Sea Science
An Information/Education Series from the Marine Resources Division
South Carolina Department of Natural Resources

Shorebirds

What is a shorebird?

Shorebirds are small, highly migratory birds that feed on aquatic and marine invertebrates. Shorebirds get their name because they are often found feeding along the shorelines of oceans, lakes, ponds, and rivers. Although they encompass a variety of shapes and sizes, typical shorebirds have long legs and long, thin bills. Some species of shorebirds fly round-trip from the arctic tundra of Canada to the southern tip of South America each year, a journey of nearly 20,000 miles!

From late summer through spring, South Carolina beaches are important feeding and resting areas for migratory shorebirds. During the summer, our beaches serve as nesting areas for several species of shorebirds such as the American oystercatcher, Wilson's plover and willet. The open, sandy areas at the ends of barrier islands and inlets are ideal nesting areas. The shorebirds nest above the high tide line on bare sand with little or no vegetation and lay their eggs in nests that often are barely more than scrapes in the sand. The eggs and chicks are camouflaged perfectly to match their sandy environment. Downy chicks, looking like tiny fluff balls, leave their nests soon after hatching.

Shorebirds have precocial young, which means that they are capable of moving around on their own as soon as they hatch out from the eggs. Within hours of hatching most young shorebirds are running around and feeding on sand fleas, insects or other available prey! The chicks often hang out on the beach with their parents for several weeks until they are able to fly and fend for themselves.

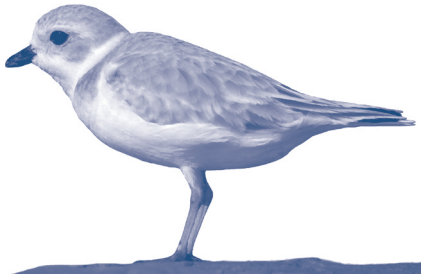
American oystercatcher

American oystercatchers may be seen along beaches, mud flats, shell rakes and oyster beds along the Atlantic Coast of the U.S. from Massachusetts to Florida. An oystercatcher is easily identified by its large size, black head, brown back and wings, white underside, flesh-colored legs, and striking orange bill and eye ring. The largest concentration of wintering oystercatchers on the Atlantic coast of the United States occurs right here in South Carolina! More than one third of the Atlantic population of American oystercatchers winter in South Carolina. The Cape Romain region has more than half of South Carolina's wintering oystercatchers. From early April to July, oystercatchers lay their eggs in shallow depressions on sandy beaches or shell mounds. Oystercatchers use their highly specialized bills to eat oysters, mussels, and clams. They insert their bill into an oyster and cut the adductor muscles that close the shell. Opening the oysters is a difficult behavior to learn, and young oystercatchers often spend months watching their parents before they master the technique. In fact, oystercatchers that are raised in captivity without other oystercatchers never learn how to open an oyster! Because of this specialized method of obtaining food, oystercatchers are one of the few shorebirds that feed their young.

Wilson's plover

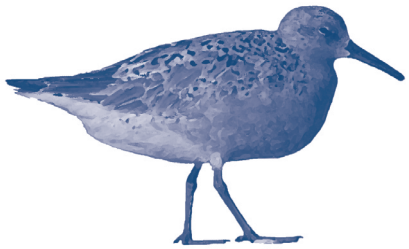
Wilson's plovers, small shorebirds that breed along the Atlantic and Gulf coasts from Virginia to Central America, can be identified by their short bills, brown backs and heads, and white undersides. During the breeding season, the male has a single black band on its chest and a black brow on its head. Males in the non-breeding season, and females year-round, have a brown chest band and all-brown heads. Some Wilson's plovers will spend the winter in South Carolina, but

most go farther south to the Gulf coast. Unlike many other species of shorebirds that use touch and smell to locate their prey, plovers are mainly visual hunters. Wilson's plovers feed on crustaceans (particularly fiddler crabs), marine worms and insects. If you approach a Wilson's plover nest or chicks too closely, the adults will often call loudly and try to lure you away by pretending to have a broken wing.



Piping plover

Piping plovers are small, federally threatened shorebirds that often go unnoticed along our coast. They winter on open sandy beaches along the Atlantic and Gulf coasts from North Carolina to southern Mexico and the islands of the Caribbean. There are three separate breeding populations: the Great Plains, the Great Lakes, and the Atlantic Coast (from North Carolina to southern Canada). While feeding, piping plovers often stop and vibrate one foot in the sand to try to scare prey from their hiding places. They typically feed on insects and small marine invertebrates, such as amphipods and marine worms. Piping plovers are of particular conservation concern and as such, many have been color banded. By placing a unique sequence of colored plastic bands on a bird's legs, biologists can identify an individual bird without recapturing it. The main reason that piping plovers continue to be threatened is because they compete with humans for space on the beaches to nest, feed and rest.



