

# PIPING PLOVER

## VOLUNTEER TRAINING GUIDE



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This is a work in progress (Version 1 2012) . Please send your comments and suggestions to:

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# Piping Plover *Charadrius melodus melodus*



© Hans Toom

The Piping Plover is a small shorebird (17-18 cm), with sandy-gray upperparts and white underparts. It has a black band around the neck and forehead, an orange bill with a black tip and orange legs. Chicks have sandy-gray upperparts, white underparts, no black on the neck and forehead and a solid black bill. Its call is a whistled “peep lo”.



© Hans Toom

## Semipalmated Plover

Similar size (18 cm) and shape; chocolate-brown upperparts; dark marking under eye; often seen in large flocks in late summer and early fall.



© Hans Toom

## Killdeer

Larger size (27 cm); chocolate-brown upperparts; orange rump; double stripe on breast; loud repeated call when agitated. Often seen next in open fields and parking lots.



© Hans Toom



## Sanderling

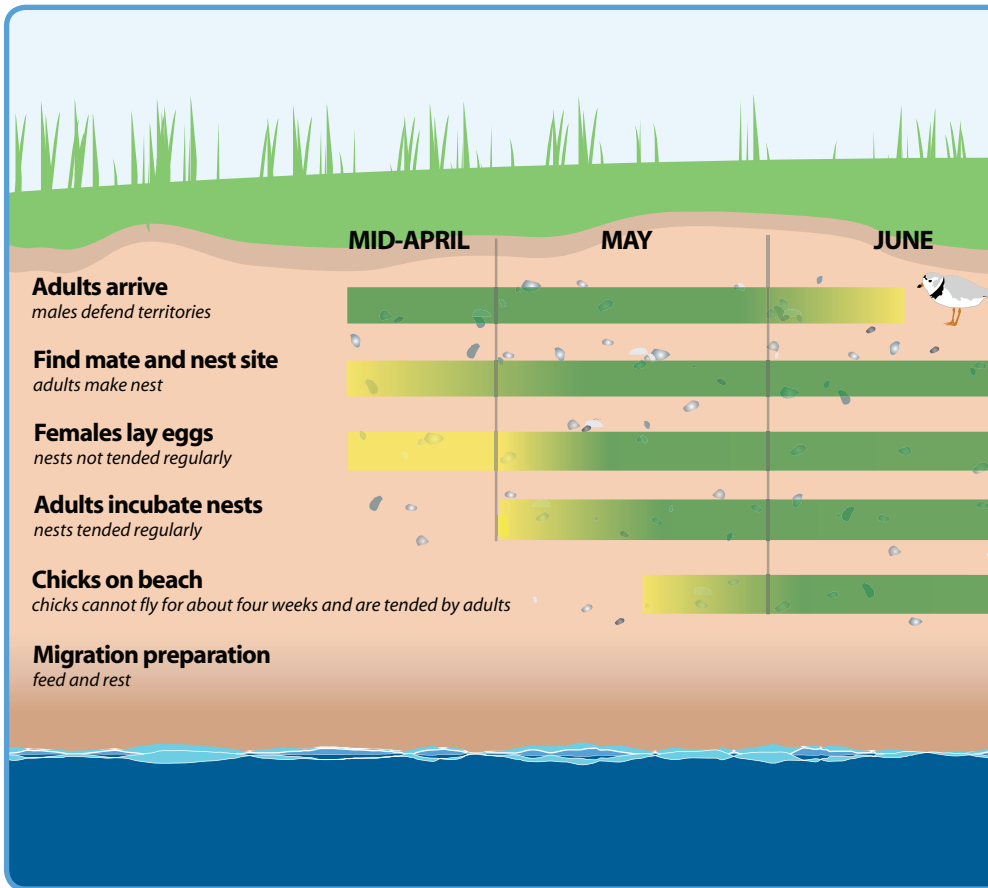
Similar size (18-20 cm); longer, black bill; mottled, brownish or grey upperparts; black legs; often seen feeding at water's edge.

# Piping Plover Activity Chart

Piping Plovers arrive in Eastern Canada in mid-April-May. They make their nests on our sandy and pebbly coastal beaches. This chart shows the timing of their breeding activities.

