

Speed Restrictions

Please refer to motor exclusion zones and shallow water cautionary zones on the map. Vessel speeds are regulated to improve safety in high traffic areas (as near marinas or passes under bridges), protect swimmers, boaters, or manatees.

Idle speed: a vessel operating in an "idle speed zone" must slow to the minimum speed that allows steering control.

Slow speed: a vessel operating in a "slow speed zone" must come down off plane and completely settle in the water. The vessel's wake must be minimal, so as not to create a hazard to other vessels.

Resume Normal Safe Operation: When exiting an "idle speed" or "slow speed" zone, boaters will see a sign that states, "Resume normal safe operation." Boaters may increase their speed to one appropriate for their vessel, the water conditions, and local traffic considerations.

Salt marshes

Salt marshes occur in the shoreline zone between high and low tide water levels. Many of Florida's marine fish, shellfish, and crustaceans spend the early part of their lives safely hiding from predators in the thick vegetation of the salt marsh nursery. The leaves of the salt marsh grasses die each year, becoming the base of the estuary food web, feeding microscopic animals. The extensive root systems of salt marshes can withstand storm surges and help protect uplands. Salt marsh plants can also trap nutrients, pollution, and sediments, keeping bay waters cleaner.

To participate in restoring salt marshes, call **Tampa Bay Watch: 727/867-8166.**

Barrier Islands

These long, narrow strips of sand protect the mainland and estuaries behind them from storm impacts. Constantly reshaped by wind, waves, and tides, the sandy beaches of barrier islands are crucial nesting sites for sea turtles, Laughing Gulls, terns, Snowy and Wilson's plovers, Black Skimmers, and American Oystercatchers. Sea oats, railroad vine, and dune grasses stabilize dunes. On the back side of barrier islands, seagrasses flourish; the mud and sandflats and salt marshes host crabs, marine invertebrates, mollusks, foraging birds, and juvenile fish. Large flocks of migrating birds depend on barrier islands' beaches and mudflats for critical foraging stopover sites, havens where these long-distance travelers can rest and replenish energy stores.



Three Rooker Island, left, © John Landon. Mangroves, right, host a White Ibis rookery on Three Rooker Island. © Jim Gray.

Resources

Emergency: 911
NOAA Weather Service Broadcast
 24-hour weather and marine forecast:
813/645-2506, www.srh.noaa.gov/tbw.
 Radio: 162.450 KZVHF

U.S. Coast Guard
www.uscg.mil. Pinellas/St. Petersburg:
727/824-7506. Clearwater Beach/Sand
 Key Station: **727/596-8666**. National
 Pollution Response Center: **800/424-8802**. U.S. Coast Guard Auxiliary:
877/875-6296, offers boater training,
 education, safety classes.

The Coast Guard Marine Safety and Security Task Force asks boaters to stay well away from all commercial vessels and facilities, including power plants, to increase public safety and reduce the threat of terrorist attacks. To report suspicious activities, call 911 or VHF Channel 16. Information: **727/824-7531**.

U.S. Fish and Wildlife Service
www.fws.gov. National Manatee and Sea Turtle Coordinator: **904-731-3328**.

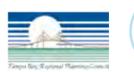
National Marine Fisheries Service
www.nmfs.noaa.gov. Hot line: **800/853-1964**. Whales, dolphins, sea turtles injury, harassment, or abandonment, regulations for protection. Local Protected Resources line: **727/824-5312** or **727/824-5301**.

Florida Fish and Wildlife Conservation Commission
www.myfwc.com. To report oil spills, marine violations, boating accidents, and manatee or dolphin injuries of strandings: **888/404-3922**. For fish and wildlife questions, general information, hunting and fishing licenses: **863/648-3200** or **888-347-4356**.

Fish and Wildlife Research Institute
www.myfwc.com/research. Fisheries monitoring & biology, stock assessment, coral reefs, marine habitats restoration, algae/red tide blooms, marine mammals, marine turtles, technical support for marine catastrophes: **727/896-8626**. To report fish kills: **800/636-0511**.



This guide is produced by Audubon of Florida. For copies, contact Clearwater Audubon Society or Audubon's Florida Coastal Islands Sanctuaries.



