



The Gulf Breeze

The official newspaper of
Padre Island National Seashore
Spring 2008



Padre Island National Seashore protects the longest section of undeveloped barrier island in the world, preserving rare coastal prairie; a complex, dynamic dune system; and the Laguna Madre, one of the few hypersaline lagoon environments left in the world.

Greetings from the Superintendent

WELCOME TO PADRE ISLAND NATIONAL SEASHORE, THE longest remaining undeveloped stretch of barrier island in the world. Our mission is to save and preserve this great park for the purposes of public recreation, benefit, and inspiration. We hope that you have an outstanding experience as you explore and enjoy this national treasure. While you are here, take some time to observe the surrounding areas. Whether you are enjoying the beach, launching your boat or windsurfing at Bird Island Basin, driving, or simply walking, there is always something to see.

Spring and summer are busy times here at the seashore, and as we enter this time of year, we ask that you be vigilant. During the spring and summer months, there is a flurry of activity on the beach. You will see turtle patrollers searching for nests, school children on field trips, families recreating, fishermen surf fishing, and vehicles of all sizes driving up and down the shoreline. The Kemp's ridley sea turtles nest during this time of year and if you are not paying attention, you may miss the chance to witness a nesting event. From June through August, you will also have the opportunity to view sea turtle hatchling releases on the beach. In order to accommodate all who want to enjoy this beautiful place, we must be careful and courteous with one another.

Bird Island Basin is another increasingly popular area, to which springtime brings many boaters, campers, and windsurfers. Again, when enjoying this area, be aware of your surroundings and courteous to fellow visitors. To make this area available to as many visitors as possible, please heed the rules and signs in place for the boat ramp and campgrounds. If you have questions, never hesitate to ask a ranger or park staff.

The National Park Service, its visitors, and its neighbors are all stewards of this special place and we ask that you help protect and care for Padre Island National Seashore so that it may be enjoyed for generations to come. Whether you are touring the country or are from the local community, we hope that you enjoy your visit and plan to return. Be safe and we look forward to seeing you again.

Sincerely,

Joe Escoto, Superintendent

Help an Endangered Species: Kemp's Ridley Sea Turtles

Donna J. Shaver, Ph.D.
Chief, Division of Sea Turtle Science and Recovery

During your visit to Padre Island National Seashore, you may be able to help save the world's most endangered sea turtle species from extinction. The National Park Service has been on a three-decades-long journey to try to help save this species from extinction. Results from this project are more encouraging than ever, but to ensure continued success we need your help.

The two-foot-long, olive-green colored adult females come ashore to lay their eggs during daylight hours between April and mid-July. Taking only about 45 minutes to nest, they crawl up the beach, bury their eggs in the sand, and return to the sea. National Park Service staff and volunteers work diligently to detect and protect the nesting turtles and their eggs. However, beach visitors are sometimes lucky enough to be the first people to spot and report these nesting turtles. Each of these nesting reports is critical to the success of our recovery program and provides one more step in securing the future of this magnificent species.

Biology of Kemp's ridley

Kemp's ridley turtles spend most of their lives in the sea. They nest every 1-3 years, an average of 2.5-3 times per nesting season. Each nest contains an average of 100 eggs. The eggs hatch after 45-60 days of incubation. After crawling down the beach, the hatchlings enter the surf and disperse at sea. The turtles reach adulthood at 10-15 years of age, and at that time they measure about two feet long and weigh 80-100 pounds. Adults are restricted almost exclusively to the Gulf of Mexico, whereas the young occur in the Atlantic Ocean as well as the Gulf.

Long-term recovery efforts making a difference

Most Kemp's ridley turtles nest along the Gulf of Mexico coastline in Tamaulipas, Mexico, with the epicenter of nesting occurring near the village of Rancho Nuevo. An estimated 40,000 Kemp's ridley females were filmed nesting at Rancho Nuevo on one day in 1947. Unfortunately, by the time biologists discovered the film and the location of the Rancho

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Need-to-know info

IN CASE OF EMERGENCY,

DIAL 911

Park rangers are available during normal working hours to provide assistance.

Lost-and-found items may be reported at the visitor center.



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The Gulf Breeze

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The National Park Service cares for the special places saved by the American people so that all may experience our heritage.

Hours

Padre Island National Seashore is open 24 hours a day, 365 days a year. The Malaquite Visitor Center is open daily from 8:30 a.m. to 4:30 p.m. during the winter. Summer hours are from 9:00 a.m. until 5:00 p.m. The Malaquite Visitor Center is closed on Christmas day.

Location

The park's physical address is 20301 Park Road 22. From Interstate Highway 37, turn onto Highway 358. The highway name changes from 358 to South Padre Island Drive, then crosses over the Laguna Madre on the JFK Causeway and becomes Park Road 22. At the end of Park Road 22 is the national seashore's entrance station. Traveling through the park takes one to the Malaquite Visitor Center. Approximately one half-mile farther down the road the pavement ends and beach access begins. The total driving distance from I-37 to the beach is approximately 37 miles.

Educational and Interpretive Programs

Deck Talks and Beach Walks are held every day. Deck Talks last 30 minutes and are an in-depth discussion of marine organisms and beach debris including shells, sea beans, and human-made items that are found along the shoreline. Beach Walks last 45 minutes and are guided walks along the beach with a ranger. Discussions may include the natural and cultural history of the island as well as shells, birds, island ecology, flotsam, and plants while touching upon environmental issues of importance to the park. Family programs may be offered at the Malaquite Visitor Center during the summer months on Fridays, Saturdays, and Sundays. Topics may include nature journaling, birding, nature crafts, and beach activities for children and their families. The national seashore also offers environmental education programs for school groups of all ages. These professionally-presented programs teach children about topics that may include habitats and migration while providing direct contact with nature. Contact the park's environmental education specialist at 361-949-8068 for more detailed information and to make a reservation for your group.

