

National Park Service
Gulf Islands National Seashore

**Fort Pickens Pier and Ferry Service
Environmental Assessment**

July 28, 2011

**Prepared for the U.S. Department of the Interior, National Park Service,
Gulf Islands National Seashore**

by

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EXECUTIVE SUMMARY

Gulf Islands National Seashore (GUIS) is a unit of the National Park Service (NPS) located in Florida (Escambia, Santa Rosa, and Okaloosa Counties) and Mississippi (Jackson and Harrison Counties), and was established as a National Seashore in 1971. The Fort Pickens Area of GUIS is located near Pensacola Beach, Escambia County, Florida, and covers over 1,700 acres of Santa Rosa Island, a long, narrow barrier island. Fort Pickens is a pentagonal historic U.S. military fort on Santa Rosa Island, and the Fort Pickens Area represents one of the greatest concentrations of historic coastal defense fortifications in the country. In addition to unique cultural artifacts, the Fort Pickens Area also contains diverse marine and island ecosystems.

GUIS proposes to accommodate a passenger ferry service to the Fort Pickens Area of the park by designing and constructing a pier in the Fort Pickens Area of GUIS. The purpose of the proposed action is to provide an alternative means of visitor access, in addition to the existing roadway. Establishing a passenger ferry pier at Fort Pickens will augment existing vehicular access, which can be and has been susceptible to interruption due to major impacts to roadways caused by various tropical storm events. This Environmental Assessment (EA) analyzes the Preferred Alternative and other proposed alternatives and their impacts on the environment.

GUIS was established “to preserve for public use and enjoyment certain areas possessing outstanding natural, historic and recreational values.” Since before the Seashore was established, access to the Fort Pickens Area has been exclusively by established roadway or private vessel. Hurricane Ivan and subsequent storms significantly damaged the Fort Pickens Road and prevented its use from September 2004 to May 2009. Extensive interagency coordination, rerouting of the roadway, planning, design, environmental compliance, contracting, and eventual road reconstruction took place during this period. The only access to Fort Pickens during this period was by foot, bicycle, authorized commercially operated over-sand shuttle or boats, or private boat.

The need for water transportation/ferry service at Fort Pickens has been identified as far back as 30 years in the park’s 1978 General Management Plan (GMP) (NPS, 1978), and is addressed in the new GMP, currently under development. In addition to filling the transportation need, the proposed ferry service would also provide a maritime recreational experience for those without access to a private boat, which is not currently offered within the Florida district of GUIS.

Under Alternative A, GUIS would continue current management operations and conditions. In this case, “No Action” means that the proposed ferry pier would not be constructed. The major public means of access to Fort Pickens would be by vehicle, via the Fort Pickens Road, and additional means of transportation would include private boats, bicycles, and walking. Although this alternative would not meet project objectives, it will be retained for full evaluation to satisfy the requirements of the National Environmental Policy Act.

Under Alternative B, the existing fishing pier at Fort Pickens would be retrofitted to allow for docking of boats. Retrofits to this pier would include gangways to floating docks for the loading and unloading of pedestrians onto the ferry and other vessels, potential upgrade of existing pilings where the boats would be docking, and the addition of pilings to protect the existing pier. The pier retrofits would be constructed from a floating barge using floating turbidity barriers, emergency response spill kits, and other appropriate aquatic construction best management practices (BMPs). The ferry pier retrofit would be designed to withstand or sustain Category 3 or 4 storm damage, and provide far more reliable access to the island for visitors.

Under Alternative C, GUIIS would construct a new fixed pier approximately 260 feet long by 20 feet wide, possibly incorporating a floating, attached dock for other small vessels. The pier would be located approximately 1,250 feet east of the existing fishing pier. The pier would be oriented approximately perpendicular to the shoreline and existing seawall. The proposed pier would tie into the existing seawall and would access existing walking trails that connect to the seawall and guide visitors to the activity areas within Fort Pickens. As with Alternative B, the pier would be constructed from a floating barge using floating turbidity barriers, emergency response spill kits, and other appropriate aquatic construction BMPs. The ferry pier would be designed to withstand or sustain Category 3 or 4 storm damage, and provide far more reliable access to the island for visitors.

Under Alternative D, GUIIS would construct a new floating ferry dock approximately 260 feet long by 20 feet wide. As with Alternative C, the pier would be approximately perpendicular to the shoreline and existing seawall and would be located approximately 1,250 feet east of the existing fishing pier. This dock would provide pedestrian access to a ferry or other vessels. A gangway would be designed to span from the seawall to the new floating dock. The proposed pier would tie into the existing seawall and would access existing walking trails that connect to the seawall and guide visitors to the activity areas within Fort Pickens. The floating dock would be constructed from a floating barge using floating turbidity barriers, emergency response spill kits, and other appropriate aquatic construction BMPs.

The three action alternatives and the no-action alternative were evaluated by determining which of the alternatives would best meet the purpose and need for providing ferry service to the Fort Pickens Area. Alternative C would best meet the project purpose and need of the four alternatives evaluated while still minimizing environmental impacts; therefore, it is the NPS-preferred alternative. Alternative C would provide the widest range of benefits to GUIIS visitors, the natural and cultural environments, and GUIIS maintenance, with minimal environmental degradation. Alternative A would not meet the purpose and need of the proposed project. Alternative B would meet the need of providing ferry access, but it would conflict with existing visitor use by interfering with existing fishing pier activities. Alternative D would also meet the need of providing ferry access, but the floating pier would not be as stable as the fixed pier and would be more likely to be damaged during tropical storms and hurricanes, which would limit its longevity and overall usefulness for emergency access.

The EA is being distributed to other agencies and interested organizations and individuals for their review and comment. The public comment period for this document will last for 30 days after the document has been distributed to the public.

HOW TO COMMENT ON THIS ENVIRONMENTAL ASSESSMENT

Comments on this Environmental Assessment are welcome and will be accepted for 30 days after the document is distributed to the public. Comments/responses to the material may be submitted either over the Internet or in writing.

Please include your name and address on any correspondence to be sure that you are included on our mailing list. Commenters are encouraged to use the Internet if possible through the NPS Planning, Environment, and Public Comment (PEPC) website.

The Internet comment form is available at:

<http://parkplanning.nps.gov/GUIS/>

Written comments may be sent to:

National Park Service
Gulf Islands National Seashore
Environmental Assessment for Fort Pickens Ferry Pier Comments
1801 Gulf Breeze Parkway
Gulf Breeze, FL 32563

Important Notice: 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. While 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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ACRONYMS

ACHP	Advisory Council on Historic Preservation
ADA	Americans with Disabilities Act
AQA	Air Quality Act
BA	Biological Assessment
BMP	Best Management Practice
CAA	Clean Air Act
CCCL	Coastal Construction Control Line Program
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CWA	Clean Water Act
DO	Director's Order
EA	Environmental Assessment
ECAT	Escambia County Area Transit
EFH	Essential Fish Habitat
EIS	Environmental Impact Statement
ELMR	Estuarine Living Marine Resources
ERC	Environmental Regulation Commission
ESA	Endangered Species Act
EO	Executive Order
FAC	Florida Administrative Code
FDEP	Florida Department of Environmental Protection
FLFWC	Florida Fish and Wildlife Conservation Commission
FNAI	Florida Natural Areas Inventory
FONSI	Finding of No Significant Impact
FS	Florida Statutes
GMP	General Management Plan
GUIS	Gulf Islands National Seashore
JCP	Joint Coastal Permit
mm	Millimeter
MMSC	Marine Mammal Stranding Center
NAAQS	National Ambient Air Quality Standard
NAS	Naval Air Station
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service
NRHP	National Register of Historic Places
NRV	Natural Range of Variability
NWI	National Wetlands Inventory
OFW	Outstanding Florida Water
PEPC	Planning, Environment, and Public Comment
PL	Public Law
PMIS	Project Management Information System
ppm	Part per Million
SHPO	State Historic Preservation Officer

ACRONYMS (Continued)

SOF	Statement of Findings
SPCC	Spill Prevention, Control, and Countermeasures
SSC	Species of Special Concern
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USC	U.S. Code
USDOJ	U.S. Department of Justice
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VMT	Vehicle Miles Traveled

1. INTRODUCTION, PURPOSE AND NEED FOR ACTION

INTRODUCTION

This “Introduction, Purpose and Need for Action” section describes why the National Park Service (NPS) is proposing to design and construct a ferry pier in the Fort Pickens National Historic District of Gulf Islands National Seashore (GUIS) which is primarily to accommodate a ferry service to the Fort Pickens Area and secondarily to allow NPS boats to access Fort Pickens.

GUIS is located in Florida (Escambia, Santa Rosa, and Okaloosa Counties) and Mississippi (Jackson and Harrison Counties), and was established as a National Seashore in 1971. The Fort Pickens Area of GUIS is located near Pensacola Beach, Escambia County, Florida, and covers over 1,700 acres of Santa Rosa Island, a long, narrow barrier island (Figure 1-1). Fort Pickens is a pentagonal historic U.S. military fort on Santa Rosa Island. The Fort Pickens Area represents one of the greatest concentrations of historic coastal defense fortifications in the country. It is named after American Revolutionary War hero Andrew Pickens. The fort was completed in 1834 and remained in use by the U.S. military until 1947. In addition to unique cultural artifacts, the Fort Pickens Area also contains diverse marine and island ecosystems. While many visitors come to the Fort Pickens Area to experience the historic or natural resources, many also come for the excellent recreational opportunities. Fishing, beachcombing, bicycling, hiking, swimming, surfing, sunbathing, and camping are accommodated in the Fort Pickens Area.

The diverse attractions in the Fort Pickens Area and its proximity to multiple population centers – Gulf Breeze, Navarre, Pensacola Beach, the City of Pensacola, and the Pensacola Naval Air Station (NAS) – help make the Fort Pickens Area a major local and regional tourist attraction. When fully operational, the Fort Pickens Area hosts over 700,000 visitors per year and generates more than \$1.3 million annually in park revenue. However, since hurricanes in 2004 and 2005 damaged Fort Pickens Road, access was limited from 2004 to 2009 to hikers, bikers, private boats, and a few small commercial providers, reducing visitation substantially during that time period. Vehicular access for visitors to the Fort Pickens Area was restored in May 2009 when the roadway reconstruction project was finally completed.

PURPOSE AND NEED FOR THE ACTION

“Purpose” is a statement of goals and objectives that NPS intends to fulfill by taking action. “Need” is a discussion of existing conditions that need to be changed, problems that need to be remedied, decisions that need to be made, and policies or mandates that need to be implemented. In other words, it explains why GUIS is proposing this action at this time. “Objectives” are goals the park must accomplish for the actions taken to be considered a success.

Purpose

The purpose of the proposed action is to provide an alternative means of visitor access, in addition to the existing roadway, and to meet the NPS obligation under the Organic Act (16 U.S. Code [USC] § 1 et seq.) to provide opportunities for visitor use and enjoyment of the national parks while protecting park resources unimpaired for future generations. The action is also intended to fulfill the Seashore’s enabling legislation, which directs NPS to preserve for public use and enjoyment certain areas possessing outstanding natural, historic and recreational values (Public Law [PL] 91-660 [1971]), and to preserve Fort Pickens for the inspiration and benefit of the people of the United States (16 USC § 461). Establishing a passenger ferry pier at Fort Pickens will augment existing vehicular access, which can be and has been susceptible to interruption due to major impacts to roadways caused by various tropical storm events.

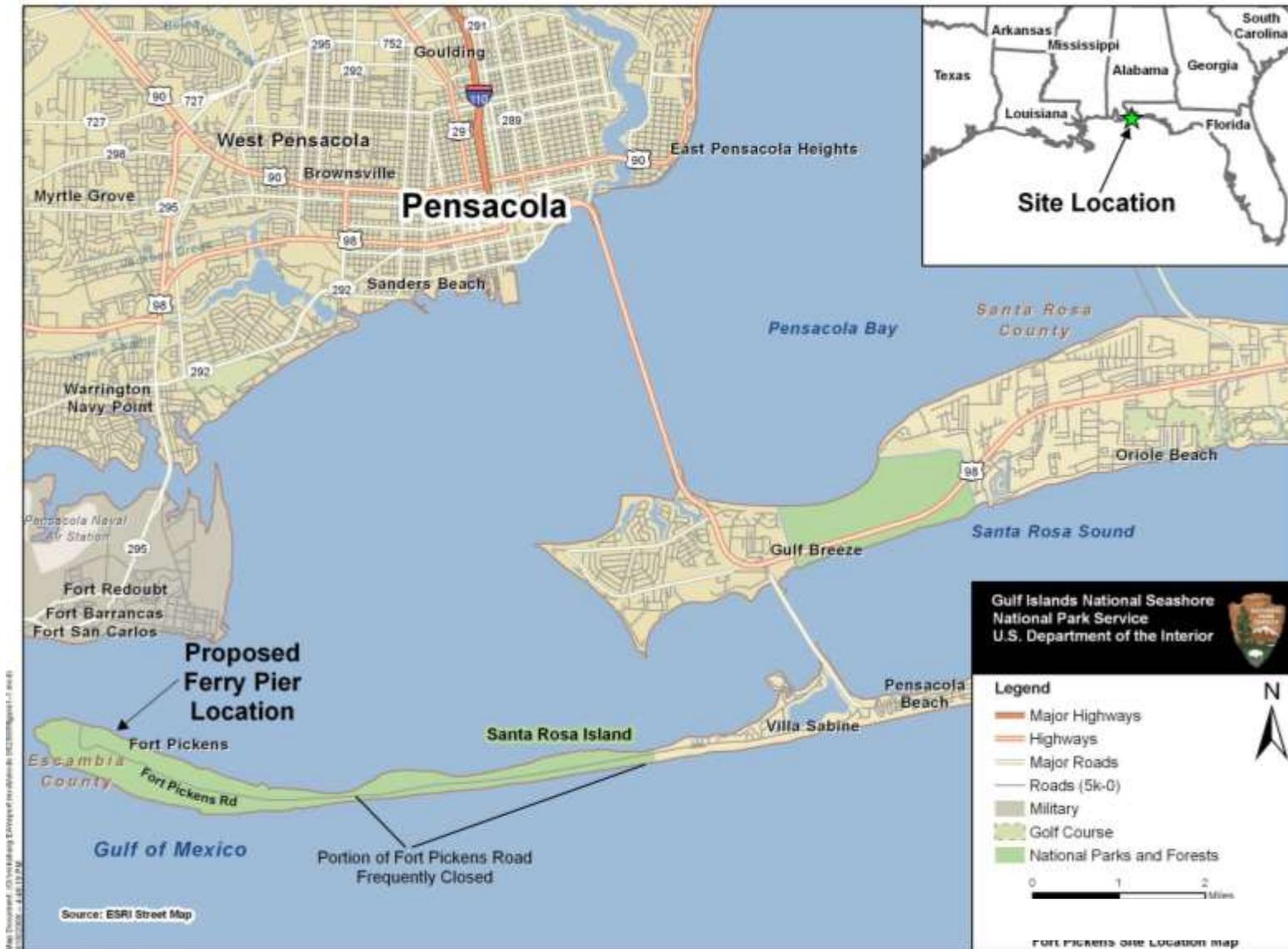


Figure 1-1 Fort Pickens Site Location Map

Need

GUIS was established “to preserve for public use and enjoyment certain areas possessing outstanding natural, historic and recreational values.” Since before the Seashore was established, access to the Fort Pickens Area has been exclusively by established roadway or private vessel. Hurricane Ivan and subsequent storms significantly damaged the Fort Pickens Road and prevented it being used between the period September 2004 and May 2009. Extensive interagency coordination, rerouting of the roadway, planning, design, environmental compliance, contracting, and eventual road reconstruction took place during this period. The only access to Fort Pickens during this period was by foot, bicycle, authorized commercially operated over-sand shuttle or boats, or by private boat.

The need for water transportation/ferry service at Fort Pickens has been identified as far back as 30 years ago in the Park’s 1978 General Management Plan (GMP) (NPS, 1978), and is also addressed in the new GMP, currently under development. In addition to filling the transportation need, the proposed ferry service would also provide a maritime recreational experience for those without access to a private boat, which is not currently offered within the Florida district of GUIS.

High visitation levels, especially during weekends, major national holidays, and during the summer vacation period, lead to traffic congestion on Fort Pickens Road, and the parking capacity of the area is frequently exceeded. Providing water access to the park would help GUIS and the region to better manage these issues successfully by offering an alternative means to access Fort Pickens, a key destination area within the park that is highly sought after by local, national, and international visitors.

The Fort Pickens Area/Gateway Community Alternative Transportation Study completed in February 2009 (NPS, 2009e) addresses congestion and parking issues and ensures continuing public and employee access to the park in the event of future storm damage to the new road. The document also outlines measures to help the park to improve congestion management and reduce parking demand, reduce vehicle miles traveled (VMT) within the park, create public and private partnerships, protect natural resources (such as nesting sea turtles and shorebirds) from transportation-related operations, and enhance visitor experience. Passenger ferry operations to/from the mainland and barrier islands in the Mississippi District of the Park (where no vehicular or pedestrian access is available) have proven to be very popular.

Objectives

The National Environmental Policy Act (NEPA) requires that any decision made with respect to the proposed action be based on analysis of a reasonable range of alternatives that are likely to meet project objectives. Objectives are specific statements of purpose that describe what must be accomplished in order for a project to be considered a success. All alternatives selected for detailed analysis must meet these objectives to a large degree, as well as fulfill the project purpose and need for action. Objectives for the design and construction of the Fort Pickens pier must be grounded in the park’s enabling legislation, as well as its purpose, significance, and mission goals. The objectives must also be compatible with direction and guidance provided by the park’s GMP (NPS, 1978).

The specific objective in taking this action is to re-establish a broader range of public access to the Fort Pickens Area. As a general matter, it is the objective of GUIS to be a leader in stewardship, science, resources (natural and cultural) management, education, and recreation. It is the goal of the action proposed in this Environmental Assessment (EA) to fulfill the park’s purpose by providing public access; use and enjoyment of the Fort Pickens Area; and the natural, historic, and recreational values it provides.

The following objectives were developed to guide preparation of the EA for the proposed Fort Pickens passenger ferry pier.

Park Operations

Under park operations, the project objective is to provide alternative NPS access and reduce traffic to the Fort Pickens Area. When the Fort Pickens Road is open, traffic congestion has the potential to negatively impact emergency and law enforcement access along Fort Pickens Road. A ferry pier to support ferry operation would potentially reduce the number of vehicles, allowing improved access for emergency vehicles. In addition, emergency transportation via boat would be available from the pier, and the ferry can also aid in evacuations during major storm events. In the four years preceding the road closure (2000-2003), all reported collisions involving more than one vehicle occurred in parking areas. A reduction in the number of drivers searching for parking would likely result in fewer vehicle collisions in the Fort Pickens Area.

Visitor Use and Experience

Under visitor use and experience, the project objective is to provide an alternative, efficient, and safe means of access to the Fort Pickens Area, as well as to provide a water-based recreational experience for visitors. The establishment of a ferry pier would support the Seashore's GMP (NPS, 1978) objectives of encouraging visitor use and promoting efficient visitor transportation, and goals of improving visitor satisfaction, visitor safety, and improving visitor understanding and appreciation. Ferry access from downtown Pensacola to Fort Pickens would shorten the travel distance between the city, including the Fort Barrancas Area, and Fort Pickens Area from 36 miles via car to 6 miles via the proposed ferry. Visitor safety would be improved by providing additional Law Enforcement and emergency service boat access to the Fort Pickens Area. The ferry service operating in the Mississippi District of GUIIS is very popular with visitors, and a ferry pier constructed to facilitate ferry service in the Florida District would be expected to similarly raise visitor interest and satisfaction. The ferry service would also provide a maritime recreational experience for those without access to a private boat, which is not currently offered within the Florida district of GUIIS. Similarly, the City of Pensacola, Pensacola Chamber of Commerce, as well as other local entities have embraced the prospect of establishing passenger ferry service to Fort Pickens as part of overarching community goals to enhance visitor experience and opportunities to the greater Pensacola, FL, area.

Natural Resources

Under natural resources, the project objective is to provide the desired alternative access to the Fort Pickens Area of GUIIS while minimizing disturbance to the coastal ecosystem within the park. The establishment of a ferry pier would support GMP (NPS, 1978) management objectives to minimize disturbance of natural landforms, vegetation, and wildlife habitat; to protect and perpetuate GUIIS's natural resources; and to allow for the natural processes by storms and hurricanes that ultimately determine barrier island shape and movement. The construction of a ferry pier would support GUIIS's Centennial Strategy goals to reduce environmental impacts of GUIIS operations, inspire an environmental conscience in Americans through an Alternative Transportation Plan, and put in operation a Fort Pickens Alternative Transportation System. In addition, the ferry pier would allow for an additional means of access to the Fort Pickens Area from both Pensacola Beach, FL, and the City of Pensacola, FL, should the existing road be damaged and rendered impassable by storm erosion and channelization (which tends to direct high impulses of water during storm surges that temporarily bisects the island, causing the sections of roadway within its path to wash out) in the future.

Cultural Resources

Under cultural resources, the project objective is to provide the desired alternative access to the Fort Pickens Area of GUIs, to provide a historical perspective of maritime access to the Fort Pickens Area, and to minimize disturbance to the historical resources within the park. The establishment of a ferry pier supports the purpose of the Seashore to recognize, preserve, and interpret the national historical significance of Fort Pickens; GMP (NPS, 1978) management objectives to provide primary interpretive emphasis on natural and historic systems; and the goal of enhancing visitor understanding and appreciation. Ferry access to the Fort Pickens Area would provide a unique interpretive opportunity to approach the Seashore in a historically accurate mode and support an understanding of the coastal fortifications and unique ecosystems of Pensacola Bay.

PURPOSE AND SIGNIFICANCE OF GUIs

Congress authorized GUIs as a unit of the NPS in the Act of January 8, 1971 (PL 91-660). The purpose of GUIs is to preserve and interpret for public use and enjoyment the Gulf Coast barrier islands and bayou ecosystem and its system of coastal defense fortifications.

The significance of GUIs stems in large part from the following factors:

- The Seashore contains one of the most complete collections of publicly accessible structures relating to the evolution of seacoast defense in the United States, representing a continuum of development from early Spanish exploration and colonization through World War II.
- The Seashore contains publicly accessible natural and scenic barrier islands, beach, dune, and water resource areas in close proximity to major population centers.
- Protected and undeveloped natural resource areas provide habitat for several endangered species in diverse ecosystems, as well as stop-over habitat for migratory birds and critical nursery habitat for marine flora and fauna. These areas serve as an enclave for complex terrestrial and aquatic plant and animal communities which characterize the northern Gulf Coast and fully illustrate to the public the natural processes which shape these unique areas.
- The land and marine archaeological resources located throughout the Seashore represent a continuum of human occupation in a coastal environment and are important in enhancing the public knowledge of the past, including interactions between the earliest settlers and original inhabitants of this area of the Gulf Coast.
- The Seashore provides a benchmark to compare conditions in developed areas of the Gulf Coast to natural areas.
- The Seashore possesses a rare combination of recreational opportunities on publicly accessible undeveloped barrier islands, of which two are designated wilderness areas.

RELATIONSHIP TO OTHER PROJECTS AND PLANS

The following projects, plans, policies, and actions could affect the alternatives being considered in this EA. The actions proposed in the Fort Pickens Area/Gateway Community Alternative Transportation Study (NPS, 2009e) would be in accordance with ongoing and future plans for management of GUIs. These plans and policies have been considered in the development of the alternatives, were used to provide background information for this plan, and were also considered in the analysis of cumulative impacts.

Other Projects

U.S. Navy/U.S. Army Corps of Engineers (USACE) Dredging of Lower Pensacola Harbor Federal Navigation Channel. An EA was prepared by USACE Mobile District in August 2009. This project involved the ongoing dredging and disposal activities in the NAS Pensacola channel to maintain a safe, navigable channel for boat traffic. Dredge material will be disposed of in designated Perdido Key beach renourishment and nearshore disposal areas. Dredging to maintain the channel is done every 2 to 3 years (USACE, 2009).

City of Pensacola, Community Maritime Park. The City of Pensacola has proposed constructing a Community Maritime Park as a waterfront development near the South Palafox Pier (one of the proposed docking sites being considered for a GUIs ferry service). The facility would be an approximately \$70,000,000 investment and could include a University of West Florida maritime museum, a baseball stadium, and entertainment and dining facilities. The project is in the long-range planning stages (City of Pensacola, 2009).

GUIs, Repair of Fort Pickens Road, Spring 2009. This project was completed in 2009. The Fort Pickens Roadway was heavily damaged by 2004/2005 storm events, including Hurricane Ivan. An EA was prepared for the project, and a Finding of No Significant Impact (FONSI) was signed on September 19, 2008. The roadway repair was completed in Spring 2009.

GUIs, Repair of Fort Pickens Road, Fall 2009. This project was initiated in 2009. Fort Pickens Road was damaged again in November 2009 by Tropical Storm Ida. The main roadway has since been repaired, but additional work to complete shoulder repairs is scheduled to occur between September 1, 2010 and March 1, 2011.

GUIs Planning Documents

General Management Plan

The GMP (NPS, 1978) is the park-wide plan for meeting the management objectives of GUIs, which provides a long-range strategy for resources management, visitor use, and development at a level of detail that will facilitate implementation of the proposed actions. GUIs is currently updating its GMP. The previous GMP adopted in 1978 discussed ferry connections and shuttles at length. The updated, preliminary draft GMP addresses four action alternatives for GUIs, all of which include a ferry and shuttle service. The Final GMP/Environmental Impact Statement (EIS) for GUIs is expected to be completed in late 2010.

Resource Management Plan

The purpose of the Resource Management Plan (NPS, 1998a) is to provide a framework in which to carry out the programmatic requirements of natural and cultural resources management, and to develop a sustainable program whereby these mandates can be accomplished into the indefinite future. It also serves to facilitate implementation of those actions and activities involving natural and cultural resources in a manner which complies with the spirit and intent of the enabling and regulatory legislation, and the provisions of the approved GMP (NPS, 1978) and Development Concept Plan (NPS, 1980). The management objectives established for natural and cultural resources, as detailed by the GMP (NPS, 1978), are embodied in the following resource management goals:

- Preserve and Perpetuate the Indigenous Natural Resources and Ecological Processes
- Preserve the Historic and Prehistoric Resources

- Cooperate with USACE on Navigation and Coastal Erosion Projects
- Provide for Public Hunting and Fishing
- Comply with Appropriate Federal Legislation

SCOPING AND PUBLIC INVOLVEMENT

As part of the planning process intended to support decisions regarding management of GUIs, NPS prepared a Fort Pickens Area/Gateway Community Alternative Transportation Study in 2009 (NPS, 2009e). The Fort Pickens Area/Gateway Community Alternative Transportation Study examined the feasibility of alternative modes of transportation in the Fort Pickens Area, centering on variations and combinations of water-based transportation and land-based shuttle systems. Vehicle access to the Fort Pickens Area via Fort Pickens Road would continue to be the primary means of access. The study found that there were several viable alternative transportation options that would benefit GUIs visitors and the residents and business owners in the surrounding community. A Public Information open house meeting conducted on September 10, 2008, provided information regarding the alternatives being examined in the transportation study and provided the opportunity for the public to provide comments and ideas regarding alternative transportation modes and the study. There is widespread support for ferry service in Pensacola Bay, and establishing Fort Pickens as one of the destinations is key to the success of that ferry service. The City of Pensacola completed a study in 2000 to document the economic viability of a ferry service in the Pensacola Bay area (Bourne Consulting, 2000). In the study, Fort Pickens is identified as one of four primary ferry sites that would be important to the success of a passenger ferry. Providing ferry service to GUIs would better accommodate visitation and enhance the visitor experience, while also reducing impacts to natural resources. Information collected from these initial meetings and studies was sufficient to meet NPS requirements for the public scoping process. Additionally, early coordination letters were sent to the U.S. Fish and Wildlife Service (USFWS), the State Historic Preservation Officer (SHPO), the National Oceanic and Atmospheric Administration (NOAA), and the Florida Fish and Wildlife Conservation Commission (FLFWC) to ask for their input on the proposed project. These letters and agency responses are included in Appendix C.

ISSUES AND IMPACT TOPICS

“Issues” often describe concerns or obstacles to achieving a park goal (NPS, 2001b). As part of developing the Alternative Transportation Plan in 2008-2009 (NPS, 2009e), issues were identified by NPS through internal, public, and agency scoping.

