NATIONAL PARK SERVICE • U.S. DEPARTMENT OF THE INTERIOR

Foundation Document

Padre Island National Seashore

Texas

January 2016

Figure 1. Maps of Padre Island National Seashore. National Park Service graphics.

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Mission of the National Park Service

The National Park Service (NPS) preserves unimpaired the natural and cultural resources and values of the national park system for the enjoyment, education, and inspiration of this and future generations. The National Park Service cooperates with partners to extend the benefits of natural and cultural resource conservation and outdoor recreation throughout this country and the world.

The NPS core values are a framework in which the National Park Service accomplishes its mission. They express the manner in which, both individually and collectively, the National Park Service pursues its mission. The NPS core values are:

- **Shared stewardship**: We share a commitment to resource stewardship with the global preservation community.
- **Excellence**: We strive continually to learn and improve so that we may achieve the highest ideals of public service.
- **Integrity**: We deal honestly and fairly with the public and one another.
- **Tradition**: We are proud of it; we learn from it; we are not bound by it.
- **Respect**: We embrace each other's differences so that we may enrich the well-being of everyone.

The National Park Service is a bureau within the Department of the Interior. While numerous national park system units were created prior to 1916, it was not until August 25, 1916, that President Woodrow Wilson signed the National Park Service Organic Act formally establishing the National Park Service.

The national park system continues to grow and comprises more than 400 park units covering more than 84 million acres in every state, the District of Columbia, American Samoa, Guam, Puerto Rico, and the Virgin Islands. These units include, but are not limited to, national parks, monuments, battlefields, military parks, historical parks, historic sites, lakeshores, seashores, recreation areas, scenic rivers and trails, and the White House. The variety and diversity of park units throughout the nation require a strong commitment to resource stewardship and management to ensure both the protection and enjoyment of these resources for future generations.

The arrowhead was authorized as the official National Park Service emblem by the Secretary of the Interior on July 20, 1951. The sequoia tree and bison represent vegetation and wildlife, the mountains and water represent scenic and recreational values, and the arrowhead represents historical and archeological values.

Introduction

Every unit of the national park system will have a foundational document to provide basic guidance for planning and management decisions—a foundation for planning and management. The core components of a foundation document include a brief description of the park as well as the park's purpose, significance, fundamental resources and values, and interpretive themes. The foundation document also includes special mandates and administrative commitments, an assessment of planning and data needs that identifies planning issues, planning products to be developed, and the associated studies and data required for park planning. Along with the core components, the assessment provides a focus for park planning activities and establishes a baseline from which planning documents are developed.

A primary benefit of developing a foundation document is the opportunity to integrate and coordinate all kinds and levels of planning from a single, shared understanding of what is most important about the park. The process of developing a foundation document begins with gathering and integrating information about the park. Next, this information is refined and focused to determine what the most important attributes of the park are. The process of preparing a foundation document aids park managers, staff, and the public in identifying and clearly stating in one document the essential information that is necessary for park management to consider when determining future planning efforts, outlining key planning issues, and protecting resources and values that are integral to park purpose and identity.

While not included in this document, a park atlas is also part of a foundation project. The atlas is a series of maps compiled from available geographic information system (GIS) data on natural and cultural resources, visitor use patterns, facilities, and other topics. It serves as a GIS-based support tool for planning and park operations. The atlas is published as a (hard copy) paper product and as geospatial data for use in a web mapping environment. The park atlas for Padre Island National Seashore can be accessed online at: http://insideparkatlas.nps.gov/.

Part 1: Core Components

The core components of a foundation document include a brief description of the park, park purpose, significance statements, fundamental resources and values, and interpretive themes. These components are core because they typically do not change over time. Core components are expected to be used in future planning and management efforts.

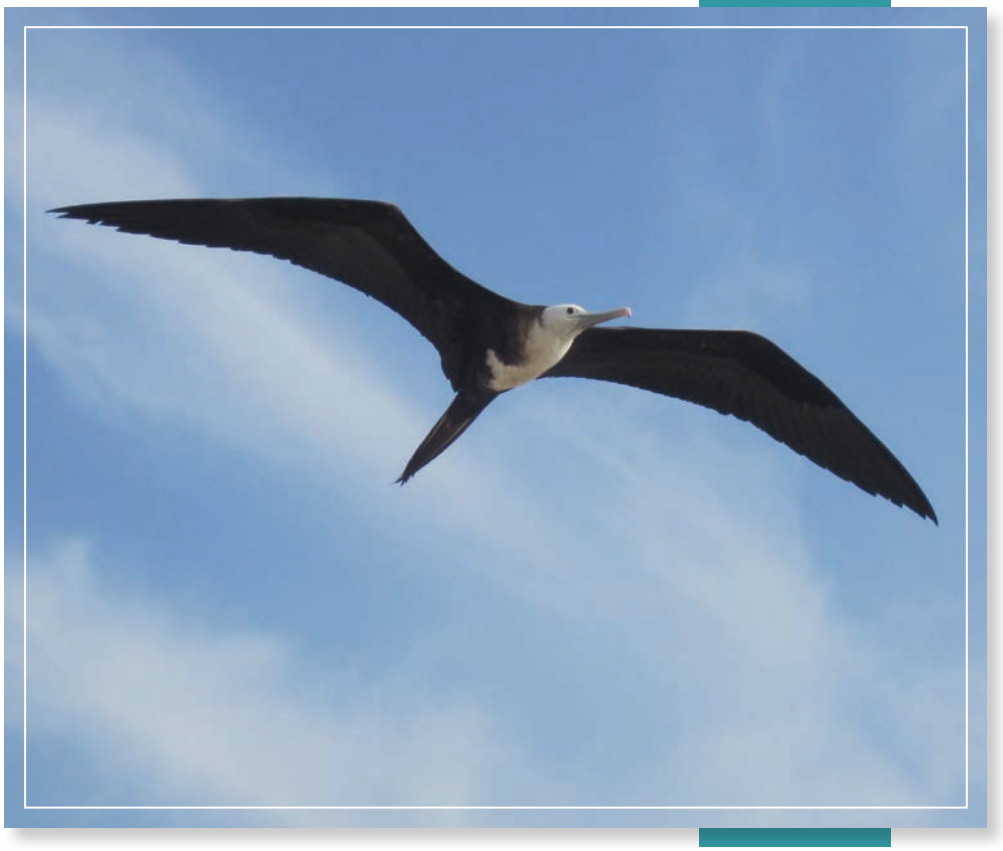
Brief Description of the Park

Padre Island National Seashore (referred to as "the park") is on North Padre Island, on the Gulf of Mexico, southeast of the city of Corpus Christi, Texas. It encompasses over 130,000 acres and 65.5 miles of the 113-mile-long barrier island—one of the longest remaining undeveloped stretches of barrier island in the world. The park protects a rare coastal prairie environment; a complex, dynamic dune system; and the Laguna Madre, one of the few hypersaline lagoon environments left in the world.

The park's relatively natural setting provides opportunities for wildlife viewing, fishing, camping, boating, kayaking, windsurfing, nature study, beach driving and walking, swimming, shelling, and contemplation. Each year, approximately 565,000 visitors make their way to the park. The majority of visitors experience only a small portion of the island due to the challenging terrain and time commitment required to traverse the length of this 65.5-mile stretch of undeveloped barrier island. As a result of the island's configuration, most visitor activity occurs on approximately 2,000 acres of this 130,454-acre park unit. The concentration of visitors occurs along the beach and small visitor center. Outside of these developed areas, the rest of the relatively unsullied barrier island provides visitors an opportunity to experience quiet and solitude where the beauty of a night sky is largely uninhibited by ambient light from nearby urban centers.

Padre Island National Seashore and surrounding waters provide important habitat for marine and terrestrial plants and animals, including a number of threatened and endangered species. The park is involved in a major international research and conservation project to save the most endangered of all sea turtles, the Kemp's ridley. The park is one of the few places the public can witness this rare and endangered sea turtle species nesting on the beach.

Situated along the Central Flyway, Padre Island National Seashore is a globally important area for more than 380 migratory, overwintering, and resident bird species (nearly half of all bird species documented in North America).



Terrestrial systems within the park include a mixture of upland grasslands, vegetated dunes, and extensive wetland environments. More than 60% of the park consists of wetlands comprising marshes, inland waters, wind tidal flats, and seagrass beds. Marine environments include the Gulf of Mexico along the length of the park to a depth of two fathoms and the hypersaline estuary of the Laguna Madre.

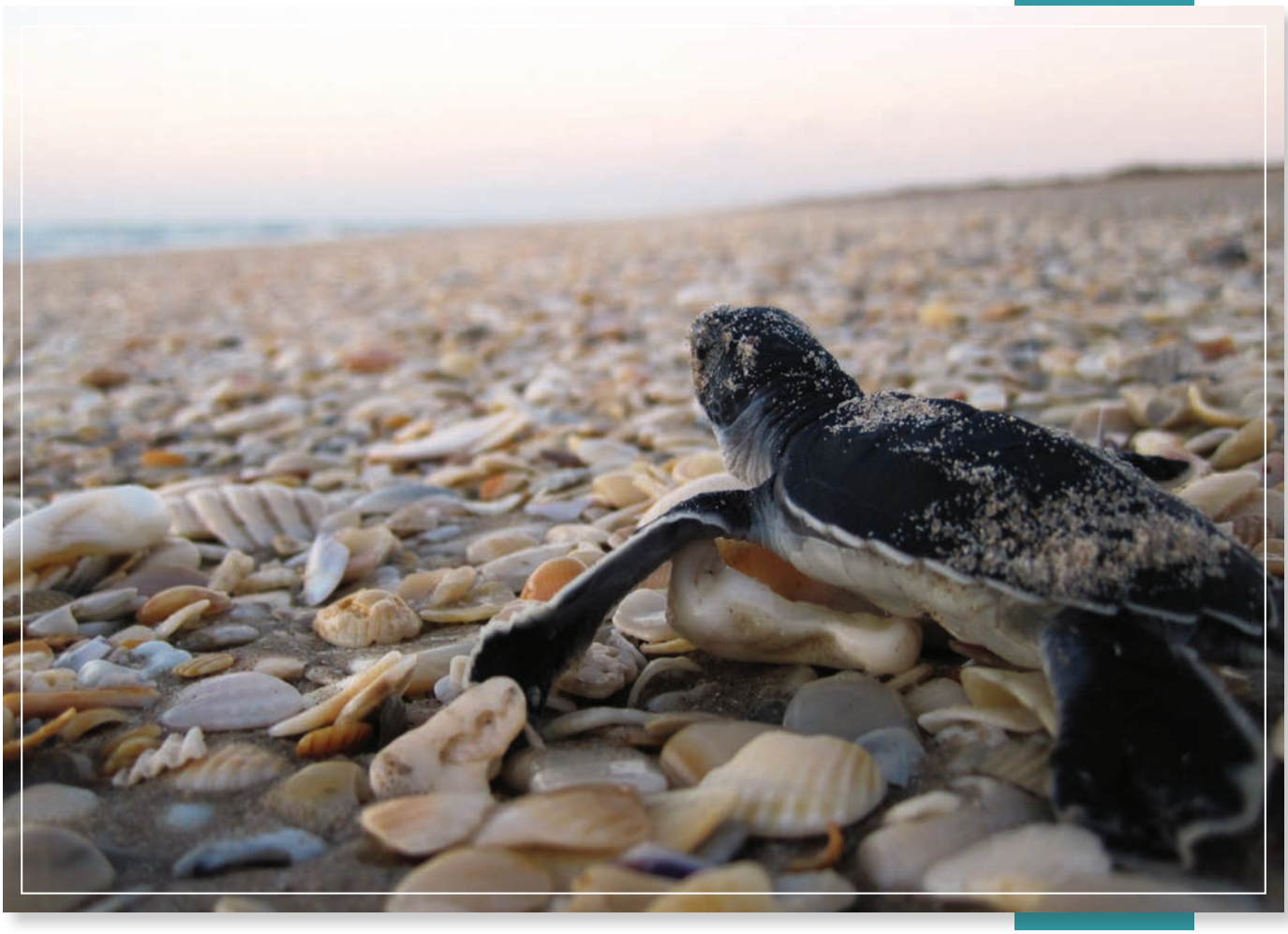
The park's cultural resources represent centuries of human use, first dating to the Karankawa Indians' use of the barrier island as a source of food and refuge. Between Spanish discovery of the island in 1509 and the early 19th century, Spanish troops en route to Mexico and unfortunate shipwreck victims infrequently visited the island. Beginning with its initial land grant in 1804, the island was primarily used for ranching and cattle grazing until 1970, almost a decade after Padre Island National Seashore was established. Most surviving historic resources date to the ranching period of the late-19th and early-20th century, although prehistoric archeological sites and shipwreck remains are also scattered throughout the park.

Padre Island National Seashore is a geologically dynamic land form. It was formed and is continually being reshaped by the action of wind, waves, and tide. Waves and currents move along the gulf shore in shifting patterns, defining the character of different beaches. Beach dunes are built by blowing sand and stabilized by vegetation, only to be completely reshaped by storm events. Major storms have at times carved passes from the Gulf of Mexico to the Laguna Madre, changing the character and dynamics of this barrier island ecosystem. The destructive nature of hurricanes and storm surges continually challenge those wishing to visit or inhabit this island.

Park Purpose

The purpose statement identifies the specific reason(s) for establishment of a particular park. The purpose statement for Padre Island National Seashore was drafted through a careful analysis of its enabling legislation and the legislative history that influenced its development. The park was established when the enabling legislation adopted by Congress was signed into law on September 28, 1962 (see appendix A for enabling legislation and subsequent amendments). The purpose statement lays the foundation for understanding what is most important about the park.

Located on the Texas coast, Padre Island National Seashore preserves, protects, and interprets the outstanding natural, cultural, and recreational resources of the longest undeveloped barrier island in the United States and its surrounding water for public benefit, inspiration, and scientific understanding.



Park Significance

Significance statements express why a park's resources and values are important enough to merit designation as a unit of the national park system. These statements are linked to the purpose of Padre Island National Seashore, and are supported by data, research, and consensus. Statements of significance describe the distinctive nature of the park and why an area is important within a global, national, regional, and systemwide context. They focus on the most important resources and values that will assist in park planning and management.

The following significance statements have been identified for Padre Island National Seashore. (Please note that the sequence of the statements does not reflect the level of significance.)

- Padre Island National Seashore is the longest section of undeveloped barrier island in the United States, protecting the majority of remaining Texas coastal prairie, a dynamic environment constantly sculpted by wind and sea, and the Laguna Madre, one of the few hypersaline lagoon environments left in the world.
- As the largest stretch of undeveloped barrier island in the United States, Padre Island National Seashore provides unobscured views and diverse recreational opportunities such as beachcombing, swimming, picnicking, camping, sunbathing, fishing, kayaking, and bird and wildlife viewing in a pristine and solitary environment. Laguna Madre is an internationally recognized windsurfing area.
- The waters and lands of Padre Island National Seashore provide important habitat for marine and terrestrial plants and animals, including a number of rare, threatened, and endangered species. Geography, gulf dynamics, rare coastal prairie and pristine wetlands, wind tidal flats, biodiversity, location along multiple migration routes, and lack of development make the park an ideal place for natural communities and species associated with barrier islands.
- Five species of threatened and endangered sea turtles occur in the Gulf of Mexico, and Padre Island National Seashore is the only area on the Texas coast where nests from all five of these species have been documented. More Kemp's ridley sea turtle nests are found at the park than at any other location in the United States, making it the most important nesting beach in the United States for this endangered species. Park waters of the Gulf of Mexico, Laguna Madre, and Mansfield Channel also provide important foraging and migratory habitat for these species.
- Padre Island National Seashore is critical for bird species including more than 380 documented migratory, overwintering, and resident bird species. The island is designated as a Globally Important Bird Area by the American Bird Conservancy and was the first NPS unit to be recognized as a Site of International Importance by the Western Hemisphere Shorebird Reserve Network.
- Padre Island National Seashore includes important archeological resources relating to American Indian occupation, the era of early Spanish exploration, maritime history and shipwrecks, and a robust military history from the US war with Mexico through World War II. The Novillo Line Camp and associated historic resources of Padre Island National Seashore include some of the last remaining structures relating to barrier island open-range cattle ranching in the United States.

