DRAFT
SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT
FOR THE BEACH EROSION CONTROL AND STORM DAMAGE REDUCTION PROJECT PANAMA CITY BEACH, BAY COUNTY, FLORIDA

Prepared by
U.S. Army Corps of Engineers, Mobile District
Planning and Environmental Division
Environmental Resources Branch
Coastal Environment Team

May 2010
# Table of Contents

<table>
<thead>
<tr>
<th>Title</th>
<th>Page Number</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1.0 INTRODUCTION</strong></td>
<td>EA-1</td>
</tr>
<tr>
<td>1.1 Location</td>
<td>EA-1</td>
</tr>
<tr>
<td>1.2 Purpose and Need</td>
<td>EA-1</td>
</tr>
<tr>
<td>1.3 Authority</td>
<td>EA-2</td>
</tr>
<tr>
<td>1.4 Description of the Authorized Project</td>
<td>EA-2</td>
</tr>
<tr>
<td>1.5 Environmental History and Scope</td>
<td>EA-3</td>
</tr>
<tr>
<td><strong>2.0 ALTERNATIVES</strong></td>
<td>EA-4</td>
</tr>
<tr>
<td>2.1 No Action</td>
<td>EA-4</td>
</tr>
<tr>
<td>2.2 Sand Source Alternatives</td>
<td>EA-4</td>
</tr>
<tr>
<td>2.2.1 Offshore</td>
<td>EA-4</td>
</tr>
<tr>
<td>2.2.2 Upland</td>
<td>EA-6</td>
</tr>
<tr>
<td>2.3 Dredging Alternatives</td>
<td>EA-6</td>
</tr>
<tr>
<td>2.4 Description of the Proposed Action</td>
<td>EA-6</td>
</tr>
<tr>
<td><strong>3.0 AFFECTED ENVIRONMENT</strong></td>
<td>EA-7</td>
</tr>
<tr>
<td>3.1 Coastal Processes</td>
<td>EA-7</td>
</tr>
<tr>
<td>3.2 Fish and Wildlife Resources</td>
<td>EA-9</td>
</tr>
<tr>
<td>3.2.1 Coastal Sand dune/beach</td>
<td>EA-9</td>
</tr>
<tr>
<td>3.2.2 Intertidal/Swash Zone and Nearshore Marine</td>
<td>EA-9</td>
</tr>
<tr>
<td>3.3 Threatened and Endangered Species</td>
<td>EA-9</td>
</tr>
<tr>
<td>3.4 Essential Fish Habitat</td>
<td>EA-11</td>
</tr>
<tr>
<td>3.5 Special Aquatic Sites</td>
<td>EA-12</td>
</tr>
<tr>
<td>3.6 Water Quality</td>
<td>EA-12</td>
</tr>
<tr>
<td>3.7 Sediment Quality</td>
<td>EA-12</td>
</tr>
<tr>
<td>3.8 Hazardous, Toxic, and Radioactive Waste</td>
<td>EA-12</td>
</tr>
<tr>
<td>3.9 Air Quality</td>
<td>EA-12</td>
</tr>
<tr>
<td>3.10 Noise</td>
<td>EA-12</td>
</tr>
<tr>
<td>3.11 Aesthetics</td>
<td>EA-12</td>
</tr>
<tr>
<td>3.12 Recreation</td>
<td>EA-12</td>
</tr>
<tr>
<td>3.13 Navigation</td>
<td>EA-13</td>
</tr>
</tbody>
</table>
3.14 Historic and Cultural Resources ............................................................ EA-13

4.0 ENVIRONMENTAL IMPACT OF THE PROPOSED ACTION ...................... EA-13
  4.1 Coastal Processes .............................................................................. EA-14
  4.2 Fish and Wildlife Resources ............................................................. EA-14
    4.2.1 Coastal Sand dune/beach ............................................................ EA-14
    4.2.2 Intertidal/Swash Zone and Nearshore Marine ........................ EA-15
  4.3 Threatened and Endangered Species ................................................ EA-15
  4.4 Essential Fish Habitat ................................................................. EA-17
  4.5 Special Aquatic Sites ..................................................................... EA-17
  4.6 Water Quality ................................................................................ EA-17
  4.7 Sediment Quality .......................................................................... EA-17
  4.8 Hazardous, Toxic, and Radioactive Waste ....................................... EA-18
  4.9 Air Quality .................................................................................... EA-18
  4.10 Noise .......................................................................................... EA-18
  4.11 Aesthetics .................................................................................... EA-18
  5.12 Recreation ..................................................................................... EA-18
  4.13 Navigation .................................................................................... EA-18
  4.14 Historic and Cultural Resources .................................................. EA-18
  4.15 Cumulative Effects ........................................................................ EA-18

5.0 STATUS OF ENVIRONMENTAL COMPLIANCE .................................. EA-19
  5.1 National Environmental Policy Act of 1969 .................................... EA-19
  5.2 Endangered Species Act of 1973 ..................................................... EA-19
  5.3 Coastal Zone Management Act of 1972 .......................................... EA-19
  5.4 Clean Air Act of 1972 ................................................................. EA-19
  5.5 Clean Water Act of 1972 ............................................................... EA-19
  5.6 Rivers and Harbors Act of 1899 ..................................................... EA-20
  5.7 National Historic Preservation Act of 1966, the Archeology and  
      Historic Preservation Act, and executive order 11593 ................ EA-20
  5.8 Migratory Bird Treaty Act ............................................................ EA-20
  5.9 Coastal Barrier Resources Act and Coastal Barrier Improvement Act 
      of 1990 .................................................................................... EA-20
  5.10 Magnuson Fishery Conservation and Management Act .............. EA-20
  5.11 Marine Mammal Protection Act of 1972, as amended ................ EA-20
5.12 Fish and Wildlife Coordination Act of 1958, as amended......................EA-20
5.13 Marine Protection, Research and Sanctuaries Act..........................EA-20
5.14 Sumberged Lands Act......................................................................EA-20
5.15 E.O. 11988, Protection of Children.................................................EA-20
5.16 E.O. 11990, Environmental Justice....................................................EA-20
5.17 E.O. 11988, Flood Plain Management ..............................................EA-20
6.0 COORDINATION....................................................................................EA-21
7.0 CONCLUSION............................................................................................EA-21
8.0 REFERENCES.............................................................................................EA-21

LIST OF FIGURES

<table>
<thead>
<tr>
<th>FIGURE</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>EA-1</td>
<td>Vicinity Map .................................................................EA-1</td>
</tr>
<tr>
<td>EA-2</td>
<td>Beach Placement Area .........................................................EA-3</td>
</tr>
<tr>
<td>EA-3</td>
<td>Sand Source Areas ..............................................................EA-5</td>
</tr>
<tr>
<td>EA-4</td>
<td>BA-O-2/3 Plan View ..............................................................EA-6</td>
</tr>
<tr>
<td>EA-5</td>
<td>BA-O 2/3 Plan View ..............................................................EA-7</td>
</tr>
<tr>
<td>EA-6</td>
<td>Sediment Budget (Coastal Tech, 2002) ....................................EA-8</td>
</tr>
</tbody>
</table>

