

What does it mean to be protected under the Endangered Species Act?

The Piping Plover became a protected species under the MA and Federal Endangered Species Acts in 1986. Along the Atlantic Coast it is designated as threatened, which means that the population would continue to decline if not protected. The Endangered Species Act (ESA) imposes fines of up to \$25,000 for “taking” a single plover adult, egg, or chick; these regulations include harassment in the form of disturbance, outright destruction, and major alterations of habitat.

What are property owners responsible for under this law?

Taken From “Guidelines for Managing Recreational Activities in Piping Plover Breeding Habitat to Avoid Take” under Section 9 of the US Endangered Species Act

On beaches where pedestrians, joggers, sun-bathers, picnickers, fishermen, boaters, or other recreational users are present, **areas of at least 50 meter-radius around nests above the high tide line should be delineated with warning signs and symbolic fencing to prevent disturbance to adult plovers, eggs, and chicks.** Only persons engaged in rare species monitoring, management, or research activities are allowed to enter posted areas. These areas should remain fenced as long as territorial adults with scrapes, viable eggs and/or unfledged chicks are present. Fencing is intended to prevent accidental crushing of nests and repeated disturbance of incubating adults, and to provide an area where chicks can rest and seek shelter during poor weather or periods of disturbance (for example, when large numbers of people are on the beach.)

Fencing around nests should be expanded in cases where the standard 50 meter-radius is inadequate to protect incubating adults or unfledged chicks from harm or disturbance, including situations where plovers are especially intolerant of human presence, or where a 50 meter-radius area provides insufficient escape cover or alternative foraging opportunities for plover chicks. In cases where the nest is located less than 50 meters above the high tide line, fencing should be situated at the high tide line, and a qualified biologist should monitor responses of the birds to passersby.

On portions of beaches that receive heavy human use, areas where territorial plovers are observed should be symbolically fenced to prevent disruption of territorial displays and courtship. Since nests can be difficult to locate, especially during egg-laying, this will also prevent accidental crushing of undetected nests. If nests are discovered outside fenced areas, fencing should be extended to create a sufficient buffer to prevent disturbance to incubating adults, eggs, or unfledged chicks.

- Pets should be leashed and under control of their owners at all times from April 1 to August 31 on beaches where Piping Plovers are present or have traditionally nested. Pets should be prohibited on these beaches from April 1 through August 31 if, based on observations and experience, pet owners fail to keep pets leashed and under control. (Within these guidelines dog laws vary from site to site – dogs are not permitted on many beaches where Piping Plovers nest April 15 – Aug 31).
- Kite flying should be prohibited within 200 meters of nesting or territorial adult or unfledged juvenile piping plovers between April 1 and August 31.
- Fireworks should be prohibited on beaches where plovers nest from April 1 until all chicks are fledged.

Are there Piping Plovers Nesting on Your Beach?



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How do you know if Piping Plovers are present?

Piping Plovers return to MA from the Southeastern US and Gulf Coast in mid-March through early April. They start setting up territories, performing courtship displays, and making 'scrapes' in the sand that will later be used to hold their eggs. The male's courtship activities include "high-stepping" to show off to the female and territorial "figure-eight" flight displays to nearby males. Males will make several scrapes in the sand, consisting of small depressions made by digging with their legs behind them and shuffling their bodies around in the sand. They sometimes line the scrapes with small stones or fragments of shell.

Deep plover scrape

Piping Plovers create several scrapes in the sand early on in the Spring; one of these depressions in the sand will become the "nest", typically holding 4 eggs.



Becky Harris photo

Because the eggs are so vulnerable to being accidentally stepped on by people or dogs, it is important to symbolically fence and place signs in areas with potential and/or historic plover habitat (indicated by tracks, scrapes, and ultimately nests). Mass Audubon's Coastal Waterbird Program works with town, state, federal and private landowners to protect these birds.



Scott Hecker photo ©

Piping Plover nest

Piping Plover eggs can be laid in a variety of habitats from open sandy beach near the intertidal zone, rocky areas, to well concealed areas in the beach grass or other vegetation.

Both the eggs and young are so well camouflaged that they are apt to go undetected and are easily stepped on.

How long does it take to go from egg to full-grown fledgling?

Eggs are laid one at a time, usually one every other day (a full clutch of 4 eggs will be completed in about a week). The male and female share incubation duties, and will only start incubating full time when the last egg is laid; therefore all eggs should hatch around the same date. If an intruder (human, dog, predator) approaches within about 10-50 meters of a nest, one or both of the adults may feign a broken wing and call out repeatedly in an attempt to distract the predator from the nest or young. Eggs can hatch after 23-30+ days of incubation (usually around 26 days). If nests are lost to predation, washover or other causes, females can renest up to 4 times, usually requiring at least a week between each clutch of eggs. The primary causes of nest loss attributed directly to human activities are the abandonment of nests resulting from *recreational disturbance*, the crushing of nests by *off-road vehicles*, and the death of eggs by the sun when unleashed dogs or beachgoers disturb the adult plovers for prolonged periods during incubation (as little as 15 min. is enough time for eggs to be killed in hot sun!)



