
Snowy Plover Patrol

Patrolling north coast beaches since 2018



Contacts

- Cara Gates - Coastal Community Science Biologist (Bird Alliance of Oregon)
 - 541-992-3236
 - cgates@birdallianceoregon.org
 - Contact: Plover Patrol questions, scheduling, training, concerns, etc.
- Joe Liebezeit - Assistant Director of Statewide Conservation (Bird Alliance of Oregon)
 - jliebezeit@birdallianceoregon.org
 - Contact: broader Bird Alliance of Oregon (BAO) questions, coastal programs, other questions/concerns
- Laurel Hillmann - Ocean Shore Resource Specialist (OPRD)
 - 503-857-9000
 - laurel.hillmann@oregon.gov
 - Report park concerns, snowy plover questions/concerns, marine debris, marine mammals
- Tate Pyle - North Coast District Beach & Trail Ranger (OPRD)
 - 503-298-7693
 - Covers Fort Stevens State Park to Seaside
- Brian Dodge - North Coast District Beach & Trail Ranger (OPRD)
 - 503-801-3366
 - Covers Ecola State Park to Barview Jetty at Tillamook Bay
- Simon Freeman - North Coast District Beach & Trail Ranger (OPRD)
 - 503-457-8065
 - Covers Bayocean Spit to Bob Straub State Park

Acronyms

- SPMA - Snowy Plover Management Area
- BAO - Bird Alliance of Oregon
- OPRD - Oregon Parks and Recreation Department
- ESA - Endangered Species Act
- USACOE - United States Army Corps of Engineers

Duties

- Complete detection surveys and nest monitoring that you have signed up for.
- Accurately record data.
- Coordinate survey dates with survey partner(s) and Cara.
- Notify survey partner and Cara ASAP if unable to make survey.
- Coordinate nest checks with other surveyors on the site and Cara.
- Report plover nests and horned lark observations ASAP (within 24 hours).
- Use NestStory to submit data in a timely manner.

Equipment

Required:

- Binoculars (a limited number of binoculars are available to borrow, coordinate with Cara)
- Data recording devices (smartphone or field notebook, ideally both in case your phone dies)
- Timepiece
- Access to internet for submitting data on a smartphone or computer; data may be submitted in the field or back at home the same day
- Map of survey area (printed or on phone)

Recommended:

- Cell phone/radio
- Camera per team (strongly recommended)
- Spotting scope/tripod per team (a limited number of scopes are available to borrow, contact Cara)
- Emergency contacts (ranger, personal contacts, Cara)
- Protective attire: hat, sunscreen, sunglasses, and layered clothing for heat, cold, and rain
- Water and snacks

Survey Conditions

- Sunny, clear, or overcast sky
- Ideally at high tide transitioning to low tide, ONLY if safe passage is available (low tide at Netarts Spit)
- Calm winds (gentle breeze up to 15 mph okay – if sand is moving, don't go! Winds usually pick up in the afternoon.)
- No rain (no more than slight drizzle)
- If conditions suddenly change mid-survey (rain or strong winds), end the survey
- ALWAYS check the tides and weather before going out!

Beach Safety

- Know the tides and weather before going out.
- Be aware of beaches that are not safe at high tide (Netarts Spit).
- Watch for sneaker waves.
- Survey with a partner.
- Create a check in / check out contact. Pick someone (family, friend, or Cara) to let them know when you leave and when you get back home.
- Ensure Cara knows you will be out on the beach.
- Familiarize yourself with the tsunami evacuation zone at the site (signs are posted at most parking areas).
- If you do not feel safe at a site for whatever reason, don't survey. Your safety is a priority!

Paperwork

Submitting Volunteer Hours:

- **Submit your volunteer hours** to Bird Alliance of Oregon using [this link](#). Include all hours spent participating in surveys, driving, and training.
- **Interested in volunteer opportunities, news, and events beyond Plover Patrol?** We encourage Plover Patrol volunteers to become official Bird Alliance of Oregon volunteers to expand your opportunities with BAO and officially represent our organization to the public (and get a BAO nametag and t-shirt!). To do so, you will participate in an orientation training (offered every ~3 months) to learn about the history and mission of BAO and register in Better Impact, our volunteer tracking system. You will then receive communications about other volunteer opportunities in Oregon, plus news and events happening in other parts of Oregon. Click on this link to learn more and sign up: <https://birdallianceoregon.org/get-involved/volunteer/>

Submitting Data in NestStory:

- Create an account on oregon.neststory.org and login (Chrome recommended). You may use your phone in the field or computer back at home.
- Save a bookmark of the site on your phone for quick access.
- To complete a mission, click on “Field” and follow prompts to “Start Mission.”
- To familiarize yourself with the site, you can practice in “TestSTORY Mode,” and the data will not be officially submitted. Ensure you are in this mode to prevent submitting false data!
- Refer to NestStory training videos for more detailed instructions (in volunteer Google drive folder).
- Reach out to Cara if you need any assistance with the app.