## LEGEND

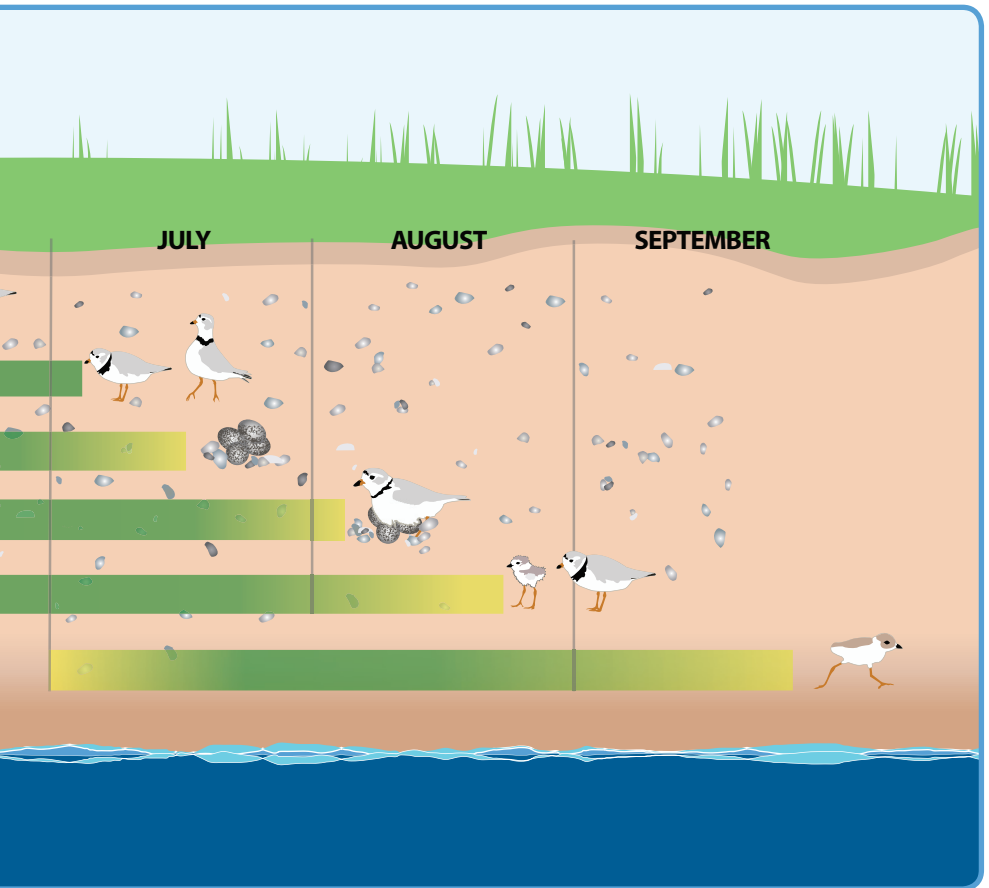
	peak activity
	off-peak activity





© John Chardine

At hatching, Piping Plover chicks weigh approximately the equivalent of two pennies.



# Piping Plover Habitat

Piping Plovers usually choose wider beaches for breeding. These beaches will often have some cobble and grassy dunes. Plovers usually make their nests on the dry open sand between the high tide line and dune grass. They may also nest on cobble, in dune breaches, and in some cases along the edges of sand dunes, hidden in the marram grass.