Fundamental Resources and Values

Fundamental resources and values (FRVs) are those features, systems, processes, experiences, stories, scenes, sounds, smells, or other attributes determined to warrant primary consideration during planning and management processes because they are essential to achieving the purpose of the park and maintaining its significance. Fundamental resources and values are closely related to a park's legislative purpose and are more specific than significance statements.

Fundamental resources and values help focus planning and management efforts on what is truly significant about the park. One of the most important responsibilities of NPS managers is to ensure the conservation and public enjoyment of those qualities that are essential (fundamental) to achieving the purpose of the park and maintaining its significance. If fundamental resources and values are allowed to deteriorate, the park purpose and/or significance could be jeopardized.

The following fundamental resources and values have been identified for Padre Island National Seashore:

- **Recreational Opportunities.** Created in 1962 "for purposes of public recreation, benefit, and inspiration," Padre Island National Seashore is recognized as an outstanding recreation destination. The park's beaches, flora, fauna, and surrounding waters, as well as its cultural sites, present opportunities for a broad array of interests and recreational pursuits that are uniquely suited and appropriate to the park's resources. Big Shell Beach is known for its fishing and shelling. Bird Island Basin attracts the avid bird-watcher and is one of the nation's most popular windsurfing spots. The Laguna Madre is a popular aquatic playground for boating, kayaking, and fishing. From a highly social beach environment where driving is allowed, to beachcombing along isolated stretches closed to vehicles, the island provides a diverse range of opportunities for visitors.

- **Barrier Island Ecosystem.** From the gulf to the lagoon, the width of land varies along the island from 0.5 to 3.0 miles, and the park's landscape changes from beaches to the primary dune line, then to grasslands broken by scattered small dunes, hardwood hammocks, ponds, and wetlands, and finally to transitional back-island dunes and mudflats that merge with the waters of the Laguna Madre. These habitats, rich in biotic diversity, provide important sanctuary for hundreds of species of plants and animals, including many threatened and endangered species. These habitats also provide rich opportunities for scientific research.

- **Sea Turtles.** Sea turtles have become a major natural resource and major visitor draw because the park offers one of the few places the public can go to witness Kemp's ridley sea turtles nesting on the beach and the release of their hatchlings. In recent years, Padre Island National Seashore has documented nests of all five sea turtle species found in the Gulf of Mexico and has played an active role in species protection and conservation research. Since the 1970s, the park has been active in a major, international research and conservation project to save the most endangered of all sea turtles, the Kemp's ridley. These efforts have been expanded to include ongoing patrol programs aimed to detect, study, and protect sea turtle nests with the help of the local community, a variety of partners and donors, and a large and active volunteer force.

- **Undeveloped Barrier Island.** The park protects one of the largest portions of undeveloped barrier island in the world, providing a wide variety of flora, fauna, and recreational opportunities. Padre Island is a dynamic system, formed and continually being reshaped by the action of wind, waves, and tide. Sixty-five and one-half miles of the island habitat have been set aside for future generations to experience the sites, natural sounds, and seemingly unending vistas and dark night skies that comprise this dynamic barrier ecosystem. The 4-1/3-mile section of beach that is closed to beach driving provides an excellent opportunity for scientific research. This may be the only stretch of Texas shoreline protected to preserve its natural state while also being easily accessible to research scientists.

- **Collective History.** The cultural resources of Padre Island National Seashore include archeological sites, cultural landscapes, and historic structures. Prehistoric sites show that Karankawa Indians inhabited the island prior to the arrival of the first Europeans, using the barrier island and ocean waters for hunting, gathering, and fishing. The park also protects remnants of historic ranching structures, a campsite dating from the Mexican-American war, shipwrecks from the days of the Spanish fleet, as well as plane wrecks and other artifacts from the use of the island as a World War II bombing area.

Interpretive Themes

Interpretive themes are often described as the key stories or concepts that visitors should understand after visiting a park—they define the most important ideas or concepts communicated to visitors about a park unit. Themes are derived from, and should reflect, park purpose, significance, resources, and values. The set of interpretive themes is complete when it provides the structure necessary for park staff to develop opportunities for visitors to explore and relate to all park significance statements and fundamental resources and values.

Interpretive themes are an organizational tool that reveal and clarify meaning, concepts, contexts, and values represented by park resources. Sound themes are accurate and reflect current scholarship and science. They encourage exploration of the context in which events or natural processes occurred and the effects of those events and processes. Interpretive themes go beyond a mere description of the event or process to foster multiple opportunities to experience and consider the park and its resources. These themes help explain why a park story is relevant to people who may otherwise be unaware of connections they have to an event, time, or place associated with the park.

The following interpretive themes have been identified for Padre Island National Seashore:

- The ever-changing geologic development of Padre Island, along with the many biologically diverse habitats found from beach to bay provide rare opportunities to understand the complex and critical processes and interactions that sustain the living world.
- Impact monitoring and the effects of both natural and human actions on the island provides opportunities to understand and appreciate the range of consequences that everyday choices have on the world.
- The multitude of outdoor activities, along with the human history of the island, invites recreation and discovery of the different natural and cultural landscapes and provides opportunities for rejuvenation and inspiration of those who visit the park.
- The scientific study of and recovery efforts for the world's most endangered sea turtle species (Kemp's ridley) at Padre Island National Seashore offer unique insights into the enormous combined efforts of the park, allied agencies, individuals, and the public to bring a species back from the brink of extinction.

Part 2: Dynamic Components

The dynamic components of a foundation document include special mandates and administrative commitments and an assessment of planning and data needs. These components are dynamic because they will change over time. New special mandates can be established and new administrative commitments made. As conditions and trends of fundamental resources and values change over time, the analysis of planning and data needs will need to be revisited and revised, along with key issues. Therefore, this part of the foundation document will be updated accordingly.

Special Mandates and Administrative Commitments

Many management decisions for a park unit are directed or influenced by special mandates and administrative commitments with other federal agencies, state and local governments, utility companies, partnering organizations, and other entities. Special mandates are requirements specific to a park that must be fulfilled. Mandates can be expressed in enabling legislation, in separate legislation following the establishment of the park, or through a judicial process. They may expand on park purpose or introduce elements unrelated to the purpose of the park. Administrative commitments are, in general, agreements that have been reached through formal, documented processes, often through memorandums of agreement. Examples include easements, rights-of-way, arrangements for emergency service responses, etc. Special mandates and administrative commitments can support, in many cases, a network of partnerships that help fulfill the objectives of the park and facilitate working relationships with other organizations. They are an essential component of managing and planning for Padre Island National Seashore.

For more information about the existing special mandates, special designations, and administrative commitments for Padre Island National Seashore, please see appendix B.

Assessment of Planning and Data Needs

Once the core components of part 1 of the foundation document have been identified, it is important to gather and evaluate existing information about the park's fundamental resources and values, and develop a full assessment of the park's planning and data needs. The assessment of planning and data needs section presents planning issues, the planning projects that will address these issues, and the associated information requirements for planning, such as resource inventories and data collection, including GIS data.

There are three sections in the assessment of planning and data needs:

1. analysis of fundamental resources and values
2. identification of key issues and associated planning and data needs
3. identification of planning and data needs (including spatial mapping activities or GIS maps)

The analysis of fundamental resources and values and identification of key issues leads up to and supports the identification of planning and data collection needs.

Analysis of Fundamental Resources and Values

The fundamental resource or value analysis table includes current conditions, potential threats and opportunities, planning and data needs, and selected laws and NPS policies related to management of the identified resource or value.

Fundamental Resource or Value	Recreational Opportunities
Related Significance Statements	Significance statement 2.
Current Conditions and Trends	**Conditions** • The park provides a robust variety of land- and water-based recreational opportunities, including surfing, boat and wade fishing, kayaking, windsurfing, swimming, shell collecting, sunbathing, camping, hiking, photography, wildlife viewing, and vehicle access to more remote areas of the beach. • The park provides both formal and self-guided recreational experiences. • Surveyed visitors are generally pleased with the recreational opportunities and amenities provided by the park. • Park visitation is most intensive along the gulf shoreline with the use of Laguna Madre concentrated at the Bird Island Basin boat ramp and windsurfing area. Use of backcountry areas, the area behind the dune line and across the island to the Laguna Madre, is less popular than the beach, in part, because of the lack of access and park regulations restricting vehicles and overnight use of the dunes, wind tidal flats, and sensitive habitats found in the center of the island. • Visitation to Padre Island typically begins to increase in March and peaks in July, with the fewest visitors in December. Consequently, the summer months constitute the park's peak visitation period. • Malaquite Visitor Center and its nearby beach are the most popular destinations at the park. Less-visited areas include the Grasslands Nature Trail, Novillo Line Camp, Wreck of the *Nicaragua*, Mansfield Channel, and Yarborough Pass. • Many visitors who camp in the park use areas such as Malaquite Campground, Bird Island Basin, Yarborough Pass, areas along the road adjacent to the Mansfield Channel, and areas of the beach open to vehicles. Beach camping is popular, and campsites may become concentrated in the first few miles of south beach. Camping is not permitted in the backcountry grassland and wind-tidal flat areas of the park. • Generally, the park's recreational infrastructure is in deteriorated condition, and needs to be addressed in order to continue to provide consistent access. In particular, the deterioration of Yarborough Pass road needs to be addressed, and the boat ramp and camping area at Bird Island Basin is greatly eroded. • There is a statewide fish advisory for mercury with consumption guidelines for all waters off the Texas coast that includes park waters. **Trends** • Annual visitation is stable or slightly increasing. The park has also anecdotally seen consistent international visitation. • Four-wheel-drive vehicles continue to become more common and allow a larger percentage of visitors to travel farther down the beach. • The park has seen a continued use of boats at the only boat ramp in the park at Bird Island Basin because this is the southernmost launch site for Laguna Madre access in the Coastal Bend. On many summer and holiday weekends there are not enough parking spaces to accommodate demand. • The park continues to adapt to new ways to disseminate information (additional media outlets and communication pathways). • The park continues to adapt to new recreational innovations, demands, and uses (GoPro cameras, illegal use of drones, ecotourism for birds and turtles). • Attendance at programs related to release of Kemp's ridley hatchlings and "cold stunned" sea turtles (immobility due to prolonged exposure to cold) has increased.

Fundamental Resource or Value	Recreational Opportunities
Threats and Opportunities	**Threats** • Major Gulf of Mexico currents converge just offshore from the park and typically between mile markers 10 and 30 of South Beach. This circulation pattern causes large amounts of debris to wash ashore (mostly plastic, but some hazardous materials and some large items such as 100-foot buoys). The debris may be unsightly to visitors and some of the trash may be harmful to visitors. • Some visitors are unaware of the negative impacts of their recreational activities on the barrier island and wildlife resources. • After the establishment of the national seashore, some traditional recreational uses on the island were discontinued, creating friction both then and now between the public and NPS management. Present-day requests to participate in activities not governed by the NPS Superintendent's Compendium also present special challenges to park management. • Conflicts continue between recreational activities on the island, especially between pedestrians and vehicles along the more heavily used beach areas. There are strong differences of opinion as to whether or not vehicles should be allowed on the beach, in part due to resource impacts, impaired or under the influence driving, and speeding. • Many factors complicate beach driving, including thick accumulated seaweed and other sea-borne debris; natural and human-made holes, ditches, and trenches along the beach; and high tides and inclement weather that may cause safety issues when drivers become trapped down the beach. • Bird Island Basin is another focal point for competing recreational uses. The basin provides a small windsurfing concession operation and is the park's only boat ramp. This launch site is often heavily used by local anglers as it is the southernmost ramp (by 8 miles) in the Coastal Bend. Boating, fishing, windsurfing, bird-watching, camping, picnicking, and other day use activities all occur in this relatively small, confined space. Boating, fishing, and windsurfing conflicts continue to occur in the offshore area at the basin. With increased use, the mix and intensity of recreational activity at Bird Island Basin have the potential to lower the quality of the visitor experience. • Trash associated with beach use, camping, and fishing; disposal of human waste; and the enforcement of campfire regulations continue to be an issue for the visiting public and park management. Both human-made debris and *Sargassum* sp. (brown macroalgae) that wash ashore create the perception that the beaches are poorly managed, prompting the issue of information and educational efforts for managing the park. • Poaching or illegal take of waterfowl and wildlife, illegal fishing, and illegal feeding of wildlife can all harm park populations of wildlife and fish. • Increases in sea-level and storm frequency/intensity, and increases in mean annual temperature and extreme heat events (> 95°F) projected for the region due to climate change could influence visitation patterns and visitor interests and increase visitor safety issues. • Harmful algal blooms may restrict visitor recreational opportunities and pose visitor safety issues. • The visiting public has expressed concern about the visual and physical impacts associated with oil and gas exploration and production activities, which now occur legally on the island and offshore. Oil spills have intensified the public concern about these impacts. • Ground-level ozone sometimes reaches levels that can make breathing difficult for sensitive groups and is a moderate concern based on NPS Air Resources Division benchmarks.

Fundamental Resource or Value	Recreational Opportunities
Threats and Opportunities	**Threats (continued)** • Presently, most visitors are unable to have a direct on-site experience with the various landscapes that comprise this barrier island ecosystem. The visitor experience is mostly limited to the beach and foredunes at the north end of the island. Most visitors are unaware of the significance, extent, and variety of landscape environments that comprise this internationally significant resource. • Hazardous materials washing up on the beach continues to be a problem, posing potentially serious health problems for the visiting public and park staff. • The 65.5-mile-long stretch of undeveloped beach and its proximity to the Gulf of Mexico promote smuggling and illegal immigration, posing serious safety problems for visitors and staff. • Volunteer housing is limited, including a few tent or camp trailer pads near the resident ranger housing, campground host spaces in both campgrounds, and rare limited availability within the resident ranger house if it is unoccupied. An increase in housing would make the park a more attractive place for volunteers. Additionally, those volunteers that do camp in recreational vehicles (RVs) see rapid rusting and deterioration of their RV due to the hypersaline climate. **Opportunities** • Continue exploring additional opportunities for recreation that do not conflict with park management or resource protection (i.e., wetland walkways, additional trails and boardwalks, kayaking in Big Pond, etc.). • Continue working with friends groups to solicit donations for school groups to visit the park and participate in volunteer events, such as beach cleanups. • Continue working with universities to gather data related to recreational impacts on park resources (i.e., shark fishing impacts, beach driving impacts). • Implement the wildlife viewing station project to construct turnouts along the park road. • Maintain and improve recreational infrastructure to continue to provide visitor access and amenities. • Investigate construction of a bike trail connecting the park to the adjacent community. • Expand campground and picnic areas to meet changing visitor demands. This would increase the park's relevancy to youth groups, girl scout and boy scout troops, and other large groups, such as families, who want to camp together. • Providing expanded volunteer housing and facilities would help accommodate the much needed services and hours provided by the park's many volunteers. • Simplify the park's pay structure at Bird Island Basin. Presently, visitors are often confused by the collected entrance fee and the difference between the day use / launch fee at Bird Island Basin (including camping) and the camping fee at the Malaquite Campground. The park should prepare a public fee structure change for Bird Island Basin.
Data and/or GIS Needs	• Continued collection of visitor use data and trends. • Visitor surveys. • LiDAR of whole park. • Data related to beach driving impacts. • Continued collection of data related to violations. • Continued understanding of observed and projected climate change through monitoring of weather parameters (precipitation, temperature, storm events) and sea level rise, and assessment of projected climate futures (models) for the region.