LIST OF TABLES

<table>
<thead>
<tr>
<th>TABLE</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>EA-1</td>
<td>Vicinity Map .................................................................EA-4</td>
</tr>
</tbody>
</table>

Table EA-1: Estimated Remaining Borrow Area Volumes

LIST OF ENCLOSURES

ENCLOSURE 1 PERTINENT COORDINATION LETTERS
ENCLOSURE 2 PUBLIC NOTICE
ENCLOSURE 3 SECTION 404 (b)(1) EVALUATION
SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT

BEACH EROSION CONTROL AND
STORM DAMAGE REDUCTION PROJECT
PANAMA CITY BEACH, BAY COUNTY, FLORIDA

1.0 INTRODUCTION

1.1 Location. The Panama City Beaches Storm Damage Reduction Project (SDR) is located in the northwest Florida Panhandle and extends 18.5 miles from Philips Inlet eastward to the Panama City Harbor (St. Andrews Bay) entrance channel shown in Figure 1. The project site is located 80 miles southwest of Tallahassee. The project area is made up of shorelines of Panama City Beach and unincorporated shorelines of Bay County, in addition to several borrow areas located offshore in the Gulf of Mexico.
1.2 Purpose and Need. The rare “clustering” of tropical storms that occurred in 2004 and 2005 had significant impacts on the Panama City Beaches SDR project. Most notable of these storms were Ivan 2004, Dennis 2005 and Katrina 2005. The 2004/2005 hurricane season resulted in an average of 22 feet of shoreline recession with an estimated loss of more than 3.0 million cubic yards (cy) of sediment from the -20-foot contour. The 2005/2006 emergency beach maintenance was able to restore most of the project to pre-Ivan conditions; however, an estimated 1,100,000 cy is still needed to restore the beach from the impacts of recent hurricanes. Beach quality sand in the existing borrow areas was nearly depleted during the 2005/2006 emergency beach maintenance. Additional sand sources are needed to help restore the beach.

1.3 Authority. The project was originally authorized by Section 501 of the Water Resources Development Act (WRDA) of 1986 (Public Law 99-662) and reauthorized by Section 318 WRDA 1996 (Public Law 104-303). The study for which this Environmental Assessment (EA) was prepared was conducted under Public Law (PL) 84-99, Flood Control and Coastal Storm Emergencies (33 U.S.C.701n) (69 Stat 186). Under (PL) 84-99 the Chief of Engineers, acting for the Secretary of the Army, is authorized to undertake activities including disaster preparedness, advance measures, emergency operations (flood response and post flood response), rehabilitation of flood control works threatened or destroyed by flood, protection or repair of Federally authorized shore protective works threatened or damaged by coastal storm, and provisions of emergency water due to drought or contaminated source.
1.4 Description of the Authorized Project. The plan authorized by WRDA 1986 provided for a dune top width of 30 feet at an elevation of 15 feet-National Geodetic Vertical Datum (NGVD), a 25-foot wide storm berm at 7 feet-NGVD, and a 10-foot wide berm at 4 feet-NGVD sloping down to the natural bottom of the Gulf of Mexico at 1-foot vertical to 18-feet horizontal. The plan also authorized stabilization of the dune top with vegetation. The project was modified based on a storm protection benefit analysis according to the National Economic Development (NED) standard. The modified plan adjusted the fill template and included construction of a terminal groin near Philips Inlet. The locally preferred alternative, which terminated the project eastward of Philips Inlet with no terminal groin structure, was implemented under recommendations of the 1996 General Reevaluation Report (GRR). The locally preferred alternative provides for a seven foot berm landward of the erosion control line with a 50-foot top width from Florida Department of Environmental Protection (FDEP) monument R-91.5 to R-17.5, transitioning to a 30-foot top width at R-16 and continuing with a 30-foot top width to R-5.0 with appropriate transitions to tie back into the natural shoreline at the ends of the project (Figure 2).

![Figure EA-2: Panama City Beach Placement](image)

1.5 Environmental History and Scope. In accordance with the National Environmental Policy Act, an Environmental Impact Statement (EIS) entitled, Beach Erosion Control and Hurricane Protection, Panama City Beaches, Florida was filed with the Council on Environmental Quality (CEQ) on February 7, 1979. The project EIS addressed the environmental effects of 18.5 miles of beach restoration, finding that the adverse effects of the recommended plan had been minimized to the extent practicable and the action proposed was consistent with national policy,
statutes, and administrative directives. An Environmental Assessment (EA) entitled, *Beach Erosion Control and Storm Damage Reduction Project, Panama City Beach, Bay County, Florida* was completed in April of 1995 in conjunction with the Panama City Beaches, Florida General Reevaluation Report (GRR). This EA updated the resource description and impacts associated with the locally preferred alternative of 16.8 miles of beach restoration along Panama City Beach, Bay County, Florida. An EA entitled, *Beach Erosion Control and Storm Damage Reduction Project, Panama City Beach, Bay County, Florida* was completed in May of 1997. This EA evaluated impacts associated with changes in the project configuration which were implemented by the non-Federal sponsor, the Bay County Tourist Development Council (TDC), during the 1998 beach nourishment. Since the completion of the original EIS and subsequent EAs there have been changes in listed threatened and endangered species, critical habitats, and available sand sources. An EA has been prepared to address the potential impacts associated with the use of an additional sand source and to update the resource description and impacts associated with beach restoration along 16.8 miles of Panama City, Bay County beaches. The previous EIS and EAs are hereby incorporated into this document by reference.

### 2.0 ALTERNATIVES

#### 2.1 No Action Alternative

NEPA defines a no action as the continuation of existing conditions in the affected environment without the implementation, or in the absence of the proposed action. Inclusion of the no action alternative is prescribed by the Council on Environmental Quality (CEQ) regulations as the benchmark against which federal actions are to be evaluated.

A no action alternative would not provide immediate protection to areas where the shoreline has been critically eroded by the recent storm events. The no action alternative would allow continuation of existing erosion and decreasing beach widths. Loss of valuable property would occur causing a decline in local resident use and tourism. Environmental impacts (shorebird and sea turtle nesting habitat) due to erosion and transport of sands would also continue to occur.

#### 2.2 Sand Sources

##### 2.2.1 Offshore Sources

Several offshore sand sources were considered in past beach nourishment projects and include permitted borrow areas located offshore in water depths of 25 feet or greater. Eleven borrow areas have been certified by the Florida DEP for use and are identified as BA-I, BA-II, BA-III, BA-IV, BA-V, BA-VI, BA-VII, BA-VIII, BA-IX, BA-5C, BA-11, and BA-10 within the Panama City Harbor entrance channel ([Figure 3](#)). Table 1 below shows estimated volumes and average depth of borrow areas with remaining beach quality sand located outside the 25-foot depth of closure.