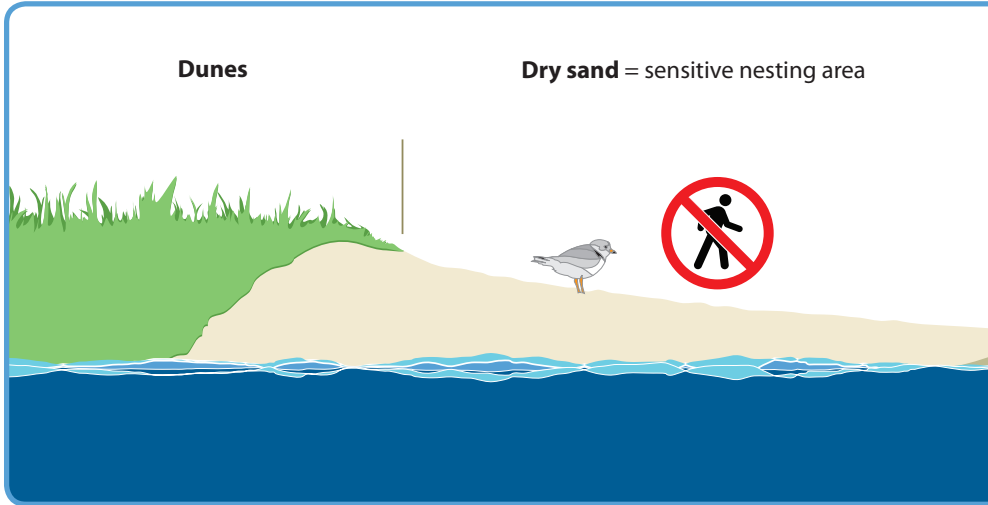


Illustration: Stephen Sharkey-Chouinard



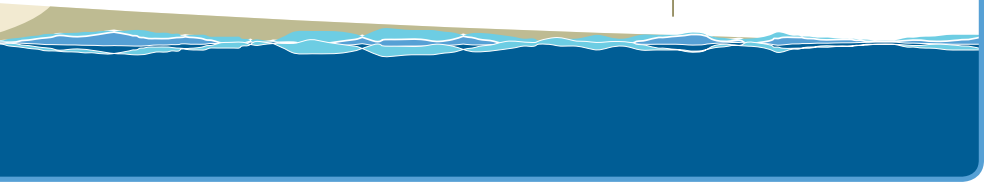
© Sidney Maddock

Camouflage is the Piping Plover's main defence. The sand-coloured adults, chicks and eggs are very difficult to see.



**Wet sand** = walk here

**Ocean**



© Environment Canada

Piping Plovers are “pigeon-toed” and leave distinctive three-toed tracks.

# Why Piping Plovers Need Our Help

Piping Plovers are endangered in Canada.

This table lists the main threats that plovers face and how we can help.

The threats	Why is it a threat?	How can we help?
<p>People getting too close to nesting areas <i>Walkers, sunbathers, off-leash dogs, picnickers, kite fliers and surfers, horseback riders, and vehicle traffic can get too close.</i></p>	<p>Adult birds may abandon nests, leave eggs unattended, or be separated from their chicks if they are scared by the presence of people. Unattended eggs are vulnerable to the elements and predators. Birds may be discouraged from nesting with too much disturbance on a beach.</p>	<p>Place signs on the beach to alert people to breeding plovers and how to avoid disturbing them.</p> <p>Talk to people on the beach and share tips on how they can enjoy the beach without harming Piping Plovers.</p> <p>Set up rope and signs around the nesting areas to prevent people from walking through sensitive areas and accidentally stepping on eggs and chicks.</p>
<p>Predators <i>Gulls, crows and foxes are common predators.</i></p>	<p>Predators can eat eggs, chicks and adults. Litter, foods scraps and the presence of people on the beach can attract predators.</p>	<p>Assist with predator monitoring.</p> <p>Clean the beach of litter.</p> <p>Educate beach-goers.</p>
<p>Storm events</p>	<p>High tides and storm surges can flood the nests.</p>	<p>Watch weather for storm surges that could flood nests.</p>
<p>Habitat loss</p>	<p>Building too close to the coast and armouring shores can decrease the amount and quality of nesting habitat.</p>	<p>Educate landowners about best practices.</p> <p>Create new habitat by removing marram grass (in select areas only where this is suitable).</p>

# Ways You Can Get Involved

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1. Surveying potential habitat
2. Monitoring plovers on the beach
3. Educating beach-goers
4. Setting up symbolic fencing and signs
5. Making signs
6. Helping with research
7. Cleaning the beach of litter
8. Helping with habitat enhancement
9. Monitoring shorebird migration



# 1. Surveying potential habitat

Piping Plovers generally choose wide beaches to make their nests. These beaches will often have cobble and a dune system. Nests are often located where there is a breach in the dune or on the beach between the mean high tide line and vegetation. In some cases, plovers will nest in sand dunes or in vegetation, such as marram grass, also commonly known as American beach grass (*Ammophila breviligulata*).

**Commitment level:** Opportunistically when you are visiting beaches through April-August.

**Skills required:** Ability to identify potential Piping Plover breeding habitat (see above).

**Equipment needed:** None.

**What you will get out of it:** Fresh air and exercise, and perhaps discovering a new nesting beach for an endangered species!



© Environment Canada

*When you visit beaches, take note of potential habitat for Piping Plovers.*

## 2. Monitoring plovers on the beach

This involves visiting the beach and looking for plovers throughout the breeding season or during migration.

### **Volunteers are needed to:**

- check known nesting beaches in early spring for the arrival of adults
- follow adults through the breeding season
- monitor nests and chicks from a safe distance

**Commitment level:** Once a season to once a day. Varies depending on the region and your availability.

**Skills required:** Patience, keen eyesight, ability to collect data, follow protocol, walk on uneven terrain (potentially long distances).

**Please note:** Some activities, such as approaching a nest, require a permit from Environment Canada.

**Equipment needed:** Binoculars, volunteer kit, monitoring form.

**What you will get out of it:** Monitoring experience, contributing to science needed to evaluate recovery efforts, learn about fascinating aspects of plover behaviour, fresh air, vitamin D and exercise, helping a team monitor a region's beach.

(See page 16 for more information on how to monitor.)