Available Facilities

The Malaquite Visitor Center has an information desk, small museum, bookstore, concession stand, observation decks, restrooms, and cold showers (open 24 hours). The visitor center is fully wheelchair accessible with ramps to the main deck and an elevator to the main observation deck. Beach wheelchairs are available for day use. Please contact the visitor center for more detailed information.

Camping

There is a 14-consecutive day limit for camping. Overnight camping is limited to a total of 56 days in a calendar year. Primitive camping requires a free backcountry permit available at the visitor center.

Malaquite Campground (Open All Year)

Semi-primitive, providing only toilets, cold rinse showers, picnic tables, and 48 designated sites (6 sites are for tent camping only, 26 are for tent or RV camping, and 16 are for RV's only). An \$8 fee is required for both day and evening use; \$4 with a Senior or Access passport. There are no hook-ups. There is a gray-water dump station and potable water filling station near the campground entrance. Quiet hours are from 10 p.m. until 6 a.m. The area is patrolled by rangers. Camping is accommodated on a first-come, first-served basis and reservations are not accepted. The campground is rarely full, except during February, March, and April. Also, no camping permit is needed at the Malaquite Campground. Please deposit payment in the Iron Ranger.

North Beach (Open All Year)

Primitive, no charge. A camping permit is required and is available from the Malaquite Visitor Center. Open to RV and tent camping. No reservations are needed. There are no facilities or designated sites. Camping is permitted from the dunes to the water's edge (about a 100-ft. distance) and is open to two-wheel drive vehicles. However, beach conditions may vary with weather and campers should always use caution to avoid becoming stuck in unexpectedly deep sand.

South Beach (Open All Year)

Primitive, no charge. A camping permit is required and is available from the information desk at the Malaquite Visitor Center. Open to RV and tent camping. No reservations are needed; space is usually available. Camping is permitted from the dunes to the water's edge (about a 100-ft distance). There are no designated sites. The camping area extends from the end of Park Road 22 south 60 miles to the boundary of the park at the Mansfield Channel. There are no roads, all driving is on the beach. The first five miles of South Beach are open to two-wheel-drive vehicles. The lower 55 miles are accessible to four-wheel drive vehicles.

The beginning of the four-wheel drive area is marked with the five-mile marker sign. Please note that in Texas, beaches are considered highways and all vehicles must

be street-legal and licensed. Licensed and unlicensed ATVs, UTVs, go carts, and dune buggies are not allowed to be driven in the park.

Be aware that driving conditions on the beach may vary with the weather and areas of soft sand may be sometimes found in the two-wheel-drive area, making driving difficult and becoming stuck possible. Some areas within the four-wheel-drive area have very deep sand. A bulletin on how to prepare for driving down island is available by contacting the visitor center. Contact the visitor center before driving down island to check on beach conditions. Driving off the beach and into the dunes, grasslands, and mudflats is prohibited.

Yarborough Pass (Open All Year)

Primitive, no facilities and no charge. A camping permit is required and is available from the Malaquite Visitor Center. Reservations are not needed. Located on the Laguna Madre 15.5 miles south of the visitor center. Access to the area is possible only through the four-wheel-drive area of South Beach. To find the campground (not a developed campground) drive to the 15-mile marker, then backtrack approximately 100 yards and look for a notch in the dunes. Drive through the pass and following the road approximately 2 miles to the campground. Be aware that the pass through the dunes is sometimes filled with exceptionally deep and soft sand in which even four-wheel-drive vehicles may become stuck. Do not drive on the mudflats surrounding the campground. Fines for damaging the mudflats are heavy.

Bird Island Basin (Open All Year)

A camping permit is required and is available at the Malaquite Visitor Center or nearby kiosks. No reservations are accepted for camping, but space is usually available. There are pit toilets available. Bird Island Basin is suitable for both RV and tent camping. A fee of \$5.00 per day, or a \$10.00 annual fee for camping, day use, and boat ramp use is charged at the entrance station in addition to the park entrance fee. If you possess a Senior or Access pass, the fees are reduced by half. Bird Island Basin is located on the Laguna Madre approximately four miles from the visitor center. In addition to camping, Bird Island Basin has a windsurfing area ranked by Windsurfing Magazine as the best flat water sailing site in the continental U.S. There is also a boat launch ramp.

Interpretive Programs

Program	Time
Beach Walk	11:00 a.m. <i>Daily</i>
Deck Talk	1:00 p.m. <i>Daily</i>
Family Program	3:00 p.m. <i>Seasonal (Fri, Sat, Sun)</i>
Junior Ranger	Self-paced

Programs are subject to change. For more information, please contact the Malaquite Visitor Center at (361) 949-8068, or visit the park's website, www.nps.gov/pais.

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Nuevo nesting beach in the early 1960s, the number of nesting Kemp's ridleys had plummeted. This decline was due to human activities, including the collection of eggs and the loss of juveniles and adults due to incidental capture during fisheries operations.

In 1978, it was feared that Kemp's ridley sea turtles would go extinct unless immediate steps were taken. Since then, the National Park Service has worked with a variety of partners in the United States and Mexico to re-establish nesting at Padre Island National Seashore to form a secondary nesting colony of Kemp's ridleys there. It was hoped that this would provide a safeguard for the species, so that if a political or environmental catastrophe was to occur in Rancho Nuevo, there would be an area in the U.S. where this species could nest and be protected. Padre Island National Seashore was selected for the project because Kemp's ridley nesting had already been documented and because it is a unit of the National Park System, affording protection to both turtles and their nesting habitat.

Thanks to the hard work and dedication of many people, nesting is increasing rapidly. A record 128 Kemp's ridley nests were documented on the Texas coast in 2007. Nearly 60% of the Kemp's ridley nests documented in the U.S. have been found at Padre Island National Seashore, making it the most important nesting area in the U.S. for Kemp's ridley.