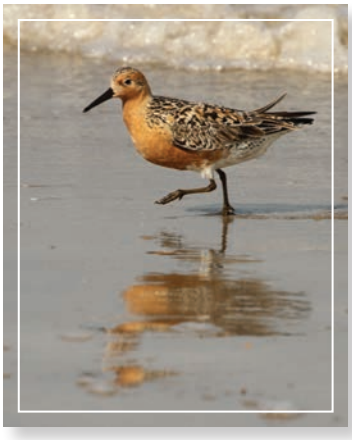
Fundamental Resource or Value	Recreational Opportunities
Planning Needs	• Down-Island road plan / environmental impact statement. • Bird Island Basin cyclic erosion plan. • Campground design concept plan. • Visitor center boardwalk plan. • Prepare a public fee structure change for Bird Island Basin.
Laws, Executive Orders, and Regulations That Apply to the FRV, and NPS Policy-level Guidance	**Laws, Executive Orders, and Regulations That Apply to the FRV** • Americans with Disabilities Act of 1990 • Architectural Barriers Act of 1968 • Architectural Barriers Act Accessibility Standards 2006 • Rehabilitation Act of 1973 • National Park Service Concessions Management Improvement Act of 1998 • Clean Air Act of 1977 • Secretarial Order 3289, "Addressing the Impacts of Climate Change on America's Water, Land, and Other Natural and Cultural Resources" **NPS Policy-level Guidance (NPS *Management Policies 2006* and Director's Orders)** • Director's Order 6: *Interpretation and Education* • Director's Order 42: *Accessibility for Visitors with Disabilities in National Park Service Programs and Services* • NPS *Management Policies 2006* (chapters 7, 8, 9, and 10) • NPS *Transportation Planning Guidebook* • NPS *A Call to Action: Preparing for a Second Century of Stewardship and Engagement*

Fundamental Resource or Value	Barrier Island Ecosystem
Related Significance Statements	Significance statements 1, 3, 4, and 5.
Current Conditions and Trends	**Conditions** • Prior to the park's establishment, cattle grazing, burning, and military activities degraded existing plant communities. Following establishment of the park in 1962, these activities were phased out, allowing vegetation structure and species composition to return to a more natural state. • Physical factors such as high temperatures, sun exposure, salinity, isolation from the mainland, and periodic impacts from hurricanes and fire influence the structure and composition of plant communities on the island. • Low-lying grasses, forbs, and shrubs are the predominant vegetation life forms that have adapted to the harsh, salty environment. • The small tree population primarily consists of mesquite, live oak, and willow. Stunted oak trees grow clustered on low dunes referred to as oak motts. • There are more than 450 flowering plant species from 77 families in the park. • Because of extreme temperatures, weather, and lack of shade, most land mammals in Padre Island National Seashore are small, nocturnal, or burrowing. However, larger species such as white-tailed deer, coyote, and bobcat do occur on the island. • Padre Island National Seashore lies along the Central Flyway, a migratory path for birds traveling from northern North America to the Gulf Coast, Mexico, the Caribbean, and for some species, Argentina and Chile. In addition to its importance as stopover habitat during migration, many birds winter on the island, while others are year-round residents. Several species of waterbirds nest in large rookeries on islands in the Laguna Madre. • Special status reptiles with the potential to occur at the park include the American alligator, Texas horned lizard, Texas indigo snake, Texas scarlet snake, and five species of sea turtle (see "Sea Turtle" FRV analysis table for more information). • Special status birds include the piping plover, Northern aplomado falcon, black-capped vireo, red knot, Sprague's pipit, wood stork, reddish egret, white-faced ibis, bald eagle, peregrine falcon, sooty tern, tropical parula, swallow-tailed kite, white-tailed hawk, and long-billed curlew. • The West Indian manatee is the only special status mammal with the potential to occur at the park. Several species of dolphins and whales inhabit the nearshore waters of the park and are protected under the Marine Mammal Protection Act. • Generally, most habitats and species are considered in good condition, though there are some species that are in decline due to habitat degradation (i.e., sea turtles, and some bird species). However, more data are needed. • Historically, fire has played an important role in the ecological development of the park landscape. Over the past 12 years, the park has had 33 fires, covering as little as a tenth of an acre up to the largest event that covered nearly 13,000 acres. Almost half of these fires were caused by lightning. The majority of the remainder of fire events were unintentional, human-caused fires, while the remaining fires were management-ignited prescribed fires. • According to the State of Texas 2012 Clean Water Act Integrated Report 303(d) Impairment List, the portion of the Laguna Madre north of the Arroyo Colorado confluence is impaired due to low dissolved oxygen. The Laguna Madre dissolved oxygen impairment appears to arise from nonpoint source inputs of nutrients from ranches, septic systems, impervious surfaces in the watershed, and atmospheric nitrogen deposition. Decreased dissolved oxygen content is typical in the Laguna Madre due to high salinities and high water temperatures, often reaching dangerously low levels in late afternoons during the summer season. Similarly, the Gulf of Mexico is impaired by mercury in fish tissue. Arsenic, cadmium, mercury, dieldrin, PCBs, PAHs, and toxaphene samples taken from fish and oysters within and nearby the park have exceeded the thresholds used by the Environmental Protection Agency to determine potential ecological risks.

Fundamental Resource or Value	Barrier Island Ecosystem
Current Conditions and Trends	**Trends** • Many trends related to the ecosystem are unknown due to incomplete data. • Generally, conditions of the habitat and species vary due to climate variations (e.g., drought conditions in the last five years and increases in precipitation in recent years). • Rookery birds are in decline due to lack of nesting areas and factors outside the park (loss of habitat, boating, wind farms, changes in food sources, etc.). • Natural erosion and accretion processes continue on the island, altering habitats. • There has been a succession of different seagrasses with shoal grass nearly covering the entire basin between 1965 and 1988. This succession is moving toward replacing shoal grass with manatee grass and about 17% being replaced by turtle grass as a climax species in the basin during the next 50 years. Seagrass conditions are improving in recent years, due to an implemented public education and awareness program and law enforcement efforts. • The US Fish and Wildlife Service continues to identify new threatened and endangered species that have the potential to occur within the park due to changes in habitat and natural processes.
Threats and Opportunities	**Threats** • The debris from commercial fishing and offshore oil and gas activities, commercial fishing practices, fishing line and hooks, hazardous materials, and the possibility of oil spills have a potential cumulative effect on ocean fisheries, birdlife, and sensitive species. • Illegal fishing by Mexican commercial boats off the coast of the park, particularly related to sharks and red snapper, pose threats to these species populations and to sea turtles. • The pressure to use the islands within the Laguna Madre for disposal of dredge material to protect islands against erosion directly conflicts with protecting active rookeries for colonial nesting birds. • Tidal flats, seagrass beds, and the shallow waters of the Laguna Madre support an important fisheries habitat and foraging bird habitat that could be at risk if the levels of commercial and recreational fishing, boating, and other water-based recreational activities substantially increase in the future. • Illegal off-road driving contributes to wildlife habitat and vegetation loss and changes in hydrology. Tidal flats are especially sensitive to vehicle impacts and may take many decades to centuries to recover naturally. • Some erosion and accretion due to human development and use alters habitat at the park. In particular, leaching and erosion of caliche from the Bird Island Basin parking area into the Laguna Madre, resulting in turbidity and potential negative impacts on seagrasses because of increased turbidity. • Increases in sea-level and storm frequency/intensity, along with increases in mean annual temperature and extreme heat events (> 95°F) projected for the region due to climate change could impact natural processes and ecological communities. • Hurricanes and tropical storms are common in the Gulf of Mexico, although the park is in an area of the Gulf Coast that historically has few hurricanes that make landfall compared to the northern and eastern parts of the coast. Associated strong winds can cause significant geomorphological changes to the beach and dunes and impact vegetation communities. An equally destructive force is the tidal storm surge that accompanies hurricanes, causing erosion and transporting and depositing huge amounts of coastal sediment in the process. These storms may increase in intensity and severity associated with climate change. • Harmful algal blooms (red tide and brown tide) are threats to park resources (including seagrass), and have been a recurring problem. Red tides are known to produce natural toxins and deplete dissolved oxygen, often resulting in wildlife mortalities of marine and coastal species of fish, birds, marine mammals, and other organisms.

Fundamental Resource or Value	Barrier Island Ecosystem
Threats and Opportunities	**Threats (continued)** • The park has documented more than 40 species of nonnative plant species. Invasive flora has the potential to outcompete native species, and may result in a nonnative-dominated landscape. Of particular note are buffalo grass, Phragmites, and Brazilian pepper. These species, as well as several other nonnative grasses, have replaced the native flora to varying degrees. • Illegal poaching of animals. • Damage caused by propeller scarring from increased recreational boating traffic is an ongoing threat to seagrasses. • Off-road vehicles can damage the surface of tidal flats and create ruts that interfere with surface hydrology. • Excess nutrients in park waters and toxic levels of mercury and other toxics in park biota are a threat to park wildlife and the barrier island ecosystem. **Opportunities** • Continue and increase public education and interpretation of the natural environment at the park, including how barrier island ecosystems are influenced by a changing climate. • Update the visitor center exhibits to reflect more current scholarly information about the park's ecosystem and increase relevancy of the environment to future generations. • Continue working with Railroad Commission of Texas and the Abandoned Mine Land Program for removal and remediation of abandoned oil and gas infrastructure. • Continue to work with the US Army Corps of Engineers to maintain spoil islands (islands created by channel dredging) at a size sufficient to provide suitable nesting habitat for rookeries. • Coordinate with universities for data gathering, baseline surveys, monitoring, and studies. For example, conduct comprehensive surveys and long-term/annual research on flora and fauna, in part through coordination with universities (i.e., master's theses, dissertations, or research papers). • Reduce boat damage with no-wake and pole/troll zones. Adopt boater outreach and education, as well as a visitor use management plan for marine recreational uses, potentially including waysides at Bird Island Basin. • Improve park sustainability and environmental leadership through the Climate Friendly Park certification including an Environmental Management Systems (Director's Order 13A).
Data and/or GIS Needs	• LiDAR of whole park. • Map extent of algal mats within the park. • Aerial photography of the whole park. • Wildlife surveys. • Vegetation surveys (ongoing). • Update flora and fauna lists. • Continued understanding of observed and projected climate change through monitoring (or access to) weather parameters (precipitation, temperature, storm events), sea level rise and ecological responses, and assessment of projected climate futures (models) for the region. • Studies to examine pollution dose-response relationships to park resources. Assess impact of mercury and other toxics on biota, including invertebrate insects and fish, for a better understanding of the ecosystem characteristics that enhance mercury methylation at the park.
Planning Needs	• Resource stewardship strategy. • Invasive species management plan (related to both flora and fauna). • Climate friendly action plan.

Fundamental Resource or Value	Barrier Island Ecosystem
Laws, Executive Orders, and Regulations That Apply to the FRV, and NPS Policy-level Guidance	**Laws, Executive Orders, and Regulations That Apply to the FRV** • Endangered Species Act of 1973, as amended • National Invasive Species Act of 1996 • Lacey Act, as amended • Migratory Bird Treaty Act of 1918 • Bald and Golden Eagle Protection Act of 1940, as amended • National Environmental Policy Act of 1969 • Federal Noxious Weed Act of 1974, as amended • Clean Water Act of 1972 • Clean Air Act of 1977 • Executive Order 12088, "Federal Compliance with Pollution Control Standards" • Executive Order 13112, "Invasive Species" • Secretarial Order 3289, "Addressing the Impacts of Climate Change on America's Water, Land, and Other Natural and Cultural Resources" • National Flood Insurance Program **NPS Policy-level Guidance (NPS *Management Policies 2006* and Director's Orders)** • NPS Director's Order 18: *Wildland Fire Management* • NPS Director's Order 77-2: *Floodplain Management* • NPS *Management Policies 2006* (1.6) "Cooperative Conservation Beyond Park Boundaries" • NPS *Management Policies 2006* (4.1) "General Management Concepts" • NPS *Management Policies 2006* (4.1.4) "Partnerships" • NPS *Management Policies 2006* (4.4.1) "General Principles for Managing Biological Resources" • NPS *Management Policies 2006* (4.6.1) "Protection of Surface Waters and Groundwaters" • NPS *Management Policies 2006* (4.6.2) "Water Rights" • NPS *Management Policies 2006* (4.6.4) "Floodplains" • NPS *Management Policies 2006* (4.7.2) "Weather and Climate" • NPS *Management Policies 2006* (4.9) "Soundscape Management" • NPS *Management Policies 2006* (4.10) "Lightscape Management" • NPS *Natural Resource Management Reference Manual 77* • NPS *Reference Manual 18: Wildland Fire Management* • Special Directive 93-4, "Floodplain Management Guidelines"



Fundamental Resource or Value	Sea Turtles
Related Significance Statements	Significance statement 4.
Current Conditions and Trends	**Conditions** • Five species of sea turtles have been documented nesting at Padre Island National Seashore: the leatherback, green, Kemp's ridley, hawksbill, and loggerhead. All of these species are federally listed as either threatened or endangered. • The waters of the park provide important marine habitat for these species. Nearshore waters of the Gulf of Mexico in and adjacent to the park are used by various life stages and species for dispersal, foraging, and migration. Waters of the Mansfield Channel are used by various species to travel between the Gulf of Mexico and the Laguna Madre, and by juvenile green and hawksbill turtles for foraging and resting. Waters of the Laguna Madre are also used for foraging, primarily by juvenile green turtles. • South Texas inshore waters provide important developmental habitat for green sea turtles. Padre Island National Seashore and South Padre Island are the only locations on the Texas coast where green turtle nesting has been documented. The park has conducted extensive research on green turtles in Texas, including individuals found stranded in Texas, netted at the Mansfield Channel, and satellite tracked after capture at the Mansfield Channel. During recent years, from 1 to 15 green turtle nests have been confirmed on the Texas coast each year and nesting has been increasing slightly. • Kemp's ridley is the most endangered species of sea turtle. In the United States, the majority of nesting Kemp's ridley sea turtles occurs in Texas. More records have and continue to be from the park than any other location in the United States. During the 2014 nesting season, 72 of the 119 Kemp's ridley sea turtle nests documented in Texas were found within Padre Island National Seashore. • A few loggerhead nests are usually found at Padre Island National Seashore each year. • One leatherback nest was located in the park in 2008. Prior to this, the most recent nesting records in Texas were from the 1920s and 1930s at what later became Padre Island National Seashore. The park is the only site in Texas where leatherback nests have been recorded. • Only one hawksbill sea turtle nest has been documented on the Texas coast in 1998 at Padre Island National Seashore. **Trends** • In the years since 2010, the park's once rebounding population of Kemp's ridley sea turtles has taken a dramatic turn, from a 15% to 18% per year increase to a 5% decrease. The number of nests found dropped dramatically in 2010. As of 2012, nesting appeared to have bounced back from the 2010 decline and model projections suggested that the population would resume a trend of increase, although this prediction was not realized during 2013 and 2014. • During the last decade, nesting of loggerheads has remained relatively stable on the Texas coast, with 0–13 nests per year. • The park has seen more frequent and high numbers of cold-stunned green sea turtles, partially due to the presence of more juvenile green sea turtles as well as increased severe weather events. • There is a consistently high workload related to turtle patrols, recovery, and research needed to be filled by volunteers, as there is a limited NPS workforce available to address all the program needs.

