Share the Shore

Nesting, Resting and Feeding in Peace is A Matter of Survival for Birds of the Shore

Dear Beach Docent,

Audubon thanks you for your willingness to educate people about the importance and wonder of beach habitat! While beachgoers are aware of the beach as habitat for sea turtles, many Florida natives and the millions of out of state visitors are not aware that the beach provides essential habitat for declining bird species throughout the year. For some species, it is rare nesting habitat. For other species, beaches are crucial stopover sites during migration, or over-wintering habitat, where they find food and rest. Audubon has been involved in the conservation of coastal birds for decades. The following materials will provide you with beach-dependent bird background that you can share on your beach walks. We are confident that educating beach visitors goes a long way to help conserve these special habitats and their birds. Thank you for your commitment!

While you can discuss a wide variety of topics during beach walks, we wanted to prepare you with material to speak engagingly about the vulnerable bird species that depend on these habitats. Remember: the take home message is "Share the Shore"! You do not have to master everything in these materials in order to share your excitement and knowledge about

the beach and wildlife with others. Below are a few talking points and anecdotes about some of Florida's shore birds to help make your beach walk more interesting. We have included links for more information and we encourage you to refer to the resources included.

Finally, we need your feedback! How can we improve these materials and how were they useful to your guided walks? Email comments to flconservation@audubon.org .

Sanderling and Ruddy Turnstone on a Florida beach.

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TIPS ON TEACHING SHORE BIRD IDENTIFICATION TO BEGINNERS

Shore bird identification, especially birds in non-breeding plumage, can be a challenge and can intimidate even experienced birdwatchers. Instead of just calling the species' names to the group you are guiding, explain the identification cues you are using. Ask people to describe what they see and work through the identification process together step by step. Share anecdotes, interesting tidbits about the wildlife you see, discuss conservation concerns about the birds, and describe what every person can do to help protect the birds. Keep repeating the names of the species so people learn the birds most commonly seen on our beaches.

When identifying birds, remember to compare relative size, shape, behavior and voice. These characteristics are more constant while plumage is often variable or subtle.

Check birds' legs for bands. Explain that re-sighting reports of banded birds provide important data about bird migration, bird populations, sites important for the birds, etc. Birds are marked with various kinds of bands or coded, colored flags. Bird banding is strictly permitted by federal and state agencies to minimize impacts to the birds. The data gathered help guide conservation at regional to hemispheric scales.

Birds seen on the beach can be separated into the following groups:

- Shorebirds:
  - Plovers
  - Sandpipers
  - Oystercatchers
- Seabirds:
  - Terns
  - Skimmers
  - Gulls
- Wading birds: herons, egrets, spoonbills, storks
- Others: pelicans, birds of prey

While field guides include an exhaustive list of shorebirds and seabirds, the common birds seen on Florida's beaches are a much smaller and more manageable subset to share with beginners on your walks. Some representative species you may encounter on your walks include:

A. Shorebirds

Shorebirds are the class of birds which tend to feed by running along the beach or in shallow water, and plucking or probing prey from the sand. Many people will commonly call all of these birds "sandpipers" when in fact there are many kinds of shorebirds. In addition to size, shape and plumage,

behavior can be an important identification clue: how and where the birds are feeding, are they solitary or in flocks. Time of year can also be a clue: some species occur in Florida only during the winter. Some common shorebirds you may encounter include:

The **Sanderling** is a small shorebird, often seen running at the water's edge seemingly chasing the waves; its behavior reminds us of a wind-up toy. Sanderlings eat little clams and other invertebrates by pecking down and probing the sand. Feeding in a sewing machine motion pattern is typical of many species in the sandpiper group. Sanderlings are long distance migrants: they nest in the Arctic tundra (like several other species of shorebirds) and migrate through or winter on our beaches. As the Arctic breeding season is short (2-3 months), many shorebirds spend more of their lives on their non-breeding grounds than on their breeding territories.