The park identified the following issues:

- *Visitor experience and aesthetics.* Would the proposed project take visitors to places they wish to see and experience? Would the project preserve the scenic qualities of the Fort Pickens Area?
- *Environmental impacts.* Would the proposed project have significant environmental impacts on the geology, wildlife, vegetation, or other natural, cultural, and recreational resources of the Fort Pickens Area? Would the proposed project allow natural barrier island processes to continue unabated?
- *Health and safety of the public.* Would the proposed project provide a safe, convenient, and rewarding recreational experience? Does it provide an additional means of access to Fort Pickens that is less susceptible to storm damage?
- *Impacts to Park Operations.* Is the proposed project sustainable? Can it be maintained adequately by the park’s maintenance staff; and would it provide suitable access after future storms?

Impact Topics

“Impact topics” are a more refined set of concerns derived from the issues. Impact topics are the resources or subjects of concern that could be affected by actions discussed in the range of alternatives. These impact topics were identified from federal laws and regulations, issues that were brought up by the public, and NPS knowledge of scarce or easily affected resources. A brief rationale for the selection of each impact topic is provided below, as well as the rationale for dismissing specific impact topics from further consideration. The impact topics are used to examine the extent to which a resource would be affected by the actions of a particular alternative. The following are the impact topics that are further analyzed in detail in Sections 3 and 4:

Geologic Resources and Geohazards

Geology is addressed because there would be surface disturbance during construction of infrastructure. The construction of a pier may influence how geologic features and processes are affected by tides, currents, ship wakes, overwash, sea level rise, wind, and other factors.

Air Quality

NPS strives to perpetuate the best possible air quality because air pollution impacts ecological health, scenic views, human health, and visitor enjoyment, even at very low levels (NPS, 2007a). The Pensacola Urbanized Area is expected to slip into noncompliance with national air quality standards once the new system of calculating air pollution levels is in effect. The proposed ferry pier could have potential impacts to air quality from the operation of a regional ferry service.

Soundscapes

In accordance with the NPS *2006 Management Policies* (NPS, 2006a) and Director’s Order- (DO-) 47, *Soundscape Preservation and Noise Management* (NPS, 2000), an important objective of the NPS mission is the preservation of natural soundscapes associated with NPS units. 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 with the physical capacity for transmitting natural sounds. Natural sounds occur within and beyond the range of sounds that humans can perceive, and these sounds can be transmitted through air, water, or solid materials. The frequencies, magnitudes, and duration of human-caused sound considered acceptable vary among NPS units. Acceptance levels of noise for each park unit are generally greater in developed areas and less in undeveloped areas. The proposed ferry pier could have potential indirect impacts to soundscapes from the operation of a regional ferry service.

Water Quality

The Fort Pickens Area was included in the “Outstanding Florida Waters” program (Chapter 62-302.700, Florida Administrative Code [FAC]). The ferry pier and service could provide beneficial and adverse impacts to water quality. Beneficial impacts might include potentially reducing vehicle traffic, thus reducing contaminants in road runoff. Adverse impacts could include the potential introduction of pollutants into Pensacola Bay from the ferry operation.

Floodplains and Wetlands

Floodplains. Executive Order (EO) 11988 (*Floodplain Management*) requires NPS and other federal agencies to evaluate the likely impacts of actions in floodplains. The objective of EO 11988 is to avoid, to the extent possible, the long- and short-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct or indirect support of floodplain development wherever

there is a practicable alternative. NPS DO-77-2 (*Floodplain Management*) (NPS, 2003a) and Procedural Manual #77-2 (NPS, 2004) provide NPS policies and procedures for complying with EO 11988.

Floodplains are addressed because each of the action alternatives call for development in designated floodplain areas, and it is NPS policy to avoid direct and indirect support of development and actions in areas that may be prone to periodic inundation. When, as here, it is not practicable to locate or relocate development or incompatible human activities to a site outside and not affecting the floodplain, NPS would prepare and approve a Statement of Findings (SOF), in accordance with procedures described in NPS Procedural Manual #77-2 (*Floodplain Management*) (NPS, 2004). A prepared floodplain SOF is incorporated as Appendix B of this document.

Wetlands. EO 11990 (*Protection of Wetlands*) requires NPS and other federal agencies to evaluate the likely impacts of their actions on wetlands. The objectives of EO 11990 are to avoid, to the extent possible, the long-term and short-term adverse impacts associated with the occupancy, modification, or destruction of wetlands. NPS (2006a) *Management Policies* and DO-77-1 (*Wetland Protection*) (NPS, 2002) reiterate the importance of safeguarding wetlands. NPS Procedural Manual #77-1 (NPS, 2008a) provides agency-specific procedures for complying with the EO. Wetlands are addressed because some of the activities described in the alternatives would occur within wetland areas near Fort Pickens. Because the proposed pier is a water-dependent activity and the proposed wetland impact is less than 0.1 acre, the project is exempt from the need for a wetland SOF.

Protected Species

There are species of concern found in the vicinity of the proposed pier (sea oats, manatee, gulf sturgeon, bottlenose dolphin, etc.), and the proposed project could impact species of special concern. Fewer vehicles would lessen the interruption of the delicate habitats and ecosystems found on the barrier islands and reduce wildlife crossing deaths. In particular, an anticipated decrease in vehicular traffic would lower the mortality rate of four federally listed species of sea turtles (Atlantic Loggerhead, Green, Kemp's ridley, and Leatherback) and four federally listed shorebirds (Piping Plover, Southeastern Snowy Plover, Least Tern, and Black Skimmer). However, while unlikely, pier construction and additional boat traffic from ferry operation may have adverse impacts to mating species.

The U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) recently designated critical habitat essential to the conservation of the Gulf sturgeon. Nearshore waters within one nautical mile of the mainland from Pensacola Pass to Apalachicola Bay and the Perdido Key area and the area north of Santa Rosa Island, which includes the Fort Pickens Area, were designated as critical habitat, as they are believed to be important migratory pathways between Pensacola Bay and the Gulf of Mexico for feeding and genetic exchange.

Important Wildlife and Wildlife Habitat

Wildlife is addressed because the island is home to a number of terrestrial species and because construction activities could take place during shore bird or sea turtle nesting season. The park also contains unique or important fish and wildlife habitat. NPS would coordinate with USFWS, NMFS, and state agencies, as appropriate, to address any wildlife impacts or other environmental matters of concern associated with the proposed action.

The ferry pier would preserve natural resources by providing a docking alternative to beaching on the shore, which if done improperly or in the wrong area, can cause damage to the fragile shallow-water ecosystem including seagrass beds. A pier may also potentially reduce wildlife mortality rates in the road corridor by reducing the number of cars in the Fort Pickens Area.

Marine or Estuarine Resources

NOAA's Estuarine Living Marine Resources (ELMR) Program developed a database on the distribution, relative abundance, and life history characteristics of ecologically and economically important fishes and invertebrates in the nation's estuaries. Based on ELMR data, NOAA has designated Essential Fish Habitat (EFH) for more than 30 estuaries in the northern Gulf of Mexico for a number of species of finfish and shellfish. EFH occurs for several species of fish and shellfish in and around GUIS waters (NPS, 2006a). More than 200 species of fish occur within the waters of GUIS. The proposed alternatives could affect unique or important fish or fish habitat in the park.

Unique Ecosystems, Biosphere Reserves, World Heritage Sites

Fort Pickens was designated as an aquatic preserve by the Florida Legislature in 1970. Also, the Fort Pickens Area is located on Santa Rosa Island, which is a barrier island ecosystem, a unique and important natural area that supports a variety of wildlife. The proposed alternatives could affect these unique ecosystems in the park.

Non-native Species (Plant or Animal)

The proposed alternatives could introduce or promote non-native species in the park. Construction vehicles and additional watercraft concentrating in the vicinity of a new ferry pier have the potential to inadvertently transport non-native species to the area.

Recreation Resources

The proposed alternatives could affect recreation resources. The Fort Pickens Area is actively used for recreation, including fishing, bicycling, hiking, surfing, camping, and other beach recreation activities. Visitors would have the opportunity for a water-based experience provided by GUIS, which is not currently available.

Visitor Experience and Aesthetic Resources

The proposed alternatives could affect visitor experience and aesthetic resources. The ferry pier would add a new means of visitor access to the Fort Pickens Area by serving as an entry to the park. Visitors would have the opportunity for new natural and historical interpretation during the boat ride. The proposed alternatives could provide increased and higher quality visitor experience at a concentrated gateway (*i.e.*, rest rooms, concessions, camp store, and interpretive programming); the opportunity for improved natural and historical interpretation at the Fort Pickens dock site and the adjacent buildings in the historic district/village; improved accessibility, through Americans with Disabilities Act- (ADA-) compliant dock facility, for physically disabled persons; and a transportation and park access opportunity for non-car-owner populations.

Archaeology

A detailed archaeological survey of the entire park has not been conducted. An underwater archaeological survey was, however, conducted within the project boundaries for the proposed Fort Pickens ferry pier. The proposed alternatives could have physical impacts on presently unknown archaeological resources. Archaeological evidence of colonial and recent occupation is present in the Fort Pickens Area; however, prehistoric archaeological resources have not been encountered in the area.

Historic Resources

The Fort Pickens Area is designated as a National Historic District, as well as listed on the National Register of Historic Places (NRHP). As a result, the proposed alternatives could affect historic structures. The project would recreate the historic method of water transportation to the Fort Pickens Area while maintaining the significance of the historic structures by adaptively reusing them for new productive visitor use functions.

Socioeconomics

The socioeconomic environment is addressed because the Fort Pickens Area is a significant contributor to public recreation as well as the economy of Escambia County and Pensacola. Providing alternative access to the Fort Pickens Area would be important to the socioeconomic environment of the local area by providing a key missing infrastructure element for a future regional water transportation system. Additionally, it is not inconceivable that a concession operation may become established should a ferry pier be built enabling such a business and related new jobs to become established.

Energy Resources

The proposed alternatives could affect energy resources. Implementation of the proposed project represents an expenditure of energy resources both in the fabrication of construction materials and in the actual pier construction process, generally the consumption of crude oil resources. Reducing vehicle traffic would result in a net benefit to the park. The proposed alternatives could improve operational efficiency, reliability, and sustainability. The proposed ferry pier could have potential indirect impacts to conservation and sustainability from the operation of a passenger ferry service by providing transportation alternatives and potentially reducing auto traffic. The proposed project would not prevent access to any known energy resources in the project vicinity, such as coal, oil, or natural gas. The project would have no such impacts on the availability of these resources.

Long-term Management of Resources

The proposed alternatives could affect long-term management of park resources by increasing maintenance costs, requiring additional security costs and personnel, and requiring additional coordination and oversight of a concessionaire-operated ferry service.

The proposed alternatives could affect energy resources. Implementation of the proposed project represents an expenditure of energy resources both in the fabrication of construction materials and in the actual pier construction process, generally the consumption of crude oil resources. The ferry operation could result in reduced energy consumption in the area. A ferry operation between points around the Bay and Fort Pickens would not only reduce VMT and vehicle time spent idling in congestion or waiting for parking to become available, but is also expected to tie into a regional transit system at the ferry destination points of Downtown Pensacola, Pensacola Beach, and Fort Pickens, encouraging a region-wide use of the Escambia County Area Transit (ECAT) public bus and trolley system. The proposed project would not prevent access to any known energy resources in the project vicinity, such as coal, oil, or natural gas. The project would have no such impacts on the availability of these resources.

Reducing vehicle traffic would result in a net benefit to the park. The proposed alternatives could improve operational efficiency, reliability, and sustainability. The proposed ferry pier could have potential indirect impacts to conservation and sustainability from the operation of a passenger ferry service by providing transportation alternatives and potentially reducing auto traffic.

Impact Topics Dismissed from Further Analysis

Several potential impact topics were evaluated and dismissed from further consideration. Potential impact topics dismissed and associated rationale follow:

Streamflow Characteristics

The proposed alternatives are not located near any streams and would not affect streamflow characteristics.

Land Use, Including Occupancy, Income, Values, Ownership, Type of Use

The existing land use would not change as a result of the proposed alternatives.

Rare or Unusual Vegetation – Old Growth Timber, Riparian, Alpine

The proposed alternatives would not affect rare or unusual vegetation.

Cultural Landscapes

The proposed alternatives would not affect cultural landscapes.

Ethnographic Resources

Ethnographic resources are defined by NPS 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 (DO-28, Appendix A, page 181) (NPS, 1998b). No known ethnographic resources have been identified.

Museum Collections (Objects, Specimens, and Archival and Manuscript Collections)

The proposed alternatives would not impact the current museum collection. Any artifacts recovered during land-clearing activities would be preserved according to NPS standards as described in DO-24, *Museum Collections Management* (NPS, 2008c).

Minority and Low Income Populations, Ethnography, Size, Migration Patterns, Etc.

EO 12898, *Federal 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 impacts of their programs and policies on minorities and low-income populations and communities.

For the purpose of fulfilling EO 12898 in the context of NEPA, the alternatives addressed in this EA were assessed during the planning process. Although there are minority and/or low-income populations and communities within the county and region, it was determined that none of the planning alternatives would result in disproportionately high direct or indirect adverse impacts on these groups. The following information contributed to this conclusion:

- The actions proposed by the alternatives would not result in any identifiable human health impacts. Therefore, there would be no direct or indirect adverse impacts on human health within any minority or low-income population or community.

- The impacts on the natural and physical environment that would occur due to any of the alternatives would not disproportionately or adversely impact any minority or low-income population or community.
- The planning team actively solicited public participation as part of the planning process and gave equal consideration to all input from persons regardless of age, race, income status, or other socioeconomic or demographic factors.
- Impacts on the socioeconomic environment resulting from any of the action alternatives would be minor. Additionally, any impacts on the socioeconomic environment would not substantially alter the physical and social structure of nearby communities.

Other Agency or Tribal Land Use Plans or Policies

The proposed alternatives would not affect other agency or known tribal land use plans, policies, or interests.

Other Important Environmental Resources (e.g., Geothermal, Paleontological Resources)

The proposed alternatives would not affect other important environmental resources.

GUIDING LAWS, REGULATIONS, AND POLICIES

This EA was prepared in compliance with all applicable federal, state, and local laws, regulations, and policies to the alternatives described in Sections 2 through 4. The following is a list and brief description of federal, state, and local regulations considered.

GUIS Enabling Legislation

GUIS was established on January 8, 1971, via an act of Congress (84 Stat. 1967)

An Act to provide for the establishment of the Gulf Islands National Seashore, in the States of Florida and Mississippi, for the recognition of certain historic values at Fort San Carlos, Fort Redoubt, Fort Barrancas, and Fort Pickens in Florida, and Fort Massachusetts in Mississippi, and for other purposes. (84 Stat. 1967)

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That in order to preserve for public use and enjoyment certain areas possessing outstanding natural, historic, and recreational values, the Secretary of the Interior (hereinafter referred to as the "Secretary") may establish and administer the Gulf Islands National Seashore (hereinafter referred to as the "seashore"). The seashore shall comprise the following gulf coast islands and mainland areas, together with adjacent water areas as generally depicted on the drawing entitled "Proposed Boundary Plan, Proposed Gulf Island National Seashore," number NS-GI7100J, and dated December 1970:

1) Ship, Petit Bois, and Horn Islands in Mississippi; (2) the eastern portion of Perdido Key in Florida; (3) Santa Rosa Island in Florida; (4) the Naval Live Oaks Reservation in Florida; (5) Fort Pickens and the Fort Pickens State Park in Florida; and (6) a tract of land in the Pensacola Naval Air Station in Florida that includes the Coast Guard Station and Lighthouse, Fort San Carlos, Fort Barrancas, and Fort Redoubt and sufficient surrounding land for proper administration and protection of the historic resources.

NPS Organic Act and Amendments (16 USC 1-4)

By enacting the NPS Organic Act of 1916, Congress directed the U.S. Department of the Interior (USDOI) and NPS to promote and regulate park units “to conserve the scenery and the natural and historic objects and wild life therein and to provide for the enjoyment of the same in such a manner and by such a means as will leave them unimpaired for the enjoyment of future generations” (16 USC 1). The Redwood National Park Expansion Act of 1978 reiterates this mandate by stating that NPS must conduct its actions in a manner that will ensure no “derogation of the values and purposes for which these various areas have been established, except as may have been or shall be directly and specifically provided by Congress” (16 USC 1a-1). Congress further authorized the Secretary of the Interior to “make and publish such rules and regulations as he may deem necessary or proper for the use of the parks ...” (16 USC 3).

The Organic Act and its amendments afford NPS latitude when making resource decisions. Because conservation remains predominant, NPS seeks to avoid or to minimize adverse impacts on park resources and values. While some actions and activities can cause impacts, the Organic Act prohibits actions that impair park resources unless a law directly and specifically allows for such actions (16 USC 1a-1). An action constitutes an impairment when its impacts “harm the integrity of park resources or values, including the opportunities that otherwise would be present for the enjoyment of those resources or values” (*NPS Management Policies 2006*, Section 1.4.4) (NPS, 2006a). To determine impairment, NPS must evaluate “the particular resources and values that would be affected; the severity, duration, and timing of the impact; the direct and indirect effects of the impact; and the cumulative effects of the impact in question and other impacts” (*NPS Management Policies 2006*, Section 1.4.4) (NPS, 2006a).

Because park units vary based on enabling legislation, natural resources, cultural resources, and missions, management activities appropriate for each unit and for areas within each unit vary as well. An action appropriate in one unit could impair resources in another unit. Thus, this EA analyzes the context, duration, and intensity of impacts related to implementation of the proposed ferry pier within GUI, as well as the potential for resource impairment, as required by DO-12 (NPS, 2001b). The impairment determination is included as Appendix D.

NPS Management Policies 2006

NPS Management Policies 2006 (NPS, 2006a) provides the overall foundation, sets the framework, and provides direction for management decisions within NPS. Management policies cover park system planning, land protection, natural resource management, cultural resource management, wilderness preservation and management, interpretation and education, use of the parks, park facilities, and commercial visitor services. The NPS cultural resource management program involves research to identify, evaluate, document, register, and establish basic information regarding cultural resources and traditionally associated peoples; planning to ensure that management processes for making decisions and setting priorities integrate information regarding cultural resources and provide for consultation and collaboration with outside entities; and stewardship to ensure that cultural resources are preserved and protected, receive appropriate treatments (including maintenance) to achieve desired conditions, and are made available for public understanding and enjoyment (NPS, 2006a). Adherence to NPS policy is mandatory, unless specifically waived or modified by the Secretary of the Interior, the Assistant Secretary of the Interior, or the Director of NPS.

Section 4.8.1.1 of the NPS Management Policies states that NPS is to allow natural coastal processes to proceed without interference except to protect cultural resources, mitigate for other human-caused interference, or protect present developments in the short run to achieve park management objectives. Protection measures for present developments must be the most effective and natural-appearing methods feasible, and must minimize impacts outside the target area. The policy is even more stringent with

respect to new developments. New developments are not to be placed in areas subject to wave erosion or active shoreline processes unless (1) the development is required by law; or (2) the development is essential to meet the park's purposes, as defined by its establishing act or proclamation, and:

- No practicable alternative locations are available,
- The development will be reasonably assured of surviving during its planned life span, without the need for shoreline control measures, and
- Steps will be taken to minimize safety hazards and harm to property and natural resources.

Construction of the proposed ferry pier within areas subject to active shoreline processes would be eligible for a waiver from Section 4.8.1.1, as the project meets criterion (2) above as being essential to meeting the park's purposes but with no practicable alternative locations available.

NEPA of 1969, as Amended (PL 91-190, 42 USC 4321-4347, January 1, 1970, as amended by PL 94-52, July 3, 1975; PL 94-83, August 9, 1975; and PL 97-258, §4(b), September 13, 1982)

NEPA requires that federal agencies conduct an environmental impact analysis before taking an action that has the potential to significantly impact the human environment. The environmental planning process must use site-specific data, consider interdisciplinary aspects of the project, consider reasonable alternatives, and involve the public, among other requirements.

Council on Environmental Quality (CEQ) (40 Code of Federal Regulations [CFR] 1500-1508)

NEPA is implemented through regulations of CEQ. CEQ published NEPA regulations in 1978 and added to them in 1981 with a guidance document titled *Forty Most Asked Questions Concerning CEQ NEPA Regulations* (NPS, 2001a). CEQ requires each federal agency to implement procedures to make the NEPA process more useful to agency decision-makers and the public (40 CFR 1500.2 as cited in NPS, 2001a). CEQ includes regulations and guidance on proper planning and timing, document preparation and commenting, decision-making, and public involvement.

DO-12: Conservation, Planning, Environmental Impact Analysis, and Decision-making

NPS DO-12 (NPS, 2001c) and its accompanying handbook (NPS, 2001b) lay the groundwork for how NPS complies with NEPA and CEQ regulations. DO-12 sets forth a planning process for incorporating scientific and technical information and for establishing an Administrative Record for NPS projects. DO-12 requires that impacts on park resources be analyzed in terms of their context, duration, and intensity. It is crucial for the public and decision-makers to understand the implications of those impacts in the short and long term, cumulatively, and within context, based on an understanding and interpretation by resource professionals and specialists. DO-12 also requires that an analysis of impairment to park resources and values be made as part of the NEPA document.

DO-77-1: Wetland Protection

EO 11990 (*Protection of Wetlands*) requires NPS and other federal agencies to evaluate the likely impacts of their actions on wetlands. The objectives of the EO are to avoid, to the extent possible, the long-term and short-term adverse impacts associated with the occupancy, modification, or destruction of wetlands. NPS (2006a) *Management Policies* and DO-77-1 (*Wetland Protection*) (NPS, 2002) reiterate the importance of safeguarding wetlands. NPS Procedural Manual #77-1 (NPS, 2008a) provides agency-specific procedures for complying with the EO. Because the proposed pier is a water-dependent activity

and the proposed wetland impact is less than 0.1 acre, the project is exempt from the need for a wetland SOF.

DO-77-2: Floodplain Management

EO 11988 (*Floodplain Management*) requires NPS and other federal agencies to evaluate the likely impacts of actions in floodplains. The objective of EO 11988 is to avoid, to the extent possible, the long- and short-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct or indirect support of floodplain development wherever there is a practicable alternative. NPS (2003a) DO-77-2 (*Floodplain Management*) and Procedural Manual #77-2 (NPS, 2004) provide NPS policies and procedures for complying with EO 11988. Per DO-77-2, a floodplain SOF (Appendix B) was prepared to determine the potential for adverse impacts on floodplains and to document the anticipated effects.

Clean Water Act (CWA)

Jurisdictional waters of the United States, including streams and wetlands, are defined by 33 CFR 328.3 and are protected by Section 404 of the CWA (33 USC 1344). Impacts on these regulated resources are administered and enforced by USACE.

For the purposes of implementing DO-12 (NPS, 2001c), areas that are classified as a wetland habitat according to the USFWS *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin *et al.*, 1979) are subject to the implementation procedures outlined in *Procedural Manual #77-1: Wetland Protection* (NPS, 2008a).

Endangered Species Act (ESA)

Plants and animals listed as federally threatened and endangered are protected under the ESA, PL 92-205, which is administered and enforced by USFWS. If a federal permit is required from USACE, consultation between USACE and USFWS is required under Section 7 of the ESA, 16 USC 1531-1534, for proposed projects that “may affect” federally endangered and threatened species.

Magnuson-Stevens Act

The 1996 Magnuson-Stevens Act requires cooperation among NMFS, fishers, and federal and state agencies to protect, conserve, and enhance EFH. EFH is defined as those waters and substrates necessary to fish for spawning, breeding, feeding, or growth to maturity. The designation and conservation of EFH seek to minimize adverse effects on habitat caused by fishing and non-fishing activities. All of Pensacola Bay and waters surrounding GUIS are designated as EFH. Therefore, EFH is present in the vicinity of the proposed ferry pier and the ferry operation routes.

Clean Air Act (CAA)

The CAA and subsequent amendments have established procedures for improving conditions, including a set of National Ambient Air Quality Standards (NAAQS). In 1997, the U.S. Environmental Protection Agency (USEPA) established the 8-hour ground-level ozone standard at 0.08 part per million (ppm). Under this standard, USEPA can designate an area as “nonattainment” if it has violated the 8-hour ozone standard. USEPA may also designate an area as “attainment/unclassifiable,” which is an area where monitored air quality data show either that the area has not violated the ozone standard over a three-year period or that there is not enough information to determine the air quality in the area. Escambia County, Florida, is designated as a non-attainment area (USEPA, 2010).

National Historic Preservation Act (NHPA)

The primary Act related to cultural resources is the NHPA of 1966, as amended (16 USC 470 *et seq.*). Section 106 of this Act requires federal agencies to consider the effects of their undertakings on properties listed or potentially eligible for listing on the NRHP.

State of Florida Regulations

Florida Fish and Wildlife Conservation Commission (FLFWC)

Florida Manatee Sanctuary Act, Rule Chapter: 68C-22, FAC. Establishes restrictions to protect manatees from harmful collisions with motorboats and from harassment; to protect manatee habitat, such as seagrass beds, from destruction by boats or other human activity; and to provide limited safe havens where manatees can rest, feed, reproduce, give birth, or nurse undisturbed by human activity.

Marine Resources, Rule Chapter 68-E, FAC. Florida Statutes (FSs) restrict the take, possession, disturbance, mutilation, destruction, selling, transference, molestation, and harassment of marine turtles, nests, or eggs. Protection is also afforded to marine turtle habitat.

Florida Department of Environmental Protection (FDEP)

Joint Coastal Permit (JCP), FS 161.055. The standards and criteria for issuance of JCPs include the criteria for environmental resource or wetland resource permits pursuant to Chapter 62-312, 62-341, and 62-346, FAC, and the rules adopted under Chapter 62-330, FAC; the coastal construction criteria pursuant to Chapter 62B-41, FAC; and any specific criteria for issuance of a JCP listed in this chapter.

A copy of the permit application is forwarded to USACE for separate processing of the federal dredge and fill permit, if necessary. A JCP is required for activities that meet all of the following criteria:

- Located on Florida's natural sandy beaches facing the Atlantic Ocean, the Gulf of Mexico, the Straits of Florida, or associated inlets;
- Activities that extend seaward of the mean high water line;
- Activities that extend into sovereign submerged lands (Chapter 18-21, FAC); and
- Activities that will likely affect the distribution of sand along the beach.

Activities that require a JCP include beach restoration or nourishment; construction of erosion control structures such as groins and breakwaters, public fishing piers, maintenance of inlets and inlet-related structures, and dredging of navigation channels that include disposal of dredged material onto the beach or in the nearshore area.

Sovereign Submerged Lands, Chapters 18-18, 18-20, 18-21, FAC. Authorization is required for any construction or use on, over, or under submerged lands owned by the State. Typical construction projects on sovereign submerged lands include docks, piers, seawalls, and dredging of access channels. Activities and uses may be authorized by letter of consent, easement, or lease, while some may qualify for consent by rule or an exception. The Board of Trustees of the Internal Improvement Trust Fund serves as the proprietor of these State-owned lands and determines how the public's interests may best be served. Where these activities or uses are proposed as part of an Environmental Resource Permit, the applications to use these sovereign

submerged lands are reviewed at the same time as the regulatory permit through a process referred to as:

Surface Water Quality Standards, Chapter 62-302, FAC. Provides the State's numeric and narrative water quality standards criteria for surface waters, lists the classes of waters in Florida, and lists waters that are designated as Outstanding Florida Waters (OFWs). Pensacola Bay is included in this program as a water worthy of special protection due to natural attributes. Other waters, Santa Rosa Sound and the Gulf of Mexico surrounding GUIs, are also designated as OFWs. The purpose of the designation as an OFW is to protect existing good water quality. FDEP will not issue permits for direct pollutant discharges to OFWs, which would lower ambient (existing) water quality or for indirect discharge would significantly degrade the OFW.

Criteria for Surface Water Quality Classifications, Chapter 62-302.530, FAC. Florida's surface water quality standards system. Florida currently uses a narrative nutrient standard to guide the management and protection of its waters. Chapter 62-302.530 states that "in no case shall nutrient concentrations of body of water be altered so as to cause an imbalance in natural populations of flora or fauna."

The Coastal Construction Control Line Program (CCCL) Chapter 62B-33, FAC, is an essential element of Florida's coastal management program. It provides the design and siting requirements that must be met to obtain a coastal construction control line permit. Approval or denial of a permit application is based upon a review of the potential impacts to the beach dune system, adjacent properties, native salt-resistant vegetation, and marine turtles. Adoption of a coastal construction control line establishes an area of jurisdiction in which special siting and design criteria are applied for construction and related activities. These standards may be more stringent than those already applied in the rest of the coastal building zone because of the greater forces expected to occur in the more seaward zone of the beach during a storm event.