<table>
<thead>
<tr>
<th>Area</th>
<th>Estimated Borrow Vol. remaining, cy</th>
<th>Estimated Borrow Avg. Depth remaining, ft</th>
</tr>
</thead>
<tbody>
<tr>
<td>BA-IX</td>
<td>63,000</td>
<td>2.0</td>
</tr>
<tr>
<td>BA-VII</td>
<td>161,000</td>
<td>4.4</td>
</tr>
<tr>
<td>BA-III</td>
<td>152,000</td>
<td>2.5</td>
</tr>
<tr>
<td>BA-I</td>
<td>463,000</td>
<td>1.6</td>
</tr>
</tbody>
</table>
Based on 2005 and 2008 surveys, excavating material from most of the existing borrow areas would be inefficient given the small quantities, shallow depth of the available material, and/or large variations in both the ground surface and excavation limits. BA-5C, BA-VII, and BA-11 are the only existing borrow areas with adequate volumes, cut depths, and ground surfaces for excavation with estimated planning volumes of roughly 326,000 cy and an average cut depth of 5.1 feet for BA-5C; roughly 161,000 cy and an average cut depth of 4.4 feet for BA-VII and 605,000 cy with an average cut depth of 10 feet for BA-11 (Table 1). Due to dredge inefficiencies of up to 30 percent the total available borrow material could be much lower than the planning volume.

Due to dredge inefficiencies, it was determined that additional sand would be needed to take advantage of the rehabilitation project as well as inclusion of the reach along Carillon Beach and Pinnacle Port located within the western portion of the federally authorized project. Geotechnical investigations by CP&E identified a new borrow area O-2/3 located approximately 3 miles offshore of Thomas Drive in Panama City Beach, Florida, outside of the St. Andrews State Park Aquatic Preserve. This borrow area is currently being certified with the State and would be used as the primary sand source for the upcoming rehabilitation beach nourishment project.
A reconnaissance level search to identify an adequate volume of material for beach renourishment for the Panama City Beach SDR project over the next 15 years is currently being conducted by the non-Federal sponsor. Potential sand sources that have been identified for further investigations are shown in Figure EA-4. These sand sources will likely be evaluated in the future as a potential sand source for nourishment.
2.2.2 Upland Sources. Given the quantity of beach quality material needed and the high costs associated with upland sources this alternative was considered but not evaluated in detail.

2.3 Dredging Alternatives. The U.S. Army Corps of Engineers (Corps) does not normally specify the type of dredging equipment to be used. This is generally left to the dredging industry to offer the most appropriate and competitive equipment available at the time. Nevertheless, certain types of dredging equipment are normally considered more appropriate depending on the type of material, the depth of the excavation, the depth of access to the placement site, the amount of material, the distance to the placement site, the wave-energy environment, etc. A more detailed description of types of dredging equipment and their characteristics can be found in Engineer Manual, EM 1110-2-5025, Engineering and Design - Dredging and Dredged Material Disposal. This Engineer Manual is available on the internet at http://www.usace.army.mil/publications/eng-manuals/em1110-2-5025/toc.htm.

2.4 Description of the Proposed Action. The proposed action is to use existing previously excavated borrow areas, with sufficient quantities of remaining beach quality sand and an additional borrow area, hereon referred to as BA-O2/3 to restore the beach. The proposed BA-
O2/3 is located approximately 3 miles offshore of Thomas Drive in Panama City Beach, Florida, outside of the St. Andrews State Park Aquatic Preserve. (Figure 3). Sand is expected to be dredged via hydraulic cutter head or hopper dredge and placed along the downdrift shoreline to help restore the eroded beach resulting from the 2004/2005 tropical storm events.

3.0 AFFECTED ENVIRONMENT.

3.1 Coastal Processes. Wave energy is considered to be moderate (Price, 1954; Tanner 1960) with a mean wave height of 2.6 ft. The most predominant waves in the Gulf of Mexico are wind generated waves. The prevailing winds are from the southeast and south, which generate an east to west longshore current (Culter and Mahadevan, 1982), with the exception of a localized area of reversed sediment transport just west of St. Andrews Inlet (Coastal Technology, 2002; USACE, 1994). The net sediment transport rates based a wave analysis by the Corps (1994) range from 66,000 to 91,000 cy/year (USACE, 1996). A more recent sediment budget from Coastal Technology (2002) is provided in Figure 5. Tidal currents are predominantly diurnal and the tidal range is minimal (~1.3 feet). Lillycrop, et al. (1989) shows currents ranging from 2.8 ft/second during ebb and 2.3 ft/second during flood.

Figure EA-6: Panama City Beach Sediment Budget (Coastal Technology, 2002)
Two inlets are located within the vicinity of the project, St. Andrews Inlet on the east and Philips Inlet on the west. St. Andrews Inlet was opened in 1934 and has been maintained by the Corps for safe navigational passage between St. Andrews bay and the Gulf of Mexico. Maintenance dredging of the Panama City Harbor Entrance Channel is conducted on an average of once every 2 years. Sandy material removed from the entrance channel (~ 94,000 cy/year) is bypassed to the downdrift beaches. Philips Inlet is an intermittent pass between Powell Lake and the Gulf of Mexico. The inlet periodically migrates within a 0.5 mile stretch west of the Pinnacle Port condominiums. The historic pattern has been that the inlet would migrate to the west, close off, and then re-open at a more hydraulically efficient location usually to the east, when the runoff into Lake Powell builds sufficient head, or when wave action associated with a large storm causes a break-through. In more recent years the inlet has been mechanically opened by the county to lower water levels that build up from runoff into Lake Powell.

As previously stated St. Andrews Bay Entrance was opened in 1934. Since its opening it has grown a significant sized ebb shoal. Coastal Tech (2000) measured the ebb shoal size by comparing 1935 to 1977 bathymetric maps, and came up with a volume of 23 million cy. This volume includes an offshore disposal area, historically used for dredged material from the Panama City Harbor Navigation Channel. McCormick, et al., (1994) used the idealized straight and parallel "pre-inlet" contours as a baseline and determined an ebb shoal volume of 27 million cy. The average long term ebb shoal growth rate has been between 550,000 cy/yr and 640,000 cy/yr, most of which occurred in the early years after the inlet was opened. Recent shoaling rates in the approach channel are approximately 21,000 cy/yr (Coastal Tech 2000). Coastal Tech's (2002) most recent sediment budget for the inlet shows a net shoal growth rate of 10,000 cy/yr, which is the difference between maintenance dredging and sand transport into the inlet from all adjacent shorelines.

