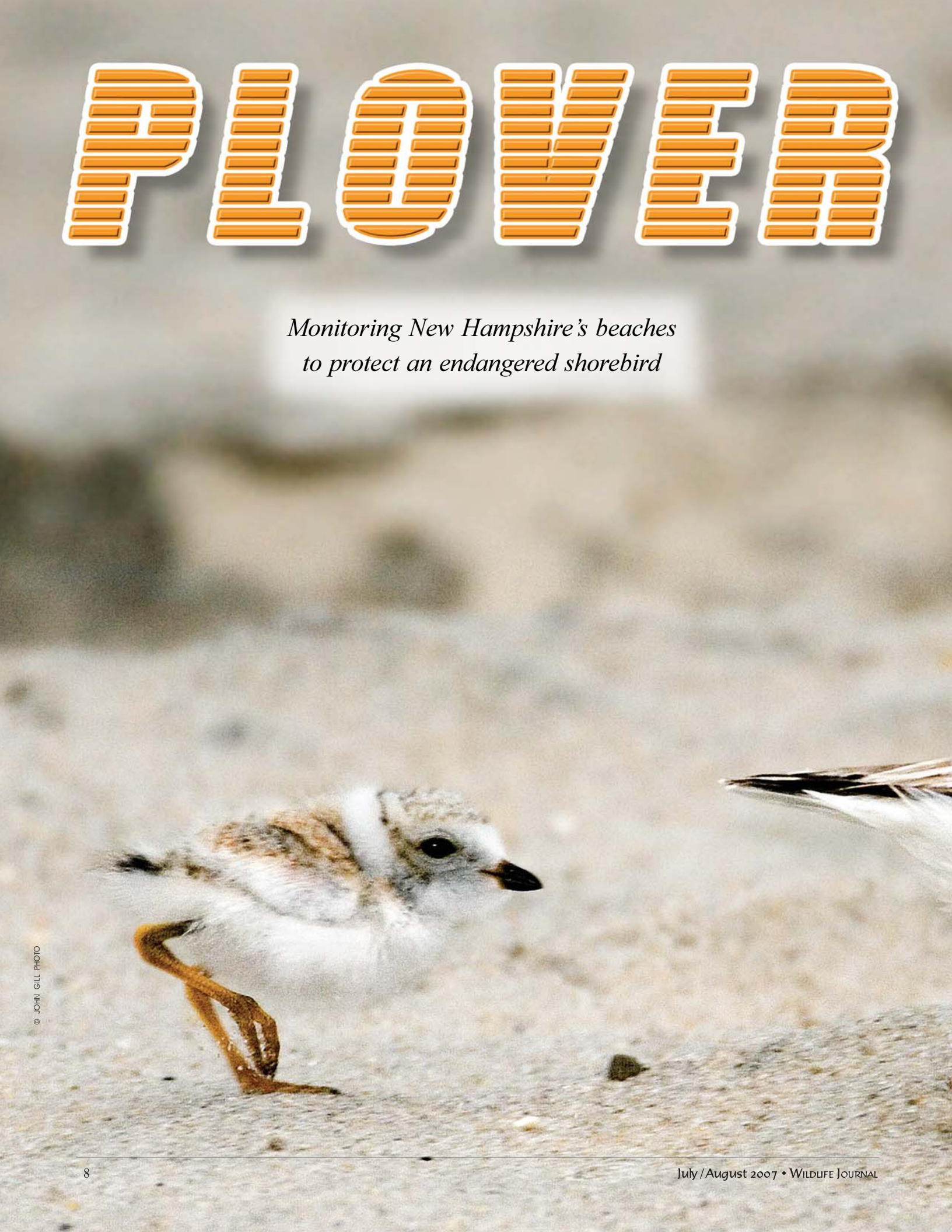


# FLOWER

*Monitoring New Hampshire's beaches  
to protect an endangered shorebird*



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# PATROL

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BY ALLISON BRIGGAMAN

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July 8, 2002 – 7:30 a.m.: I park my car on Hooksett Street in Seabrook and head on foot up the boardwalk and over the sandy dune. Binoculars around my neck, field notebook and pencil in hand, I crest the dune and am greeted by a most beautiful sight: the rising sun shines warmly down onto rolling ocean waves, the sky is crystal-clear blue, and I am the only person on the beach at that early hour. In the silence of the morning, I hear a familiar “peep-lo” as an endangered piping plover flies overhead. My heart beats fast with excitement. I take a deep breath of the salty ocean air and think to myself, *I have the best job in the world.*

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## Tiny and Territorial

Piping plovers (*Charadrius melodus*) are small migratory shorebirds. Federally threatened and state-endangered, they are one of the highest ranking species of conservation concern in New Hampshire's Wildlife Action Plan. Plovers begin to arrive in New Hampshire each spring around mid-March and stay on our beaches until August or September to nest and raise their young. The Atlantic Coast population of piping plovers spends the summers along sandy coastal dunes from Newfoundland to North Carolina. Each fall, they migrate south, wintering from North Carolina to Florida and the Bahamas.

