roost together with their parents during the day.

MIGRATION: It is uncertain where Short-eared Owls in Massachusetts spend the winter. There are Short-eared Owls present on Nantucket throughout the year, and some of these are most likely permanent residents. Beginning in late August or September, some of the Short-eared Owls in Massachusetts migrate south, but where and how far they travel is not clear. In addition, Short-eared Owls from farther north appear in Massachusetts in the late fall and can be found in small numbers throughout the winter in suitable habitat across the state.

HUNTING / FEEDING: Short-eared Owls frequently hunt during the day, especially in the early morning and late afternoon. When hunting, the Short-eared Owl alternately flaps and glides, from 1 to 10 ft. (0.3 to 3 m) above the ground, and often hovers momentarily before either pouncing on its prey or continuing onward. It uses its keen sense of hearing to detect and locate prey. Meadow voles constitute over 90 percent of the Short-eared Owl's diet. The owl is also known to eat insects, small birds, and other species of small mammals.

POPULATION STATUS: The Short-eared Owl is listed as an "Endangered" species in Massachusetts. There are currently 20 to 25 breeding pairs in the state. Only three other states in the Northeast (New York, Pennsylvania, Vermont) have breeding populations of

Short-eared Owls, but in even lower numbers than are found in Massachusetts. The greatest threat to the Short-eared Owl is the loss of its habitat. The large, open, undisturbed areas where the Short-eared Owls breed are under enormous pressure for construction and development.

Selected References

- Holt, D.W., & S.M. Leasure. 1993. Short-eared Owl (*Asio flammeus*). In *The Birds of North America*, No. 62 (A. Poole & F. Gill, Eds.). Philadelphia: The Academy of Natural Sciences; Washington, D.C.: The American Ornithologists' Union.
- Melvin, S.M., D.G. Smith, D.V. Holt, and G.R. Tate. 1989. Small owls, p. 88-98 in *Proc. northeast raptor management symposium and workshop*. Natl. Wild. Fed., Washington, D.C.
- Palmer, R. S. 1962. *Handbook of North American Birds*. Yale University Press, New Haven & London.
- Tate, G.R. 1992. Short-eared owl, *Asio flammeus* Pages 171-189 in K.J. Schneider and D.M. Pence, eds. *Migratory Nongame Birds of Management Concern in the Northeast*. U.S. Dept. Inter., Fish & Wildl. Serv., Newton Corner, MA.
- Terres, J. K. 1991. *The Audubon Society Encyclopedia of North American Birds*. New York: Wing Books.

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