Birds of the Bay

Pelicans, herons, ibis, spoonbills, gulls, terns, and skimmers that nest in groups (called colonies) are among the most visible, beautiful, and popular wildlife species in Florida. The breeding population in Pinellas County and Tampa Bay, including Clearwater Harbor and St. Joseph Sound, totals 40,000–50,000 nesting pairs annually of 29 species. This is one of the largest bird populations in Florida, outside of the Everglades. Important nesting sites include Clearwater Harbor I-25, the Belleair Beach Bird Colony Islands, Marker 26, Dunedin Sand Key West, Three Rooker Island, and Anclote Bar.

American Oystercatcher

With less than 400 pairs in Florida, American Oystercatchers are one of our rarest birds. A large black and white sandpiper-like bird with a giant red/orange bill, oystercatchers nest in shallow scrapes just above the high tide line on beaches. If disturbed, these flamboyantly colored adults walk away from their nests, counting on camouflaged eggshells to protect their young. Unshaded on the hot sand, the embryos will quickly overheat and die in the hot late spring/early summer sun. Please give them a wide berth if encountered between early April and late July.



Left: American Oystercatcher family. © Jim Gray.
Above: Oystercatcher eggs in the nest. © Rich Paul.

Bird Nesting

People and dogs on nesting islands create problems for nesting birds. They may cause the parent birds to leave their nests. Fish crows or other birds will eat unprotected eggs or young. Visitors may accidentally step on well-camouflaged eggs in ground nests. In the summer sun, embryos in the eggs and young chicks overheat quickly, dying in about 20 minutes if parent birds cannot shade them. Dogs running through a colony cause chicks to flee, getting trampled or separated from their parents. In the mix-up, other birds may injure or kill a young bird looking for its parent. A brief visit for boaters can destroy an entire year's nesting effort for a whole colony of birds.

Indian Rocks Beach Bird Colony, Belleair Beach Bird Colony, Clearwater I-25 Bird Colony, Marker 26, Dunedin Sand Key West, and portions of Honeymoon Island, Three Rooker Island, and Anclote Bar are posted bird sanctuaries and are off limits to people and dogs all year. Honeymoon Island State Park has a pet beach for use by people and their pets.

Please protect nesting birds.

- ◆ Comply with signs and posted areas on nesting islands. Stay offshore or walk around nesting areas.
- ◆ Never let dogs run through nesting birds. Birds know dogs are effective predators and are highly disturbed by them.
- ◆ Between April and August, gulls, terns, and skimmers may nest on unmarked sites. If you notice birds circling and calling over your head, you may be in a nesting colony. Leave quietly, and enjoy the spectacle of the colony from a distance.
- ◆ Birds resting and feeding on sandbars and mudflats should not be disturbed. Migrating birds depend on the area's resources to provide a nourishing and restful stop-over. Disturbance of birds on sandbars can interfere with feeding and resting behavior, reducing weight gain and the endurance needed for long-distance flights.



Laughing Gulls nesting (left) and flying (right). © Jim Gray.

Laughing Gull

Laughing Gulls form large nesting colonies in dune grasses on islands, notably Three Rooker Island. Over 80% of all the Laughing Gulls in Florida nest in three colonies in the Tampa Bay/Pinellas region.



Left: Reddish Egret coming in for a landing.
Above: Two Reddish Egrets, white morph & dark morph. © Jim Gray.

Reddish Egret

The rarest heron in North America, the Reddish Egret has a shaggy head and neck feathers and mating plumes that stretch past its tail. Its bill is pink, with a black tip. Most are rusty-headed, blue-gray bodied animals, but a small proportion of Reddish Egrets are all-white birds. Hunted to near extinction for their breeding plume feathers, this species is making a slow recovery (only about 400 pairs in Florida). Small numbers of Reddish Egrets nest at Clearwater Harbor I-25, Marker 26, and Three Rooker Island, the most northern site for nesting of this species known along the Florida Gulf coast. They can often be seen foraging actively on the shallow flats at Caladesi Island, Honeymoon Island, Three Rooker Island, and Anclote Key.