*It is important to take notes. See pages 18-19 for an example of a completed monitoring form.*

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### 3. Educating beach-goers

**Commitment level:** Once a season to once a day. Varies depending on the region and your availability.

**Skills required:** Strong interpersonal skills, positive attitude, desire to share information with the public, patience, tolerance.

**Equipment needed:** Educational resources (provided).

**What you will get out of it:** One of the most important aspects of plover conservation is helping people understand and appreciate the plight of the plovers. You'll sleep better at night knowing that you inspired someone to put a leash on their pet or walk on the wet sand.



*Talking to beach-goers about how they can share the beach with plovers is one of the most important activities.*

© Bird Studies Canada

## 4. Setting up symbolic fencing and signs

**Commitment level:** Once a season (set up and take down).

**Skills required:** None.

**Equipment needed:** Work gloves.

**What you will get out of it:** Working in a team and learning about plover nests and habitat. You will help safeguard a plover nest.



© Bird Studies Canada



© Environment Canada



© Environment Canada

*Once plovers lay their eggs, signs or symbolic fencing of rope and posts are set up to protect the nest.*

## 5. Making signs

**Commitment level:** Once a season.

**Skills required:** Artistic ability.

**Equipment needed:** Plywood, paint, post, bolts (supplied).

**What you will get out of it:** Using your artistic skills for conservation, satisfaction of seeing your artwork displayed at the beach.

*Locally made signs are sometimes placed on beaches and beach entranceways to educate people about plovers and how to help them.*





## 6. Helping with research

**Commitment level:** As needed.

**Skills required:** Follow protocol, ability to work independently, interest in science.

**Equipment needed:** Binoculars.

**What you will get out of it:** Participating in science, filling knowledge gaps.



© Bird Studies Canada

*Types of research projects will vary. Presently, researchers need people to help look for colour-banded Piping Plovers.*

## 7. Cleaning the beach of litter

**Commitment level:** Once a year or more.

**Skills required:** None.

**Equipment needed:** Work gloves.

**What you will get out of it:** Meet new people with similar interests, a cleaner beach to enjoy.



© Bird Studies Canada

*Beach cleanups are done when plovers are not present (October-early April).*

## 8. Helping with habitat enhancement

**Commitment level:** A day or two in the fall after the plovers migrate south.

**Skills required:** A sense of adventure and a moderate fitness level to walk (potentially) long distances to the site and rake and pull up the grass.

**Equipment needed:** Gloves and rakes (provided).

**What you will get out of it:** Lots of fresh air, exercise and good company on a beautiful coastal beach. The chance to lend a hand and create habitat for this endangered species.



© Doug Smith

*In a few locations such as Kejimikujik Seaside National Park, marram grass is removed to create suitable nesting habitat.*

## 9. Monitoring shorebird migration

The Atlantic Canada Shorebird Survey is a volunteer-based monitoring program that is coordinated by Environment Canada. Volunteers are needed to survey shorebirds in spring and fall.

During spring migration (April to June) shorebirds are heading north to their breeding grounds. During the fall peak migration (late July to end of October) shorebirds are heading south to their wintering ground.

Contact Julie Paquet at Environment Canada for more information: 506-364-5037 email: [julie.paquet@ec.gc.ca](mailto:julie.paquet@ec.gc.ca).



© Donald Sam

*The Maritimes Shorebird Survey began in 1974. The program expanded in 2003, creating the Atlantic Canada Shorebird Survey.*

# Tips on Talking with Beach Visitors

## About Piping Plovers

**Our goal is to create positive interactions between plovers and people.**

- Volunteers play an important role on beaches to educate beach visitors, but are not able to enforce legislation. Always take caution to ensure your personal safety is not at risk when approaching the public. Assess the situation and **approach only if comfortable.**
- Phone Environment Canada or your provincial enforcement officers if you witness illegal activities. See page 19 for contact information.
- Approach beach visitors in a friendly manner.
- **Be positive.**  
We want beach visitors to have a positive association with Piping Plovers and their beach experience.
- **Keep it short and simple.**

### **Main messages:**

- About 250 pairs left in Atlantic Canada.
  - Keep pets on leash.
  - Do not approach signed nesting areas.
  - Walk on wet sand.
  - Put litter in garbage bins, or take trash out.
- Offer to share binoculars to look at the plovers.
  - **Provide a brochure** for more information.
  - In potentially confrontational situations **stick to the facts** and avoid sharing your personal opinion.
  - If you are monitoring, take the opportunity to stop and share what you are doing with other beach visitors.

**Refer to best practices documents (see Further Reading on page 26) to learn more.**

### **Dogs in National Parks**

Kejimikujik: Dogs are allowed on beaches at the Kejimikujik Seaside but must be on leash at all times.