Interactions with Park Visitors and Beach Users

Everyone loves the beach, but not always for the same reasons. As a volunteer, the way you interact with the public reflects on OPRD, Bird Alliance of Oregon, and the Snowy Plovers themselves!

- If beach users are curious about your activities, feel free to tell them you are surveying the coast for shorebirds and/or any information about Snowy Plovers. This can be a cool learning moment for people and a great way to spread awareness about the Snowy Plover! If the public expresses interest in learning more about BAO’s [coastal conservation priorities](#) and [community science projects](#), please collect their contact info and share with Cara. You can also direct them to the [Plover Patrol](#) webpage and [Volunteer](#) webpage on BAO’s website.
- As Plover Patrol volunteers, **you do not have the authority to enforce plover restrictions** or non-plover-related regulations. If you see someone violating beach regulations that are non-plover-related, please do not engage the individual(s) yourself. Contact a District Ranger or the Park Office.

- Many people are very sensitive about beach use and may be unaware of recreational restrictions for plover conservation. **Contact with beach visitors should be educational and positive.** If you witness someone violating plover restrictions, read the situation carefully. If you feel comfortable, you may gently and kindly inform the person about plover restrictions and why they are important. If a contact is not well received or turns hostile or defensive in any way, respectfully leave the conversation and walk away. If the visitor continues to violate plover restrictions after your conversation, contact a District Ranger or the Park Office.

Wet Sand Survey Methods (Detection Survey)

1. “Start Mission” on NestStory.
 - a. Record date, time, location, weather, and additional surveyors
 - b. Mission starts and ends in the survey area (where you can find plovers)
 - c. Alternatively log in field notebook
2. Survey area should be covered in one pass.
3. If surveying in a team, all surveyors must remain on wet sand.
4. Walk survey area in wet sand at a steady pace, alternating between walking and stationary scanning. Survey all potential plover habitat. Scan ahead and to the side with the naked eye while walking, then stop every ~30 meters (100 ft) to scan with binoculars/spotting scope as far ahead as possible and toward the dry sand/foredune. Repeatedly look behind you for potentially missed or hiding plovers.
5. When you see a Snowy Plover:
 - a. Count number of plovers - individual or in a flock?
 - b. If possible, identify female, male, or chick.
 - c. Note their behaviors (courtship, foraging, preening, roosting, territorial display).
 - d. Take a picture.
6. Be watchful for plover movement and flushing of birds to avoid double counting. Take care to not cause the plovers to fly ahead. If plover(s) do move ahead of you, only record additional sightings if you feel confident they are different bird(s).
7. Check for color bands and read if possible (reference page 11).
 - a. First priority is recording an accurate count, class, and behavior.
 - b. Don’t spend too much time trying to read bands.
 - c. Take a picture if possible.
8. Document other beach use/disturbances/interesting information:
 - a. People, dogs, horses, kites, drones, bikes, ATVs/vehicles, etc.
 - b. Predators present (crow, raven, raptors, gulls, coyote, raccoon, skunk, fox, mice, etc.)
 - c. Habitat info (macroinvertebrates, seaweed, driftwood, detritus, marine debris)
9. Complete survey area and end your “Mission”
 - a. Record end time in field notebook. Submit data in NestStory the same day.

Dry Sand Survey Methods (Nest Monitoring Survey)

Important Notes:

- Field training is REQUIRED to be added to the ESA-issued permit and before you survey on your own! Cara will take you into the field for on-the-ground training.