Nest detection from April through mid-July

Each year, the National Park Service conducts a program to detect, study, and protect nesting Kemp's ridley turtles and their eggs on North Padre Island. During 2008, utility transport vehicles will be used to repeatedly patrol the Gulf of Mexico beachfront, each day between 6:30 a.m. and 6:30 p.m., from April 1 through mid-July. More than 100 volunteers and dozens of staff members will participate in the patrol program. Our nest detection program is the largest one on the Texas coast. However, other groups will also be conducting systematic nesting patrols to some extent on all other Texas Gulf beaches in 2008.

We want to find the nesting Kemp's ridleys so that we can study and protect them. Unfortunately, many re-enter the water before biologists arrive. When possible, we examine nesters to determine whether they are from the project to re-establish nesting and whether they had nested and been tagged previously. We want to find the nests so that we can protect the eggs and produce as many hatchlings as possible, to help ensure future nesting here. Unfortunately, if we do not find the eggs, far fewer hatchlings are born due to predation, high tides, and other factors. Eggs from most nests found on North Padre Island and northward along the Texas coast are brought to the national seashore's incubation facility for protected care and monitoring. Eggs are also protected in screen enclosures on the beach, called corrals.

Watch carefully for nesting turtles, tracks, and emerging hatchlings

It is very challenging for our patrollers to find nesting Kemp's ridleys and their tracks; in fact, beach users are first on the scene to find about half the Kemp's ridley nests documented on the Texas coast each year. The Kemp's ridley is the smallest and the lightest sea turtle species, and hence leaves only faint tracks on the beach. They nest primarily during the day when sand is drier, and often on windy days, both of which contribute to their tracks blowing away quickly. To add to the challenges, Kemp's ridleys often nest in groups or simultaneous emergences called *arribadas*. Hence, on days when one nest is found, the chance of finding additional nests increases. To alert the public about nesting and enlist their help in locating nests, a "nesting Kemp's ridley alert" flag is flown at the park's entrance station and Malaquite Pavilion flagpoles each day that Kemp's ridley nests are found on the Texas coast. The rectangular flag has an orange background and a black silhouette of a sea turtle.

Occasionally, despite public education and patrols, a few nests go undetected at egg laying and are found at hatching by visitors. Unfortunately, at many of these sites, mortality has occurred due to predation of eggs or hatchlings, and crushing of hatchlings by passing vehicles.

Please help us by watching carefully for nesting Kemp's ridley turtles and their tracks from April through mid-July, and for hatchlings emerging from previously undetected nests from late-May through August. Use caution and drive slowly so that you do not inadvertently run them over. Kemp's ridleys nest anywhere from the high tide line into the dunes. They are difficult to see because their olive-green color blends with the sand and vegetation and they often become covered with sand during nesting. They sometimes nest in vehicle ruts and

cannot move quickly to avoid an approaching vehicle. In fact, while they are actually laying eggs, they enter a trance-like state and will not move from the nest. Be prepared for delays in travel on the beach to enable nesting turtles and hatchlings to have safe and undisturbed nesting, and time for biologists to document and protect the nests.

What should you do if you see a nesting sea turtle, tracks, or hatchlings?

IMMEDIATELY report all observations of nesting turtles, tracks, and emerging hatchlings to a passing turtle patroller, law enforcement officer, or me at (361) 949-8173, ext. 226. If possible, stay at the site until a biologist arrives. Also, please do not take any turtles, eggs, or their parts from the beach since they are protected by law and it is illegal for you to possess them.

If you find a nesting turtle, do not rush up to her while she is crawling up the beach or digging a nest cavity or you may frighten her back into the water without nesting. Allow her to nest undisturbed and protect her from passing traffic. After she has started to lay eggs, mark where she nested but do not pierce anything into the sand or you could puncture eggs. Make sure that your marker is still in place after she has completed nest covering. Examine her flippers for tags and note any tag numbers found, and photograph or video her from a downward profile.

Kemp's ridley tracks will be about two feet wide, extending from close to the water up the beach. If the turtle has already re-entered the water, both an entrance and exit pathway should be present. If you find tracks, mark both ends low on the beach. If you see an obvious disturbed area where the two sides of the tracks intersect, please mark it. If you do not see a disturbed area, mark where the tracks end higher on the beach. Again, do not pierce anything into the sand, because you could break eggs. Please keep people and vehicles off the site so that evidence needed to help find the nest is not obliterated. Take photos from a few different angles.

If you see hatchlings emerging from a nest, mark the cavity from which they emerged. Protect them from passing traffic and from predators, such as gulls and crabs. Photograph and count the hatchlings, and allow them to enter the surf.

You are invited to a hatchling release

We release the hatchlings from the eggs that we incubate and allow them to go free after they become very active. Each year, the public is invited to attend about 10–15 of the hatchling releases held between about late-May and late-August at the northern end of the park. No fee is charged to attend. For more information on these releases, visit our website at www.nps.gov/pais/ and call our recorded Hatchling Hotline at (361) 949-7163. Once nests are found and placed into our incubation facility, our web site is updated with the projected release dates. People wanting to attend a public release should look for dates when several clutches are due to be released. This provides insurance in case some become active and must be released in the middle of the night. As that potential release date nears, call the Hatchling Hotline for specifics on when and where the next release will be held.



Nesting Kemp's ridley ©NPS

Common Saltwater Fish

Atlantic Croaker

(*Micropogon undulatus*)



Description: The Atlantic croaker has a row of whiskers on each side of its lower jaw. The young are silver, while older fish are yellow with short irregular brown streaks.

Habitat: These fish frequent the bottoms of bays, surf, and spoil islands.

Size: These average less than 1 pound, but may reach 4 pounds.