Generic Permit for Stormwater Discharge from Large and Small Construction Activities, Section 403.0995, FS. Operators of construction activities must obtain coverage under a National Pollutant Discharge Elimination System (NPDES) stormwater permit and implement appropriate pollution prevention techniques to minimize erosion and sedimentation and properly manage stormwater. The majority of construction activities requiring an NPDES stormwater permit will likely qualify for an NPDES permit for construction. A generic permit is a general permit issued by FDEP under the authority of Section 403.0885, FSs, which is the provision authorizing the State to implement the NPDES program.

City of Pensacola and Escambia County

GUIs is not normally subject to the local zoning ordinances or other permitting requirements of the City of Pensacola or Escambia County. GUIs would provide informal coordination to the City of Pensacola and Escambia County as a courtesy to inform them of the project status.

IMPAIRMENT ANALYSIS METHOD

In addition to determining the environmental consequences of the Preferred Alternative and other alternatives, the NPS Management Policies (NPS, 2006a) and DO-12 (NPS, 2001c) require analysis of potential effects to determine whether actions would impair park resources.

The fundamental purpose of NPS, established by the Organic Act and reaffirmed by the General Authorities Act, as amended, begins with a mandate to promote and regulate so as to conserve park resources and values. NPS managers must always seek ways to avoid or reduce to the greatest degree practicable adverse effects on park resources and values. However, the laws give NPS management

discretion to allow effects on 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 NPS management discretion to allow certain effects within parks, that discretion is limited by statutory requirement that NPS must leave park resources and values unimpaired, unless a particular law directly and specifically provides otherwise. The prohibited impairment is an effect that, in the professional judgment of the responsible NPS manager, would harm the integrity of park resources or values, including opportunities that otherwise would be present for the enjoyment of those resources or values. An impact would more likely constitute impairment to the extent it affects a resource or value whose conservation is one of the following:

- 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 to opportunities for enjoyment of the park; or
- identified as a goal in the park's Master Plan or GMP or other relevant NPS planning documents.

Impairment may result from NPS activities in managing the park; from visitor activities; or from activities undertaken by concessionaires, contractors, and others operating in the park. A determination of impairment is made for each natural and cultural resource impact topic analyzed in Section 4. As required by NPS guidelines, an assessment of the potential for impairment is provided in situations where moderate or greater intensity of effects on natural or cultural resources is predicted. The impairment determination is included as Appendix D.

2. ALTERNATIVES, INCLUDING THE PREFERRED ALTERNATIVE

INTRODUCTION

GUIS proposes to accommodate a passenger ferry service to the Fort Pickens Area by designing and constructing a pier in the Fort Pickens Area of GUIS. The service envisioned at the present time is to accommodate passengers only, as opposed to vessels that could also transport vehicles, including cars and recreational motor homes. Pensacola Harbor is the proposed mainland site as the landward location of the proposed ferry route. Several mainland sites are under consideration as the landward location of this transportation system, including existing piers in the City of Pensacola and Pensacola Beach. An existing pier with appropriate parking and access infrastructure located outside GUIS boundaries, as well as administered by a local municipality, would be utilized as the landward piece of the transportation system. The proposed pier and infrastructure at Fort Pickens would be a key piece for the success of the broader regional water-based transportation system that is being contemplated, and would be GUIS' primary contribution to the system.

Four draft alternatives were developed during a December 2009 meeting with the project team. A full range of reasonable alternatives was developed, meeting GUIS's purpose and objectives for taking action and meeting NPS guidelines for providing different means of accomplishing GUIS goals while protecting and/or minimizing impacts on some or all resources. Furthermore, the draft alternatives would be consistent with applicable laws, policies, and regulations that guide NPS. The alternatives under consideration are listed below:

- Alternative A – Continue Existing Management (No Action)
- Alternative B – Retrofit the Existing Fort Pickens Fishing Pier
- Alternative C – Construct a New Fixed Pier Along the Fort Pickens Seawall
- Alternative D – Construct a New Floating Pier Along the Fort Pickens Seawall

One additional alternative was considered but dismissed because it was determined to be unreasonable. Alternatives that were considered but dismissed are briefly discussed at the end of this section.

The no-action alternative, Alternative A, represents the baseline or benchmark from which to compare the impacts of the action alternatives. In this case, "No Action" means that the proposed ferry pier would not be constructed. The only public means of access to Fort Pickens would be via Fort Pickens Road.

Three action alternatives (Alternatives B, C, and D) would include different methods and locations for providing a new ferry pier in the Fort Pickens Area. All of the action alternatives would include construction of a permanent pier in the Fort Pickens Area of GUIS, and operation of a passenger ferry that would make no more than four roundtrip runs daily between the landward terminus and Fort Pickens. The ferry pier would be located in a site with existing walkways that already connect to the Fort Pickens Area trail system, including the Florida National Scenic Trail, a component of the National Trails System, as well as comply with the ADA. The three action alternatives would involve the following:

- Potential upgrade of existing pilings
- Permanent installation of pilings constructed of concrete
- Installation or retrofit of a permanent pier (floating or fixed) for the ferry that measures up to 260 by 20 feet
- Installation of a smaller, floating "T" pier attached to the ferry pier, to accommodate smaller boats

- Collection of sediment core samples to assist engineers in determining depth of new pilings
- Three to four roundtrip ferry crossings per day of a passenger ferry (maximum capacity of 50 passengers) across Pensacola Bay
- Construction activities taking place from barges and other equipment will be conducted from the water as much as possible.
- Occasional docking of additional (non-ferry) vessels at the pier (NPS boats). The number of boats and number of boat trips for these additional vessels are unknown, but based on information provided by NPS, the number of NPS boats that may use the pier is likely to be low, because most of the NPS boats would continue to use the existing pier at the nearby historical Lifesaving Station. Private watercraft may be allowed to use the pier on a restricted basis after the establishment of a commercial ferry system. Similar restrictions are in place at Ship Island, where GUIS has placed restrictions on private use of the dock in the Superintendent's Compendium (NPS, 2003b):

“The northern most 120 feet of the Ship Island dock, as indicated by signs, is closed to docking of private vessels between March 1 & October 31. Determination: The National Park Service's contract with the tour boat concessionaire requires sufficient dock space be reserved for the safe and efficient loading and offloading of passengers. The northern portion of the Ship Island pier is required since these tour boats are 72 feet to 110 feet in length and require deep water and sufficient space for maneuverability.”

- Improvement of existing paths, trails, and surfaces to make them ADA-compliant (*e.g.*, installation of handrails and installation of a boardwalk or hard surface on the existing paths and from existing paths to the pier landing) and installation of a covered passenger shelter on existing surfaces.

Alternative B (Retrofit the Existing Fort Pickens Fishing Pier) would retrofit the existing fishing pier at Fort Pickens to allow for docking of boats. Alternative C (Construct a New Fixed Pier Along the Fort Pickens Seawall) would construct a new fixed pier. The pier would be constructed along the seawall east of the existing fishing pier. Alternative D (Construct a New Floating Pier Along the Fort Pickens Seawall) is similar to Alternative C and would involve the construction of a new floating ferry pier at the same location as Alternative C. Pier sizes described in the alternative descriptions are derived from conceptual drawings in The Fort Pickens Area/Gateway Community Alternative Transportation Study (NPS, 2009e).

There are two possible construction methods that could be used for the proposed pier: a floating barge method or a “top-down construction” method. In the floating barge method, the pilings would be driven into the ground using a pile driver attached to a crane located on a floating barge. The “top-down construction” method would provide access for workers, construction equipment, and supply vehicles from the completed sections of the pier. This method requires that individual sections of the pier be completed, starting from the landward side of the pier, and then proceeding onto the next section of the pier into the water. Additional detail regarding construction techniques is available as a part of the Biological Assessment (BA) supplementary information provided in Appendix A.

The three action alternatives and the no-action alternative were evaluated by determining which of the alternatives would best meet the purpose and need for providing ferry service to the Fort Pickens Area. Alternative C would best meet the project purpose and need of the four alternatives evaluated while still minimizing environmental impacts, and it is the NPS-preferred alternative. Alternative C would provide the widest range of benefits to GUIS visitors, the natural and cultural environments, and GUIS maintenance, with minimal environmental degradation. Alternative A would not meet the purpose and

need of the proposed project. Alternative B would meet the need of providing ferry access, but it would conflict with existing visitor use by interfering with use of existing fishing pier activities. Alternative D would also meet the need of providing ferry access, but the floating pier would not be as stable as the fixed pier and would be more likely to be damaged during tropical storms and hurricanes, which would limit its longevity and overall usefulness for emergency access.

ALTERNATIVE A – CONTINUE EXISTING MANAGEMENT (NO ACTION)

The no-action alternative describes the action of continuing the current management operations and conditions. In this case, “No Action” means that the proposed ferry pier would not be constructed. The major public means of access to Fort Pickens would be by vehicle, via Fort Pickens Road, and additional means of transportation include private boats, bicycles, and walking. Although this alternative would not meet project objectives, it will be retained for full evaluation to satisfy the requirements of NEPA. It does not imply or direct any change to current management or the removal of existing uses, development, or facilities. The no-action alternative provides a basis for comparing the management direction and environmental consequences of the action alternatives. Should the no-action alternative be selected, NPS would respond to future needs and conditions associated with GUIIS without major actions or changes in present course. The no-action alternative would have little or no impact on visitor capacity or use, would require no additional maintenance, would generate no new development footprint, and would entail no expenditure of funds or resources.

ALTERNATIVE B – RETROFIT THE EXISTING FORT PICKENS FISHING PIER

The existing fishing pier at Fort Pickens is approximately 200 feet long by 20 feet wide. It would be retrofitted to allow for docking of boats. The existing pier is made from concrete pilings, synthetic decking material, and timber safety rails. Retrofits to this pier would include gangways to floating docks for the loading and unloading of pedestrians onto the ferry and other vessels, potential upgrade of existing pilings where the boats would be docking, and the addition of pilings to protect the existing pier. The pier would comply with ADA accessibility standards and be constructed of wood and/or synthetic material. Additional piling to be installed would be concrete. Sediment core samples would be collected to assist the engineers in determining depth of new pilings. The pier would be constructed in compliance with Florida Building Code Standards. Typical construction materials for floating docks include galvanized steel, aluminum, and concrete with a foam core. Moorings would be installed to protect the existing structure. The pier retrofits would be constructed from a floating barge using floating turbidity barriers, emergency response spill kits, and other appropriate aquatic construction best management practices (BMPs). The ferry pier retrofit would be designed to withstand or sustain Category 3 or 4 storm damage, and provide far more reliable access to the island for visitors.

The location of the existing pier to be retrofitted under Alternative B is shown in Figure 2-1. The proposed construction of an additional 50-foot by 40-foot main ferry pier and a 20-foot by 30-foot floating dock for smaller vessels would result in a new pier surface area of 2,600 square feet (0.06 acre). Water depths in the vicinity of the existing pier range from 20 to 25 feet. Concepts for the proposed ferry pier were developed in *Fort Pickens/Gateway Community Alternative Transportation Study* (February 2009) (NPS, 2009e) and are shown in Figure 2-2. Concept 1 on Figure 2-2 represents a possible pier alignment for Alternative B.

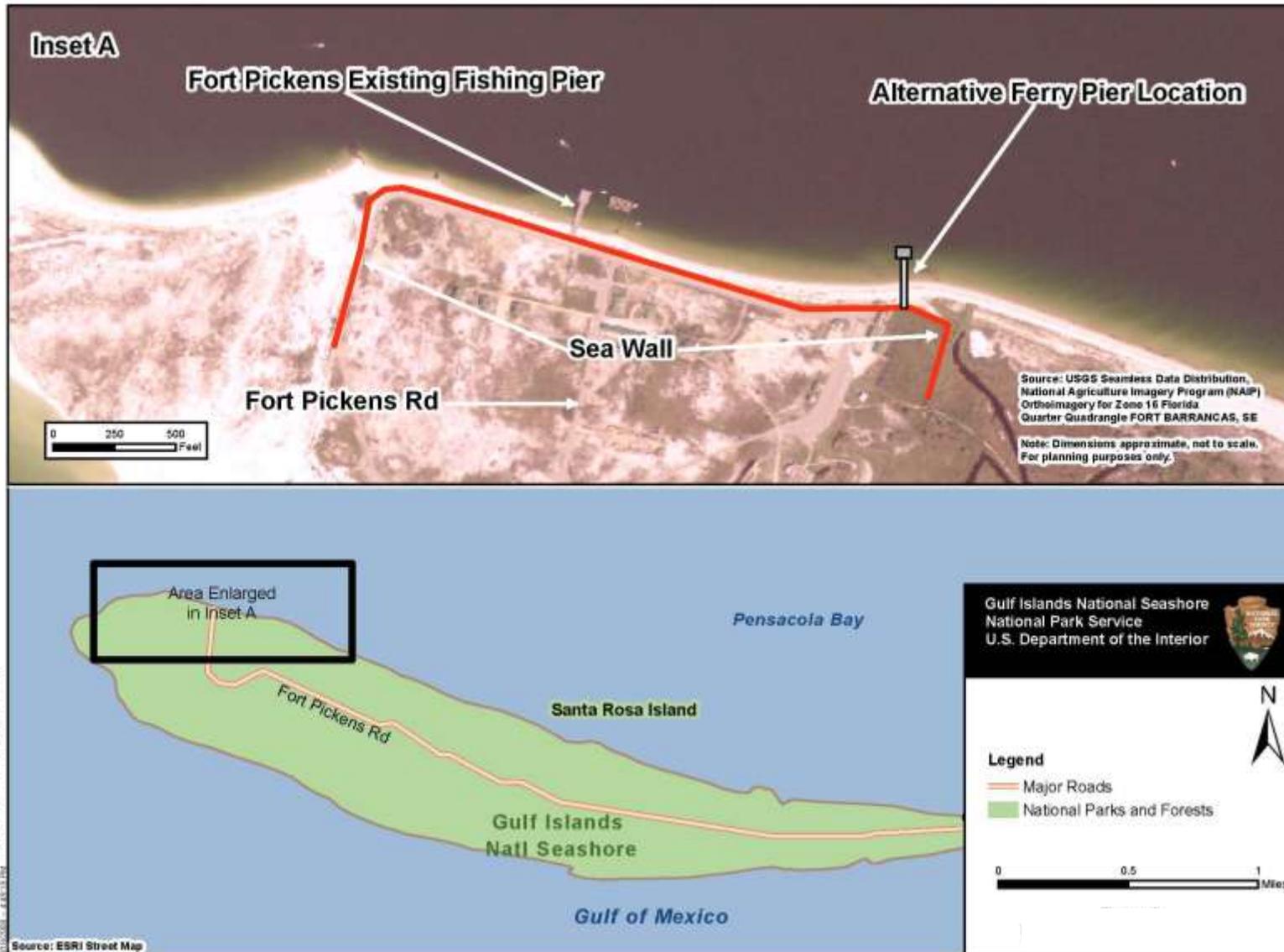


Figure 2-1 Fort Pickens Aerial Photography

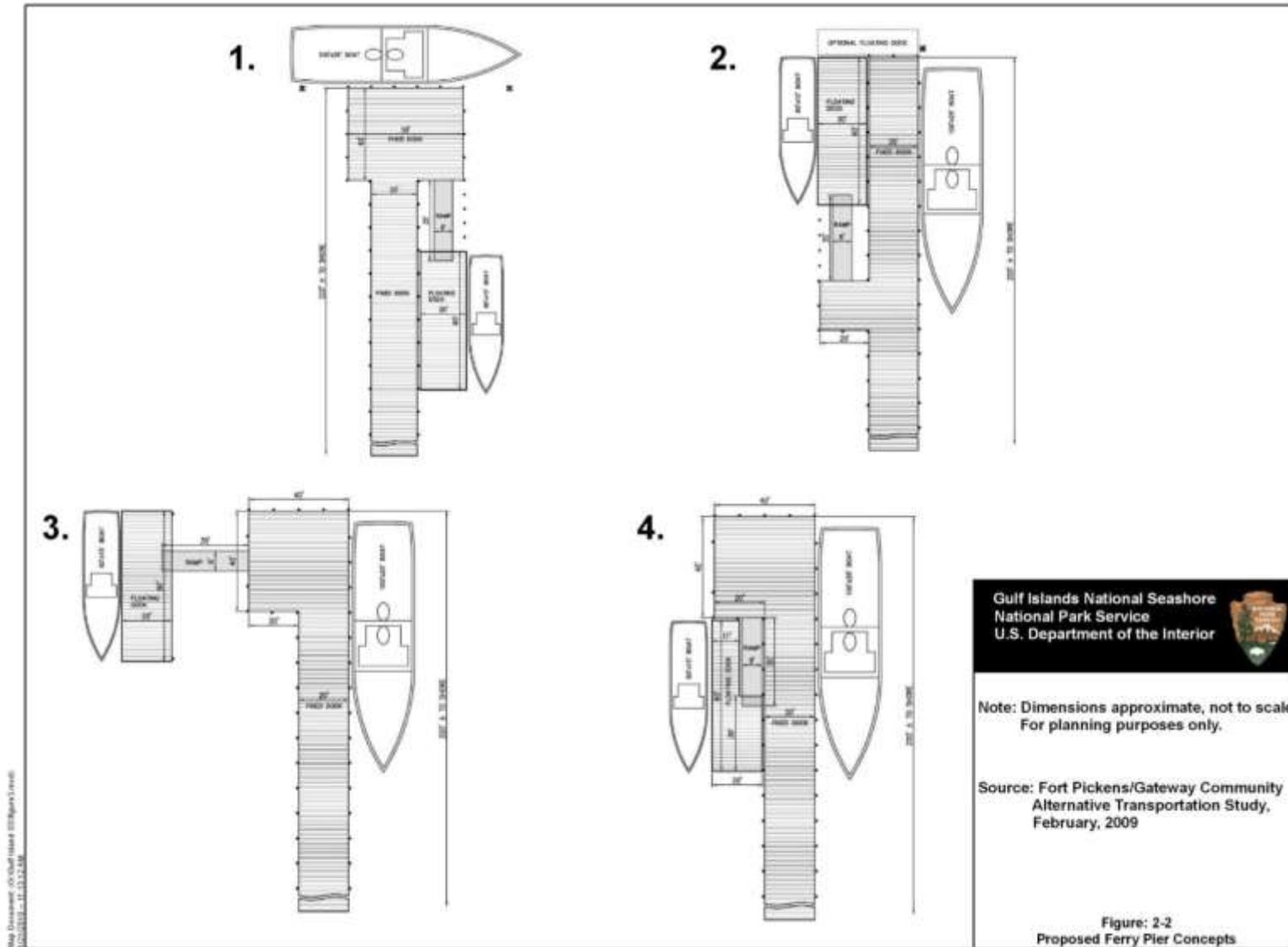


Figure 2-2 Proposed Ferry Pier Concepts

ALTERNATIVE C (PREFERRED) – CONSTRUCT A NEW FIXED PIER ALONG THE FORT PICKENS SEAWALL

The proposed pier would be approximately 260 feet long and approximately 20 feet wide, and would possibly incorporate a floating, attached dock for other small vessels. The pier would be located approximately 1,250 feet east of the existing fishing pier. Sediment core samples would be collected to assist the engineers in determining depth of new pilings. The pier would be oriented approximately perpendicular to the shoreline and existing seawall. Pilings would be made from concrete material. Typical materials used in fixed and floating piers include galvanized steel, aluminum, concrete, and concrete with a foam core. Moorings or bumpers may be installed on the pilings to protect the dock. The proposed pier would tie into the existing seawall and would access existing walking trails that connect to the seawall and guide visitors to the activity areas within Fort Pickens. The pier would be constructed in compliance with the Florida Building Code and ADA accessible standards. The pier would be constructed from a floating barge using floating turbidity barriers, emergency response spill kits, and other appropriate aquatic construction BMPs. The ferry pier would be designed to withstand or sustain Category 3 or 4 storm damage, and provide far more reliable access to the island for visitors.

The location of the proposed ferry pier for Alternative C is shown in Figure 2-1 and is labeled as the “Alternative Ferry Pier Location.” The proposed construction of a 220-foot by 20-foot walkway, a 50-foot by 40-foot main ferry pier, and a 20-foot by 30-foot floating dock for smaller vessels would result in a new pier surface area of 7,000 square feet (0.16 acre). Water depths in the vicinity of the proposed pier range from 15 to 20 feet. Concepts 1 through 4 on Figure 2-2 represent possible pier alignments for Alternative C.

ALTERNATIVE D – CONSTRUCT A NEW FLOATING PIER ALONG THE FORT PICKENS SEAWALL

Similar to Alternative C, this alternative would involve the construction of a new floating ferry dock of approximately 260 feet long, about 20 feet wide. The pier would be approximately perpendicular to the shoreline and existing seawall and would be located approximately 1,250 feet east of the existing fishing pier. This dock would provide pedestrian access to a ferry or other vessels. A gangway would be designed to span from the seawall to the new floating dock. Sediment core samples would be collected to assist the engineers in determining depth of new pilings. Pilings would be made from concrete material. Typical materials used in floating piers include galvanized steel, aluminum, and concrete with a foam core. Moorings or bumpers may be installed on the pilings to protect the dock. The proposed pier would tie into the existing seawall and would access existing walking trails that connect to the seawall and guide visitors to the activity areas within Fort Pickens. The dock and gangway would be constructed in compliance with the Florida Building Code and ADA accessible standards. The floating dock would be constructed from a floating barge using floating turbidity barriers, emergency response spill kits, and other appropriate aquatic construction BMPs.

The location of the proposed ferry pier for Alternative D is the same as that of Alternative C and is shown in Figure 2-1. The proposed construction of a 220-foot by 20-foot walkway, a 50-foot by 40-foot main floating ferry pier, and a 20-foot by 30-foot floating dock for smaller vessels would result in a new pier surface area of 7,000 square feet (0.16 acre). Water depths in the vicinity of the proposed pier range from 15 to 20 feet. Concepts 1 through 4 on Figure 2-2 represent possible pier alignments for Alternative D.

ALTERNATIVES CONSIDERED BUT DISMISSED

The planning team discussed an Alternative E, retrofitting the existing Lifesaving Station pier located approximately 2 miles east of the existing fishing pier. This alternative was dismissed because of the distance from the Lifesaving Station pier to the Fort Pickens activity area. Visitors would have to walk

approximately 2 miles from the pier to the Fort Pickens Area, or NPS would have to run periodic shuttles to and from Fort Pickens. Also, seagrass beds exist in the vicinity of the existing Lifesaving Station pier, and construction of a pier addition and additional boat traffic in the area may damage the sensitive seagrass beds.

ENVIRONMENTALLY PREFERRED ALTERNATIVE

The environmentally preferred alternative is defined by CEQ as the alternative that best meets the following criteria or objectives, as set out in NEPA (Section 101):

1. Fulfill the responsibilities of each generation as trustee of the environment for succeeding generations.
2. Ensure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings.
3. Attain the widest range of beneficial uses of the environment without degradation, risk of health or safety, or other undesirable and unintended consequences.
4. Preserve important historical, cultural, and natural aspects of our national heritage and maintain, whenever possible, an environment that supports diversity and variety of individual choice.
5. Achieve a balance between population and resource use that would permit high standards of living and a wide sharing of life's amenities.
6. Enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

The NPS Handbook for implementing DO-12 (*Conservation Planning, Environmental Impact Analysis, and Decision Making*) (NPS, 2001b) requires that EAs identify the environmentally preferred alternative. Simply put, "this means the alternative that causes the least damage to the biological and physical environment; it also means the alternative which best protects, preserves, and enhances historic, cultural, and natural resources" (Q6a) (516 DM 6 4.10(A)(5)). For this project, the Environmentally Preferred Alternative is Alternative A (No Action). By not constructing the ferry pier, that portion of the island would remain in a more natural state, with barrier island processes allowed to function more naturally. This alternative would also generate no additional footprint and would have the lowest maintenance needs. However, this alternative does not meet the project purpose and need.

SUMMARY OF ALTERNATIVES AND IMPACTS

Table 2-1 is a summary of alternatives considered as well as expected impacts. A discussion of the affected environment, impact thresholds, and environmental consequences is provided in Sections 3 and 4.

Table 2-1 Summary of Alternatives and Impacts

Impact Topic	Alternative A Continue Existing Management (No Action)	Alternative B Retrofit the Existing Fort Pickens Fishing Pier	Alternative C Construct New Fixed Pier Along the Fort Pickens Seawall	Alternative D Construct New Floating Pier Along the Fort Pickens Seawall	Proposed BMPs/Mitigation
Geologic Resources and Geohazards	No impacts.	Negligible, long-term, adverse impacts to geological processes. The construction of gangways, upgrade of existing pilings, and addition of pilings would affect littoral drift and modify sediment transport. Negligible, short-term, adverse impacts during construction.	Minor, long-term, and adverse impacts to geologic processes. The construction of a new pier may influence how geologic features and processes are affected by tides, currents, ship wakes, overwash, sea level rise, and wind, and would affect littoral drift and modify sediment transport. Negligible, short-term, adverse impacts during construction.	Same as Alternative C.	None proposed.
Air Quality	No impacts.	Negligible, short-term, adverse impacts on air quality from construction equipment. Long-term beneficial impacts after construction and operation of the ferry.	Same as Alternative B.	Same as Alternative B.	None proposed.
Soundscapes	No impacts.	Minor to moderate, short-term, and adverse during construction, and negligible, long-term, and adverse after construction and operation of the ferry.	Same as Alternative B.	Same as Alternative B.	None proposed.
Water Quality	No impacts.	Negligible to minor, short-term and long-term, adverse impacts as a result of turbidity and risk of spills associated with construction and ferry operation. Long-term beneficial impact on water quality based on fewer automobiles and decreased shoreline parking.	Same as Alternative B.	Same as Alternative B.	Standard construction BMPs such as the use of turbidity curtains during in-water construction and development of Spill Prevention, Control, and Countermeasures (SPCC) Plans for construction and ferry operation.

Table 2-1 Summary of Alternatives and Impacts (Cont.)

Impact Topic	Alternative A Continue Existing Management (No Action)	Alternative B Retrofit the Existing Fort Pickens Fishing Pier	Alternative C Construct New Fixed Pier Along the Fort Pickens Seawall	Alternative D Construct New Floating Pier Along the Fort Pickens Seawall	Proposed BMPs/Mitigation
Floodplains and Wetlands	No impacts.	Negligible to minor, short- and long-term, adverse impacts on floodplains. No impacts to wetlands.	Negligible to minor, short- and long-term, adverse impacts on floodplains. Moderate, short- and long-term impacts to 0.03 acre of wetlands within the tidally influenced surf zone as a result of pier construction.	Same as Alternative C.	No mitigation proposed for floodplain impacts because the pier would not obstruct floodwater or result in changes of base flood elevations. Safety mitigation measures during operation would include ferry and dock closures, warning signs, and evacuations as appropriate for protecting life and minimizing damage. Wetland mitigation measures would include erosion and sedimentation control to protect the adjacent surf zone wetlands during and after construction, and eradication of invasive plants during construction activities.
Protected Species	No impacts.	Negligible to minor short-term and negligible long-term impacts to protected species.	Same as Alternative B.	Same as Alternative B.	NPS will continue informal consultation with USFWS, NMFS, and FFWC prior to making a final decision regarding the proposed action and mitigation measures. If necessary, additional mitigation measures will be developed in consultation with USFWS, NMFS, and FFWC.

Table 2-1 Summary of Alternatives and Impacts (Cont.)

Impact Topic	Alternative A Continue Existing Management (No Action)	Alternative B Retrofit the Existing Fort Pickens Fishing Pier	Alternative C Construct New Fixed Pier Along the Fort Pickens Seawall	Alternative D Construct New Floating Pier Along the Fort Pickens Seawall	Proposed BMPs/Mitigation
Important Wildlife and Habitat	No impacts.	Negligible to minor short-term and negligible long-term impacts to wildlife and wildlife habitat. Terrestrial wildlife may be affected through additional pedestrian traffic through the dunes.	Negligible to minor short-term and negligible long-term impacts to wildlife and wildlife habitat associated with the construction of infrastructure and operation of the ferry system as discussed for Alternative B. Improvement of existing trails to make them ADA-compliant may result in additional minor short-term impacts on terrestrial wildlife.	Same as Alternative C.	Mitigation measures described in the BA and the associated supplementary information in Appendix A will minimize impacts to wildlife and wildlife habitat associated with construction and ferry operation.
Marine/Estuarine Resources	No impacts.	Negligible to minor, short- and long-term, and adverse impacts to estuarine and marine resources from in-water construction. The proposed ferry service and NPS and recreational boats utilizing the new pier would introduce additional vessel traffic.	Same as Alternative B.	Same as Alternative B.	Mitigation measures include BMPs for avoiding any discharge of any materials from the ferry. Lookout and avoidance procedures would be in place to avoid marine species strikes. Mitigation measures described in the BA and the associated supplementary information in Appendix A will minimize impacts to marine and estuarine resources associated with construction and the ferry operation.

