



National Park Service  
U.S. Department of the Interior  
Padre Island National Seashore  
Corpus Christi, Texas

# **Expansion of Facilities Supporting Sea Turtle Science and Recovery**

## **Construction of Patrol Cabins and Expansion of Incubation Laboratory**

**Environmental Assessment**

**February 2011**

**Final**





National Park Service  
U.S. Department of the Interior  
Padre Island National Seashore  
Corpus Christi, Texas

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## Sea Turtle Patrol Cabin Construction

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### Environmental Assessment

#### Summary

Padre Island National Seashore proposes to construct two new sea turtle backcountry patrol cabins and to expand the Headquarters Sea Turtle Incubation Facility for supporting the Division of Sea Turtle Science and Recovery. Historically, a total of six bio-techs patrolled the backcountry (down-island), looking for nesting sea turtles. With the success of the program, the total number of down-island patrollers has doubled in size and the number of nests collected and incubated in the headquarters incubation facility has increased to a total of 127 in 2009. One backcountry patrol cabin is currently in place, providing overnight accommodations for six bio-techs and the current incubation facility can accommodate approximately 250 nests. The number of nests has been doubling about every three years and the staff in the incubation facility has grown to 35 people from 24 people in 2007. Because of the growth of the program, new or expanded facilities are necessary. The proposal to decommission the current cabin and replace it with two new cabins would also allow for better distribution of sea turtle patrollers along Padre Island National Seashore's Gulf of Mexico shoreline.

This environmental assessment evaluates two alternatives: a no-action alternative and an action alternative. The no-action alternative describes the current condition if no new cabins are constructed and the incubation facility is not expanded, while the action alternative addresses the decommissioning of the current cabin and construction of two new cabins and the expansion of the current incubation facility.

This environmental assessment has been prepared in compliance with the National Environmental Policy Act (NEPA) to provide the decision-making framework that 1) analyzes a reasonable range of alternatives to meet objectives of the proposal, 2) evaluates potential issues and impacts to Padre Island National Seashore's resources and values, and 3) identifies mitigation measures to lessen the degree or extent of these impacts. Resource topics are included in this document because the resultant impacts may be greater-than-minor include: topography, geology, and soils; visitor use and experience; park operations; and floodplains. All other resource topics were dismissed because the project would result in negligible or minor effects to those resources. No major effects are anticipated as a result of this project. Public scoping was conducted to assist with the development of this document and comments were received, mostly in support of the proposed project.

#### **Public Comment** (The comment period has expired and the FONSI has been issued for this EA.)

If you wish to comment on the environmental assessment, you may post comments online at <http://parkplanning.nps.gov/pais> or mail comments to:

Superintendent  
Padre Island National Seashore  
P.O. Box 181300  
Corpus Christi, TX 78480

This environmental assessment will be on public review for 30 days. Before including your address, phone number, e-mail address, or other personal identifying information in your comment, you should be aware that your entire comment – including your personal identifying information – may be made publicly available at any time. Although you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

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# PURPOSE AND NEED

## Introduction

Padre Island National Seashore was established by an act of Congress on September 28, 1962, and is managed by the National Park Service (NPS). The 130,434 acres of the Seashore were set aside as part of the National Park System 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.” (Public Law 87-712)

The significance of Padre Island National Seashore (National Seashore) lies in the unique, undeveloped nature of a natural, ever changing barrier island. The park is located along the southern coast of Texas, approximately eight miles south of Corpus Christi, and is bordered by the Laguna Madre and the Gulf of Mexico. The park occupies the central 68 miles of the approximately 113-mile long Padre Island (Figure 1). The Seashore’s landscape changes from broad sandy beaches, to ridges of fore-island dunes, to grassy flats separated by smaller dunes, ephemeral ponds, and wetlands. Back-island dunes and wind tidal flats merge with the waters of the Laguna Madre and define the western portion of the Seashore. The park encompasses tens-of-thousands of acres of pristine wetlands that are important habitat for numerous flora and fauna species. The park is also the most significant nesting beach in the United States for the Kemp’s ridley sea turtle and is a Globally Important Bird Area, which includes over 350 species of birds.

This environmental assessment will examine the environmental impacts associated with the proposal to construct two new sea turtle patrol cabins and to expand the Headquarters sea turtle incubation facility at Padre Island National Seashore. The new patrol cabins would be constructed in the backcountry of the park and would replace the existing patrol cabin. The incubation facility expansion would expand the buildings to the north east of the current building into an area that was occupied by the Law Enforcement and Resource Management buildings that burned down in January of 2005.



Figure 1. Park Vicinity Map.

This environmental assessment was prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, regulations of the Council on Environmental Quality (CEQ) (40 CFR §1508.9), and the National Park Service Director's Order (DO)-12 (*Conservation Planning, Environmental Impact Analysis, and Decision-Making*).

## Background

Kemp's ridley (*Lepidochelys kempii*) is the most critically endangered sea turtle species in the world, nesting primarily in Rancho Nuevo, Mexico. As part of the 1992 U.S. Fish and Wildlife Service (USFWS) recovery plan for the Kemp's ridley sea turtle, there has been a large effort to re-establish a nesting colony of endangered Kemp's ridley at the National Seashore. For three decades the NPS at Padre Island National Seashore has participated with this international recovery effort. When the project was initiated, Kemp's ridley had already been declared the world's most endangered sea turtle species and was feared that it would go extinct within 5-10 years unless immediate actions were undertaken to try to restore the species. Establishment of a secondary population would help mitigate a single event (e.g., hurricane) that could affect the species within a specific geographic area and safeguard against extinction.

From 1978-1988, 22,507 Kemp's ridley eggs were shipped from Rancho Nuevo to Padre Island National Seashore to re-establish a nesting colony there, where 55% of the Kemp's ridley nests documented in the U.S. have been found. Overall, 77.1% of the eggs hatched and the resulting hatchlings were transferred to the National Marine Fisheries Service (NMFS) Laboratory in Galveston, Texas for head-starting (rearing in captivity). A total of 13,513 turtles imprinted to the National Seashore were released into U.S. waters, most after 9-11 months in captivity, and most into the Gulf of Mexico approximately 30 km offshore from the National Seashore and nearby locales. From 1989-2000, NMFS continued to head-start between 178 and 2,000 hatchlings per year, but these were obtained directly from Mexico and it was thought that they would return to Mexico to nest. Overall, nearly 10,500 of these Mexico imprinted head-starts were released, most in Gulf of Mexico waters off Galveston or the National Seashore (Shaver 2006).

To perpetuate nesting of Kemp's ridley and other sea turtles at Padre Island National Seashore, it is vital to locate and protect nests to ensure maximum hatching success and optimum sex ratios. Monitoring patrols, turtle and nest protection, and data collection have been on-going at the National Seashore. A record 195 Kemp's ridley nests were found in Texas during 2008, including 93 at Padre Island National Seashore (Shaver 2009). The National Seashore is now the most important nesting beach for Kemp's ridley turtles in the U.S., with 55% of the nests documented in the U.S. from 1989-2004 found at the park (Shaver 2006). Since Kemp's ridley nesting is increasing and more head-started turtles are maturing, more record years of nesting are expected in the future.

Because of the Endangered Species Act of 1973 and the approved 1992 U.S. Fish and Wildlife Service Kemp's Ridley Species Recovery Plan, as well as National Park Service's policy for proper management of special status species, the National Seashore has the responsibility of detecting and protecting nesting sea turtle females, their nests, and for ensuring safe passage of sea turtle hatchlings to the Gulf of Mexico. The USFWS assigned specific monitoring actions to the National Seashore as part of the Kemp's Ridley Sea Turtle Recovery Plan (USFWS and NMFS, 1992). Specifically, the Kemp's Ridley Sea Turtle Recovery Plan lists patrolling and managing Padre Island's nesting beach as task priorities, with the NPS as the responsible agency.

Currently, the National Seashore's nesting sea turtle monitoring and nest protection efforts (patrols) stage out of either the park's Headquarters or an existing cabin located within the backcountry of the National Seashore at the park's 39-mile mark (Fig. 2). This cabin provides overnight accommodations for sea turtle patrollers, and acts as a staging area for the beginning and ending of each day's patrols. The cabin acts as a shelter, where park employees may flee to during times of strong developing storms, and it also provides a refuge when a dangerous situation arises along the Gulf of Mexico beach. The cabin provides



a staging area for around-the-clock, 24-hour operations, which includes oversight of a sea turtle egg incubation facility.

With the success of the program, the current facilities at the National Seashore are no longer sufficient in size. The program has expanded because of the additional nesting of sea turtles, and in turn, has outgrown the park's current infrastructure that supports this program. The proposed action of building two sea turtle patrol cabins and expanding the incubation facilities is warranted not only to address the recovery task priority items in the Kemp's Ridley Recovery Plan, but is also necessary for park staff to proactively manage the park's number one natural resources management priority, as identified in the approved Padre Island National Seashore 1995 Resource Management Plan.

## Purpose and Need

The purpose of the proposal is to provide a safe, functional and efficient working environment for Padre Island National Seashore staff in compliance with the goals and objectives of current plans and policy. The project is needed to accomplish the following objectives:

1. To replace the current backcountry patrol cabin, which is no longer suitable for the growing need of the National Seashore's sea turtle program, with two new cabins; thereby providing sufficient space for housing seasonal park staff.
2. To provide additional shelter or refuge for backcountry staff during times of inclement weather or a dangerous situation arising along the backcountry beach.
3. To provide better distribution of sea turtle incubation facilities along the Gulf of Mexico beach; thereby minimizing the distance and time for which the excavated eggs are transported to a secure incubation facility. This action would also allow for release of hatchlings closer to their nesting site along the Gulf beach.
4. Provide better distribution of cabins for more efficient daily and 24-hour operations of sea turtle monitoring efforts.
5. To expand the turtle incubation facility in the Headquarters compound to provide expanded hatching capacity in a climate controlled setting.

This project would maintain detection, incubation and protection efforts expanding activities in the park, thereby decreasing response time, increasing incubation capacity and increasing egg and turtle survival. Construction of the cabins would also be used to mitigate employee safety risks per the Operational Risk Review recommendations following a fatal accident in 2007.

The cabins would replace the original two cabins that were lost in 1999 to Hurricane Bret. After Hurricane Bret, limited funding allowed for construction of only one replacement cabin. To compensate, the replacement cabin's location was centered between the original locations. The centered location has proven less efficient to park staff for sea turtle nesting monitoring efforts. Construction of these two cabins would provide better distribution of park staff to begin and end their patrols each day, allowing for more work hours applied towards monitoring, while also reducing fuel consumption and the park's carbon footprint for total miles surveyed. During times of inclement weather and emergency situations, the extra cabins would allow for additional places within the park where park staff could find refuge or shelter (Fig. 2).

In addition to the current incubation facility found at the existing cabin at the park's 39-mile mark, this project would also include sea turtle egg incubation facilities, known as corrals, at each of the proposed cabins. Situating these corrals near the cabins provides overnight oversight and safety for the eggs. Having the corrals located at the National Seashore's 30, 39, and 50-mile marks would allow for optimum locations for park staff to deposit eggs to one of these incubation repositories shortly after being

excavated from their nest. This action would thereby reduce transport time of eggs in vehicles and the potential for egg embryo injury. Once sea turtles emerge from hatching, the hatchlings would be released at the 30, 39, or 50-mile mark incubation facility, thereby dispersing the hatchlings along the Gulf beach and providing releases closer to where the nests were found (Fig. 2).

As mentioned previously, because of the Endangered Species Act and the approved 1992 U.S. Fish and Wildlife Service Kemp's Ridley Species Recovery Plan, as well as National Park Service policy, the National Seashore has the responsibility of detecting and protecting nesting females and nests, and ensuring safe passage of hatchlings to the Gulf of Mexico. The USFWS assigned monitoring actions to the National Seashore as part of this recovery plan. Specifically, the Kemp's Ridley Sea Turtle Recovery Plan lists patrolling and managing Padre Island's nesting beach as task priorities, with the NPS as the responsible agency.

The proposed action of building two sea turtle patrol cabins and expanding the Headquarters incubation facility is warranted not only to address the recovery task priority items in the Kemp's Ridley Recovery Plan, but also necessary for park staff to proactively manage the park's number one natural resources management priority, as identified in the approved Padre Island National Seashore 1995 Resource Management Plan. As a result of the sea turtle backcountry monitoring patrol efforts and the Headquarters incubation efforts, backcountry staff have doubled in size and the number of nests recovered in the park has increased to 118 including one Green Sea turtle nest in 2009. Building two new cabins would provide adequate housing for the patrollers, and provide additional space for future growth and supporting operations. Each cabin would be able to accommodate up to twenty-three overnight campers. Expansion of the headquarters incubation facilities would provide sufficient space to handle the anticipated increase in sea turtle nests and staff to provide the appropriate care.

An appropriate categorical exclusion does not exist that covers construction activities and, therefore, an environmental assessment (EA) must be developed that analyzes the effects of a proposed action. This EA evaluates the environmental impacts of the No Action alternative and the National Seashore's proposal to construct two new Kemp's ridley sea turtle patrol cabins in the backcountry of Padre Island National Seashore as well as the expansion of the incubation facilities at the Headquarters compound.. The purpose of this analysis is to provide a decision-making framework for the NPS to approve the construction of two new sea turtle patrol cabins, and the expansion of the incubation facilities while protecting and preventing impairment to park resources and values.

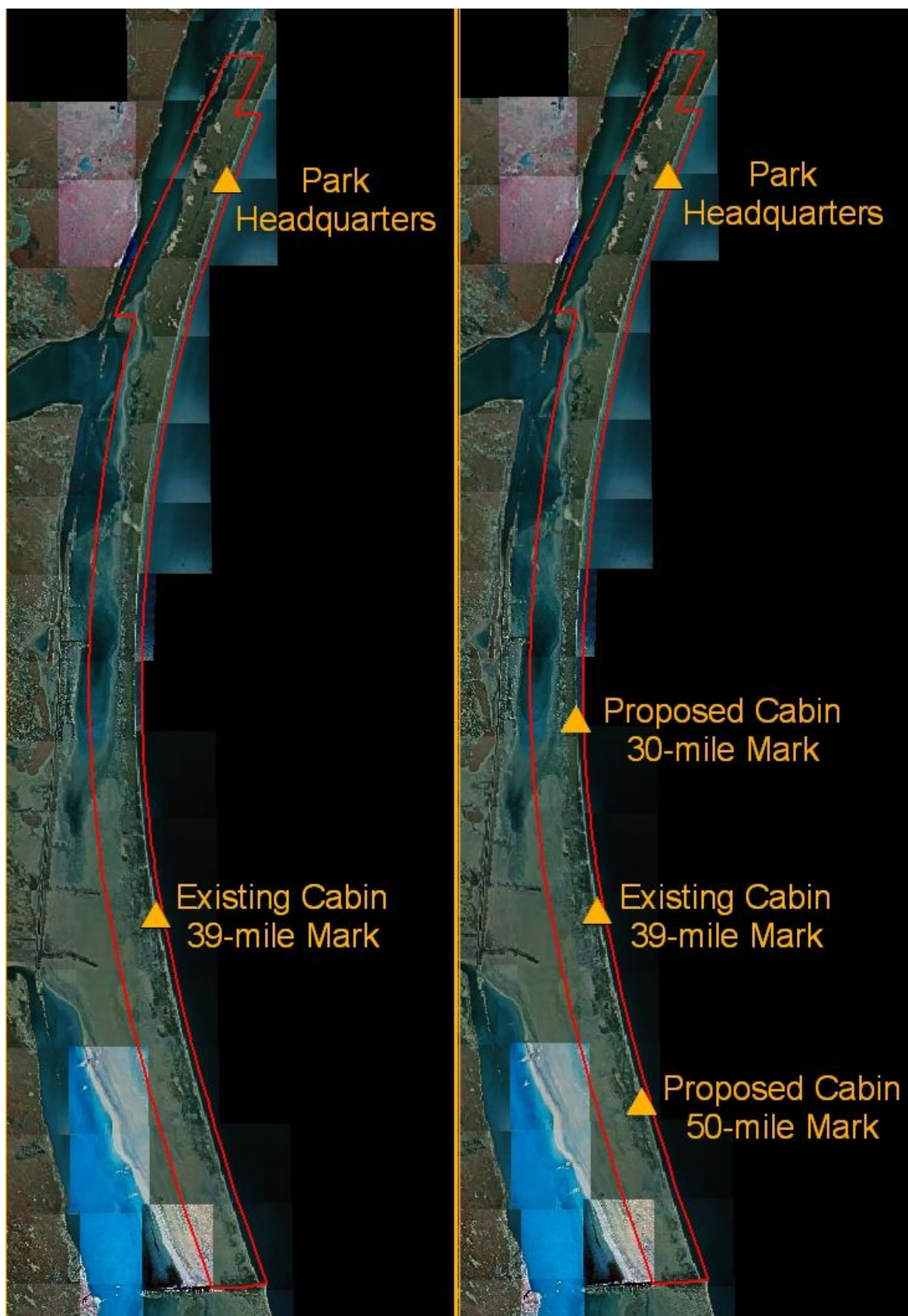


Figure 2 – Comparison maps of the existing vs. the proposed (Alternative A vs. Alternative B)

## Relationship to Other Plans and Policies

Current plans and policy that pertain to this proposal include the 1983 Padre Island National Seashore *General Management Plan* (NPS 1983), the 1995 Padre Island National Seashore *Resource Management Plan* (NPS 1995), and the 2006 *Management Policies* (NPS 2006). Following is more information on how this proposal meets the goals and objectives of these plans and policies:

- This project is consistent with the 1983 Padre Island National Seashore *General Management Plan*, which proposes the continued support and development of the successful Division of Sea Turtle Science and Recovery. The general management plan (GMP) identifies the actions, impacts, and mitigating measures necessary to resolve the issues facing the National Seashore. Many of these issues are the direct result of operating and occupying interim facilities that do not meet current health and safety codes. The construction of two new sea turtle patrol cabins and the expansion of the Headquarters incubation facilities is in accordance with the goals and objectives of the Seashore's existing GMP.
- Construction of two new sea turtle patrol cabins and the expansion of the Headquarters incubation facilities would provide operational facilities for the Division of Sea Turtle Science and Recovery that complies with the 1996 Padre Island National Seashore *Resource Management Plan*. The resources management plan (RMP) is an implementation plan that provides a systemized course of action that can serve as a bridge between the broad directions provided in the GMP. The Seashore's RMP was completed and approved in 1996 and identified the protection and monitoring of sea turtles as a high park priority (NPS 1996), as sea turtles are the only federal and state-listed endangered species nesting in the park.
- The proposal is consistent with the goals and objectives of the 2006 *National Park Service Management Policies* (NPS 2006) that state that major park facilities within park boundaries should be located so as to minimize impacts to park resources. The proposed site of the new administration building was identified to minimize harm to all park resources, particularly significant paleontological resources.

## Appropriate Use

Section 1.5 of *Management Policies* (2006), "Appropriate Use of the Parks," directs that the National Park Service must ensure that park uses that are allowed would not cause impairment of, or unacceptable impacts on, park resources and values. A new form of park use may be allowed within a park only after a determination has been made in the professional judgment of the park manager that it would not result in unacceptable impacts.

Section 8.1.2 of *Management Policies* (2006), Process for Determining Appropriate Uses, provides evaluation factors for determining appropriate uses. All proposals for park uses are evaluated for":

- consistency with applicable laws, executive orders, regulations, and policies;
- consistency with existing plans for public use and resource management;
- actual and potential effects on park resources and values;
- total costs to the Service; and
- Whether the public interest will be served.

Park managers must continually monitor all park uses to prevent unanticipated and unacceptable impacts. If unanticipated and unacceptable impacts emerge, the park manager must engage in a thoughtful, deliberate process to further manage or constrain the use, or discontinue it.