3.2 Fish and Wildlife Resources.

3.2.1 Coastal sand dune/beach. Most of the natural terrestrial communities in the project area have been affected by tourist-oriented development. The areas seaward of the structures are typically described as unvegetated beachface and low elevation dunes and swales. The beaches along the State parks and Sunnyside contain natural terrestrial communities that are more representative of pre-development conditions. Typical habitats in these areas include primary dune systems with low elevation foredunes. Lower elevation dunes are vegetated primarily with sea oats. Other vegetation includes panic grass, morning glory, rail road vine, sand spur, and other grasses and sedges. Higher dune habitats contain additional species such as scrub oak, briers, cabbage palm, saw palmetto, rosemary, salt rush, and groundsel tree. Examples of wildlife using the beach and dune habitats include sea turtles, shorebirds, crustaceans such as ghost crabs, reptiles, and various predators such as raccoons and snakes. The beaches along the project are important wintering areas for shorebirds such as sanderling, dunlin, short- billed dowitchers, plovers and willet. The beaches and dunes are also important nesting sites for birds including terns, black skimmer and plovers.

3.2.2 Intertidal/Swash and Nearshore Marine. The sandy substrate of intertidal swash zone provides habitat for benthic and infaunal communities characterized by low species diversity. Salaman and Naughton (1978) investigated benthic macroinvertebrate assemblages inhabiting
the swash zone at Panama City Beach, Florida. Sampling data showed four dominate species representing four families: *Donax texianus*, a borrowing bivalve; *Scolelepis squamata*, a polychaete worm; *Haustorus sp.*, an amphipod; and *Emeria talpoida*, an anomuran crab.

Saloman (1976) investigated benthic faunal populations inhabiting the nearshore zone off Panama City Beach, Florida. According to Saloman, a variety of crabs, marine worms, clams, cumacans, and sandhoppers dominate the nearshore zone. *Donax Texianus*, a burrowing bivalve, commonly occurred on both sandbars and troughs. Other dominate species found on the first offshore bar include *Haustorius sp.*, an amphipod; *Mancocuma sp.*, a cumaces; and *Scolelepis squamata*, a polychaete worm. Additional dominant species found on the second sandbar and adjacent landward trough includes the *haustoriid, Acanthohaustorius n. sp., Protohaustorius n. sp.*, and *Psedohaustorius n. sp.* Saloman’s research also showed significant populations of two polychaete worms – *Dispio unicinata* occupying the second offshore sandbar and *Spio pettiboneae* occupying the deeper troughs.

### 3.3 Threatened and Endangered Species

The project and surrounding area is known to support the Gulf sturgeon, Piping plover, Florida manatee, Choctawhatchee beach mice and various species of marine turtles.

Gulf sturgeon spend cool months (October or November through March or April) in estuarine areas, bays, or in the Gulf of Mexico. Research indicates that in the estuary/marine environment both subadult and adult Gulf sturgeon show preference for sand shoreline habitats with water depths less than 3.5 m and salinity less the 6.3 parts per thousand (ppt). The majority of tagged fish have been located in areas lacking seagrass, in shallow shoals 1.5 to 2.1 m and deep holes near passes, and in unvegetated, fine to medium-grained habitats, such as sandbars, and intertidal and subtidal energy zones. These shifting predominately sandy, areas support a variety of potential prey items including estuarine crustaceans, small bivalve mollusks, ghost shrimp, small crabs and various polychaete worms and lancelets. The nearshore environment offshore of Panama City Beach is designated as Gulf Sturgeon critical habitat. Data collected from several years of research suggest that the fish near the project area are usually found at known over wintering areas to the east of the St. Andrews inlet along Tyndall and Mexico Beaches (Frank Parauka, personal communication 2006). Gulf sturgeon from the Brothers, Yellow, Apalachicola and Choctawhatchee rivers have been located off Tyndall and/or Mexico beaches in water depths typically of 12-20 ft (F. Parauka, personal communication 2006). In addition, a number of reports from anglers fishing off Panama City Beach piers, indicate that Gulf sturgeon are swimming along the Gulf coast in the project area (USFWS, 2006).

Piping plover winter in coastal areas of the United States from North Carolina to Texas. Their wintering season generally extends from August through May. The species can be found feeding on exposed wet sand in swash zones; intertidal ocean beach; wrack lines; washover passes; mud-, sand-, and algal flats; and shorelines of streams, ephemeral ponds, lagoons, and salt marshes (Coutu *et al.*, 1990). They also use beaches adjacent to foraging areas for roosting and preening and small sand dunes, debris, and sparse vegetation within adjacent beaches for shelter from wind and extreme temperatures. Shell Island located east of the St. Andrews Inlet is designated as piping plover critical habitat. Although the species is known to utilize the surrounding state parks they are less likely to utilize the project area due to the high level of
human disturbance. No piping plovers were identified during the 2005 or 2006 shorebird surveys conducted within the limits of the project.

The Choctawhatchee beach mice are known to occupy portions of Shell Island. This species utilizes rolling primary and secondary dunes, which are characterized by a thick growth of sea oats, as well as blue stem, beach grass, and beach goldenrod. They also utilize scrub habitat, which consists of relict dunes of relatively high elevation, dominated by large patches of shrub live oak with gopher apple and green briar ground covers. St. Andrew State Park located east and west of St. Andrews Inlet is designated as beach mouse critical habitat. Although the species is known to utilize Shell Island they are not known to be within the project area due to the lack of suitable habitat and the high level of human disturbance.

The Florida manatee occur in both fresh and salt water habitats within tropical and subtropical regions and show preferences to waters with salinity levels of less than 25 ppt (Hartman, 1979). Several factors contribute to the distribution of manatees in Florida. These factors are habitat-related and include proximity to warm water during cold weather, aquatic vegetation availability, proximity to channels of at least 6.5 ft in depth, and location of fresh water sources (Hartman, 1979). Manatees often seek out quiet areas in canals, creeks, lagoons or rivers. Deeper channels are often used as migratory routes. The U.S. manatee population generally confines itself to the coastal waters of the southern half of peninsular Florida and to springs and warm water industrial outfalls as far north as southeast Georgia.

Of the five species of sea turtles the Kemp’s ridleys and loggerheads are the most likely species to occur in the project area due to fact that they are generalist carnivores which typically prey on benthic mollusks and crustaceans in the nearshore environment. Both species can be found foraging in shallow sand–mud habitat and at high-relief rock or reef habitats (NMFS, 2005). Hawksbill and green turtles are specialist feeders that target sponges and seagrass or macroalgae making them less likely to occur in the area of dredging and sand placement. Leatherbacks are pelagic feeds and as such are the most oceanic of all the sea turtles, preferring deeper waters (Rebel, 1974). The species is known to occasionally enter shallow waters and estuaries in the more northern areas of its range (Ernst and Barbour, 1972).