- To prevent attracting super intelligent corvids and coyotes to nests, avoid wearing bright colors and opt for drab clothing while surveying if possible.
 - Stay crumb clean! Please don't eat in the dry sand within plover restricted areas. Crumbs and food scraps can attract predators to nests.
 - The goal of this survey is to search for new nests, monitor the status of any existing nests/broods, and record any detected plovers.
1. Check NestStory for updates on new nests, status, and locations of nests.
 2. "Start Mission" on NestStory.
 - a. Record date, time, location, weather and additional surveyors
 - b. Mission starts and ends in the survey area (where you can find plovers)
 - c. Alternatively log in field notebook
 3. Survey area should be covered in one pass.
 4. If surveying in a team, one person should walk the wrack line (high tide line) and the other person walk near the foredune. Try to stay even with each other.
 5. Walk the area carefully, slowly, and quietly, alternating between walking and stationary scanning. Survey all potential plover habitat, zig-zagging to cover all ground. Scan ahead, down, and to the sides with the naked eye while walking, then stopping every ~30 meters (100 ft) to scan far ahead with binoculars, to the sides, and down. Repeatedly look behind you for potentially missed or hidden nests/plovers.
 6. **Look down often and tread very carefully to prevent stepping on nests.** Nest scrapes, eggs, and chicks are very camouflaged and inconspicuous. Avoid stepping in clumps of debris, shells, etc. (where a nest would be) and try to step in open sand.
 7. When you see a Snowy Plover:
 - a. Count number of plovers - individual or in a flock?
 - b. If possible, identify female, male, or chick.
 - c. Note their behaviors (courtship, foraging, preening, roosting, territorial display).
 - d. Take a picture.
 8. Be watchful for plover movement and flushing of birds to avoid double counting. Take care to not cause the plovers to fly ahead. If plover(s) do move ahead of you, only record additional sightings if you feel confident they are a different bird(s).
 9. Check for color bands and read if possible (reference page 11).
 - a. First priority is recording new nests, monitoring found nests, and getting an accurate count, class, and behavior of plover sightings.
 - b. Band ID of males with a brood is helpful.
 - c. Take a picture.
 10. **Nest searching (see a more detailed description below).**
 - a. Look for plover tracks in dry sand and follow to find new nests.
 - b. When you find a new nest, create a new nest in NestStory. Record the location of the nest with your phone or with the NestStory app.
 - c. Note # of eggs, chicks, and adults seen (add bands if possible).
 - d. Make any notes, predator sightings, signs of disturbance, or habitat notes.
 - e. Report any losses to the nest/brood (eggs, chicks).
 11. **Nest monitoring of found nests (see a more detailed description below).**
 - a. Refer to NestStory for locations and status of found nests.

- b. If you re-find the nest or brood, note the # of eggs, chicks, and adults seen (add bands if possible).
 - c. Make any notes, predator sightings, signs of disturbance, or habitat notes.
 - d. Report any losses to the nest/brood (eggs, chicks).
12. Document other beach use/disturbances/interesting information:
 - a. People, dogs, horses, kites, drones, bikes, ATVs/vehicles, etc.
 - b. Predators present (crow, raven, raptors, gulls, coyote, raccoon, skunk, fox, mice, etc.)
 - c. Habitat info (macroinvertebrates, seaweed, driftwood, detritus, marine debris)
13. Complete survey area and end your “Mission”
 - a. Record end time in field notebook. Submit data in NestStory the same day.

Nest Searching:

Look for plover tracks leading up from the wrack line towards the dunes, or plovers themselves running up into dry sand. An adult running in a straight line for more than 10 seconds is likely heading to a nest or fleeing from a predator.

“Nesty”: Pattern of plover tracks that suggest frequent use rather than foraging. The sand is right, the detritus is right. A snowy plover in the area is behaving like it has a nest. Snowy plovers with nests will either completely disappear, or run off and stop to watch you, with head bobbing. *If you retreat far enough away and watch, they will often return to the nest in a direct line.*

When an area feels “nesty”:

- Check to see if there are corvids (i.e. crows, ravens) nearby or following you. We don’t want to lead them to a nest.
- If not, you can follow the tracks in dry sand frequently stopping and scanning 5-10 feet in front and around you to see if you are approaching a nest or nest scrape.

A **nest scrape** will be a depression 1-3 inches deep and 3-4 inches wide dug into the sand with many plover tracks leading to and from it. An **active nest** will have a snowy plover sitting in it or have 1 or more eggs in it. *Do not spend more than 5 minutes near the nest or nest scrape. Your presence may be keeping a snowy plover away and can attract a predator.*

If you have an active nest:

- Take the GPS location (in NestStory or alternative)
- At the nest: take a picture, then move away to finish filling out nest data.
- Take another picture that shows some landmarks and note nearby identifiers that will help others find this nest (logs, vegetation, signs, etc.)
- Congratulations on finding a nest!

If you find an active nest and have walked within 15 feet of it: Grab beach grass or seaweed and erase your tracks as you walk away back the way you came.