White Ibis

A white wading bird with black-tipped wings, bright red legs, and a red bill which curves distinctly downward. White Ibis nest at Clearwater Harbor I-25 Bird Colony Island and Three Rooker Island State Preserve in mangrove trees. The number of White Ibis in Florida has decreased 80% since the 1940s due to freshwater wetlands destruction. White Ibis is a state-listed "species of special concern."



Roseate Spoonbill

Roseate Spoonbills are spectacular pink wading birds with broad, spoon-shaped bills that they sweep side to side in shallow water to catch small fish. Only about 1,200 pairs nest in Florida. Up to 16 pairs have been found nesting at the Clearwater Harbor I-25 Bird Colony, and four pairs nested in south St. Joseph Sound in Spring 2011, the most northern nesting site known for this species on Florida's west coast.

Photos of White Ibis, Roseate Spoonbills and Brown Pelican © Jim Gray.

Snowy Plover

Tiny relatives of Killdeer, Snowy Plovers are very rare in Florida, with only 50 pairs along the peninsular Gulf coast. Snowy Plovers are sand-colored, and use camouflage to hide nests and tiny chicks. They nest in the white sand in late spring and forage for tiny flies and insects on mud and sand flats.



Adult Snowy Plover and two chicks. © Lou Neuman.

Brown Pelican

An expert fisherman and one of Florida's most recognizable birds, the Brown Pelican dives powerfully into the water to scoop unwary fish into its expandable pouched bill. Pelicans nest on Clearwater Harbor I-25, the Belleair Beach Bird Colony islands, and the Dunedin Sand Key West Bird Colony Island. Chicks hatch out naked with gray skin but quickly grow white downy feathers. They reach adulthood at three to four years of age.



Why is the Clearwater Harbor & St. Joseph Sound estuary special?

Royal Terns nesting on the beach at Three Rooker Island. Photo © Jim Gray.

Like all estuaries, Clearwater Harbor and St. Joseph Sound are places where freshwater and saltwater mix. This dynamic system experiences constantly changing tides, water levels, salinity, and water temperatures. Special adaptations of the plants and animals that live here help them survive in this demanding ecosystem. More than 95% of Florida's recreationally and commercially important fish, crustaceans, and shellfish live in estuaries, including Clearwater Harbor and St. Joseph Sound. The shallow waters, salt marshes, mangroves, and seagrasses provide places for young sea-life to hide from larger predators. Estuaries, the "nurseries of the sea," are among the most productive landscapes in the world. Rivers and streams drain into them, bringing nutrients and sediments that foster growth by salt marsh plants, mangroves, and seagrasses. These plants' leaves become food for billions of microscopic small animals, beginning the food web.

The bird and other animal diversity is singularly high as Clearwater Harbor and St. Joseph Sound are located between more tropical regions of the Caribbean and the rest of the North American continent and is on the Atlantic Flyway. Birds generally associated with tropical regions such as Roseate Spoonbills, Reddish Egrets, and Gray Kingbirds nest here, as do Caspian, Royal, Sandwich, and Least Terns and the very rare Snowy Plovers and American Oystercatchers. Migrating and wintering birds such as Red Knots, Piping Plovers, and other shorebirds, Common Loons, and rafts of ducks rely on habitats here. Hawks and falcons travel following migrating birds in spring and fall. The woods and hammocks of Caladesi and Honeymoon Islands, and Anclote Key are critical stop-overs for migratory warblers and other songbirds. In the spring, tarpon roll in balls over the grassflats.

Fishing Line: Wildlife Killer

Fishing line and other trash that tangles around birds, manatees, fish, turtles, and other wildlife is a real problem in the environment. Carelessly discarded fishing line can become a persistent killer, snagging animal after hapless animal, dooming them to a remorseless death. Hundreds of birds die each year from entanglement in fishing line. Sea turtles and manatees, as well as fish, are also killed.



Above: Roseate Spoonbill killed by becoming ensnared in fishing line. © Mark Rachal.

Below: Young pelican snagged by a fishing hook & line. © Jim Gray.

What can we do?