In addition to the aquatic environment, the beaches of the Florida panhandle provide nesting grounds for federally-listed (threatened and endangered) marine turtles. The marine turtle nesting season in this area spans from May 1 through October 31. The threatened loggerhead turtle frequently nest, although at relative low densities, on the beaches along the SDR project. Although green turtle nesting has been documented along the Gulf coast of Florida on Santa Rosa Island (Okaloosa and Escambia Counties) and from Pinellas County through Collier County, only false crawls have been documented on Bay County Beaches. The endangered leatherback, Kemp’s ridley and hawksbill sea turtles may occasionally nest on northwest Florida’s beaches; however, recent nesting has not been reported in Bay County, Florida. Loggerhead sea turtles’ nest incubation within the limits of the SDR project averages 65 days with peak nesting in mid June and peak hatching in late August (Watson, 2005). Documented average number of nest for the project area over the past 15 years (1991-2005) is 21.7 nests per year. The nesting density is approximately one nest per mile of beach (Watson, 1991, 1993, 1994).
3.4 Essential Fish Habitat. Congress defines Essential Fish Habitat (EFH) as “those waters and substrates necessary to fish for spawning, breeding, feeding or growth to maturity,” the designation and conservation of EFH seeks to minimize adverse effects on habitat caused by fishing and non-fishing activities. The National Marine Fisheries Service (NMFS) has identified EFH habitats for the Gulf of Mexico in its Fishery Management Plan Amendments. These habitats include estuarine areas, such as estuarine emergent wetlands, seagrass beds, algal flats, mud, sand, shell, and rock substrates. In addition, marine areas, such as the water column, vegetated and non-vegetated bottoms, artificial and coral reefs, geologic features and continental shelf features have also been identified. The habitat in the project area, which is located within the Gulf of Mexico, consists of estuarine waters and unvegetated bottoms with sand substrates. Submerged aquatic vegetation occurs within the St. Andrews inlet pass and St. Andrews Bay. No seagrasses are located within the beach placement or borrow area sites. Of the species managed by the Gulf Coast Fishery Management, the following would be expected to utilize the project area: brown shrimp, pink shrimp, white shrimp, king mackerel, Spanish mackerel, gray snapper, lane snapper, gag grouper, and red drum.

Epibenthic crustaceans and infaunal polychaetes dominate the diets of higher trophic levels, such as flounder, catfish, croaker, porgy, and drum. The fish species composition of the estuarine and offshore area along the northern Gulf of Mexico is of high diversity due to the variety of environmental conditions, which exist within the area.

3.5 Special Aquatic Sites. The St. Andrews State Park Aquatic Preserve surrounds the entrance of St. Andrew Bay and includes West and East Pass, Shell Island, and portions of the St. Andrew State Recreation Area (FDEP, 2007). Designation of an area as an Aquatic Preserve under Florida’s Aquatic Preserve Act is to ensure that the preserves’ natural condition (aesthetic, biological, and scientific values) is conserved for the enjoyment of future generations. Portions of the project area (existing BA-5C, 1 and the navigation channel and BA-11) lie within the St. Andrews State Park Aquatic Preserve.

3.7 Water Quality. The FDEP classifies the coastal water in the project area as Class III, defined as waters suitable for recreation and propagation of fish and wildlife. The waters within the St. Andrew State Park Aquatic Preserve and Lake Powell are classified as an “Outstanding Florida Water” (OFW), which is assigned additional protection through the FDEP Regulation. The FDEP sets water quality standards and requires monitoring of water quality during dredging and beach placement operations.

3.8 Sediment Quality. Several native beach samples were taken in the dry beach along and cross-shore of Panama City beach as well as in the submerged active profile in 1997. Composite beach sediment characteristics at the time included a mean grain size of 0.24 mm (fine sand) with a 0.53 sorting (moderately well sorted) and 0.94% silt. Composite characteristics of beach sediments collected in 2004 indicate a mean grain size of 0.28 mm (fine sand), 0.58 phi sorting (moderately well sorted) and 0.68% silt. BA-0-2/3 contains sediments that are very similar to the existing beach sands. The borrow area composite grain size of 0.35 mm is similar to the values observed in 2004. Both borrow area and beach sediments are moderately well sorted and silt percentage is less than 5%. Dry Munsell color values of beach sediments are generally 7
with a few isolated areas with slightly darker sediments. The average dry Munsell color of the borrow area material is 7.

3.9 Hazardous, Toxic, and Radioactive Waste. The project area lies primarily in residential and recreational areas. The Corps knows of no sources of hazardous, toxic and radioactive waste (HTRW) in the project area.

3.10 Air Quality. Non-point sources such as vehicular traffic exists within the area; however, air quality along Panama City beaches is good due to the presence of either on or offshore breezes that readily disperse airborne pollutants. Bay County is classified as an attainment area for all Federal Air Quality Standards.

3.11 Noise. Ambient noise levels in the project area are low to moderate. Because of the urbanization near the beaches and the popularity of the beach environment, elevated noise levels primarily from vehicles, may occur during weekends and summer months. The major noise producing source of the area year round is breaking surf adjacent to residential and resort areas.

3.12 Aesthetics. The signature white sandy beaches and the relatively low wave energy of the Gulf of Mexico provide a visually-pleasing environment along the beaches of Bay County.

3.13 Recreation. Locals and tourist spend much time sunbathing, sailing, fishing, walking and engaging in other active and passive activities near the beach. Beach usage peaks during the summer and subsides during the winter.

3.14 Navigation. The existing deep draft channel into Panama City Harbor was authorized under the Rivers and Harbors Act of 1948 (House Document 559, 80th Congress). The navigation project provides for a channel about 2.6 miles long extending from deep water in St. Andrew Bay across the Land East Peninsula to the Gulf of Mexico. The channel is protected by two jetties, each about 700 feet long. Within St. Andrew Bay natural water depths allow vessels to safely navigate to Dyers Point and Bay Harbor terminals. The proposed borrow area lies adjacent to the outer entrance channel in a portion of the eastern ebb shoal.

3.15 Historic and Cultural Resources. The beach area along Panama City Beach was previously coordinated with the Florida State Historic Preservation Officer (SHPO) on two separate occasions in 1989 and 1994. In 1989, Mobile District archaeological staff conducted a pedestrian survey of 18.5 miles from the entrance of Panama City Harbor to the mouth of Phillips Inlet and based on their lack of positive findings, recommended that there appeared to be little or no potential for intact significant cultural properties in the project area. The Florida SHPO concurred with their findings on December 7, 1989. Further correspondence regarding the beach portion and proposed borrow areas in 1994 restated the same recommendations that the beach retained low potential for intact cultural properties and proposed that the project would have no effect on historic properties listed, or eligible for listing, in the National Register of Historic Places. Again, the Florida SHPO concurred with this recommendation in a letter dated July 11, 1994 (project file no. 941852).
Between December 2008 and May 2009, Tidewater Atlantic Research, Inc. (TAR) conducted an archaeological and historical remote-sensing survey of the eight proposed sand borrow sites on behalf of Coastal Planning and Engineering, Inc. TAR encountered seventy-seven magnetic anomalies and ten acoustic anomalies within the project during the investigation. TAR identified thirteen target areas composed of thirty-six magnetic anomalies and four side-scan sonar anomalies that may represent significant cultural resources. The remaining 41 magnetic anomalies and 6 acoustic anomalies do not appear to represent cultural resources.