Fishing tips: Try fishing with peeled shrimp, live shrimp, and cut bait.

Black Drum

(*Pogonias cromis*)



Description: Whiskers on the black drum's chin help it to find marine worms, shrimp, crabs, and other shellfish. Two plates deep in their throats help the black drum crush and grind their food.

Habitat: Well adapted to a wide range of aquatic habitats, this fish can range from the shallow bay waters of the Laguna Madre to deep waters in the Gulf of Mexico.

Size: These fish average 2 pounds, but may reach 80 pounds or more.

Fishing tips: Try fishing with dead shrimp or pieces of crab fished close to the bottom.

Red Drum

(*Sciaenops ocellatus*)



Description: This reddish bronze fish has a black spot on each side at the base of its tail and lacks the chin whiskers of black drum. These fish feed head down as they scour the bottom for crabs, shrimp, marine worms, and small fish.

Habitat: For the first few years of their lives, the red drum prefers sea grass beds, shallow waters, and mudflats in the bays. Adults migrate from the bays to the Gulf of Mexico, where they remain for the rest of their lives.

Size: This fish can weigh up to 50 pounds.

Fishing tips: Try fishing with live finger mullet, cut mullet, live croaker, live or dead shrimp, and lures fished close to the bottom with gold and silver spoons.

Sheepshead

(*Archosargus probatocephalus*)



Description: These black and white striped fish crunch up barnacles, fiddler crabs, and many other hard-shelled animals with their large front teeth.

Habitat: Oyster reefs, barnacle-encrusted pier pilings, bulkheads, and jetty rocks.

Size: Averages 2 pounds, but may reach up to 15 pounds.

Fishing tips: Try fishing for these shellfish-loving fish with hermit crabs, fiddler crabs, or live or dead shrimp around piers, rocky outcroppings, jetties and oyster reefs.

Southern Flounder

(*Paralichthys lethostigma*)



Description: This well-camouflaged, flat fish blends in easily against the muddy or sandy bottom it inhabits because it can change the color of its upper side to match its surroundings.

Habitat: This fish is most commonly found near the mouth of bayous leading into back bays and marshes, near marsh grasses, oyster reefs, or spoil islands. In fall, southern flounder migrate to the Gulf of Mexico to spawn.

Size: Average 1–3 pounds but may reach 13 pounds or more.

Fishing tips: Try fishing with live finger mullet, mud minnows, live shrimp, or artificial lures close to the bottom.

Spotted Seatrout

(*Cynoscion nebulosus*)



Description: Silvery sides, a greenish back, and many dark spots on the upper sides of the body help identify this fish. The mouth is orange and has two distinctive canine teeth in the tip of the upper jaw.

Habitat: These fish frequent shallow waters near sea grass beds, reefs or marshes. Their green spotted coloring helps them to easily blend with their environments.

Size: This fish averages 1–3 pounds, but may reach 13 pounds.

Fishing tips: Try fishing with live shrimp, live finger mullet, live croaker, or artificial baits that look like shrimp or shad.

Angler's Alley: Sea Grass Beds

Ardrianna McLane, Park Ranger

The shallow waters of coastal bays and estuaries are unique and dynamic habitats rich with marine animals, fish, birds, sea turtles, and dolphins that depend on the sea grass beds found in these habitats to survive. Some animals, such as the pintail duck and black drum fish, will feed directly on the sea grasses, while other species of fish will use the beds as a place to hide from predators or as a nursery for their young. Sea grass beds may support as many as 40,000 fish per acre and millions of small invertebrates. Recreational fishing in and around the sea grass beds is very popular.

Sea grasses are plants that are specially adapted to a marine environment. Sea grasses are often found growing in shallow water where their leaves can receive plenty of sunlight. The three most common species of sea grass in the bays, estuaries, and Laguna Madre near Corpus Christi include turtle grass (*Thalassia testudinum*), shoal grass (*Halodule wrightii*), and widgeon grass (*Ruppia maritima*). One sea grass, *Thalassia testudinum* is commonly known as “turtle grass” because of its popularity as a snack for sea turtles. Green sea turtles (*Chelonia mydas*) prefer sea grass beds as their primary food source. Pollutants that impact the health of sea grass beds directly impact the health of green sea turtle populations throughout the world.

Sea grass beds not only serve as a nursery and food source for many animals, but the root systems of the grasses also help to hold sediments in place and keep water clear. During large storms, sea grass roots and leaves absorb the energy of incoming waves, thus preventing erosion and minimizing damage to the coastal plant and animal communities.

Sea grasses are threatened in many areas where boat propellers damage the grasses. When boats enter very shallow water, the propellers dig into the beds of sea grass, leaving deep ruts in their wake. Leaves and roots alike are destroyed, and scars from the propellers can remain for up to 10 years. Propeller scars are abundant in areas where there is a lot of recreational boating and a large population of people. Many areas around Padre Island National Seashore are at risk. In order to help prevent sea grass bed damage and protect recreational fishing, please be aware of all posted regulations. If you are boating in a shallow area, adjust your propeller depth to help prevent damage to fragile sea grass beds. Another tip is to pull up your propeller and turn off your engine completely and use a pole to glide the boat out of the sea grass beds.

Each person who travels in the Laguna Madre has an impact on the sea grass beds. When traveling in the Laguna Madre and the surrounding bay areas, please travel within the marked channels, follow posted speed and wake limits, and slow down in areas of very shallow water to avoid damaging plants, animals, and valuable fish habitat. Protect the fishing that you enjoy by properly disposing of all refuse and monofilament line. Don't spill petroleum products, boat cleaner, or other toxic chemicals into the water. Sea grass beds are a vital part of the ecosystem and support a complex community of plants and animals. Please help protect this fragile community so that future generations may enjoy fishing, boating, and wildlife.