When the birds return in spring, each pair establishes a territory where they perform courtship displays, nest and raise their young. Piping plovers are only about 6 inches tall (about the size of a robin), sandy colored on top and white underneath. During the breeding season, they have a black band around their necks, a black bar over their foreheads and bright orange legs. Despite their small size and camouflage coloring that makes them blend in with their habitat, the males put on quite a show to attract a female.

During courtship, the male piping plover performs an aerial display flight, looping through the air to attract a female. As things become more serious, the male does a courtship dance where he stands up as tall as he can, puffs his chest out and marches like a soldier, kicking each leg straight out with every step, pounding his tail into the sand. He struts his stuff back and forth, hoping to impress the onlooking female. If she succumbs to

*When in breeding plumage, piping plovers are distinguishable by their pale back, dark black neck ring and a band across the brow.*

his charm, the pair will mate and the female will choose where to nest within the couple's territory. The female will lay her eggs in one of several "scrapes" made by the male – these are simply small depressions in the sand, sometimes with a few small stones or shell fragments inside. Once nesting begins, the female piping plover typically lays one egg every other day until a full "clutch" of four eggs is laid.

Both the male and female piping plovers have a brood patch – an area of bare skin which allows them to transfer body heat to the eggs while sitting on the nest. Therefore, both the male and female take turns feeding and incubating the eggs. In New Hampshire, clutches of chicks usually hatch after 23-29 days of incubation.



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## Want to Protect Piping Plovers? Here's How.

**1. Respect signs and fenced areas.** Pedestrians may step on eggs or chicks or flush adult plovers from nests, exposing eggs to predators, excessive temperatures and other dangers. Please, respect signs and do not walk through fenced areas.

**2. Be a responsible pet owner.** Walk dogs on a leash in areas where piping plovers are not present. Keep cats indoors. These animals can harass or even kill piping plover chicks and adults and destroy their eggs.

**3. Fill in holes on the beach.** Piping plover chicks can fall into holes in the sand and become trapped. If you dig a hole, fill it in before leaving.

**4. Fly kites a safe distance away from plovers.** Kites can be very disturbing to piping plovers, who may think they are predatory birds. Never fly kites closer than 200 yards from adult and juvenile piping plovers.

**5. Don't approach or linger near piping plovers or their nests.** It is exciting to watch this small shorebird as it carries out its daily activities, but being too close can disturb the birds. Bring binoculars and view them from a distance.

**6. Teach children safe viewing and respect for wildlife.** Small moving creatures can be a temptation for children, but chasing or catching chicks may cause stress or injury to the birds and could kill them. Point out the birds to children and have them watch from a safe distance.

**7. Obey local fireworks laws.** Fireworks cause stress to adult piping plovers and their chicks and also can cause accidental fires that can destroy dune vegetation.

**8. Pick up trash and food on the beach.** Garbage attracts predators such as gulls and crows that prey upon piping plover eggs, chicks and sometimes even adults. Refrain from feeding gulls, and be sure to bring home all food and food containers you brought to the beach.

**9. Report observations.** Report vehicle use, firework use, dog walking, vandalism or other suspicious activities near plover nesting areas to your local police.

**10. Volunteer!** If you enjoy watching the birds and are interested in helping protect piping plovers, you can help out by contacting New Hampshire Fish and Game and volunteering.

From mid-May through mid-July, broods of piping plover chicks appear. Piping plover chicks are “precocial,” which means that they already have fluffy down upon hatching and are able to walk and feed themselves within just a few hours. (Some other bird species, such as songbirds, are “altricial” – the chicks do not have feathers, stay in the nest and rely on their parents to feed them.) Piping plover chicks are often described as “cotton balls with toothpicks for legs.” The real work begins when the tiny little fuzzballs hatch – for the plover parents and for me, the piping plover monitor. Our jobs are alike – to watch over these petite plovers and protect them from harm.

### Plover Protection

As N.H. Fish and Game’s piping plover monitor, one of my goals early in the spring was to scour the beaches in search of these birds and locate their nests. Once I found a nest, I called for help and, together with 2 or 3 other people, set up an enclosure around the nest. Enclosures are wire fences that encircle the nest to keep predators out and prevent the eggs from being eaten or accidentally stepped on. Each square of the mesh fence is 2 inches wide – just big enough for the adult piping plovers to walk through – and is covered by netting to prevent avian predators such as gulls and crows from entering from above.

The most crucial time in a young plover’s life is the first 30 days. Piping plover chicks are not able to fly until they are about one month old, which makes them extremely vulnerable to a variety of threats. They are easy targets for predators such as gulls, crows, foxes, cats and dogs.