From Section 8.2 of *Management Policies*: "To provide for enjoyment of the parks, the National Park

Service will encourage visitor use activities that

- are appropriate to the purpose for which the park was established, and
- are inspirational, educational, or healthful, and otherwise appropriate to the park environment; and
- will foster an understanding of and appreciation for park resources and values, or will promote enjoyment through a direct association with, interaction with, or relation to park resources; and
- can be sustained without causing unacceptable impacts to park resources and values.”

Support buildings are common and vital structures in most park units. Proper consideration for location, sizing, as well as construction materials and methods ensures that unacceptable impacts to park resources and values do not occur. The proposed cabins and the expansion of the Headquarters incubation facilities are consistent with the park’s general management plan and other related park plans. With this in mind, the NPS finds that construction and use of the sea turtle patrol cabins and the expansion of the Headquarters incubation facilities are an acceptable use at Padre Island National Seashore.

The next question is whether such use, and the associated necessary and appropriate impacts, can be sustained without causing unacceptable impacts to park resources and values. That analysis is found in the *Environmental Consequences* chapter.

## Scoping

Scoping is a process to identify the resources that may be affected by a project proposal, and to explore possible alternative ways of achieving the proposal while minimizing adverse impacts. Padre Island National Seashore conducted internal scoping with appropriate National Park Service staff, as described in more detail in the *Consultation and Coordination* chapter. The National Seashore also conducted external scoping with the public and interested/affected groups.

External scoping was initiated with the distribution of a scoping letter to inform the public of the proposal to construct the new cabins, and to generate input on the preparation of this environmental assessment. The scoping letter dated February 12, 2010 was mailed to over 500 residents of Corpus Christi, TX, greater Texas Coastal Bend area, including landowners adjacent to the National Seashore. In addition, the scoping letter was mailed to various federal and state agencies, local governments, local news organizations, and the affiliated Native American tribe. Scoping information was also posted on the National Seashore’s website.

During the 30-day scoping period, 17 public responses were received from The NPS online site Planning, Environment and Public Comment (PEPC) and three letters were received by the superintendent, including one from TPWD and one from the USACE. Nearly all of the respondents were in favor of constructing the two new cabins, for reasons as identified by the scoping brochure: egg protection, temporary staff housing, and safety. One letter suggested an Environmental Impact Statement was necessary for the Kemp’s ridley recovery plan, and the alternative of moving the program to Matagorda Island—a non-NPS managed land. As this document is for the proposed construction of two cabins and an addition for the turtle incubation facility at headquarters, this comment is out of scope. In addition, Padre Island National Seashore is maintaining compliance with the National Marine and Fisheries Service (NMFS) and the U. S. Fish and Wildlife Service’s (USFWS) Kemp’s ridley recovery plan by this proposed action. Any request for NEPA analysis for the NMFS and USFWS plans should be addressed to their offices. The 17 public responses provided no new substantive alternatives. If an alternative had been proposed which met the objectives the interdisciplinary team would have examined the alternative, weighed its merits and either carried it forward for additional analysis or dismissed it. In addition, the Native American tribe, Tonkawa, did not respond to our request for input for the proposed project. More information regarding external scoping and Native American consultation can be found in *Comments and Coordination*.

## Impact Topics Retained For Further Analysis

In this section and the following section on *Impact Topics Dismissed from Further Analysis*, the National Park Service takes a “hard look” at potential impacts by considering the direct, indirect, and cumulative effects of the proposed action on the environment, along with connected and cumulative actions. Impacts are described in terms of context and duration. The context or extent of the impact is described as localized or widespread. The duration of impacts is described as short-term, ranging from days to three years in duration, or long-term, extending up to 20 years or longer. The intensity and type of impact is described as negligible, minor, moderate, or major, and as beneficial or adverse. The NPS equates “major” effects as “significant” effects. The identification of “major” effects would trigger the need for an Environmental Impact Statement (EIS). Where the intensity of an impact could be described quantitatively, the numerical data is presented; however, most impact analyses are qualitative and use best professional judgment in making the assessment.

The NPS defines “measurable” impacts as moderate or greater effects. It equates “no measurable effects” as minor or less effects. “No measurable effect” is used by the NPS in determining if a categorical exclusion applies or if impact topics may be dismissed from further evaluation in an EA or EIS. The use of “no measurable effects” in this EA pertains to whether the NPS dismisses an impact topic from further detailed evaluation in the EA. The reason the NPS uses “no measurable effects” to determine whether impact topics are dismissed from further evaluation is to concentrate on the issues that are truly significant to the action in question, rather than amassing needless detail in accordance with Commission on Environmental Quality (CEQ) regulations at 1500.1(b).

In this section of the EA, the NPS provides a limited evaluation and explanation as to why some impact topics are not evaluated in more detail. Impact topics are dismissed from further evaluation in this EA if:

- they do not exist in the analysis area, or
- they would not be affected by the proposal, or the likelihood of impacts are not reasonably expected, or
- through the application of mitigation measures, there would be minor or less effects (i.e., no measurable effects) from the proposal, and there is little controversy on the subject or reasons to otherwise include the topic.

Due to there being no effect or no measurable effects, there would either be no contribution towards cumulative effects or the contribution would be low. For each issue or topic presented below, if the resource is found in the analysis area or the issue is applicable to the proposal, then a limited analysis of direct and indirect, and cumulative effects is presented. There is no impairment analysis included in the limited evaluations for the dismissed topics because the NPS’s threshold for considering whether there could be impairment is based on “major” effects.

Impact topics for this project have been identified on the basis of federal laws, regulations, and orders; 2006 *Management Policies*; and National Park Service knowledge of resources at Padre Island National Seashore. Impact topics that are carried forward for further analysis in this environmental assessment are listed below along with the reasons why the impact topic is further analyzed. For each of these topics, the following text also describes the existing setting or baseline conditions (i.e., affected environment) within the project area. This information will be used to analyze impacts against the current conditions of the project area in the *Environmental Consequences* chapter.

### Topography, Geology, and Soils

According to the National Park Service’s 2006 *Management Policies*, the National Park Service will preserve and protect geologic resources and features from adverse effects of human activity, while allowing natural processes to continue (NPS 2006). These policies also state that the National Park

Service will strive to understand and preserve the soil resources of park units and to prevent, to the extent possible, the unnatural erosion, physical removal, or contamination of the soil, or its contamination of other resources.

The Headquarters Incubation facility expansion would take place within the Headquarters compound, in an area that has previously been used for park buildings. The area is currently covered with leveled caliche fill and has no significant topographic or geologic features.

The proposed construction of the two new sea turtle patrol cabins would be on the Gulf of Mexico beachfront, set within its dune-line. The dunes of the National Seashore are significant topographic/geologic features. Minor modifications of the topography would be required to provide a level surface on which to construct the cabins, which would have a negligible to minor effect to the topography of this area. The construction for the cabins would also require excavation, which would displace and disturb soils, primarily in the footprint of the new cabins. Soils may also be disturbed and compacted on a temporary basis in the locations where the park would stage construction materials.

Given that there are significant topographic or geologic features in the project areas, and that the proposed actions would result in negligible to minor, and temporary and permanent adverse effects to topography, geology, and soils, the topics of topography, geology, and soils have been carried forward for further analysis in this document.

### **Special Status Species**

The Endangered Species Act of 1973 requires examination of impacts on all Federally-listed threatened, endangered, and candidate species. Section 7 of the Endangered Species Act requires all federal agencies to consult with the U.S. Fish and Wildlife Service to ensure that any action authorized, funded, or carried out by the agency does not jeopardize the continued existence of listed species or critical habitats. In addition, the 2006 *Management Policies* and Director's Order-77 *Natural Resources Management Guidelines* require the National Park Service to examine the impacts on Federal candidate species, as well as State-listed threatened, endangered, candidate, rare, declining, and sensitive species (NPS 2006). For the purposes of this analysis, the U.S. Fish and Wildlife Service and Texas Parks and Wildlife Department were contacted with regards to Federally- and State-listed species to determine those species that could potentially occur on or near the project area.

Known threatened, endangered, or other species of concern occurring in the project areas include: piping plover (*Charadrius melodus*), northern aplomado falcon (*Falco femoralis septentrionalis*), reddish egret (*Egretta rufescens*), eastern brown pelican (*Pelecanus occidentalis*), sooty tern (*Sterna fuscata*), American peregrine falcon (*Falco peregrines anatum*), spot-tailed earless lizard (*Holbrookia lacerate*), Texas horned lizard (*Phrynosoma cornutum*), as well as green sea turtle (*Chelonia mydas*), loggerhead sea turtle (*Caretta caretta*), Atlantic hawksbill sea turtle (*Eretmochelys imbricata*), leatherback sea turtle (*Dermochelys coarctata*), and Kemp's ridley sea turtle (*Lepidochelys kempii*).

Given that there are special status species within the project areas, and that the proposed actions would occur during the sea turtle nesting season, potentially resulting in adverse effects, the topic of special status species has been carried forward for further analysis in this document.

### **Visitor Use and Experience**

According to 2006 *Management Policies*, the enjoyment of park resources and values by people is part of the fundamental purpose of all park units (NPS 2006). The National Park Service is committed to providing appropriate, high quality opportunities for visitors to enjoy the parks, and will maintain within the parks an atmosphere that is open, inviting, and accessible to every segment of society. Further, the National Park Service will provide opportunities for forms of enjoyment that are uniquely suited and appropriate to the superlative natural and cultural resources found in the parks. The National Park



Service 2006 *Management Policies* also state that scenic views and visual resources are considered highly valued associated characteristics that the National Park Service should strive to protect (NPS 2006).

The primary visitor activity is recreating on the beach, which may include beachcombing, fishing, bird watching, relaxing, and windsurfing; however, due to the extreme difficulty of access, only a few of the National Seashore's 600,000+ annual visitors travel into the park's backcountry beach, found along the Gulf of Mexico at the south end of the park.

The proposed patrol cabins would be located respectively at the 30-mile mark and 50-mile mark locations; areas that are frequented by our down-island, backcountry beach visitors. While the turtle patrol cabins will be set back into the dune line and only visible to visitors while passing directly in front of the buildings. Because the proposed project would visually reconfigure the area in the two proposed places on the beach, the topic of visitor use and experience has been carried forward for further analysis.

## **Park Operations**

Current park operations for the Division of Sea Turtle Science and Recovery include six backcountry patrollers who monitor for nesting sea turtles. The current cabin in place provides the bio-techs with overnight accommodations, and also acts as a staging area for their efforts to assist with sea turtle standings and efforts for the re-establishment of a second nesting population of the Kemp's ridley sea turtle.

Location of the current cabin was placed between the locations where the original two sea turtle patrol cabins were located, prior to being destroyed by Hurricane Brett in 1999. The two cabins that were destroyed by Hurricane Brett were ideally placed for maximum efficiency of the sea turtle patrol efforts; however, when funding for replacement of the cabins wasn't enough to build two cabins, only one cabin was constructed in a location situated between the locations for the original cabins.

The proposed project of replacing the two cabins would restore the efficiency of patrols. The backcountry patrols begin and end each day from the sea turtle patrol cabins; therefore, having two patrol cabins would allow the patrols to begin and end closer to the patrollers survey areas, i.e., the patrol cabins would be positioned closer to the patrollers' survey areas; therefore, less amount of travel time to and from the survey areas is necessary.

Another important reason for this action is the park's need to establish more areas for nest protection. To prevent loss of sea turtle nests to predators, high tides and passing vehicle traffic, the National Seashore has been excavating sea turtle nests. The collected eggs are then incubated under the care of the NPS. While all of the collected eggs were once incubated within a controlled lab, the park has chosen to expand the outdoor incubation areas and the Headquarters incubation facilities to accommodate the success of Kemp's ridley sea turtle recovery effort, with the proposed egg corrals at the turtle cabins helping to minimize the time spent in transport from the southern part of the beach to the Headquarters incubation facility area. These outside facilities are referred to as corrals, and basically consist of a designated area on the Gulf beach, protected from predators and human disturbance by the use of chain-link fence. These corrals will be sited as high on the beach as possible to avoid being inundated by normal high tides.

The proposed project would accommodate the regional office's approved increase in staffing for the Division of Sea Turtle Science and Recovery. Historically, there has been only six bio-techs patrolling the backcountry beaches for nesting sea turtles, but with the success of the program, the National Seashore has hired additional bio-techs to patrol down-island for sea turtles as well as staff for the Headquarters incubation facilities to handle the increasing work load that comes with continued success of the recovery program.

Construction of the new sea turtle patrol cabins in the project areas and expansion of the Headquarters incubation facility would have a measurable effect on the National Seashore's staff and how/where they

conduct their work. For these reasons, the topic of park operations has been carried forward for further analysis in this document.

## **Floodplains**

Executive Order 11988 *Floodplain Management* requires all federal agencies to avoid construction within the 100-year floodplain unless no other practicable alternative exists. The National Park Service under 2006 *Management Policies* and Director's Order 77-2 *Floodplain Management* will strive to preserve floodplain values and minimize hazardous floodplain conditions. According to Director's Order 77-2 *Floodplain Management*, certain construction within a 100-year floodplain requires preparation of a statement of findings for floodplains.

The Park is entirely within the 100-year floodplain as defined by US Army Corp of Engineers and the Federal Emergency Management Agency; therefore, a statement of findings for floodplains will be prepared. The proposed actions are consistent with §1.4.7.1 of NPS *Management Policies* 2006.

## **Impact Topics Dismissed From Further Analysis**

### **Historic Structures**

The National Park Service, as steward of many of America's most important cultural resources, is charged to preserve historic properties for the enjoyment of present and future generations. According to the National Park Service's 2006 *Management Policies and Cultural Resource Management* (Director's Order-28), management decisions and activities throughout the National Park System must reflect awareness of the irreplaceable nature of these resources (NPS 2006). The National Park Service will protect and manage cultural resources in its custody through effective research, planning, and stewardship and in accordance with these policies and guidelines.

Section 106 of the National Historic Preservation Act requires federal agencies to take into account the effects of their undertakings on historic properties and to afford the Advisory Council on Historic Preservation an opportunity to comment in the consultation process. The term "historic properties" is defined as any site, district, building, structure, or object eligible or listed in the National Register of Historic Places, which is the nation's inventory of historic places and the national repository of documentation on property types and their significance. More information about this consultation can be found in the *Consultation and Coordination* chapter.

The term "historic structures" refers to both historic and prehistoric structures, which are defined as constructions that shelter any form of human habitation or activity. The proposed locations for the two new sea turtle patrol cabins were surveyed for cultural resources on April 8, 2010, and no structures were identified in the immediate project area. Further, the National Seashore consulted with the park's state historical preservation office, Texas Historical Commission, for concurrence with the park's negative findings for the NPS survey (THC 2010).

The project areas for the two sea turtle patrol cabins and the sea turtle lab expansion contained no historic structures; therefore, the topic of historic structures has been retained for further analysis.

### **Paleontological Resources**

According to 2006 *Management Policies*, paleontological resources (fossils), including both organic and mineralized remains in body or trace form, will be protected, preserved, and managed for public education, interpretation, and scientific research (NPS 2006). The proposed sites for the construction of two new sea turtle patrol cabins are within the fore dunes on the surface of the Gulf of Mexico beach.

The proposed locations for the two new sea turtle patrol cabins was surveyed by an NPS geologist on April 8, 2010 and no paleontological items were identified in the immediate project area. While the proposed project areas are not expected to contain any paleontological deposits, appropriate steps would

be taken to protect any paleontological resources that are inadvertently discovered during construction. Because the project would not disturb any known paleontological sites, the affect of the project on paleontological resources is expected to be negligible. Further, such negligible impacts would not result in any unacceptable impacts; the proposed actions are consistent with §1.4.7.1 of NPS *Management Policies* 2006. Because these effects are minor or less in degree and would not result in any unacceptable impacts, this topic is dismissed from further analysis in this document.

## Vegetation

According to the National Park Service's 2006 *Management Policies*, the National Park Service strives to maintain all components and processes of naturally evolving park unit ecosystems, including the natural abundance, diversity, and ecological integrity of plants (NPS 2006). The project areas are located on the Gulf of Mexico shoreline within the Gulf dunes. These areas are made up of two rows of fore dunes adjacent to the Gulf beach and high dune fields with scattered upland swales. The two rows of fore dunes are typically dominated by silver-leaf croton (*Croton punctatus*), beach morning-glory (*Ipomoea pescaprae*), camphorweed (*Heterotheca subaxillaris*), prairie clover (*Dalea sp.*), western ragweed (*Ambrosia psilostachya*), and sea oats (*Uniola paniculata*). The high dune fields are generally dominated by camphorweed, Prairie clover, sea oats, seacoast bluestem (*Schizachyrium scoparium*), western ragweed (*Ambrosia psilostachya*), and some tropic croton (*Croton glandulosus* var. *lindheimeri*).

In the areas of construction where the proposed footprints of the new cabins are, vegetation would be displaced, disturbed, and/or compacted. Any disturbance, where appropriate, would involve recontouring and restoring of dunes, which includes replanting of disturbed vegetation. Because the proposed construction would consist of being elevated on stilts, it is thought disturbance to vegetation would be minor or negligible. An addition, a monitor would be onsite to identify any rare, protected species, i.e., Roughseed sea-purslane (*Sesuvium trianthemoides*). In the area that the incubation facilities would be expanded the area has been built up and leveled with caliche. The area is maintained as a lawn, watered and cut regularly. Sand Burr and native grasses dominant the plant community. After construction is finished disturbed areas will be leveled and seeded with native grasses. This proposed action is thought to have minor or negligible impacts and would not result in any unacceptable impacts; the proposed actions are consistent with §1.4.7.1 of NPS *Management Policies* 2006. Because these effects are minor or less in degree and would not result in any unacceptable impacts, this topic is dismissed from further analysis in this document.

## Wildlife

According to the National Park Service's 2006 *Management Policies*, the National Park Service strives to maintain all components and processes of naturally evolving park unit ecosystems, including the natural abundance, diversity, and ecological integrity of animals (NPS 2006). Mammals commonly found in the National Seashore include white-tailed deer, coyote, bobcat, badger, black-tailed jackrabbit, pocket gopher, raccoon, ground squirrel, kangaroo rat, mice, and bats. There are 385 documented species of birds, which includes sandhill crane, snowy plover, American bittern, long-billed curlew, eastern meadowlark, black skimmer, caracara, northern bobwhite, and American white pelican, and loggerhead shrike. Reptiles and amphibian species found at the National Seashore include the keeled earless lizard, whiptail lizard, western diamondback rattlesnake, slender glass lizard, ornate box turtle, northern leopard frog, green tree frog, Hurter's spadefoot toad, and five of the eight sea turtles found in the world. There are also numerous insect species, fish, crustaceans and mollusks.

Protection under the Migratory Bird Treaty Act makes it unlawful to pursue, hunt, kill, capture, possess, buy, sell, purchase, or barter any migratory bird, including the feathers or other parts, nests, eggs, or migratory bird products. In addition, this act serves to protect environmental conditions for migratory birds from pollution or other ecosystem degradations. Padre Island National Seashore has 385 birds documented for being within the park. Many of these birds are found at the proposed locations for this project; however, there are no known nesting sites or vital foraging and roosting grounds for the proposed

locations. Construction-related noise and vehicles accessing the sites could potentially disturb migratory bird species, but these adverse impacts would be 1) temporary, lasting only as long as construction, and 2) negligible, because suitable habitat for migratory birds is found throughout the region.

The locations for the proposed sea turtle patrol cabins are in beach areas that are frequently impacted by storm ocean waters, where little fresh water and minimal vegetation is present in the project areas. The project areas are accessible by beach driving; therefore, presence of humans and human-related activities are frequent occurrences.