Images courtesy of:



Padre Island's Resourceful Rodents

William Botts, Park Ranger

“What are all those holes in the sand?” is one of the most commonly asked questions of park staff at Padre Island NS. Providing an answer can be time-consuming, because there are a variety of burrowing animals responsible for the holes. However, beneath the sandy soil, all along the island, lives at least one community of animals upon which others depend for survival: the spotted ground squirrel (*Spermophilus spilosoma*). Visitors are regularly amused by this animal's habit of standing upright on its back legs as it scans its surroundings for signs of danger, or for a neighboring squirrel trying to invade its territory. But spotted ground squirrels are more than entertaining; they are also a vital link in the island's ecosystem, providing several important services to other native species.

To see a spotted ground squirrel will require visiting during late spring through early fall, because these animals spend the cooler winter months snoozing peacefully in their sealed-off, subterranean nests. As spring arrives, park visitors and staff enjoy watching the ground squirrels emerge from their burrows and frolic with each other on the dunes. Unfortunately, they quickly learn to approach picnicking visitors and beg for treats. Please note that even though they're incredibly charming and cute, it is illegal to feed spotted ground squirrels or any other park wildlife. Not only is human food bad for the squirrels, but being bitten or nipped by their sharp teeth is also cause for serious medical concern. As rodents, they can carry and transmit rabies and other diseases.



Spotted ground squirrel ©D. Sokoll

If you watch spotted ground squirrels from an appropriate distance, you may see them going about their daily activities, for instance, maintaining their burrows. The burrow's primary function is to provide a safe refuge from enemies, such as badgers, coyotes, hawks, and owls. These tunnels can be nearly 15 feet in length, have up to three different openings, and serve as “emergency escape hatches” in case a snake or coyote comes calling. The burrow also provides a comfortable place for squirrels and other small animals to escape the summer heat and avoid the cool winter fronts that push down from the north. At the end of the tunnel is a small nesting chamber where they snooze away the winter hours, and where mature females give birth. Occasional sightings of half-sized, month-old ground squirrel youngsters occur from late spring through mid-September, leading scientists to believe that spotted ground squirrels may produce two litters of 4–6 offspring per year. The squirrels are a popular menu item for many of the island's predators, which likely contributes to their high reproductive rate.

In addition to providing food for lots of animals, spotted ground squirrels assist their neighbors in other ways. Their tunnels provide a place for kangaroo rats, lizards, and even some species of snakes to escape the summer heat. As the squirrels burrow through the dunes and grasslands, they aerate the soil, thereby providing better habitat for plants. Spotted ground squirrels also carry and bury seeds around the island, helping to establish plants in new locations when they fail to retrieve some of the seeds they've cached.

Spotted ground squirrels are predominantly vegetarian, but have been documented eating an occasional lizard or caterpillar. In the fall, their appetites increase as winter hibernation approaches. One of their favorite snacks is the dragonflies that migrate through the park. Because the dragonflies are too fast to catch, some squirrels have adopted an easier approach: they walk around the parking



Spotted ground squirrel foraging ©D. Sokoll

lot in front of the visitor center and pick smashed dragonflies off of car bumpers, tearing off the wings and then eating the bodies! Ground squirrels contribute greatly to the park; they feed many animals, distribute native plant seeds around the island, aerate the soil, and provide shelter for other species.

Climate Change: What You Can Do

Dimitra Guerrero, Public Affairs Specialist

Of the many challenges that land managers such as the National Park Service must address, the changing global climate may prove to be the most daunting and complex. Climate change is increasingly becoming a topic of concern. The term climate change encompasses a wide range of impacts resulting from the burning of fossil fuels in power plants, cars, and other sources. These impacts include increasing air and water temperatures (i.e., global warming) leading to rising sea levels, greater intensity of weather events including hurricanes, changes in precipitation patterns leading to more droughts and fires, as well as plant and animal species shifting their ranges. Scientists are also concerned about the increasing acidity of the oceans due to their absorption of carbon dioxide. Ocean acidification threatens many of the tiny organisms that are the foundation of the ocean food chain.

Among the many changes that are expected to occur as a result of global climate change, erosion and sea-level rise may prove to be some of the most profound impacts that may effect coastal areas. Coastal features such as wetlands, beaches, and barrier islands may be especially vulnerable due to their low elevation. These environments are already susceptible to and regularly experience periodic inundation due to storm-surge flooding. The potential exists for flooding to become permanent in the event of sea-level rise, and habitat loss could result.

Coastal erosion is the physical removal of sediment by wave and current action. Coastal erosion has been exacerbated by a reduction of the supply of river-laden sediment to coastal waters due to upstream dam construction for urban water supply and irrigation. The reduced inflow of sediment has led to a decrease in the amount of transported sand necessary for natural re-nourishment of gulf beaches. Bulkheads, seawalls, and jetties, which are constructed to retain sand, also disrupt alongshore sand transport by interrupting the natural cycle of accretion and erosion.

While the effects of climate change can be overwhelming, there are many things you can do. By reducing your energy use (i.e., “carbon footprint”) you can reduce your contribution to climate change. To start making a difference now, try incorporating one or more of the following small changes into your daily life:

- **Reduce your vehicle use by walking, biking, or using public transportation.** Cars and trucks run on fossil fuels, which release carbon dioxide and other pollutants into the atmosphere. Walking or biking reduces stress, helps maintain a healthy weight, and enhances your health.
- **Properly maintain your car.** Regular maintenance, including tuning up the engine and properly inflating the tires, helps improve fuel efficiency and reduces emissions.
- **Switch to compact fluorescent light bulbs.** These energy-efficient bulbs help reduce the amount of fossil fuels that utilities burn.
- **Recycle and use recycled products.** Products made from recycled paper, glass, metal, and plastic reduce carbon emissions by using less energy.
- **Use less hot water.** It takes a lot of energy to heat water. Wash your clothes in cold or warm water instead of hot.
- **Turn down the heat.** Heating and air conditioning draw more than half of the energy that a home uses in the United States.
- **Cover your pots while cooking.** Doing so can save a lot of the energy needed for preparing the dish or use pressure cookers and steamers.
- **Compost.** Recycle organic waste and compost if you have a garden.
- **Eat fresh, locally grown foods.** If you shop at a supermarket, the food you buy may travel in a plane from the other side of the world, using a lot of energy. Shop at a local farmers' market to buy fresh food.
- **Reuse shopping bags.** When shopping, it saves energy and waste to use a reusable bag instead of accepting disposable bags.
- **Take a shorter shower.** A shower uses up to four times less energy than a bath if you turn off the showerhead while lathering up. Install low-flow showerheads to save energy and resources.
- **Think green.** Purchasing green or renewable power from utility companies, purchasing energy efficient appliances, planting native trees, using native plants for landscaping, and insulating your home are just a few more ideas.

Padre Island: Boon to Birds

Dimitra Guerrero, Public Affairs Specialist

Birds face incredible challenges to their survival every day. Across the United States and around the world, researchers are noticing that a variety of once-numerous birds are declining throughout their ranges. There are several threats affecting birds and their habitats.

Modern-day land practices have been identified as major contributors to a direct loss of bird habitat. Among the many threats to birds are collisions, poisoning by environmental contaminants, and predation by feral and domestic cats. However, the most pressing concern may be that of habitat loss and degradation. Small islands of habitat that have not been developed often offer very limited space or are unsuitable for birds or other wildlife. Fragmented and degraded habitats are often exposed to or result from intensified agricultural practices such as grazing, pesticide use, urban and industrial development, fire-suppression practices and the introduction of exotic vegetation. Many birds, especially those that migrate, require multiple areas for wintering, breeding, and stopovers. The loss of habitat at just one of these areas could have extensive effects on breeding success, subsequently leading to declines in populations and, possibly extinction.

Further complicating the challenges that birds face is the lack of knowledge about the location and condition of habitat required by individual bird species. In many cases, negative impacts occur beyond the protected borders of national parks and refuges. In order to address these issues, the National Park Service has implemented monitoring and education projects and created opportunities for international and national technical information exchange and cooperation, as well as collaboration with a variety of entities. In addition, the National Park Service disseminates information to visitors about migratory bird conservation and promotes public awareness of bird ecology, threats, and conservation efforts through outreach and education.

In fact, Padre Island National Seashore has been recognized as both a Globally Important Bird Area by the American Bird Conservancy and as a Site of International Importance for Birds by the Western Hemisphere Shorebird Reserve Network. Both designations are an important step toward providing additional protection not only to birds and their habitats, but also to a variety of other animals and plants as well. The goal of conservation programs such as The American Bird Conservancy and Western Hemisphere Shorebird Reserve Network is to raise awareness and aid in the development of resources needed to protect species and habitat that are at risk.



Long billed curlew foraging
©John S. Mercurief II

Padre Island National Seashore encompasses and protects a variety of habitats utilized by birds, such as beaches, grasslands, dunes, and tidal flats; all of which provide rare and critical habitat for breeding, nesting, wintering, and migrating birds. The national seashore is also located on the Central Flyway, a path for countless migratory species of birds. The island serves as an important stopover where birds can rest and feed before continuing on their long journeys. Birding is increasingly becoming an economically important activity and is a rapidly growing pastime of outdoor enthusiasts. Padre Island provides a wonderful opportunity both to experience recreational opportunities and to witness the ecological benefits birds provide to people.

Dangerous Beauty

William Botts, Park Ranger

The beautiful, blue balloon-like Portuguese Man O' War that wash ashore at Padre Island National Seashore are a source of intrigue to many and, unfortunately, a source of pain for others. Because of their natural curiosity, children are especially vulnerable to stings, because they may mistake the animal and its gooey tentacles for a small toy or balloon. Man O' War tentacles are so powerful that they can sting even after the animal has washed ashore and died, remaining dangerous to beachgoers. Scientists have actually frozen Man O' Wars and found that two months in the deep freeze will still not deactivate their stinging cells! It's important to learn about the Man O' War so that you will know how to avoid them and perhaps develop an appreciation for these amazing animals.

Visitors are surprised to discover that the Portuguese Man O' War is actually not a "true" jellyfish. The true jellies belong to a separate class of animals, and are actually individual animals. The Man O' War is not a single animal, but rather a colony of many specialized creatures called hydrozoans that all work together for the benefit of the community. Amazingly, they are able to sail the open seas, capture and digest food, distribute the nutrients throughout the colony, and manage to reproduce even without having a brain, eyes, or a heart.



Portuguese Man O' War nestled in sargassum seaweed
©Tracy Parris

Just like a human community, the members of a Man O' War community have different specialties or jobs. The colony members can be grouped into one of four varieties. At the top of the colony is the single organism that serves to float the colony along in the sea. This animal might be compared to the mayor of the city. It has the all-important job of keeping the community floating along in waters that are warm and rich with food items. This is the familiar, blue balloon-like portion of the colony that beachgoers seem to notice first. Technically called a pneumatophore, the gas-filled float functions similarly to the main sail on a sailboat. The "mayor" can raise the float by filling it with gas to catch the wind so that the colony can trawl for small fish. On the other hand, if an enemy, such as a sea turtle, attacks, the float can be lowered in order to submerge temporarily in the hope of escaping. Dangling beneath the float are the rest of the colony members. Aside from the float, there are three other types of animals. They are not individually visible, because they are microscopic in size, but each plays an important role. One colony member stings and captures food, another digests what has been caught, and the other members are involved in producing small "buds" that are cast off to reproduce new Man O' War colonies.