The **Black-bellied Plover** feeds by sight like other plovers: it looks around quietly, then darts to catch its prey. The Black-bellied Plover is a good example of how different birds look in wintering and in breeding plumages. In breeding plumage, this bird's belly is entirely black, from under the chin to its tail. In non-breeding plumage however, the bird's belly is white but you will always see black in the "armpits" when the bird flies.

True sandpipers have longer, more slender bills than plovers; their bill's length is at least the width of the head. Plovers appear more round-bodied than the slender sandpipers.

Shorebirds that nest in Florida are solitary nesters and include: Wilson's Plover, Willet, American Oystercatcher, and Snowy Plover (only on the Gulf Coast).

Migrating/wintering shorebird examples are: Piping Plover, Red Knot, Ruddy Turnstone, Semipalmated Plover, Dunlin, and Marbled Godwit**.** They may be resting or feeding when you see them on the beach. You may see only one bird at a time, small flocks, or large flocks composed of several species. There is safety in numbers for shorebirds. Some members of the flock can be resting or feeding while others remain alert in case a hungry Peregrine Falcon or Merlin flies in looking for a shorebird meal.

B. <u>Gulls, Terns and Skimmers</u>

While shorebirds eat mostly aquatic invertebrates such as clams and marine worms, as well as insects, the terns and skimmers mostly eat fish and forage in open water. Gulls are omnivorous, feeding on a variety of aquatic organisms as well as berries, carrion or discarded human food. Gulls, terns and skimmers rest and nest on beaches, docks, piers, and other structures.

Royal, Caspian, Gull-billed, Sandwich, and Least Terns nest in Florida. They are colonial nesters. Forster's Terns winter here, while Common and Black Terns are seen in Florida only during spring and fall migration.

The second largest tern in Florida, the **Royal Tern** is easily recognizable by its orange bill. Caspian is the largest tern and has a heavy, red bill. Like most other terns, it catches its food – live fish- by plunging into the water from flight. Terns can be distinguished from gulls by their more "sporty" appearance – more slender, pointed wings. Royal Tern chicks - one raised per nest- follow their parent for up to eight months after they fledge (are able to fly); they can be heard begging to be fed while flying.

Black Skimmers' appearance is striking. They are the only bird in the world with the lower half of the bill, the mandible, longer than the upper half of the bill. They feed by trailing their lower beak in the water and snatching a prey item when they feel it. Because they feed by touch, they can feed at night and are often seen fishing (skimming) at dusk or dawn. Skimmers also have the peculiarity of lying down to sleep on the beach sand, appearing dead to some beach visitors.

The **Laughing Gull** is easily recognizable with its black head in summer. Gulls pick up food on or just below the surface of the water, and are also scavengers, eating dead animals and refuse (garbage). Too often people feed them, which conditions them to hang around people begging for handouts and also encourages them to steal food which can create a nuisance. We see several other species of gulls on our beaches but the Laughing Gull is the only nesting species. Gulls are a good example of birds that require several years to become adults: the brownish gulls we see on the beach are juveniles of various species. Beside Laughing Gulls, Ring-billed and Herring Gulls are the most common. Pay attention to the color of the back, wings, bill, and legs to correctly identify the various species.

C. <u>Wading Birds</u>

Another group of birds that walk in the water and snatch fish for food are wading birds – egrets, herons, spoonbills, and storks. They are long-legged, long-necked birds. Look at the size, feather color, and the color of the bill and legs as well as behavior to differentiate the various species. The **Reddish Egret** actively chases fish and its behavior is best described as looking like it had too much to drink. Other wading birds stand very still in the water, hoping to go unnoticed by their prey.

Be aware of color phases and morphs: a white wading bird can be a Cattle, Snowy or Great Egret, a Reddish Egret white morph (which will stay white all its life), a Great White Heron (white morph of the Great Blue Heron, mostly

seen in south Florida), or a juvenile Little Blue Heron (a white "phase", as the bird will turn a slate-blue color when adult).