If this proposed project is carried forward, smaller wildlife such as rodents, reptiles, and amphibians and their habitat would be displaced or eliminated during construction of the new cabins and egg incubation facility expansion. Disturbed areas would be revegetated and restored following construction, which would result in a negligible to minor adverse impact to the wildlife and wildlife habitat in the immediate area of construction.

During construction noise would also increase, which may disturb wildlife in the general area. Construction-related noise would be temporary, and existing sound conditions would resume following construction activities. Therefore, the temporary noise from construction would have a negligible to minor adverse effect on wildlife. The Headquarters compound has nearly constant foot and vehicle traffic and noise from construction would have little effect on wildlife. Further, such minor or negligible impacts would not result in any unacceptable impacts; the proposed actions are consistent with §1.4.7.1 of *NPS Management Policies* 2006. Because these effects are minor or less in degree and would not result in any unacceptable impacts, this topic is dismissed from further analysis in this document.

In addition, the expansion of the Headquarters incubation facility will have little to no effect on wildlife because construction will be within a highly modified area that is heavily used by park staff and provides no suitable habitat for listed species.

## **Water Resources**

National Park Service policies require protection of water quality consistent with the Clean Water Act. The purpose of the Clean Water Act is to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters." To enact this goal, the U.S. Army Corps of Engineers has been charged with evaluating federal actions that result in potential degradation of waters of the United States and issuing permits for actions consistent with the Clean Water Act. The U.S. Environmental Protection Agency also has responsibility for oversight and review of permits and actions, which affect waters of the United States.

The proposed turtle patrol cabin project areas are located along the Gulf of Mexico shoreline; therefore, navigable waters are present. Water quality, water quantity, and drinking water are not expected to be affected by the project. The size of the two new patrol cabins' footprints (approximately 2,500 square feet each) would increase the amount of impervious surface in the area, which could possibly increase the erosion potential of the areas; however, the building will be elevated on piers and run off from the roofs will be able to infiltrate under the buildings and as these areas occur within the intertidal zone, these effects are thought to be minimal. The caliche fill that the incubation facility expansion will be constructed on is nearly impermeable and does not act as an infiltration zone to the water table. Sheet wash patterns to the surrounding natural infiltration areas would not be significantly altered by the expansion of the incubation facility. To further assist with erosion and water quality, disturbed areas would be revegetated and recontoured following construction. The proposed action would result in negligible effects to water resources. Further, such negligible impacts would not result in any unacceptable impacts; the proposed actions are consistent with §1.4.7.1 of *NPS Management Policies* 2006. Because these effects are minor or less in degree and would not result in any unacceptable impacts, this topic is dismissed from further analysis in this document.

## Wetlands

For regulatory purposes under the Clean Water Act, the term wetlands means "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas."

Executive Order 11990 *Protection of Wetlands* requires federal agencies to avoid, where possible, adversely impacting wetlands. Further, §404 of the Clean Water Act authorizes the U.S. Army Corps of Engineers to prohibit or regulate, through a permitting process, discharge or dredged or fill material or excavation within waters of the United States. National Park Service policies for wetlands as stated in 2006 *Management Policies* and Director's Order 77-1 *Wetlands Protection* strive to prevent the loss or degradation of wetlands and to preserve and enhance the natural and beneficial values of wetlands. In accordance with DO 77-1 *Wetlands Protection*, proposed actions that have the potential to adversely impact wetlands must be addressed in a statement of findings for wetlands.

While the Gulf of Mexico beach is considered wetland and the proposed project is located within these areas, the construction of these cabins would be elevated; therefore, the amount of impacts to wetlands would be minor in degree. The site of the incubation facility expansion has been elevated above the adjacent undisturbed area with caliche fill and does not qualify as wetlands and does not support wetland vegetative species. Water drains in the form of sheet wash and standing water is only present during significant flood events. Because these effects would not result in any unacceptable impacts to wetlands, this topic is dismissed from further analysis in this document and a wetland statement of findings will not be prepared.

## Archeological Resources

In addition to the National Historic Preservation Act and the National Park Service 2006 *Management Policies*, the National Park Service's Director's Order-28B *Archeology* affirms a long-term commitment to the appropriate investigation, documentation, preservation, interpretation, and protection of archeological resources inside units of the National Park System. As one of the principal stewards of America's heritage, the National Park Service is charged with the preservation of the commemorative, educational, scientific, and traditional cultural values of archeological resources for the benefit and enjoyment of present and future generations. Archeological resources are nonrenewable and irreplaceable, so it is important that all management decisions and activities throughout the National Park System reflect a commitment to the conservation of archeological resources as elements of our national heritage.

The proposed locations for the two new sea turtle patrol cabins were surveyed by a NPS archeologist on April 8, 2010, and no archeological sites were identified in the immediate project area, further, the National Seashore consulted with the park's state historical preservation office (SHPO), Texas Historical Commission, for concurrence with the park's negative findings for the NPS archeological survey. (THC 2010). On August 24-25, 2010, the proposed site of the incubation facility expansion was surveyed by a NPS archeologist and no archeological sites were identified in the immediate project area. A letter to the SHPO has been prepared for the incubation lab expansion archeological survey, and the results of the concurrence letter will be included with either the Finding of No Significant Impact (FONSI) or the Notice of Intent (NOI) for Environmental Impact Statement (EIS). While the proposed project areas are not expected to contain archeological deposits, appropriate steps would be taken to protect any archeological resources that are inadvertently discovered during construction. Because the project would not disturb any known archeological sites, the affect of the project on archeological resources is expected to be negligible. Further, such negligible impacts would not result in any unacceptable impacts; the proposed actions are consistent with §1.4.7.1 of NPS *Management Policies* 2006. Because these effects are minor or less in degree and would not result in any unacceptable impacts, this topic is dismissed from further analysis in this document.

## Ethnographic Resources

National Park Service's Director's Order-28 *Cultural Resource Management* defines ethnographic resources as any site, structure, object, landscape, or natural resource feature assigned traditional legendary, religious, subsistence, or other significance in the cultural system of a group traditionally associated with it. According to DO-28 and Executive Order 13007 on sacred sites, the National Park Service should try to preserve and protect ethnographic resources.

In consultation with Native American tribes, ethnographic resources are not known to exist in the proposed project areas. Native American tribes traditionally associated with Padre Island National Seashore were apprised of the proposed project in a letter dated March 18, 2010, and no responses were received from these tribes. Tribal responses to previous park projects confirm their cultural affiliations with the area. The previous contacts with tribal representatives provide no reason to expect impacts to significant ethnographic resources. Further, such negligible impacts would not result in any unacceptable impacts; the proposed actions are consistent with §1.4.7.1 of NPS *Management Policies* 2006. Because these effects are minor or less in degree and would not result in any unacceptable impacts, this topic is dismissed from further analysis in this document.

## Cultural Landscapes

According to the National Park Service's Director's Order-28 *Cultural Resource Management Guideline*, a cultural landscape is a reflection of human adaptation and use of natural resources, and is often expressed in the way land is organized and divided, patterns of settlement, land use, systems of circulation, and the types of structures that are built. Although a cultural landscape inventory has not been conducted for the National Seashore, the features within the general turtle patrol cabin project areas are temporary in nature and not likely to contribute to a significant cultural landscape. The sea turtle patrol cabins and the Headquarters incubation facility expansion will be constructed with design and materials that will blend in well with the current architectural style of structures within the Headquarters compound. Further, since these structures are not likely to contribute to a significant cultural landscape, no unacceptable impacts would occur; the proposed actions are consistent with §1.4.7.1 of NPS *Management Policies* 2006. Because no contributing structures are likely present within the project areas, there would be no unacceptable impacts to cultural landscapes; this topic is dismissed from further analysis in this document.

## Museum Collections

According to Director's Order-24 *Museum Collections*, the National Park Service requires the consideration of impacts on museum collections (historic artifacts, natural specimens, and archival and manuscript material), and provides further policy guidance, standards, and requirements for preserving, protecting, documenting, and providing access to, and use of, National Park Service museum collections.. As the National Seashore is located within a 100-year floodplain, no museum specimens are kept inside of the park; therefore, the National Seashore's museum collection would not result in any unacceptable impacts. The proposed actions are consistent with §1.4.7.1 of NPS *Management Policies* 2006. Because these effects are minor or less in degree and would not result in any impacts, this topic is dismissed from further analysis in this document.

## Air Quality

The Clean Air Act of 1963 (42 U.S.C. 7401 *et seq.*) was established to promote the public health and welfare by protecting and enhancing the nation's air quality. The act establishes specific programs that provide special protection for air resources and air quality related values associated with National Park Service units. Section 118 of the Clean Air Act requires a park unit to meet all federal, state, and local air pollution standards. Padre Island National Seashore is designated as a Class II air quality area under the Clean Air Act. A Class II designation by the State of Texas, as authorized by the Prevention of Significant Deterioration provisions of the Clean Air Act (EA Engineering, Science and Technology

2003), indicates the maximum allowable increase in concentrations of pollutants over baseline concentrations of sulfur dioxide and particulate matter as specified in §163 of the Clean Air Act. Further, the Clean Air Act provides that the federal land manager has an affirmative responsibility to protect air quality related values (including visibility, plants, animals, soils, water quality, cultural resources, and visitor health) from adverse pollution impacts (EPA 2000). The park's air quality is protected by allowing limited increases over baseline concentrations of sulfur dioxide, nitrogen oxides, and particulate matter.

Mobile source emissions include highway and non-road vehicles, which affect air quality through the production of particulate matter, sulfur dioxide, nitrogen oxides, carbon monoxide, and volatile organic compounds. Vehicle emissions occur from both NPS operated and visitor vehicles. The National Seashore operates 35 road vehicles annually, but the number of visitor vehicles is estimated. The number of visitor vehicles is correlated to the number of annual visitors to the park. In 2009, the National Seashore visitation was recorded at 642,163 recreational visitors, with an average visitor per vehicle ratio of 2.8 (EA Engineering, Science and Technology 2003), which equates to 229,344 visitor vehicles. Based on vehicle calculations mentioned above the emissions generated by road vehicles at Padre Island National Seashore are provided in Table 2. Particulate emissions include exhaust and road dust.

Table 1. Mobile source emissions at Padre Island National Seashore from road vehicles.

Activity	Particulates (lbs/yr)	Sulfur Dioxide (lbs/yr)	Nitrogen Oxides (lbs/yr)	Carbon Monoxide (lbs/yr)	Volatile Organics (lbs/yr)
Visitor Vehicles	6,880	--	9,174	114,672	6,880
NPS Vehicles	213	--	391	3,937	213
Totals	7,093	--	9,565	118,609	7,093
Per Vehicle Total	.03	--	.04	.5	.03

Constructing the new patrol cabins would require vehicles to deliver construction materials, and transport construction personnel to the proposed construction sites. These activities could result in temporary increases in air quality emissions whenever construction vehicles are operated. However, vehicle emissions would dissipate quickly due to prevailing southeast winds from March through September and north-northeasterly winds from October through February (PAIS 2000b). Transport emissions would also be mitigated by providing temporary housing at the construction location, minimizing the number of trips to and from the job sites. Based on the estimated emissions per vehicle from Table 1, the number of vehicles operating in the park yearly, and the dominant daily winds, impacts to air quality would be negligible and within state and federal standards. The Class II air quality designation for Padre Island National Seashore would not be affected by the proposal. Further, because the Class II air quality would not be affected, there would be no unacceptable impacts; the proposed actions are consistent with §1.4.7.1 of NPS *Management Policies* 2006. Because there would be no effects on air quality, and the proposed actions would not result in any unacceptable impacts, this topic is dismissed from further analysis in this document.

## Soundscape Management

In accordance with 2006 *Management Policies* and Director's Order-47 *Sound Preservation and Noise Management*, an important component of the National Park Service's mission is the preservation of



natural soundscapes associated with national park units (NPS 2006). Natural soundscapes exist in the absence of human-caused sound. The natural ambient soundscape is the aggregate of all the natural sounds that occur in park units, together with the physical capacity for transmitting natural sounds. Natural sounds occur within and beyond the range of sounds that humans can perceive and can be transmitted through air, water, or solid materials. The frequencies, magnitudes, and durations of human-caused sound considered acceptable varies among National Park Service units as well as potentially throughout each park unit, being generally greater in developed areas and less in undeveloped areas.

The proposed location for the two new patrol cabins and all construction activity would occur in a zone of the park that is currently accessible by park visitors and their vehicles. The dominate sound source is the crashing of the surf, other sounds in this area are most often generated from vehicular traffic (visitors and employees entering/leaving the National Seashore), people, boats, nonfederal oil and gas exploration and development, grounds-keeping equipment, climate controls equipment on the buildings, some wildlife such as birds, and wind. Sound generated by the long-term operation of the patrol cabins may include people using the building and vehicles coming and going. Because the areas already contain man-made noises, the long-term operation of the cabins and Headquarters incubation facilities is not expected to appreciably increase the noise levels in the general areas.

The existing sounds in the Headquarters area where the incubation facility expansion will be built are most often generated from vehicular traffic, visitors and employees entering/leaving the area, people talking, grounds-keeping equipment, climate control equipment on the buildings, some wildlife such as birds, and the wind.

During construction, human-caused sounds would likely increase due to construction activities, equipment, vehicular traffic, and construction crews. Any sounds generated from construction would be temporary, lasting only as long as the construction activity is generating the sounds, and would have a negligible to minor adverse impact on visitors and employees. Further, such negligible or minor impacts would not result in any unacceptable impacts; the proposed actions are consistent with §1.4.7.1 of NPS *Management Policies* 2006. Because these effects are minor or less in degree and would not result in any unacceptable impacts, this topic is dismissed from further analysis in this document.

## **Lightscape Management**

In accordance with 2006 *Management Policies*, the National Park Service strives to preserve natural ambient lightscapes, which are natural resources and values that exist in the absence of human caused light (NPS 2006). Padre Island National Seashore strives to limit the use of artificial outdoor lighting to that which is necessary for basic safety requirements. The National Seashore also strives to ensure that all outdoor lighting is shielded to the maximum extent possible, to keep light on the intended subject and out of the night sky. The visitor center and the existing headquarters facility are the primary sources of light in the National Seashore.

The proposed action may incorporate minimal exterior lighting on the cabins and incubation facility expansion but the lighting would be directed toward the intended subject with appropriate shielding mechanisms and would be placed in only those areas where lighting is needed for safety reasons. This concern has been considered and addressed with other facilities placed along the beach, as the potential of artificial light to negatively affect hatchling sea turtles is well documented. The amount and extent of exterior lighting on the two new proposed sea turtle patrol cabins and headquarters incubation facility expansion would have negligible effects on the existing outside lighting or natural night sky of the area. Further, such negligible impacts would not result in any unacceptable impacts; the proposed actions are consistent with §1.4.7.1 of NPS *Management Policies* 2006. Because these effects are minor or less in degree and would not result in any unacceptable impacts, this topic is dismissed from further analysis in this document.

## **Socioeconomics**

The proposed action would neither change local and regional land use nor appreciably impact local businesses or other agencies. Implementation of the proposed action could provide a negligible beneficial impact to the economies of nearby Corpus Christi, Texas as well Nueces County due to minimal increases in employment opportunities for sea turtle patrollers and revenues for local businesses and governments generated from these additional construction activities and materials obtained. Any increase in workforce and revenue, however, would be temporary and negligible, lasting only as long as construction. Because the impacts to the socioeconomic environment would be negligible, this topic is dismissed.

## **Prime and Unique Farmlands**

The Farmland Protection Policy Act of 1981, as amended, requires federal agencies to consider adverse effects to prime and unique farmlands that would result in the conversion of these lands to non-agricultural uses. Prime or unique farmland is classified by the U.S. Department of Agriculture's Natural Resources Conservation Service (NRCS), and is defined as soil that particularly produces general crops such as common foods, forage, fiber, and oil seed; unique farmland produces specialty crops such as fruits, vegetables, and nuts. According to the NRCS, the project area does not contain prime or unique farmlands (NRCS 2003). Because there would be no effects on prime and unique farmlands, this topic is dismissed from further analysis in this document.

## **Indian Trust Resources**

Secretarial Order 3175 requires that any anticipated impacts to Indian trust resources from a proposed project or action by the Department of Interior agencies be explicitly addressed in environmental documents. The Federal Indian Trust responsibility is a legally enforceable fiduciary obligation on the part of the United States to protect tribal lands, assets, resources, and treaty rights, and it represents a duty to carry out the mandates of federal law with respect to American Indian and Alaska Native tribes.

There are no Indian trust resources at Padre Island National Seashore. The lands comprising the National Seashore are not held in trust by the Secretary of the Interior for the benefit of Indians due to their status as Indians. Because there are no Indian trust resources, this topic is dismissed from further analysis in this document.

## **Environmental Justice**

Executive Order 12898 *General Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* requires all federal agencies to incorporate environmental justice into their missions by identifying and addressing disproportionately high and adverse human health or environmental effects of their programs and policies on minorities and low-income populations and communities. Because the new patrol cabins and Headquarters incubation facility expansion would be available for use by all staff of the park's Division of Sea Turtle Science and Recovery regardless of race or income, and the construction material suppliers would not be purchased based on their race or income, the proposed action would not have disproportionate health or environmental effects on minorities or low-income populations or communities. Because there would be no disproportionate effects, this topic is dismissed from further analysis in this document.

## **Climate Change and Sustainability**

Although climatologists are unsure about the long-term results of global climate change, it is clear that the planet is experiencing a warming trend that affects ocean currents, sea levels, polar sea ice, and global weather patterns. Although these changes are likely to affect winter precipitation patterns and amounts in the parks, it would be speculative to predict localized changes in temperature, precipitation, or other weather changes, in part because there are many variables that are not fully understood and there may be variables not currently defined. Therefore, the analysis in this document is based on past and current weather patterns and the effects of future climate changes are not discussed further.

## ALTERNATIVES

During January 2010, an interdisciplinary team of National Park Service employees met for the purpose of developing project alternatives. This meeting resulted in the definition of project objectives as described in the *Purpose and Need*, and a list of alternatives that could potentially meet these objectives. A total of four action alternatives and the no-action alternative were originally identified for this project. Of these, three of the action alternatives were dismissed from further consideration for various reasons, as described later in this chapter. One action alternative and the no-action alternative are carried forward for further evaluation in this environmental assessment. A summary table comparing alternative components is presented at the end of this chapter.

### Alternatives Carried Forward

#### Alternative A – No-Action

Under this alternative, the two new sea turtle patrol cabins and the headquarters incubation facility expansion would not be constructed. The existing sea turtle patrol cabin at the park's 39-mile mark would continue to provide biological technicians overnight accommodations and other support functions. The Headquarters incubation facility would continue to provide office space, lab facilities and incubation services. The current cabin with accommodations for six would remain in its present condition, and the Division of Sea Turtle Science and Recovery would not expand their backcountry patrol operations. The operation facilities would not be relocated and the efficiency and safety of the sea turtle recovery program would not be improved. Should the no-action alternative be selected, the National Park Service would respond to future needs and conditions of the sea turtle recovery program as it does now, without major actions or changes than the present course of action. See Figure 2 for a map of existing cabins placement.

#### Alternative B – Construct Two New Sea Turtle Patrol Cabins and Expand the Headquarters Incubation Facility

This alternative consists of constructing two new sea turtle patrol cabins along the Gulf of Mexico shoreline in Kenedy County, Texas, at Padre Island National Seashore's 30 and 50-mile mark locations, i.e., respectively ten and thirty miles north of the Port Mansfield channel and to expand the current incubation facility at the Headquarters compound. This proposed action would restore the sea turtle program's original two cabins, which were destroyed by Hurricane Brett in 1999 and meet the needs created by the success of the Turtle protection and restoration program. The following text further describes the components of Alternative B:

- Cabin Features** – The new sea turtle patrol cabins would be general wood stud ("stick") construction, elevated on pilings, each approximately 2,500 square feet in size. Rough dimensions for the new cabin design are 50 feet wide by 40 feet long, with a 10 feet deep deck, making the total footprint for the building to be 50 feet by 50 feet. The interior of the building would include sleeping quarters for up to 23 people, two full bathrooms, a kitchen, office and living space, storage area, and basic operational space to support the program. With the remote backcountry location for the cabins, they would be equipped with solar powered photovoltaic cells to provide a small amount of electricity for lighting and communications. Propane gas would power the stove and cool the refrigerator. A fire protection system for the cabins would consist of smoke alarms, with fire exits in the building. The cabins would not be equipped with modern climate control systems, i.e., there would be no heating, ventilation, or air conditioning (HVAC) included. Since the cabins are for a specialized use and are not open to the public, they would not be American Disability Act compliant. See Figure 1 for a layout of the proposed cabin.