- ◆ Properly dispose of fishing line, nets, and other line that could entangle wildlife.
- ◆ Collect fishing line if you see it in the harbor or sound, and dispose of it properly.
- ◆ If you are fishing, and you catch a bird by accident, reel it in carefully. Remove the fishing line as gently as possible. Note: the bird will try to "defend" itself against you. Wear sunglasses to protect your eyes. Cover the bird's head with a cloth or towel to calm it. Hold the wings and legs firmly and put your hat or other object in the bird's beak so it will bite that and not your hand. Cut the bars on any hooks, and remove them from the bird; untangle any line. Once the line is removed, hold the bird so that its head points away from you, then release it.
- ◆ If a bird is too sick for release, take it to the Suncoast Seabird Sanctuary on Indian Rocks Beach (727/391-6211).
- ◆ Participate in the Annual Monofilament Cleanup of Colonial Waterbird Colonies, held each fall when birds are not nesting. Call Audubon (813/623-6826) or Tampa Bay Watch (727/867-8166) for information.



Black Skimmer

Only 2,000 pairs of Black Skimmers, a state-listed species of special concern, nest in Florida. Colonies on Sand Key beaches near the hotels and condominiums, Three Rooker Island, and Anclote Bar account for about 20% of the state's population.

Skimmers nest on sandy beaches just above the high tide line. These colonies are very vulnerable to being washed out by high tides and storms. Human disturbance, forcing adults off nests which leaves eggs to cook on the hot sand, is another major cause of nest failure.



Black Skimmer nests are simple shallow scrapes in sand or shell on the beach. Skimmer eggs, above. © Bonnie Shea, Etcetera Photography.

Skimmers get their name from their distinctive foraging behavior (above left).

Photo of Magnificent Frigatebird, left, and both photos of Black Skimmers, above left. © Jim Gray.

Magnificent Frigatebird

Once their winter nesting season in the Dry Tortugas has ended, Magnificent Frigatebirds visit Clearwater Harbor and St. Joseph Sound.



Audubon staff joined Tampa Bay Watch volunteers in removing derelict crab traps. Photo © Jim Gray.

Volunteers: Making it Better

Volunteers can participate in a variety of activities to help conserve fish, wildlife, and other natural resources of Clearwater Harbor and St. Joseph Sound. Audubon's Florida Coastal Islands Sanctuaries and Tampa Bay Watch join forces each fall to coordinate the Annual Monofilament Cleanup, to remove fishing line and other trash from bird nesting islands and habitats that might ensnare and kill birds, fish, dolphins, turtles, and other wildlife. In summer, Tampa Bay Watch coordinates a Derelict Crab Trap Removal Day, during the short closure of all crab fishing by the Florida Fish and Wildlife Conservation Commission. During that period, all crab traps in the estuary are considered abandoned, and volunteers can participate in the Derelict Crab Trap Removal to collect unattended "ghost" traps that indiscriminately kill crabs, fish, and turtles. Coastal Cleanup events held in spring and fall are coordinated by Keep Pinellas County Beautiful.

See the Resources section for contact information to participate in these volunteer efforts.



© Lou Neuman.

Least Tern

The smallest tern in North America, this threatened species nests on sandy, unvegetated or sparsely vegetated barrier island beaches. As so many of these beaches in Pinellas County and on Florida's coastline are developed, some Least Terns nest on gravel rooftops too. Pinellas County has about 30 colonies on rooftops, more than any other county in Florida.

To report unposted beach colonies, call the Florida Fish and Wildlife Conservation Commission 863/648-3200; to report rooftop colonies, call St. Petersburg Audubon Society 727/753-9731.



Gregory Breesel/USFWS

Red Knot

Red Knots nest on the Arctic tundra and upland glacial gravel. This gregarious species forms dense and spectacular feeding and roosting flocks, stopping at only a few sites, including Three Rooker Island and Honeymoon Island, as they travel from the Arctic Circle to over-winter in Argentinian Knots often fly long distances between staging posts. The knot above, photographed on the Delaware Bay shoreline, may have stopped at Three Rooker Island for a brief rest on its long flight.