Domestic cats and dogs can have devastating impacts on piping plover populations. Cats that are allowed to roam freely chase and kill plovers (and many other species of wildlife), as it is their natural instinct to hunt. Dogs that run freely off-leash can chase plovers, causing stress and injury to adults and harm to their unprotected eggs; they’ve even been known to catch and kill young plovers. Free-running dogs can also accidentally step on plover nests and crush eggs.

In one disheartening incident two summers ago, a pair of plover parents was killed; all evidence suggests that feral cats did the deadly deed, since cat tracks were found in the sand throughout the area and necropsy results from the plover carcasses reported significant wounds from a mammalian predator as the cause of death. Two of the orphaned plover chicks survived – they were taken in by rehabilitators in Maine and later released, in hopes that they would successfully join the wild population, although the chances were slim.

Because of the peril of domestic and wild predators on New Hampshire’s seacoast, predator management is a necessary part of protecting

piping plovers. Biologists are working to identify those predators most likely responsible for killing plovers and their young. Once a specific predator species has been identified, trained staff live trap and remove them from piping plover breeding areas. Other efforts include outreach to educate the public about plovers and the impacts of cats and dogs on this fragile population.

People, too, can be a severe danger to plover chicks, without even knowing it. Piping plover chicks blend in well with the sand and their instinct is to freeze when danger approaches. This makes them difficult to see by people walking and driving vehicles in the area. And, because of their tiny size and inability to fly, they can fall into holes, or even tire tracks, in the sand and become trapped – unable to escape.

Those who live near the beach are familiar with the mechanical cleaning process called “raking” that occurs on many public beaches during the summer months. In areas where piping plovers are nesting, biologists work with beach managers to temporarily halt beach raking while plover chicks are present.

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*Biologists fence off portions of the beach in plover nesting habitat; once eggs are laid, enclosures, above, are erected to protect them from predators. The plover egg at left may have been crushed by people disregarding restricted area signs or letting dogs run off leash. Below, cat tracks in the dunes tell the story of a serious threat to plover survival that could be controlled by keeping cats inside.*



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*Tiny plover chicks are no match for mechanical beach raking machines. On some local beaches, raking is postponed until late summer to protect growing plover chicks, which feed in seaweed washed ashore. Below: Can you spot the daring plover chick taking its chances among the sunbathers?*

This allows the wrack line (seaweed) to build up in the breeding area, providing a vital food source to young chicks as they feed on tiny microorganisms to grow and gain strength. By preventing motorized equipment from traveling through breeding areas, the risk of machines running over and killing any of the defenseless chicks is eliminated. As soon as the chicks are able to fly, beach raking activities can resume.

While plover chicks face many dangers, and though they can't fly until they have grown and gained strength, their tiny little toothpick legs dash them across the beach like a runningback going for the winning touchdown in the Super Bowl. Within hours of hatching, these little chicks can be seen scurrying back and forth between sunbathers lying in the sand, as they make their way from the dunes down to the intertidal zone to

feed on marine worms, crustaceans and insects that they pluck from the sand. Often during this time, you can also see worried plover parents (and plover monitor) frantically scanning the beach to locate each chick.

### A Piece of the Plover Puzzle

During the 19th century, piping plovers were common along the Atlantic Coast. Nonetheless, because of excessive hunting for the millinery trade in the days when ladies wore fancy plumed hats, they nearly went extinct. After the Migratory Bird Treaty Act was enacted in 1918, piping plover numbers increased, peaking in the 1940s. Then the population suffered a significant decline again, this time primarily because of loss of habitat as shoreline development and recreational use of beaches increased up and down the Atlantic coast. In 1986, the U.S. Fish and Wildlife Service listed piping plovers as "threatened," giving them additional protection under the U.S. Endangered Species Act.

In New Hampshire, piping plovers are listed as "endangered," primarily because of low population numbers and limited habitat. Our state's piping plover protection effort is led by the Non-game and Endangered Wildlife Program at N.H. Fish and Game, working closely with other agencies and organizations including the U.S. Fish and Wildlife Service, U.S. Department of Agriculture, N.H. Parks and Recreation, N.H. Department of Environmental Services, the Town of Hampton, the Town of Seabrook, several local groups and dozens of volunteers.

Since 1997, when the New Hampshire piping plover protection effort began, anywhere from 3 to 7 pairs of piping plovers have nested on our beaches each year. These breeding pairs have successfully raised a total of 74 plover chicks (*see sidebar, page 18*).

Although the number of nesting pairs may seem low, it is important to keep in mind that the local piping plover population is only a small piece of a much larger puzzle. The chicks that are produced from New Hampshire breeding piping plovers contribute to the greater Atlantic Coast piping plover population, which is persevering thanks to intense management and protection efforts.

In 1999, the U.S. Fish and Wildlife Service published a revised recovery plan for the Atlantic coast piping plover population. One of the goals of this recovery plan is to maintain a total of 2,000 pairs of breeding piping plovers

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