- **Headquarters Incubation Facility Expansion-**

The expansion of the incubation facility would consist of two buildings built to withstand hurricane force winds of 170 mile per hour. These buildings would be elevated on pilings. One building would be a new incubation room, designed to hold eggs during the last third of incubation, a time when it is critical to regulate temperatures generated by the developing eggs. This building will be cooled with a 2.5 ton HVAC, where a 60,000 BTU propane air handler will supply heat. The second building would provide expanded office space, a storage area and a mechanical room. This second building will be cooled with a 3 ton HVAC and an 80,000 BTU propane air handler will provide heat. Lighting for both buildings will be high efficiency LED fixtures. Both buildings will be ADA compliant. See Figure 2 for the layout of the proposed incubation facility expansion.

- **Use/Operation of the Facility** – The new cabins and Headquarters incubation facility expansion would be solely used by park employees for the function of sea turtle science and recovery; however, in the case of a special event outside of the sea turtle season, special operations could acquire the use of these facilities. The cabins would be geographically placed for better placement along the Gulf of Mexico beach. This would allow for less time traveling to and from the patrollers' survey areas each day, as well as offer closer shelter or refuge should the event of foul weather or a dangerous situation arise on the backcountry beach. An area near the cabins would be designated to contain or "corral" sea turtle eggs, which would be collected for incubation, hatching, and release. Having the corrals in the proposed areas would reduce the sea turtle eggs that were collected in the southern part of the park time of transport and time in the vehicle; therefore reducing the risk of injury or damage to the viable eggs. This incubation coral would be a fenced-locked area, as similar to pre-existing corrals being used by the program. This corral would be similar to the 20 feet by 45 feet coral as found at the current sea turtle patrol cabin for the 2010 sea turtle nesting season, but the size of the corrals would be enlarged with success of the program. The current sea turtle patrol cabin in place would be converted over to be used by law enforcement for border security and visitor safety related issues. Like the current cabin in place, the National Seashore would not offer visitor services in the new patrol cabins or the incubation facilities; however, the cabins could become made available for other park-specific business such as scientific research. See Figure 3 for maps of the park with only the existing cabin against the park with the proposed cabins.
- **Access** - The National Seashore allows for beach driving; therefore, access to the new sea turtle patrol cabins would be via the Gulf of Mexico shoreline. Access to the Headquarters area via Park Rd 22.
- **Revegetation** – The existing forbs and grasses in the project area would be preserved to the extent possible. All areas disturbed by construction of the new sea turtle patrol cabins would be revegetated and recontoured to the style of the native landscape. Native vegetation, topography, or other natural features would be used, as appropriate. The area disturbed by construction of incubation facility expansion would be leveled and reseeded with native grasses.
- **Temporary Housing** – A temporary housing facility (travel trailer) would be located at the project areas during construction. This would allow for all eight to ten hours of work time to be applied to construction of the cabins, rather than time being spent commuting to the project areas. After completion of the cabins, the travel trailer would be removed from each of the project areas. Currently, the areas where the temporary housing facility would be are sites available to visitors for backcountry camping.
- **Construction Staging** – To implement this alternative, an area near each of the proposed sites for the new sea turtle patrol cabins would be designated for construction staging, material stockpiling, and equipment storage. These areas would likely be sited in areas somewhere along the Gulf of Mexico beach, where disturbances from beach driving and tidal flows already occur. The staging areas would be designated in areas that would neither impede beach vehicle traffic nor pose a collision safety risk to visitors', contractors', and park staff's vehicles.

This alternative is based on preliminary designs and best information available at the time of this writing. Specific distances, areas, and layouts used to describe the alternative are only estimates and could change during final site design. If changes during final site design are inconsistent with the intent and effects of the selected alternative, then additional compliance would be completed, as appropriate.

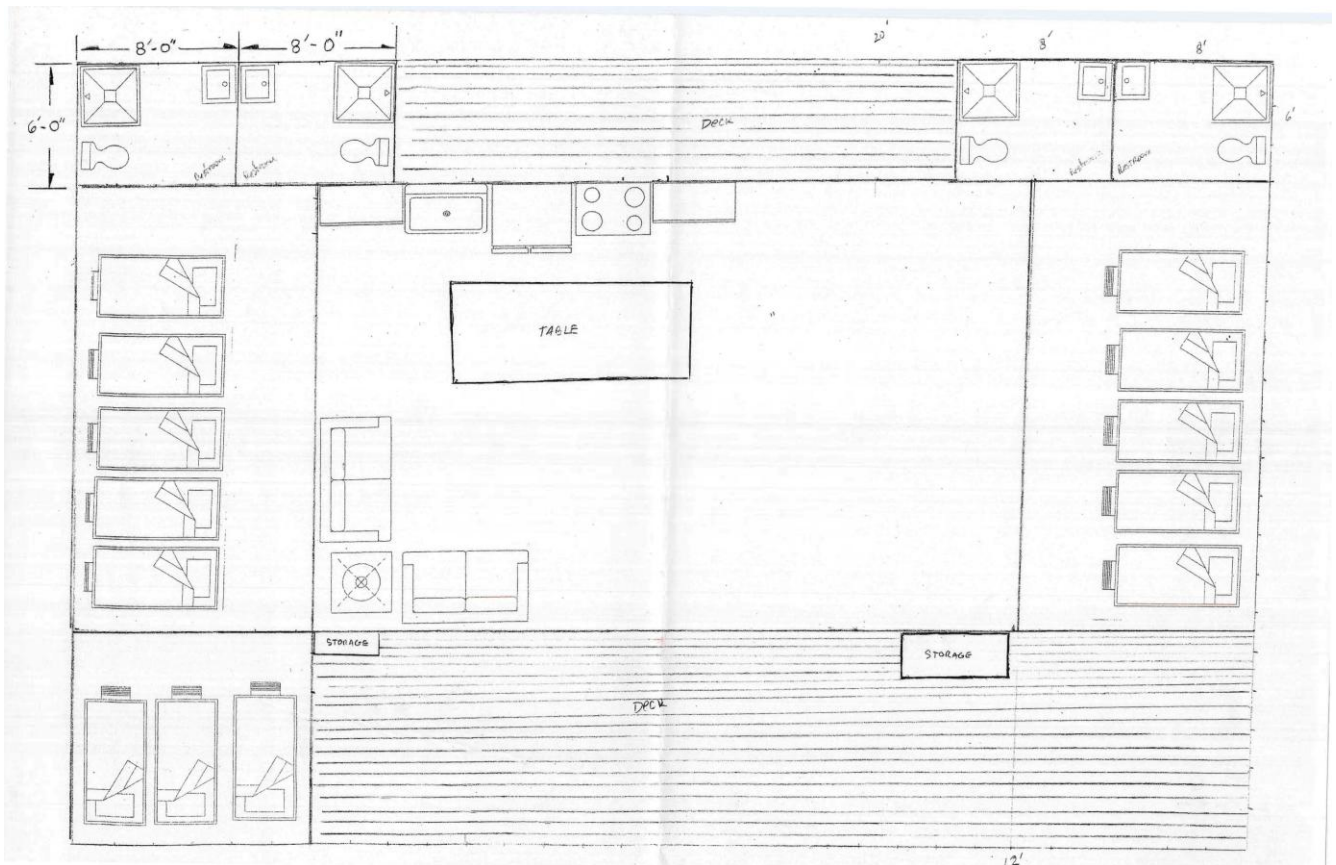


Figure 3 - Proposed cabin floor plan



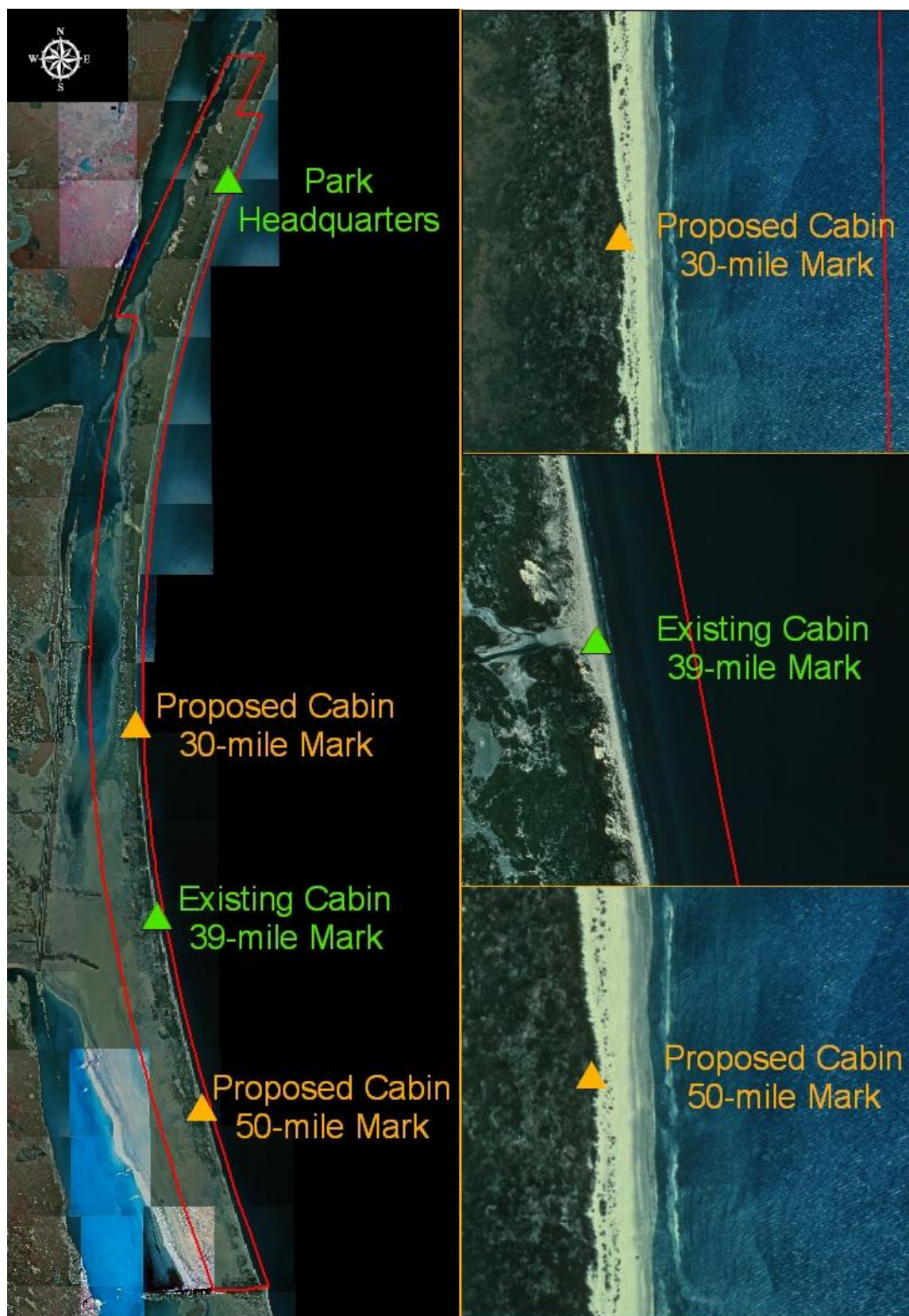


Figure 4 – Alternative B, Construct New Sea Turtle Patrol Cabins

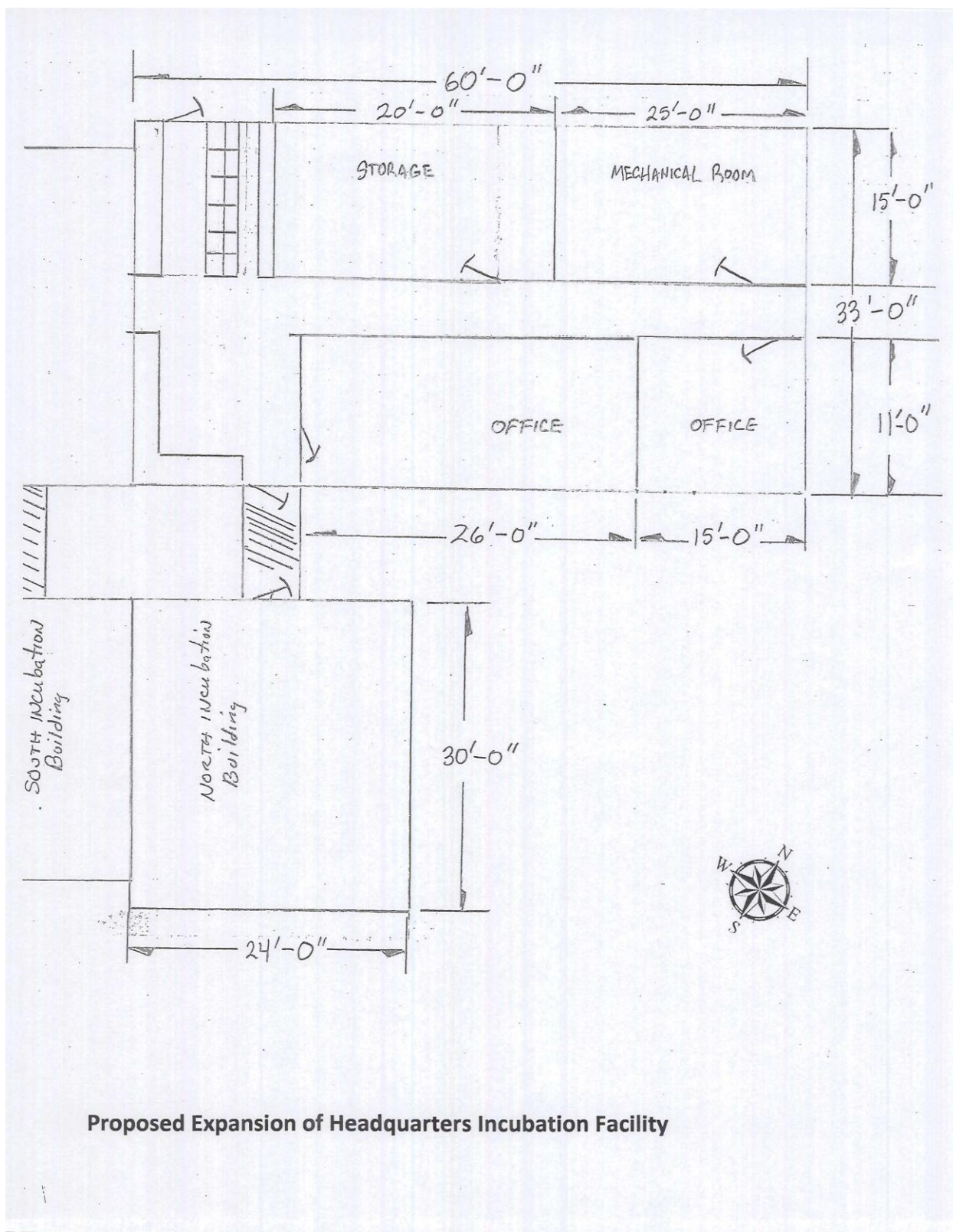


Figure 5 – Floor Plan of the Headquarters Incubation Facility Expansion





**Figure 5 – Current Sea Turtle Lab with Proposed Lab Expansion**

## Mitigation Measures

The following mitigation measures were developed to minimize the degree and or severity of adverse effects and would be implemented during construction of the action alternative, as needed:

- Construction activities would be scheduled to minimize construction-related impacts upon visitors. Areas not under construction would remain accessible to visitors as much as is safely possible.
- The National Seashore's facility manager would be responsible for ensuring that their crew performs the necessary work in accordance with instructions and standards provided by the NPS.
- The NPS would coordinate with contractors and any volunteers to monitor construction activities per NPS standards. Specifically, the National Seashore would monitor and or direct vehicles transporting materials to their designated locations.
- All crew members, contractors, and volunteers assisting with work efforts would be educated about the importance of avoiding impacts to sensitive resources that have been flagged for avoidance, which may include natural and cultural resources.
- An archaeological survey would be performed prior to any construction; however, should construction unearth previously undiscovered cultural resources, work would be stopped in the area of discovery and the recreation area would consult with the state historic preservation officer and the Advisory Council on Historic Preservation, as necessary, according to 36 CFR 800.13, *Post Review Discoveries*. In the unlikely event that human remains are discovered during construction, provisions outlined in the Native American Graves Protection and Repatriation Act (1990) would be followed.
- To minimize the amount of ground disturbance, staging and stockpiling areas would be in previously disturbed sites, away from visitor use areas to the extent possible. All staging and stockpiling areas would be returned to pre-construction conditions following construction.
- Construction zones would be identified and fenced with construction tape, silt fencing, or some similar material prior to any construction activity. The fencing would define the construction zone and confine activity to the minimum area required for construction. All protection measures would be clearly stated in the construction specifications and workers would be instructed to avoid conducting activities beyond the construction zone as defined by the construction zone fencing.
- Revegetation and recontouring of disturbed areas would take place following construction and would be designed to minimize the visual intrusion of the structure. Revegetation efforts would strive to reconstruct the natural spacing, abundance, and diversity of native plant species using native species. All disturbed areas would be restored as nearly as possible to pre-construction conditions shortly after construction activities are completed. Weed control methods would be implemented to minimize the introduction of noxious weeds. Some shrubs and grasses would be removed, but other existing vegetation at the site would not be disturbed to the extent possible. A monitor would be onsite for identification and protection of any rare, protected plant species.
- Because disturbed soils are susceptible to erosion until revegetation takes place, standard erosion control measures such as silt fences and/or sand bags would be used to minimize any potential soil erosion.
- Fugitive dust generated by construction would be controlled by spraying water on the construction site, if necessary.
- Employees and construction crews would be required to park their vehicles on the beach, away from the flow of beach driving traffic to ensure enough capacity and access to the National Seashore for visitors.

- To reduce noise and emissions, construction equipment would not be permitted to idle for long periods of time.
- To minimize possible petrochemical leaks from construction equipment, the contractor would regularly monitor and check construction equipment to identify and repair any leaks.
- Construction workers and supervisors would be informed about special status species. Contract provisions would require the cessation of construction activities if a species were discovered in the project area, until park staff re-evaluates the project. This would allow modification of the contract for any protection measures determined necessary to protect the discovery. A monitor would assist for identification of special status species.
- Should construction unearth previously undiscovered cultural resources, work would be stopped in the area of any discovery and the National Seashore would consult with the state historic preservation officer and the Advisory Council on Historic Preservation, as necessary, according to §36 CFR 800.13, *Post Review Discoveries*. In the unlikely event that human remains are discovered during construction, provisions outlined in the Native American Graves Protection and Repatriation Act (1990) would be followed.
- The National Park Service would ensure that all contractors and subcontractors are informed of the penalties for illegally collecting artifacts or intentionally damaging paleontological materials, archeological sites, or historic properties. Contractors and subcontractors would also be instructed on procedures to follow in case previously unknown paleontological or archeological resources are uncovered during construction.
- To minimize the potential for impacts to nesting sea turtles, a trained escort would accompany and lead vehicles down beach. Construction vehicles traveling to construction sites would coordinate times of work so convoys may be implemented.
- Construction workers and supervisors would be informed about the special sensitivity of the National Seashore's values, regulations, and appropriate housekeeping.
- According to 2006 *Management Policies*, the National Park Service would strive to construct facilities with sustainable designs and systems to minimize potential environmental impacts. Development would not compete with or dominate monument's features, or interfere with natural processes, such as the seasonal migration of wildlife or hydrologic activity associated with wetlands. To the extent possible, the design and management of facilities would emphasize environmental sensitivity in construction, use of nontoxic materials, resource conservation, recycling, and integration of visitors with natural and cultural settings. The National Park Service also reduces energy costs, eliminates waste, and conserves energy resources by using energy-efficient and cost-effective technology. Energy efficiency is incorporated into the decision-making process during the design and acquisition of buildings, facilities, and transportation systems that emphasize the use of renewable energy sources.