Kouchibouguac: Dogs are not allowed at any time of year on beaches and dunes in the park.

PEI National Park: Dogs are not allowed on any beaches from April 1 to October 15. In the months dogs are allowed on the beach they must be on a leash.

# Monitoring – How to Survey for Plovers

- **Walk the length of the beach at a moderate pace** below the most recent high tide wrack (seaweed) line (walk on wet sand). Stop at least every 100 metres to **scan the beach and shoreline with binoculars**.
- In addition to surveying the beach, all sections of the **intertidal zone should also be scanned** to locate foraging plovers. In some cases, foraging locations have been greater than 1 km from nest sites.
- Your presence may disturb nesting plovers, so **be observant** for any indication of Piping Plovers, such as tracks or the soft **“peep-lo” call**. Once a call is heard, carefully retreat to the water’s edge and attempt to locate the plover with binoculars. It is possible that a plover could be tending a nest.
- **Complete the monitoring form**. Remember to record signs of predators (tracks, scat, or sightings). See pages 18-19.
- **Remember** to bring along water, binoculars, sunscreen, a hat, and a field guide.



## Monitoring – DOs

- ✓ **Follow a monitoring schedule** for your beach to ensure adequate coverage for that site. Discuss with program coordinator.
- ✓ **Survey in favourable weather conditions**, i.e. between 10–20°C, wind speed between Beaufort 0 and 4 (see page 20), and ideally with little or no precipitation.
- ✓ **Visit beaches on suspected hatching and fledging dates.** Discuss with program coordinator.
- ✓ **Record detailed field notes every time you visit the beach, using the monitoring form provided.**
- ✓ **Minimize time spent observing plovers to reduce disturbance.** Discuss with program coordinator.
- ✓ **Monitor nesting pairs from a remote location (100 m), making sure that plovers are not flushed from nests.**
- ✓ **On very narrow beaches, consider timing your visits to low tide.**
- ✓ **On very busy beaches, consider timing your visits when people are present** to increase opportunities for education.

## Monitoring – DON'Ts

- ✗ **Approach nests without a permit.** Approaching a nest could cause it to fail. As a nest is approached, the incubating adult will be forced to leave the nest, causing a break in incubation. If a break in incubation occurs, the eggs could become overheated or chilled which could kill the embryo. Furthermore, if nests are continually approached, the adults may abandon the eggs completely. In other cases, it has been thought that 'smart' predators such as crows and fox have followed monitors' tracks to plover nests, resulting in depredation.
- ✗ **Handle the eggs, adults, or chicks.**
- ✗ **Approach or disturb the plovers.** See page 23 for more information on disturbance behaviours shown by plovers.

# Sample Piping Plover Monitoring Form

Your name(s): Peter Parker

Date (D/M/Y): 13/07/2011

Start time: 14:30 End time: 16:30

Survey effort (min): 90

Beach name: Sunset Beach

Temp. (C): 19 Beaufort Force (see page 20): 3

Weather (Circle): sun partial sun fog rain

Tidal State: high low

Tidal Action: rising falling

Signs present?

YES

NO

Symbolic fencing present?

YES

NO

Exclosure present?

YES

NO

## A. Piping Plovers Observed

# Adult PIPL pairs 1 # Adult PIPL singles \_\_\_\_\_ Total # Adult PIPL 2

Total # chicks (<20 days old) 0 Total # fledglings 0 New nest(s) found? YES NO

Nests/chicks checked? YES NO Additional Observations? 1 adult on nest.

1 adult foraging on wet sand

## B. Threat Observations *This information will help us track and evaluate our stewardship activities*

### Collect the following when you first arrive on beach:

	Number
Dogs on-leash (count #s upon arrival on beach, observing as far down beach as possible)	<u>2</u>
Dogs off-leash (count #s upon arrival on beach, observing as far down beach as possible)	<u>1</u>
Walkers on wet sand (when 1st plover sign is visible on beach, count # walkers beyond that sign)	<u>6</u>
Walkers on dry sand (when 1st plover sign is visible on beach, count # walkers beyond that sign)	_____

### Collect the following throughout survey & Add extra info in D. Additional Observations, Number

People tracks inside symbolic fencing (if present)	_____
People inside symbolic fencing (if present)	_____
People spoken to about Piping Plovers	<u>2</u>
Dogs chasing plovers on beach	<u>0</u>
Dogs put on leash after being spoken to, seeing you, or encountering sign	<u>1</u>
Dog tracks inside symbolic fencing	<u>0</u>
New vehicle tracks on beach (note: count all tracks if site is infrequently surveyed)	_____
Vehicles on beach (if possible, describe vehicle, licence # in Additional Observations, page 2)	<u>0</u>
Signs or symbolic fencing vandalised on beach	<u>0</u>
Amount of litter collected (bags)	<u>1</u>
Estimate of people on beach (circle highest count) 0 <u>1-10</u> 11-20 21-50 51+	