Wading birds nest in trees, usually in colonies. During mating season, egrets grow additional long feathers that they exhibit in elaborate courtship displays to attract a partner. Their beautiful feathers caused them to become targets during the plume trade in the 19th century, and some species dwindled close to extinction. The Florida Reddish Egret population is believed to be about 10% of its historical level. Smaller birds like Least Terns also suffered from the widespread slaughter for the plume trade: the whole bird was stuffed, then arranged on a hat.

D. Others

Brown Pelicans are usually a sure sighting while at the beach. They catch their prey by diving into the water while flying. When they emerge, water pours out slowly from their stretchy skin pouch while the prey is retained and then swallowed. Some pelicans nest in trees, some build stick and wrack (dried seaweed) nests directly on the beach. Like birds of prey, pelicans are apex predators and declined dramatically due to DDT accumulating in their egg shells (the DDT makes the shell thin and brittle). The U.S. ban of DDT helped pelicans and several other bird species recover.

Birds of prey can also been seen at the beach. The large **Ospreys and Bald Eagles** catch fish – look at the Osprey carrying its fish in line with its body while the Bald Eagle carries it crosswise. Smaller birds of prey are the **Peregrine Falcon** and the **Merlin**; these two species will eat shorebirds which they catch in flight or snatch from the ground. Peregrine Falcons usually remove the head and wings of their prey. You might find these left behind on the beach where the falcon ate its prey.

1. **BEACH = HABITAT.** Vital habitat for birds, recreational habitat for people!

   A. **Nesting**: Birds have bred and nested on Florida beaches for thousands of years.

- Both colonial nesters (seabirds like gulls and terns) and solitary nesters (shorebirds like plovers and sandpipers) prefer to nest on islands or peninsulas where they are better protected from mammalian predators such as raccoons. Inlet beaches are also favored habitat.
- They select open habitat so they can view approaching predators in advance, have time to alert the other birds in the colony, and escape in flight.

- With increased coastal development, beach modification, boats and human recreational activity, there are very few undisturbed beaches left for nesting birds.
- Some birds like plovers and American Oystercatchers begin nesting as early as February or March. Some species will nest in grasses among the dunes (Willet, Laughing Gulls, large terns), while some prefer open beach with little to no vegetation (Least Tern, Black Skimmer).

B. Wintering/migration:

- Migrating birds often gather in flocks usually where they can find undisturbed feeding and resting habitat in close proximity.
- Some of the best habitat is on the tip of barrier islands, by the inlets, where they find a perfect combination of resting (roosting) habitat close to feeding grounds (at inlets, the mix of fresh and salt water supports more prey species).
- Some of the birds in a flock act like "scouts," keeping an eye out for approaching predators.

3. BIRD BIOLOGY

- The various species of birds have evolved to take advantage of a variety of food. Longer-legged birds can fish in deeper water. Sandpipers feeding in a sewing machine motion have sensitive bills allowing them to "feel" prey deep in the sand or mud. Plovers have large eyes to spot prey and chase it. The Oystercatcher's strong bill allows the bird to open oysters and mussels.
- To stay healthy, like us, birds need not only food but proper rest. Small plovers and sandpipers will usually rest on the upper beach, where they crouch down in nooks and crannies offering protection from the wind and from detection by predators. Larger species often sleep at the water's edge, on one leg, with their head tucked under a wing.
- The wrack deposited on the beach offers food to some species, as well as resting habitat. Plovers and sandpipers that are various shades of brown, gray, and white are virtually invisible when lying still among the dried brown wrack. Wrack also traps sand and builds up the upper beach into dunes.
- Natural predators include raccoons, foxes, bobcats, gulls, crows, snakes, falcons, ghost crabs, etc. Human presence has caused an increase of some predators on the beach, like raccoons, and has introduced predators like free roaming cats and dogs. In the recent past, coyotes moved into Florida and aggressively depredate our nesting beach birds.
- Some species are in Florida only to nest and then migrate southward out of state for the winter (Least Tern) while some nest here and also spend the winter in Florida, as far as we know (Black Skimmer). Many

birds breed elsewhere and migrate to Florida to spend the winter (Piping Plover); and some just stop in our state to refuel and rest during migration (Black Tern and Semipalmated Sandpipers). Some Red Knots have a one-way migration path over 9000 miles!