## Alternatives Considered and Dismissed

The following three alternatives were considered for project implementation, but were ultimately dismissed from further analysis (the last bullet is a combination of the first two alternatives). Reasons for their dismissal are provided in the following alternative descriptions. Each of these alternatives which were considered but dismissed consisted of using the pre-existing sea turtle patrol cabin.

- **Expansion of Current Sea Turtle Patrol Cabin without Expanding the Headquarters Incubation Facility** – This alternative consisted of utilizing the current patrol cabin in place, but expanding it so the park could accommodate the successful sea turtle program and its need for

additional patrollers. This alternative would have consisted of no “new” construction, and no additional buildings would have been constructed. This alternative would have caused patrollers to commute each morning and evening, at the beginning and end of their patrols, to their designated survey areas as they do currently. The added fuel expense and carbon footprint driving the sea turtle monitor vehicles (UTVs) would be higher than the preferred alternative. Also, this does not allow for expansion of the Headquarters incubation facilities or the sea turtle egg incubation corrals to be placed at supervised locations at the park’s 30 and 50-mile mark locations. The only corral would then be where it is today at the current cabin; therefore, causing longer transport of eggs in vehicles, which could lead to egg injury or loss. The capacity of the Headquarters incubation facility would quickly reach capacity requiring less than optimal spacing of incubation containers within the existing facility. Temperature control would not be optimal and hatching success would be reduced. This alternative of expanding only the current turtle patrol facility was eliminated for feasibility reasons and because the alternative would not meet the project’s objectives.

- **Construction of Only One Sea Turtle Patrol Cabin with Current Cabin** – This alternative consisted of leaving the current sea turtle patrol cabin in its current place, and supplementing it with another patrol cabin in another location. This alternative was seriously considered to keep costs down for construction; however, this alternative was dismissed for reason of the need for specific geographic positioning of the cabins, improving efficiency of the recovery program’s survey efforts, safety, as well as better placement of egg incubation corrals. Additional space in the Headquarters incubation facility would still be needed in the near future. This alternative would have offset the cabins by ten miles from the preferred locations. This alternative also does not address the need for expanding the current lab facilities.
- **Construction of Only One Sea Turtle Patrol Cabin, but also Expanding Current Cabin** – This alternative consisted of combining the two preceding alternatives; however, for reasons of dismissing the two prior, this alternative was not selected.
- **Construction of Only the Headquarters Incubation Facility** – This alternative does not meet the majority of the objectives for this project. It would not accommodate the increase of personnel, and it would not increase the safety of the program for park staff and sea turtle egg embryo.

## Alternative Summaries

Table 2 summarizes the major components of Alternatives A and B, and compares the ability of these alternatives to meet the project objectives (the objectives for this project are identified in the *Purpose and Need* chapter). As shown in the following table, Alternative B meets each of the objectives identified for this project, while the No Action Alternative does not address all of the objectives.

Table 2 – Summary of Alternatives and How Each Alternative Meets Project Objectives

Alternative Elements	Alternative A – No Action	Alternative B – Preferred
Cabins and Living/Operational Space	The existing sea turtle patrol cabin would continue to function as employee accommodations, and the cabin and Headquarters facility would continue to provide operational space for the sea turtle science and recovery program.	Two new cabins would be constructed, measuring roughly 2,500 square feet each. Construction of the cabins would offer overnight accommodations for the additional staff that would be needed by the expanding program. The old sea turtle cabin would be decommissioned by the sea turtle program, and all backcountry patrol staff’s accommodations would be moved to the two new cabins. The old cabin would be gifted to law enforcement, providing support for backcountry

		safety and protection. The Headquarters lab expansion would provide additional work space for increased personnel, while the incubation facility expansion would accommodate the demand for additional hatching capacity.
Sea Turtle Egg Facilities	The incubation corral located at the current cabin would remain, and no additional backcountry corrals would be constructed. Vehicles would continue to transport eggs to the current corral, causing some clutches to be transported more than 20 miles across extremely difficult driving conditions and rough terrain.	Two new incubation corrals could be constructed in the park's backcountry, providing egg incubation deposition locations for egg transports at intervals no more than approximately 10 miles apart; therefore, reducing the duration of time the eggs would be handled, and the amount of rough terrain the eggs would need to be transported across. Time of movement after laying may cause a significant decrease in relative hatching success. The Headquarters incubation facility would be expanded which would provide sufficient space for current and future incubation and staff needs.
Access and Operational Efficiency	The cabin would continue to be the start and end points for backcountry patrol surveys each day, with access to the cabin via the Gulf beach. Commuting to the patrollers' survey areas would be necessary at the start and end of each day. Access to Headquarters and the current incubation lab would continue via Park Road 22.	Construction of the new cabins would provide closer access for the backcountry patrol survey areas at the start and end of each day. Offering closer access provides for a more efficient program by reduction of demands on utility terrain vehicles (UTVs) and fuel for patrols, as well as offering less time commuting to and from survey areas each day. Staff working in the Headquarters incubation facilities expansion would access the facility from Park Road 22 and would park their vehicles in the existing parking area within the Headquarters complex.
Employee Safety	Operations and activities would continue as they do in their present form, and safety would continue to be considered highest priority and applied as identified in current, up-to-date protocols. The existing cabin would remain the only shelter in the backcountry beach to offer refuge during times of need.	The two new cabins would offer two additional locations for backcountry patrollers to take refuge from inclement weather, or could potentially offer solace from a dangerous situation arising within the park. The new cabins would contain first aid and first responder supplies. The existing sea turtle cabin would be decommissioned and gifted to the park's Division of Visitor Safety and Resource Protection; therefore, increasing opportunities for Protection Rangers' and emergency medical technicians (EMTs) presence on the Gulf beach. The expanded Headquarters incubation facility would provide sufficient working space for

		current and future staff. Currently, working spaces are shared and overcrowded.
Visitor Safety	Safety would continue to be considered highest priority and applied as identified in current, up-to-date protocols.	The new cabins would contain first aid and first responder supplies, as well as offer a place where visitors may be able to locate park staff and communications during a time of need. The present sea turtle cabin would be decommissioned and gifted to the park's Division of Visitor Safety and Resource Protection; therefore, increasing opportunities for Protection Rangers' and emergency medical technicians (EMTs) presence on the Gulf beach.
<b>Project Objectives</b>	<b>Meets Project Objectives?</b>	<b>Meets Project Objectives?</b>
Provide facilities that would support the sea turtle program's demands for increased overnight accommodations and increased area for controlled incubation, along with additional office space.	No. The cabin would not accommodate the extra backcountry patrollers. The Current incubation facilities would not accommodate future need incubation services and office space.	Yes. Two new sea turtle patrol cabins would provide the additional overnight accommodations for the increase in the program's personnel number. The expanded headquarters incubation facility would provide sufficient space for incubating additional eggs produced by program success and working space for staff needed to take care of the eggs.
Provide improved employee safety.	No. Operations and activities would continue as they do in their present form, and safety would continue to be considered highest priority and applied as identified in current, up-to-date protocols. The existing cabin would remain the only shelter in the backcountry beach to offer refuge during times of need. Staff working in the Headquarters incubation facility would still have to share work spaces designed for single employees.	Yes. The two proposed cabins would offer two additional locations for backcountry patrollers to take refuge from inclement weather, or could potentially offer solace from a dangerous situation arising within the park. The new cabins would contain first aid and first responder supplies. The present sea turtle cabin would be decommissioned and gifted to the park's Division of Visitor Safety and Resource Protection, therefore offering better opportunities for Protection Rangers' increased presence on the beach. The expanded headquarters incubation facility would provide sufficient space for employees to work in uncrowded, safe areas.
Provide opportunities for better sea turtle egg incubation facilities within safe transport distances (time) for eggs.	Unknown. With unknown safe distances for sea turtle egg vehicle transport across rough terrain, the best estimates the park has for the current location for the incubation corral is considered "far" while transporting eggs during times of poor beach driving conditions. Time of moving eggs after laying may cause a significant decrease in relative hatching success (Limpus 1979).	Yes. Distances of sea turtle egg transport would be reduced by more than 50% of the distance of current condition. Reducing the eggs transport time equates to reducing the duration of eggs handled, therefore reducing the potential for eggs to be injured or destroyed from movement.
Provide efficient access	Yes and No. The existing cabin is	Yes. The new cabins would replace the

locations for park staff to facilitate the sea turtle program's daily patrol operations.	more convenient for facilitating backcountry patrols compared with starting out at the park's headquarters; however, the daily commutes to and from patrollers' survey areas are inefficient.	current cabin, providing more convenient, efficient survey start and end point locations for the program's operations. The increased efficiency for this action would reduce fuel demands, lowering park expenses, the park's carbon footprint, and maintenance needs in relation to the miles surveyed and applied to sea turtle patrols. Park personnel would also be applying time to monitoring survey areas as opposed to commuting to survey site.
Prevent impairment to park resources and values.	Yes. Without constructing the new cabins and the additional incubation facilities there would be no potential for park resources and values to be impaired.	Yes. With the applied mitigation measures no impairment of park resources and values would result.

Table 3 summarizes the anticipated environmental impacts for alternatives A and B. Only those impact topics that have been carried forward for further analysis are included in this table. The *Environmental Consequences* chapter provides a more detailed explanation of these impacts.

Table 3 – Environmental Impact Summary by Alternative

Impact Topic	Alternative A – No Action	Alternative B – Preferred Alternative
<b>Topography, Geology, and Soils</b>	No new disturbance of topography, geology, or soils would occur from this alternative.	Placement and construction of new cabins would require access through dunes, which could result in minor, direct, adverse effects. Any impacts or loss of dune features would be reestablished by re-contouring, reassembling, and through natural processes. Placement of the Headquarters incubation facility expansion allows for access across previously modified surfaces and will not alter the surface from its current condition.
<b>Special Status Species</b>	No new disturbance to special status species would occur from this alternative.	Negligible to minor, direct, adverse effects would occur to piping plovers by disturbance of vehicle while beach driving; however, mitigation measures would address this by minimizing beach travel. The proposed action would have minor to moderate beneficial effects for establishment of the Kemp's ridley sea turtle, as well as all five of the nesting sea turtle species on the National Seashore. Formal Consultation will occur to address any type of take on piping plovers or sea turtle species.
<b>Visitor Use and Experience</b>	No new disturbance of lands would occur under this alternative; therefore, no disturbance to view shed. Negligible effects to visitor safety.	Minor, direct, adverse effects resulting from changes to the view shed, and also from noise generated during construction. The impact to the view shed is expected to be long-term, lasting the duration of the cabins' presence. Beneficial effects to visitors' safety, by providing additional locations where visitors may reach park staff and communications during times of emergency.
<b>Park Operations</b>	Minor, direct, adverse effects resulting from employees working in a less efficient program. The inefficiency could ultimately lead to safety	Minor to moderate, direct and indirect, beneficial effects from an improved work environment that meets health and safety standards. Minor, direct, short-term, adverse effects from time needed for planning and constructing new cabins.



Impact Topic	Alternative A – No Action	Alternative B – Preferred Alternative
	concerns with a direct, minor to moderate, adverse effect.	
<b>Floodplains</b>	No new disturbance to floodplains would occur from this alternative.	Negligible to minor, direct, adverse effects would occur to floodplains from construction of two new sea turtle cabins along the Gulf of Mexico shoreline; however, the two new facilities would be constructed on stilts, placing the facility above storm water velocity elevations.

## Environmentally Preferred Alternative

The environmentally preferred alternative is determined by applying the criteria suggested in the National Environmental Policy Act of 1969 (NEPA), which guides the Council on Environmental Quality (CEQ). The CEQ provides direction that “[t]he environmentally preferable alternative is the alternative that would promote the national environmental policy as expressed in NEPA’s §101:

- fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;
- assure for all generations safe, healthful, productive, and esthetically and culturally pleasing surroundings;
- attain the widest range of beneficial uses of the environment without degradation, risk of health or safety, or other undesirable and unintended consequences;
- preserve important historic, cultural and natural aspects of our national heritage and maintain, wherever possible, an environment that supports diversity and variety of individual choice;
- achieve a balance between population and resource use that will permit high standards of living and a wide sharing of life’s amenities; and
- enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

Although alternative A, no-action, attains the widest range of beneficial uses of the environment, the risk of health and safety to the National Seashore’s employees working in the backcountry is not addressed; therefore, alternative A only minimally meets the above six evaluation factors. This alternative also does not meet the criteria for improving renewable resources because the existing sea turtle patrol operations are less inefficient with regards to energy.

Alternative B is the environmentally preferred alternative because it best addresses these six evaluation factors. Alternative B, *Construction of Two New Sea Turtle Patrol Cabins and expand the Headquarters incubation facility*, would provide a working environment for park staff that meets health and safety recommendations, while minimizing environmental impacts to the extent possible. As a permanent facilities, the new sea turtle cabins and incubation facility would be used by future generations. The new cabins would also be more energy efficient and more environmentally-friendly than the existing sea turtle patrol cabin. The carbon footprint and maintenance cycle would be minimized by reducing commute time of UTVs to and from their specific, daily survey areas.

No new information came forward from public scoping or consultation with other agencies to necessitate the development of any new alternatives, other than those described and evaluated in this document. Because it meets the purpose and need for the project, the project objectives, and is the environmentally preferred alternative, alternative B is also recommended as the National Park Service preferred alternative. For the remainder of the document, alternative B will be referred to as the preferred alternative.

## ENVIRONMENTAL CONSEQUENCES

This chapter analyzes the potential environmental consequences, or impacts, that would occur as a result of implementing the proposed project. Topics analyzed in this chapter include topography, geology, and soils; special status species; park operations; visitor use and experience; and floodplains. Direct, indirect, and cumulative effects, as well as impairment are analyzed for each resource topic carried forward. Potential impacts are described in terms of type, context, duration, and intensity. General definitions are defined as follows, while more specific impact thresholds are given for each resource at the beginning of each resource section.

- **Type** describes the classification of the impact as either beneficial or adverse, direct or indirect:
  - *Beneficial*: A positive change in the condition or appearance of the resource or a change that moves the resource toward a desired condition.
  - *Adverse*: A change that moves the resource away from a desired condition or detracts from its appearance or condition.
  - *Direct*: An effect that is caused by an action and occurs in the same time and place.
  - *Indirect*: An effect that is caused by an action but is later in time or farther removed in distance, but is still reasonably foreseeable.
- **Context** describes the area or location in which the impact will occur. Are the effects site-specific, local, regional, or even broader?
- **Duration** describes the length of time an effect will occur, either short-term or long-term:
  - *Short-term* impacts generally last only during construction, and the resources resume their pre-construction conditions following construction.
  - *Long-term* impacts last beyond the construction period, and the resources may not resume their pre-construction conditions for a longer period of time following construction.
- **Intensity** describes the degree, level, or strength of an impact. For this analysis, intensity has been categorized into negligible, minor, moderate, and major. Because definitions of intensity vary by resource topic, intensity definitions are provided separately for each impact topic analyzed in this environmental assessment.

### Cumulative Impact Scenario

The Council on Environmental Quality (CEQ) regulations, which implement the National Environmental Policy Act of 1969 (42 USC 4321 et seq.), require assessment of cumulative impacts in the decision making process for federal projects. Cumulative impacts are defined as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions" (40 CFR 1508.7). Cumulative impacts are considered for both the no-action and preferred alternative.

Padre Island National Seashore's development consists of the Malaquite Visitor Center and concession facility, the park headquarters, two park residences, a 40-site recreational vehicle and tent campground, a hazardous waste facility, a wastewater treatment facility, Bird Island Basin and Yarbrough Pass visitor use areas, a 185' communications monopole, and a 1 mile paved Grasslands Nature Trail. The paved, two-lane Park Road 22 provides access into the park, westward to Bird Island Basin, and south to the Gulf of Mexico beach. The beach then becomes the primary transportation corridor, 60 miles to the south end of the park. The beach is hard and accessible by both two and four-wheel drive vehicles for the first five miles of Gulf beach, at which point the remaining 55 miles of beach corridor is accessible only by

four-wheel drive vehicles. Access to the park is also available via boat in the Laguna Madre and Gulf shorelines.

In total, existing park development occupies approximately 400 acres or 0.3% of the park. There are no past park developments or activities that continue to impact the park's resources or values. New developments are planned in the future and include the installation of a new 200' communications tower and a new Law Enforcement facility. Park operations that could contribute to impacts on park resources and values include prescribed fires, routine maintenance of the park roads, future park development, park and visitor vehicle use, and public recreational activities such as motor boating, and burning of campfires.

Cumulative impacts were determined by combining the impacts of the preferred alternative with other past, present, and reasonably foreseeable future actions. Therefore, it was necessary to identify other ongoing or reasonably foreseeable future projects at Padre Island National Seashore and, if applicable, the surrounding region. Because the scope of this project is relatively small, the geographic and temporal scope of the cumulative analysis is similarly small. The geographic scope for this analysis includes actions within the National Seashore's boundaries, while the temporal scope includes projects within a range of approximately ten years. Given this, the following projects were identified for the purpose of conducting the cumulative effects analysis, listed from past to future:

- **Oil and Gas Management Plan, 2000:** The 2000 Oil and Gas Management Plan for Padre Island National Seashore was prepared for the purpose of guiding the management of activities associated with the exploration and development of nonfederal oil and gas within the park. The Oil and Gas Management Plan identifies those park resources and values most sensitive to oil and gas exploration and development disturbance, and defines impact mitigation requirements to protect such resources and values. In order to protect park resources and values, the plan establishes performance standards for oil and gas exploration and development, and it provides pertinent information to oil and gas owners and operators to facilitate compliance with applicable regulations (NPS 2000).
- **Septic System Conversion to Wetland Lagoons, 2001:** The National Seashore converted the septic system from agitation pools to wetland lagoons, benefiting wildlife that use the facility, in addition to lowering operational costs and maintenance of the facility.
- **Development of BNP Petroleum's Peach Pad, 2004:** Two plans of operations with 5 wells were approved and developed at the end of Pan Am Rd. The site consists of a 2.92 acres pad, and a 0.7 mile extension of Pan Am Rd. The site is currently scheduled to be plugged, abandoned, and reclaimed.
- **Development of Fire Management Plan, 2004:** The National Seashore's fire management plan was completed in December 2004. One of the primary actions prescribed by the plan is the reduction of hazardous fuels around the National Seashore's northern end of the park, where urban interface and park developments occur. The prescribed area for fire, the Malaquite Beach Fire Management Unit, encompasses 5,018 acres, consisting of five rotating annual treatment areas that vary in size from a few hundred acres to over 3,300 acres. There are three other fire treatment areas in the Down Island Fire Management Unit, totaling 38,000 acres.
- **Construction of Sea Turtle Lab Facility, 2005:** New Sea Turtle Science offices and incubation laboratory, supporting the recovery of Kemp's ridley and four other sea turtle species.
- **Construction of Communications Monopole, 2005:** Installation of a 185 foot communication monopole at Park Headquarters in 2005 for improved park communication and border related safety issues.
- **Improvements to Bird Island Basin Recreational Area, 2005:** This development included the repair and enlargement of Bird Island Basin's boat ramp and parking facilities. A 0.6 mile road was constructed, separating the boat ramp from the wind surfing facility, while also restoring hydrology to

one of the park's sensitive wind tidal flats. Three vault toilet systems were installed, and a building to facilitate sales was constructed by the National Seashore's wind surfing recreation concessionaire.