Table 2-1 Summary of Alternatives and Impacts (Cont.)

Impact Topic	Alternative A Continue Existing Management (No Action)	Alternative B Retrofit the Existing Fort Pickens Fishing Pier	Alternative C Construct New Fixed Pier Along the Fort Pickens Seawall	Alternative D Construct New Floating Pier Along the Fort Pickens Seawall	Proposed BMPs/Mitigation
Unique Ecosystems, World Heritage Sites, and Biosphere Reserves	No impacts.	Negligible to minor, short- and long-term, and adverse impacts to unique ecosystems. The Fort Pickens ferry service would be operational, and in-water construction would be necessary. Turbidity and risk of spills associated with construction and ferry operation may impact the aquatic preserve.	Same as Alternative B.	Same as Alternative B.	Mitigation would include BMPs, such as the use of turbidity curtains during in-water construction and development of an SPCC Plan for pier construction and ferry operation.
Non-native Species	No impacts.	Negligible, short- and long-term, and adverse impacts to non-native species introduction. Construction vehicles and watercraft have the potential to inadvertently transport non-native species to the area.	Same as Alternative B.	Same as Alternative B.	Appropriate BMPs would be used during construction and ferry operation to avoid the spread of non-native species.
Recreation Resources	Minor, long-term, adverse effect on recreation resources. When Fort Pickens Road is impassable as a result of storm events, traditional use/visitation to the Fort Pickens Area is drastically reduced.	Long-term beneficial impacts on recreation resources. The construction of a new pier would provide additional recreation resources to park visitors. Minor, long-term, adverse impacts on recreation resources for park visitors using the pier for fishing.	Long-term beneficial impacts on recreation resources. The construction of a new pier would provide additional recreation resources to park visitors.	Same as Alternative C.	None proposed.

Table 2-1 Summary of Alternatives and Impacts (Cont.)

Impact Topic	Alternative A Continue Existing Management (No Action)	Alternative B Retrofit the Existing Fort Pickens Fishing Pier	Alternative C Construct New Fixed Pier Along the Fort Pickens Seawall	Alternative D Construct New Floating Pier Along the Fort Pickens Seawall	Proposed BMPs/Mitigation
Visitor Experience/Aesthetics	Minor, long-term, adverse effect on visitor experience and aesthetics. When Fort Pickens Road is impassable as a result of storm events, traditional use/visitation to the Fort Pickens Area is drastically reduced.	Long-term beneficial impact on visitor experience and aesthetics to persons interested in a water-based experience. A ferry and shuttle system would provide an alternative means of access to the island, even during times when Fort Pickens Road is impassible by vehicle. Arriving at the park by ferry would provide a memorable and historically significant means of visiting Fort Pickens and serve as an excellent interpretive opportunity for the Seashore. Minor, long-term, and adverse impact to visitors interested in other uses of the existing fishing pier.	Long-term beneficial impact on visitor experience and aesthetics to persons interested in a water-based experience. A ferry and shuttle system would provide an alternative means of access to the island, even during times when Fort Pickens Road is impassible by vehicle. Arriving at the park by ferry would provide a memorable and historically significant means of visiting Fort Pickens and serve as an excellent interpretive opportunity for the Seashore.	Same as Alternative C.	None proposed.
Archaeology	No impacts.	Negligible, short- and long-term, adverse impacts to currently unknown archaeological resources.	Moderate, short- and long-term, adverse impacts to archaeological resources determined to be significant elements of the NRHP-listed historic district at Fort Pickens.	Same as Alternative C.	Recovery and description of discovered archaeological resources in a technical report to SHPO under a Memorandum of Agreement between NPS and SHPO.

Table 2-1 Summary of Alternatives and Impacts (Cont.)

Impact Topic	Alternative A Continue Existing Management (No Action)	Alternative B Retrofit the Existing Fort Pickens Fishing Pier	Alternative C Construct New Fixed Pier Along the Fort Pickens Seawall	Alternative D Construct New Floating Pier Along the Fort Pickens Seawall	Proposed BMPs/Mitigation
Historic Resources	No impacts.	Negligible, short- and long-term, adverse impacts to historic resources by modifying an existing pier within the existing historic district. The existing modern boardwalk to the pier and the historic seawall would not be disturbed. Construction to the end of the existing fishing pier for ferry access would slightly alter the visual setting from the nearby historic resources.	Negligible to minor, short- and long-term, adverse impacts to historic resources by constructing a pier within the existing historic district. Construction of a new pier would slightly alter the visual setting from the nearby historic resources.	Same as Alternative C.	Because the proposed project would have no significant impacts to historic resources in the Fort Pickens District, no mitigation is proposed. If mitigation measures become necessary, they would be developed in consultation with the SHPO.
Socioeconomics	No impacts.	Long-term, beneficial impact on socioeconomics. The ferry pier may enable a concession operation and related new jobs to become established.	Same as Alternative B.	Same as Alternative B.	None proposed.
Energy Resources	No impacts.	Minor, short-term, adverse impacts on energy resources during construction activities, and negligible to minor, long-term, and adverse impacts after the construction activities are complete. Long-term, beneficial cumulative impacts to energy resources by reducing number of cars in the Fort Pickens Area.	Same as Alternative B.	Same as Alternative B.	None proposed.

Table 2-1 Summary of Alternatives and Impacts (Cont.)

Impact Topic	Alternative A Continue Existing Management (No Action)	Alternative B Retrofit the Existing Fort Pickens Fishing Pier	Alternative C Construct New Fixed Pier Along the Fort Pickens Seawall	Alternative D Construct New Floating Pier Along the Fort Pickens Seawall	Proposed BMPs/Mitigation
Long-term Resource Management	Negligible, long-term, adverse effects on the management of park resources in the Fort Pickens Area. Park staff would not have the flexibility to access the Fort Pickens Area via a dedicated ferry pier in the event of temporary Fort Pickens Road closures.	Negligible, long-term, adverse effect on the management of park resources in the Fort Pickens Area, as additional resources would be required for maintenance and upkeep of the fishing pier modifications to accommodate a ferry.	Negligible to minor, long-term, adverse effect on the management of park resources in the Fort Pickens Area, as additional resources would be required for maintenance and upkeep of a new pier in the area.	Same as Alternative C.	None proposed.

3. AFFECTED ENVIRONMENT

INTRODUCTION

The “affected environment” is defined as the resources expected to experience environmental impacts (NPS, 2001b). The following discussions highlight resources and other management considerations of the park that could be impacted by implementation of the planning alternatives. This section addresses the existing conditions of the impacted resources at the park.

GEOLOGIC RESOURCES AND GEOHAZARDS

The national seashore islands are significant in their east/west orientation, large supply of reworked sand, and susceptibility to hurricane forces. These elements combine to make them extremely dynamic, constantly changing environments that provide habitats and ecosystems, which, if properly cared for, can be natural laboratories for observing relatively rapid natural changes on populations of plants and animals. Their insular nature has also provided a degree of protection for a variety of rare, threatened, or endangered wildlife and plant species (NPS, 2006c).

Santa Rosa Island, like all barrier islands, is a product of natural functions such as erosion/accretion and overwash. The island migrates to the west through the daily process of alongshore drift and to the north during extreme storm events through overwash. Barrier islands migrate relative to sea level and the energy dynamics of the system, through the redistribution of sand. Recent studies have shown that the volume of sand on the island remains relatively stable; it is just redistributed to the north. From a geological standpoint, it is critical to the long-term survival of the barrier island to allow these processes to continue. In a time of documented sea level rise and increased tropical storm activity, the island must be allowed to migrate landward into shallower water (NPS, 2006c).

Following hurricane impact, these same natural functions serve to rebuild the structure of the island. The island is fronted by a low-elevation beach berm that develops following a hurricane and can be overtopped by elevated water levels during strong frontal storms. Overwash during these storms is part of the post-hurricane recovery of the barrier island. The sediment deposited in these overwash fans is important to the recovery of the dunes and the vertical structure of the island. The dune system redevelops from and within the overwash sediments and through sediment delivery under fair-weather conditions. Overwash during both extreme and frontal storms is a strong control on the ecological makeup and diversity of the island, and any impedance to overwash will not only alter the post-hurricane topography but also the ecology (Houser and Oravetz, 2006).

Santa Rosa Island consists of approximately 99 percent quartz sand. This sand is medium-grain, between 0.60 millimeters (mm) and 0.43 mm in diameter, with very good sorting of grain size. An even grain size is shown, with few fine particles, silt, and few coarse particles, pebbles, or shell hash (NPS, 2006c).

AIR QUALITY

Air quality became a national concern in the mid-1960s, leading to the passage of the Air Quality Act (AQA) in 1967. The AQA, which is now referred to as the “Clean Air Act (CAA),” and subsequent amendments, have established procedures for improving conditions, including a set of NAAQS.

Under the terms of the 1990 CAA amendments, GUI is designated as a Class II airshed. By definition, Class II areas of the country are set aside for protection under the CAA. Protection is somewhat less stringent than in Class I areas. The primary means by which the protection and enhancement of air quality are accomplished are through implementation of NAAQS (NPS, 2008b). These standards address

six pollutants known to harm human health: ozone, carbon monoxide, particulate matter, sulfur dioxide, lead, and nitrogen oxides (U.S. Department of Agriculture [USDA], 2000a, in NPS, 2008b). Under Class II, modest increases in air pollution are allowed beyond baseline levels for particulate matter, sulfur dioxide, nitrogen, and nitrogen dioxide, provided the NAAQS are not exceeded (NPS, 2008b).

In 1997, USEPA established the 8-hour ground-level ozone standard at 0.08 ppm. Under this standard, USEPA can designate an area as “nonattainment” if it has violated the 8-hour ozone standard. USEPA may also designate an area as “attainment/unclassifiable,” which is an area where monitored air quality data show either that the area has not violated the ozone standard over a three-year period or that there is not enough information to determine the air quality in the area. The entire state of Florida was designated as attainment according to the 1997 8-hour ozone standard (USEPA, 2009a).

USEPA proposed strengthening the air quality standards for ground-level ozone to 0.075 ppm in 2008. To attain this standard, the three-year average of the fourth-highest daily maximum 8-hour average ozone concentrations measured at each monitor within an area over each year must not exceed 0.075 ppm (NPS, 2009a). The 2006 to 2008 average of the fourth-highest daily maximum 8-hour ozone concentration for Pensacola was 0.079 ppm, and thus Escambia County would be designated as nonattainment according to the proposed 2008 ozone standard (USEPA, 2009b).

Available monitoring data from 2003 to 2007 were used to estimate air quality parameters for GUIS as part of the *Air Quality in National Parks 2008 Annual Performance and Progress Report*. The five-year average of the annual fourth-highest 8-hour ozone concentration at GUIS was determined to be greater than or equal to 0.076 ppm, and GUIS was assigned the status of significant concern with an improving trend (NPS, 2009a).

SOUNDSCAPES

The natural ambient soundscape is the aggregate of all the natural sounds that occur in the Fort Pickens Area. The natural sounds occurring in the Fort Pickens Area include those generated by wind, waves, and wildlife. Soundscapes in the Fort Pickens Area also include the sound generated by barge and boat traffic in the intracoastal waterway, vehicle use along Fort Pickens Road, and aircraft noise associated with the nearby Pensacola NAS.

WATER QUALITY

The principal waterbodies associated with GUIS (Florida) are the Gulf of Mexico, Pensacola Bay, and Santa Rosa Sound. Pensacola Bay, Santa Rosa Sound, and waters of the Gulf of Mexico surrounding the Santa Rosa Island area have been designated as OFWs, indicating these bodies of water are worthy of special protection due to natural attributes. An OFW is designated by the Florida Environmental Regulation Commission (ERC), once it is determined that the environmental, social, and economic benefits of the Special Water status outweigh the environmental, social, and economic costs (Rule 62-302.700(5), FAC). FDEP is granted the authority by Section 403.061(27), FS, to establish rules for OFWs. The purpose of the designation as an OFW is to protect existing good water quality. FDEP will not issue permits for direct pollutant discharges to OFWs, which would lower ambient (existing) water quality, or for indirect discharge, which would significantly degrade the OFW.

The project area, which consists of the proposed pier location on the western side of Santa Rosa Island east of the existing fishing pier, is located along the south side of Pensacola Bay. Pensacola Bay has been impacted by numerous non-point and point source pollution sources resulting in a reduction of natural biodiversity and productivity in the Bay. Non-point sources include urban stormwater runoff, agricultural runoff, marinas, boat traffic, the drainage of wetlands, and seepage of contaminated groundwater into

surface waters. Point sources include effluent from two sewer outlets near Pensacola; septic systems on Gulf Breeze peninsula; a chemical plant and coal-fired electric power plant on the Escambia River; a paper mill on the Perdido River; the American Creosote Works hazardous waste site; the Port of Pensacola; and Pensacola NAS, which contains a number of hazardous waste sites (USACE, 2009). Most of these impacts are from the landward areas along Pensacola Bay.

FLOODPLAINS AND WETLANDS

Floodplains

To comply with EO 11988 (*Floodplain Management*), NPS has prepared a floodplain SOF, which can be found in Appendix B; the SOF provides detailed information on the justification for use of the floodplains, description of site-specific flood risks, and proposed mitigation measures. NPS and other federal agencies are required to evaluate the likely impacts of actions in floodplains. The objective of EO 11988 is to avoid, to the extent possible, the long- and short-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct or indirect support of floodplain development wherever there is a practicable alternative. NPS DO-77-2 (*Floodplain Management*) (NPS, 2003a) and Procedural Manual #77-2 (NPS, 2004) provide NPS policies and procedures for complying with EO 11988.

The floodplain system on a barrier island serves to absorb wave energy during storms and spread sand and sediments in a way that sets back the successional clock and allows the island to move. These coastal floodplains enhance biological productivity by supporting a high rate of plant growth, which helps to maintain biodiversity and the integrity of ecosystems.

Due to the low topography, virtually the entire Fort Pickens Area (*i.e.*, 1,740 acres) is within the regulatory (100-year) flood zone, and flooding occurs on an average of 15 days/year (Figure 3-1). As a result, the entire 1,740-acre park unit is subject to inundation during major hurricanes. Even during smaller storms, rising waters result in the periodic inundation of portions of the Fort Pickens roadway. Photograph 3-1 depicts Pensacola Bay from the proposed new pier location.



Photograph 3-1 View of Pensacola Bay from proposed Pier Location (view to north)

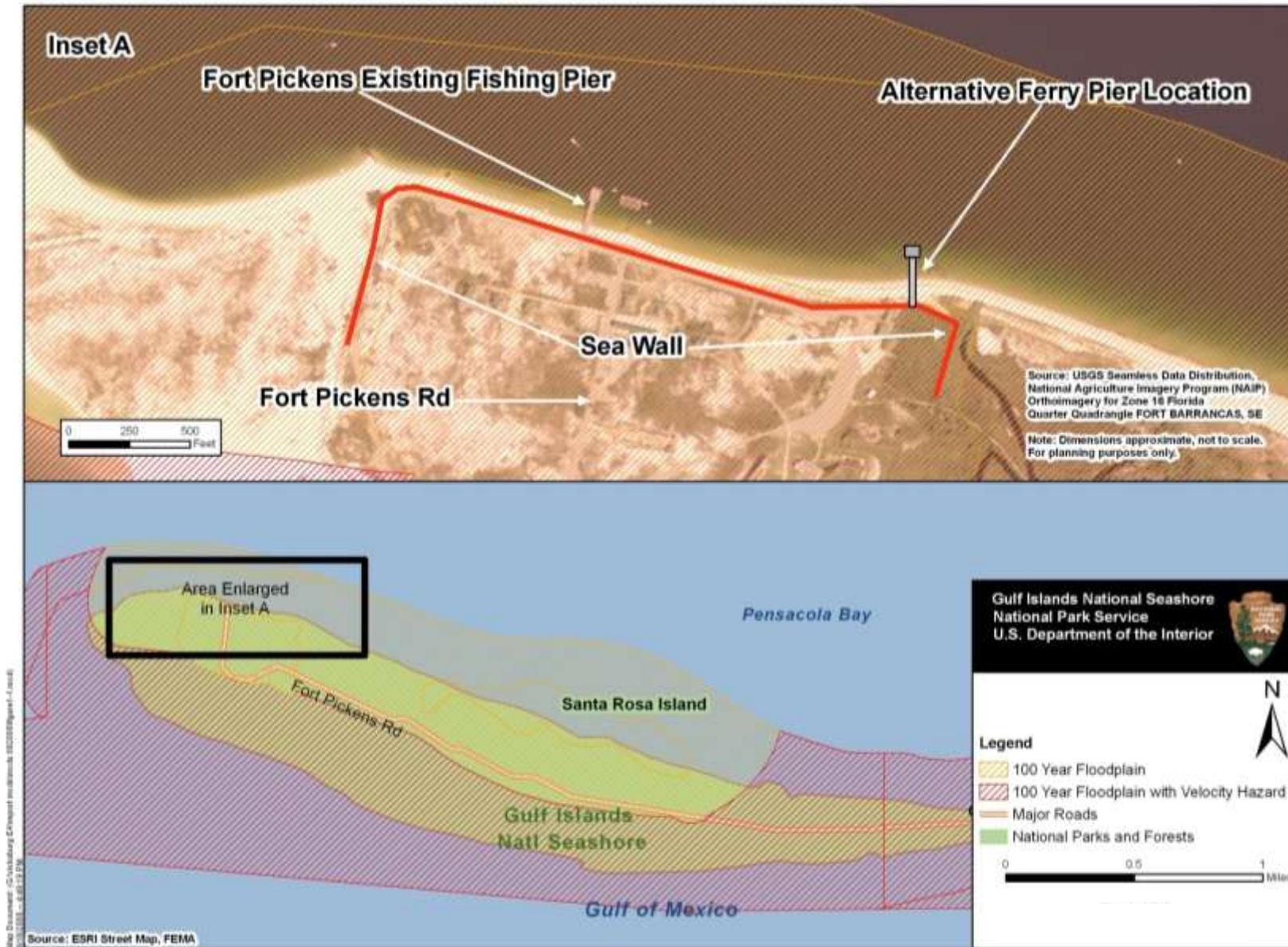


Figure 3-1 Location of Floodplains

Wetlands

Barrier islands such as Santa Rosa Island experience sand movement as a result of multiple storm surges carrying sand across the island and covering previously existing wetlands. Storms carry sand inland, covering existing wetlands and creating sand splays on the sound side of barrier islands. These sand splays may then serve as foundation for wetland development (NPS, 2006c).

Over 80 percent of the total land area at GUIS comprises wetland ecosystems (NPS, 2006c). According to the National Wetlands Inventory (NWI) (USFWS, 2010b) (Figure 3-2), Pensacola Bay surrounding the project area is considered estuarine and marine deep waters. The tidally influenced surf zone along the beach in the vicinity of the proposed pier location is considered a wetland area under NPS DO-77-1 (*Wetland Protection*) (NPS, 2002). This tidally influenced surf zone is approximately 60 feet wide and extends along the beachfront within the project area. The wetland area does not contain wetland vegetation or hydric soils as a result of its location within the splash zone of breaking waves from Pensacola Bay. Southeast of the proposed pier location, there are also several freshwater emergent and freshwater forested/shrub wetlands. These freshwater wetlands are to the east of the existing trail where the proposed pier is to be located, as depicted in Figure 3-2.

PROTECTED SPECIES

USFWS lists species as threatened or endangered when they meet criteria detailed under the ESA of 1973. Additionally, FLFWC and NMFS identify and list protected species. In, or in the vicinity of, GUIS, several terrestrial and marine plant and animal species are listed as protected by USFWS, FLFWC, and NMFS. Federal and state endangered and threatened species and species of concern documented to occur in GUIS are listed in Table 3-1 (USFWS, 2009, 2010a; NMFS, 2009a, 2009b; FLFWC, 2009). Detailed information regarding protected species can also be found in the BA and associated supplementary information (Appendix A).

Twenty-one listed species have been identified as likely to be present in the proposed project area based on species' preferred habitat and personal communication with GUIS, USFWS, and NMFS staff (Hoggard, 2009; Kelly, 2009; Hawk, 2009). The following paragraphs briefly describe the federal and state protected species likely to occur in the project area; more detailed information can be found in the BA and associated supplementary information (Appendix A).

Florida Manatee

The Florida manatee (*Trichechus manatus latirostrus*), a subspecies of the West Indian manatee, is listed as a federally endangered species. The main threat to the Florida manatee is increased boat traffic and other accidents associated with the expanding development in Florida. Manatees are found in coastal waters, bays, rivers, and (occasionally) lakes, where they feed on seagrass and other aquatic vegetation. Manatees may be found in any coastal or estuarine waters in Florida, but are most common in peninsular Florida (Florida Natural Areas Inventory [FNAI], 2001).

At GUIS, manatee sightings are rare but have been documented primarily in the Gulf of Mexico. Some individuals have (less frequently) been documented in Pensacola Bay and likely in the area north of Santa Rosa Island (east of the project area), as well as the Perdido Key area (Perdido Key is also located within GUIS, but is west of the project site), where seagrass beds are present (Hoggard, 2009).

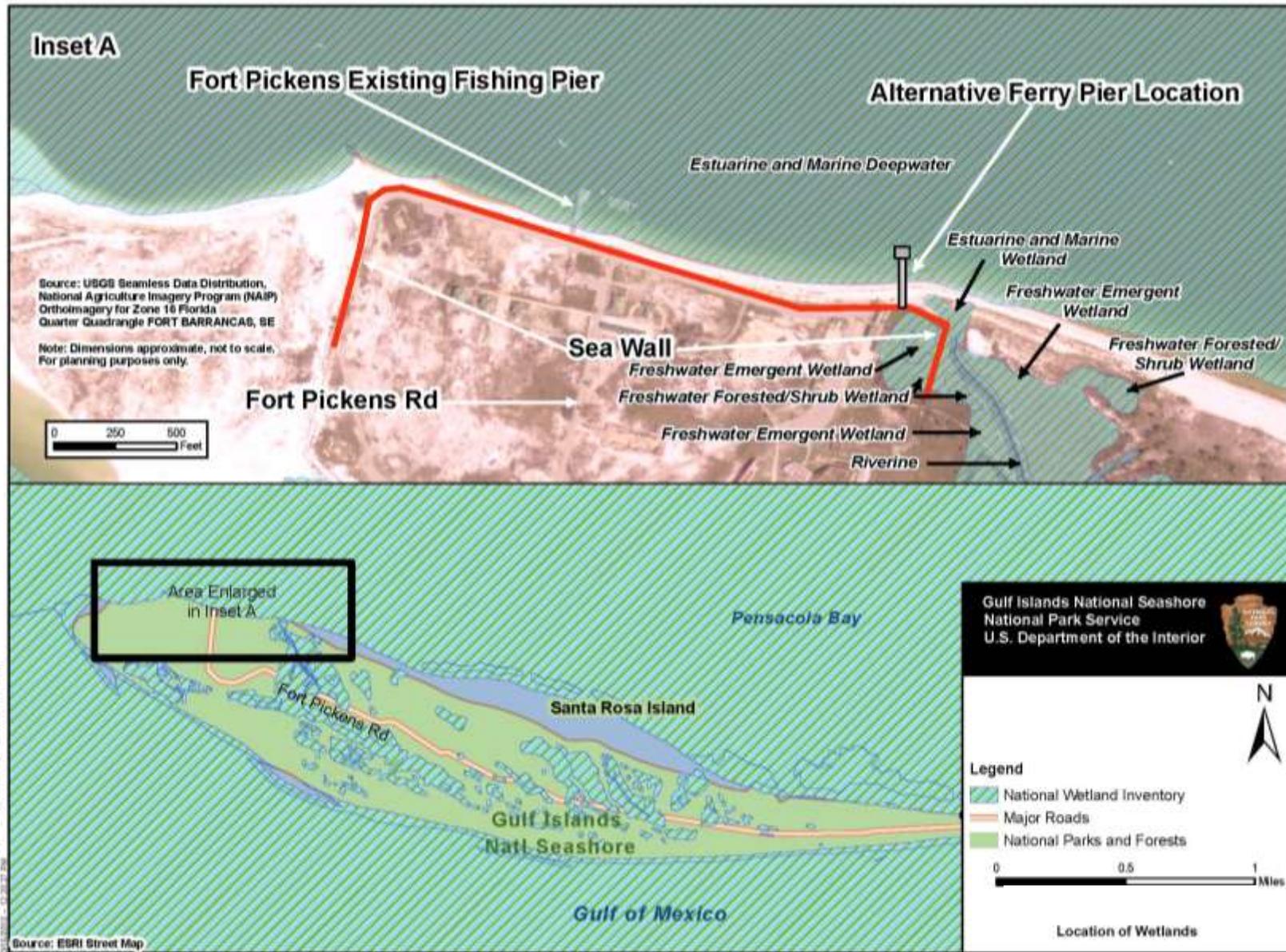


Figure 3-2 Location of Wetlands

Table 3-1 List of Documented Occurrences of Protected Species, Gulf Islands National Seashore

Listed Species	Scientific Name	Federal Status	State of Florida Status	Likely Found in Project Area*
Terrestrial Mammals				
Florida black bear	<i>Ursus americanus floridanus</i>		ST	
Perdido Key beach mouse	<i>Peromyscus polionotus trissyllepsis</i>	FE	SE	
Santa Rosa beach mouse	<i>Peromyscus polionotus leucocephalus</i>	FSOC		X
Birds				
American oystercatcher	<i>Haematopus palliatus</i>		SSC	X
Black skimmer	<i>Rancho nigra</i>		SSC	X
Brown pelican	<i>Pelicans occidentals</i>		SSC	X
Least tern	<i>Sterna antillarum</i>		ST	X
Little blue heron	<i>Egrets cerulean</i>		SSC	X
Osprey	<i>Pandion haliaetus</i>		SSC	X
Piping plover	<i>Charadrius melodus</i>	FT	ST	X
Reddish egret	<i>Egretta rufescens</i>		SSC	X
Snowy egret	<i>Egretta thula</i>		SSC	X
Southeastern snowy plover	<i>Charadrius alexandrinus tenuirostris</i>		ST	X
Tricolored heron	<i>Egretta tricolor</i>		SSC	X
White ibis	<i>Eudocimus albus</i>		SSC	X
Marine Mammals				
Florida manatee	<i>Trichechus manatus latirostris</i>	FE		X
Reptiles				
American alligator	<i>Alligator mississippiensis</i>		SSC**	X
Atlantic green sea turtle	<i>Chelonia mydas</i>	FE	SE	X
Atlantic loggerhead sea turtle	<i>Caretta caretta</i>	FT	ST	X
Gopher tortoise	<i>Gopherus polyphemus</i>		ST	
Hawksbill sea turtle	<i>Eretmochelys imbricata</i>	FE	SE	X
Kemp's ridley sea turtle	<i>Lepidochelys kempii</i>	FE	SE	X
Leatherback sea turtle	<i>Dermochelys coriacea</i>	FE	SE	X
Fish				
Gulf sturgeon	<i>Acipenser oxyrinchus desotoi</i>	FT	SSC	X
Saltmarsh topminnow	<i>Fundulus jenkinsi</i>		SSC	
Smalltooth sawfish	<i>Pristis pectinata</i>	FE	SE	X
Plants				
Coastal plain honeycomb head	<i>Balduina angustifolia</i>		SSC	
Cruise's goldenaster	<i>Chrysopsis gossypina</i>		SSC	
Godfrey's goldenaster	<i>Chrysopsis godfreyi</i>		SE	
Large-leaved jointweed	<i>Polygonella macrophylla</i>		SSC	
Perforated reindeer lichen	<i>Cladonia perforata</i>	FE	SE	

Notes:

- FE Federally listed as Endangered
 FSOC Federally listed as Species of concern
 FT Federally listed as Threatened
 SE State listed as Endangered
 SSC State species of special concern
 ST State listed as Threatened

* Based on personal communication with GUI Natural Resource Management Specialist (Hoggard, 2009) and research regarding preferred habitat.