- For all birds, but especially for birds using our beaches as stop-over sites during long migrations, protection from disturbances that cause resting flocks to fly up is crucial so that they don't expend the energy they need to breed and migrate successfully.

Nesting: (anecdotes about nesting birds can be shared year-round and will encourage your audience to visit nesting sites and maybe to become engaged in bird protection efforts)

- Mating behavior:
  - Birds choose their mate for the entire nesting season.
  - Mating behavior includes noisy courtship displays, quiet "dances", synchronized aerial flights, and males offering small fish to females.
  - In the same colony, birds can be mating at the same time that others already have young chicks. If a pair is unsuccessful and loses eggs or chicks, they may mate again and re-nest. They might make one or two more attempts at raising young before the end of summer.
- Egg-sitting period (incubation):
  - Beach-nesting birds lay their small, well-camouflaged eggs in sand scrapes (shallow depressions) right on the beach sand, except for Laughing Gulls which build nest cups from grass and seaweed.
  - Plovers, oystercatchers, terns, and skimmers lay their eggs right on the sand. They do not use nesting materials like twigs but sometimes line the scrape with small shells.
  - One adult usually "sits" on the egg(s), protecting the nest from the hot sun and from predators, while the other flies off in search of food. The parents take turns shading and protecting the eggs while the other is off foraging.
- Raising and protecting young:
  - Birds are very protective parents and are sensitive to all types of approaching threats.
  - When they think there is a danger, the adults fly up into the sky, and often fly at or around the predators, attempting to distract or discourage them. This is called "mobbing". Remember: humans are seen as predators. Least Terns will defecate on predators – including humans getting too close to their nests. Plovers do a broken wing display to lead predators away from their nest. They flop around on the sand pretending to have a broken/injured wing which makes them appear to be

easy prey. Once the predator follows the bird feigning injury away from the nest, the uninjured bird returns to protect the nest or tiny chicks.

- When disturbed adults fly up ("flush"), the eggs or young chicks, left alone on the beach – even for a short time –may be "cooked" by the sun or snatched by a predator.
- Least Tern chicks walk away from the nest scrape 2-3 days after hatching and seek shade under debris or beach vegetation. Royal Tern chicks assemble in a crèche on the shoreline; their parents will find their own chick to feed among hundreds or thousands together on the beach. Terns feed their young whole fish while Laughing Gulls regurgitate food for their young.
- Plover chicks are never fed by their parents and have to find their own food – mostly insects, aquatic worms, small clams and crabs – as soon as they hatch. They are very mobile within a couple hours of hatching. However, a parent stays with them to warn them and herd them away from threats.
- Parent birds use an alarm call when they see a threat approaching. For young chicks, it means that they should flatten down and freeze in place; this makes them very hard to see due to their speckled coloration, so similar to beach sand and debris. Humans can unknowingly step on or run over them while they are flattened and unmoving.
- While birds nest on the upper beach, young chicks benefit from safe access to the water line, where they keep cool (seabirds) or find food (plovers).

4. CONSERVATION CONCERNS (why people shouldn't disturb the birds and why we need beach habitat areas protected for the birds)

- Birds have lost habitat because of coastal development, and many of Florida's barrier islands now have bridges connecting them to the mainland, facilitating dense residential and commercial development. People, terrestrial predators such as raccoons, coyotes, and feral cats now have easy access to coastal bird habitat.
- Beach and inlet modifications impede the natural flow of sand along the coast and impact the quantity and quality of habitats. Re-nourishment projects (also called "sand placement" projects), while providing nesting habitat for seabirds for a period of time, adversely affects the prey base for plovers and sandpipers for a period of time. Groins and dikes affect sand movement and while they act to build up one beach area they can cause the erosion elsewhere of sand bars and islands the birds use for nesting and roosting. Hard armoring like rip-

rap and seawalls render the beach habitat completely unsuitable for nesting birds as well as nesting sea turtles.