- **Development of Kindee Oil and Gas Texas' Wilson Pad and Road, 2006:** The National Seashore is currently awaiting a reclamation plan from Kindee Oil and Gas Texas to restore the 2.6 acre pad and 0.8 mile road. The other approved well has been abandoned by Kindee Oil and Gas.
- **Reclamation of Malaquite Beach Visitors Center's Parking Lot, 2008:** The National Seashore removed 2.3 acres of the over-engineered Malaquite Beach Visitors Center's parking lot. This parking lot was completed in 1969 with expectations of larger numbers of visitors than what the park experiences. Because the parking lot has never been utilized to its full extent, the National Seashore removed approximately one quarter of the area, restoring the area to the natural landscape.
- **Boundary Installation, 2010:** The National Seashore is currently installing buoys for water marking the Laguna Madre boundary to support law enforcement and jurisdiction over wildlife poaching cases.
- **Development of BNP Petroleum Lemon Pad, Ongoing:** The 2002 approved plan of operations was developed in 2008, drilling one of the two wells for this site, consisting of a 2.7 acre pad and a 200 meter road. One well is still permitted and may be developed anytime in the near future.
- **Development of BNP Petroleum DM 11A, ST 991 #1, and ST991 #2, Ongoing:** The 2007 approved plan of operations still has one of three wells that may be developed on this 1.5 acre site.
- **Exotic Vegetation Management, Ongoing:** The National Seashore has been treating its exotic vegetation for the past five years. In fiscal year 2007, stands of *Arundo donax* were treated. Because success is achieved by treating the same areas for 4 to 5 years, future work would focus on maintaining the already treated areas and limiting the number of new areas treated. Currently, Resource Management is having some genetic work completed to determine if the park's *Phragmites australis* is of the old or new world phenotypes.
- **Implementation of the NMFS and USFWS 1992 Recovery Plan for Kemp's ridley Sea Turtle, Ongoing:** The National Seashore continues to comply with Section 7 of the Endangered Species Act and follow guidance of the U.S. Fish and Wildlife Service and National Marine and Fisheries Service Kemp's ridley recovery plan.
- **Reclamation of BNP Petroleum A6 Pad and Road, Ongoing:** The National Seashore is currently awaiting a reclamation plan from BNP Petroleum to restore this site's 0.4 acre pad and the associated 0.3 mile road.
- **Construction of Law Enforcement Ranger Station, Ongoing:** During late winter, 2005, the National Seashore's Law Enforcement and Resources Management facility burnt down due to electrical problems. While Resources Management moved operations into the Administration building at Park Headquarters, Law Enforcement moved to a temporary facility in the Malaquite Visitor Center parking lot. The park has secured funding to build a new facility that will be within the footprint of the temporary facility currently in place. Construction is scheduled to begin in 2011.
- **Maintenance Activities, Ongoing:** Throughout the park unit, regularly-scheduled maintenance activities are conducted to ensure visitor health and safety. These activities have involved infrastructure maintenance and upkeep, such as ensuring water quality and access. Regular repairs to roads and concrete ramps have also occurred on a continuing basis. Regular park facility maintenance is continually occurring at the National Seashore. To ensure historic structures remain in good condition, the NPS continually monitors the condition of the Novillo Line Camp to ensure that if any degradation occurs, funding can be sought to stabilize and repair the structure (NPS

2008a). The potential for impacts to soils, vegetation, park operations, and visitor experience exists from maintenance activities.

- **Increasing Demand for Regional Public Lands; Ongoing:** Padre Island National Seashore is the largest stretch of undeveloped public beach within the United States, providing numerous opportunities for access to diverse, affordable outdoor land- and water-based recreation activities. In the State of Texas, only 3% of total land base is open to the public; this reflects a relative dearth of public recreational opportunities compared to other states (NPS 2007c). Increasing demand for regional public lands can affect visitor use and experience.
- **Reclamation of Non-federal mineral sites, Future:** As wells are plugged and abandoned within the park, reclamation of the pads and road would occur. There is potential for half of the sites to be reclaimed within the next five years.
- **Installation of 200 Foot Communications Tower, Future:** The Department of Homeland Security (DHS) has proposed installing a 200 foot communications tower within the park boundary to better support communications and national security. If developed, the National Seashore would dismantle the current tower and move all park communications to the DHS tower.

## Soils, Geology, and Topography

### Intensity Level Definitions

The methodology used for assessing impacts to soils, geology, and topography is based on how the project would affect the features for which the structure is significant. To analyze these impacts, all available information on soils, geology, and topography in the park was compiled from personal observations, consultation with other agencies, approved park documents, NRCS Soil Series and Classification Surveys, and USGS landcover classification data. The thresholds for this impact assessment are as follows:

- Negligible:** Operations would not cause discernible alteration to geologic layers, surficial, and shallow geology. Alteration to soils and geology would be so slight that it would not affect the geology/soils ability to sustain biota, water quality, and hydrology, such that reclamation would not be necessary.
- Minor:** Operations would cause localized or limited alteration to geologic layers, surficial, and shallow geology. Alteration to soils and geology would affect its ability to sustain biota, water quality, and hydrology, such that reclamation would be achievable within 2 years. Mitigation measures, if needed to offset adverse effects, would be simple and successful.
- Moderate:** Operations would cause alteration to geologic layers, surficial, and shallow geology. Alteration to soils and geology would affect its ability to sustain biota, water quality, and hydrology, such that reclamation would be achievable within 3-5 years. Mitigation measures, if needed to offset adverse effects, could be extensive but would likely be successful.
- Major:** Operations would cause substantial alteration to geologic layers, surficial, and shallow geology. Alteration to soils and geology would have a lasting effect on the geology/soil's ability to sustain biota, water quality, and hydrology, such that reclamation could not successfully be achieved. Extensive mitigation measures would be needed to offset any adverse effects and their success could not be guaranteed.

### Impacts of Alternative A (No-Action Alternative)

The no-action alternative would have no effects on soils, geology, and topography because the National Seashore would remain unchanged. In particular, the natural processes of the Gulf beach and its

environment would remain unchanged, thereby not affecting the current form of the beach and its surrounding areas.

### **Impacts of Alternative B (Preferred Alternative)**

The preferred alternative would have minor adverse, direct effects to soils, geology, and topography at the National Seashore. The construction of two new sea turtle patrol cabin under the preferred alternative would consist of ground disturbance, which at its largest extent could include the removal or repositioning of a small area of dunes. Sand transport and dune migration would continue to be an issue, so revegetating and routine maintenance would be ongoing. Construction of the incubation facility in the headquarters compound would take place on ground previously disturbed that has not been reclaimed and no new disturbance would be created. This area currently has an engineered caliche base with a maintained native grass and sand burr lawn covering.

Mitigation measures proposed to offset adverse effects would be simple, including measures to ensure that topsoil is preserved, the Gulf beach and dunes are reshaped into the natural contours, and that there is no unnatural erosion of soils. Excavated material would be reused on site. Construction equipment would be thoroughly pressure washed and checked by park resources staff for cleanliness before entering the park. Appropriate erosion control devices would be used during construction to control any runoff.

All impacts would be site-specific, but could be long-term, lasting the duration of the cabins' and the Headquarters incubation facilities presence. If the cabins were ever removed, reclamation would occur naturally within two years. There would be no indirect impacts to soils, geology, or topography from the preferred alternative.

**Cumulative Effects:** Construction projects continue at the National Seashore, disturbing various amounts of soils, geology, and topography, which can lead to minor amounts of erosion. Rehabilitation efforts and erosion control are standard practice. Additionally, future oil and gas development and visitors traveling off-trail would continue to cause disturbance of soils, geology, and topography. When added to other projects occurring in the park, construction of these two new cabins would cause minor cumulative impacts to soils, geology, and topography.

**Conclusion:** When combined with other past, present, and foreseeable future actions that would result in impacts to soils, geology, and topography, this alternative would contribute a minor impact to the amount of disturbance to the cumulative scenario. Because there would be no adverse impacts to a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation or proclamation of Padre Island National Seashore; (2) key to the natural or cultural integrity of the park; or (3) identified as a goal in the park's general management plan or other relevant NPS planning documents, there would be no impairment of the park's resources or values.

## **Special Status Species**

### **Intensity Level Definitions**

The methodology used for assessing impacts to special status species is based on how the project would affect the features for which the structure is significant. To analyze these impacts, all available information on special status species in the park was compiled from park documents, outside research, and Federal (USFWS) and State (TPWD) species lists. The thresholds for this impact assessment are as follows:

- Negligible:** Impacts would result in a change to a population or individuals of a special status species, but the change would be well within the range of natural fluctuations.
- Minor:** An action that would affect a few individuals of a special status species or have very localized impacts upon their habitat. The change would have barely perceptible consequences to the species or habitat function. Sufficient habitat would remain functional to maintain species viability. Impacts would be outside of critical

reproduction periods. Mitigation measures, if needed to offset adverse effects, would be simple and successful.

**Moderate:** An action that would cause measurable effects on: (1) a relatively small percentage of the species population, (2) the existing dynamics between multiple species (e.g., predator-prey, herbivore-forage, vegetation structure-wildlife breeding habitat), or (3) a relatively large habitat area or important habitat attributes. A population or habitat might deviate from normal levels under existing conditions, but would remain indefinitely viable within the preserve. Response to disturbance by some individuals could be expected, with some negative impacts to feeding, reproduction, or other factors impacting short-term population levels. Mitigation measures, if needed to offset adverse effects, could be extensive, but would likely be successful.

**Major:** An action that would have drastic and permanent consequences for a species population, dynamics between multiple species, or almost all available unique habitats. A population or its habitat would be permanently altered from normal levels under existing conditions, and the species would be at risk of extirpation from the preserve. Frequent responses to disturbance by some individuals would be expected, with negative impacts to feeding, reproduction, or other factors resulting in a decrease in population levels. Extensive mitigation measures would be needed to offset any adverse effects and their success would not be guaranteed.

### Affected Environment

Under the Endangered Species Act of 1973 (ESA), the NPS has responsibility to address impacts to Federally-listed, candidate, and proposed species. Also, NPS policy requires that State-listed species, and others identified as species of management concern by the park, are to be managed in parks in a manner similar to those that are Federally-listed.

A letter from Texas Parks and Wildlife Department (TPWD), dated March 15, 2010, was received by the park with recommendations concerning rare species and lighting of the cabins. The species identified by the TPWD include: brown pelican (*Pelicanus occidentalis*), northern aplomado falcon (*Falco femoralis septentrionalis*), piping plover (*Charadrius melodus*), sheep frog (*Hypopachus variolosus*), south Texas siren (large form) (*Siren sp. 1*), peregrine falcon (*Falco peregrinus*), reddish egret (*Egretta rufescens*), white-faced ibis (*Plegadis chihi*), white-tailed hawk (*Buteo albicaudatus*), spot-tailed earless lizard (*Holbrookia lacerata*), and the succulent plant, roughseed sea-purslane (*Sesuvium trianthemoides*). Of these species, all have been documented within the park except the two amphibian species, sheep frog and south Texas siren. Both of these species are listed as Threatened by TPWD. One other State-listed Threatened species which is not documented as being within the National Seashore, but could be occurring is the scarlet snake (*Cemophora coccinea*).

Padre Island National Seashore does not have any critical habitat designated within the park. According to a March 1, 2010 listing of federally protected species and the Texas Parks and Wildlife Department's website (<http://www.tpwd.state.tx.us/huntwild/wild/species/endang/index.phtml>), 47 listed Federal and/or State protected species potentially occur at the National Seashore (Appendix A). Of these, the 25 species that have actually been documented at Padre Island National Seashore are listed in Table 4 below. The remaining 22 species have either not been documented and/or there is not suitable habitat within the park.

Table 4 – State and Federally-listed species known to occur within Padre Island National Seashore

SPECIES	FEDERAL	STATE
(T – Threatened, E – Endangered, C – Candidate, SOC – Species of Concern, and S/A – Similar in Appearance)		
<b>Reptiles and Amphibians</b>		
American Alligator ( <i>Alligator mississippiensis</i> )	T (S/A)	



SPECIES	FEDERAL	STATE
Atlantic Hawksbill Sea Turtle ( <i>Eretmochelys imbricata</i> )	E	E
Green Sea Turtle ( <i>Chelonia mydas</i> )	T	T
Kemp's Ridley Sea Turtle ( <i>Lepidochelys kempii</i> )	E	E
Loggerhead Sea Turtle ( <i>Caretta caretta</i> )	T	T
Leatherback Sea Turtle ( <i>Dermochelys coriacea</i> )	E	E
Spot-tailed Earless Lizard ( <i>Holbrookia lacerate</i> )		SOC
Texas Horned Lizard ( <i>Phrynosoma cornutum</i> )	SOC	T
Texas Indigo Snake ( <i>Drymarchon melanurus erebennus</i> )		T
Texas Tortoise		T
<b>Birds</b>		
Eastern Brown Pelican ( <i>Pelecanus occidentalis</i> )	Delisted	T
Reddish Egret ( <i>Egretta rufescens</i> )	C	T
White-faced Ibis ( <i>Plegadis chihi</i> )	C	T
Wood Stork ( <i>Mycteria americana</i> )		T
Sooty Tern ( <i>Sterna fuscata</i> )		T
Piping Plover ( <i>Charadrius melodous</i> )	T	T
Bald Eagle (lower 48 states) ( <i>Haliaeetus leucocephalus</i> )		T
Northern Aplomado Falcon ( <i>Falco femoralis septentrionalis</i> )	E	E
Swallow-tailed Kite ( <i>Elanoides forficatus</i> )		T
White-tailed Hawk ( <i>Buteo albicaudatus</i> )		T
American Peregrine Falcon ( <i>Falco peregrines anatum</i> )	Delisted	T
Cerulean Warbler ( <i>Dendroica cerulea</i> )	T	
Black-capped Vireo ( <i>Vireo atricapillus</i> )	E	E
Tropical Parula ( <i>Parula pitiayumi</i> )	C	T
<b>Plants</b>		
Roughseed Sea-purslane ( <i>Sesuvium trianthemoides</i> )	C	SOC
Slender rush-pea ( <i>Hoffmannseggia tenella</i> )	E	

### Impacts of Alternative A (No-Action Alternative)

The no-action alternative would have no effects on special status species because the National Seashore would remain unchanged. In particular, the natural processes of the Gulf beach and its environment would remain unchanged, thereby not affecting the Gulf beach and the species using it.

### Impacts of Alternative B (Preferred Alternative)

The following threatened or endangered species do not occur within the proposed construction site due to unsuitable habitat and therefore would not be affected by the proposed action: American alligator, wood stork, bald eagle, white-tailed hawk, swallow-tailed kite, cerulean warbler, black-capped vireo, and tropical parula. The proposed construction sites locations do not include habitat utilized by these species; however, in the case of an accidental or vagrant species, the impacts caused by construction traffic would be negligible, lasting only as long as required for the vehicle to pass. In addition, due to the rarity of these species occurring at the proposed site locations, impacts from construction activities would be negligible and short term, lasting only the duration for time of construction.

The Cerulean Warbler, Black-capped Vireo, and Tropical Parula are neotropical migratory bird species that may be found at park Headquarters during the spring and fall migration. These species do not reside

at the park for longer than a few days as they rebuild fat stores and gather enough energy to continue migration. If present at park Headquarters, these species are located in the common reed and giant reed vegetation located on the north side of Headquarters, approximately 200 feet away from the proposed construction site. Construction activities traveling to and from the construction site could have an adverse effect by flushing birds resting in the cane as they pass along the entrance road to park Headquarters. This impact would be negligible and short term lasting only as long as it takes the vehicle to pass. In addition, this effect is no different than other NPS or visitor vehicles that enter and leave the park Headquarters. The proposed construction site for the expansion of the Headquarters incubation facilities and the proposed construction site for the sea turtle patrol cabins does not include habitat utilized by these species.

Northern Aplomado Falcons, Swallow-tailed Kites, and White-tailed Hawks do not generally occur in the area of the proposed construction sites. These species forage for small mammals and reptiles located in grassland communities throughout the park. These species are routinely seen foraging along Park Road 22 despite vehicular traffic traveling along this road. Due to their apparent tolerance for vehicles and pedestrian traffic any impacts from construction traffic would be negligible, lasting only as long as required for the vehicle to pass. In addition, due to the rarity of these species occurring at park Headquarters, impacts from construction activities would be negligible.

American Peregrine Falcons are routinely observed within the park during the fall, winter, and spring seasons. For the past several years, a Peregrine Falcon has utilized the park's radio tower located at the Headquarters to roost. This individual has tolerated vehicular traffic, construction, people, and other bird species without vacating the area. Any impact associated with the construction of the new laboratory would be minimal and short term lasting only as long as the activity. Peregrine Falcons may also be found along the Gulf beach, foraging on shorebirds. Construction activities traveling to and from the proposed sea turtle patrol cabins construction site could have an adverse affect by flushing birds resting or foraging as they pass along the Gulf beach. This impact would be negligible and short term lasting only as long as it takes the vehicle to pass. In addition, this effect is no different than other NPS or visitor vehicles that enter and leave the park Headquarters.

Sooty Terns, Reddish Egrets, White-faced Ibis, and Eastern Brown Pelicans can be found loafing or foraging along the Gulf beach. Construction activities traveling to and from the proposed cabin construction sites would have an adverse affect by flushing birds as they pass along the beach. These individual have tolerated vehicular traffic, construction, people, and other bird species without vacating the area. This effect is no different than other NPS or visitor vehicles that enter and leave the Gulf beach. Any impact associated with the construction of two new sea turtle patrol cabins, i.e., displacement, would be minor and short term lasting only as long as the activity.

Spot-tailed Earless Lizards, Texas Horned Lizards, and Texas Indigo Snakes may be found within the proposed location for the Headquarters incubation facility. As this is within a previously disturbed area, within the common area of the park Headquarters with heavy foot traffic, any impact to these two species is considered negligible. These species have tolerated park staff and visitors, and any impact to them through this action, i.e., displacement, is considered short-term lasting only the duration of construction. These species may also be found at the sites for the proposed cabins. To prevent any type of take on these species, a monitor would be onsite for any sightings for these reptile species; therefore, the proposed action would be negligible and short-term, lasting only the duration for time of construction.

The proposed sites have been surveyed for Roughseed Sea-purslane, and no purslanes, of any variety, were located. As an additional measure, a monitor will be onsite during construction to prevent any take of a listed vegetative species. The proposed construction sites, as well as the sites which would be accessed for this proposed action are not suitable for Slender Rush-pea.

The expansion of the Headquarters incubation facility will have little to no effect on special status species because construction will be within a highly modified area that is heavily used by park staff and provides very little suitable habitat for listed or proposed species. NPS determines that the construction of the Headquarters incubation facility would have no effect to State or Federally-listed threatened and endangered species or their habitat within the park. This determination is based upon a combination of factors. First, the habitat in the action area is not suitable for several of the species identified by U.S. Fish and Wildlife Service (i.e., sea turtles, piping plover). Second, there is an absence of observations for many of the species listed in Appendix B (e.g., Ocelot). Third, the construction site and associated activities would have negligible, short-term impacts on few species that possibly could occur within the construction site. Fourth, discussions with the U.S. Fish and Wildlife Service did not identify a need to enter into the consultation process for the Headquarters incubation facility, only the proposed sea turtle patrol cabins.