**C. Predator Observations** *Collect throughout survey. See predator track guide to help identify tracks.*

	Crow	Raven	Herring Gull	Great Black Backed Gull	Merlin	Northern Harrier	Bald Eagle	Mink	Fox	Coyote	Other:
# individuals observed	2		5			1					
# tracks observed			10								

Additional predator observations? \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**D. Additional Observations** *e.g., banded plovers, other breeding or migratory birds, threat details*

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**Enforcement Contacts**

Environment Canada – Canadian Wildlife Service (Atlantic Region) 1-506-364-5044

**Provincial enforcement contacts**

Newfoundland and Labrador Fish and Wildlife Enforcement Division hotline 1-877-820-0999

Prince Edward Island 902-368-5000

Nova Scotia Department of Natural Resources hotline 1-800-565-2224

New Brunswick:

NB Department of Natural Resources District Tracadie-Sheila 506-394-3636

NB Department of Natural Resources District Richibucto 506-523-7600

**Please submit your data by the end of August – even if you did not see birds on your beach!**

# Beaufort Scale

Force	Wind (km/h)	Term	Environmental Indications
0	calm	Calm	<i>Land:</i> Smoke rises vertically. <i>Sea:</i> Sea like mirror.
1	2 - 5	Light air	<i>Land:</i> Smoke drifts slowly downwind. <i>Sea:</i> Ripples with appearance of scales; no foam crests.
2	6 - 11	Light breeze	<i>Land:</i> Leaves rustle. <i>Sea:</i> Small wavelets; crests of glassy appearance, not breaking.
3	12 - 18	Gentle breeze	<i>Land:</i> Leaves are in motion. <i>Sea:</i> Large wavelets; crests begin to break; scattered whitecaps.
4	19 - 30	Moderate breeze	<i>Land:</i> Small branches on trees move. <i>Sea:</i> Small waves, becoming longer; numerous whitecaps.
5	31 - 39	Fresh breeze	<i>Land:</i> Small trees sway. <i>Sea:</i> Moderate waves, taking longer form; many whitecaps; some spray.
6	40 - 50	Strong breeze	<i>Land:</i> Large branches sway. <i>Sea:</i> Larger waves forming; whitecaps everywhere; more spray.
7	51 - 61	Near gale	<i>Land:</i> Whole trees in motion. <i>Sea:</i> Sea heaps up; white foam from breaking waves begins to be blown in streaks.
8	62 - 74	Gale	<i>Land:</i> Twigs and small branches break off trees. <i>Sea:</i> Moderately high waves of greater length; edges of crests begin to break into spindrift; foam is blown in well-marked streaks.
9	75 - 87	Strong gale	<i>Land:</i> Large branches break off trees; slight structural damage. <i>Sea:</i> High waves; sea begins to roll; dense streaks of foam; spray may reduce visibility.



# Learn More – Additional Resources

**Behaviour**<sup>1</sup> See page 2-3 for illustration of timing of breeding activities.

## Establishing territories

When Piping Plovers arrive in early spring, the males establish their territories. Territorial behaviour consists of aerial, horizontal threat and parallel-run displays.

If any of these behavioural displays are observed, it is likely that territories and breeding pairs have been established and courtship will soon follow.

## Courtship

During courtship, males will dig several scrapes, kicking sand backwards. Scrapes may appear in a territory for up to two weeks before copulation and egg-laying. The female will lay her eggs in one scrape. If scrapes are observed on a territory occupied by a pair during April, May and June, it is likely that eggs will soon be produced. Signs of courtship may also be observed when a nest is lost early in the season.

## Feeding

Piping Plovers forage along the shoreline on invertebrates. They are known to consume nematode worms and small crustaceans found along the coast. Other foraging habitat includes intertidal mudflats exposed at low tide, ephemeral pools and wrack. Piping Plovers have been known to use foraging habitat found up to 2 km from the nest site.

## Nesting

Eggs are laid one at a time, and often two to three days between each egg. A clutch of eggs is generally produced over a period of six to eight days, after which time incubation will begin.

Clutch size is normally four eggs. Third nest attempts may have less than four eggs. Five-egg clutches are occasionally discovered.



© Hans Toorn

The male Piping Plover courts the female with a high step march, called “tattooing”.



© M-F Noel, CWS

Piping Plover nest.