Fundamental Resource or Value	Sea Turtles
Threats and Opportunities	**Threats** • Marine debris is a serious threat to sea turtles at the park. Sea turtles can become entangled, ingest debris, and be smothered by floating and nonfloating debris. Entanglements have been reported for all five species found in or near the park. • In Texas, outside the park, adult loggerhead and Kemp's ridley turtles have been crushed and killed by passing vehicles on the beach, as have hatchling Kemp's ridleys that were on their way to the sea. • Oil spills are also a threat to sea turtles. These spills can affect turtles at every stage of life, but tend to be more damaging at earlier life stages. If oil contamination reaches a nest and alters the gas exchange, nest temperature, and sand moisture, it will cause an increase in mortality of the embryos. If oil reaches foraging grounds, turtles can ingest the oil incidentally when aiming to consume flora or fauna. Oil spills can also suffocate seagrass and other benthic organisms, which are important food sources for sea turtles. • Offshore development (i.e., oil and gas operations, transmission lines, and wind farms) may disrupt or damage vital foraging ground and seagrasses or affect migration routes and sea turtle navigation. • Water recreation, in particular boating, is a common threat to sea turtles, and coastal development may increase boat traffic near the park. Injuries caused by propellers or colliding with boats may result in the stranding and death of sea turtles. • Poaching is a potential threat to sea turtles at the park. It is illegal to harvest eggs as well as juvenile and adult sea turtles from US beaches and waters, but harvesting still occurs. In the past, some sea turtle species were popular items in culinary dishes. • Every few years, severe cold fronts affect south Texas and cause hypothermic stunning of green turtles, primarily in south Texas bays and passes. Hypothermic stunning during these periods of freezing air temperatures is the most significant threat to green turtles in Texas waters. If green turtles are not quickly found during these events and transported to rehabilitation facilities, they will succumb due to exposure or predation. • Seasonal tropical storms can adversely affect the reproductive season of sea turtles, as well as threaten turtles at various life stages. For instance, eggs and hatchlings seem to be most vulnerable to exposure due to limited or no mobility. Seasonal storms can cause high tides and saltwater inundation of turtle nests, disrupting the oxygen exchange among the turtle eggs. • High tides can also occur at other times that are not associated with storm events. High tides can erode the beach, removing sand on top of the nest and sometimes washing the eggs out to sea. Repeated saltwater inundation of a nest can decrease hatchling success. • Harmful algal blooms (or red tides) may pose a threat to sea turtles, although this has not been documented as being a substantial threat at the park. Algal blooms become harmful when they release toxins, causing such issues as respiratory and neurological problems. They can also cause low-oxygen zones and block out sunlight, resulting in fish kills and dying seagrass, impacting species that are important food sources for some sea turtle species. • Predation is a threat to sea turtles at the park; however, predation rates decrease as turtles grow and mature. Nest depredation seems to be the most common form of predation on sea turtles. The main predators of eggs and hatchlings on the beach at the park include raccoons, coyotes, skunks, badgers, ghost crabs, and ants. Seabirds and a variety of fish typically prey on hatchlings and young turtles. Larger, mature turtles experience fewer predation threats. However, a coyote killed a nesting Kemp's ridley at the park. Elsewhere, tiger sharks have been observed preying upon adult green sea turtles. • One disease that has been observed on green sea turtles in the park is fibropapilloma; a condition causing growths or tumors on the turtles' soft tissues. This disease can occur both externally and internally. Normally, this condition is not fatal, but if the growths occur on the eyes, mouth, and flippers they can negatively affect feeding and mobility. • Increases in sea-level and storm frequency/intensity, along with increases in mean annual temperature and extreme heat events (> 95°F) projected for the region due to climate change could impact sea turtle life stages through physical damage to nests and eggs, changes in turtle gender due to temperature, and disruption in oxygen exchange in eggs due to saltwater intrusion.

Fundamental Resource or Value	Sea Turtles
Threats and Opportunities	**Opportunities** • Continue to protect sea turtle nests and release hatchings to contribute to the recovery of these species, and hopefully, see removal of these species from the threatened and endangered species lists. • Continue rescue and rehabilitation of cold-stunned turtles. • Continue public engagement and education about impacts on sea turtles, recovery efforts, and research. This includes continuing to host special events to expand exposure of turtle issues to the public, such as the popular hatchling releases. • Continue research related to a number of different topics, including Kemp's ridley remigration intervals, satellite tracking, genetics, and foraging grounds, among others. These efforts can be coordinated with various university researchers, as well as part of the large bi-national research effort between the United States and Mexico. • Expansion of the Sea Turtle Science and Recovery Program, with appropriate volunteer, staff, and funding levels. • Expansion of training for use of utility task vehicles, and support for fleet mechanic position. Potentially investigate having an apprentice or group of mechanics that are knowledgeable about the functions, management, and operations of the turtle program and associated volunteer program.
Data and/or GIS Needs	• Continued monitoring of Kemp's ridley sea turtles and other sea turtles and sea turtle nests. • Continued satellite tracking of Kemp's ridley and green sea turtles. • LiDAR of whole park. • Aerial photography of the whole park. • Continued understanding of observed and projected climate change through monitoring of (or access to) weather parameters (precipitation, temperature, storm events), sea level rise and ecological responses, and assessment of projected climate futures (models) for the region.
Planning Needs	• None identified.
Laws, Executive Orders, and Regulations That Apply to the FRV, and NPS Policy-level Guidance	**Laws, Executive Orders, and Regulations That Apply to the FRV** • Endangered Species Act of 1973, as amended • Lacey Act, as amended • National Environmental Policy Act of 1969 • Clean Water Act of 1972 • Clean Air Act of 1977 • Executive Order 12088, "Federal Compliance with Pollution Control Standards" • Secretarial Order 3289, "Addressing the Impacts of Climate Change on America's Water, Land, and Other Natural and Cultural Resources" **NPS Policy-level Guidance (NPS *Management Policies 2006* and Director's Orders)** • NPS *Management Policies 2006* (1.6) "Cooperative Conservation Beyond Park Boundaries" • NPS *Management Policies 2006* (4.1) "General Management Concepts" • NPS *Management Policies 2006* (4.1.4) "Partnerships" • NPS *Management Policies 2006* (4.4.1) "General Principles for Managing Biological Resources" • NPS *Management Policies 2006* (4.6.1) "Protection of Surface Waters and Groundwaters" • NPS *Natural Resource Management Reference Manual 77*

Fundamental Resource or Value	Undeveloped Barrier Island
Related Significance Statements	Significance statements 1 and 3.
Current Conditions and Trends	**Conditions** • The undeveloped condition of the barrier island is generally good, but there are some visible anthropogenic influences at the park. However, natural processes continue largely unimpeded. • The park is designated as a class II area, as authorized by the Prevention of Significant Deterioration provisions of the Clean Air Act, which gives federal land managers the responsibility for protecting air quality and related values, including visibility, plants, animals, soils, water quality, cultural resources, and public health, from adverse air pollution impacts. • Scenic vistas are currently impacted by several human-made features and impacts, including wind farms, offshore and Laguna Madre oil and gas developments, vehicle tracks on tidal flats, etc. • Though dependent on air quality on a given day, views of long distances are frequently available of open ocean and undisturbed views of dunes, grasslands, and the Laguna Madre. However, average visibility at the park falls within the significant concern category based on NPS Air Resources Division benchmark as views are often obscured by pollution-caused haze. • The park unit demonstrates the best night sky quality in the surrounding region, despite its partial degradation due to proximity to multiple population centers. At these light levels, the Milky Way may be visible when it is directly overhead, otherwise it is not apparent. The horizon may appear aglow with anthropogenic light depending on one's location in the park. Farther south in the park, these night sky features are more visible. • The park provides important coastal habitat for nocturnal wildlife and a unique opportunity for the public to enjoy night sky resources. • The soundscape at the park is important to the natural and cultural resources, and to the visitor experience (i.e., minimizing noise to depict what the site would have been like previous to modern development). The park's acoustic environment is predicted by the NPS Natural Sounds and Night Skies Division to be 1.8 decibels above the natural ambient sound level. This means that the listening area for wildlife and visitors is reduced by 34%. However, outside the developed areas in the north end of the park, the soundscape is nearly natural. The sound of wind and waves covers the sound of vehicles on the beach. In the interior of the island, visitors are unlikely to hear any anthropogenic sounds. **Trends** • Increasing nearby developments are expected to continue into the near future, some of which may be visible from the park (in particular, there are a number of offshore oil leases for sale). However, the park is working with oil and gas companies to reclaim and rehabilitate some abandoned oil and gas infrastructure. • Increasing frequency of fires and air pollution related to smoke and particulates. • There have been increases in light pollution from nearby developments (i.e., commercial and residential developments, oil and gas developments, wind farms, etc.). • The acoustic environment and soundscape at the park are gradually becoming more impacted by anthropogenic noise from slight increases in traffic and military overflights. Air space over the park is restricted to military, and all other aircraft must get special permits.

Fundamental Resource or Value	Undeveloped Barrier Island
Threats and Opportunities	**Threats** • Increased development and vehicle and air traffic near the park negatively impacts the viewshed, acoustic environment and soundscapes, and night skies. For example, the noise, sights, and lights associated with oil and gas development and associated traffic within the park as oil and gas drilling and production equipment are escorted down the beach to reach sites behind the dunes. • Air quality can be impacted by pollution from near and far urban centers and development and wildfires. Poor air quality negatively impacts scenic vistas from the park. At night, air pollution scatters artificial light, increasing the effect of light pollution on the night skies. • Potential for future developments outside the park that could degrade the viewshed and scenic vistas. • Anthropogenic influences such as marine debris, illegal driving on dunes and marshes, etc., negatively impact the undeveloped quality of the park. • Artificial light from park facilities and operations, nearby coastal development, and visitor uses degrades night skies, though the park uses low wattage shielded fixtures for night lighting. • Increases in sea-level and storm frequency/intensity and increases in mean annual temperature and extreme heat events (> 95°F) projected for the region due to climate change could impact natural processes and ecological communities on the barrier island. **Opportunities** • Work with local communities and regional groups to promote responsible and unobtrusive future development. • Work cooperatively with other federal and state air quality agencies and local stakeholders to reduce air quality impacts in the park from sources of air pollution. Partnering with nearby developers or planners could similarly increase awareness of the importance of park air quality and scenic views. • Continue working with Railroad Commission of Texas on plugging and abandoning of wells, and restoration of the drilling and production pads and access roads. • Work with the NPS Natural Sounds and Night Skies Division for help interpreting the night sky, acoustic environment, and soundscape at the park, as well as continued technical assistance. • Apply to the International Dark-Sky Association for recognition as an International Dark-Sky Park. • Expand interpretative and educational tools to communicate the connections among the undeveloped barrier island ecosystem, human actions, air quality/pollution, scenic views, night sky, climate change, recreational opportunities, human health, and other associated resources. • Continue and increase night sky programs. • Provide educational and interpretive opportunities related to pollution reduction. One example is a partnership with the Gulf of Mexico Foundation to address gulfwide pollution issues. • Continue and expand scientific monitoring in partnership with other entities (e.g., Texas A&M University, National Oceanic and Atmospheric Administration [NOAA], and others).
Data and/or GIS Needs	• Continued understanding of observed and projected climate change through monitoring of (or access to) weather parameters (precipitation, temperature, storm events), sea level rise and ecological responses, and assessment of projected climate futures (models) for the region. • Continue collection of visitor use data and trends. • Collection of acoustic data to measure baseline acoustic conditions. • Remeasure night sky conditions to track trends. • Visual resource inventory.

Fundamental Resource or Value	Undeveloped Barrier Island
Planning Needs	• Develop a night-sky friendly lighting plan with lighting zones. • Develop night sky goals, indicators, and standards in related park plans. • Develop acoustic goals, indicators, and standards in related park plans. • Climate change scenario plan. • Down-island road plan / environmental impact statement. • Scenery conservation plan.
Laws, Executive Orders, and Regulations That Apply to the FRV, and NPS Policy-level Guidance	**Laws, Executive Orders, and Regulations That Apply to the FRV** • Endangered Species Act of 1973, as amended • National Invasive Species Act • Lacey Act, as amended • Migratory Bird Treaty Act of 1935 • National Environmental Policy Act of 1969 • Federal Noxious Weed Act of 1974, as amended • Clean Water Act of 1972 • Clean Air Act of 1977 • Paleontological Resources Protection Act of 2009 • Executive Order 12088, "Federal Compliance with Pollution Control Standards" • Executive Order 13112, "Invasive Species" • Secretarial Order 3289, "Addressing the Impacts of Climate Change on America's Water, Land, and Other Natural and Cultural Resources" • National Flood Insurance Program **NPS Policy-level Guidance (NPS *Management Policies 2006* and Director's Orders)** • NPS Director's Order 18: *Wildland Fire Management* • NPS Director's Order 77-2: *Floodplain Management* • NPS *Management Policies 2006* (1.6) "Cooperative Conservation Beyond Park Boundaries" • NPS *Management Policies 2006* (3.1) "General" • NPS *Management Policies 2006* (4.1) "General Management Concepts" • NPS *Management Policies 2006* (4.1.4) "Partnerships" • NPS *Management Policies 2006* (4.4.1) "General Principles for Managing Biological Resources" • NPS *Management Policies 2006* (4.6.1) "Protection of Surface Waters and Groundwaters" • NPS *Management Policies 2006* (4.6.2) "Water Rights" • NPS *Management Policies 2006* (4.6.4) "Floodplains" • NPS *Management Policies 2006* (4.7) "Air Resource Management" • NPS *Management Policies 2006* (4.9) "Soundscape Management" • NPS *Management Policies 2006* (4.10) "Lightscape Management" • NPS *Natural Resource Management Reference Manual 77* • NPS *Reference Manual 18: Wildland Fire Management* • Special Directive 93-4 "Floodplain Management Guideline"

Fundamental Resource or Value	Collective History
Related Significance Statements	Significance statement 6.
Current Conditions and Trends	**Conditions** • In general, cultural resources at the park are not extensively studied and much is still unknown. • No comprehensive survey for archeological sites has been conducted within the park's boundaries. Due to a thick covering of grass obscuring the ground surface, surveys are best done soon after fire events. • Prehistoric sites identified on the island represent human activity from at least 3000 BC to AD 1400. Evidence from the island's archeological sites suggests the area was used seasonally by people who lived on the mainland. Sites left by these prehistoric groups occur primarily along channel cuts and are composed of scatters of stone tools and chipping debris, plus animal bones, shells, occasional ceramic sherds, pumice, hearths, and some evidence of human burials. • Two shipwrecks were confirmed within the park dating to a 1554 flotilla leaving Mexico en route to Spain. The onshore associated site may either be a survivor's camp or salvagers' camp related to the shipwrecks. These resources comprise the Mansfield Cut Underwater Archeological District, which is eligible for listing in the National Register of Historic Places. • The Novillo Line Camp is the best remaining example of the island's ranching history and is listed in the National Register of Historic Places. Two other former ranching sites were recommended as eligible for listing in the national register: Black Hill Line Camp and Green Hill Line Camp. Three cultural landscape inventories have been completed covering the Novillo Line Camp, the Black Hill Line Camp, and the Green Hill Line Camp. • Remaining structural features at the Novillo Line Camp include post and wire fencing, wood corrals and chutes, a bunkhouse, a cook house, and small-scale features such as a water pump and hitching post. All Novillo Line Camp features are currently maintained in good condition. • A boardwalk will be completed providing easier visitor access to the Novillo Line Camp with interpretive panels. • No ethnographic survey has been conducted in the park to date. • Due to the park's location within the 100-year floodplain, museum collections associated with the park are housed off-site in San Antonio Missions National Historical Park, NPS Western Archeological and Conservation Center, Lyndon B. Johnson National Historical Park, and at the University of Texas. **Trends** • Funding and staffing shortages has limited the protection and monitoring of the park's known cultural resources. • The Novillo Line Camp is in stable condition. No other cultural sites are maintained. • There is an increasing interest in education and interpretation about cultural resources.