As a connected action, the ultimate use of the proposed project would be to locate, incubate, research, and protect sea turtles, all of which are State and Federally-listed species. The new cabins would provide many beneficial effects for each sea turtle species occurring within the park. An existing U.S. Fish and Wildlife Recovery Plan for the Kemp's Ridley sea turtle assigns the task of patrolling for nesting sea turtles and incubating sea turtle eggs located within the park. The incubation facilities proposed under this project would enhance and increase the park's ability to protect sea turtle species and assist with the removal of these species from the Endangered Species list. However, a visit with the U.S. Fish and Wildlife Service (USFWS) on March 16, 2010 indicated that since the proposed action of constructing cabins would occur in areas where endangered sea turtles nest, and since the proposed action would be occurring during the nesting sea turtle season, additional consultation under §7 of the Endangered Species Act is necessary (USFWS 2010). The park and the Corpus Christi USFWS field office have initiated formal consultation, where the National Seashore will develop a biological assessment, and the USFWS will develop a biological opinion. Through the consultation process, impacts to nesting sea turtles will be analyzed.

Mitigation (conservation) measures for the proposed cabin construction to offset adverse effects would be simple, including measures to ensure that (1) fewer miles are driven along the Gulf beach, by placing a travel trailer on the construction site, thereby reducing access miles driven on the Gulf beach; (2) using trained sea turtle monitoring escorts to lead convoys for any large trucks or heavy equipment traversing the Gulf beach, (3) controlling noise and light, with construction activities to occur only between the time of 30 minutes prior to dawn and 30 minutes after dusk; and (4) stockpiling construction materials up and off the beach, thereby allowing for nesting sea turtles uninhibited access to the Gulf beach and dunes. As for expanding the size of the incubation facility, the proposed action of expanding the facility would take place outside of the sea turtle nesting season to avoid impacts to eggs within the current incubation facility. Further detail of mitigation measures will be covered under the *Conservation Measures* section within the National Seashore's biological assessment and the USFWS' biological opinion for this proposed project.

To fulfill requirements of Section 7 of the Endangered Species Act ([16 U.S.C. Section 1536\(a\)\(2\)](#)), the National Seashore is currently preparing a biological assessment to insure that proposed action is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species. Therefore, the analysis for special status species (i.e., sea turtles and piping plovers) is being carried forward, and the conclusive results, with findings from the NPS and the USFWS, for special status species will be presented within this project's Finding of No Significant Impact (FONSI).

**Cumulative Effects:** Daily park operations and future construction projects continue at the National Seashore, disturbing various species, which can lead to minor impacts to special status species. Additionally, future oil and gas development, visitor activities, and beach driving will continue to cause disturbance to special status species. When added to other projects occurring in the park, construction of

these two new cabins would cause minor cumulative impacts to the National Seashore's special status species.

**Conclusion:** When combined with other past, present, and foreseeable future actions that would result in impacts to special status species, this alternative would contribute a minor impact to the amount of disturbance to the cumulative scenario. Because there would be no adverse impacts to a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation or proclamation of Padre Island National Seashore; (2) key to the natural or cultural integrity of the park; or (3) identified as a goal in the park's general management plan or other relevant NPS planning documents, there would be no impairment of the park's resources or values.

## Visitor Use and Experience

### Intensity Level Definitions

The methodology used for assessing impacts to visitor use and experience is based on how construction of two new cabins along the Gulf of Mexico shoreline would affect the visitor, including levels of use, recreational experience, and public health and safety considerations. The impact on the ability of the visitor to experience a full range of park resources was analyzed by examining resources mentioned in the purpose and significance statements for the park. The construction of the Headquarters incubation facilities expansion was not used because the area is not open to park visitors and not visible from accessible vantage points. The thresholds for this impact assessment are as follows:

- Negligible:** Visitors would not be affected or changes in visitor use and/or experience would be below or at the level of detection. Any effects would be short-term. The visitor would not likely be aware of the effects associated with the alternative.
- Minor:** Changes in visitor use and/or experience would be detectable, although the changes would be slight and likely short-term. The visitor would be aware of the effects associated with the alternative, but the effects would be slight.
- Moderate:** Changes in visitor use and/or experience would be readily apparent and likely long-term. The visitor would be aware of the effects associated with the alternative, and would likely be able to express an opinion about the changes.
- Major:** Changes in visitor use and/or experience would be readily apparent and have substantial long-term consequences. The visitor would be aware of the effects associated with the alternative, and would likely express a strong opinion about the changes.

### Impacts of Alternative A (No-Action Alternative)

Under the no-action alternative there would be no change; therefore, as the intensity levels are written above, there would be no effect. However, it can be said, the current backcountry beach of the National Seashore poses a threat to down-island travelers. There could be a direct, long-term, minor to moderate adverse effect on visitor use and experience as a result of visitors' safety while traveling through the backcountry beach. The backcountry beach is remote and visitors would be removed from any emergency medical service or law enforcement, which could pose a threat during times of sickness, injury, inclement weather, or when a dangerous situation arises. While true with any remote setting, in the event of a visitor becoming sick or injured, there is potential for a long duration of time to elapse before the visitor can safely find help or assistance. Visitors need to plan accordingly prior to venturing into the National Seashore's backcountry. Up to 60 miles removed from the nearest source of freshwater, with nearly no available mobile phone service for the entire 60-mile stretch, a poorly planned trip can result in serious injury or death.

Visually, there would be no direct or indirect adverse effects, because the physical features of the National Seashore would remain unchanged. In particular, the Gulf beach would not change, and visitors

would continue to use the beach in its current form. The visual resources of the area would remain unchanged because no new cabins would be constructed.

### **Impacts of Alternative B (Preferred Alternative)**

Visually, implementation of the preferred alternative would have a direct, long-term (duration of the cabins), minor adverse effect to visitor experience. There could be some aesthetic value lost for the project area; however, with nearly 66 miles of Gulf beach for visitors to experience, and with only the Malaquite Visitor Center, the park's communication tower, an information kiosk, and the existing cabin at the 39-mile mark as the only other structures visible from the Gulf beach, there are many miles to experience without sight of any park structures. Therefore, the addition of two small cabins along the Gulf beach would only slightly affect how visitors use or experience the park. To mitigate for this, the location, size, and aesthetics of the new cabins were chosen to blend with the natural surroundings; however, changes to the visual environment would be noticeable. The expansion of the incubation facility at the headquarters compound would not be visible from the Gulf beach or from Park road 22. New construction will be similar in height, color and construction to existing buildings and will not draw the eye of the casual observer.

Direct, temporary, minor adverse impacts to visitor use and experience would result from construction activities. The proposed turtle patroller cabin area is currently used by visitors, and during construction, portions of this area would be limited to visitor use. Noise from construction activities would also adversely affect visitor use and experience; however, all construction-related impacts would be temporary and cease following construction activities. During construction, there would also be additional vehicles being driven along the Gulf beach by park staff. To help mitigate this, a travel trailer would be temporarily set up at the project area, providing overnight accommodations while minimizing additional beach traffic.

The headquarters incubation facility would be constructed in an area that is restricted to visitors and any additional noise created by construction would be beyond the hearing range of visitors. Staff at the headquarters compound may experience some increase in noise level during construction and the availability of parking may be reduced to maintain a safety zone around construction materials and machinery.

As part of the preferred alternative, the existing cabin would be decommissioned by the Division of Sea Turtle Science and Recovery and gifted to the Division of Visitor Safety and Resource and Protection. Because of this action, there would be greater opportunities for visitors during a time of emergency need to either find a law enforcement ranger or locate other park staff at one of the new cabins who could either provide first aid, shelter, or communications, thereby providing additional assistance. As a result, this action would have a minor to moderate beneficial effect on visitor use and experience.

**Cumulative Effects:** Any construction activity has the potential to affect visitor use and experience. The construction of the two sea turtle patrol cabins would have an adverse effect on the visitor experience as a result of noise and additional vehicle traffic along the Gulf beach. Projects such as road improvements, prescribed fire, exotic vegetation management, and general park maintenance have had or could have an adverse effect on visitor use and experience because of the inconvenience of construction noise, dust, and possible park enclosures. Ultimately, however, these actions would have a beneficial effect on visitor use and experience because of the potential for long-term improvements to the human health and safety aspects of the National Seashore. Additionally, future oil and gas development, visitor activities, and beach driving would continue to cause disturbance to visitor use and experience. When added to other projects occurring in the park, construction of these two new cabins would cause minor cumulative impacts to the National Seashore's visitor use and experience.

**Conclusion:** Under the preferred alternative, the visual changes to the area from construction of a new building would have a minor adverse effect on visitor experience because while the changes would be

readily noticeable, actual change to visitor use or experience would be slight. Construction disturbances (noise and additional beach traffic) would have a minor, temporary adverse effect to visitor use and experience. The construction of two sea turtle patrol cabins would have a minor to moderate beneficial effect on visitor use and experience. Cumulatively, this alternative would have a minor beneficial effect to visitor use and experience because ultimately this project combined with other past, present, and reasonably foreseeable future actions would benefit a number of visitor resources.

## Park Operations

### Intensity Level Definitions

Implementation of a project can affect the operations of a park such as the number of employees needed; the type of duties that need to be conducted; when/who would conduct these duties; how activities should be conducted; and administrative procedures. For the purpose of this analysis, the human health and safety of park employees is also evaluated. The thresholds for this impact assessment are as follows:

- Negligible:** Park operations would not be affected or the effect would be at or below the lower levels of detection, and would not have an appreciable effect on park operations.
- Minor:** The effect would be detectable, but would be of a magnitude that would not have an appreciable adverse or beneficial effect on park operations. If mitigation were needed to offset adverse effects, it would be relatively simple and successful.
- Moderate:** The effects would be readily apparent and would result in a substantial adverse or beneficial change in park operations in a manner noticeable to staff and the public. Mitigation measures would probably be necessary to offset adverse effects and would likely be successful.
- Major:** The effects would be readily apparent and would result in a substantial adverse or beneficial change in park operations in a manner noticeable to staff and the public, and be markedly different from existing operations. Mitigation measures to offset adverse effects would be needed, could be expensive, and their success could not be guaranteed.

### Impacts of Alternative A (No-Action Alternative)

The no-action alternative would have a minor to moderate, direct, adverse effect on park operations at Padre Island National Seashore. The existing sea turtle patrol cabin would continue to be used; therefore, the expansion of facilities, providing overnight accommodations for additional staff, would not occur. Backcountry patrollers would continue to work out of the current patrol cabin, located approximately at the park's 39-mile mark. This location poses the inability to monitor for sea turtle nest efficiently by having the starting and ending points for the daily surveys in non-optimum locations, resulting in lost time, unnecessary fuel and maintenance expenses, and additional carbon emissions.

The existing patrol cabin would continue to provide overnight accommodations for the backcountry sea turtle patrollers and would also continue to provide controlled space where sea turtle eggs are incubated in a predator excluding facility; however, the backcountry sea turtle patrollers would continue to have to travel long distances to reach this controlled incubation facility.

As identified by a NPS advisory board, patrolling the backcountry beach for sea turtles carries risk for the sea turtle patroller. Accidents do occur when driving in the deep sand and uneven terrain of the Gulf beach at the National Seashore. Heat and fatigue are factors of working during the summer months in south Texas, and border related issues and criminal behavior can all pose threats to the backcountry sea turtle patrollers. Under the no-action alternative, the existing patrol cabin would continue to provide shelter and refuge from a dangerous event; however, this would be isolated to the current location of the cabin. In time, this could have a minor to moderate, direct, adverse effect on the employees and operations.

**Cumulative Effects:** Any project that occurs at the National Seashore has an effect on park operations; therefore, most of the actions listed in the cumulative scenario in the introduction of this chapter would have some degree of effect on employees and park operations. Planning projects such as the development of a fire management plan and planning for improvements to the visitor center typically involve the majority of the National Seashore's staff to contribute their expertise and assistance. Resource management projects such as exotic vegetation management or endangered species management would primarily involve resources staff. Building construction would primarily involve the maintenance staff. Visitor contact, interpretation, and safety activities usually involve rangers and interpretive specialists. Under this alternative, there would be a minor to moderate effect on park operations associated with the current and future use of the existing sea turtle patrol cabin; therefore, there would be a moderate beneficial effect on park operations when considered with other past, present, and reasonably foreseeable future actions.

**Conclusion:** Under this alternative, the impact of the inability of being able to provide overnight accommodations for additional staff, the inefficiency for starting and ending daily patrol efforts, the additional distance needed to be driven for depositing sea turtle eggs, and the potential for a dangerous situation arising on the backcountry beach, would have a direct minor to moderate adverse effect on park operations and employee health and safety. Cumulatively, these effects would have a moderate beneficial impact on park operations when considered with other past, present, and reasonably foreseeable future actions.

### **Impacts of Alternative B (Preferred Alternative)**

The construction of two new sea turtle patrol cabins and the expansion of the headquarters incubation facilities under the preferred alternative would provide working environment for National Seashore employees that meet current health and safety standards. Under this alternative, backcountry sea turtle patrollers would begin and end their monitoring efforts from each of the proposed cabins. Distributed at two different latitudes of the park, efficiency of the sea turtle program would be maximized because patrollers would not have to overlap other survey sections to reach their scheduled survey section. Division of Sea Turtle Science and Recovery staff would have appropriate spaces to work within the expanded incubation facilities and staff would have greater control over incubation conditions by being able to control environmental conditions at different stages of egg development.

For the purpose of this analysis, the human health and safety of park employees is also evaluated. Under this alternative, there would be potentially up to three locations within the backcountry beach where park staff could find shelter or refuge from inclement weather, fatigue, or a dangerous situation arising along the Gulf beach. In the event of an emergency, park staff could potentially find other park staff, rendezvous, or if necessary, find communications and first aid supplies at one of the cabins. As a result, these impacts could ultimately have a minor to moderate beneficial effect on the health and safety of park employees. ..

Under this alternative, the proposed cabins would also provide for improved working environments for employees of the Division of Sea Turtle Science and Recovery. The new cabins would provide improved work areas for employees, including office space, and improved kitchen and bathroom facilities. The effect would be detectable, and would likely have an appreciable beneficial effect on park operations; therefore, this alternative would have a minor to moderate benefit on park operations.

Other changes related to the construction of two sea turtle patrols cabins would also include the decommissioning of the existing sea turtle patrol cabin and gifting it to the Division of Visitor Safety and Resource Protection. This would provide a backcountry station for law enforcement staff, accommodating down-island activities with overnight provisions

During construction, a construction crew would use a temporary trailer for overnight accommodations at the project locations. This action would expedite construction time by removing the associated travel



time to project locations, while also mitigating the amount of park traffic and associated impacts of beach driving. This would temporarily disrupt employee efficiency to a minor degree. The typical work load for employees would also be increased during implementation of this project from the need to finalize project plans and complete construction. Should this alternative be carried forward, normal workloads and patterns are expected to return once construction is completed. These adverse effects would be minor and short-term, lasting only the duration of the planning and construction period.

One last element to think of when considering impacts to park operations is the funding for this project. It could be considered this project would make use of funds that could be use elsewhere, therefore causing impact to some other are where these funds could be applied. The total cost for this proposed action would be \$400,000 for both of the cabins, as well as \$400,000 for the lab expansion. Because much of this funding would come in the form of any combination of grant funds, base funds, donations, and restitution funding from previous disasters, such as oil spills, it is too difficult at this time to determine what would be affected by the use of these funds. Since the park does consider the management of nesting sea turtle species as its number one resource issue, any monies spent for this action would be consistent with the mission of Padre Island National Seashore.

Cumulative Effects: Any project that occurs at the National Seashore has an effect on park operations; therefore, most of the actions listed in the cumulative scenario in the introduction of this chapter would have some degree of effect on employees and park operations. Planning projects such as the development of a fire management plan and planning for improvements to the visitor center typically involve the majority of the National Seashore's staff to contribute their expertise and assistance. Resource management projects such as exotic vegetation management or endangered species management would primarily involve resources staff. Building construction would primarily involve the maintenance staff. Visitor contact, interpretation, and safety activities usually involve rangers and interpretive specialists. Under this alternative, park operations associated with the current and future use of the new sea turtle patrol cabins would be improved to a moderate degree, which would cumulatively have a moderate beneficial impact to park operations when considered with other past, present, and reasonably foreseeable future actions.

Conclusion: Construction of two new sea turtle patrol cabins and expansion of the headquarters incubation facilities under the preferred alternative would have a minor to moderate benefit on employees at the National Seashore because the new cabins and incubation facilities would provide a safer and healthier work environment, as well as provide an improved work place. There would be a direct, adverse effect to park operations from planning and construct the cabins; however, this displacement of park staff would be short-term, lasting only the time necessary for planning and constructing of the cabins. Cumulatively, the improvements associated with this alternative would have a moderate beneficial effect on park operations when considered with other past, present, and reasonably foreseeable future actions.

## Floodplains

### Intensity Level Definitions

To analyze the impacts on floodplains, all available information on floodplains in the park was compiled from personal observations, consultation with other agencies, approved park documents, and Federal Emergency Management Agency (FEMA) floodplains data.

The methodology used for assessing impacts to floodplains is based on how the project would affect the features for which the structure is significant. The thresholds for this impact assessment are as follows:

**Negligible:** Impacts could result in a change to floodplains and values or increase flood hazards, but the change would not be of any measurable or perceptible consequence.

- Minor:** Impacts could result in a change to floodplains, and values or increase flood hazards, but the change would be of little consequence. Operations would have minimal risk and have few mitigation measures.
- Moderate:** Impacts could result in a change to floodplains, and values or increase flood hazards; the change would be measurable and consequential. Mitigation measures, if needed to offset adverse effects, could be extensive, but would likely be successful.
- Major:** Impacts would result in a noticeable change to floodplains, and values or increase flood hazards; the change would result in a severely adverse or substantially beneficial impact. Extensive mitigation measures would be needed to offset any adverse effects, and their success would not be guaranteed.

### **Affected Environment**

Padre Island National Seashore is located on a largely undeveloped barrier island in southern Texas, along the Gulf of Mexico. The barrier island is a dynamic system subject to many geologic forces and climatic events. The island was formed by accretion, and is continually being reshaped by the actions of wind, rain, ocean currents, waves, and storm events. The National Seashore's landscape changes from broad, white, fine-sand beaches on the Gulf side, to ridges of fore-island sand dunes, to grassy interior upland flats dotted with smaller dunes, ephemeral ponds, and freshwater wetlands. The Laguna Madre, back-island dunes, and wind tidal flats that merge with the waters of the Laguna Madre define the western portion of the National Seashore.

Fore dunes of the park provide protection from hurricanes and tropical storms for the island's backcountry and the Texas mainland. The dunes are fragile and once impacted, can easily be destroyed through erosion and wind action. A line of dunes forming parallel to the beach vary in height from less than six feet to approximately 50 feet above sea level. This primary dune line extends the entire length of Padre Island National Seashore, broken only in a few places where storm wash over channels have occurred, or road cuts have been constructed.

Executive Order 11988, *Floodplain Management*, requires all federal agencies to avoid construction within the 100-year floodplain unless no other practicable alternative exists. According to the Padre Island National Seashore Final Oil and Gas Management Plan/Environmental Impact Statement (PAIS, 2000), and FEMA floodplains maps, most of the park and all of the project area lies within the 100-year floodplain for the Gulf of Mexico and the Laguna Madre. The exception is the higher fore dune areas located along the Gulf beach shoreline. The park is subjected to periodic flooding from tropical storm events, hurricanes, and severe rainfall. The hurricane season begins June 1 and continues through November 30. Storm surge levels can range from 9 to 12 feet above sea level (Weise and White 1980).

The park would provide a draft floodplains statement of findings to the various state and federal agencies required by the NPS's Director's Order and Procedural Manual #77-2: Floodplain Management.

### **Impacts of Alternative A (No-Action Alternative) on Floodplains**

Under Alternative A, No Action, the sea turtle patrol cabins and Headquarters incubation facility expansion would not be built, resulting in no new impacts on floodplains. However, impacts on floodplains in the analysis area would continue as a result of park, commercial, and recreational vehicle use, oil and gas operations, and current park development.