<sup>1</sup> From: *Atlantic Canada Piping Plover Conservation Guidance Manual*

## Incubating

Piping Plovers usually start tending their eggs constantly when all eggs have been laid (complete clutch). In most cases, the nest will be incubated continuously with the male and female alternating incubation. When nest exchanges occur (one adult relieves the other from incubation), shell fragments or pebbles are often tossed. The incubation period lasts 26 - 31 days.

If a nest is disturbed during incubation, the incubating adult will leave the nest and vocalize in an attempt to lead intruders from the nest site. If this fails, the adult will further attempt to draw attention to itself and away from nests or chicks by acting as if it has a broken wing in order to appear as an easy target for potential predators – the “broken wing display.”

## Hatching

Once hatching begins, most clutches hatch within four to eight hours. However, there are rare cases in Atlantic Canada where it has taken a clutch four days to hatch. As chicks hatch, adults carry egg fragments from the nest to the water, presumably to minimize the threat of predation. After hatching, the chicks remain in the nest cup for several hours while they dry before leaving the nest to feed. Chicks never return to the nest once all chicks have hatched and the family unit leaves the nest area.

## Chick-rearing

Piping Plover chicks remain with the adults until after they have fledged. However, some females will abandon the brood to begin the migration south. There are a few behaviours typical of Piping Plover broods when disturbed, such as:

- One adult will remain (often vocalizing loudly) to distract an intruder as the brood and the second adult retreat (often into the dunes) for cover.
- Adult(s) stand very alert and look for chicks.
- The chicks will huddle together under one of the adults while the second adult distracts the intruder.

- One adult exhibits squatting, false brooding, high-tailed running, crouch run and injury feigning (broken wing display).

Although chicks appear fragile and awkward, there are cases where broods have traveled large distances in short time frames. There are two cases where broods have moved up to 2 km overnight while less than one week old. Often, the chicks are moved to locations where adult plovers have foraged during the incubation period, to access higher quality foraging sites. It is also common for adult plovers to move their brood away from areas of heavy human disturbance, selecting areas of beach habitat with the least human activity.



© Sidney Madlock

Piping Plover chick being brooded by adult.

## Fledging

For data reporting, chicks are considered fledged when they are 20 days old. Flight may not be attained until 28 days. For the purpose of reporting productivity results in eastern Canada, chicks are considered fledged once they are capable of sustaining short flights (> 15 m). By the time chicks fledge, very little fuzzy down is present and primary feathers are fully developed.

# Disturbance Behaviour

If any of the following behaviours are observed, there is a high likelihood that Piping Plovers are being disturbed. Look for the cause of disturbance. Make sure you aren't the one causing the disturbance – remember to monitor from afar.

## Adults:

- Squatting
- Head bobbing
- False brooding (pretend to sit on a "fake" nest to distract predators)
- High-tailed running
- Crouch run
- Injury taking (broken-wing)
- Vocalizations (whirring, distress call)
- "Head-up" posture
- Crouching on nest
- Flushing from nest

## Chicks:

- Increased hiding in grass
- Decreased feeding and/or brooding by adults
- Increased sitting and vigilance



© Megan Crowley

Adult Piping Plover exhibiting a broken wing display.

# Piping Plover Aging Guidelines



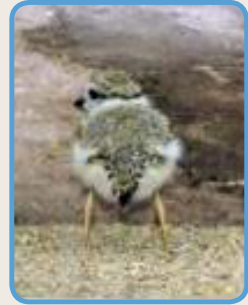
4 days old



6 days old



11 days old



## 1- 5 Day Age Class

- No visible wing or tail.
- Clearly defined black line between upper parts and lower parts.
- As tall as adult's belly.
- Often lies motionless when alarmed.

## 6 -10 Day Age Class

- Downy tailform emerging.
- Black line fading due to emerging feathers.
- Approx. 1/3 size of adult at 10 days.
- Very adept at feeding and mobile on feet.

## 11 -15 Day Age Class

- Feather shafts emerging on wing.
- Emerging contour feather shafts give bird a scaly appearance.
- Looks "chunky" as bird fills out.
- Rarely lies motionless; prefers to run when alarmed.



18 days old



**16- 20 Day Age Class**

- Downy head.
- Contour feathers noticeably developed giving bird a rough fuzzy appearance.
- Approx. 1/2 the size of adult at 16 days.
- Less compact, longer profile from head to tail.



21 days old



**21- 24 Day Age Class**

- Black wing tips and tail feathers noticeably protruding.
- Upper parts nearly fully feathered.
- Almost adult height by 22 days.
- Body begins to look sleek.
- Will take short hop flights.



24+ days old



**24+ Day Age Class**

- Fully developed primary feathers.
- White underparts fully feathered, very little fuzzy down still visible.
- Capable of sustained flight.
- Often seen without adult.

