

Piping Plovers & Beach Habitat in Nova Scotia



The Piping Plover (*Charadrius melodus melodus*) is an endangered shorebird that relies on sand and pebble beaches along the Atlantic Coast to nest and raise young. There are less than 40 breeding pairs in Nova Scotia – a decline of over 25% since 1991.

Your help is needed: Learn more about plovers and what actions you can take while visiting the beach.

Description: Adults are about 17 cm long and weigh 43-64 grams (about 6 toonies). Sand-coloured backs and heads help Piping Plovers stay camouflaged on the beach. In spring-summer, adults have orange legs, an orange bill with a black tip, a white belly, and black bands on their forehead and around their neck. In the late summer, adults lose their black feathers and their beaks turn black.

Distribution: Two populations of Piping Plovers nest in Canada: the eastern Canada population and the Prairie and Great Lakes population. In spring-summer, the eastern Piping Plovers are found on sand and pebble beaches from Newfoundland to South Carolina. In fall-winter, plovers are found along the coast of southeastern USA and the Caribbean Islands.

In Nova Scotia, Piping Plovers breed on less than 30 beaches, along the South Shore (Shelburne to Halifax Co.), North Shore (Pictou and Antigonish Co.), and in Cape Breton (Victoria, Inverness and Cape Breton Co.). Many traditional breeding beaches have been lost due to natural and human-induced changes.

Half of Nova Scotia's Piping Plovers breed in southern Nova Scotia. This small southern group appears to be reproductively isolated from the rest of the eastern population. Thus a bird born in southern Nova Scotia will return there to breed, and it is unlikely that birds born elsewhere will breed in southern Nova Scotia. The small size of this sub-population and the lack of genetic exchange with other groups put it at a greater risk of inbreeding and having reduced levels of genetic diversity. Inbreeding reduces fecundity and survival and so directly increases extinction risk. Reduced genetic diversity compromises the ability of populations to evolve to cope with environmental change and reduces their chances of long-term persistence.

Migration: In spring, adults return from wintering grounds to Nova Scotia to breed in late April and May. When nesting is complete, adults start leaving beaches for the southern migration. This begins in mid-July and most plovers are gone by early September.

Where do plovers nest? Piping Plovers nest on wide sand, gravel, or cobble beaches, barrier island sandspits, or peninsulas in marine coastal areas. Early successional habitat, most often free of dense vegetation, is preferred for nest sites. Feeding areas must be locally available so flightless chicks can gain access to them. From May-August, plovers lay their eggs on the beach between the grassy dunes and the high-tide mark (see illustration below). The male and female make a "scrape", a shallow depression (10 cm wide) in the sand or cobble. Though remarkably adapted to the shifting sands, Piping Plovers cannot adapt to some human activities and predators. Their camouflaged eggs (see right, above) and flightless chicks (see right, below) are difficult to see on the sand, thus people, dogs or vehicles can crush them by accident.





NESTING CYCLE:

Nest incubation: Male and female share duties over a period of 28 days.

Chick hatching: Young may hatch starting in late May or early June onwards, depending on when nesting was initiated.

Chick-rearing: Precocial chicks are able to walk and run within hours after hatching. Chicks are not fed by parents, but are led to foraging habitat by parents. Chicks are brooded (warmed against parent's brood patch on belly) by both parents for the first few weeks. Some females leave the male to care for the brood 5-17 days after hatching. The extent of the chick-rearing period by adult plovers varies, but is approximately 4 weeks.

Chick fledging: The age at which chicks can sustain flight is between 28-32 days.

Re-nesting: A pair will attempt to raise one brood of young every year. However, if eggs are lost before hatching the pair may attempt a new nest. Re-nesting attempts can occur up to early July.

When are Piping Plovers on Nova Scotia beaches & What are they doing?

(Dark grey= peak; light grey=off peak)

Piping Plover Activity	APRIL		MAY		JUNE		JULY		AUGUST	
	Mid to late	Early to mid	Mid to late	Early to mid	Mid to late	Early to mid	Mid to late	Early to mid	Mid to late	
Adults arrive males defend territories										
Find mate & nest site adults make nest 'scrapes'										
Females lay eggs nests not tended regularly										
Adults incubate nests nests tended regularly										
Chicks on beach chicks cannot fly for 4 weeks and are cared for by parents										
Migration preparation feed and rest; juveniles may remain into September										

Diet: Piping Plovers feed in marine and bayside intertidal zones in sand, mud and algal flats. The diet of the Piping Plover is not well known, but does include marine worms, flies and fly larvae, beetles, small crustaceans and other small invertebrates. Plovers capture prey using a "stop, run, peck" style of foraging, using their keen eyes to spot prey and their beak to quickly catch prey. They are also known to vibrate one foot on the wet sand, presumably to bring invertebrates up to surface.

Threats to Piping Plovers: Piping Plovers are federally and provincially protected, but the following threats continue to limit their population recovery:

Habitat Loss: Inappropriate placement of buildings and structures along the coast has destroyed and degraded important breeding habitat. Storms continuously change the landscape of our beaches in Nova Scotia. Beaches that become too steep and narrow from erosion or plant-covered are not suitable for Piping Plovers. An increase in powerful storm events is among the predicted impacts of human-induced climate change, which could further reduce available, safe breeding habitat.

Predators: Crows, foxes, minks, coyotes, gulls, and raccoons can prey on plover chicks, eggs or adults. Predator numbers can increase when garbage is left by people or washed up on beaches, upsetting the balance between predators and prey.

Human Disturbance: People are often unaware that they are disturbing breeding plovers because Piping Plover adults, nests and chicks are hard to see. Piping Plovers may abandon their nests if there is too much human activity in their nesting area. The following types of activities can harm plovers:

- People walking in sensitive nesting areas can crush plover eggs or chicks.
- Off-leash dogs at the beach can chase plovers, crush eggs, or kill flightless chicks.
- Motorized vehicles, such as off-highway vehicles and trucks, can run over eggs, chicks and adults. Vehicle tracks can trap young chicks and cause plover families to be separated. Vehicles can crush dune plants and damage dunes (see right).



How to help:

- **From May through August, keep clear of sensitive nesting areas** (see beach illustration above) by walking on the wet sand whenever possible and not lingering near areas with rope fencing and plover signs.
- **Keep your pets on a leash.** Many people think that beaches are a great place to let their dogs run loose, but dogs can chase plovers and other beach wildlife.
- **Keep the beach clean** by taking food and garbage with you when you leave and organizing beach clean-ups between September and mid-April when plovers are not breeding.
- **Don't drive on beaches or dunes** because vehicles can crush eggs and chicks and can damage beach and dune habitat.
- **Share these tips with others** and **report violations** to NS Dept of Natural Resources's conservation hotline (1-800 565-2224).
- **Volunteer** or **make a donation** to help with educational outreach or habitat protection efforts (nsplovers@gmail.com).

Contact Us:

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