If you are 20 ft away or more: Arc away from the nest and continue walking, leaving tracks that dead end near a nest may draw the attention of corvids.

Nest Monitoring:

Before monitoring a nest you have not visited:

- View map location
- Read descriptions from previous surveyors
- Check any photos before going into the field to look for it

To monitor the nest:

- Find a viewpoint either outside of the signage or up in the dunes where the plovers are not reacting to your presence
- Set up a scope focused on the nest and watch for the adult to move and show you nest contents
- Do not stay more than 20 minutes

Take note:

- If an incubating adult is present
- Any band combinations
- Number of eggs seen
- If there could be more eggs present

DO NOT approach a nest if:

- Predators are watching
- Sand grains are skittering across the dune/wind is above 15 mph
- Raining

If an active nest with known eggs is gone:

- Approach the nest location carefully (check for nearby predators and scan for nearby plovers)
- Look for egg shells, take many detailed close up pictures of any shells found. It may be possible to determine whether these birds hatched or predation occurred.
- Note: with our coastal winds nests may move up to 15 feet during the month of incubation from a female constantly uncovering the eggs.

Brood Monitoring:

Once a nest hatches: Snowy Plovers stay near the nest for a few hours while the chicks dry. Then the male will lead the chicks away from the nest. Knowing the band combination on the male is helpful in following his brood through fledging, as the chicks will stay with him until they can fly.

Tips for finding hatched chicks and parent:

- Look for a set of adult tracks with one or more smaller tracks following
- Look for males that are behaving “broody.” The male may run away and bob his head. Similar to what they do around their nests. He may have a very rapid run and halt, watching to see what you do. You may hear soft vocalizations as he tells his chicks what to do. Males that are brooding

their chicks will have itty bitty sticks coming out of their feathers (the chicks' legs!) They may appear to be sitting on the sand but seem elevated and extra poofy.

If you find an adult with chicks: Make note if the male is banded and what the band combination is. It could be a nest we didn't find! In this case label it as <SITECODEYEARBROOD> and Cara will assign it a number once we have enough information (e.g. SISE2024BROOD)

Site Details

Clatsop Spit (Fort Stevens State Park)

Location: Off US 101, 10 miles W of Astoria

Tips: *Plovers nest here! Also watch for horned larks!* Park at "[Jetty Road at the Beach](#)" (Fisherman's Lot on map) or Lot D and begin your survey. SPMA boundaries are marked with a wooden post with a shorebird sign posted on them (see map). If the water is low enough you could also park at Parking Lot C (near the observation tower) and walk from this direction. Be sure to check the tides to make sure crossing into the SPMA is possible!

Ranger: Tate Pyle

[Map](#)

Necanicum Inlet (Gearhart and Seaside) - lower priority site

Location: North side is located in Gearhart, south side in Seaside (separated by the Necanicum river), off US 101

Tips: This area is not a SMPA and has high human use and poorer quality habitat. Parking for the Gearhart side is at the [end of H Street and Wellington](#). Parking for Seaside side is at the end of [19th Ave](#). Nests should be immediately reported to Cara for fencing off.

Ranger: Tate Pyle

[Map](#) (Gearhart)

Nehalem Spit (Nehalem Bay State Park)

Location: Off US 101. Manzanita Junction is the closest exit to the park.

Tips: *Plovers nest here!* Park at the southernmost Nehalem Bay State Park day use lot. You will need a park pass. You can obtain a temporary pass at the Park Office if you do not have an annual pass. Survey the ocean side of the spit from the SPMA south to the southern border of the new restoration area. Survey in the morning to avoid wind.

Ranger: Brian Dodge

[Map](#)

Bayocean Spit (Bayocean Peninsula County Park) - lower priority site

Location: Bayocean Peninsula County Park, 8 miles west of Tillamook

Tips: Long survey! Park in the Bayocean Peninsula County Park lot. There is a \$10 day use fee or you can purchase a Tillamook County Park annual day use pass online at <https://reservations.co.tillamook.or.us>, or over the phone at (503) 322-3522. Walk the short trail from the parking lot to the beach (beach access 29).

The walk to the jetty is ~3.5 miles, ~7 miles roundtrip. The survey area is from the jetty at the north end of the spit, heading south about 1.1 miles to the entrance of a cross trail (trail sign, lat/long coordinates TBD). There is a USACE jetty restoration project underway that has closed part of the road to the jetty. This was a previous way to bike or walk down to the jetty. More to come on possible access here, but for now, the only option may be out and back on the beach.