4.0 ENVIRONMENTAL IMPACTS OF THE PROPOSED ACTION

4.1 Coastal Processes. The borrow areas BA-02 and 03 are located approximately 3.5 miles offshore of Thomas Drive, in Panama City Beach, at approximately 60 feet of water. BA-02 (on the west) as 5,848,261 square feet and is subdivided into four sectors that will be dredged at different depths, ranging from 65.5 feet to 70 feet, yielding a volume of approximately 1,200,000 cubic yards. BA-03 (on the East) has 6,645,469 square feet and will be dredged at a constant depth of 67 feet, resulting in a volume of approximately 1,500,000 cubic yards. The borrow areas will be dredged in two or more events and approximately 50% of the available sand will remain in the borrow areas.

Hydrodynamic modeling performed during the second phase of design of the borrow areas and documented in a 2010 report titled Panama City Beaches, Florida Borrow Area Impact Evaluation, Phase II: Numerical Model Production Runs for Borrow Areas 02 and 03 by CP&E indicates no apparent impacts in wave climates, flows and longshore transport rates as a result of excavation.

4.2 Fish and Wildlife Resources.

4.2.1 Coastal sand dune/beach. The proposed work would create disturbance to fauna species; such as crabs and shorebirds utilizing the terrestrial habitats within the project limits. This would mainly involve short-term disturbance from equipment, vehicles and personnel movements for the duration of work. However, these species are mobile and would generally avoid the site during construction. Some loss of beach flora may occur during nourishment; however this is expected to be minimal.

Based on previous coordination with the State and FWS, a number of conservation measures associated with the protection of shorebirds have been incorporated into the project. These include: shorebird and shorebird nesting surveys for construction work conducted between February and September and buffer zones around identified shorebird courtship or nesting behavior within the project area.

4.2.2 Intertidal/Swash and Nearshore Marine. Excavation and beach placement would result in the mortality of non-motile benthic organisms. However, these organisms typically adapt well to the dynamic coastal environment. With their high fecundity and recruitment potential, they should repopulate the affected areas in a relative short time. Several past studies have shown no significant long-term effects on benthic communities from beach restoration. Saloman and Naughton (1984) studied the effect of beach restoration with offshore excavated sand on the
nearshore macorinfauna at Panama City Beach, Florida. They concluded that restoration had minor, short-term effects on benthic macroinvertebrates, noting that populations appeared to stabilize within five to six weeks after restoration. As noted in previous studies, intertidal benthic assemblages declined in abundance and diversity immediately following restoration, but recovered within two to six weeks.

4.3 Threatened and Endangered Species. Pursuant to Section 7 of the Endangered Species Act, the proposed actions have been coordinated with the U.S. Department of the Interior, FWS, and the U.S. Department of Commerce, NMFS to address potential effects on listed threatened and endangered species and their critical habitats.

Excavation would be conducted using either hydraulic cutterhead pipeline or hopper dredging equipment. Existing Biological Opinions (BO) on hopper dredging in the U.S. South Atlantic and Gulf of Mexico waters (most recently, January 9, 2007, Gulf regional biological opinion (GRBO) to the Corps’ four Gulf of Mexico districts) have established that non-hopper type dredging methods have discountable effects on, or are not likely to adversely affect, currently listed sea turtles or Gulf sturgeon (I/SER/2006/02953; I/SER/2006/01096). Should hopper dredge equipment be utilized the Terms and Conditions set forth in the GRBO would be implemented.

Portions of the project’s beach placement and borrow areas are located within critical habitat of the Gulf sturgeon. On December 29, 2004 NMFS issued a Biological Opinion stating that the removal of sand from approximately 316 acres of nearshore borrow areas for the restoration of 16.8 miles of beach would not adversely modify Gulf sturgeon critical habitat. Potential impacts to Gulf sturgeon Critical Habitat, associated with excavation of the proposed BA-11, are expected to be minimal, based upon the compatibility of the native and borrow sediments, the limited area of actual construction activity at any given time, and the expected rapid recovery of benthic assemblages. The Mobile District, Corps does not expect measurable impacts to Gulf sturgeon CH as a result of impacts to water quality, migratory pathways, sediment quality, or abundance of prey items related to the proposed project modifications. NMFS determined in their August 16, 2007 BO that the new BA-11 for beach restoration would not destroy or adversely modify designated Gulf sturgeon critical habitat (Enclosure 1).

The USFWS issued a BO for the Panama City Beach Nourishment on April 8, 1998. In this opinion, the USFWS determined that the Panama City Beach Nourishment project would not likely jeopardize the continued existence of the loggerhead, green and leatherback turtles provided the Terms and Conditions set forth in the opinion were implemented. Formal consultation to address possible impacts to nesting sea turtles as a result of the excavation of a new borrow area for restoration of the Panama City Beach SDR project was initiated with the USFWS, April 2007. The USFWS determined that the proposed action would not likely jeopardize the continued existence of the loggerhead, green and leatherback turtles provided the Terms and Conditions set forth in their amended October 25, 2007 opinion were implemented (Enclosure 1). In order to reduce potential effects on nesting sea turtles the Mobile District has agreed to initiate sea turtle surveys and nesting relocation efforts 75-days prior to construction and continue through September 15 or the end of the project whichever is earlier should work be conducted during the sea turtle nesting season (1 May through 31 October). Nests deposited within areas where nourishment activities would occur within 75-days would be relocated to
Sunnyside Beach where artificial lighting would least likely interfere with hatchling orientation. Any work in the western portion of the project area would be constructed either outside of the sea turtle nesting season (after October 31, 2007) or earlier if all nests have hatched within this area. This would protect the highest density of turtle nesting in the project area during the peak nesting period by allowing natural development of sea turtle nests.