- Climate change consequences like sea level rise and increased frequency of severe storms will cause more habitat loss to erosion and beach modification projects. Increased frequency of severe storms also means more frequent washouts of active nests and nesting colonies. Learn more about climate change and coastal birds at www.FloridaClimateMessenger.com
- More than 20 million people call Florida home as of 2015 and tourism continues to rise. More people means more beach-goers and ever greater disturbances to nesting and resting birds.
- Disturbances to migrating and wintering birds prevent them from accumulating the fat they need to maintain their body temperature on cold, windy days, energy needed to finish their migration journey, and to nest successfully on their breeding grounds.
- Disturbances to nesting birds cause them to fly up, leaving their eggs and chicks exposed to the hot Florida sun and to predators.
- Posting nest areas on the beach with symbolic fencing and signage helps prevent disturbances to active nests and chicks. It allows birds and people to "share the beach".
- Posting nesting sites is crucial. People don't know that birds nest on the beach, and the eggs and chicks are perfectly camouflaged. If the nesting sites are not protected by symbolic fencing, people may inadvertently step on the eggs or chicks and kill them.
- Dogs are perceived by birds as predators. Birds react to dogs at greater distances than they do to people. It is best to keep dogs off beaches entirely but where they are allowed on leash they should be kept at a distance from nesting and resting birds.
- Birds need a mosaic of habitats to meet their needs. For example, during high wind, they will switch from their traditional roosting habitat to an area sheltered from the wind. Alternative nesting sites are also needed in case frequent visits from a predator renders one site unsuitable.
- Trash kills:
    - Birds can ingest or feed their chicks plastic that they mistake for food: albatross chicks on Midway Island (a spot very far from any densely populated area) have been found dead with more plastic in the stomach than digestible food. Pick up trash on the beach and avoid using plastic as much as possible.
    - Discarded fishing line and hooks can cause entanglement and a slow death for birds. Pick up fishing line and discard it in a closed bin (birds will pick up line from open trash cans as nesting material, and can become entangled in it). Learn how to unhook pelicans and other waterbirds:

http://docs.audubon.org/sites/default/files/documents/audubon_hookedpelican_brochure.pdf

- Birds need good water quality to provide the healthy food they need.
- Manmade disasters like oil spills can kill birds directly (by oiling their feathers so they can't regulate body temperature) or indirectly (by affecting their food sources, by increased disturbances from cleanup efforts, or by beach modifications, etc..)

Listing:

Many beach-dependent birds are of conservation concern. Several species are listed at the federal or at the state level. Listing means that the species is at imminent risk of going extinct. Listing status is an important conservation tool, especially at the regulatory level. It is really important to share the correct listing status of the species. Refer to Appendix 1 for links to listing information.

At this time:

- Federal level:
  - Piping Plover: Federally listed as Threatened on its non-breeding grounds (=Florida). This can be a bit confusing as on its breeding grounds, the Piping Plover Great Lakes population is listed as Endangered, while the Atlantic Coast and the Great Plains populations are listed as Threatened.
  - The *rufa* subspecies of Red Knot (*Calidris canutus rufa*) is Federally listed as Threatened.
  - State level: The Florida Fish and Wildlife Conservation Commission revised the state listing process and conducted biological species reviews of all state threatened species and species of special concern. All species in either category that met the revised criteria for listing as State Threatened are addressed in single-species or multispecies action plans. The species action plans are included in FWC's Imperiled Species Management Plan which is scheduled for adoption in 2016. Upon adoption, all species retained on the state list will be listed as State Threatened. The category "Species of Special Concern" will cease to exist in state regulations.
    Shore/seabird species that will be listed as State Threatened upon approval of the Imperiled Species Management Plan are:
    - Least Tern
    - Black Skimmer
    - American Oystercatcher
    - Snowy Plover