Ranger: Simon Freeman

[Map](#)

[Netarts Spit \(Cape Lookout State Park\)](#)

Location: Off US 101, 12 miles SW of Tillamook

Tips: Long survey! Park at the Park Office for free; the Cape Lookout State Park day use parking will require a \$5 fee. The walk to the SPMA is about 3 miles, plus the survey area itself. Expect an 11-12 mile round trip and 4-5 hours of survey time. Go at or before LOW TIDE. The tide comes up high on the beach along the middle of the spit and can trap you against the shelf.

Ranger: Simon Freeman

[Map](#)

[South Sand Lake Spit \(Sitka Sedge State Natural Area\)](#)

Location: Off Sand Lake Road 0.75 mile south of the bridge to Clay Meyers/Whalen Island Road. A southern segment of Sand Lake Road is currently closed due to a landslide (plans to re-open in spring). Access for now is only from the north side of Sand Lake Road.

Tips: *Plovers nest here!* Park in the parking lot and follow signs to head through the park to the beach access (15-20 minute walk). Follow the trail to beach access point 34A. Walk north towards the SPMA. There is no cell service at the parking lot or the beach, download maps ahead of time.

Ranger: Simon Freeman

[Map](#)

Reading Color Bands

- Read top to bottom.
- Read left leg, then right leg (plover's left!).
- Upper case letter denotes a band that is above the joint (only 1 band, usually top left).
 - Example: Wr:gr
- Lower case letter denotes a band that is below the joint (most common).
- Some color bands are wrapped with a narrow stripe of a second color in the center. Chicks are often banded with this method. Read top to bottom. Because it's actually a single band, the top and bottom colors will always be the same color.
 - Example: A single red band striped with aqua in center below the joint is r/a/r
- Slash (/) denotes a single band split into multiple colors.
- Colon (:) separates the legs. (e.g. kl:y)
- It is okay to write a four band sequence in all capital letters, as a bird will NEVER have four bands above the joint. However, the case distinction MUST be made if there is a band above the joint.
 - Example: GW:YW = gw:yw
 - Example 2: GW:YW does not equal Gw:yw
- Try to read bands with the sun behind you (colors can become distorted by lighting, weather, etc.).
- A spotting scope or high quality camera are best to read bands.
- Confer with others. Sometimes it takes multiple sightings to correctly read the bands. Take notes!

Color	Description	Code	Band Material	Sometimes Mistaken for, or May Fade to
Aqua	Light blue	a	Darvic	Mistaken for lime
Blue	Medium blue	b	Darvic	
Green	Medium green	g	Darvic	
	Black	k	Darvic	
Lime	Light green	l	Celluloid	Mistaken for aqua
Brown	Brown	n	Darvic	Mistaken for tan, yellow, dull gold
Orange	Orange	o	Darvic	
Pink	Pink	p	Celluloid	Older stock, light pink bands -> white
Red	Red	r	Darvic	
Violet	Purple/violet	v	Celluloid	Fades to pink
White	White	w	Darvic	
Yellow	Yellow	y	Darvic	

Example 1: b/y:g (or B/Y:G)



Example 2: r/a:r:g (or R/A/R:G)



Cheat Sheet for the Beach

Before You Go

- Check weather and tides
- Confirm plan with partner
- Check NestStory for most recent nest IDs, locations, and status
- Notify emergency contact/check in person and provide them with park contact numbers

Plover Physical Keys

- Short, blackish bill
- Incomplete neck collar just above wings
- Dark patch behind eye
- Dark bar on forehead
- Grey legs

Plover Behavior

- Flocks in summer = family groups of 2-6
- Hunkered down behind items or in divets in sand, such as footprints or tire tracks.
- Adults often try to run away without being seen... “ghost of the dunes.”
- Adults will feign injury to draw you away from a nest. If you see a bird flopping around in front of you, fluttering wings: STOP. Look at the sand, and back away to the wet sand!

Tracks and Sign

- Inward-pointed toe prints at a near 45-degree angle.
- Tracks are often little highways running from the wrack line to the dry sand and back. Following a line of tracks may lead you to a nest.
- Nest scrapes are sure signs of breeding; shallow depressions lined with shell or other debris.

Nests

- Do not approach if predators are watching.
- Stay as far back as possible while getting the data you need.
- Erase your tracks, don't leave a dead-end scent trail.

Snowy Plover Identification & Tracks



Adult male plover, breeding season



Juvenile plover, note scalloped feathers



Plover tracks



Nest scrape and plover tracks