Piping Plover and Chotowatchee Beach mouse critical habitat occurs adjacent to the project. The physical features necessary for maintaining the natural processes that support the habitat components essential for the conservation of the wintering Piping plover (beach, mud-, sand- and algal flats, and washover passes that support foraging, roosting and sheltering) are not expected to be significantly impacted as a result of the proposed action. Changes in the wave climate (both during summer and winter seasons) and currents that drive sediment transport in the nearshore zone are expected to be minor. The primary constituent elements necessary for normal behavior, growth, and viability of all life stages, of the Choctawhatchee beach mouse: (1) a contiguous mosaic of primary, secondary, and scrub vegetation and dune structure; (2) primary and secondary dunes, generally dominated by sea oats; (3) scrub dunes, generally dominated by scrub oaks; (4) functional, unobstructed habitat connections; and (5) a natural light regime within the coastal dune ecosystem are not expected to be affected by the proposed project. Changes in the wave climate and currents that drive sediment transport in the nearshore zone are expected to be minor and would not result in measurable effects to these habitat components. No changes in Aeolian sediment transport are expected. Based on these findings, the Corps, Mobile District determined that the project as proposed would not likely destroy or adversely modify designated Piping plover or Chotowahatee beach mouse critical habitat. The FWS concurred via letter dated June 6, 2007 (Enclosure 1).

Based on previous coordination with the State and FWS, a number of conservation measures associated with the protection of Manatee and Piping plovers have been incorporated into the project. These include: the use of Standard Manatee Protection Conditions, surveys for Piping plovers for construction during February and April and the designation of buffer zones around areas where Piping plovers occur.

During construction the Mobile District would continue to abide by the terms and conditions of the following: (1) GRBO for Dredging of Gulf of Mexico Navigation Channels and Sand Mining Areas Using Hopper Dredges by COE Galveston, New Orleans, Mobile, and Jacksonville Districts, dated November 19, 2003, as amended; (2) the FWS’s Panama City Beach Nourishment BO, dated April 8, 1998, as amended; (3) the NMFS’s Panama City Beaches Renourishment BO, dated February 11, 2005, as amended.

4.4 Essential Fish Habitat. The project as proposed would impact epibenthic crustaceans and infaunal polychaetes within the areas of excavation and beachfront locations. These impacts are primarily short-term in nature and consist of a temporary loss of benthic invertebrate. Non-motile benthic fauna within the area may be destroyed by the proposed work, but should repopulate within several months after completion. Some of the motile benthic and pelagic fauna, such as crabs, shrimp, and fishes, are able to avoid the disturbed area and should return shortly after the activity is completed. Larval and juvenile stages of these forms may not be able
to avoid the activity due to limited mobility. No significant direct or indirect impacts to managed species are anticipated.

Notwithstanding the potential harm to some individual organisms, no significant impacts to managed species of finfish or shellfish populations are anticipated from the borrow area excavation and placement operations. Therefore, it is the opinion of the Corps, Mobile District that this project would have no significant effects on EFH. The public notice and the effects determination of the EA were forwarded to the NMFS for review and comment (Enclosure 1).

4.5 Special Aquatic Sites. Designation of an area as an Aquatic Preserve under Florida’s Aquatic Preserve Act is to ensure that the preserves’ natural condition (aesthetic, biological, and scientific values) is conserved for the enjoyment of future generations. The project area lies partly within the St. Andrews State Park Aquatic Preserve. Effects to the aesthetics and biological condition in and near the area of excavation as a result of increased levels of turbidity and temporary loss of benthic organisms would occur. These impacts are expected to be short term in nature and would not result in significant long term impacts to the aesthetic, biological, and scientific values of the preserve.

4.6 Water quality. The discharging of effluent is expected to create some degree of construction-related turbidity in excess of the natural condition in the proximity of the placement site and the borrow areas. This turbidity is usually generated by the fines fraction of the sediments suspended within the effluent. These impacts are expected to be temporary, with suspended particles settling out within a short time without measurable effects on water quality. The State of Florida granted a mixing zone variance on March 6, 2009, which allowed state water quality standards to be exceeded for a limited time during excavation and placement (see Enclosure 1). During construction, turbidity levels would be monitored at the dredge and the beach sites, to ensure compliance with FDEP’s Water Quality Certification.

4.7 Sediment Quality. The borrow area sediments are very similar texturally and aesthetically to the current beach sediments. Thus, no adverse impacts to morphology, sand temperature or aesthetics of the beach are anticipated from excavation and placement of borrow area sands.

4.8 Hazardous, Toxic, and Radioactive Waste. No known hazardous, toxic or radioactive waste concerns are known to exist within the confines of the project area. Nor would any be added as a result of the proposed activities. The material to be excavated are naturally occurring marine sands in areas of high current activity and far removed from sources of pollution, thus providing reasonable assurance that the material is not contaminated.

4.9 Air Quality. The proposed action would have no significant long-term effect on air quality. Air quality in the immediate vicinity of the equipment would be slightly affected for a short period of time by the fuel combustion and resulting engine exhausts. The exhaust emissions are considered insignificant in light of prevailing breezes and when compared to the existing exhaust fumes from other vessels using the project. The project area is in attainment with the national Ambient Air Quality Standards parameters. The proposed action would not have an effect on the attainment status of the project area or region.
4.10 **Noise.** Noise impacts from the construction equipment are expected to increase during excavation and placement operations in the project vicinity. These impacts would be short term and restricted to the immediate vicinity of the activity. No long-term increase in noise would occur in or around the project area.

4.11 **Aesthetic.** Only temporary degradation to the aesthetic environment would occur as a result of excavation and placement operations. Impacts would primarily occur as a result of the physical presence of heavy equipment on the beach. Some minor increases in turbidity may be noted in the immediate vicinity of excavation and placement activities but these increases would be minor and short term in nature. Some discoloration of the sand would occur following placement due to the fact that the sands to be placed on the beach are coming from anaerobic environment. Bleaching of the sand should occur within one to two months. Rainfall and wave action would act to filter out the fine grained materials from the restored beaches and increase the compatibility of the nourishment sands with those presently on the beach.

4.12 **Recreation.** For a short time, the construction process would limit the recreational activities, especially near the dredge pipe and equipment staging areas. Once completed, the project would provide an aesthetically pleasing larger beach which would supply more area for active and passive recreational activities.

4.13 **Navigation.** No adverse impacts on navigation or obstruction of local riparian rights are expected to result from completion of the proposed work. Changes in wave climate and circulation within the channel due to excavation of the proposed BA-O-2/3 are expected to be minor and are not expected to have an adverse effect on navigation.

4.14 **Historic and Cultural Resources.** The proposed BA-02 and BA-03 limits were delineated such that it does not contain any anomalies identified and selected for avoidance by TAR. The results of the survey and the proposed borrow limits based on a 100 and 150-foot buffers of specific clusters and avoidance of others was coordinated with the Florida State Historic Preservation Office and a concurrence letter was received July 15, 2009 (Enclosure 2).

4.15 **Cumulative Effects Summary.** Cumulative impacts are those impacts on the environment that result from the incremental impacts of the action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency (Federal or non-Federal) or person undertakes such other actions. This section analyzes the proposed action as well as any connected, cumulative, and similar existing and potential actions occurring in the area surrounding the site.