Red knot

The red knot is a medium-sized shorebird that breeds in northern Canada and Alaska and winters as far south as the southern tip of South America. Red knots have one of the longest migrations of any animal on the planet. Year-round they may fly more than 18,000 miles roundtrip between their wintering and breeding grounds! Red knots pass through South Carolina during migration in spring and late summer, and some even spend the winter in South Carolina. The bird can be recognized by its thin black bill, black legs and bulky appearance. During the breeding season, red knots' feathers become a rusty reddish color, but during the winter they are a drab grayish-brown color. Red knots feed on bivalves, small snails and crustaceans. Thousands of knots time their spring migration to coincide with the spawning of horseshoe crabs in the Delaware Bay. The abundant horseshoe crab eggs give the knots the energy that they need to complete their migration to their northern breeding grounds. Recent over-harvesting of horseshoe crabs for use as fishing bait has had a devastating impact on the populations of red knots. Since the over-harvesting of horseshoe crabs began in the early 1990s, the East Coast red knot population has declined by as much as 50 percent.

Sanderling

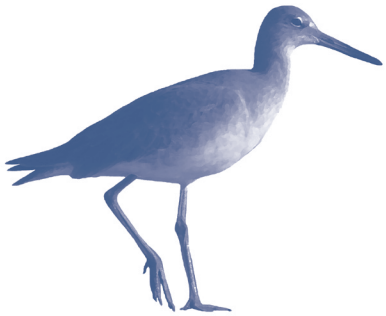
Sanderlings are small shorebirds that are commonly found on sandy beaches worldwide. Often referred to as sandpipers, they are typically seen running in and out with the waves on the beach as they feed on marine worms, minute crustaceans, and small mollusks. Sanderlings have thin black bills and black legs and feet. In non-breeding plumage, their backs and heads are gray and their bellies are white. During the breeding season, their backs, heads and chests

become a rusty-brown color. They breed throughout the Arctic and winter as far away as southern South America. Sanderlings seen on the South Carolina coast are either wintering, migrating or non-breeders. Sanderlings, like red knots, time their spring migration to feed on horseshoe crab eggs in the Delaware Bay.

Ruddy turnstone

Small shorebirds commonly seen along rocky areas of the coast, ruddy turnstones also occur on sandy beaches and mud flats worldwide. In breeding plumage, they have rusty red backs, black "bibs," white bellies, and orange legs and feet. Turnstones get their name from their feeding behavior. They use their short bills to flip over small shells, rocks and debris in search of prey, which consists

of sand fleas, marine worms, horseshoe crab eggs, fiddler crabs and insects. They breed in the Arctic and winter as far away as southern South America. Ruddy turnstones seen along the South Carolina coast are either wintering, migrating or non-breeders. Ruddy turnstones, like red knots, time their spring migration to feed on horseshoe crab eggs in the Delaware Bay.



Willet

Willets are large shorebirds commonly occurring along mud flats, sandy beaches and rocky shores. They are identified by their dull brown plumage on their backs, heads and chests, gray legs, and long, straight bills. A distinctive white wing stripe and black wing tips are evident during flight. Willets use their long bills to feed on marine worms and small mollusks buried deep in the sand. Willets breed along the Atlantic coast from southern Canada to Texas and inland in the northwestern United States. The Atlantic population winters along the coast from North Carolina to northern South America. Willets get their name from their loud, repeated call that sounds like "pill-will-willet" and is often heard while the bird is in flight. Willets nest in clumps of grass in the salt marsh or dunes.

Marbled godwit

Marbled godwits, large shorebirds observed along mud flats and sandy beaches, are easily recognized by their long, very slightly upturned bills that are pink at the base and black near

the tip. During flight, you can easily see the bird's cinnamon-orange colored back and wings. Like willets, marbled godwits use their long bills to probe deep into the mud in search of mollusks, crustaceans and marine worms. They winter along the Atlantic and Gulf coasts from North Carolina to Central America and breed in the northern Great Plains. South Carolina is home to only about 500 marbled godwits during the winter. Ninety percent of these wintering flocks roost on docks along the Atlantic Intracoastal Waterway in the Cape Romain region.