5. WHAT PEOPLE CAN DO TO HELP

The main message is: people can help prevent disturbance to the birds every time they are on the beach. Have the group you are leading observe the birds' reaction to people getting too close. Connect the disturbance to its consequences for the birds and encourage people to:

- Keep at a distance from the birds– if birds are agitated, especially if they fly up into the air, people or pets are too close.
- Don't force the birds to fly. Birds in flight might look pretty, but it makes the birds expend energy they need for migration, nesting, and caring for young.
- Explain to parents that it is important to keep children from chasing the birds. People don't know the consequences to the birds and educating them is key.
- Keep out of posted areas and encourage others to respect them too!
- Keep dogs off the beaches where prohibited, leashed on beaches where they are allowed, and far away from birds, especially nesting birds. An unleashed dog can kill adults and chicks, crush eggs, and cause a whole colony to abandon in minutes. Birds perceive dogs as predators and will be disturbed even if the dog is not chasing them.
- Don't feed any birds at the beach. It will attract predators like Fish Crows and gulls that prey on eggs and tiny chicks of beach-nesting birds.
- Kites can flush groups of birds because they resemble aerial predators. Avoid flying kites or kite surfing close to bird flocks and nesting birds.
- Pick up trash, especially plastic, Styrofoam, fishing line and tackle.
- Share these tips with friends and family.
- Look for and report banded birds.
- Volunteer: become a bird steward. Contact *flconservation@audubon.org*
- Join Audubon's conservation activist network to engage in bird protection, water quality, climate change and beach modification issues. http://fl.audubonaction.org/site/PageServer?pagename=fl_homepage

For the birds, the beach you play on is vital breeding, resting, and feeding habitat. By sharing the beach with the birds, you are helping their survival and offering future generations of beachgoers the pleasure of observing the birds that use Florida's beaches!

Royal Terns with chick

APPENDIX 1: links to sites with extra information

Audubon:

- Audubon Florida: http://fl.audubon.org/ , http://www.facebook.com/AudubonFlorida , Twitter: @AudubonFL

- Audubon Florida Coastal Program: http://fl.audubon.org/conservation/coastal-conservation

- Audubon Florida Climate Messenger tools: www.FloridaClimateMessenger.com

- National Audubon: http://www.audubon.org/

- Bird Steward Manual: http://fl.audubon.org/sites/default/files/documents/bird_steward_manual-final_2012.pdf

- What to do if you hook a pelican (or other waterbird): http://docs.audubon.org/sites/default/files/documents/audubon_hookedpelican_brochure.pdf

- Audubon's "The Climate Report: 314 species on the brink": http://climate.audubon.org/

FWC:

- Florida Shorebird Alliance (FSA) Website: http://www.flshorebirdalliance.org

- "Share the Beach with Beach-nesting Birds" brochure: http://www.flshorebirdalliance.org/media/5096/beachnestingbirdsbrochure.pdf

- "How to Be a Shorebird-friendly Photographer" brochure: http://www.flshorebirdalliance.org/media/6854/UC-Shorebird8_2013ADA_photographybrochure.pdf

- "Be a Beach Hero" brochure: http://www.flshorebirdalliance.org/media/5099/BeABeachHero_final.pdf

Listed species:

- FWC imperiled species listing: http://myfwc.com/wildlifehabitats/imperiled/

- Federally listed species: http://www.fws.gov/endangered/

Other resources:

- Red Knots: "A tale of two species": http://www.pbs.org/wnet/nature/episodes/crash-a-tale-of-two-species/introduction/592/

- 2010 State of the Birds/Climate change report: http://www.stateofthebirds.org/2010

- Cornell Lab of Ornithology: http://www.allaboutbirds.org/Page.aspx?pid=1189

- Information on reporting sightings of banded birds – www.bandedbirds.org , Bird Banding Lab: http://www.pwrc.usgs.gov/bbl/ and http://flshorebirdalliance.org/resources/banded-birds.aspx