No projects are known to be interdependent upon this project. It is likely that renourishment events in the action area would occur in the future to maintain the beach design profile and additional sand sources would be used. Renourishment intervals are expected to be every 5 years provided that the area is not severely impacted by tropical storm events. Several other known beach renourishments are occurring, have recently occurred or are expected to occur within the Florida Panhandle. These include: Pensacola Beach Restoration (8.2 miles of shoreline), Navarre Beach Berm and Dune (3.6 miles of shoreline), and Walton County/City of Destin.
Beach renourishment (6.9 miles of shoreline and a 210 acre borrow area). In addition there is a proposed sand bypassing unit for the Mexico Beach Canal which is currently within the FDEP permitting process. This project if approved would consist of annual bypassing of sand via a hydraulic dredge from a 1.6 acre beach site west of the pass to a 4,500 foot stretch of beach to the east. The combined footprint is approximately 514 acres of seafloor and 37 miles of the shoreline. Not all of these projects are expected to occur within the same renourishment cycle (year), thus providing time for the natural system to recover. Cumulative impacts that would arise from renourishment efforts are anticipated to be remote due to the conservation measures typically incorporated in to beach nourishment projects, the dynamic nature of the nearshore zone and the rapid recovery time of the benthic assemblages.

5.0 STATUS OF ENVIRONMENTAL COMPLIANCE

5.1 National Environmental Policy Act of 1969. Environmental information on the project has been compiled and this EA has been prepared in accordance with the NEPA.

5.2 Endangered Species Act of 1973. This proposed action has been coordinated with the USFWS and NMFS. Terms and Conditions of the Services’ amended biological opinions are incorporated to ensure full compliance with the Act.

5.3 Coastal Zone Management Act of 1972. The Mobile District, Corps determined that the proposed action is consistent with the Florida Coastal Management Program to the maximum extent practicable. The effect of this project on the coastal zone would be to enhance the zone’s appearance and suitability for beach-type recreation and to restore some of the coastal zone’s ability to provide protection against storms and flooding. Restoration of the State’s beaches is a policy statement with the state Coastal Zone Management Plan Chapter 161 (Coastal Construction). FDEP is expected to issue a minor modification to the state’s Coastal Zone Consistency #0128852-026-JC by June 15, 2010.

5.4 Clean Air Act of 1972. No air quality permits are required for this project.

5.5 Clean Water Act of 1972. A modification to the Section 401 water quality certification #0128852-026-JC for the proposed action is expected to be issued from the FDEP on by June 15, 2010. All State water quality standards would be met. A Section 404(b) evaluation is included in this EA as Enclosure 3.

5.6 Rivers and Harbors Act of 1899. The proposed work would not obstruct navigable waters of the United States.

5.7 National Historic Preservation Act of 1966 (INTER ALIA) -(PL 89-665, the Archeology and Historic Preservation Act (PL 93-291), and executive order 11593). Archival research, field work, and consultation with the Florida State Historic Preservation Officer (SHPO), have been conducted in accordance with the National Historic Preservation Act, as amended; the Archeological and Historic Preservation Act, as amended and Executive Order 11593. SHPO consultation was re-initiated May 9, 2006. In a June 22, 2006 response, the SHPO concurred
with the Corps’ no adverse effect determination. The project would not have an effect on historic properties included in or eligible for inclusion in the National Register of Historic places.

5.8 **Migratory Bird Treaty Act.** No migratory birds would be adversely affected by project activities.

5.9 **Coastal Barrier Resources Act and Coastal Barrier Improvement Act of 1990.** The 16.8 miles of beach along the Panama City Beach SDR project and the proposed borrows are not located within designated CBRA units.

5.10 **Magnuson Fishery Conservation and Management Act.** This project has been coordinated with the NMFS, and is in full compliance with the act.

5.11 **Marine Mammal Protection Act of 1972, as amended.** Incorporation of the safe guards used to protect threatened or endangered species during project implementation would also protect any marine mammals in the area; therefore, the project is in compliance with this Act.

5.12 **Fish and Wildlife Coordination Act of 1958, as amended.** This project is being coordinated with the FWS, and will be in full compliance with the act.

5.13 **Marine Protection, Research and Sanctuaries Act.** The term "dumping" as defined in the Act (33 U.S.C. 1402)(f)) does not apply to the disposal of material for beach nourishment. Therefore, the Marine Protection, Research and Sanctuaries Act does not apply to this project. The disposal activities addressed in this EA have been evaluated under Section 404 of the Clean Water Act.

5.14 **Submerged Lands Act of 1953.** The project would occur on submerged lands of the State of Florida. The project has been coordinated with the State.

5.15 **E.O. 11988, Protection of Children.** The proposed action complies with Executive Order 13045, “Protection of Children from Environmental Health Risks and Safety Risks”, and does not represent disproportionally high and adverse environmental health or safety risks to children in the United States. The proposed site is not used disproportionally by children.

5.16 **E.O. 11990, Environmental Justice.** The proposed action complies with Executive Order 12898, “Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations,” and does not represent disproportionally high and adverse human health or environmental effects on minority populations and low-income populations in the United States. The proposed site is not used disproportionally by these populations.

5.17 **E.O. 11988, Flood Plain Management.** E.O.11988 requires federal agencies to avoid, to the extent possible, the long and short-term adverse impacts associated with occupancy and modification of floodplains. It further directs federal agencies to avoid direct and indirect support of floodplain development wherever there is a practicable alternative. The project is in the base floodplain (100-year flood) and has been evaluated in accordance with this executive order. The action is in compliance.
6.0 COORDINATION. The general public was notified of the proposed action via public notice FP10-BCB05-02, dated May 12, 2010 (see Enclosure 2). The public notice was mailed to federal and state agencies and the interested public for a 15-day review period. All comments on the action were considered prior to a decision on the action.

7.0 CONCLUSIONS. The implementation of the proposed action would not have significant adverse impacts on the quality of the environment and an environmental impact statement is not required.

8.0 REFERENCES


Coastal Technology Corporation (2002), St. Andrews Bay Entrance Downdrift Influence Assessment, Coastal Technology Corporation, Vero Beach, FL.

Culter, J.K., Mahadevan S. 1982. “Long-Term Effects of Beach Nourishment on the Benthic Fauna of Panama City Beach, Florida.” Report submitted to the USACE Coastal Engineering Research Center.


http://plover.fws.gov/

Federal Register Vol. 65, No. 130/ Thursday, July 6, 2000/ Proposed Rules, Wintering Piping Plovers

McCormick, J., Lillycrop, W.J., Scheffner, N., Puckette, P., Lillycrop, L., Morang, A., Mark, D.

(1994), Panama City Harbor Study, U.S. Army Corps of Engineers, Vicksburg, MS.)