The many thousands of colony members live along the deadly medusa of tentacles that trails behind the gas-filled blue float. Sources vary considerably as to what length the tentacles may reach; however, it's safe to say that in most well-developed Man O' War colonies, the tentacles will be at least 30-50 feet in length. These tentacles provide a highly efficient method for capturing small food items like shrimp and fish. The sting is extremely powerful so that the colony can kill or paralyze its food quickly, before the prey escapes or damages the tentacles. Any swimmer who has had the misfortune of brushing against the tentacles will attest to the power of the sting.

During your visit to the national seashore, don't let the fear of a jellyfish encounter keep you from enjoying the Gulf of Mexico. As is true of any place we visit, it is important to be aware of potential hazards and do our best to minimize them. Visitors to the seashore should learn to avoid touching the Man O' War and to not swim on days when thousands of stranded jellyfish are littering the beach. Use common sense, and instead of fearing these dangerous beauties, each visitor may come to respect them for the amazing creatures that they are.

Kid's Corner

Scavenger hunt

Powerful, converging currents in the Gulf of Mexico churn up and deposit some interesting things on our beaches. While you stroll along the shore, with sand between your toes, see if you can find some of these things nestled in the sargassum seaweed or along the tide line.

- Dark, hard, seeds in different shapes
- Sargassum seaweed along the shoreline
- Sea whip coral that looks like a yellow shoestring
- Saw-toothed pen shell; a long, brown shell with rough texture
- Piece of trash with a diamond-shaped turtle bite

Create your own nature Haiku

Haiku is a Japanese form of poetry that gives a brief description of nature. Classical Haiku consists of three unrhymed lines of poetry that consist of five, seven, and five syllables. You can also write a more modern Haiku that consists of three lines describing something in nature.

Piping Plover

Small worms watch and wait
As piping plovers tap dance
Breakfast for young chicks

Kemp's Ridley Nesting

Windy day in May
Belly drag and flipper track
Eggs drop into warm sand nest

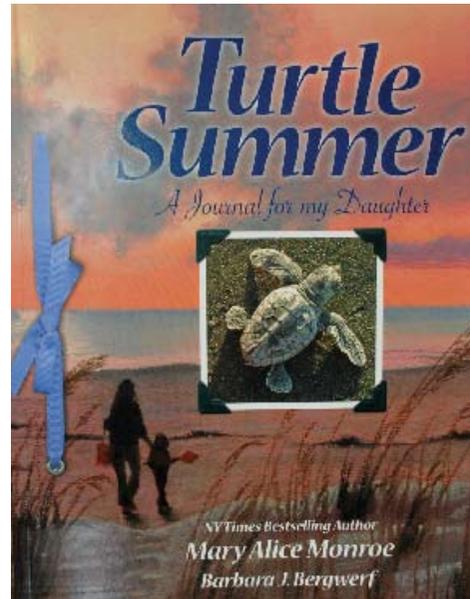
Springtime Terns

A fish offering
With bill outstretched she accepts
Now they are married



Terns in flight
©John S. Mercurief II

Can you write your own nature Haiku? Try it out on the lines below:



Ranger-Recommended Reading

Turtle Summer
Mary Alice Monroe

Turtle Summer, by bestselling author Mary Alice Monroe, is a delightful montage of photographs, illustrations, and paintings paired with descriptive natural journal entries and notes. This book, suitable for children of all ages, describes the life cycle of the loggerhead sea turtle as well as the activities of the turtle team members who work long hours and late evenings to help protect and save this species. The book includes information about sea turtle ecology as well as fun activities for children or adults who want to start their own nature journals.

Bookstore

Padre Island National Seashore and the Western National Parks Association invite you to peruse our well-stocked shelves for all of your gift and book buying needs. Our selection offers titles about our unique Gulf Coast ecology, plants, butterflies, birds, and history. Looking for something for that special someone in your life? We also have patches, magnets, bookmarks, posters, postcards, and much more. Our children's book selection is excellent; we have something for everyone from the little one just learning to read to the high school student or the child in you.



20% Discount

For all teachers and homeschool educators. When you check out at the Malaquite Visitor Center Bookstore, mention that you are a teacher or a homeschool educator and get a 20% discount on all of your educational purchases!

Forget something?

During your recent visit to Padre Island National Seashore, did you check out our bookstore, but forgot your wallet or credit card? Check out the Western National Parks Association website to order your favorite publications and help support your parks.

<http://www.wnpa.org>

Health and Safety Tips

Swimming

Use caution when swimming and never swim alone. Strong currents flowing parallel to the beach, tides flowing to and from the beach, and sudden drop-offs in the surf can be dangerous for swimmers and waders alike. If caught in a rip tide, do not panic. Swim parallel to the beach until you are free from the flow, then swim to shore. Do not attempt to swim to shore against the flow. You will not make it.

Hazardous materials

These periodically wash ashore and range from 55-gallon barrels containing unknown substances to used medical products. If you come upon hazardous materials, note the location and alert a park ranger.

Metal detectors

Possession or use of metal detectors is prohibited in the park. Items such as seashells and driftwood, washed in by the tide, may be collected as long as the items are not used for commercial purposes. All other collecting is prohibited. Collection of live sea creatures is prohibited.

Pets

Pets must be on a leash and under physical restraint at all times. Pets are not permitted at the Malaquite Visitor Center area, including the designated swim beach in front of the visitor center. Pet waste is becoming a growing problem. Please clean up after your animals.

Gray water and sewage

Gray water and sewage must be disposed of only at the dump station at the Malaquite Beach campground.

Driving

Beaches are Texas public highways. Only street legal and licensed vehicles may be driven in the park. All-terrain vehicles (ATVs), UTVs, go-carts, golf carts, and dune buggies are prohibited. Driving in dunes, grasslands, or mudflats is prohibited. Drive with caution and strictly observe posted speed limits. Pedestrians have the right-of-way at all times and do not always watch for approaching vehicles.

