



## Natural Heritage & Endangered Species Program

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*Massachusetts Division of Fisheries & Wildlife*

## Leach's Storm-petrel *Oceanodroma leucorhoa*

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

**DESCRIPTION:** Leach's Storm-petrels are relatively small, dusky-colored oceanic birds, 20 cm (8 in.) in length with a 46 cm (20 in.) wingspread, and long slender wings that are angled and swept back in flight. Characteristic of the family *Hydrobatidae*, Leach's Storm-petrels possess long, slim legs, webbed feet, and a pair of raised tubed nostrils on the upper mandible of their black bill. The overall plumage of this species is dark brownish black except for a prominent, tawny carpal bar that extends diagonally from the top leading edge of the wing to the rear edge of the wing near the body. Atlantic populations of Leach's Storm-petrels possess a white rump, usually bisected with dusky feathering that sometimes produces a "split-rumped" appearance in the field. The tail is prominently notched and extends beyond the trailing legs and feet in flight. Juvenile Leach's Storm-petrels are covered with a dark fuzzy gray down, although this plumage is rarely seen because juveniles remain in nesting burrows until ready to fledge. Though generally silent at sea, the nocturnal vocalizations of Leach's Storm-petrels near their nesting colonies consist of combinations of musical purring notes and a maniacal chuckling chatter given in flight. Leach's Storm-petrels are seldom seen from land, however when observed at sea they fly with deep, rowing wing beats frequently punctuated by erratic changes in direction. This bounding flight is often likened to that of a Common Nighthawk.

**SIMILAR SPECIES:** In New England waters the Leach's Storm-petrel closely resembles the slightly smaller and more locally abundant Wilson's Storm-petrel. Wilson's Storm-petrels, summer visitors from the Southern Hemisphere, have extensive white rumps that wrap around the sides of their square-ended tail, yellow-webs between the toes of their feet that protrude beyond the end of their tail in flight, and wings that are less angled and more straight-edged on the trailing edge than those of Leach's Storm-petrels. Wilson's Storm-petrels

also have a more direct, less bounding and erratic flight than that of the slightly larger Leach's Storm-petrel. Wilson's Storm-petrels are also more likely to enter large bays and follow fishing boats than the more pelagic Leach's Storm-petrel, and their habit of "walking on the water" as they pick plankton from the surface is a behavior seldom seen in Leach's Storm-petrels.

**RANGE:** The Leach's Storm-petrel is a widespread seabird primarily confined as a breeder to the Northern Hemisphere in both Atlantic and Pacific Oceans. Atlantic populations breed on scattered islands from Massachusetts north to Labrador, Newfoundland, Iceland, northern Scotland, and Norway. After breeding, most Leach's Storm-petrels gradually move into the tropical Atlantic Ocean for the winter.



*Leach's Storm-petrel showing the raised tubed nostrils. Photo by and courtesy of Jeffrey Spindelov, from USGS Patuxent Wildlife Research Center website at <http://www.mbr-pwrc.usgs.gov/id/framlst/i1060id.html>*

**HABITAT IN MASSACHUSETTS:** Leach's Storm-petrels breed in Massachusetts on two tiny, low-lying offshore islands where they nest in colonies in stone retaining walls and burrows beneath beach debris. Other

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than when they come ashore to nest, Leach's Storm-petrels spend their entire life over the open ocean. In Massachusetts much of their time is spent over the continental shelf well away from land, where they are seldom observed. Though they occasionally appear close to shore during prolonged onshore coastal gales in the fall, they tend to shun the inshore summer fishing activities that ordinarily attract large numbers of Wilson's Storm-petrels.

**BEHAVIOR/LIFE HISTORY:** Little detailed life history information is available for Leach's Storm-petrels actually nesting in Massachusetts; however, existing data suggests that breeding adults return to previous season's nest burrows as early as late April. By late spring nocturnal breeding activity is underway, with June 25 representing the earliest known egg date for Massachusetts. Territory size in this species hardly exceeds that of the nesting burrow, but courtship behavior is elaborate, involving nocturnal flights over the colony and vocalizations from females while on the wing and males in the burrows.

Nests located in these burrow chambers are spartan, normally consisting of only a few stalks of vegetation, feathers, or pebbles. Adult Storm-petrels locate their burrows at night by a combination of smell – a sense that is highly developed in tube-nosed seabirds such as Storm-petrels – and vocalizations given by members of a pair, both on the wing and in the nesting burrows. This enables pairs to recognize both their burrows and their mates.

A single white egg deposited in the nest chamber is incubated by both sexes for 41-42 days, with an additional 63-70 days required before fledging occurs. Fledging generally takes place in late summer or early fall, or even later for nests with particularly late egg-laying dates. Nest exchanges and the feeding of young occur after dark, and are usually accompanied by an eerie cacophony of chuckles and purrings as adult Storm-petrels communicate with one another during their comings and goings from the open sea. In the nest burrows the juveniles are fed an oily mixture of regurgitated stomach contents comprised of partially digested squid, euphausiid shrimp (krill), amphipods, small fish, and other planktonic organisms. Once the young fledge from the burrow in late summer or early fall, they will not return to land until reaching breeding age in 3-5 years.

After nesting, Leach's Storm-petrels return to the open sea where they spend most of their lives. Data suggest that peak numbers of Leach's Storm-petrels in offshore Massachusetts waters occur in late August and early September; however, occasionally significant numbers are pushed inshore following prolonged Nor'easters in October and early November. Most Leach's Storm-petrels appearing during this late summer and early fall period emanate from large colonies located north of Massachusetts.

**POPULATION STATUS:** The Leach's Storm-petrel is classified as an Endangered Species in Massachusetts due to its extremely limited and declining breeding population in the Commonwealth, located at the extreme southern terminus of the species' breeding range in the Atlantic Ocean. First discovered nesting in Massachusetts in 1933, the state's population was initially estimated to include as many as 80-90 pairs. Numbers have steadily declined since, to the point where current breeding numbers in Massachusetts are suspected of being fewer than 15 pairs from the two known sites.



**MANAGEMENT RECOMMENDATIONS:**

This species is poorly-known in Massachusetts. Potential causes for the decline in numbers include the tremendous increase in the numbers of predatory nesting Herring and Great Black-backed Gulls, habitat changes, human disturbance at the nest sites, and range-edge stochasticity. Historically, military practice bombing at one site undoubtedly limited the colony there. Efforts to minimize disturbances, reduce predation, and improve

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nesting habitat may help protect this species in Massachusetts. Global protection efforts for this species should probably focus on the large colony sites in Maine and eastern Canada.

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