Fundamental Resource or Value	Collective History
Threats and Opportunities	**Threats** • Hypersaline environmental conditions deteriorate resources at a more rapid rate than normal environmental conditions. • Rising sea level and increase in storm frequency/intensity projected for the region due to climate change could negatively impact historic structures and in situ archeological resources. • Erosion and accretion has the potential to unearth unsurveyed archeological resources and disrupt known archeological artifacts. • The park currently has no strategic plan for upkeep and preservation of cultural resources. • The existing unexploded ordnance in the park from its use as a bombing area complicate survey, monitoring, and restoration activities. • Visitor access to artifacts exposed by hurricanes, tropical storms, and historic shipwrecks contribute to the loss of cultural resources. Illegal artifact collection and treasure hunting continue to be an ongoing problem. • The lack of information and research on underwater archeological resources limits the park's ability to protect and manage this important cultural resource. • The primary historic structures associated with the ranching era (Novillo, Green Hill, and Black Hill Line Camps) are subject to loss because of their remote locations within the park and the inability to consistently protect them from fire, damage, or vandalism due to inadequate staffing. Only Novillo Line Camp has standing structures. Other than a few fence posts and watering holes, all features at Black Hill and Green Hill have burned. • Wildfire poses a threat to the few remaining historic structures in the park. • Since the museum collections are housed off-site, it's difficult to access museum and archival materials for research purposes, as well as to manage and monitor the condition of the collections. **Opportunities** • Increase relevancy of cultural resources through increased interpretive and educational outreach programs, pamphlets, waysides, and electronic media. • Increase research efforts related to cultural resources. • Develop a system for electronically sharing cultural artifacts and collections with the public through digitization and photographs. • Organize a celebration at the Novillo Line Camp as part of the NPS Centennial efforts. • Perform remediation to the Novillo Line Camp cultural landscape following the 1988 abandonment of a nearby cracking plant within the cultural landscape.
Data and/or GIS Needs	• Continued site assessments of cultural resources. • Expanded research on park archival information. • National Register of Historic Places evaluation to designate the park a historic district. • Terrestrial LiDAR scan of Novillo Ranch. • Complete surveys of all cultural resources, focusing on previously unsurveyed areas. • Continued understanding of observed and projected climate change through monitoring of (or access to) weather parameters (precipitation, temperature, storm events), sea level rise and ecological responses, and assessment of projected climate futures (models) for the region.
Planning Needs	• Comprehensive interpretation plan. • Resource stewardship strategy. • Collections management plan (scope of collections included). • Novillo boardwalk plan / environmental assessment. • Cultural landscape report for Novillo, Black Hill, and Green Hill Line Camps.

Fundamental Resource or Value	Collective History
Laws, Executive Orders, and Regulations That Apply to the FRV, and NPS Policy-level Guidance	**Laws, Executive Orders, and Regulations That Apply to the FRV** • Antiquities Act of 1906 • Historic Sites Act of 1935 • National Historic Preservation Act of 1966, as amended (54 USC 300101 et seq.) • Archeological and Historic Preservation Act of 1974 • American Indian Religious Freedom Act of 1978 • Archaeological Resources Protection Act of 1979 • Native American Graves Protection and Repatriation Act of 1990 • Management of Museum Properties Act of 1955 • American Indian Religious Freedom Act of 1978 • Executive Order 11593, "Protection and Enhancement of the Cultural Environment" • Executive Order 13007, "Indian Sacred Sites" • Executive Order 13175, "Consultation and Coordination with Indian Tribal Governments" • Secretarial Order 3206, "American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, and the Endangered Species Act" • Secretarial Order 3289, "Addressing the Impacts of Climate Change on America's Water, Land, and Other Natural and Cultural Resources" • "Curation of Federally-Owned and Administered Archeological Collections" (36 CFR 79) • "Protection of Historic Properties" (36 CFR 800) • "Department of the Interior Policy on Consultation with Indian Tribes" **NPS Policy-level Guidance (NPS *Management Policies 2006* and Director's Orders)** • Director's Order 24: *NPS Museum Collections Management* • Director's Order 28: *Cultural Resource Management* • Director's Order 28A: *Archeology* • *The Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation* • NPS *Museum Handbook,* parts I, II, and III • NPS *Management Policies 2006* (chapter 5) "Cultural Resource Management"

Identification of Key Issues and Associated Planning and Data Needs

This section considers key issues to be addressed in planning and management and therefore takes a broader view over the primary focus of part 1. A key issue focuses on a question that is important for a park. Key issues often raise questions regarding park purpose and significance and fundamental resources and values. For example, a key issue may pertain to the potential for a fundamental resource or value in a park to be detrimentally affected by discretionary management decisions. A key issue may also address crucial questions that are not directly related to purpose and significance, but which still affect them indirectly. Usually, a key issue is one that a future planning effort or data collection needs to address and requires a decision by NPS managers.

The following are key issues for Padre Island National Seashore and the associated planning and data needs to address them:

- **Constant need for maintenance as a result of unusual environmental factors such as sand abrasion, high air salinity, and wood-eating insects.** The Laguna Madre is one of only a few lagoons in the world that has a higher salinity than the ocean and presents unique management and resource protection challenges for the park. Water droplets generated by wind and wave action in the hypersaline Laguna Madre and from the Gulf of Mexico are carried by the wind across the island. The fine mist deposits a film on everything and salt ions crystallize as the water evaporates. The salt causes rapid corrosion of anything made from metal (both park structures and vehicles). Additional threats, such as wood-eating insects (i.e., termites and carpenter ants), further exacerbate this issue.

  Park vehicles experience broken suspensions, drive shafts, and axles; cracked frames; and wheels falling off while in use due to corrosion. The park struggles to keep up with repairs to prevent these often costly safety issues. The park no longer uses General Services Administration (GSA) vehicles because the high rate of deterioration resulted in charges from the General Services Administration being more than half the cost of a new vehicle ($18,000–$20,000) for the cars to be repaired for resale. Many park facilities are in poor condition because park staff cannot keep up with the rapid rate of maintenance concerns and cost of replacements, including structures, but also transmission lines and other facilities. Current park funding for full-time equivalent (FTE) staffing levels is often diverted to maintenance and repairs of material needed for resource protection and public and staff safety that are affected by the hypersaline conditions. A disproportionate amount of park funds are used to maintain and replace equipment. While the issue of deterioration and the high cost of maintaining park equipment has been acknowledged at the regional level, no method has been developed to address the issue within the confines of the equipment-replacement program. Current budget allocations preclude fiscal or staffing solutions.

- **Associated data needs:**
  - Comprehensive report to document maintenance issues associated with the corrosive environment.
- **Associated planning needs:**
  - None identified.

- **Continued need for a replacement law enforcement center.** Drug smuggling and illegal immigrant traffic has risen dramatically in the last few years, which has increased concern for the safety and protection of park visitors, staff, and resources. The Gulf of Mexico coast of the national seashore fronts 65.5 miles of international border and comprises about 17% of the 377-mile Texas coast. The park is a member of the South Texas High Intensity Drug Trafficking Area and the Bureau of Customs and Border Protection has identified Padre Island as one of four primary smuggling corridors through south Texas.

  Smuggling significantly affects both day-to-day operational activities and the visitor experience. Drug smuggling, illegal immigrants, endangered turtle poaching, and illegal commercial fishing pose a threat to park resources, visitors, and law enforcement rangers. The National Park Service supports the federal drug control priorities through enforcement efforts in areas where these efforts align with the NPS mission to protect visitors and park resources. In addition to the smuggling of drugs and illegal immigrants, the park has had an increased number of arrests and incidents involving traditional urban law enforcement issues to include a high annual number of incidents of driving under the influence, public intoxication, and the use of drugs such as methamphetamine.

  In 2005, the previous law enforcement facility was destroyed by a fire; law enforcement operations were then moved to a temporary 1,920-square-foot modular structure in the visitor center parking lot. This facility does not have the capacity to adequately accommodate law enforcement staff, equipment, and vehicles and was not designed to meet the specialized needs for law enforcement operations. Several vital components of law enforcement operations, such as the armory, secured storage, evidence room, tactical training, and equipment storage, are at park headquarters about 2 miles north of the existing law enforcement structure. The existing modular structure does not have many of the security features required of a law enforcement center (i.e., hardened entryways, window protections, secure area to question detainees, etc.). In addition, the existing law enforcement structure does not provide adequate protection to park staff and visitors from extreme weather conditions.

  A replacement law enforcement center would ideally support a number of law enforcement functions and provide space for protecting ranger staff offices; a muster room for the Padre Island Homeland Security Task Force; an evidence room; and storage for firearms, search and rescue equipment, emergency medical services, wildland fire gear, and radio equipment. In addition, the structure would contain a prisoner management area, a sally port, secured vehicle bays for a fire engine and emergency patrol vehicles, and a tactical training room that would also serve as a storm shelter. The facility would be designed to withstand torrential rains and high winds from storms and hurricanes. The new law enforcement headquarters would improve work conditions for staff, create a secure location for law enforcement functions, and protect valuable law enforcement equipment and vehicles from criminals and the high saline environment and severe weather. The original 2005 calculation for needed square footage was 10, 200 square feet. In 2011, that number was reduced to 6,600 square feet. As of 2013, the building was reduced again to 3,000 square feet. The current preferred alternative building is only about 1,000 square feet bigger than the current temporary modular structure. All needed planning and compliance have been completed for construction of the replacement law enforcement center.

- **Associated data needs:**
  - None identified.
- **Associated planning needs:**
  - None identified.

- **Need for a Friends Group with 501(c)(3) status.** While the park has an established friends group that assists with stewardship activities, Padre Island National Seashore still has the need for a group with tax-exempt status that could provide additional financial assistance. A 501(c)(3) group would have the ability to fundraise and accept donations on behalf of the park, which would allow local businesses and individuals to donate materials or funding to the group and park for specific projects and programs. A recognized group could also lobby with other smaller organizations and groups to increase local support for the park and create new volunteer opportunities.

- **Associated data needs:**

  - None identified.

- **Associated planning needs:**

  - Partnership plan.

- **Branding, relevancy, and awareness of the National Park Service within the local community and region.** Padre Island National Seashore struggles to receive local and regional recognition as an NPS unit. Many locals misidentify the park as a Texas state park and have trouble differentiating NPS employees from Texas Parks and Wildlife employees who work at nearby Mustang Island State Park, Las Palomas Wildlife Management Area, and nearby county park (Padre Balli Park). This misunderstanding has led to minimal awareness that there is an NPS unit within 30 minutes of Corpus Christi and minimal understanding of the park's mission, resources, and opportunities.

  Increased awareness of the National Park Service and the park through consistent branding in park publications and materials as well as additional outreach marketing with local businesses, schools, and tourism outlets would allow Padre Island National Seashore to establish its connection to local communities and the NPS system of parks.

- **Associated data needs:**

  - None identified.

- **Associated planning needs:**

  - Comprehensive interpretive plan.

- **Beach management.** Marine debris arrives at the park from many sources, including the Brazos, Rio Grande, and Mississippi Rivers, storms, commercial fishing and shipping industries, offshore oil and gas industry, and Mexico. The enormous amount of debris arriving on the shores of the beach not only degrades the park's natural environment, but also represents colossal budgetary and workload considerations.

  With more than 65.5 miles of Gulf of Mexico shoreline and no road behind the dunes, removing trash is an immense task for park staff. The park relies heavily on volunteer groups from the general public for assistance. Periodic organized efforts are sponsored by local visitor groups and can include use of dump trucks to remove large debris items. The park also participates in statewide beach clean-ups, the Adopt-a-Beach program, and is beginning to partner with the Gulf of Mexico Foundation to address marine debris from a gulfwide and binational approach. Beach cleaning operations routinely occur to remove *Sargassum* sp. (brown microalgae) along an approximately 500-yard stretch of Malaquite Beach closed to visitor vehicles. The park also performs frequent patrols to find, document, and remove containers of hazardous waste; Padre Island National Seashore is the only NPS unit with its own HazMat team.

  Considerations about beach driving are also needed to reduce the current and potential future impacts of vehicle use on visitors, park employees, and wildlife resources on the beach. The original bollards (short, vertical posts used to control or direct traffic) and speed regulations were instituted when the park was established in 1962, when there was limited use of four-wheel-drive vehicles.

Over the years, there has been a change in visitor use patterns. Over the past 10 years, Texas and the Corpus Christi area have seen a dramatic increase in the number of registered four-wheel-drive vehicles capable of reaching down-island environs via beach driving, and off-road vehicles are growing in use and popularity. This coincides with observations by park rangers of increased visitation to destinations such as Big Shell Beach (approximately mile marker 18 to 30) and at Mansfield Channel (approximately mile marker 60). Because no official vehicle counts are maintained, these are anecdotal observations.

The gulf beach is an important habitat for wildlife, including migratory shorebirds and the highly endangered Kemp's ridley sea turtle, as well as four other listed sea turtle species; there are obvious concerns for sea turtle safety related to beach nesting and beach driving. Although there are no reports of nesting sea turtles being struck or run over by vehicles at Padre Island National Seashore, these incidents have occurred at other locations (Cape Hatteras National Seashore, Bolivar Peninsula, Matagorda Peninsula, and South Padre Island). Other wildlife species have been struck and injured or killed on the gulf beach. Among the recorded fatalities are white-tailed deer, coyotes, raccoons, badgers, and shorebirds. Wildlife strikes, especially involving large mammals, can also be hazardous to the occupants of the vehicles.

Another factor complicating beach driving is the extremely variable environmental conditions along the length of the beach, changing on both a seasonally and daily basis. Due to the narrow nature of the beach, visitors must carefully navigate areas of the beach that have eroded or accreted in recent years, as well as planning their trip considering daily variables such as inclement weather or tides.