Ellen Jedrey photo

Hatching chick

Within a few hours, newly hatched chicks are up and running, sometimes moving over half a mile in their first day of life to find food! They find all their own food (invertebrates and insects in the sand along the wrack line – seaweed and other natural debris brought in with the tide harbors lots of plover treats).

Chicks need to eat almost constantly in order to grow quickly into nearly full-sized fledglings (young birds capable of flight) in 23-35+ days. Their parents will shelter them and attempt to protect them from predators, but the chicks are very independent. When intruders come close, chicks will often crouch motionless in a low depression in the sand.

Plover chick on the move

If disturbed by humans, dogs, or predators, chicks will be disrupted from feeding and may not grow fast enough to be able to fly and migrate at the end of the season.



John Van de Graaff photo ©

When will they leave?

If their first nest attempt is successful – eggs are not disturbed, eaten, washed over by storms or high tides – then hatching may occur by early June. If a pair loses their nests repeatedly and renests, late hatching chicks may not be flying until late August or early September, the period when plovers often gather in groups on undisturbed beaches prior to the southward migration. Plovers that breed in Massachusetts winter primarily on the Atlantic Coast from North Carolina to Florida (it is a myth that they are eaten in South America – other species of plover do migrate there from the Arctic, but not Piping Plovers!)

Why are they protected?

Several factors are contributing to the decline of the Piping Plover:

- Commercial, residential and recreational development have decreased the amount of coastal habitat available for Piping Plovers to nest and feed.
- Human disturbance often curtails breeding success. Foot and vehicular traffic may crush nests or young. Excessive disturbance may cause the parents to desert the nest, exposing eggs or chicks to predators and excessive cold or the heat of the summer sun.
- Pets, especially dogs may harass the birds, though often unintentionally.
- Developments near beaches provide food that attracts increased numbers of predators such as raccoons, skunks and foxes.
- Storm tides (and increasingly rising sea level) may wash away nests.

How are they doing?

The Atlantic Coast Piping Plover population is estimated by US Fish and Wildlife Service at a little over 1,800 nesting pairs. Massachusetts supports approximately 1/3 of the entire population, with around 480-550 pairs.

Mass Audubon's Coastal Waterbird Program has been assisting property owners with Piping Plover management for over 20 years; protection efforts often help to get successful fledglings off the beach early in the season. Would you like an expert to come talk to your group about Piping Plovers? Mass Audubon staff is available to give walks, talks, and demonstrations to students, neighborhood groups & beach associations.

Things You Can Do to Help Protect Piping Plovers

- Respect all areas fenced or posted for protection of wildlife
- Do not approach or linger near piping plovers or their nests
- If pets are permitted on nesting beaches, keep them leashed
- Keep house cats indoors
- Don't leave or bury trash or food scraps on beaches. Garbage attracts predators that may prey upon plover eggs or chicks.

Least Terns - another protected species that nests on beaches

Least Terns are protected by the MA Endangered Species Act; they are listed as a species of Special Concern. Like Piping Plovers, Least Terns have nested along sandy eastern barrier beaches for thousands of years, adapted to the natural processes of beach erosion and rejuvenation. Unlike larger species of terns that prefer offshore islands, this species readily nests on mainland beaches, including deposits of sandy dredged material. Least Terns nest in scattered colonies of a few pairs to larger groups of several hundred pairs. A buffer zone of at least 25 m (when nests have eggs) and at least 50 m (after chicks have hatched) should be established around colonies to protect them from human disturbance. Dogs and kite flying are not allowed within 200 m of colonies. Least Terns are extremely vulnerable to disturbance, abandonment (especially if disturbed at night), and predation (especially when flighty adults are disrupted from incubating).

Least Tern nest

Least Terns start nesting in MA in mid-May, and can continue to renest into early August (if first attempts lost to predation or tides). Usually each nests contain 2-3 eggs.



John Van de Graaff photo ©



Valerie Meyer photo



John Van de Graaff ©

Least Tern chicks

Chicks are very mobile after a few days, and disruption of the colony can cause them to scatter, become more vulnerable to predation, exposure, and even head-pecking by neighboring adults. They rely on adults for food – mainly fish like sand lance.

Adult with chick

Least Terns are the smallest of all terns that nest in N. America. They are recognizable by the white patch on their foreheads and their squeaky calls. Although incubation and fledging both take about 22 days, adults and fledglings can be present through late summer before migration to Central America and the Caribbean, especially if late re-nesting occurs.



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