Existing vehicle use, oil and gas operations, and park development would continue to impact floodplains within the analysis area. Since the entire park is located within the 100-year floodplain, with the exception of a few of the fore dunes, there are no practicable alternatives to locating these operations outside the 100-year floodplains. Vehicles associated with recreational use of the park, park operations, and ongoing oil and gas operations may leak fluids that could be transported via surface waters thereby affecting floodplain values.

Existing park development including the Malaquite Visitor Center and the Bird Island Basin, park administrative offices, residences, access roads, and water treatment facility continue to impact floodplains within the analysis area. As nearly the entire park lies within floodplains, no practicable alternative exists for locating these facilities outside of the 100-year floodplain. In the event of a major tropical storm or significant flooding event, existing park facilities and infrastructure could alter surface flow thereby affecting floodplain values. However, given the minimal acreage impacted from current park development and the range of storm surges associated with severe tropical storms, it is not likely that the floodplain values would be appreciably affected.

Existing uses, including park infrastructure, oil and gas operations, and vehicle usage of the park, would result in localized, long-term, negligible, adverse impacts on water resources and floodplains within the analysis area.

**Cumulative Effects:** Under Alternative A, No Action, cumulative impacts on and floodplains throughout the park would result from the continuing operation of 13 nonfederal oil and gas operations within the park on 358 acres, park development on 400 acres, future drilling and production of up to 16 wells projected in the park's reasonably foreseeable development scenario on up to 241.75 acres (NPS 2001b). As some oil and gas operations are developed in the park, others would be plugged, abandoned, and reclaimed; therefore, impacts would be distributed over time. A recent reduction in the size of the Malaquite Visitors Center parking lot by approximately 2.3 acres occurred in 2008. Other activities that could impact water resources and floodplains park-wide include prescribed fires, future park developments, routine maintenance of park roads, park, commercial and recreational vehicle use, and recreational activities.

Current park development has a long-term disturbance of approximately 400 acres of park habitat within the 100-year floodplains. Existing and future development of oil and gas access roads and pads within the park could result in altering surface water flow and locally increasing soil erosion. Leaks and spills from oil and gas operations could be localized to widespread, with minor to major, impacts on floodplains. Spills from oil and gas operations or tankers in the Laguna Madre or Gulf of Mexico could be transported by water into the park and cause widespread impacts and result in long-term clean-up and remediation.

Cumulative impacts on floodplains throughout the park are expected to be localized near developments, with short to long-term, negligible to minor, adverse impacts; but in the event of a spill from offshore oil and gas operations or tankers, impacts could be widespread, with negligible to moderate, adverse impacts on the park's floodplains, primarily along the park's shorelines.

**Conclusion:** Under Alternative A, No Action, the two new sea turtle patrol cabins and the Headquarters incubation facility expansion would not be constructed, resulting in no new impacts on floodplains. Existing vehicle use on the Gulf of Mexico beach and access roads, continuing operation of pipelines and wells, and continuing operation and use of park facilities and development would result in localized, long-term, negligible to minor, adverse impacts on floodplains within the analysis area. Cumulative impacts from existing and future oil and gas operations in the park, park developments and operations, and visitor uses are expected to result in short to long-term, negligible to minor, adverse impacts localized near developments throughout the park. However, in the event of a spill from offshore oil and gas operations or tankers, impacts could be long-term and widespread, ranging from negligible to moderate, adverse impacts. No impairment to floodplains would result from implementation of this alternative.

### **Impacts of Alternative B (Preferred Alternative) on Floodplains**

Under Alternative B, Proposed Action, the two new sea turtle patrol cabins would be constructed, resulting in the long-term disturbance of approximately 0.15 acres within the 100-year floodplain. The expansion of the incubation facilities in the headquarters compound would take place on the engineered caliche surface so would not create new impacts to the floodplain. Existing impacts on floodplains within the analysis area would be similar to Alternative A, No Action, with localized, long-term, negligible to

minor, adverse impacts associated with existing park development, vehicle use, and the continued operation of oil and gas pipelines and wells.

There is no practicable alternative to locating the proposed cabins or incubation facilities expansion outside the 100-year floodplain because the entire park, with the exception of the higher dunes, is located within floodplains. Impacts associated with the construction of the new cabins could result in minor changes in surface hydrology due to the presence of structure where one did not exist before. Mitigation measures designed to minimize the risk of erosion would be implemented to reduce the impact on floodplain values stemming from sedimentation. The proposed facility would be elevated to a lowest floor elevation of 11 feet, to mitigate structure investment within the Gulf of Mexico Base Flood Elevation of 9-10 feet (FEMA 1983). Flooding risk associated with the new cabins is reduced given that previously documented storm surges were less than the elevated height of the new cabins. In addition, the minimal impact of 0.15 acres is negligible compared to the 740 acres currently developed in the park. Alternative B, Proposed Action would result in a localized, long-term, negligible, adverse impact on floodplains.

Cumulative Effects: Under Alternative B, Proposed Action, cumulative impacts on floodplains throughout the park would be similar to those described under No Action, with impacts from existing and future oil and gas operations in the park, park developments and operations, and visitor uses, resulting in short to long-term, negligible to minor, adverse impacts localized near developments throughout the park; however, in the event of a spill from offshore oil and gas operations or tankers, impacts could be long-term and widespread, ranging from negligible to moderate, adverse impacts to the park's floodplains.

Conclusion: Under Alternative B, Proposed Action, the two sea turtle patrol cabins and the expansion of the incubation facilities would be constructed, resulting in the long-term occupancy of 100-year floodplains. Constructing the new cabins would result in a localized, long-term, negligible, adverse impact on floodplains. Cumulative impacts from existing and future oil and gas operations in the park, park development and operations, and visitor uses are expected to result in short to long-term, negligible to minor adverse impacts, localized near developments throughout the park; however, in the event of a spill from offshore oil and gas operations or tankers, impacts could be long-term and widespread, ranging from negligible to moderate adverse impacts. No impairment to floodplains would result from implementation of this alternative.

## CONSULTATION AND COORDINATION

### Internal Scoping

Internal scoping was conducted by an interdisciplinary team of professionals from Padre Island National Seashore. The interdisciplinary team members met at various occasions during 2009 and 2010 to discuss the purpose and need for the project; various alternatives; potential environmental impacts; past, present, and reasonably foreseeable projects that may have cumulative effects; and possible mitigation measures. The team also gathered background information and discussed public outreach for the project. Over the course of the project, team members have conducted individual site visits to view and evaluate the proposed construction sites.

### External Scoping

External scoping was conducted to inform the public about the proposal to construct the two new sea turtle patrol cabins at Padre Island National Seashore and to generate input on the preparation of this environmental assessment. This effort was initiated February 20, 2010 with the distribution of a scoping letter, which was bulk-mailed to over 500 people on the National Seashore's mailing list, offering 30 days to comment on the project.

During the scoping period, 20 responses were received from the public through letters, telephone calls, and visitor contact. Nearly all (17) responses were in favor of the proposed project and supportive of the sea turtle recovery program. One response challenged the Kemp's ridley sea turtle recovery plan—a plan created by the National Marine Fisheries Service and the U.S. Fish and Wildlife Service.

### Agency Consultation

In accordance with the Endangered Species Act, the National Park Service contacted the U.S. Fish and Wildlife Service with regards to federally listed special status species, and in accordance with National Park Service policy, the National Seashore also contacted the Texas Parks and Wildlife Department with regards to state-listed species. The results of these consultations are described in the *Special Status Species* section in the *Purpose and Need* chapter.

In accordance of Section 10 of the Rivers and Harbor Act and Section 404 of the Clean Water Act the National Park Service contacted the U.S. Army Corps of Engineers in regards to jurisdictional wetlands. The results of this consultation are described in the *Wetlands* section in the *Environmental Consequences* chapter.

In accordance with Section 106 of the National Historic Preservation Act, the National Park Service provided the State Historic Preservation Officer at the Texas Historic Commission an opportunity to comment on the effects of this project. The results of this consultation are described in the *Archeological Resources* section in the *Environmental Consequences* chapter.

### Native American Consultation

The Tonkawa Tribe of Oklahoma is the only known Native American tribe that has potential lineage to the Native Americans that once inhabited Padre Island. They were contacted at the beginning of this project to determine if they had any concern over ethnographic resources in the project area, and asked if they wanted to be involved in the environmental compliance process. There were no objections received from the Tonkawa Tribe to the proposed project.

## Environmental Assessment Review and List of Recipients

The environmental assessment will be released for public review in September 2010. To inform the public of the availability of the environmental assessment, the National Park Service will publish and distribute a letter or press release to various agencies, tribes, and members of the public on the park's mailing list, as well as place an ad in the local newspaper. Copies of the environmental assessment will be provided to interested individuals, upon request. Copies of the document will also be available for review at the National Seashore's visitor center and on the internet at <http://parkplanning.nps.gov/pais>.

The environmental assessment is subject to a 30-day public comment period. During this time, the public is encouraged to submit their written comments to the National Park Service address provided at the beginning of this document. Following the close of the comment period, all public comments will be reviewed and analyzed, prior to the release of a decision document. The National Park Service will issue responses to substantive comments received during the public comment period, and will make appropriate changes to the environmental assessment, as needed.

## Interdisciplinary Team

From the National Park Service, Padre Island National Seashore, Texas:

- Joe Escoto, Superintendent
- Donna Shaver, Chief, Division of Sea Turtle Science and Recovery
- Jim Lindsay, Chief, Division of Science and Resources Management
- Deanna Mladucky, Chief, Division of Visitor and Resource Protection
- Larry Turk, Chief, Division of Facilities Management
- Cynthia Rubio, Biologist, Division of Sea Turtle Science and Recovery
- Jennifer Shelby-Walker, Biologist, Division of Sea Turtle Science and Recovery
- Shauna Ertolacci, Biologist, Division of Sea Turtle Science and Recovery
- Travis Clapp, GIS Technician, Division of Science and Resources Management
- Wade Stablein, NEPA/106 Specialist, Division of Science and Resources Management

From the National Park Service, Intermountain Regional Office, Denver, CO:

- Chris Turk, Regional Environmental Quality Coordinator
- Laurie Domler, Regional NEPA/106 Specialist
- Cheryl Eckhardt, Regional NEPA/106 Specialist
- Jacquelin St. Clair, Archeologist
- Michael Martin, Hydrologist (Floodplain Specialist)
- Kevin Noon, Natural Resource (Wetland) Specialist

## List of Preparers

From the National Park Service, Padre Island National Seashore, Corpus Christi, Texas:

- Wade Stablein, Project Lead, Writer, NEPA, NHPA, Biology
- Travis Clapp, GIS, Maps
- Jim Lindsay, Geology, Paleontology, Project Review

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## APPENDIX A - IMPAIRMENT

National Park Service's *Management Policies, 2006* require analysis of potential effects to determine whether or not actions would impair park resources. The fundamental purpose of the national park system, established by the Organic Act and reaffirmed by the General Authorities Act, as amended, begins with a mandate to conserve park resources and values. National Park Service managers must always seek ways to avoid, or to minimize to the greatest degree practicable, adversely impacting park resources and values.

However, the laws do give the National Park Service the management discretion to allow impacts to park resources and values when necessary and appropriate to fulfill the purposes of a park, as long as the impact does not constitute impairment of the affected resources and values. Although Congress has given the National Park Service the management discretion to allow certain impacts within park, that discretion is limited by the statutory requirement that the National Park Service must leave park resources and values unimpaired, unless a particular law directly and specifically provides otherwise. The prohibited impairment is an impact that, in the professional judgment of the responsible National Park Service manager, would harm the integrity of park resources or values, including the opportunities that otherwise would be present for the enjoyment of these resources or values. An impact to any park resource or value may, but does not necessarily, constitute an impairment, but an impact would be more likely to constitute an impairment when there is a major or severe adverse effect upon a resource or value whose conservation is:

- necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park;
- key to the natural or cultural integrity of the park; or
- identified as a goal in the park's general management plan or other relevant NPS planning documents.

An impact would be less likely to constitute an impairment if it is an unavoidable result of an action necessary to pursue or restore the integrity of park resources or values and it cannot be further mitigated.

The park resources and values that are subject to the no-impairment standard include:

- the park's scenery, natural and historic objects, and wildlife, and the processes and conditions that sustain them, including, to the extent present in the park: the ecological, biological, and physical processes that created the park and continue to act upon it; scenic features; natural visibility, both in daytime and at night; natural landscapes; natural soundscapes and smells; water and air resources; soils; geological resources; paleontological resources; archeological resources; cultural landscapes; ethnographic resources; historic and prehistoric sites, structures, and objects; museum collections; and native plants and animals;
- appropriate opportunities to experience enjoyment of the above resources, to the extent that can be done without impairing them;
- the park's role in contributing to the national dignity, the high public value and integrity, and the superlative environmental quality of the national park system, and the benefit and inspiration provided to the American people by the national park system; and
- any additional attributes encompassed by the specific values and purposes for which the park was established.

Impairment findings are not necessary for visitor use and experience, socioeconomics, public health and safety, environmental justice, land use, and park operations, because impairment findings related back to park resources and values, and these impact areas are not generally considered park resources or values

according to the Organic Act, and cannot be impaired in the same way that an action can impair park resources and values.

Impairment may result from National Park Service activities in managing the park, visitor activities, or activities undertaken by concessioners, contractors, and others operating in the park. The NPS's threshold for considering whether there could be impairment is based on whether an action would have major (or significant) effects. The following analysis evaluates whether or not the applicable resources carried forward in this document would be impaired by the preferred alternative.

## APPENDIX B - STATE AND FEDERALLY-LISTED SPECIES FOR PADRE ISLAND NATIONAL SEASHORE

### Federally Listed Endangered and Threatened Species

Gulf Coast Jaguarundi	(E)	<i>Herpailurus yagouaroundi cacomitli</i>
Ocelot	(E)	<i>Leopardus pardalis</i>
West Indian manatee (=Florida)	(E)	<i>Trichechus manatus</i>
Coues' rice rat	(C)	<i>Oryzomys couesi aquaticus</i>
Green sea turtle	(T)	<i>Chelonia mydas</i>
Loggerhead sea turtle	(T)	<i>Caretta caretta</i>
Hawksbill sea turtle	(E w/CH‡)	<i>Eretmochelys imbricata</i>
Kemp's Ridley sea turtle	(E)	<i>Lepidochelys kempii</i>
Leatherback sea turtle	(E w/CH‡)	<i>Dermochelys coriacea</i>
Black-spotted newt	(SOC)	<i>Notophthalmus meridionalis</i>
Rio Grande lesser siren	(SOC)	<i>Siren intermedia texana</i>
Texas horned lizard	(SOC)	<i>Phrynosoma cornutum</i>
American alligator	(TSA)	<i>Alligator mississippiensis</i>
Whooping crane	(E w/CH)	<i>Grus americana</i>
Bald eagle	(T)	<i>Haliaeetus leucocephalus</i>
Piping plover	(T w/CH)	<i>Charadrius melodus</i>
White-faced Ibis	(SOC)	<i>Plegadis chihi</i>
Brown Pelican	(E)	<i>Pelecanus occidentalis</i>
Northern Aplomado Falcon	(E)	<i>Falco femoralis septentrionalis</i>
Audubon's Oriole	(SOC)	<i>Icterus graduacauda audubonii</i>
Cerulean Warbler	(SOC)	<i>Dendroica cerulea</i>
Reddish Egret	(SOC)	<i>Egretta rufescens</i>
Sennett's Hooded Oriole	(SOC)	<i>Icterus cucullatus sennetti</i>
Texas Botteri's Sparrow	(SOC)	<i>Aimophila botterii texana</i>
Texas Olive Sparrow	(SOC)	<i>Arremonops rufivirgatus rufivirgatus</i>
Tropical Parula	(SOC)	<i>Parula pitiayumi nigrilora</i>
Mountain Plover	(P/T)	<i>Charadrius montanus</i>
Brownsville Common Yellowthroat	(SOC)	<i>Geothlypis trichas insperata</i>
Bailey's ballmoss	(SOC)	<i>Tillandsia baileyi</i>
Roughseed sea-purslane	(SOC)	<i>Sesuvium trianthemoides</i>
South Texas ambrosia	(E)	<i>Ambrosia cheiranthifolia</i>
Black lace cactus	(E)	<i>Echinocereus reichenbachii</i> var. <i>albertii</i>
Slender rush-pea	(E)	<i>Hoffmannseggia tenella</i>
Welder machaeranthera	(SOC)	<i>Psilactis heterocarpa</i>
Texas Ayenia	(E)	<i>Ayenia limitaris</i>
Lilia de los llanos	(SOC)	<i>Echeandia chandleri</i>
Los Olmos tiger beetle	(SOC)	<i>Cicindela nevadica olmosa</i>
Maculated manfreda skipper	(SOC)	<i>Stalligia maculosus</i>

### State Listed Threatened and Endangered Species

Texas horned lizard	(T)	<i>Phrynosoma cornutum</i>
Indigo snake	(T)	<i>Drymobius corias</i>

Scarlet snake	(T)	<i>Cemophora coccinea</i>
Sheep frog	(T)	<i>Hypopachus variolosus</i>
South Texas siren (large form)	(T)	<i>Siren</i> sp. 1
Loggerhead sea turtle	(T)	<i>Caretta caretta</i>
Green sea turtle	(T)	<i>Chelonia mydas</i>
Atlantic hawksbill sea turtle	(E)	<i>Eretmochelys imbricata</i>
Kemp's ridley sea turtle	(E)	<i>Lepidochelys kemp</i>
Leatherback sea turtle	(E)	<i>Dermochelys coriacea</i>
Bald Eagle	(T)	<i>Haliaeetus leucocephalus</i>
Northern Aplomado Falcon	(E)	<i>Falco femoralis septentrionalis</i>
Southwestern Willow Flycatcher	(E)	<i>Empidonax trailii extimus</i>
Eastern Brown Pelican	(E)	<i>Pelecanus occidentalis</i>
Piping Plover	(T)	<i>Charadrius melodus</i>
Reddish Egret	(T)	<i>Egretta rufescens</i>
White-Faced Ibis	(T)	<i>Plegadis chihi</i>
Wood Stork	(T)	<i>Mycteria Americana</i>
Swallow-Tailed Kite	(T)	<i>Elanoides forficatus</i>
White-Tailed Hawk	(T)	<i>Buteo albonotatus</i>
American Peregrine Falcon	(E)	<i>Falco peregrinus anatum</i>
Black-Capped Vireo	(E)	<i>Vireo atricapillus</i>
Tropical Parula	(E)	<i>Parula ptiayumi nigrilora</i>

#### Fishes

No listed species documented at this time within Padre Island National Seashore.

#### Marine Mammals

All marine mammals, excluding the West Indian Manatee, only occur in the Padre Island National Seashore when stranded due to illness or death.

#### Index

Statewide or area-wide migrants are not included, except where they breed or occur in concentrations. The whooping crane is an exception; an attempt is made to include all confirmed sightings on this list.

- E = Species in danger of extinction throughout all or a significant portion of its range.
- T = Species which is likely to become endangered within the foreseeable future throughout all or a significant portion of its range.
- C = Species for which the Service has on file enough substantial information to warrant listing as threatened or endangered.
- CH = Critical Habitat (in Texas unless annotated ‡)
- P/E = Species proposed to be listed as endangered.
- P/T = Species proposed to be listed as threatened.
- TSA = Threatened due to similarity of appearance.
- SOC = Species for which there is some information showing evidence of vulnerability, but not enough data to support listing at this time.
- ‡ = CH designated (or proposed) outside Texas
- ~ = Protection restricted to populations found in the "interior" of the United States. In Texas, the least tern receives full protection, except within 50 miles (80 km) of the Gulf Coast.