Portuguese Man-of-War

These amazing creatures are found at the park throughout the year. These attractive, blue jellyfish cause a painful sting, which is usually accompanied by redness and some swelling of the affected skin area. If stung, seek first aid. A very small percentage of those stung will experience an allergic reaction, which can cause difficulty breathing, numbness in the arms, legs or elsewhere, severe pain, and/or disorientation or unconsciousness. Visitors experiencing these or other symptoms should notify a park ranger immediately and seek medical attention.

Sting Rays

These relatives of the shark can inflict a puncture wound in the lower leg that can be extremely painful. If you are in the water, we recommend doing the "sting-ray shuffle"; instead of walking, shuffle along, so instead of stepping on a sting ray you actually nudge it, thereby causing it to swim away.

Rattlesnakes

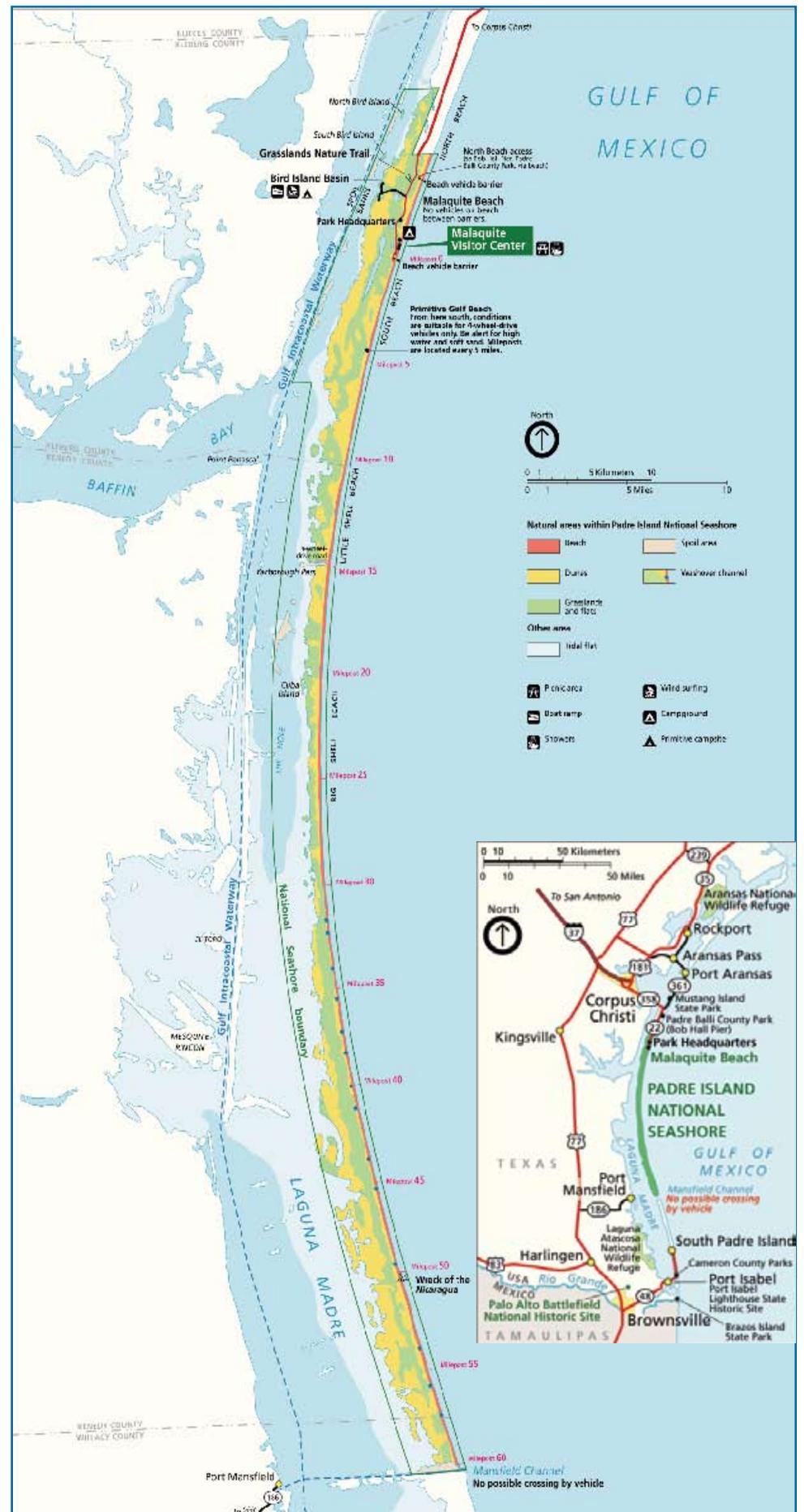
Rattlesnakes live in the dunes, grasslands, and mudflats. Visitors should use extreme caution when walking in these areas.

Hunting

Hunting is not permitted in the park, except for the taking of waterfowl in the Laguna Madre in accordance with applicable state and federal regulations. Transporting lawfully taken wildlife, including exotic species, through the park is prohibited, except for waterfowl and fish.

Loaded firearms are strictly prohibited. A Concealed Handgun License issued under the authority of the State of Texas, or another state is not valid at Padre Island National Seashore.

Jet skis, air boats, and kite surfing are prohibited.



IN CASE OF MEDICAL EMERGENCY

If you have a medical emergency during your visit, contact a park ranger immediately or go to the First Aid station at the Malaquite Visitor Center. If an employee is not immediately available, you may summon assistance for any emergency by dialing 911.

The closest hospital is Bay Area Medical Center, located at the corner of South Padre Island Drive and Rodd Field Road in Corpus Christi. This facility is 24 miles from the visitor center.