** American alligator is listed because of its similarity of appearance to the American crocodile (*Crocodylus acutus*).
 Source: NMFS, 2009a, 2009b; USFWS, 2009, 2010a; FFWC, 2009.

Prepared by: SEM Checked by: JMR

Sea Turtles

Five species of federally listed sea turtles are found in the Gulf of Mexico (NMFS, 2009b):

- Atlantic loggerhead turtle (*Caretta caretta*),
- Atlantic green turtle (*Chelonia mydas*),
- Leatherback turtle (*Dermochelys coriacea*),
- Hawksbill turtle (*Eretmochelys imbricate*), and
- Kemp's ridley turtle (*Lepidochelys kemp*).

Sea turtle nesting does not occur on the bay side of Santa Rosa Island in the vicinity of the project area (Hoggard, 2009).

All five species have been observed within GUIS nesting, swimming, or feeding on the Gulf side of Santa Rosa Island or swimming or feeding on seagrass on the bay side of Santa Rosa Island (Hoggard, 2009). Turtle nesting typically occurs on sandy beaches during the months of May through August, with hatching occurring from late July through October (NMFS, 2009b). The Gulf side of Santa Rosa Island is a designated sea turtle nesting beach. Figure 3-3 depicts the sea turtle nesting beaches along Santa Rosa Island and strandings in the Fort Pickens Area. The term "stranding" as it relates to sea turtles is defined as sea turtles that are found on the beach either dead or incapacitated (Marine Mammal Stranding Center [MMSC], 2010). Additional information about each of the five sea turtle species can be found in the BA and associated supplementary information (Appendix A).

American Alligator

The American alligator, *Alligator mississippiensis*, formerly on the federal endangered species list, is now considered fully recovered and is listed as federally threatened due to similarity of appearance to other crocodylians. The American alligator is also listed as a species of special concern (SSC) by the State of Florida due to similarity of appearance to other crocodylians. The American alligator inhabits permanent bodies of fresh waters, occasionally wandering into brackish and salt waters (FNAI, 2001).

Although brackish and salt waters surround Santa Rosa Island, GUIS only occasionally receives reports of alligator sightings in the water, on the beach, and in wetlands near the project area (Hoggard, 2009).

Gulf Sturgeon

The Gulf sturgeon, *Acipenser oxyrinchus*, is federally listed as a threatened species. The Gulf sturgeon historically was threatened because of overfishing and then by habitat loss due to construction of water control structures, dredging, groundwater extraction, and flow alterations. The Gulf sturgeon is an anadromous fish that migrates from salt water into coastal rivers during the warmer months to spawn. The sturgeon often stays in the Gulf of Mexico and its estuaries and bays in cooler months (NMFS, 2009a).

The waters of the project site, and surrounding waters, are located within designated Gulf sturgeon critical habitat (Figure 3-4). The Gulf sturgeon utilizes Pensacola Bay as a migratory corridor from breeding grounds to winter foraging grounds. The Gulf sturgeon has been observed in the waters of GUIS (Hoggard, 2009). Gulf Sturgeon critical habitat is discussed in more detail in the Marine and Estuarine Resources section of this report. Additional information regarding the Gulf sturgeon is provided in the BA (Appendix A).

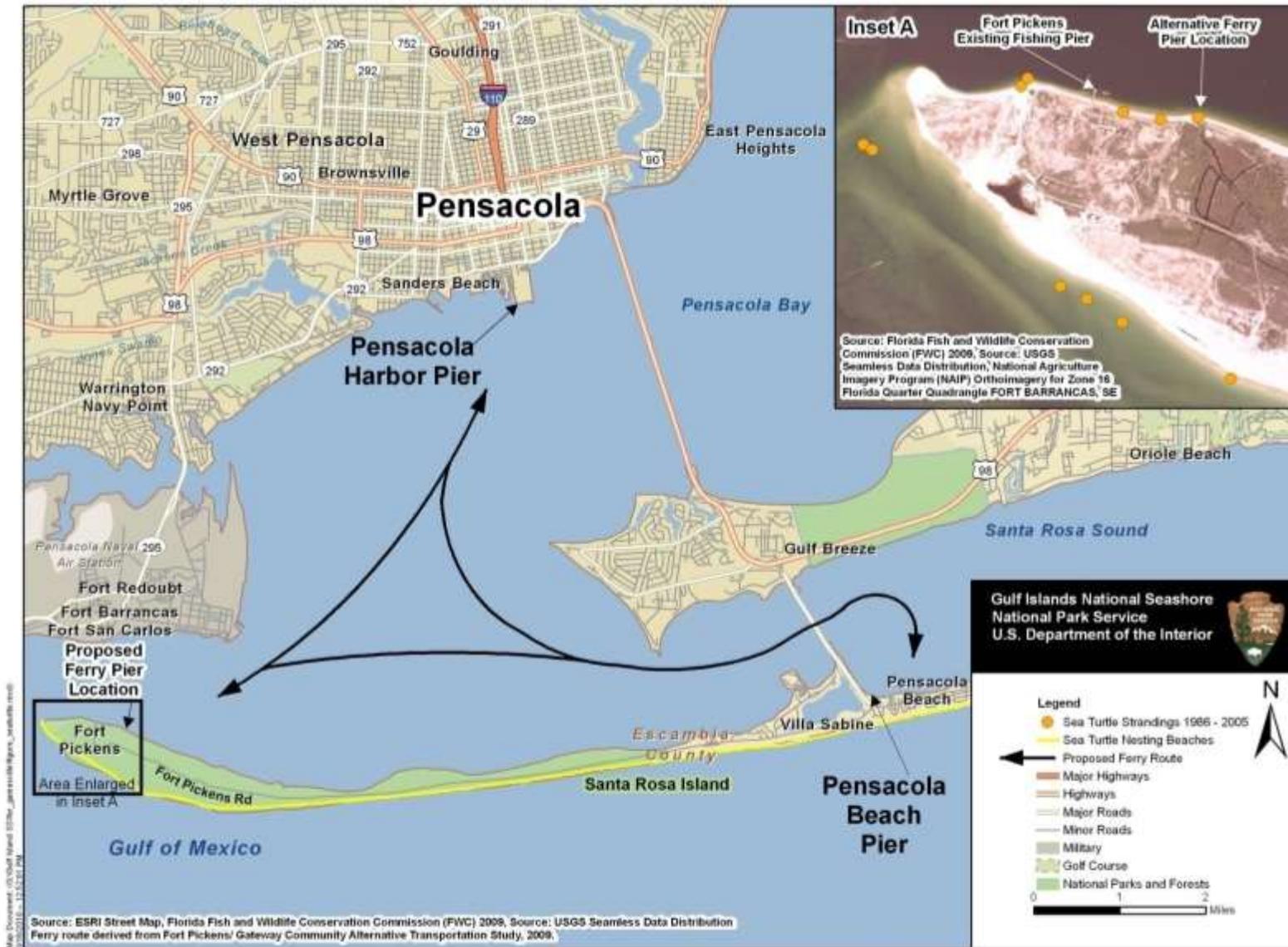


Figure 3-3 Sea Turtle Data

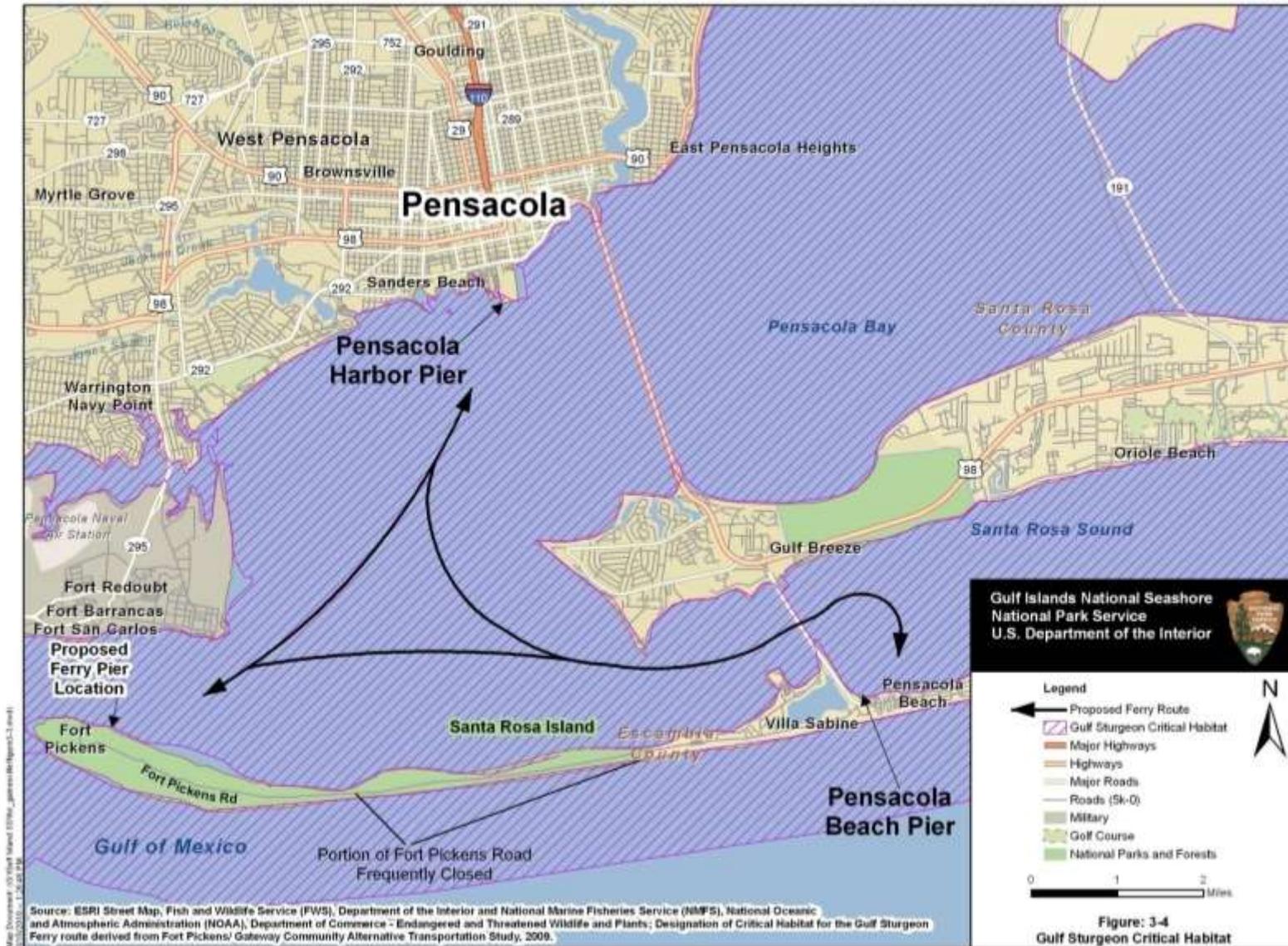


Figure 3-4 Gulf Sturgeon Critical Habitat

Smalltooth Sawfish

The smalltooth sawfish, *Pristis pectinata*, is federally listed as an endangered species. Formerly common from Texas to North Carolina, its current distribution is mainly restricted to South Florida and the Keys; adults are uncommon in the Florida panhandle (NOAA, 2009a). Juveniles inhabit shallow coastal waters, especially shallow mud banks and mangrove habitats. Very few juveniles have been documented in areas north of the current range of mangroves (*i.e.*, north of 29°N latitude). Adults are found with juveniles but also in deeper water habitat (NOAA, 2009a). The decline of this species is mainly attributed to mortality as bycatch in commercial and sport fisheries.

Smalltooth sawfish historically were found in and around the project area; however, the current distribution is mainly restricted to South Florida and the Keys. Critical habitat for the smalltooth sawfish lies between Charlotte Harbor and the Florida Everglades, outside and south of this project site (NOAA, 2009b). Additional information regarding the smalltooth sawfish is provided in the supplementary information to the BA in Appendix A.

Santa Rosa Beach Mouse

The Santa Rosa beach mouse, *Peromyscus polionotus leucocephalus*, a federally listed species of concern (USFWS, 2010a), currently occurs only on Santa Rosa Island. According to a 1920 report (Howell, in FFWC, 2008), the mouse formerly occupied dune habitat throughout the 47 miles of Santa Rosa Island. Gore and Schaeffer (1993, in FFWC, 2008) state that land development at Pensacola Beach, Navarre Beach, and Fort Walton Beach (Okaloosa Island) fragmented the single original population into four separate populations, as shown in Figure 3-5.

USFWS staff (Kelly, 2009) reported that a survey for the Santa Rosa beach mouse was conducted in 2007 (FFWC, 2008), and 25 Santa Rosa beach mice were identified in the Fort Pickens Area of GUIS at that time. Mice were trapped during the study, and tracks were recorded in the sand of the Fort Pickens Area of GUIS. Santa Rosa Island was severely damaged by Hurricane Ivan in 2004, but sand tracks indicate that mice persist on GUIS property from Navarre Beach to Fort Pickens (Nicholas, in FFWC, 2008). The Santa Rosa beach mouse typically inhabits primary, secondary, and occasionally tertiary sand dunes with a moderate cover of grasses and forbs (FNAI, 2001), and other typical dune vegetation.

Reportedly, Santa Rosa beach mouse habitat is found in several areas of Santa Rosa Island, including the Fort Pickens Area. In the proposed project area, there is limited Santa Rosa beach mouse habitat (Hoggard, 2009).

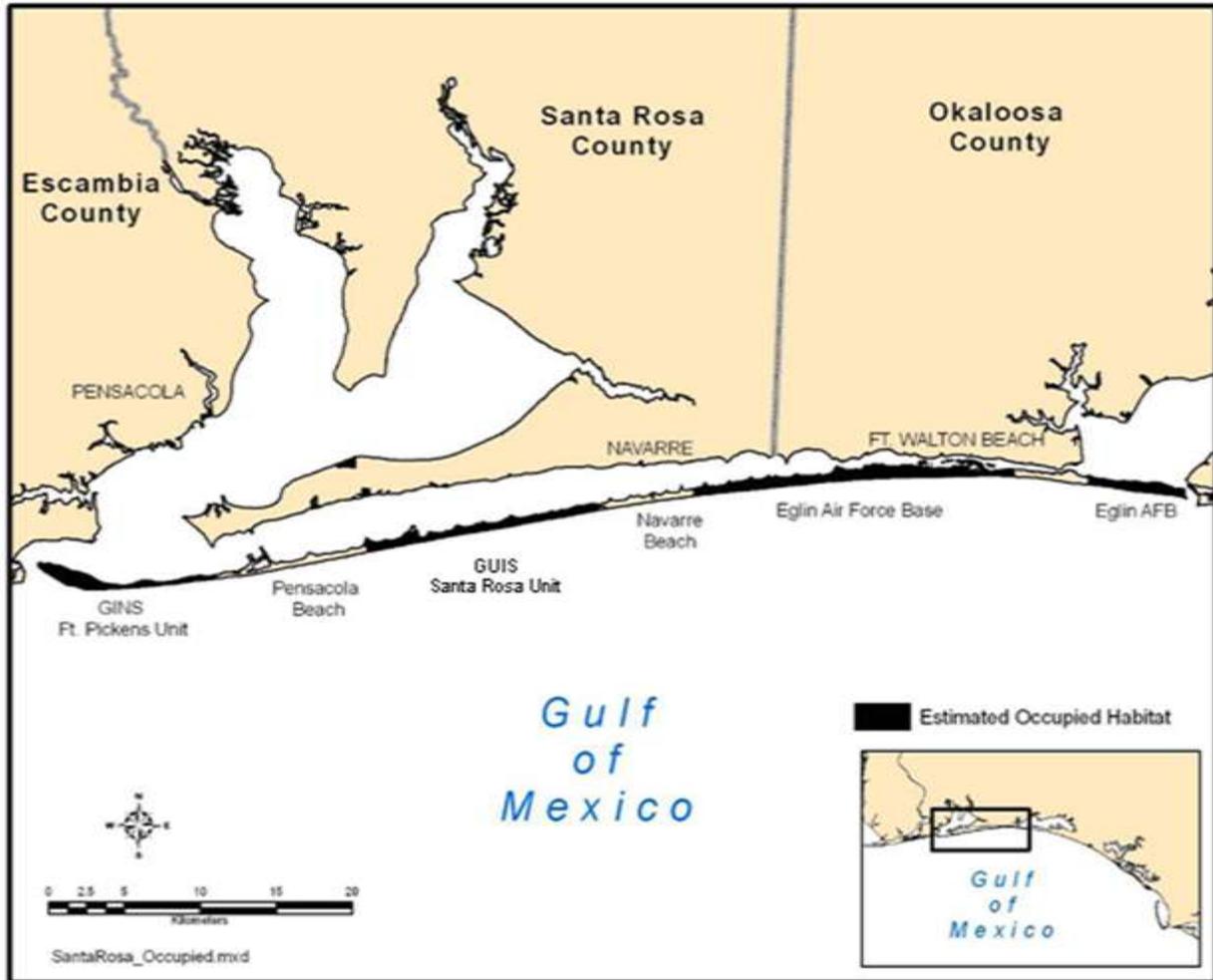


Figure 3-5 Areas Occupied by Santa Rosa Beach Mice, Santa Rosa Island, Florida, 1993 (Source: FLFWC, 2008)

Birds

Shorebirds, including those listed in Table 3-1, utilize GUIs for resting, nesting, foraging, wintering, and/or migratory rest stops. To protect nesting shorebirds, GUIs temporarily closes nesting areas above the beach for specific time periods each year (Hoggard, 2009). During nesting season (March through August), GUIs biologists locate, count, and monitor nests of the least tern (*Sterna antillarum*), snowy plover (*Charadrius alexandrinus tenuirostris*), black skimmer (*Rhynchops niger*), and other shorebirds. Figure 3-6 depicts historic nests identified in the Fort Pickens Area during park monitoring. Some of the historic nest locations depicted on Figure 3-6 are now submerged as a result of beach erosion from tropical storms and hurricanes since 2004 (Figure 3-6 reflects 2007 imagery).

Shorebirds are known to occasionally forage in the project area; common species observed include American plover, tricolored heron, and white ibis. Brown pelicans are observed foraging and loafing on the Gulf beach side and Bay side of Santa Rosa Island year-round; however, they do not nest in GUIs (Hoggard, 2009).



Figure 3-6 Sea Bird Nesting Locations

IMPORTANT WILDLIFE AND WILDLIFE HABITAT

Upland animal species are somewhat limited in number on barrier islands due to the lack of diversity in vegetation and difficulty of access from mainland areas. There are no resident large terrestrial mammals that inhabit Santa Rosa Island; however, numerous smaller native mammal species do inhabit the island (NPS, 2006c).

Over 280 species of birds have been recorded at GUIs. Bird species utilize GUIs for resting, nesting, foraging, wintering, or migratory rest stops (NPS, 2006c). Birds include songbirds, waterfowl, wading birds, birds of prey, and shorebirds. Photograph 3-2 depicts shorebirds resting on the existing pier at the Fort Pickens Lifesaving Station on Santa Rosa Island within GUIs.



Photograph 3-2 Shorebirds resting on existing pier at the Fort Pickens Lifesaving Station

In late 2004, Hurricane Ivan battered the panhandle coast of Florida, including GUIs, which caused extensive storm surge and flooding. The majority of GUIs lands located on Santa Rosa Island was washed over (*i.e.*, dunes washed away, leaving large open areas of flat, non-vegetated terrain). These flat areas of GUIs temporarily became excellent habitat for nesting shorebirds, such as plovers, terns, skimmers, and gulls (NPS, 2006c). While natural successional processes are resulting in the island ecosystem reaching equilibrium, including re-vegetation, which has decreased the area of preferred nesting habitat, the Fort Pickens Area in general still contains broad expanses of open habitat ideally suited for nesting shorebirds. However, in the project area, ideal nesting habitat is not present, based on NPS surveys and data from FLFWC.

Forty-seven species of reptiles have been identified at GUIs, including several state and federally listed species (NPS, 2006c).

Marine/estuarine wildlife is discussed in the following section, Marine and Estuarine Resources.

MARINE AND ESTUARINE RESOURCES

Fish

More than 200 species of fish have been observed in waters surrounding GUIs. The most abundant fish species is the anchovy (*Anchoa sp.*) and the silverside (*Menidia sp.*); both species are also abundant in the shallow nearshore waters. Myriad larval and young fish occupy the shallow waters around the islands and find food and protection in the seagrass beds (NPS, 2003c).

Essential Fish Habitat

The 1996 Magnuson-Stevens Act requires cooperation among NMFS, anglers, and federal and state agencies to protect, conserve, and enhance EFH. EFH is defined as those waters and substrates necessary to fish for spawning, breeding, feeding, or growth to maturity. The designation and conservation of EFH seek to minimize adverse effects on habitat caused by fishing and non-fishing activities. NOAA's ELMR Program developed a database on the distribution, relative abundance, and life history characteristics of ecologically and economically important fishes and invertebrates in the nation's estuaries. NOAA has designated EFH for more than 30 estuaries in the northern Gulf of Mexico for a number of species of finfish and shellfish. All of Pensacola Bay and waters surrounding GUIs are designated as EFH. Therefore, EFH is present in the vicinity of the proposed ferry pier and the ferry operation routes. EFH in Pensacola Bay provides habitat for several species of fish and shellfish (NPS, 2006c).

Gulf Sturgeon Critical Habitat

USFWS and NMFS recently designated critical habitat essential to the conservation of the Gulf sturgeon. Nearshore waters within one nautical mile of the mainland from Pensacola Pass to Apalachicola Bay and the Perdido Key area and the area north of Santa Rosa Island were designated as critical habitat, as they are believed to be important migratory pathways between Pensacola Bay and the Gulf of Mexico for feeding and genetic exchange (NMFS, 2009a). The proposed project area is located in critical habitat for Gulf sturgeon (Figure 3-4).

Shellfish

Several species of shellfish that are commercially, recreationally, and ecologically important occur in GUIs waters, including blue crabs (*Callinectes sapidus*), stone crabs (*Menippe mercenaria*), and many species of shrimp (NPS, 2006c).

Marine Mammals

Twenty-nine marine mammals are native to the Gulf of Mexico, including 28 pelagic species of whales and dolphins and one sirenian, the Florida manatee. Three species commonly occur at GUIs: the bottlenose dolphin (*Tursiops truncatus*), Atlantic spotted dolphin (*Stenella frontalis*), and the Florida manatee. The bottlenose dolphin and the Atlantic spotted dolphin are the two most common marine mammals found in the Gulf of Mexico. Both species feed primarily on fish, squid, and crustaceans. The Atlantic spotted dolphin spends the majority of its life offshore, while the bottlenose dolphins often travel into coastal bays and inlets for feeding and reproduction (NPS, 2006c).

Seagrass

The waters surrounding the Florida District of GUIs contain approximately 1,930 acres of potential seagrass habitat in the Perdido Key area and waters north of Santa Rosa Island. Potential seagrass habitat within GUIs generally consists of shallow areas less than 7 feet deep, with stable sediments and slow currents. Documented seagrass species in GUIs waters include turtle grass (*Thalassia testudinum*),

manatee grass (*Syringodium filliforme*), shoal grass (*Halodule wrightii*), and widgeon grass (*Ruppia maritime*). The area north of Santa Rosa Island is one of the only water bodies within the Pensacola Bay watershed that still contain moderately diverse seagrass beds (FDEP, 2001). Figure 3-7 depicts documented seagrass beds and the proposed ferry route (U.S. Geological Survey [USGS], 2003). Based on the USGS (2003) mapping and observations in the project area by the GUIS Natural Resource Management Specialist (Hoggard, 2009), there are no seagrass beds in the proposed project area.

UNIQUE ECOSYSTEMS, WORLD HERITAGE SITES, AND BIOSPHERE RESERVES

Unique Ecosystems

There are two unique ecosystems in the vicinity of the proposed project area: an aquatic preserve and a barrier island ecosystem. A brief description of each is reflected in the following paragraphs.

Florida's aquatic preserves include coastal landscapes that have been set aside for protection. Aquatic preserves protect the living water of Florida to ensure that they will always be home for bird rookeries and fish nurseries (FDEP, 2009). The Fort Pickens Aquatic Preserve surrounds the western end of Santa Rosa Island and the eastern end of Perdido Key. The Fort Pickens Aquatic Preserve was designated by Florida Legislature in 1970. It encompasses 34,000 acres, including portions of Santa Rosa Sound, Pensacola Bay, and Big Lagoon, as well as part of GUIS. The submerged lands along the northern sides of the barrier islands are characterized by shallow saline waters, continuous and patchy seagrass beds, and salt marshes. These communities provide habitat for wildlife and birds such as nesting sea turtles and shorebirds (FDEP, 2009).

Barrier island ecosystems, such as Santa Rosa Island, are unique and important natural areas that support a variety of wildlife. Barrier islands along the Gulf coast are especially important for nesting sea turtles, populations of small mammals, and as foraging and loafing habitat for a variety of resident and migratory birds (shorebirds, wading birds, and songbirds).

No designated World Heritage Sites or Biosphere Reserves are located in the project vicinity.

NON-NATIVE SPECIES

Although non-native species such as the Norway rat (*Rattus norvegicus*), armadillo (*Dasypus novemcinctus*), coyote (*Canis latrans*), red fox (*Vulpes vulpes*), black rat (*Rattus rattus*) (NPS, 2006c), hispid cotton rat (*Sigmodon hispidus*), and Chinese tallow (*Triadica sebifera*) are found in the Florida and Mississippi Districts of GUIS, these species are not known to occur in the project area.

Following Hurricane Ivan, GUIS observed a substantial spread of torpedograss (*Panicum repens*). The highly invasive grass was observed mainly along the northern shorelines of the barrier islands and the southern shorelines of the mainland, where a sizeable margin of it became established between the water and the uplands (Hoggard, 2006). Torpedograss may be present in the project area.

RECREATION RESOURCES

Fort Pickens was set aside in part as a historic site of national significance for the inspiration and benefit of the people of the United States (16 USC 461) (NPS, 2006c). Public use and enjoyment of the recreational values of this area are preserved in the Seashore's enabling legislation. The Fort Pickens Area contains approximately 5.5 miles of trails and approximately 8 miles of scenic drives. Pedestrian access to Gulf and Sound beaches is provided at 11 locations along the Fort Pickens road system.



Figure 3-7 Location of Seagrass Beds

The Fort Pickens Area offers access to recreational fishing, beach recreation, bicycling, hiking, surfing, and 200 developed camping locations. Accommodations for the handicapped and elderly are provided. The 200-site campground provides camping space for tent campers and recreational vehicle/trailer campers. Campsites are equipped with paved parking pads, water, and electricity. Central restrooms provide running water and showers. The fort is a destination to many visitors, and guided fort tours are offered daily during summer (NPS, 2006c).

During summer, Langdon Beach serves as a lifeguarded swimming beach. Other amenities include a picnic shelter, bathrooms, and outdoor showers. Two parking lots along Fort Pickens Road provide visitor access to the gulfside beach. Each lot provides parking for 25 cars. Picnic pavilions are also provided at Battery Worth and Little Langdon on the bay side of the island. Bay beach access is provided at Little Langdon. A snack bar and campground store are available seasonally (NPS, 2006c).

In the project area, the fishing pier and jetty in the fort area are popular destinations for fishers and divers. The pier is officially licensed for fishing, so individual fishing permits are not required, which makes the pier a popular feature for out-of-state visitors.

VISITOR EXPERIENCE AND AESTHETIC RESOURCES

In the four years prior to Hurricane Ivan (2000-2003), annual attendance in the Fort Pickens Area averaged approximately 682,000 visitors (Table 3-2). After Hurricane Ivan damaged Fort Pickens Road on September 16, 2004, visitation to the Fort Pickens Area fell to virtually zero. Since the road reopened in May 2009, visitation has returned to levels similar to those prior to Hurricane Ivan.

Table 3-2 Visitation at Fort Pickens Area, Gulf Islands National Seashore

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Jan	27,702	40,751	22,694	24,665	28,369	NR	NR	NR	NR	NR
Feb	37,371	42,155	36,539	33,151	30,804	NR	NR	NR	NR	NR
Mar	51,797	59,065	57,580	58,034	69,447	NR	NR	NR	NR	NR
Apr	68,561	73,637	61,544	66,317	63,377	NR	NR	NR	NR	NR
May	87,609	107,775	75,082	74,946	78,833	NR	NR	NR	NR	52,647
Jun	118,312	121,793	85,796	77,202	81,657	NR	NR	NR	NR	90,334
Jul	91,072	100,009	88,682	85,483	91,912	NR	NR	NR	NR	89,032
Aug	72,490	65,584	71,294	69,719	58,525	NR	NR	NR	NR	107,967
Sep	51,184	51,805	30,834	44,410	14,148	NR	NR	NR	NR	73,278
Oct	40,362	37,303	23,296	45,816	NR	NR	NR	NR	NR	57,070
Nov	37,776	39,501	34,771	41,780	NR	NR	NR	NR	NR	32,951
Dec	21,603	27,251	23,055	22,812	NR	NR	NR	NR	NR	23,026
Total	705,839	766,629	611,167	644,335	517,072	NR	NR	NR	NR	526,305

Note:

NR Not recorded

Hurricane Ivan damaged Fort Pickens Road on September 16, 2004. Road repairs were completed in May 2009. GUIIS does not have an accurate record of visitation between these dates, but because of the road closure, visitation was virtually zero.