With the increased number of vehicles on the beach, there are increasing opportunities for vehicle conflicts. This may include interactions between vehicles, vehicles and people (people often cannot hear vehicles approaching because of the dominance of ocean sounds), vehicles and wildlife, vehicles and debris (including hazardous material), and vehicles and pets. Speed, unsafe operations, inattentive drivers, foolish behavior, and drug and alcohol use are all factors contributing to accidents.

- **Associated data needs:**
  - Data related to beach driving impacts.
  - Continued data gathering for marine debris point sources.
- **Associated planning needs:**
  - Beach resource stewardship plan.
  - Resource stewardship strategy.
  - Partnership plan.

Planning and Data Needs

To maintain connection to the core elements of the foundation and the importance of these core foundation elements, the planning and data needs listed here are directly related to protecting fundamental resources and values, park significance, and park purpose, as well as addressing key issues. To successfully undertake a planning effort, information from sources such as inventories, studies, research activities, and analyses may be required to provide adequate knowledge of park resources and visitor information. Such information sources have been identified as data needs. Geospatial mapping tasks and products are included in data needs.

Items considered of the utmost importance were identified as high priority, and other items identified, but not rising to the level of high priority, were listed as either medium- or low-priority needs. These priorities inform park management efforts to secure funding and support for planning projects.

Planning Needs – Where A Decision-Making Process Is Needed			
Related to an FRV or Parkwide Issue?	**Planning Needs**	**Priority (H, M, L)**	**Notes**
Recreational Opportunities; Undeveloped Barrier Island	Down-island road plan / environmental impact statement	H	Off-road beach driving has become a key parkwide issue as more visitors are using personal four-wheel-drive vehicles in remote areas of the park. A road plan and environmental impact assessment would examine the suitability and resource impacts associated with building a road behind the dunes to lessen off-road damage and provide park staff better access to these areas and resources.
Barrier Island Ecosystem	Invasive species management plan (related to both flora and fauna)	H	Invasive flora and fauna have the potential to outcompete native species and may result in a nonnative-dominated landscape. An invasive species management plan includes proactive management strategies to reduce or limit the effects of invasive species on native barrier island species.
Recreational Opportunities	Prepare a public fee structure change for Bird Island Basin	H	Bird Island Basin currently requires a flat $5 day use recreation fee in addition to the general park entrance fee. The current fee structure confuses visitors and does not address the growing number of recreational opportunities at Bird Island Basin or the increased use of the area's campground and boat ramp. This plan would be completed prior to the campground design concept plan so that the fees gathered could help fund revisions to the campground.
Collective History	Collections management plan	M	Currently, the park's museum collections are stored in a number of offsite storage facilities. A management plan, to include a scope of collections statement, would help the park better maintain their current collection and shape the collection's focus.
Parkwide Issue	Partnership plan	M	A partnership plan would address the need for a 501(c)(3) friends group as well as activities associated with the marine debris issue with the Gulf of Mexico Foundation—two of the park's key parkwide issues.
Barrier Island Ecosystem; Collective History; Parkwide Issue	Resource stewardship strategy	M	A resource stewardship strategy provides management strategies to bridge current resource conditions and desired conditions. This strategy would assist the park in tracking and caring for its natural and cultural resources through integrated and adaptable management strategies.
Undeveloped Barrier Island	Climate change scenario plan	M	Climate change is a major concern for most NPS coastal parks, which can easily be affected by severe weather events and rising sea levels. This plan is a living planning process to organize the understanding from observed and projected climate change and associated impacts into a new way of strategically planning and managing within the context of uncertain climate futures, making adjustments as new observations and information is made available. It should also be noted that one climate change scenario planning effort can have application to a range of park FRVs and used to bring climate change adaptation into park planning and management decisions.
Recreational Opportunities	Bird Island Basin cyclic erosion plan	M	Erosion has become a growing concern at the Bird Island Basin boat ramp and campground as visitor use has increased in recent years. This plan would outline a management strategy to keep erosion to a minimum.

Planning Needs – Where A Decision-Making Process Is Needed			
Related to an FRV or Parkwide Issue?	**Planning Needs**	**Priority (H, M, L)**	**Notes**
Recreational Opportunities	Campground design concept plan	M	A campground design concept plan would lay out visitor camping facilities and address the need for additional volunteer housing, tent pads, and RV pads.
Collective History; Parkwide Issue	Comprehensive interpretive plan	M	The park needs a current interpretive plan to replace its statement of interpretation (1994). This would include a marketing plan to address awareness and relevancy of the park, as well as branding, and marketing—a key parkwide issue.
Barrier Island Ecosystem	Climate friendly action plan	M	This plan could be pursued by the park's environmental management system team.
Undeveloped Barrier Island	Scenery conservation plan	M	This plan would use information gathered in the visual resource inventory to identify potential protection strategies for scenic views.
Collective History	Novillo Line Camp boardwalk plan / environmental assessment	L	A boardwalk would allow easier access to view the cultural resources associated with the Novillo Line Camp. (This plan and environmental assessment are currently in draft.)
Undeveloped Barrier Island	Develop night sky goals, indicators, and standards in related park plans	L	Continued coastal development threatens the park's night sky, which is considered high quality in the region. Planning standards and goals related to night sky would help protect this natural resource.
Parkwide Issue	Beach resource stewardship plan	L	A beach resource stewardship plan is needed to address management concerns related to protection of beach resources and increase visitor and park staff safety. This plan could be informed by desired conditions and management strategies as identified in the resource stewardship strategy.
Undeveloped Barrier Island	Develop a night sky friendly lighting plan with lighting zones	L	The park would work to minimize the intrusion of park-produced artificial light into the night sky through a lighting plan and appropriate light zoning.
Undeveloped Barrier Island	Develop acoustic goals, indicators, and standards in related park plans	L	The park's soundscape, which contributes to visitor experience and the undeveloped character of the island, is being impacted by a number of sources (please see "Undeveloped Barrier Island" FRV analysis table). Planning standards and goals would shape future management regarding soundscapes.
Recreational Opportunities	Visitor center boardwalk plan	L	A boardwalk leading from the visitor center to the nearby observation and wildlife viewing point would limit social trails and ease accessibility to the viewing area. (This project has been submitted to the Project Management Information System.)
Collective History	Cultural landscape report for whole park	L	This document would facilitate the park's comprehensive understanding of its cultural resources as a whole and assist in their management and preservation.

Data Needs – Where Information Is Needed Before Decisions Can Be Made			
Related to an FRV or Parkwide Issue?	**Data and GIS Needs**	**Priority (H, M, L)**	**Notes**
Sea Turtles	Continued monitoring of Kemp's ridley and other sea turtles and sea turtle nests	H	Present sea turtle monitoring activities include measuring the annual return of adult turtles and recruitment to the nesting populating through tagging and monitoring on the nesting beaches. This effort also includes getting better estimates of population growth and mortality of juvenile turtles over time to help diagnose changes in population recovery when they occur.
Barrier Island Ecosystem; Sea Turtles; Recreational Opportunities	LiDAR of whole park	H	LiDAR scans are needed in five-year increments to monitor geological trends, park resources, and illegal activity taking place in the park's borders. This information, which is compiled during an aerial fly-over, provides current data relating to a beach profile, erosion, dune movement, natural and cultural resource condition, international border activity, and other topics that directly inform management activities and planning documents.
Recreational Opportunities; Parkwide Issue	Data related to beach driving impacts	H	Beach driving has become a major issue at the park with an increase in larger, four-wheel-drive vehicles visiting relatively remote beaches. Data, including the frequency of beach driving and quantifiable impacts, can be collected and used to understand the effects on park resources and inform future beach management plans.
Parkwide Issue	Comprehensive report to document maintenance issue associated with the corrosive environment	H	The park's severe hypersaline climate contributes to rapid deterioration of equipment and structures. Documentation, including vehicle, equipment, and structure purchase and maintenance records and photo-documentation of effects, would help the park plan for and justify future purchases and track costs associated with this environment.
Parkwide Issue	Continue data gathering for marine debris point sources	H	Marine debris is detrimental to the park's natural environment and costly to remove. Better understanding of sources of debris would guide future clean-up efforts between the park and its partners/volunteers as well as its resource management strategies.
All FRVs	Continued understanding of observed and projected climate change through monitoring of (or access to) weather parameters (precipitation, temperature, storm events), sea level rise and ecological responses, and assessment of projected climate futures (models) for the region	H	Identifying climate baselines and trends is key to understanding climate change and its effects on park resources. A recently constructed weather station will provide much of the needed data to track these conditions. This effort would also include beach temperature monitoring. Terrestrial temperature can be an indicator of larger climate change issues affecting vegetation and shore wildlife. Beach temperature also directly affects sea turtle populations, as higher temperatures can result in more female hatchlings, or become lethal. Monitoring is underway, but the project is currently unfunded.
Barrier Island Ecosystem	Update flora and fauna lists	M	The park is currently updating flora and fauna lists through the work of park bio-technicians. The NPS Gulf Coast Inventory and Monitoring Network plans to produce a vegetation map for the park that will further update these lists. Together, these lists and map would inform natural resource management and invasive species plans.

Data Needs – Where Information Is Needed Before Decisions Can Be Made			
Related to an FRV or Parkwide Issue?	**Data and GIS Needs**	**Priority (H, M, L)**	**Notes**
Sea Turtles	Continued satellite tracking of Kemp's ridley and green sea turtles	M	Satellite tracking of sea turtles allows species monitoring and awareness of the region's sea turtle population. This data will be used to provide the scientific knowledge to inform management decisions, allowing for best-practice decision making with detailed habitat usage information.
Undeveloped Barrier Island; Recreational Opportunities	Continued collection of visitor use data and trends	M	Better understanding of current visitor use and trends would contribute to improved resource management and visitor opportunities/facilities in the park. These data can be used when creating visitor use plans, interpretive plans, and management documents.
Collective History	Complete survey of park for cultural resources, focusing on previously unsurveyed areas	M	No comprehensive survey for archeological sites has been conducted within park boundaries. Due to the thick covering of grass obscuring the ground surface, surveys are best conducted soon after fire events. Park staff actively search for uncovered archeological sites after fires and other ground disturbing activities, but more formalized survey activities are needed. In an effort to understand and document the park's cultural resources, a complete survey of the park needs to be completed.
Barrier Island Ecosystem; Sea Turtles	Aerial photography of the whole park	M	Aerial photographs are needed in two-year increments to accompany LiDAR data and track changes to park natural, cultural, and geological resources. These images are used to identify areas of concern, guide management activities, and inform planning documents.
Barrier Island Ecosystem	Wildlife surveys	M	The park does not have current information related to the species and number of wildlife in the park. Mammal and predator/prey surveys would fill existing gaps and additional surveys would be used to inform the invasive species management plan, considered a high park planning priority, as well as more general natural resource condition and management documents. This effort could be accomplished in collaboration with universities, potentially in collaboration with NPS Cooperative Ecosystem Studies Units.
Barrier Island Ecosystem	Map extent of algal mats within the park	M	Algal mats are important to the health and productivity of the Laguna, and two-thirds of the flats supporting algal mats are within the park (and most outside the park are greatly damaged by off-road vehicles).
Barrier Island Ecosystem	Studies to examine pollution dose-response relationships to park resources	M	This would include assessing impacts of mercury and other toxics on biota, including invertebrate insects and fish in the Laguna Madre and Gulf of Mexico, to enhance understanding of the ecosystem characteristics that enhance mercury methylation at the park.
Barrier Island Ecosystem	Vegetation surveys	L	Long-term surveys of park vegetation would identify natural resource trends and shifts related to stressors such as climate change, invasive species, and anthropogenic influences.
Collective History	Expanded research on park's archival information	L	The park's archival collection is currently in a variety of places, and needs to be compiled, synthesized, and further researched.

Data Needs – Where Information Is Needed Before Decisions Can Be Made			
Related to an FRV or Parkwide Issue?	**Data and GIS Needs**	**Priority (H, M, L)**	**Notes**
Collective History	National Register of Historic Places evaluation to designate the park a historic district	L	Thorough national register documentation would identify and describe the park's period of significance and contributing cultural resources and their significance. Currently, the park needs surveys of much of the island, particularly related to World War II military uses. The park has sufficient historic features to qualify for the national register, but needs funding and staff time to complete the process. This would guide future management and contribute to mandated cultural resource assessments.
Collective History	Terrestrial LiDAR scan of Novillo Ranch	L	A terrestrial LiDAR scan would document in detail the ranch's historic resources including building interiors. These data would aid preservation and maintenance efforts as well as add to the understanding of the ranch as a cultural resource and landscape features beyond extant buildings and structures.
Undeveloped Barrier Island	Remeasure night sky conditions to describe trends	L	As one of the best quality night skies in the region, the park needs to continue to monitor sky conditions and impacts of park and external light sources.
Recreational Opportunities	Visitor surveys	L	The ongoing survey program tracks visitor demographics and qualitative aspects of visitor experience to assist the park in reaching a broad, diverse audience.
Recreational Opportunities	Continued collection of data related to violations	L	The collection and analysis of park violation statistics would contribute to improved visitor and staff safety, visitor experiences, and law enforcement efforts.
Collective History	Continued site assessments of cultural resources	L	Annual site assessments are a mandated part of federal cultural resource management. This effort includes continued monitoring, visitation, and mapping to assess site condition. The park needs to continue its assessments and focus energy on additional mapping of archeological and historic ranch resources.
Collective History	Cultural landscape inventory for whole park and potential cultural landscape report depending on finding	L	A parkwide cultural landscape inventory would create an evaluated inventory of all historically significant landscapes that are national register-eligible or are otherwise managed as a cultural resource. This document would aid the park in understanding its cultural resources as a whole and assist in their management and preservation.
Undeveloped Barrier Island	Collection of acoustic data to measure baseline acoustic conditions	L	Baseline acoustic data would aid the park in monitoring the soundscape and tracking the impacts of future development within and outside park boundaries.
Undeveloped Barrier Island	Visual resource inventory	L	The inventory would identify the condition of scenic views and visitor/NPS values for scenic views, including views that are already affected by development.