© adapted from the US Army Corps of Engineers

# Contact Information

Province	Piping Plover Conservation Project Coordinators	Volunteer Programs in National Parks
Newfoundland and Labrador		
Nova Scotia	Sue Abbott Bird Studies Canada 902-426-4055 nsplovers@gmail.com	Duncan Smith Kejimikujik National Park & National Historic Site 902-212-2378 volunteer.keji@pc.gc.ca
New Brunswick	Northern NB – Acadian peninsula: Lewnanny Richardson Nature New Brunswick 506-395-3500 pluvier@nb.aibn.com  Bouchouche and area: Kent Watershed Coalition (506) 576-2118 research-dune@hotmail.ca	Eric Tremblay Kouchibouguac National Park 506-876-2443 eric.tremblay@pc.gc.ca
Prince Edward Island	Shannon Mader Island Nature Trust 902-892-7513 projects@islandnaturetrust.ca	Kara Grant PEI National Park 902-672-6455 kara.grant@pc.gc.ca

For more information: [www.pipingplover.ca](http://www.pipingplover.ca)

## Further Reading

The following documents are available from Environment Canada

### Best Practices Documents


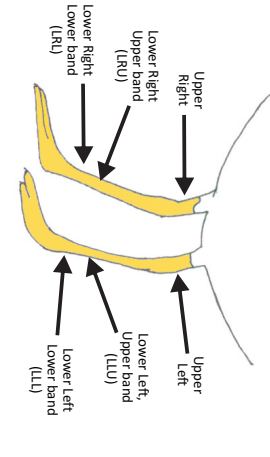



- **Piping Plovers and Your Beach:** Best Practices for Beach Habitat Managers
- **Piping Plovers and Kitesurfing:** Best Practices for Kitesurfing on Sandy Beaches in Eastern Canada
- **Sandy Beaches, Piping Plovers, and You:** Best Practices for Beach Goers in Eastern Canada

**Factsheet: Impacts of Motorized Vehicles and Off-Roading on Sandy Beaches and Piping Plovers**

**A Guide to Piping Plover Predator Tracks**

**Atlantic Canada Piping Plover Conservation Guidance Manual**

You can help with Piping Plover conservation efforts by reporting banded birds. Birds may carry a series of colour bands on both upper and lower legs so be sure to carefully record band information as shown above. Report sightings to Environment Canada (1-506-364-5078) or your program coordinator.

<p style="text-align: center;"><b>PIPING PLOVER</b></p> <p style="text-align: center;">Possible Band Combinations 2011-2012</p> <p style="text-align: center;">A good way to keep track in your field notebook</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td style="text-align: center;">NOTHING DK GREEN</td> <td style="text-align: center;">METAL BROWN FLAG</td> <td style="text-align: center;">DK GREEN ORANGE</td> </tr> </table>		NOTHING DK GREEN	METAL BROWN FLAG	DK GREEN ORANGE	 <p style="font-size: small;">Photo: Parks Canada Agency (PCO)</p>																												
NOTHING DK GREEN	METAL BROWN FLAG	DK GREEN ORANGE																															
TYPE		Eastern Canada 1998-2003		Bahamas-banded birds		Gulf-banded birds		Captive-reared chick (PCA)																									
UPPER LEG		Nothing		No USGS band Black flag 		No USGS band Dark green flag 		USGS band Brown flag 																									
LOWER LEG		<table border="1"> <thead> <tr> <th></th> <th>2002</th> <th>2001</th> <th>worn</th> </tr> </thead> <tbody> <tr> <td>NB</td> <td></td> <td></td> <td></td> </tr> <tr> <td>PE</td> <td></td> <td></td> <td></td> </tr> <tr> <td>NS</td> <td></td> <td></td> <td></td> </tr> <tr> <td>NL</td> <td></td> <td></td> <td></td> </tr> <tr> <td>QC</td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p style="font-size: x-small;">* CWS continues to remove these</p>			2002	2001	worn	NB				PE				NS				NL				QC				<p>USGS band &amp; one of the following:</p> <ul style="list-style-type: none"> <li> white</li> <li> light blue</li> <li> dark blue</li> <li> black</li> <li> grey</li> <li> yellow</li> <li> orange</li> <li> red</li> <li> dark green</li> <li> mint green</li> </ul>		<p>One or two stacked of the following:</p> <ul style="list-style-type: none"> <li> yellow</li> <li> dark blue</li> <li> red</li> <li> dark green</li> <li> black</li> <li> white</li> </ul>		<p>Two stacked bands of the following:</p> <ul style="list-style-type: none"> <li> dark green</li> <li> orange</li> </ul>	
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<p><b>This combination:</b></p>																																	



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