Source: NPS, 2010.

Beach access is a major expectation of seashore visitors. The access routes take the traveler through dunes of white sand along the shores of the Gulf of Mexico and Santa Rosa Sound, a terrain of striking beauty. The fort is a destination to many visitors, and guided fort tours are offered daily during summer.

In the Fort Pickens Area, visitors can walk around the historic grounds, view the historic structures, and visit a museum and store. Several historic coastal defense structures throughout the historic district offer visitors a glimpse of earlier occupation of Fort Pickens.

ARCHAEOLOGY

Prehistoric archaeological resources have not been documented at the Fort Pickens Area. Evidence of colonial and recent occupation is present within Fort Pickens. An archaeology study of the Fort Pickens Area was completed in 1973 (NPS, 1980). The 1973 survey found no prehistoric sites but did locate an important historic archaeological site, the Second Site of Pensacola, a Spanish settlement that was located on the island from the early 1700s until it was destroyed by a hurricane in 1752. The identified sites associated with the Second Site of Pensacola are not in the vicinity of the proposed pier.

On land, areas adjacent to the outside of the seawall are subject to continuous disturbance from wave action and would not be suitable areas for unknown intact archaeological resources. These areas at the existing fishing pier and the potential new pier location to the east of the fishing pier have been significantly disturbed by human activity from seawall construction and other modern construction activities (walkway to existing fishing pier, parking areas, and road). Because of these disturbances, these areas have a very low probability of containing unknown intact archaeological resources.

An underwater and beach zone archaeology survey was completed in 2010 in the vicinity of the existing fishing pier and the potential new pier location to the east of the fishing pier (Cook, 2010). The study was done using sidescan sonar and magnetometer surveys, with follow-up underwater and beach investigations. Several buried features, scatters of rubble, including concrete, brick, and other artifacts, and intact pilings, were located in the vicinity of the potential new pier that are believed to be associated with an 1830s-era wharf or pier structure. After consultation with SHPO, these resources were determined to be significant elements of the NRHP-listed historic district at Fort Pickens (Appendix C).

HISTORIC RESOURCES

The Fort Pickens Area represents one of the greatest concentrations of historic coastal defense fortifications in the country and was in active military use for approximately 151 years. Construction began on Fort Pickens itself in 1829, and the masonry fort was completed in 1834 (NPS, 1980). Fort Pickens was one of the three defensive works that comprise the historic crossfire designed to protect the Pensacola Navy Yard. The other forts were Fort McRee on Perdido Key (now submerged) and Fort Barrancas at the Pensacola Navy Yard.

Fort Pickens was held by Union forces during the Civil War and was involved in sporadic battles with Confederate forces, coming under fire from Forts McRee and Barrancas and thwarting Confederate land assaults. After the Civil War, Fort Pickens was used as a prison for military and political prisoners. One of its most notable prisoners was Geronimo, an Apache Indian who was captured in 1886 with others in his band and held at the fort for two years.

After the Civil War demonstrated that the masonry forts were obsolete, Fort Pickens was upgraded with several concrete-reinforced batteries and related structures, including officers' quarters, barracks, a mess hall, and storehouses. A concrete seawall was built from 1904 to 1910 to protect the area, and a narrow gauge railroad was developed to serve defense works within the area. The defense works at Fort Pickens were upgraded and manned through the 1940s, until technological advances and new strategic concepts formulated during World War II made the coastal defense systems at Fort Pickens obsolete (NPS, 1980). After the war, Fort Pickens was declared surplus and was transferred to the State of Florida for use as a state park.

An area containing many of the important coastal defense fortifications was designated as a national historic district on the NRHP on May 31, 1972. The historic district covers the western three miles of the

Fort Pickens unit of GUIS. The proposed pier would connect to the mainland within the boundaries of this designated historic district.

In the vicinity of the existing fishing pier, historic resources include the seawall (NPS, 1980) and a historic duplex wood-frame residence constructed about 1909, designated Building 1 by GUIS. The residence is currently used by GUIS as a “cottage” rental for agency staff and their families, as well as for storage space.

In the vicinity of the proposed ferry pier, historic resources include the seawall and three historic structures. The first structure, designated Building 17 or the “Bally Building” by GUIS, is a concrete building constructed about 1900 and located adjacent to the seawall to the west of the proposed pier. Its historic purpose is unknown according to the 1980 GMP and associated environmental impact statement (NPS, 1980). The building is currently used by GUIS as cultural storage. The second structure, designated Building 15 by GUIS, is a brick building constructed in 1905 and located immediately south of Building 17 to the west of the proposed pier. Its historic purpose is related to harbor mine loading. The building is currently used by GUIS for maintenance storage. The third structure, designated Building 16 by GUIS, is a brick building constructed in 1899 and located immediately east of Buildings 15 and 17 and to the east of the proposed pier. Its historic purpose is related to mine storage. The building is currently used by GUIS for maintenance storage. Figure 3-8 shows the structures and their relation to the proposed ferry pier.

Most of the historic structures in the Fort Pickens Area, including Buildings 1, 15, 16, and 17, were significantly damaged during Hurricane Ivan. However, the structures have been restored to their pre-storm condition so as not to affect their historic characteristics.

SOCIOECONOMICS

The Fort Pickens Area of GUIS provides numerous types of visitor experience that allow for enjoyment of the park resources across a broad range of socioeconomic groups. Approximately 32,000 park visitors gain access through a Golden Age Passport each year, which accounts for approximately 4 percent of total visitation (NPS, 2006c). The park provides a “Beach Wheel Chair” for the physically disabled; approximately 150 people utilize this service each summer season. The Fort Pickens Area generates approximately \$1.2 million a year. Collecting this money employs 10 permanent and 5 seasonal staff. The Fort Pickens Area contains two food retail sites, generating in excess of \$250,000 gross revenue and \$10,500 income to the park, and employing six people (NPS, 2006c). Much of the Seashore’s visitation has traditionally come from people wishing to visit the Fort Pickens Area. The existence of the Fort Pickens Area has a significant economic impact to nearby communities, including Pensacola, Pensacola Beach, Gulf Breeze, and Navarre Beach. Each of these communities derives important economic benefits from persons who stop to shop or seek lodging while visiting. Of the \$1.2 million the Fort Pickens Area generates, approximately \$450,000 goes to the collection of fees and approximately \$500,000 for use in repair and maintenance of park infrastructure, improvements to visitor use areas, and programs. This money is returned to the local economy through wages, contracts, and purchases.

ENERGY RESOURCES

Vehicle use (for both transportation and maintenance) constitutes the primary source of energy consumption in the Fort Pickens Area. Other energy uses include electricity consumption at buildings and at the campground, and fuel consumption for landscape management (mowers and gas-powered maintenance equipment). The proposed project would not prevent access to any known energy resources in the project vicinity, such as coal, oil, or natural gas. The project would have no such impacts on the availability of these resources.

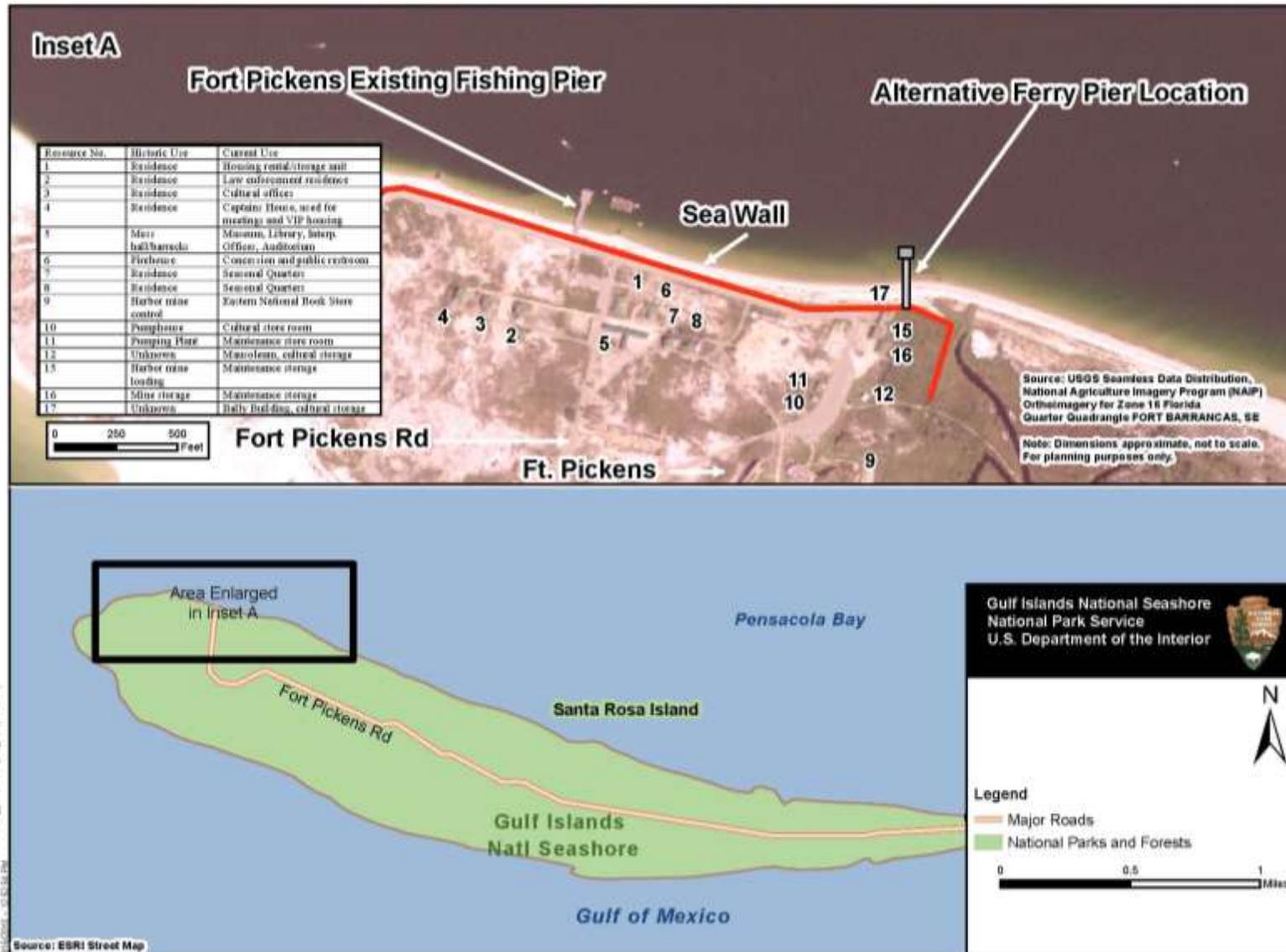


Figure 3-8 Location of Historic Resources

LONG-TERM MANAGEMENT OF RESOURCES

The superintendent at GUIS is responsible for managing the park; its staff; all of its programs; and its relations with persons, agencies, and organizations interested in park operations. GUIS staff provide the full scope of functions and activities to accomplish the park's objectives, including science and resources management, interpretation and education, resource protection, law enforcement, emergency services, public health and safety, and fee collection. Currently, the staff consists of 79 permanent employees, 2 term employees, and 10 seasonal employees. The maintenance of facilities at Fort Pickens and adjacent lands is a major component of park operations. Also, an active program of visitor services, including campground services, fee collection, and visitor protection, operates year-round at Fort Pickens.

4. ENVIRONMENTAL CONSEQUENCES

INTRODUCTION

The following discussion describes the potential environmental consequences associated with the no action alternative (Alternative A) and with the implementation of Alternatives B, C, and D. This section also provides the scientific and analytical basis for comparing the alternatives. Each impact topic is organized by alternative, refining the issues and concerns into distinct topics for analysis. These topics allow standardized comparison between the alternatives based on their impact on the environment.

The methodology for resource impact assessments follows direction provided in the *CEQ Regulations for Implementing Parts 1502 and 1508* of NEPA. The standard and baseline for assessing and measuring impacts are change relative to the conditions that existed before the passage of NEPA in 1969.

The impact analysis and the conclusions in this section are based on a review of existing literature and park studies; information provided by experts within NPS, USFWS, the Florida SHPO, and other agencies; and the observations and professional judgments of park staff.

IMPACT TOPIC THRESHOLD DEFINITIONS

The terms of potential impacts are described as follows:

- Type – Are the potential impacts beneficial or adverse?
- Context – Are the potential impacts site-specific, local, or regional?
- Duration – Are the potential impacts short-term (*e.g.*, lasting less than one year) or long-term (*e.g.*, lasting more than one year)?
- Intensity – Are the potential impacts negligible, minor, moderate, or major?

Specific impact definitions apply to each of the impact topics addressed in this EA. The definitions are defined in terms of intensity (negligible, minor, moderate, and major) and duration (short-term and long-term). Detailed descriptions of each impact definition as it relates to its corresponding impact topic are presented in each impact topic discussion. Short-term impacts are deemed to be those that are related to construction and typically last less than one year. Long-term impacts are those that last longer than one year.

Both beneficial and adverse impacts are discussed. The CEQ regulations and NPS's *Conservation Planning, Environmental Impact Analysis and Decision-making* (DO-12) (NPS, 2001c) call for a discussion of the appropriateness of mitigation, as well as an analysis of how effective the mitigation would be in reducing the intensity of a potential impact (*e.g.*, reducing the intensity of an impact from major to moderate or minor). The alternatives assume that park managers would apply mitigation measures to reduce or avoid impacts. Without appropriate mitigation measures, the potential for resource impacts would increase and the magnitude of those impacts would rise.

GEOLOGIC RESOURCES AND GEOHAZARDS

Methodology and Intensity Thresholds

The thresholds for this impact assessment are as follows:

- Negligible:** Impacts to park geologic processes are not detectable based on standard scientific methodologies. Impacts result in frequency, magnitude, and duration measurements that are well within the natural range of variability (NRV).
- Minor:** Impacts are detectable. Frequency, magnitude, and duration measurements are expected to remain within the NRV, possibly showing small, short-term disruptions. Disruptions to key geologic processes are expected to be short-term and within the NRV.
- Moderate:** Impacts are detectable. Frequency, magnitude, and duration measurements are expected to be outside the NRV for short periods of time, but return to the NRV. Disruptions to key geologic processes or ecosystems are expected to be short-term and temporarily outside the NRV.
- Major:** Impacts are detectable. Frequency, magnitude, and duration measurements are expected to be outside the NRV for short to long periods of time, or even be permanent. Disruptions within the NRV may be long-term. Disruptions to key geologic processes or ecosystems may be long-term or permanent.

Impact Topic Analysis

Alternative A, Geologic Resources and Geohazards – Continue Existing Management (No Action)

Analysis. This alternative would have no impacts to geological processes. The natural processes on the barrier island, such as overwash and natural dune formation, would operate with little or no human interference. The island would be able to move naturally in the face of the forces of the sea. In so doing, the island would continue to protect the mainland and to support sea grass and other coastal ecosystems on the sound side.

Cumulative Impacts. This alternative would have no cumulative impacts to geologic processes. This alternative does not imply, lead, or require any additional or other actions that may influence geologic processes. No other past, present, or future reasonable actions are seen that could lead to impacts, cumulative or otherwise.

Alternative B, Geologic Resources and Geohazards – Retrofit the Existing Fort Pickens Fishing Pier

Analysis. This alternative would have negligible, short-term, adverse impacts during construction and negligible, long-term, adverse impacts on geological processes. The construction of gangways, upgrade of existing pilings, and addition of pilings would affect littoral drift and modify sediment transport.

Cumulative Impacts. The predicted cumulative impacts of this alternative to geologic processes would be negligible, long-term, and adverse. The area already contains two other shoreline structures: a rock jetty and a bent (piling used to support a structure) from a previous pier. The addition to the shoreline structures anticipated in this alternative would have an incremental effect on the geologic processes at a site currently affected by past actions. Propeller wash from frequent docking and departures of a ship,

and the potential need for periodic dredging, would affect the littoral drift and modify sediment transport (NPS, 2006c).

Alternative C, Geologic Resources and Geohazards – Construct a New Fixed Pier Along the Fort Pickens Seawall

Analysis. This alternative would have negligible, short-term, adverse impacts during construction. The anticipated impacts to geologic resources under this alternative would be minor, long-term, and adverse. The construction of a new pier may influence how geologic features and processes are affected by tides, currents, ship wakes, overwash, sea level rise, and wind, and would affect littoral drift and modify sediment transport.

Cumulative Impacts. The predicted cumulative impacts of this alternative on geologic processes would be minor, long-term, and adverse. An additional shoreline structure would be added to an area already containing three other shoreline structures: a rock jetty, a fishing pier, and a bent from a previous pier. The additional shoreline structures anticipated in this alternative would have an added effect on the geologic processes at a site currently affected by past actions. Propeller wash from frequent docking and departures of a ship, and the potential need for periodic dredging, would potentially affect the littoral drift and modify sediment transport (NPS, 2006c).

Alternative D, Geologic Resources and Geohazards – Construct a New Floating Pier Along the Fort Pickens Seawall

Analysis. This alternative would have negligible, short-term, adverse impacts during construction. Similar to Alternative C, the anticipated impacts to geologic resources under this alternative would be minor, long-term, and adverse. The construction of a pier may influence how geologic features and processes are affected by tides, currents, ship wakes, overwash, sea level rise, and wind, and would affect littoral drift and modify sediment transport.

Cumulative Impacts. Similar to Alternative C, the predicted cumulative impacts of this alternative on geologic processes would be minor, long-term, and adverse. An additional shoreline structure would be added to an area already containing three other shoreline structures: a rock jetty, a fishing pier, and a bent from a previous pier. The additional shoreline structures anticipated in this alternative would have an added effect on the geologic processes at a site currently affected by past actions. Propeller wash from frequent docking and departures of a ship, and the potential need for periodic dredging, would affect the littoral drift and modify sediment transport (NPS, 2006c).

Conclusion. With respect to geologic resources:

- Alternative A would have no impacts to geological processes.
- Impacts from Alternative B would be negligible, short-term, and adverse during construction and negligible, long-term, and adverse due to the addition of pilings.
- Impacts from Alternative C would be negligible, short-term, and adverse during construction and minor, long-term, and adverse due to the creation of an additional shoreline structure.
- Impacts from Alternative D would be negligible, short-term, and adverse during construction and minor, long-term, and adverse due to the creation of an additional shoreline structure.

AIR QUALITY

Methodology and Intensity Thresholds

The thresholds for this impact assessment are as follows:

- Negligible:** Air quality would not be impacted, or the impacts on air quality would be below or at the lower levels of detection. Any impact on air quality would be slight and would return to normal shortly after project implementation activities.
- Minor:** Adverse impacts on air quality would be measurable, although the changes would be small and short-term, and the impacts would be localized, temporary, and limited to sensitive resources. For adverse impacts, no air quality mitigation measures would be necessary.
- Moderate:** Adverse impacts on air quality would be measurable and would have noticeable consequences, although the impact would be relatively local. For adverse impacts, all air quality standards would still be met. There would be short-term exposure to sensitive resources. Air quality mitigation measures would be necessary, and the measures would likely be successful.
- Major:** Changes in air quality would be measurable, would have substantial consequences, and would be noticed regionally. For adverse impacts, there would be possible violations of state and federal air quality standards, violation of Class II air quality standards, and/or prolonged exposure to sensitive receptors. Air quality mitigation measures would be necessary, and the success of the measures could not be guaranteed.

Impact Topic Analysis

Alternative A, Air Quality – Continue Existing Management (No Action)

Analysis. Alternative A would have no impacts to air quality.

Cumulative Impacts. This alternative would have no cumulative impacts to air quality. This alternative does not imply, lead, or require any additional or other actions that may influence air quality.

Alternative B, Air Quality – Retrofit the Existing Fort Pickens Fishing Pier

Analysis. This alternative would have negligible, short-term, adverse impacts on air quality from construction equipment. The construction of gangways, upgrade of existing pilings, and addition of pilings would affect local air quality. The impacts on air quality would be below or at the lower levels of detection, or absent. Any impact on air quality would be slight and short-term, and air quality would be expected to return to pre-existing conditions shortly after the alternative has been implemented.

Cumulative Impacts. The predicted cumulative impacts of this alternative to air quality would be long-term and beneficial. The operation of a regional ferry service would result in long-term beneficial impacts to air quality by potentially reducing the vehicle traffic in the Fort Pickens Area.

Alternative C, Air Quality – Construct a New Fixed Pier Along the Fort Pickens Seawall

Analysis. This alternative would have negligible, short-term, adverse impacts on air quality from construction equipment. The construction of the pier would affect local air quality. The impacts on air quality would be below or at the lower levels of detection, or absent. Any impact on air quality would be slight and short-term, and air quality would be expected to return to pre-existing conditions shortly after the alternative has been implemented.

Cumulative Impacts. The predicted cumulative impacts of this alternative to air quality would be long-term and beneficial. The operation of a regional ferry service would result in long-term, beneficial impacts to air quality by potentially reducing the vehicle traffic in the Fort Pickens Area.

Alternative D, Air Quality – Construct a New Floating Pier Along the Fort Pickens Seawall

Analysis. This alternative would have negligible, short-term, adverse impacts on air quality from construction equipment. The construction of the pier would affect local air quality. The impacts on air quality would be below or at the lower levels of detection, or absent. Any impact on air quality would be slight and short-term, and air quality would be expected to return to pre-existing conditions shortly after the alternative has been implemented.

Cumulative Impacts. The predicted cumulative impacts of this alternative to air quality would be long-term and beneficial. The operation of a regional ferry service would result in long-term, beneficial impacts to air quality by potentially reducing the vehicle traffic in the Fort Pickens Area.

Conclusion. With respect to air quality:

- Alternative A would have no impacts to air quality.
- Impacts from Alternative B would be negligible, short-term, and adverse during construction, and long-term and beneficial after construction and operation of the ferry.
- Impacts from Alternative C would be negligible, short-term, and adverse during construction, and long-term and beneficial after construction and operation of the ferry.
- Impacts from Alternative D would be negligible, short-term, and adverse during construction, and long-term and beneficial after construction and operation of the ferry.

SOUNDSCAPES

Methodology and Intensity Thresholds

The thresholds for this impact assessment are as follows:

Negligible:	There would be no introduction of artificial noise from the project, or effects to soundscapes would be at or below the lower levels of detection.
Minor:	A short-term introduction of artificial noise would occur at localized sites. The effect would be readily detectable, but would not adversely affect visitors or wildlife.
Moderate:	A widespread introduction of noise would be readily detectable and would adversely affect nearby visitors and wildlife.
Major:	A long-term introduction of noise would occur that would adversely affect visitors and wildlife.

Impact Topic Analysis

Alternative A, Soundscapes – Continue Existing Management (No Action)

This alternative would result in no changes to soundscapes in the Fort Pickens Area.

Cumulative Impacts. This alternative would have no cumulative impacts to soundscapes. This alternative does not imply, lead, or require any additional or other actions that may influence soundscapes.

Alternative B, Soundscapes – Retrofit the Existing Fort Pickens Fishing Pier

Analysis. This alternative would have minor to moderate, short-term, adverse impacts on soundscapes from construction activities. The construction of gangways, upgrade of existing pilings, and addition of pilings would affect soundscapes. The impacts on soundscapes would be localized to the construction area. Any impact on soundscapes would be short-term, and soundscapes would be expected to return to pre-existing conditions shortly after the alternative has been implemented.

Cumulative Impacts. The predicted cumulative impacts of this alternative to soundscapes would be negligible, long-term, and adverse. The operation of a regional ferry service would result in long-term adverse impacts to soundscapes by increasing the boat traffic in the Fort Pickens Area. The ferry service is expected to make three or four round-trip crossings to the Fort Pickens Area.

Alternative C, Soundscapes – Construct a New Fixed Pier Along the Fort Pickens Seawall

Analysis. This alternative would have minor to moderate, short-term, adverse impacts on soundscapes from construction activities. The noise generated from the construction of the pier would affect soundscapes. The impacts on soundscapes would be localized to the construction area. Any impact on air quality would be short-term, and soundscapes would be expected to return to pre-existing conditions shortly after the alternative has been implemented.

Cumulative Impacts. The predicted cumulative impacts of this alternative to soundscapes would be negligible, long-term, and adverse. The operation of a regional ferry service would result in long-term adverse impacts to soundscapes by increasing the boat traffic in the Fort Pickens Area. The ferry service is expected to make three or four round-trip crossings to the Fort Pickens Area.

Alternative D, Soundscapes – Construct a New Floating Pier Along the Fort Pickens Seawall

Analysis. This alternative would have minor to moderate, short-term, adverse impacts on soundscapes from construction activities. The noise generated from the construction of the pier would affect soundscapes. The impacts on soundscapes would be localized to the construction area. Any impact on air quality would be short-term, and soundscapes would be expected to return to pre-existing conditions shortly after the alternative has been implemented.

Cumulative Impacts. The predicted cumulative impacts of this alternative to soundscapes would be negligible, long-term, and adverse. The operation of a regional ferry service would result in long-term adverse impacts to soundscapes by potentially increasing the boat traffic in the Fort Pickens Area. The ferry service is expected to make three or four round-trip crossings to the Fort Pickens Area.

Conclusion. With respect to soundscapes:

- Alternative A would have no impacts to soundscapes.
- Impacts from Alternative B would be minor to moderate, short-term, and adverse during construction, and negligible, long-term, and adverse after construction and operation of the ferry.
- Impacts from Alternative C would be minor to moderate, short-term, and adverse during construction, and negligible, long-term, and adverse after construction and operation of the ferry.
- Impacts from Alternative D would be minor to moderate, short-term, and adverse during construction, and negligible, long-term, and adverse after construction and operation of the ferry.

WATER QUALITY

Methodology and Intensity Thresholds

The thresholds for this impact assessment are as follows:

Negligible:	Water quality would not be affected, or effects to the resource would be at or below the lower levels of detection.
Minor:	The effects to water quality would be detectable and relatively small in terms of area and the nature of the change.
Moderate:	The alternative would result in effects to water quality that would be readily apparent.
Major:	Effects to water quality would be observable over a relatively large area.

Impact Topic Analysis

Alternative A, Water Quality – Continue Existing Management (No Action)

Analysis. The No Action Alternative would have no impacts to water quality. Because the Fort Pickens pier and ferry service would not be operational, there would be no increased risk of water quality impairment in the proposed action area.

Cumulative Impacts. This alternative would have no cumulative impacts to water quality. This alternative does not imply, lead, or require any additional or other action that may influence water quality or quantity. No other past, present, or future reasonable actions are seen that could lead to impacts, cumulative or otherwise.

Alternative B, Water Quality – Retrofit the Existing Fort Pickens Fishing Pier

Analysis. This alternative would have negligible to minor, short-term and long-term, adverse impacts on water quality. New construction would be limited to retrofit of the existing fishing pier, as well as relatively minor repairs and modifications to existing infrastructure to serve the ferry service. Turbidity and risk of spills associated with construction and ferry operation may have short- and long-term adverse impact on water quality. The proposed ferry service and NPS and recreational boats utilizing the new pier would introduce additional vessel traffic (approximately three to four roundtrip ferry voyages daily); however, currently, recreational and commercial boating traffic is high within Pensacola Bay. Therefore, negligible impacts to water quality will be associated with the operation of the ferry service. Beneficial long-term impacts to water quality would be decreased shoreline parking by personal boaters and fewer automobiles driving and parking in the Fort Pickens Area.

Mitigation for this alternative would include appropriate BMPs, such as the use of turbidity curtains during in-water construction and development of Spill Prevention, Control, and Countermeasures (SPCC) Plans for construction and ferry operation.

Cumulative Impacts. The predicted cumulative impacts this alternative would have to water quality are minor and adverse. Other projects involving potential water quality impacts in the Pensacola Bay area include the U.S. Navy/USACE dredging of lower Pensacola Harbor and possible beach renourishment actions by NPS or other entities.