Manatees

The West Indian Manatee is a large, grayish brown aquatic mammal, with a tube-shaped body and a flat, rounded tail. Its head has a blunt snout with prominent nostrils and a few coarse whiskers. Manatees are an endangered species, protected by state and federal laws. Manatees are commonly seen in Clearwater Harbor and St. Joseph Sound, so boaters should be alert for their presence here. Grassflats are important feeding sites for these vegetarians. Manatees seek areas with a combination of seagrass patches, quiet areas, and sites with deep "holes" for safe retreats where they can avoid boat collisions.



Manatee photos © Jim Gray.

Because manatees feed in shallow water on seagrasses, and swim near the surface (these mammals breathe air and surface regularly to inhale), most manatees in Florida have been hit by boat propellers and have scars on their thick skin. Manatees are susceptible to cold and may die if stranded in cold water in the winter. When bay temperatures drop in the fall and winter, manatees in the Tampa Bay area rely on the warm-water discharged from power plants or springs. They leave these warm-water sites during the day to forage. Collision with boats is a major cause of death for manatees in Florida. Please note special manatee speed zones on the map.

Dolphins

Bottle-nosed dolphins are large, intelligent, active aquatic mammals with sleek, gray-brown bodies, a large dorsal fin, and a distinctive, rounded snout. Family groups can be found year-round in Clearwater Harbor and St. Joseph Sound. Scientists use photo-identification of distinctive marks on dolphins to study animals in Sarasota and Tampa bays. Apparently dolphins use "home" regions of bays during their entire lifetimes. Other species of dolphins and whales that use the Gulf of Mexico and rarely venture into waters near Clearwater Harbor and St. Joseph Sound include spotted, striped, rough-toothed, spinner, Risso's, and Fraser's dolphins and sperm, dwarf sperm, pygmy sperm, and Bryde's whales.



Tarpon © Jim Gray.

Tarpon

Tarpons' size and fighting prowess have made them highly prized as sport-fish. These magnificent fish can grow to be 8 feet long, weighing 280 pounds. They spawn millions of eggs off shore in the Gulf of Mexico; larval tarpon move into estuaries within 30 days, where they develop as juveniles in marshes and mangrove habitats. Females are sexually mature at 10 years old; records show most tarpon caught are 15–30 years old, although biologists have found individuals older than 50 years. Tarpon tournaments are popular in Florida; most tarpon fishing today is catch-and-release, to protect these extraordinary "silver kings."



Sanderlings © Jim Gray.

Shorebirds

Shorebirds visit the beaches, mudflats, and sandbars of Clearwater Harbor and St. Joseph Sound in large numbers during migration and winter. Long-distance migrants that nest as far north as the Arctic Circle tundra, shorebirds stop here to refuel energy reserves for their southward journey. Key stopover places include Anclote Bar, Anclote Key, Three Rooker Island, Honeymoon Island, Caladesi Island, and Pinellas County beaches. Repeated disturbance of resting and feeding shorebirds may inhibit their ability to successfully complete these incredible journeys; please leave these marathons in peace.



© Jim Gray.

Long-billed Curlew

Fairly rare winter visitors to Florida, these large shorebirds boast an extraordinarily long downward curving beak, useful for probing deep into sand and mud to catch worms and invertebrates. In winter months one or two may be observed on north Honeymoon or Three Rooker Islands.

Help protect manatees:

- ◆ Look out for manatees, especially in shallow water. Watch for "swirls" or "glassy" areas on the water, and the backs, tails, and snouts of manatees at the surface.
- ◆ Wear polarized sunglasses that cut the glare, increasing visibility beneath the water's surface.
- ◆ Stay within marked channels to avoid shallow waters where manatees feed and rest.
- ◆ Follow posted speed zones and sanctuary signs.
- ◆ Go slowly in shallow water or over seagrasses.
- ◆ Dispose of trash properly, especially fishing line, gear, ropes and plastics, that can entangle manatees and injure them. Manatees can mistake floating plastic for seagrass and eat it accidentally.
- ◆ Don't feed manatees. A natural diet is best for them.
- ◆ Report dead or injured manatees to the Florida Fish and Wildlife Marine Unit:

888/404-3922 (Mobile phone: *FWC)

or Fish and Wildlife Research Institute:
727/896-8626 (www.myfwc.com/research)

PLEASE: Do not chase or approach manatees; let these curious and friendly creatures come to you. Be gentle with these wild animals.