Part 3: Contributors

Padre Island National Seashore

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Appendixes

Appendix A: Enabling Legislation and Legislative Acts for Padre Island National Seashore

Summary of Legislative History of Padre Island National Seashore

- Congressional Act of September 28, 1962 (PL 87-712, 76 Stat. 650), provides for the establishment of Padre Island National Seashore
- Congressional Act of October 17, 1968 (PL 90-594, 82 Stat. 1155), authorizes the appropriation of funds (not included in this appendix)
- Congressional Act of July 9, 1969 (PL 91-41, 83 Stat. 45), authorizes the appropriation of funds (not included in this appendix)
- Congressional Act of October 21, 1976 (PL 94-578, 90 Stat. 2732-2742), amends the act of September 28, 1962 by changing the monetary limitations (not included in this appendix)
- Congressional Act of March 5, 1980 (PL 96-199, 94 Stat. 70), revised boundary to add approximately 274 acres and to delete approximately 2,000 acres (Note: this corrects the Act of October 21, 1976, which authorized appropriation for expansion of 274 acres but did not include the necessary boundary change language)

Congressional Act of September 28, 1962 (PL 87-712, 76 Stat. 650), provides for the establishment of Padre Island National Seashore

Public Law 87-712

tember 28, 1962
[S. 4]

AN ACT

To provide for the establishment of the Padre Island National Seashore.

adre Island
ional Sea-
re, Tex.
stablishment.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That in order to save and preserve, for purposes of public recreation, benefit, and inspiration, a portion of the diminishing seashore of the United States that remains undeveloped, the Secretary of the Interior shall take appropriate action in the public interest toward the establishment of the following described lands and waters as the Padre Island National Seashore: Beginning at a point one statute mile northerly of North Bird Island on the easterly line of the Intracoastal Waterway; thence due east to a point on Padre Island one statute mile west of the mean high water line of the Gulf of Mexico; thence southwesterly paralleling the said mean high water line of the Gulf of Mexico a distance of about three and five-tenths statute miles; thence due east to the two-fathom line on the east side of Padre Island as depicted on United States Coast and Geodetic Survey chart numbered 1286; thence along the said two-fathom line on the east side of Padre Island as depicted on United States Coast and Geodetic Survey charts numbered 1286, 1287, and 1288 to the Willacy-Cameron County line extended; thence westerly along said county line to a point 1,500 feet west of the mean high water line of the Gulf of Mexico as that line was determined by the survey of J. S. Boyles and is depicted on sections 9 and 10 of the map entitled "Survey of Padre Island made for the office of the Attorney General of the State of Texas", dated August 7 to 11, 1941, and August 11, 13, and 14, 1941, respectively; thence northerly along a line parallel to said survey line of J. S. Boyles and distant therefrom 1,500 feet west to a point on the centerline of the Port Mansfield Channel; thence westerly along said centerline to a point three statute miles west of the said two-fathom line; thence northerly parallel with said two-fathom line to 27 degrees 20 minutes north latitude; thence westerly along said latitude to the easterly line of the Intracoastal Waterway; thence northerly following the easterly line of the Intracoastal Waterway as indicated by channel markers in the Laguna Madre to the point of beginning.

cquisition of
l, etc.

SEC. 2. (a) The Secretary of the Interior (hereinafter referred to as the "Secretary") is authorized to acquire by donation, purchase with

donated or appropriated funds, condemnation, transfer from any Federal agency, exchange, or otherwise, the land, waters, and other property, and improvements thereon and any interest therein, within the areas described in the first section of this Act or which lie within the boundaries of the seashore as established under section 3 of this Act (hereinafter referred to as "such area"). Any property, or interest therein, owned by the State of Texas or political subdivision thereof may be acquired only with the concurrence of such owner. Notwithstanding any other provision of law, any Federal property located within such area may, with the concurrence of the agency having custody thereof, be transferred without consideration to the administrative jurisdiction of the Secretary for use by him in carrying out the provisions of this Act.

(b) The Secretary is authorized to pay for any acquisitions which he makes by purchase under this Act their fair market value, as determined by the Secretary, who may in his discretion base his determination on an independent appraisal obtained by him.

(c) In exercising his authority to acquire property by exchange, the Secretary may accept title to any non-Federal property located within such area and convey to the grantor of such property any federally owned property under the jurisdiction of the Secretary within such area. The properties so exchanged shall be approximately equal in fair market value: *Provided*, That the Secretary may accept cash from or pay cash to the grantor in such an exchange in order to equalize the values of the properties exchanged.

SEC. 3. (a) As soon as practicable after the date of enactment of this Act and following the acquisition by the Secretary of an acreage in the area described in section 1 of this Act, that is in the opinion of the Secretary efficiently administrable to carry out the purposes of this Act, the Secretary shall establish the area as a national seashore by the publication of notice thereof in the Federal Register. Notice.

(b) Such notice referred to in subsection (a) of this section shall contain a detailed description of the boundaries of the seashore which shall encompass an area as nearly as practicable identical to the area described in section 1 of this Act. The Secretary shall forthwith after the date of publication of such notice in the Federal Register (1) send a copy of such notice, together with a map showing such boundaries, by registered or certified mail to the Governor of the State and to the governing body of each of the political subdivisions involved; (2) cause a copy of such notice and map to be published in one or more newspapers which circulate in each of the localities; and (3) cause a certified copy of such notice, a copy of such map, and a copy of this Act to be recorded at the registry of deeds for the county involved. Publication in F. R. Circulation.

SEC. 4. (a) When acquiring land, waters, or interests therein, the Secretary shall permit a reservation by the grantor of all or any part of the oil and gas minerals in such land or waters and of other minerals therein which can be removed by similar means, with the right of occupation and use of so much of the surface of the land or waters as may be required for all purposes reasonably incident to the mining or removal of such from beneath the surface of these lands and waters and the lands and waters adjacent thereto, under such regulations as may be prescribed by the Secretary with respect to such mining or removal. Mineral reservation.

(b) Any acquisition hereunder shall exclude and shall not diminish any right of occupation or use of the surface under grants, leases, or easements existing on April 11, 1961, which are reasonably necessary for the exploration, development, production, storing, processing, or transporting of oil and gas minerals that are removed from outside the boundaries of the national seashore and the Secretary may grant

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additional rights of occupation or use of the surface for the purposes aforesaid upon the terms and under such regulations as may be prescribed by him.

Administration.

SEC. 5. Except as otherwise provided in this Act, the property acquired by the Secretary under this Act shall be administered by the Secretary, subject to the provisions of the Act entitled "An Act to establish a National Park Service and for other purposes", approved August 25, 1916 (39 Stat. 535), as amended and supplemented, and in accordance with other laws of general application relating to the areas administered and supervised by the Secretary through the National Park Service; except that authority otherwise available to the Secretary for the conservation and management of natural resources may be utilized to the extent he finds such authority will further the purposes of this Act.

16 USC 1.

Roadways.

SEC. 6. The Secretary may provide for roadways from the north and south boundaries of such public recreation area to the access highways from the mainland to Padre Island.

Gunnery or bombing ranges.

SEC. 7. The Secretary of the Interior shall enter into such administrative agreements with the Secretary of the Navy as the Secretary of the Navy may deem necessary to assure that the Secretary of the Interior will not exercise any authority granted by this Act so as to interfere with the use by the Department of the Navy of any aerial gunnery or bombing range located in the vicinity of Padre Island.

Appropriation.

SEC. 8. There are authorized to be appropriated such sums as may be necessary to carry out the provisions of this Act; except that no more than $5,000,000 shall be appropriated for the acquisition of land and waters and improvements thereon, and interests therein, and incidental costs relating thereto, in accordance with the provisions of this Act.

Approved September 28, 1962, 12:40 p.m.

Congressional Act of March 5, 1980 (PL 96-199, 94 Stat. 70), revised boundary to add approximately 274 acres and to delete approximately 2,000 acres

- Note: this corrects the Act of October 21, 1976, which authorized appropriation for expansion of 274 acres but did not include the necessary boundary change language.

PUBLIC LAW 96-199—MAR. 5, 1980

Public Law 96-199
96th Congress

An Act

To establish the Channel Islands National Park, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SEC. 111. Paragraph (13) of section 101 of the Act entitled "An Act to provide for increases in appropriation ceilings and boundary changes in certain units of the National Park System, and for other purposes", approved October 21, 1976 (90 Stat. 2732, 2733), is amended by changing the period to a semicolon and inserting the following thereafter: "the Secretary of the Interior is authorized to revise the boundary of the seashore to add approximately two hundred and seventy-four acres and to delete approximately two thousand acres, and sections 302 and 303 of the Act of April 11, 1972 (86 Stat. 120, 121), shall apply to the boundary revision authorized herein.".

Appendix B: Inventory of Special Mandates, Special Designations, and Administrative Commitments

Special Mandates

- **Oil and gas mineral rights.** The 1962 congressional act establishing the national seashore stipulated that the acquisition and management of park lands (surface) would not diminish any right of occupancy or use for the exploration, development, production, storing, processing, or transporting of oil and gas minerals. Those underlying the submerged lands in Laguna Madre and the Gulf of Mexico were retained by the State of Texas and are administered by the Texas General Land Office. There are 11 wells in the park, although these wells are shut, most do not have the infrastructure to operate in the future. There are no operational wells currently in the park. The National Park Service manages the exercise of nonfederal oil and gas rights under 36 CFR 9.30 et seq., according to its oil and gas management plan.
- **Department of the Navy's aerial gunnery or bombing ranges.** The 1962 congressional act establishing the national seashore stipulated that the National Park Service would not have the authority to interfere with the Department of the Navy's mandate to develop aerial gunnery or bombing ranges in the vicinity of Padre Island National Seashore.

Special Designations

- **Globally Important Bird Area.** The American Bird Conservancy has created a list of 500 sites considered by scientific experts to be internationally significant for bird conservation. For a site to be included, it must contain a significant population of endangered or threatened species; a significant population of a US Watch List species; a significant population of a species with limited range; or a significantly large population of breeding, migrating, or wintering birds. Padre Island has been designated as a Globally Important Bird Area (IBA). The IBA program recognizes the site as critical habitat. The designation is raising awareness among the public and land managers to the importance of the site and its bird habitat.
- **Site of International Importance by the Western Hemisphere Shorebird Reserve Network.** The Western Hemisphere Shorebird Reserve Network currently has 90 sites in 13 countries identified as exceptional national, international, or hemispheric importance based on shorebird numbers or percentage of biogeographic population represented. Padre Island National Seashore is part of the Texas Mid-Coast National Wildlife Refuge Complex, which extends along the Gulf Coast 50 to 70 miles southwest of Galveston. The region is home to at least 30 shorebird species and annually supports more than 100,000 shorebirds. Common species found in the refuge area include American avocet, willet, dunlin, dowitcher, long-billed curlew, sandpiper, stilt, piping plover, reddish egret, and wintering ducks and snow geese.

Administrative Commitments

Title / Agency / Organization	Purpose / Description	Expiration Date	Responsible Party
Memorandums of Understanding			
US Customs and Border Protection's Office of Air and Marine	Aviation	No expiration	Department of the Interior
US Coast Guard	Aviation	No expiration	Department of the Interior
Texas Department of Public Safety	Aviation	No expiration	Department of the Interior
US Customs and Border Protection	Aviation	No expiration	Department of the Interior
US Department of Homeland Security	Law enforcement operations	No expiration	Department of the Interior
US Department of Defense	Aviation/drugs	No expiration	Department of the Interior
Federal Law Enforcement Training Centers	Field Training Evaluation Training Program	7/2017	Padre Island National Seashore
Naval Air Station Corpus Christi	Fire and emergency medical services	2/2018	Padre Island National Seashore
Texas Parks and Wildlife Department	Operations / local agreement approval	7/2016	National Park Service
US Fish and Wildlife Service	Cross designation agreement	2017	National Park Service
Nueces County Fire Department	Fire	6/2019	Padre Island National Seashore
Texas National Guard	Cooperation and support	No expiration	Department of the Interior
US Coast Guard	Law enforcement operations	No expiration	Padre Island National Seashore
Memorandums of Agreement			
Micro cell site(s)	Right-of-way at Mile and Half Site for communications tower northern boundary site—no permit number	No expiration	US Department of Homeland Security
Telecommunications facility	Right-of-way for telecommunications facility (camera bank infrastructure) at fee station site—no permit number	No expiration	US Department of Homeland Security

Title / Agency / Organization	Purpose / Description	Expiration Date	Responsible Party
Interagency Agreements			
Interagency Agreement for Wildland Fire Management	Wildland fire management	5/2015	Department of the Interior (NPS and USFS)
NOAA – Southwest Fisheries Science Center and Padre Island National Seashore Division of Sea Turtle Science and Recovery	Construct genetic fingerprints of Kemp's ridley sea turtles for Padre Island National Seashore, Division of Sea Turtle Science and Recovery	4/16/2016	NOAA – Southwest Fisheries Science Center, Padre Island National Seashore
Interpark Agreements			
Big Thicket National Preserve	Fire management	Pending	Padre Island National Seashore
Cooperative Agreements			
Railroad Commission of Texas	Transfer funds to the Railroad Commission of Texas for oil and gas reclamation activities	Pending	Padre Island National Seashore
Cooperating Association Agreement Between the National Park Service and Western National Parks Association, Cooperating Association	Work together to provide park visitors with interpretive and educational materials to facilitate an expanded appreciation of the national park system	2/24/2016	NPS Western National Parks Association
Kleberg County Sheriff	Law enforcement operations/ dispatch	Pending	Padre Island National Seashore
Kleberg County Sheriff	Corporate agreement for dispatch services	2/2018	Padre Island National Seashore
Special Park Uses			
Special use permits	In fiscal year 2014, the park issued nine special use permits that includes permits for weddings, filming in the park, transpark oil and gas pipelines, fishing tournaments, and high school events	Varies by agreement	Varies by agreement
Dunn-McCampbell Royalty Interest, Inc.	Subsurface mineral rights	No expiration	Dunn-McCampbell Royalty Interest, Inc.; Padre Island National Seashore
250 foot communication tower	Right-of-way permit to operate and maintain a 250 foot communication tower; permit no. RW-7490-11-002	10/1/2017	US Customs and Border Protection; Padre Island National Seashore
Telephone line	Right-of-way at Park Road 22—no permit number	Currently unpermitted	AT&T
Electric powerline	Right-of-way at Park Road 22—no permit number	Currently unpermitted	CPL Retail Energy

Title / Agency / Organization	Purpose / Description	Expiration Date	Responsible Party
Special Park Uses			
Water pipeline	Right-of-way for water pipeline, running north-south center of island 15MM north—an inholding to park, with no option for oil/gas pipeline—no permit number	No expiration	Houston Pipeline
Water pipeline	Right-of-way for water pipeline running across the island east-west at the 18MM—an inholding to park, with no option for oil/gas pipeline—no permit number.	No expiration	Williams Pipeline
Water pipeline	Right-of-way for water pipe-line running north-west across the island near Bird Island Basin—an inholding to park, with no option for oil/gas pipeline—no permit number	No expiration	Texas Eastern Transmission Company
Water pipeline	Right-of-way for water pipeline running north-south center of island, 15MM north—an inholding to park, with no option for oil/gas pipeline—no permit number	No expiration	Pan Energy
Water pipeline	Right-of-way for water pipeline located at first access road, 3 miles south of Malaquite Beach—an inholding to park, with no option for oil/gas pipeline—permit number IMR-PAIS-5300-11-031	No expiration	Mustang Island Gathering Co.
Commercial Services			
Worldwinds Windsurfing Concession	Worldwinds is required to provide windsurfing lessons and equipment rentals and is authorized to provide kayak rentals, windsurfing equipment sales, logo merchandise, nonalcoholic packaged beverages and nonperishable snack foods and windsurfing medial materials	9/30/2015 (in process of extending to 12/31/2025)	Padre Island National Seashore
Commercial use authorizations	12 fishing guide service CUAs; one CUA to "Texas Beach Camping" to tow a trailer to the beach, set up camp for the customer, and remove the trailer at the end of the contracted period.	Varies by agreement	Padre Island National Seashore

Appendix C: Traditionally Associated Tribes

Alabama-Coushatta Tribe of Texas
Alabama-Coushatta Tribal Council
571 State Park Road 56
Livingston, TX 77351

Apache Tribe of Oklahoma
Apache Tribal Council
PO Box 1330
Anadarko, OK 73005

Comanche Nation of Oklahoma
Comanche Nation Tribal Council
HC-32, Box 1720
Lawton, OK 73502