Alternative C, Water Quality – Construct a New Fixed Pier Along the Fort Pickens Seawall

Analysis. This alternative would have negligible to minor, short-term and long-term, adverse impacts on water quality. New construction would include a new pier and docking facilities, as well as ADA-compliant passages, to facilitate pedestrians to and from the ferry pier. Water quality impacts would be the same as in Alternative B.

Mitigation needed for this alternative is the same as Alternative B.

Cumulative Impacts. Same as Alternative B.

Alternative D, Water Quality – Construct a New Floating Pier Along the Fort Pickens Seawall

Analysis. This alternative would have negligible to minor, short-term and long-term, adverse impacts on water quality. New construction would include new floating docking facilities. In addition, ADA-compliant passages to facilitate pedestrians to and from the ferry pier will be constructed. Water quality impacts would be the same as in Alternative B.

Mitigation needed for this alternative is the same as Alternative B.

Cumulative Impacts. Similar as Alternative B.

Conclusion. With respect to water quality:

- Alternative A would have no impacts.
- Impacts from Alternative B would be negligible to minor, short-term and long-term, and adverse, as well as some long-term beneficial impacts.
- Impacts from Alternative C would be negligible to minor, short-term and long-term, and adverse, as well as some long-term beneficial impacts.
- Impacts from Alternative D would be negligible to minor, short-term and long-term, and adverse, as well as some long-term beneficial impacts.

FLOODPLAINS AND WETLANDS

Methodology and Intensity Thresholds

The thresholds for this impact assessment are as follows:

- Negligible: Floodplains or wetlands would not be affected, or effects to the resource would be at or below the lower levels of detection. No USACE 404 permit would be necessary.
- Minor: The effects to floodplains or wetlands would be detectable and relatively small in terms of area and the nature of the change. No USACE 404 permit would be necessary.
- Moderate: The alternative would result in effects to floodplains or wetlands that would be readily apparent, such that a USACE 404 permit may be required.
- Major: Effects to floodplains or wetlands would be observable over a relatively large area, and would require a USACE 404 permit. The character of the wetland or floodplain would be substantially changed.

Impact Topic Analysis

Alternative A, Floodplains and Wetlands – Continue Existing Management (No Action)

Analysis. The No Action Alternative would have no impacts to floodplains and wetlands. In the absence of the Fort Pickens pier and ferry service and associated potential impacts, floodplains and wetlands would not be impacted by new construction. No new structures would be constructed in the floodplain. Natural processes would thus be able to function unimpeded, and no structures would be at risk from flooding.

Cumulative Impacts. This alternative would have no cumulative impacts to floodplains and wetlands. This alternative does not imply, lead, or require any additional or other action that may influence wetlands and floodplains. No other past, present, or future reasonable actions are seen that could lead to impacts, cumulative, or otherwise.

Alternative B, Floodplains and Wetlands – Retrofit the Existing Fort Pickens Fishing Pier

Analysis. This alternative would have negligible to minor, short- and long-term, adverse impacts on floodplains. Wetlands would not be affected by construction or operation of the ferry service. New construction on the island would be limited to retrofit of the existing fishing pier, as well as relatively minor repairs and modifications to existing infrastructure to serve the ferry service. Less than 0.1 acre of floodplains would be impacted as a result of construction. The existing floodplain would continue to function as a floodplain after the proposed ferry pier is constructed, as less than 1 percent of the 100-year floodplain in the Fort Pickens Area would be impacted. Details regarding impacts to floodplains can be found in the floodplain SOF (Appendix B).

Mitigation measures needed for this alternative are described in the floodplain SOF in Appendix B and would include ferry and dock closures, warning signs, and evacuations as appropriate for protecting life and minimizing damage.

Cumulative Impacts. The predicted cumulative impacts this alternative would have to wetlands and floodplains are negligible to minor and adverse from existing and future development projects that could

affect wetlands and floodplains. Other than possible beach renourishment actions by NPS or other entities, no actions are foreseen that could lead to cumulative impacts to wetlands and floodplains.

Alternative C, Floodplains and Wetlands – Construct a New Fixed Pier Along the Fort Pickens Seawall

Analysis. New construction on the island would include construction of the pier, as well as modification of existing trails to be ADA-compliant. Approximately 0.16 acre of floodplains would be impacted as a result of construction. Details regarding impacts to floodplains can be found in the floodplain SOF (Appendix B). This alternative would have negligible to minor, short- and long-term, adverse impacts on floodplains, based on the minimal footprint of the proposed pier situated within the extent of Pensacola Bay. The proposed ferry pier would not significantly increase total impervious surface or flood storage volumes within the 100-year floodplain.

Construction of the proposed pier would impact the tidally influenced surf zone wetlands in the project area. The proposed pier would include square concrete pilings, spaced approximately 10 feet apart (similar to the design of the existing fishing pier). The pier width would be approximately 20 feet wide. The permanent impacts to wetlands would include the pilings as well as the associated shading from the decking of the pier. Based on a rough estimate of a 60-foot-wide wetland (the tidally influenced surf zone), the acreage of impact would be approximately 1,200 square feet (0.03 acre). Alternative C would have short- and long-term, moderate impacts to the surf zone wetlands within the pier footprint, based on the need for a USACE Section 404 permit. Wetlands would not be significantly affected by operation of the ferry service. Because the pier is a water-dependent activity and the proposed wetland impact is less than 0.1 acre, the project is exempt from the need for a wetland SOF.

Floodplain mitigation measures needed for this alternative are described in the floodplain SOF in Appendix B and would include ferry and dock closures, warning signs, and evacuations as appropriate for protecting life and minimizing damage. Wetland mitigation measures would include erosion and sedimentation control to protect the adjacent surf zone wetlands during and after construction, and eradication of invasive plants during construction activities.

Cumulative Impacts. Similar to Alternative B.

Alternative D, Floodplains and Wetlands – Construct a New Floating Pier Along the Fort Pickens Seawall

Analysis. This alternative would have the same impacts to wetlands and floodplains as Alternative C. Alternative D would have negligible to minor, short- and long-term, adverse impacts on floodplains, based on the minimal footprint of the proposed pier situated within the extent of Pensacola Bay. Alternative D would also have short- and long-term, moderate impacts to the surf zone wetlands within the pier footprint, based on the need for a USACE Section 404 permit.

Floodplain mitigation measures needed for this alternative are described in the floodplain SOF in Appendix B and would include ferry and dock closures, warning signs, and evacuations as appropriate for protecting life and minimizing damage. Wetland mitigation measures would include erosion and sedimentation control to protect the adjacent surf zone wetlands during and after construction, and eradication of invasive plants during construction activities.

Cumulative Impacts. Similar to Alternative C.

Conclusion. With respect to floodplains and wetlands:

- Alternative A would have no impacts to floodplains or wetlands.
- Floodplain impacts from Alternative B would be negligible to minor, short- and long-term, and adverse. Alternative B would have no impact to wetlands.
- Floodplain impacts from Alternative C would be negligible to minor, short- and long-term, and adverse. Wetland impacts from Alternative C would be moderate, short- and long-term, and adverse.
- Floodplain impacts from Alternative D would be negligible to minor, short- and long-term, and adverse. Wetland impacts from Alternative D would be moderate, short- and long-term, and adverse.

Statement of Findings: To the extent required by Sections 4.6.4 and 4.6.5 of the *Management Policies* (NPS, 2006a), NPS has prepared a floodplain SOF for the selected alternatives. This document is included as Appendix B. Because the proposed pier is a water-dependent activity and the proposed wetland impact is less than 0.1 acre, the project is exempt from the need for a wetland SOF.

PROTECTED SPECIES (FEDERAL & STATE LISTED THREATENED AND ENDANGERED SPECIES, AND OTHER SPECIES OF SPECIAL MANAGEMENT CONCERN)

Methodology and Intensity Thresholds

The thresholds for this impact assessment are as follows:

- | | |
|-------------|--|
| Negligible: | An action that could result in a change to a population or individuals of a species or a resource, but the change would be so small that it would not be of any measurable or perceptible consequence. |
| Minor: | An action that could result in a change to a population or individuals of a species or its habitat. The change would be small and localized and of little consequence. |
| Moderate: | An action that would result in some change to a population or individuals of a species or its habitat. The change would be measurable and of consequence to the species or its habitat, but more localized. |
| Major: | An action that would have a noticeable change to a population or individuals of a species or its habitat. The change would be measurable and result in a severely adverse impact, and possible permanent consequence, upon the species or its habitat. |

Impact Topic Analysis

Alternative A, Protected Species – Continue Existing Management (No Action)

Analysis. The No Action Alternative would have no impacts to protected species. Because the Fort Pickens ferry service and the associated pier would not be constructed, pedestrian and vehicular traffic to the island would remain essentially unchanged and potential threats to protected species associated with the pier and ferry service would decrease.

Cumulative Impacts. This alternative would have no cumulative impacts to protected species. Species would continue to be exposed to threats such as vehicular strikes, disturbance by humans, noise, and air pollution. This alternative does not imply, lead, or require any additional or other action that may influence protected species. No other past, present, or future reasonable actions are seen that could lead to impacts, cumulative, or otherwise.

Alternative B, Protected Species – Retrofit the Existing Fort Pickens Fishing Pier

Analysis. This alternative would have negligible to minor, short-term, and negligible long-term adverse impacts on protected species. The noise and activity associated with pier construction activities could have short-term adverse impacts on protected species. The ferry service operation could also have adverse impacts to protected species including increased potential for vessel strikes with marine protected species.

Noise and activity associated with proposed construction activity (*e.g.*, construction equipment, personnel, work boats, and placing and securing pier structure) may temporarily disturb certain species in the vicinity of the project area through temporary impacts on prey abundance, water quality (turbidity), and underwater noise, and may temporarily increase the potential for boat collisions with certain species in the project area during construction. The use of vehicles on the beach in the vicinity of the project area may disturb certain species.

After construction, the proposed project may permanently increase the potential for ferry collisions with certain species on the ferry route once the proposed ferry is operational, may result in permanent degradation of water quality (turbidity) caused by the boats utilizing a pier, and may permanently increase the potential for NPS/recreational boat collisions with certain species.

The impacts on protected species are discussed in detail in the BA and associated supplementary information (Appendix A).

Mitigation for this alternative would include BMPs such as the use of turbidity curtains during in-water construction. Compliance would be fulfilled with the terms and conditions required by any regulatory agency. Mitigation measures to minimize impacts to protected species include conducting construction activities in accordance with Standard Manatee Construction Conditions (FLFWC, 2005) and the Sea Turtle and Smalltoothed Sawfish Construction Conditions (NMFS, 2006). Additional mitigation measures described in Table 2-1, the BA, and associated supplementary information (Appendix A) will minimize impacts to protected species.

Cumulative Impacts. The predicted cumulative impacts this alternative would create for protected species are minor. Species would continue to be exposed to threats such as vehicular strikes, disturbance by humans, noise, and air pollution. Other foreseen projects involving potential impacts to protected species in the Pensacola Bay area include the U.S. Navy/USACE dredging of lower Pensacola Harbor and possible beach renourishment actions by NPS or other entities.

Alternative C, Protected Species – Construct a New Fixed Pier Along the Fort Pickens Seawall

Analysis. This alternative would have negligible to minor, short-term, and negligible long-term adverse impacts on protected species. The impacts on protected species are the same as Alternative B and are discussed in the BA and associated supplementary information (Appendix A).

Mitigation needed for this alternative is the same as Alternative B and is described in the BA and associated supplementary information, in Appendix A.

Cumulative Impacts. Similar to Alternative B.

Alternative D, Protected Species – Construct a New Floating Pier Along the Fort Pickens Seawall

Analysis. This alternative may have negligible to minor, short-term, and negligible long-term adverse impacts on protected species. The impacts on protected species are the same as Alternative B and are discussed in the BA and associated supplementary information (Appendix A).

Mitigation needed for this alternative is the same as Alternative B and is described in the BA and associated supplementary information in Appendix A.

Cumulative Impacts. Similar to Alternative B.

Conclusion. With respect to protected species:

- Alternative A would have no impacts.
- Impacts from Alternative B would be negligible to minor short-term, negligible long-term, and adverse.
- Impacts from Alternative C would be negligible to minor short-term, negligible long-term, and adverse.
- Impacts from Alternative D would be negligible to minor short-term, negligible long-term, and adverse.

Section 7 Statement on Preferred Alternative: After applying the criteria of adverse effect contained in Section 7 of the federal ESA (16 USC 1536, 50 CFR 402), NPS concludes that construction of the Fort Pickens pier and ferry service with mitigation measures outlined in the BA and associated supplementary information (Appendix A) would not have an adverse effect on any federally listed threatened or endangered species. This conclusion is based on NPS staff observations of threatened and endangered species at the Seashore and the BA performed in consultation with USFWS, NMFS, and FLFWC. NPS will continue informal consultation with USFWS, NMFS, and FLFWC prior to making a final decision regarding the proposed action. Any additional comments on the project from USFWS, NMFS, FLFWC, and other interested parties will be addressed in the final compliance documents. Should the need arise, additional mitigation measures will be developed in consultation with USFWS, NMFS, and FLFWC.

IMPORTANT WILDLIFE AND WILDLIFE HABITAT

Methodology and Intensity Thresholds

The thresholds for this impact assessment are as follows:

- Negligible:** Impacts occur, but are so minute that they have no observable effect on individuals, populations, or the ecosystems supporting them. Impacts result in parameter measurements that are well within the natural range of variability.
- Minor:** Impacts are detectable, but parameter measurements are not expected to be outside the natural range of variability and are not expected to have long-term effects on populations or the ecosystems that support them. Long-term effects could occur to individuals. Population numbers for common species may have small, short-term changes. Rare species remain stable even in the short-term.
- Moderate:** Impacts are detectable and parameter measurements are expected to be outside the natural range of variability for short periods of time. Changes within the natural range of variability may be long-term. Population numbers for common species may

experience small to medium, short-term changes. Rare species may experience short-term changes.

Major: Impacts are detectable and parameter measurements are expected to be outside the natural range of variability for short to long periods of time, or even be permanent. Population numbers for common species may experience large, short-term changes with long-term population numbers substantially altered. Rare species may also experience long-term changes. In extreme cases, species may be extirpated from the park and key ecosystem processes may be disrupted.

Impact Topic Analysis

Alternative A, Important Wildlife and Wildlife Habitat – Continue Existing Management (No Action)

Analysis. The No Action Alternative would have no impacts to wildlife and wildlife habitat. Because the Fort Pickens ferry service and the associated pier would not be constructed, pedestrian and vehicular traffic to the island would remain essentially unchanged and threats associated with construction for small mammals, birds, and other terrestrial wildlife would decrease.

Cumulative Impacts. This alternative would have no cumulative impacts to important wildlife and wildlife habitat. Wildlife and wildlife habitat would continue to be exposed to threats such as vehicular strikes, disturbance by humans, noise, and air pollution. This alternative does not imply, lead, or require any additional or other action that may influence protected species. No other past, present, or future reasonable actions are seen that could lead to impacts, cumulative, or otherwise.

Alternative B, Important Wildlife and Wildlife Habitat – Retrofit the Existing Fort Pickens Fishing Pier

Analysis. This alternative would have negligible to minor, short-term, and negligible long-term adverse impacts to impacted wildlife and wildlife habitat. Terrestrial wildlife and wildlife habitat may be affected through additional pedestrian traffic through the dunes.

Mitigation measures described in the BA and associated supplementary information in Appendix A will minimize impacts to wildlife and wildlife habitat associated with construction and ferry operation.

Cumulative Impacts. The predicted cumulative impacts this alternative would create for impacted wildlife and wildlife habitat are minor. Possible beach renourishment actions by NPS or other entities are the only foreseen action that may result in increased threats to wildlife and wildlife habitat in the project area.

Alternative C, Important Wildlife and Wildlife Habitat – Construct a New Fixed Pier Along the Fort Pickens Seawall

Analysis. This alternative would have negligible to minor, short-term, and negligible long-term adverse impacts to wildlife and wildlife habitat associated with the construction of infrastructure and operation of the ferry system as discussed for Alternative B. Improvement of existing trails to make them ADA-compliant may result in additional minor short-term impacts on terrestrial wildlife and wildlife habitat, not associated with Alternative B.

Mitigation measures are the same as Alternative B.

Cumulative Impacts. Similar to Alternative B.

Alternative D, Important Wildlife and Wildlife Habitat – Construct a New Floating Pier Along the Fort Pickens Seawall

Analysis. This alternative would have negligible to minor, short-term, and negligible long-term adverse impacts to wildlife and wildlife habitat associated with the construction of infrastructure and operation of the ferry system as discussed for Alternative C.

Mitigation measures are the same as Alternative B.

Cumulative Impacts. Similar to Alternative B.

Conclusion. With respect to island wildlife and wildlife habitat:

- Alternative A would have no impacts.
- Impacts from Alternative B would be negligible to minor short-term, negligible long-term, and adverse.
- Impacts from Alternative C would be negligible to minor short-term, negligible long-term, and adverse.
- Impacts from Alternative D would be negligible to minor short-term, negligible long-term, and adverse.

MARINE AND ESTUARINE RESOURCES

Methodology and Intensity Thresholds

The thresholds for this impact assessment are as follows:

Impact Topic Analysis

Alternative A, Marine and Estuarine Resources – Continue Existing Management (No Action)

Analysis. The No Action Alternative will result in no impacts to marine and estuarine resource. Because the Fort Pickens ferry pier would not be constructed, threats associated with construction of the pier and operation of the ferry service for marine mammals, fish, and habitat would be eliminated.

There are no mitigating measures needed for this alternative.

Cumulative Impacts. This alternative would have no cumulative impacts to important marine and estuarine resources. This alternative does not imply, lead, or require any additional or other action that may influence marine and estuarine resources. No other past, present, or future reasonable actions are seen that could lead to impacts, cumulative, or otherwise.

Alternative B, Marine and Estuarine Resources – Retrofit the Existing Fort Pickens Fishing Pier

Analysis. This alternative would have negligible to minor, short- and long-term, and adverse impacts to estuarine and marine resources. The Fort Pickens ferry service would be operational, and in-water construction would be necessary. In-water construction may have short-term adverse impacts on marine and estuarine resources. The proposed ferry service and NPS and recreational boats utilizing the new pier would introduce additional vessel traffic (approximately three to four roundtrip ferry trips daily);

however, currently, recreational and commercial boating traffic is high within Pensacola Bay. Therefore, negligible impacts to estuarine and marine resources will be associated with the ferry service.

Mitigation needed for this alternative includes BMPs for avoiding any discharge of any materials from the ferry. Lookout and avoidance procedures would be in place to avoid marine species strikes. Mitigation measures described in the BA and associated supplementary information in Appendix A will minimize impacts to marine and estuarine resources associated with construction and the ferry operation.

Cumulative Impacts. The predicted cumulative impacts this alternative would have to marine and estuarine resources are negligible. This alternative does not imply additional actions that may influence marine or estuarine resources. Other foreseen projects involving potential impacts to estuarine and marine resources in the Pensacola Bay area include the U.S. Navy/USACE dredging of lower Pensacola Harbor and possible beach renourishment actions by NPS or other entities.

Alternative C, Marine and Estuarine Resources – Construct a New Fixed Pier Along the Fort Pickens Seawall

Analysis. This alternative would have negligible to minor, short- and long-term, and adverse impacts to estuarine and marine resources, as discussed for Alternative B.

Mitigation measures are the same as Alternative B.

Cumulative Impacts. Similar to Alternative B.

Alternative D, Marine and Estuarine Resources – Construct a New Floating Pier Along the Fort Pickens Seawall

Analysis. This alternative would have negligible to minor, short- and long-term, and adverse impacts to estuarine and marine resources, as discussed for Alternative B.

Mitigation measures are the same as Alternative B.

Cumulative Impacts. Similar to Alternative B.

Conclusion. With respect to marine and estuarine resources:

- Alternative A would have no impacts.
- Impacts from Alternative B would be negligible to minor, short-term and long-term, and adverse.
- Impacts from Alternative C would be negligible to minor, short-term and long-term, and adverse.
- Impacts from Alternative D would be negligible to minor, short-term and long-term, and adverse.

UNIQUE ECOSYSTEMS, WORLD HERITAGE SITES, AND BIOSPHERE RESERVES

The thresholds for this impact assessment are as follows:

- Negligible: The unique ecosystem would not be affected, or effects to the resource would be at or below the lower levels of detection.
- Minor: The effects to the unique ecosystem would be detectable and relatively small in terms of area and the nature of the change.
- Moderate: The alternative would result in effects to the unique ecosystem that would be readily apparent.
- Major: Effects to the unique ecosystem would be observable over a relatively large area.

Impact Topic Analysis

Alternative A, Unique Ecosystems, World Heritage Sites, and Biosphere Reserves – Continue Existing Management (No Action)

Analysis. The No Action Alternative would have no impacts to unique ecosystems. Because the Fort Pickens pier and ferry would not be constructed, threats associated with construction and operation for the aquatic preserve would be eliminated.

Cumulative Impacts. This alternative would have no cumulative impacts to unique ecosystems. This alternative does not imply, lead, or require any additional or other action that may influence unique ecosystems. No other past, present, or future reasonable actions are seen that could lead to impacts, cumulative, or otherwise.

Alternative B, Unique Ecosystems, World Heritage Sites, and Biosphere Reserves – Retrofit the Existing Fort Pickens Fishing Pier

Analysis. This alternative would have negligible to minor, short- and long-term, and adverse impacts to unique ecosystems. The Fort Pickens ferry service would be operational, and in-water construction would be necessary. Turbidity and potential spills associated with construction and ferry operation may impact the aquatic preserve.

Mitigation needed for this alternative includes BMPs, such as the use of turbidity curtains during in-water construction and development of an SPCC Plan for pier construction and ferry operation.

Cumulative Impacts. The predicted cumulative impacts this alternative would have to unique ecosystems are minor. This alternative does not imply any additional actions that may influence unique ecosystems. Other foreseen projects involving potential impacts to unique ecosystems in the Pensacola Bay area include the U.S. Navy/USACE dredging of lower Pensacola Harbor and possible beach renourishment actions by NPS or other entities.

Alternative C, Unique Ecosystems, World Heritage Sites, and Biosphere Reserves – Construct a New Fixed Pier Along the Fort Pickens Seawall

Analysis. This alternative would have negligible to minor, short- and long-term, and adverse impacts to unique ecosystems associated with the construction of infrastructure and operation of the ferry system, as discussed for Alternative B.

Mitigation measures are the same as Alternative B.

Cumulative Impacts. Similar to Alternative B.

Alternative D, Unique Ecosystems, World Heritage Sites, and Biosphere Reserves – Construct a New Floating Pier Along the Fort Pickens Seawall

Analysis. This alternative would have negligible to minor, short- and long-term, and adverse impacts to unique ecosystems associated with the construction of infrastructure and operation of the ferry system, as discussed for Alternative B.

Mitigation measures are the same as Alternative B.

Cumulative Impacts. Similar to Alternative B.

Conclusion. With respect to unique ecosystems, World Heritage sites, and biosphere reserves:

- Alternative A would have no impacts.
- Impacts from Alternative B would be negligible to minor, short-term and long-term, and adverse.
- Impacts from Alternative C would be negligible to minor, short-term and long-term, and adverse.
- Impacts from Alternative D would be negligible to minor, short-term and long-term, and adverse.

NON-NATIVE SPECIES

Methodology and Intensity Thresholds

The thresholds for this impact assessment are as follows:

- | | |
|-------------|--|
| Negligible: | An action that could result in a change to a population or individuals of a species or a resource, but the change would be so small that it would not be of any measurable or perceptible consequence. |
| Minor: | An action that could result in a change to a population or individuals of a species or a resource. The change would be small and of little consequence. |
| Moderate: | An action that could result in a change to a population or individuals of a species or a resource. The change would be measurable and of consequence to the species or resource. |
| Major: | An action that would have a noticeable change to a population or individuals of a species or a resource. The change would be measurable. |

Impact Topic Analysis

Alternative A, Non-native Species – Continue Existing Management (No Action)

Analysis. Alternative A would have no impacts to non-native species.

Cumulative Impacts. This alternative would have no cumulative impacts to non-native species. This alternative does not imply, lead, or require any additional or other actions that may influence non-native species.

Alternative B, Non-native Species – Retrofit the Existing Fort Pickens Fishing Pier

Analysis. This alternative would have negligible impacts on non-native species. Construction vehicles and watercraft have the potential to inadvertently transport non-native species to the area. Construction activities will be conducted using BMPs to avoid the introduction of non-native species.

Cumulative Impacts. This alternative would have no cumulative impacts to non-native species. This alternative does not imply, lead, or require any additional or other actions that may influence non-native species.

Alternative C, Non-native Species – Construct a New Fixed Pier Along the Fort Pickens Seawall

Analysis. This alternative would have negligible impacts on non-native species. Construction vehicles and watercraft have the potential to inadvertently transport non-native species to the area. Construction activities will be conducted using BMPs to avoid the introduction of non-native species.

Cumulative Impacts. This alternative would have no cumulative impacts to non-native species. This alternative does not imply, lead, or require any additional or other actions that may influence non-native species.

Alternative D, Non-native Species – Construct a New Floating Pier Along the Fort Pickens Seawall

Analysis. This alternative would have negligible impacts on non-native species. Construction vehicles and watercraft have the potential to inadvertently transport non-native species to the area. Construction activities will be conducted using BMPs to avoid the introduction of non-native species.

Cumulative Impacts. This alternative would have no cumulative impacts to non-native species. This alternative does not imply, lead, or require any additional or other actions that may influence non-native species.

Conclusion. With respect to non-native species:

- Alternative A would have no impacts.
- Impacts from Alternative B would be negligible, short- and long-term, and adverse.
- Impacts from Alternative C would be negligible, short- and long-term, and adverse.
- Impacts from Alternative D would be negligible, short- and long-term, and adverse.

RECREATION RESOURCES

Methodology and Intensity Thresholds

The thresholds for this impact assessment are as follows:

Negligible:	The impact is barely detectable and/or will affect few recreation resources.
Minor:	The impact is slight but detectable and/or will affect some recreation resources.
Moderate:	The impact is readily apparent and/or will affect many recreation resources.
Major:	The impact is severely adverse and/or will affect the majority of recreation resources.

Impact Topic Analysis

Alternative A, Recreation Resources – Continue Existing Management (No Action)

Analysis. The No Action alternative would have a negligible to minor, long-term, adverse effect on recreation resources. When Fort Pickens Road is impassable as a result of storm events, traditional use/visitation to the Fort Pickens Area is drastically reduced and some of the resources in the area are closed until the roadway is repaired. The recreational resources in the area are unavailable except for those who can walk approximately 8 miles on sand and trail, can swim the mile from the NAS, or who own and pilot a boat.

Cumulative Impacts. This alternative would have no cumulative impacts to recreation resources. This alternative does not imply, lead, or require any additional or other actions that may influence recreation resources.

Alternative B, Recreation Resources – Retrofit the Existing Fort Pickens Fishing Pier

Analysis. This alternative would have minor, long-term, adverse impacts on recreation resources for park visitors using the pier for fishing, and long-term, beneficial impacts for park visitors using the pier for docking boats. The existing fishing pier would be retrofitted to allow for docking of boats, affecting the space and time available for fishing activities.

Cumulative Impacts. This alternative would have long-term, beneficial cumulative impacts to recreation resources. Providing water access to the park would give visitors the opportunity for a water-based experience provided by GUIs, which is not currently available.

Alternative C, Recreation Resources – Construct a New Fixed Pier Along the Fort Pickens Seawall

Analysis. This alternative would have long-term, beneficial impacts on recreation resources. The construction of a new pier would provide additional recreation resources to park visitors. The proposed pier would tie into the existing seawall and would access existing walking trails that connect to the seawall and guide visitors to the activity areas within Fort Pickens.

Cumulative Impacts. This alternative would have long-term, beneficial cumulative impacts to recreation resources. An additional shoreline structure would be added to an area already containing three other shoreline structures used for recreational purposes, such as fishing and diving: a rock jetty, a fishing pier, and a bent from a previous pier. The additional shoreline structure anticipated in this alternative would have an additive effect to the recreation resources available. Providing water access to the park would give visitors the opportunity for a water-based experience provided by GUIs, which is not currently available.

Alternative D, Recreation Resources – Construct a New Floating Pier Along the Fort Pickens Seawall

Analysis. Similar to Alternative C, this alternative would have long-term, beneficial impacts on recreation resources. The construction of a new pier would provide additional recreation resources to park visitors. The proposed pier would tie into the existing seawall and would access existing walking trails that connect to the seawall and guide visitors to the activity areas within Fort Pickens.