Conservation

Without your help, some of these coastal bird species may be lost forever. Shorebirds are under attack from a variety of different sources. One of the biggest causes of shorebird decline is habitat loss, particularly of wetlands. As coastal marshes are drained and developed, shorebirds have fewer and fewer areas to nest and feed. Human disturbance in the remaining wetland habitat is also a big factor. Every time a bird is forced to fly, it burns up valuable energy that it needs to survive. It is important to keep in mind that, while your actions may seem small, thousands of people use the beach. Birds that are continuously harassed may not have enough energy to survive migration or winter. Nesting shorebirds are extremely sensitive to human disturbance. Camouflaged eggs and chicks can easily be stepped on and crushed. When people wander too close to nesting areas, adults will leave their eggs and chicks, exposing them to extreme temperatures and predators.

Migratory birds are also vulnerable in other areas that they visit during their annual cycle. For example, hundreds of thousands of red knots, ruddy turnstones and sanderlings time their spring migration to feed on horseshoe crab eggs in the Delaware Bay. Commercial over-harvesting of horseshoe crabs in Delaware Bay has led to a decline in the amount of horseshoe crab eggs available for the migrating shorebirds. The decline in horseshoe crab eggs leads to a decline in the number of shorebirds that will be able to complete their journey to the breeding grounds in northern Canada. Ultimately, this leads to fewer red knots, ruddy turnstones and sanderlings that migrate and winter in South Carolina. The same effect results from habitat loss on their wintering grounds in South America. An oil spill

or industrial accident could be disastrous when shorebirds are concentrated in large flocks, such as in the Delaware Bay or Cape Romain National Wildlife Refuge.

South Carolina provides critical habitat for many types of breeding, wintering and migrating shorebirds. Cape Romain National Wildlife Refuge in South Carolina is designated a Western Shorebird Hemispheric Reserve because of the large number of shorebirds. South Carolina provides important

migration and wintering habitat for the federally threatened piping plover. Of the roughly 120 piping plovers that winter along our coast annually, some return each year to nearly the exact same location. Some of South Carolina's wintering species have shown alarming declines in recent years. Studies suggest that red knot populations in North America have declined by as much as 50 percent since the early 1990s.

The good news is that South Carolina is taking important steps to protect its nesting shorebirds. In March 2006, legislation was passed that helped protect the large colonies of shorebirds, seabirds and wading birds that nest and roost on Crab Bank, Deveaux Bank and Bird Key Stono. Preliminary data suggest that the closures of these islands have been very beneficial to the nesting birds. For current information on the rules regarding these islands please visit *http://www.dnr.sc.gov/managed/index.html* and click on the preserve name.

Here are some things you can do to help minimize disturbance:

Keep your dog on a leash. Dogs can chase and harass shorebirds, which causes the birds to expend valuable time and energy. During the summer, dogs can destroy nests and kill chicks.

Stay out of posted nesting and feeding areas. Entering these areas can result in a loss of eggs or chicks and can lead to civil or criminal penalties. Seabird nesting islands, such as Bird Key Stono, Crab Bank and Deveaux Bank all have year-round closures. The islands are vitally important breeding areas for thousands of shorebirds, gulls, terns, skimmers, pelicans, and egrets.

Avoid walking, biking or boating through large flocks of birds. The actions of one person can be detrimental to hundreds of birds when walking through a flock. Make every attempt to walk around the flock.

Be alert. Beach-nesting birds are often well camouflaged and some are not much bigger than a sparrow. If you get too close to a nest, the birds will often call loudly in distress, dive bomb you, or try to lead you away from their nests.

Do not feed gulls or leave trash on the beach. Both can attract gulls near nesting areas where they prey on the eggs and chicks of beach-nesting birds.

Teach others to appreciate South Carolina's shorebirds. Shorebirds are a vitally important part of the barrier island ecosystem and a sign of a wild and healthy beach. We are fortunate to be able to share our beaches with this valuable natural resource.

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South Carolina Department of Natural Resources

DNR Mission Statement

Our mission is to serve as the principal advocate for and steward of South Carolina's natural resources.

DNR Vision Statement

Our vision for South Carolina is an enhanced quality of life for present and future generations through improved understanding, wise use, and safe enjoyment of healthy, diverse, sustainable and accessible natural resources.

Our vision for the DNR is to be a trusted and respected leader in natural resources protection and management, by consistently making wise and balanced decisions for the benefit of the state's natural resources and its people.

DNR

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