Fort Sill Apache Tribe of Oklahoma
Fort Sill Apache Tribal Council
43187 US Hwy 281
Apache, OK 73006

Kiowa Indian Tribe of Oklahoma
Kiowa Business Committee
PO Box 369
Carnegie, OK 73015

Mescalero Apache Tribe of the Mescalero Reservation, New Mexico
Mescalero Apache Tribal Council
PO Box 227
Mescalero, NM 88340

Tonkawa Tribe of Indians of Oklahoma
Tonkawa Business Committee
1 Rush Buffalo Road
Tonkawa, OK 74653

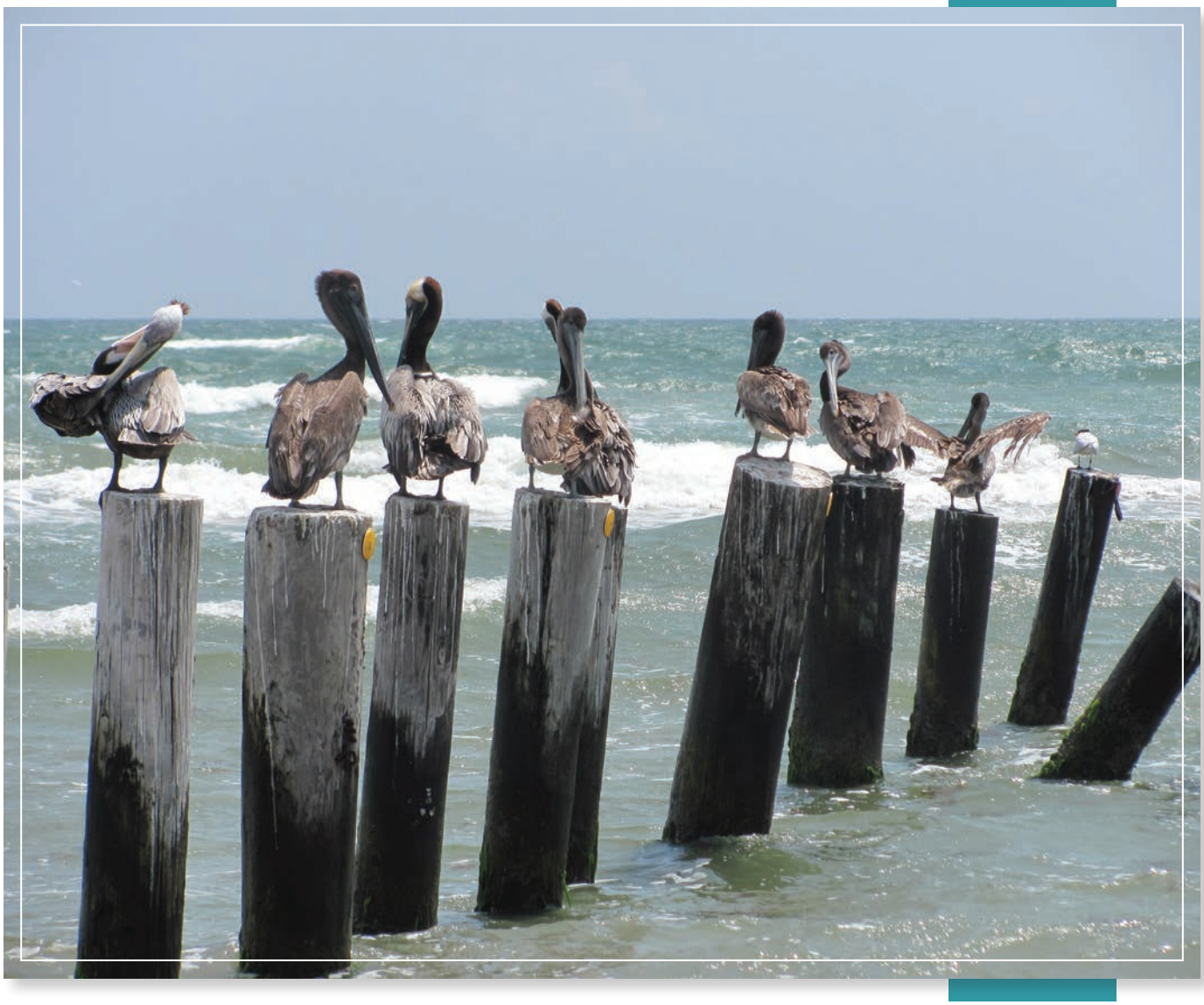
Appendix D: Selected Past and Ongoing Park Planning and Data Collection Efforts

Planning Document and Data Collection Efforts	Date
A Report on the Seashore Recreation Area Survey of the Atlantic and Gulf Coasts.	1955
Master Plan, Padre Island National Seashore: Developed Area Narrative To Accompany Drawing No. NS-PI-3005, North Entrance.	1965
Sheire, James W. *Padre Island National Seashore, Historic Resource Study.* Washington, DC.	1971
Padre Island National Seashore Master Plan.	1973
National Register of Historic Places Inventory - Nomination Form: Dunn Ranch, Novillo Line Camp.	1974
Natural Resources Management Plan for Padre Island National Seashore.	1974
Weise, B. R. and W. A. White. *Padre Island National Seashore – A Guide to the Geology, Natural Environments, and History of a Texas Barrier Island. University of Texas at Austin,* Bureau of Economic Geology, Guidebook No. 17, scale 1:48,000.	1980
Ice, Ronald J. *Archeological Survey of Entrance Road.*	1981
Resources Management Plan and Environmental Assessment.	1981
Draft Padre Island General Management Plan/ Development Concept Plan and Environmental Assessment.	1981
Land Protection Plan: Padre Island National Seashore.	1985
Padre Island National Seashore Interpretive Prospectus.	1989
Sissom, Stanley L. *A Baseline Study of Three Ponds Within the Padre Island National Park.* San Marcos, TX.	1990
Bradford, James E. and Melissa Payne. *Limited Archeological Survey in the Vicinity of Malaquite Beach, Padre Island National Seashore.*	1993
Padre Island National Seashore Statement for Interpretation.	1994
Bradford, James E. *Documentation of Lillian's Wreck: Shipwreck Remains at 41KN22, Padre Island National Seashore.* Santa Fe, NM.	1994
Padre Island National Seashore Parkwide Development Concept Plan and Environmental Assessment: Public Draft. Santa Fe, NM.	1995
Jones, W. Dwayne. *Padre Island National Seashore: An Administrative History.*	1999
Purdy, Ross. *Visitors to the Texas Gulf Coast: Report of a Study of Beach Goers Perceptions of Beach Debris.*	2000
Padre Island National Seashore Final Oil and Gas Management Plan/Environmental Impact Statement.	2000
Nelson, Allan, Jim Goetze, Irma Negrete, LaShea Macke, Travis Wilburn, Angela Day, and Adam Lucksinger. *A Floristic Survey of Padre Island National Seashore, Texas with Comparisons to Other Barrier Islands Along the Texas Coast.*	2000
Strategic Plan for Padre Island National Seashore October 1, 2000 to September 30, 2005.	2000

Planning Document and Data Collection Efforts	Date
Field Report: Alternative Transportation System Study: Padre Island National Seashore.	2001
Biological Assessment: BNP Petroleum Corporation, Lemon/Lemon Seed Units, Padre Island National Seashore.	2002
NPS Water Resources Division. *Padre Island National Seashore Baseline Water Quality Data Inventory and Analysis.* Fort Collins, CO.	2003
Mehl, Katherine R. *Final Report: Non-breeding Piping Plover (Charadrius melodus) Surveys Along the Texas Gulf Coast.* Saskatoon, SK.	2003
EA Engineering, Science, and Technology, Inc. *2001 Air Emissions Inventory: Padre Island National Seashore.* Sparks, MD.	2003
Padre Island National Seashore General Management Plan/Environmental Impact Statement Newsletter. Corpus Christi, TX.	2003
Pendleton, Elizabeth A, E. Robert Thieler, S. Jeffress Williams, and Rebecca L. Beavers. *Coastal Vulnerability Assessment of Padre Island National Seashore to Sea-Level Rise.*	2004
Padre Island National Seashore Draft General Management Plan Chapter 1.	2004
Ginter, Daniel Lawrence. *Wintering Ecology and Behavior of Grassland Sparrows on North Padre Island.* Las Cruces, NM.	2004
Duran, C. Michael. *An Inventory of Reptiles and Amphibians of Padre Island National Seashore, San Antonio Missions National Historical Park and Palo Alto Battlefield National Historic Site.* San Antonio, TX.	2004
Kolar, Michelle and Kim Withers. *Census of Nesting Snowy and Wilson's Plover on the Texas Coast.* Corpus Christi, TX.	2004
Withers, Kim, Elizabeth H. Smith, Olivia Gomez, and John Wood. *Assessment of Coastal Water Resources and Watershed Conditions at Padre Island National Seashore.* Corpus Christi, TX.	2004
United States Department of Agriculture, Natural Resources Conservation Service, and United States Department of the Interior, National Park Service. *Soil Survey of Padre Island National Seashore, Texas, Special Report.*	2005
Padre Island National Seashore General Management Plan/Environmental Impact Statement Newsletter. Corpus Christi, TX.	2005
Cooper, Robert J., Sandra B. Cederbaum and Jill J. Gannon. *Natural Resource Summary for Padre Island National Seashore: Final Report.*	2005
Federal Highway Administration. *The Road Inventory of Padre Island National Seashore.*	2005
Padre Island National Seashore Personal Watercraft Use Environmental Assessment.	2006
White, William A., Thomas A. Tremblay, Rachel L. Waldinger, and Thomas R. Calnan. *Status and Trends of Wetland and Aquatic Habitats on Texas Barrier Islands Coastal Bend.* Austin, TX.	2006
Onuf, C. P., and Ingold, J. J. *A GIS analysis of seagrass resources and condition within Padre Island National Seashore, Texas: U.S. Geological Survey.*	2007
Environmental Assessment: Kindee Oil and Gas Texas, LLC Proposal to Drill and Produce the DM Murdock Deep #1 Well Located at Yarborough Pass. Corpus Christi, TX.	2007

Planning Document and Data Collection Efforts	Date
Davey, C. A., K. T. Redmond, and D. B. Simeral. *Weather and Climate Inventory, National Park Service, Gulf Coast Network.* Fort Collins, CO.	2007
Smith, Leslie C. and Elizabeth H. Smith. *Final Report: Summary Inventory of Marine and Fresh Water Fish of Padre Island National Seashore.* Corpus Christi, TX.	2007
Environmental Assessment: Houston Pipeline Corporation Installation of 50' Communications Tower at Six Pigs Facility.	2007
Frey, Jennifer K. and Gerrad D. Jones. *Mammal Inventory of Padre Island National Seashore.* Las Cruces, NM.	2008
Gibeaut, James C. and Tiffany L. Caudle. *Defining and Mapping Foredunes, the Line of Vegetation, and Shorelines along the Texas Gulf Coast.* Corpus Christi, TX.	2009
Loehman, R., and G. Anderson. *Understanding the science of climate change: Talking points – impacts to the Gulf Coast.* Fort Collins, CO.	2010
Gulf Coast Network. *A summary of biological inventories conducted at Padre Island National Seashore: Vertebrate, and vascular plant inventories.* Fort Collins, CO.	2010
Kellerlynn, K. *Padre Island National Seashore: Geologic Resources Inventory Report. Natural Resourced Report NPS/NRPC/GRD/NRR – 2010/246.* National Park Service, Fort Collins, CO.	2010
National Park Service Cultural Landscapes Inventory: Green Hill Line Camp, Padre Island National Seashore.	2011
National Park Service Cultural Landscapes Inventory: Black Hill Line Camp, Padre Island National Seashore.	2011
National Park Service Cultural Landscapes Inventory: Novillo Line Camp, Padre Island National Seashore.	2011
Paine, Jeffrey G., Sojan Mathew, and Tiffany Caudle. *Texas Gulf Shoreline Change Rates through 2007.* Austin, TX.	2011
Expansion of Facilities Supporting Sea Turtle Science and Recovery: Construction of Patrol Cabins and Expansion of Incubation Laboratory: Environmental Assessment, Final, Padre Island National Seashore.	2011
Sullivan, T. J., T. C. McDonnell, G. T. McPherson, S. D. Mackey, and D. Moore. *Evaluation of the sensitivity of inventory and monitoring national parks to nutrient enrichment effects from atmospheric nitrogen deposition: Gulf Coast Network (GULN).* Denver, CO.	2011
Sullivan, T. J., G. T. McPherson, T. C. McDonnell, S. D. Mackey, and D. Moore. *Evaluation of the sensitivity of inventory and monitoring national parks to acidification effects from atmospheric sulfur and nitrogen deposition: main report.* Denver, CO.	2011
Sullivan, T. J., G. T. McPherson, T. C. McDonnell, S. D. Mackey, and D. Moore. *Evaluation of the sensitivity of inventory and monitoring national parks to acidification effects from atmospheric sulfur and nitrogen deposition: Gulf Coast Network (GULN).* Denver, CO.	2011
Beach Vehicle Environmental Assessment: Padre Island National Seashore.	2011
Padre Island National Seashore Replacement of Law Enforcement Division Headquarters Environmental Assessment/Assessment of Effect.	2011
Curdts, Thom. *Shoreline length and water area in the ocean, coastal and Great Lakes parks: Updated statistics for shoreline miles and water acres (rev1b).* Fort Collins, CO.	2011

Planning Document and Data Collection Efforts	Date
Wilson, Christopher J. and Kenneth H. Dunton. *Assessment of Seagrass Habitat Quality and Plant Physiological Condition in Texas Coastal Waters.* Port Aransas, TX.	2012
Padre Island National Seashore Superintendent's Compendium of Designations, Closures, Permit Requirements and Other Restrictions Imposed Under Discretionary Authority.	2012
ERO Resources Corporation. *Final Wetland Delineation Rehabilitation of Main Park Road, Padre Island National Seashore.* Denver, CO.	2013
Jones, Gerrad D. and Jennifer K. Frey. *Mammals of Padre Island National Seashore.* Lubbock, TX.	2013
Amberg, S., A. Nadeau, K. Kilkus, S. Gardner, and B. Drazkowski. *Padre Island National Seashore: Natural Resource Condition Assessment.* Fort Collins, CO.	2014
Padre Island National Seashore Fire Management Plan Environmental Assessment.	2014
Climate Change Resource Brief: Recent Climate Change Exposure of Padre Island National Seashore.	2014



Intermountain Region Foundation Document Recommendation
Padre Island National Seashore

January 2016

This Foundation Document has been prepared as a collaborative effort between park and regional staff and is recommended for approval by the Intermountain Regional Director.

Mark E. Spier — Jan. 4, 2016

RECOMMENDED
Mark Spier, Superintendent, Padre Island National Seashore — **Date**

Sue E. Masica — 1/11/16

APPROVED
Sue E. Masica, Regional Director, Intermountain Region — **Date**

As the nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering sound use of our land and water resources; protecting our fish, wildlife, and biological diversity; preserving the environmental and cultural values of our national parks and historic places; and providing for the enjoyment of life through outdoor recreation. The department assesses our energy and mineral resources and works to ensure that their development is in the best interests of all our people by encouraging stewardship and citizen participation in their care. The department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

PAIS 613/130481
January 2016

Foundation Document • Padre Island National Seashore

NATIONAL PARK SERVICE • U.S. DEPARTMENT OF THE INTERIOR