Cumulative Impacts. Cumulative impacts are the same as for Alternative C.

Conclusion. With respect to recreation resources:

- Impacts from Alternative A would be minor, long-term, and adverse.
- Impacts from Alternative B would be long-term and beneficial.
- Impacts from Alternative C would be long-term and beneficial.
- Impacts from Alternative D would be long-term and beneficial.

VISITOR EXPERIENCE AND AESTHETIC RESOURCES

Methodology and Intensity Thresholds

Analyses of the potential intensity of impacts to visitor use and experience were derived from the professional judgment of NPS staff. Analyses of the potential intensity of impacts to visitor use were derived from park staff's observations of the likely effects of a particular alternative on visitor use.

The thresholds for this impact assessment are as follows:

- Negligible: The impact is barely detectable and/or will affect few visitors.
Minor: The impact is slight but detectable and/or will affect some visitors.
Moderate: The impact is readily apparent and/or will affect many visitors.
Major: The impact is severely adverse and/or will affect the majority of visitors.

Impact Topic Analysis

Alternative A, Visitor Experience and Aesthetic Resources – Continue Existing Management (No Action)

Analysis. The No Action alternative would have a minor, long-term, adverse effect on visitor experience and aesthetics. During the infrequent periods when Fort Pickens Road is impassable as a result of storm events, traditional use/visitation to the Fort Pickens Area is drastically reduced. Particularly affected are the physically handicapped, the elderly, the poor, and the very young, as they have difficulty accessing the area when they cannot drive to parking areas within Fort Pickens. Access is limited to those who can walk approximately 8 miles on sand and trail, can swim the mile from the NAS, or who own and pilot a boat.

Cumulative Impacts. The predicted cumulative impacts this alternative would have on visitor experience and aesthetics would be minor and adverse. If visitors are not able to visit Fort Pickens, other available public beaches can become congested. A general decline in the quality of recreation could accumulate due to crowding.

Alternative B, Visitor Experience and Aesthetic Resources – Retrofit the Existing Fort Pickens Fishing Pier

Analysis. This alternative would have a long-term, beneficial impact on visitor experience and aesthetics to persons interested in a water-based experience. A ferry and shuttle system would provide an alternative means of access to the island, even during times when Fort Pickens Road is impassible by vehicle. For many visitors, the experience would be beneficial, especially to those seeking a more “natural” experience. Other visitors, however, would dislike having their movements on the island governed in large part by ferry and shuttle schedules.

Arriving at the park by ferry would provide a memorable and historically significant means of visiting Fort Pickens and serve as an excellent interpretive opportunity for the Seashore. The Pensacola Bay area developed around maritime and naval activities, and the forts of GUIS, including Fort Pickens, are an integral part of the maritime history of the area (Project Management Information System [PMIS]) (NPS, 2009d).

Visitors coming to the park by water would be able to experience the coastal fortifications of Fort Pickens and related naval history against the backdrop of the existing NAS across the bay, in addition to natural marine and shore habitats. This would significantly improve the sense of arrival from the congested roads that visitors typically experience on special events and weekends when the park road is open (PMIS) (NPS, 2009d).

However, because the proposed construction may affect the use of the existing fishing pier, minor, long-term, adverse impacts would occur to visitors interested in fishing, birding, or other uses not related to ferry operation.

An addition or modification to the existing fishing pier would not change the aesthetics of the bayfront, as the fishing pier and other piers in the area are a common element in a marine environment.

Cumulative Impacts. The predicted cumulative impacts this alternative would have on visitor experience and aesthetics would be beneficial. Visitors to the Pensacola area would have a new water-based experience associated with the other popular activities in Pensacola and along Pensacola Beach. No other past, present, or future reasonable actions are seen that could lead to impacts, cumulative or otherwise.

Alternative C, Visitor Experience and Aesthetic Resources – Construct a New Fixed Pier Along the Fort Pickens Seawall

Analysis. Similar to Alternative B, this alternative would have a long-term, beneficial impact on visitor experience and aesthetics to persons interested in a water-based experience. A ferry and shuttle system would provide an alternative means of access to the island, even during times when Fort Pickens Road is impassible by vehicle. Unlike Alternative B, the fishing pier would remain in use and would not be affected by ferry docking, and visitors could continue to use the fishing pier for its intended purpose. This would eliminate adverse impacts to visitors who wish to fish from the fishing pier.

Constructing a new pier would not adversely affect aesthetics in the project area, as there are already two piers in the project area, and such piers are a common element in a marine environment.

Cumulative Impacts. Similar to Alternative B, the predicted cumulative impacts this alternative would have on visitor experience and aesthetics would be beneficial. Visitors to the Pensacola area would have a new water-based experience associated with the other popular activities in Pensacola and along Pensacola Beach. No other past, present, or future reasonable actions are seen that could lead to impacts, cumulative or otherwise.

Alternative D, Visitor Experience and Aesthetic Resources – Construct a New Floating Pier Along the Fort Pickens Seawall

Analysis. Same as Alternative C.

Cumulative Impacts. Same as Alternative C.

Conclusion. With respect to visitor experience and aesthetics:

- Potential impacts from Alternative A would be negligible to minor, long-term, and adverse.
- Potential impacts from Alternative B would be long-term and beneficial to visitors interested in a water-based ferry, and minor, long-term, and adverse to visitors interested in other uses of the existing fishing pier.
- Potential impacts from Alternative C would be long-term, and beneficial.
- Potential impacts from Alternative D would be long-term, and beneficial.

ARCHAEOLOGY

Methodology and Intensity Thresholds

Analyses of the potential intensity of impacts to known archaeological resources were derived from the professional judgment of NPS staff and a review of the literature.

Negligible:	Effect at the lowest level of detection, barely measurable with perceptible consequences to archaeological resources. For purposes of Section 106, the determination would be no historic properties affected.
Minor:	Activities would affect one or more archaeological sites with modest data potential and no significant ties to a living community's cultural identity. The site disturbance would be confined to a small area with little, if any, loss of important information potential. For purposes of Section 106, the determination would be no historic properties affected.
Moderate:	Activity would affect one or more archaeological sites with good data potential and possible ties to a living community's cultural identity. The site disturbance would be noticeable. For purposes of Section 106, the determination would be adverse effect.
Major:	Action would affect one or more archaeological sites or districts listed in, or eligible for, the NRHP and/or having possible ties to a living community's cultural identity, resulting in loss of site or district integrity. Site disturbance or resource degradation would be highly visible. For purposes of Section 106, the determination would be adverse effect.

Impact Topic Analysis

Alternative A, Archaeology – Continue Existing Management (No Action)

Analysis. The no action alternative would have no effect to archaeological resources.

Cumulative Impacts. The predicted cumulative impacts this alternative would have to archaeological resources are negligible. This alternative does not imply, lead, or require any additional or other actions that could impact archaeological resources. Other than possible channel dredging activities by other entities, or possible beach renourishment actions by NPS or other entities, no other past, present, or future reasonable actions are seen that could lead to impacts, cumulative or otherwise.

Alternative B, Archaeology – Retrofit the Existing Fort Pickens Fishing Pier

Analysis. This alternative would have negligible, short- and long-term, adverse impacts to archaeological resources. This alternative would utilize the existing fishing pier and walkway, so no landward ground disturbance would take place. Any unknown archaeological resources on the landward side of the pier would remain undisturbed. Preliminary results of an underwater archaeology survey in the vicinity of the existing fishing pier did not identify any potential archaeological resources. Construction in the vicinity of the existing fishing pier would drive piles or set anchors in the bay bottom to support the ferry system.

If archaeological resources are discovered during construction activity, appropriate BMPs would be utilized to avoid, reduce, and mitigate any disturbances.

Cumulative Impacts. The predicted cumulative impacts this alternative would have to archaeological resources are negligible. This alternative does not imply, lead, or require any additional or other actions that could impact archaeological resources. Other than possible channel dredging activities by other entities, or possible beach renourishment actions by NPS or other entities, no other past, present, or future reasonable actions are seen that could lead to impacts, cumulative or otherwise.

Alternative C, Archaeology – Construct a New Fixed Pier Along the Fort Pickens Seawall

Analysis. This alternative would have moderate, short- and long-term, adverse impacts to archaeological resources that would require mitigation. An archaeology survey in the vicinity of the proposed ferry pier identified buried features, rubble piles and intact pilings that are potentially associated with an 1830s-era wharf or pier structure. Construction for the proposed new pier would drive piles or set anchors in the bay bottom to support the pier. NPS has consulted with SHPO, and the agencies have agreed that the proposed pier construction would adversely affect historic features in the beach area but would avoid underwater near-shore resources. NPS and SHPO have agreed to an appropriate minimization and mitigation plan, incorporating pier placement and design recommendations. NPS and SHPO are in the process of executing a Memorandum of Agreement that would require NPS to recover and describe the discovered archaeological resources in a technical report to be provided to SHPO. SHPO determined that, under this plan, the unavoidable adverse effects to these resources would be properly and adequately mitigated (Appendix C).

If other archaeological resources are discovered during construction activity, appropriate BMPs would be utilized to avoid, reduce, and mitigate any disturbances.

Cumulative Impacts. The predicted cumulative impacts this alternative would have to archaeological resources are negligible. This alternative does not imply, lead, or require any additional or other actions that could impact archaeological resources. Other than possible channel dredging activities by other entities, or beach renourishment actions by NPS or other entities, no other past, present, or future reasonable actions are seen that could lead to impacts, cumulative or otherwise.

Alternative D, Archaeology – Construct a New Floating Pier Along the Fort Pickens Seawall

Analysis. Similar to Alternative C, this alternative would have moderate, short- and long-term, adverse impacts to archaeological resources. This alternative is at the same location as Alternative C, but would consist of a floating pier instead of a fixed pier. As in Alternative C, NPS and SHPO have agreed to an appropriate minimization and mitigation plan, incorporating pier placement and design recommendations. NPS and SHPO are in the process of executing a Memorandum of Agreement that would require NPS to recover and describe the discovered archaeological resources in a technical report to be provided to

SHPO. SHPO determined that, under this plan, the unavoidable adverse effects to these resources would be properly and adequately mitigated.

If archaeological resources are discovered during construction activity, appropriate BMPs would be utilized to avoid, reduce, and mitigate any disturbances.

Cumulative Impacts. Same as Alternative C.

Conclusion. With respect to archaeological resources:

- No impacts from Alternative A.
- Potential impacts from Alternative B would be negligible, long-term, and adverse.
- Potential impacts from Alternative C would be moderate, long-term, and adverse. Mitigation would be required.
- Potential impacts from Alternative D would be moderate, long-term, and adverse. Mitigation would be required.

Section 106 Statement on the Preferred Alternative: After applying the Advisory Council on Historic Preservation's (ACHP's) criteria of adverse effects (36 CFR Part 800.5, *Assessment of Adverse Effects*), NPS concludes that construction of the proposed ferry pier would have an adverse effect on known archaeological resources associated with the NRHP-listed historic district at Fort Pickens. As required by Section 106 of the NHPA, NPS has consulted with the SHPO, and the agencies have agreed that the proposed pier construction would adversely affect historic features in the beach area but would avoid underwater near-shore resources. NPS and SHPO have agreed to an appropriate minimization and mitigation plan, incorporating pier placement and design recommendations. NPS and SHPO are in the process of executing a Memorandum of Agreement that would require NPS to recover and describe the discovered archaeological resources in a technical report to be provided to SHPO. SHPO determined that, under this plan, the unavoidable adverse effects to these resources would be properly and adequately mitigated.

Mitigation

NPS and SHPO have agreed to an appropriate minimization and mitigation plan, incorporating pier placement and design recommendations. NPS and SHPO are in the process of executing a Memorandum of Agreement that would require NPS to recover and describe the discovered archaeological resources in a technical report to be provided to SHPO. SHPO determined that, under this plan, the unavoidable adverse effects to these resources would be properly and adequately mitigated.

If other unknown archaeological resources are discovered during construction activity, appropriate BMPs would be utilized to avoid, reduce, and mitigate any disturbances. Project coordination with the NPS Southeast Archaeological Center in June 2006, as a part of Fort Pickens Road reconstruction activities, resulted in a findings report that identifies prescription measures to offset and mitigate any effect from construction activities to potential archaeological sites (NPS, 2006b). These mitigation measures would be utilized in the event of the discovery of presently unknown archaeological resources.

HISTORIC RESOURCES

Methodology and Intensity Thresholds

Analyses of the potential intensity of impacts to known historic resources were derived from the professional judgment of NPS staff and a review of the literature.

- Negligible:** Effect at the lowest level of detection, barely measurable with perceptible consequences to historic resources. For purposes of Section 106, the determination of affect would be *no adverse effect*.
- Minor:** The impact would not affect the character-defining features of a historic resource listed on or eligible for listing on the NRHP. For purposes of Section 106, the determination of affect would be *no adverse effect*.
- Moderate:** The impact would alter a character-defining feature(s) of the historic resource but would not diminish the integrity of the resource to the extent that its NRHP eligibility would be jeopardized. For purposes of Section 106, the determination of affect would be *no adverse effect*.
- Major:** The impact would alter a character-defining feature(s) of the historic resource, diminishing the integrity of the resource to the extent that it is no longer eligible to be listed on the NRHP. For purposes of Section 106, the determination of affect would be *adverse effect*.

Impact Topic Analysis

Alternative A, Historic Resources – Continue Existing Management (No Action)

Analysis. The no action alternative would have no effect to historic resources.

Cumulative Impacts. The predicted cumulative impacts this alternative would have to historic resources are negligible. This alternative does not imply, lead, or require any additional or other actions that could impact historic resources. No other past, present, or future reasonable actions are seen that could lead to impacts, cumulative or otherwise.

Alternative B, Historic Resources – Retrofit the Existing Fort Pickens Fishing Pier

Analysis. This alternative would have negligible, short- and long-term, adverse impacts to historic resources. This alternative would utilize the existing fishing pier and walkway, so no landward ground disturbance would take place. The existing modern boardwalk to the pier and the historic seawall would not be disturbed.

Construction to the end of the existing fishing pier for ferry access would slightly alter the visual setting from the nearby historic resources, specifically Building 1. However, the modifications to the existing fishing pier would not significantly change the viewshed from the structures, as the modern fishing pier is already located within the area of effect.

Arriving at the park by ferry would provide a memorable and historically significant means of visiting Fort Pickens and would not be out of character with the existing historic district. The Pensacola Bay area developed around maritime and naval activities, and the forts of GUIS, including Fort Pickens, are an integral part of the maritime history of the area. Access to the Fort Pickens Area was limited to boats until the mid 1940s (NPS, 2009d).

Cumulative Impacts. The predicted cumulative impacts this alternative would have to historic resources are negligible. With the exception of ferry operation, this alternative does not imply, lead, or require any additional or other actions that could impact historic resources. Operation of the ferry would not create additional impacts to historic resources, as there is already significant boat traffic within Pensacola Bay. No other past, present, or future reasonable actions are seen that could lead to impacts, cumulative or otherwise.

Alternative C, Historic Resources – Construct a New Fixed Pier Along the Fort Pickens Seawall

Analysis. This alternative would have negligible to minor, short- and long-term, adverse impacts to historic resources. This alternative would construct a new fixed ferry pier that would be located within the Fort Pickens Historic District.

Limited landward ground disturbance would take place, which would include construction of a wooden walkway that would bridge the historic seawall and allow access across the seawall to the pier. An existing access trail that is located between Buildings 15, 16, and 17 would be upgraded to meet ADA requirements, and installation of a covered passenger shelter on existing surfaces. The proposed construction would not physically disturb any of the historic resources.

Construction of the new ferry pier and walkway improvements would alter the visual setting from the nearby historic resources, specifically Buildings 15, 16, and 17. Project implementation would change the viewshed from the structures by introducing new elements, but other similar visual elements (existing fishing pier and concrete sidewalks) and modern construction (fencing and parking lots) exist with the viewshed.

Arriving at the park by ferry would provide a memorable and historically significant means of visiting Fort Pickens and would not be out of character with the existing historic district. The Pensacola Bay area developed around maritime and naval activities, and the forts of GUIS, including Fort Pickens, are an integral part of the maritime history of the area. Access to the Fort Pickens Area was limited to boats until the mid 1940s (NPS, 2009d).

Cumulative Impacts. Same as Alternative B.

Alternative D, Historic Resources – Construct a New Floating Pier Along the Fort Pickens Seawall

Similar to Alternative C, this alternative would have negligible to minor, short- and long-term, adverse impacts to historic resources. This alternative would construct a new floating ferry pier that would be located within the Fort Pickens Historic District. Visually, the pier would look basically the same as Alternative C, but the elevation of portions of the pier would be subject to tidal fluctuations.

As in Alternative C, limited landward ground disturbance would take place, which would include construction of a wooden walkway that would bridge the historic seawall and allow access across the seawall to the pier. An existing access trail that is located between Buildings 15, 16, and 17 would be upgraded to meet ADA requirements, and installation of a covered passenger shelter on existing surfaces. The proposed construction would not physically disturb any of the historic resources.

Construction of the new ferry pier and walkway improvements would alter the visual setting from the nearby historic resources, specifically Buildings 15, 16, and 17. Project implementation would change the viewshed from the structures by introducing new elements, but other similar visual elements (existing fishing pier and concrete sidewalks) and modern construction (fencing and parking lots) exist with the viewshed.

Arriving at the park by ferry would provide a memorable and historically significant means of visiting Fort Pickens and would not be out of character with the existing historic district. The Pensacola Bay area developed around maritime and naval activities, and the forts of GUIS, including Fort Pickens, are an integral part of the maritime history of the area. Access to the Fort Pickens Area was limited to boats until the mid 1940s (NPS, 2009d).

Cumulative Impacts. Same as Alternative B.

Conclusion. With respect to historic resources:

- No impacts from Alternative A.
- Potential impacts from Alternative B would be negligible, long-term, and adverse.
- Potential impacts from Alternative C would be negligible to minor, long-term, and adverse.
- Potential impacts from Alternative D would be negligible to minor, long-term, and adverse.

Section 106 Statement on the Preferred Alternative: After applying the ACHP's criteria of adverse effects (36 CFR Part 800.5, *Assessment of Adverse Effects*), NPS concludes that construction of the proposed ferry pier would have an adverse effect on historic resources potentially eligible for listing in the NRHP, based on its proposed impacts to archaeological resources as described in the archaeology discussion above. As required by Section 106 of the NHPA, NPS has consulted with the SHPO, and the agencies have agreed that the proposed pier construction would adversely affect historic features in the beach area but would avoid underwater near-shore resources. NPS and SHPO have agreed to an appropriate minimization and mitigation plan, incorporating pier placement and design recommendations. NPS and SHPO are in the process of executing a Memorandum of Agreement that would require NPS to recover and describe the discovered archaeological resources in a technical report to be provided to SHPO. SHPO determined that, under this plan, the unavoidable adverse effects to these resources would be properly and adequately mitigated.

Mitigation

Because the proposed project would have no significant impacts to historic resources in the Fort Pickens District other than those previously described for archaeological resources, no additional mitigation is proposed. If additional mitigation measures become necessary, they would be developed in consultation with the SHPO.

SOCIOECONOMICS

Methodology and Intensity Thresholds

The thresholds for this impact assessment are as follows:

- Negligible: The impact on the local and regional economy is barely detectable.
- Minor: The impact on the local and regional economy is slight but detectable.
- Moderate: The impact on the local and regional economy is readily apparent.
- Major: The impact on the local and regional economy is severely adverse.

Impact Topic Analysis

Alternative A, Socioeconomics – Continue Existing Management (No Action)

Analysis. Alternative A would have no impacts to socioeconomics.

Cumulative Impacts. This alternative would have no cumulative impacts to socioeconomics. This alternative does not imply, lead, or require any additional or other actions that may influence socioeconomics.

Alternative B, Socioeconomics – Retrofit the Existing Fort Pickens Fishing Pier

Analysis. This alternative would have long-term, beneficial impact on socioeconomics. The retrofit of the existing pier would provide an alternative means to access Fort Pickens, a key destination area within the park that is highly sought after by local, national, and international visitors.

Cumulative Impacts. This alternative would have long-term, beneficial cumulative impacts to socioeconomics. Providing alternative access to the Fort Pickens Area would be important to the socioeconomic environment of the local area by providing a key missing infrastructure element for a future regional water transportation system. The ferry pier may enable a concession operation and related new jobs to become established.

Alternative C, Socioeconomics – Construct a New Fixed Pier Along the Fort Pickens Seawall

Analysis. This alternative would have long-term, beneficial impacts on socioeconomics. The construction of a new pier would provide an alternative means to access Fort Pickens, a key destination area within the park that is highly sought after by local, national, and international visitors.

Cumulative Impacts. Cumulative impacts would be the same as Alternative B.

Alternative D, Socioeconomics – Construct a New Floating Pier Along the Fort Pickens Seawall

Analysis. This alternative would have long-term, beneficial impacts on socioeconomics. The construction of a new pier would provide an alternative means to access Fort Pickens, a key destination area within the park that is highly sought after by local, national, and international visitors.

Cumulative Impacts. Cumulative impacts are the same as for Alternative B.

Conclusion. With respect to socioeconomics:

- Alternative A would have no impacts.
- Impacts from Alternative B would be long-term and beneficial.
- Impacts from Alternative C would be long-term and beneficial.
- Impacts from Alternative D would be long-term and beneficial.

ENERGY RESOURCES

Methodology and Intensity Thresholds

The thresholds for this impact assessment are as follows:

- Negligible: impacts to energy resources are barely perceptible, not measurable, and confined to a small area.
- Minor: impacts to energy resources are perceptible, measurable, and localized.
- Moderate: impacts are clearly detectable and could have an appreciable effect on the energy resources.
- Major: impacts would have a substantial, highly noticeable influence on energy resources on a regional scale.

Alternative A, Energy Resources – Continue Existing Management (No Action)

Analysis. Alternative A would have no impacts to energy resources.

Cumulative Impacts. This alternative would have no cumulative impacts to energy resources. This alternative does not imply, lead, or require any additional or other actions that may influence energy resources.

Alternative B, Energy Resources – Retrofit the Existing Fort Pickens Fishing Pier

Analysis. This alternative would have minor, short-term, adverse impacts on energy resources during construction activities, and negligible to minor, long-term, and adverse impacts after the construction activities are complete. Energy resources would be consumed in the fabrication of construction materials and in the actual pier retrofitting process. The retrofit of the existing pier would provide an alternative means to access Fort Pickens, reducing VMT and vehicle time spent idling in traffic or waiting for parking to become available. After construction, maintaining additional structures would require additional energy consumption and costs than would the current condition or the no action alternative. Therefore, the additional energy consumption would be minimal compared to the overall energy use of the park.

Cumulative Impacts. This alternative would have long-term, beneficial cumulative impacts to energy resources. A ferry operation between points around the Bay and Fort Pickens would not only reduce VMT and vehicle time spent idling in congestion or waiting for parking to become available, but is also expected to tie into a regional transit system at the ferry destination points of Downtown Pensacola, Pensacola Beach, and Fort Pickens, encouraging regionwide use of the ECAT public bus and trolley system.

Energy Resources

Alternative C, Energy Resources – Construct a New Fixed Pier Along the Fort Pickens Seawall

Analysis. Impacts would be the same as those described for Alternative B.

Cumulative Impacts. Cumulative impacts would be the same as those described for Alternative B.

Alternative D, Energy Resources – Construct a New Floating Pier Along the Fort Pickens Seawall

Analysis. Impacts would be the same as those described for Alternative B.

Cumulative Impacts. Cumulative impacts would be the same as those described for Alternative B.

Conclusion. With respect to energy resources:

- Alternative A would have no impacts.
- Impacts from Alternative B would be minor, short-term, and adverse during construction, and long-term and beneficial after construction and as a result of ferry operation.
- Impacts from Alternative C would be minor, short-term, and adverse during construction, and long-term and beneficial after construction and as a result of ferry operation.
- Impacts from Alternative D would be minor, short-term, and adverse during construction, and long-term and beneficial after construction and as a result of ferry operation.

LONG-TERM MANAGEMENT OF RESOURCES

Methodology and Intensity Thresholds

Park management of resources, for the purpose of this analysis, refers to the quality and effectiveness of NPS staff to manage resources and provide for an effective visitor experience. This includes an analysis of the projected need for staff time and materials to implement each of the alternatives. The analysis also considers tradeoffs for staff time or the budgetary needs required to accomplish the proposed alternatives, and discusses each alternative in terms of its impacts to the Interpretation, Resource Management, Maintenance, and Law Enforcement Divisions at GUIS.

The thresholds for this impact assessment are as follows:

- | | |
|-------------|--|
| Negligible: | Park operations would not be impacted, or the impact would not have a noticeable or measurable impact on NPS operations. |
| Minor: | Impacts would be noticeable and would result in a measurable, but small, change in park operations. Any required changes in staffing and funding would be accommodated within normal budget cycles and expected annual funding without appreciably affecting other operations. Current levels of funding and staffing would not be reduced or increased, but priorities would need to be changed. |
| Moderate: | Impacts would be readily apparent and would result in a substantial change in park operations that would be noticeable to staff and the public. Required changes in staffing and/or funding would not be accommodated within expected annual funding and would measurably affect other operations within the Fort Pickens Area by shifting staff and funding levels between operational divisions. Increases or decreases in staff and funding would be needed, or other park operations would have to be reduced and/or priorities changed. |

Major: Impacts would be readily apparent and would result in a substantial change in park operations that would be noticeable to staff and the public and would be markedly different from existing operations. Increases or decreases in staff and funding would be needed, and/or other park programs would have to be substantially changed or eliminated.

Impact Topic Analysis

Alternative A, Long-term Management of Resources – Continue Existing Management (No Action)

Analysis. The no action alternative would have a negligible, long-term, adverse effect on the management of park resources in the Fort Pickens Area. The park would continue to manage the Fort Pickens Area as it is currently managed. Park staff would not have the flexibility to conveniently access the Fort Pickens Area via a dedicated ferry pier in the event of temporary Fort Pickens Road closures.

Cumulative Impacts. The predicted cumulative impacts this alternative would have on park management of resources would be negligible. No other past, present, or future reasonable actions are seen that could lead to impacts, cumulative or otherwise.

Alternative B, Long-term Management of Resources – Retrofit the Existing Fort Pickens Fishing Pier

Analysis. This alternative would have a negligible, long-term, adverse effect on the management of park resources in the Fort Pickens Area, as additional resources would be required for maintenance and upkeep of the fishing pier modifications to accommodate a ferry. The park would continue to manage the Fort Pickens Area as it is currently managed but would have to increase funding and staff time slightly to cover the addition to the existing fishing pier. However, park staff would have the flexibility to conveniently access the Fort Pickens Area via a dedicated ferry pier in the event of temporary Fort Pickens Road closures.

Cumulative Impacts. The predicted cumulative impacts this alternative would have on park management of resources would be negligible. No other past, present, or future reasonable actions are seen that could lead to impacts, cumulative or otherwise.

Alternative C, Long-term Management of Resources – Construct a New Fixed Pier Along the Fort Pickens Seawall

Analysis. This alternative would have a negligible to minor, long-term, adverse effect on the management of park resources in the Fort Pickens Area, as additional resources would be required for maintenance and upkeep of a new pier in the area. The park would continue to manage the Fort Pickens Area as it is currently managed but would have to increase funding and staff time to cover the existing fishing pier and the new pier. As in Alternative B, park staff would have the flexibility to conveniently access the Fort Pickens Area via a dedicated ferry pier in the event of temporary Fort Pickens Road closures.

Cumulative Impacts. The predicted cumulative impacts this alternative would have on park management of resources would be negligible. No other past, present, or future reasonable actions are seen that could lead to impacts, cumulative or otherwise.

Alternative D, Long-term Management of Resources – Construct a New Floating Pier Along the Fort Pickens Seawall

Analysis. Same as Alternative C.

Cumulative Impacts. Same as Alternative C.

Conclusion. With respect to park management of resources:

- Potential impacts from Alternative A would be negligible, long-term, and adverse.
- Potential impacts from Alternative B would be negligible, long-term, and adverse.
- Potential impacts from Alternative C would be negligible to minor, long-term, and adverse.
- Potential impacts from Alternative D would be negligible to minor, long-term, and adverse.

Mitigation

There are currently no planned mitigation measures related to park management of resources.

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APPENDIX A

BIOLOGICAL ASSESSMENT AND SUPPLEMENTARY INFORMATION

APPENDIX B

FLOODPLAIN STATEMENT OF FINDINGS

APPENDIX C
AGENCY COORESPONDENCE

APPENDIX D
IMPAIRMENT DETERMINATION