Keep our estuary and gulf clean:

- ◆ Dispose of yard waste properly, don't over-fertilize lawns and plants, and don't pour oil or other poisons into gutters or waterways leading to the bay.
- ◆ Dispose of human waste at marina pump-out stations.

Sea Turtles

Sea turtles are air-breathing reptiles well-suited to life at sea. Essentially unchanged for 110 million years, their hydrodynamic shapes and powerful front flippers allow them to swim long distances. Once male turtles reach the water as tiny hatchlings, they never return to shore. Females clamper up on Florida's beaches in the summer to lay about 100 eggs in sandy pits dug with their back flippers. After about two months of incubation, 2-inch hatchlings emerge from the sand all at once, usually at night, and scramble frantically for the relative safety of the seawater. Sea turtles can remain underwater for hours while resting or sleeping; while active, they typically surface several times each hour to breathe. Turtles have no teeth but crush, bite, and tear their food with powerful jaws. Mortality factors include boat collisions (causing 50% of deaths), entanglement in fishing line and other line, incidental catch in nets, and disease. Scientists believe that local marine turtle populations were once robust; turtles were overharvested for food, resulting in great population losses by the end of the 1890s.

Green turtles, a federally listed endangered species, are more streamlined than bulky loggerheads, but larger, weighing up to 350 pounds with a back shell length of 42 inches. Not green, this olive-brown turtle with a yellow belly shell eats seagrass in shallow water meadows and algae. Green turtles often suffer from a virus causing tumor growth, which is sometimes fatal. Biologists suspect that water pollution makes turtles more susceptible to the virus.

Loggerheads nest on the beaches of the Pinellas coast and Anclote Key. These are large sea turtles, weighing as much as 275 pounds, with shells 3 feet long. Loggerheads eat clams, crabs, whelks, and other mollusks and animals. Loggerheads are federally listed as threatened and can be found year-round in Clearwater Harbor and St. Joseph Sound.

Kemp's Ridley turtles are federally listed as endangered and listed as one of the twelve most endangered animals in the world by the International Union for the Conservation of Nature, with less than 1,000 females. They nest in Mexico but juvenile Ridelies seek shelter year-round in estuary waters. They eat mostly crabs and crustaceans from shallow, muddy-bottomed waters. These small turtles weigh only 85–100 pounds and measure 24–30 inches long.

Hawksbill turtles, another endangered species, are small, agile animals with tortoise-colored black, brown and amber, oval shells. They weigh 100–200 pounds as adults. Hawksbill turtles have narrow heads and sharp jaws, perfect for collecting sponges, their preferred food. They are tropical turtles, and occur in Clearwater Harbor and St. Joseph Sound only occasionally.

Diamondback terrapins are small turtles with shells 8–10 inches long and yellow heads. They live in brackish water and eat crabs, mollusks and dead fish.

Help protect turtles:

- ◆ Artificial lighting on beaches confuses baby turtles as they emerge from their sandy nests. They move toward light (normally moonlight reflecting off Gulf waves) after hatching. To help baby turtles head toward the Gulf, beach lighting, even flashlights, should be turned off at night.
- ◆ Coastal construction, shoreline hardening, and beach renourishment projects replace or change sandy beach habitats for turtle nesting. Help turtles by keeping beaches natural.
- ◆ Watch for turtle nest enclosures. Don't use beach umbrellas that could impale eggs hidden in sandy nests.
- ◆ Wear polarized sunglasses to see beneath waves and help avoid boat collisions with turtles.
- ◆ Dispose of trash properly, especially fishing line, balloons on strings, and other entangling debris.
- ◆ Report nest sightings or "crawls" to Fish and Wildlife Research Institute, **727/896-8626** (www.myfwc.com/research)



Hatching sea turtles, race for the safety of Gulf waters. Females will return years later to nest on the very same beach where they hatched. Photo © Blair Witherington.



Loggerhead © Blair Witherington.



Diamondback terrapin © Marius Moore.