

**DRAFT
ENVIRONMENTAL ASSESSMENT
AND
SECTION 404(b)(1) EVALUATION
FOR THE**

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

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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.



Figure 1: Panama City Beach Vicinity Map (CP&E, 2007)

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 1,000,000 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).

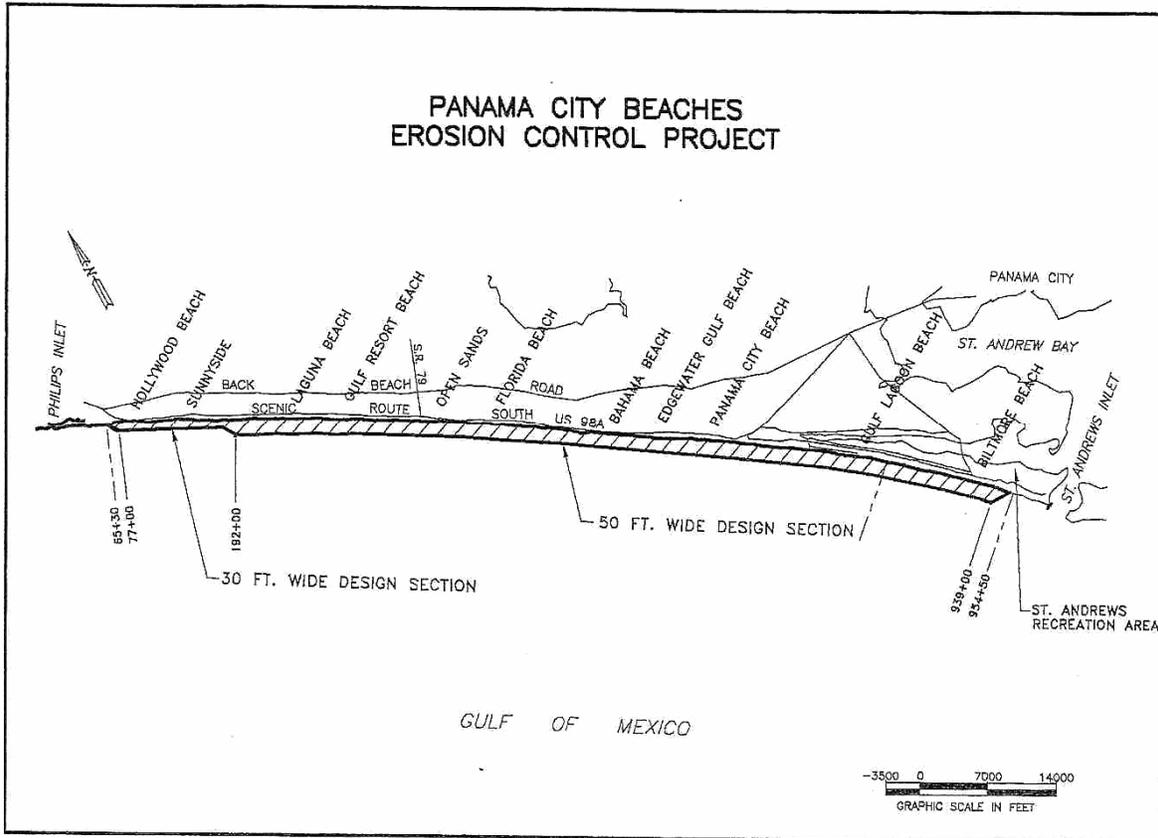


Figure 2: Panama City Beach Placement

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 local 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. A draft 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. These areas included 4 previously studied borrow areas (BA-1A, 3B, 4A, and 5A&B) and 9 previously studied and excavated borrow areas (BA-I, II, III, V, VI, VII/2A, IX, 5C and 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 1: Estimated Remaining Borrow Area Volumes

Area	Estimated Borrow Vol. remaining, cy	Bottom Area, sf	Estimated Borrow Avg. Depth remaining, ft
BA-IX	63,000	837,492	2.03
BA-VII	154,000	1,496,819	2.78
BA-III	152,000	1,626,013	2.52
BA-I	463,000	7,655,869	1.63
BA-5C	508,000	2,422,083	5.66

Excavating material from BA-IX, VII, III, and I at this time; 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 is the only existing borrow area with adequate volumes, cut depths and ground surfaces for excavation with an estimated volume of roughly 508,000 cy and an average cut depth of 5.7 feet (**Table 1**).

In addition to geotechnical investigations of existing borrow areas CP&E performed further investigations in 2005 that identified a beach quality sand source within the ebb tidal shoal of the St. Andrews Bay Inlet. The proposed area is located approximately 4,000 feet south of Shell Island in the eastern lobe of the St. Andrews Inlet ebb tidal shoal (**Figure 3**). The area is approximately 45 acres in size with an estimated volume of roughly 564,000 cy.

Existing grade varies from elevations -27 to -34 feet. The finished grade within the area planned to be used, excluding side slopes, would vary from an elevation of -36.5 to -41 feet. Sand is expected to be dredged via pipeline or hopper dredge and placed along the downdrift shoreline to help restore the eroded beach resulting from the 2004/2005 tropical storm events.

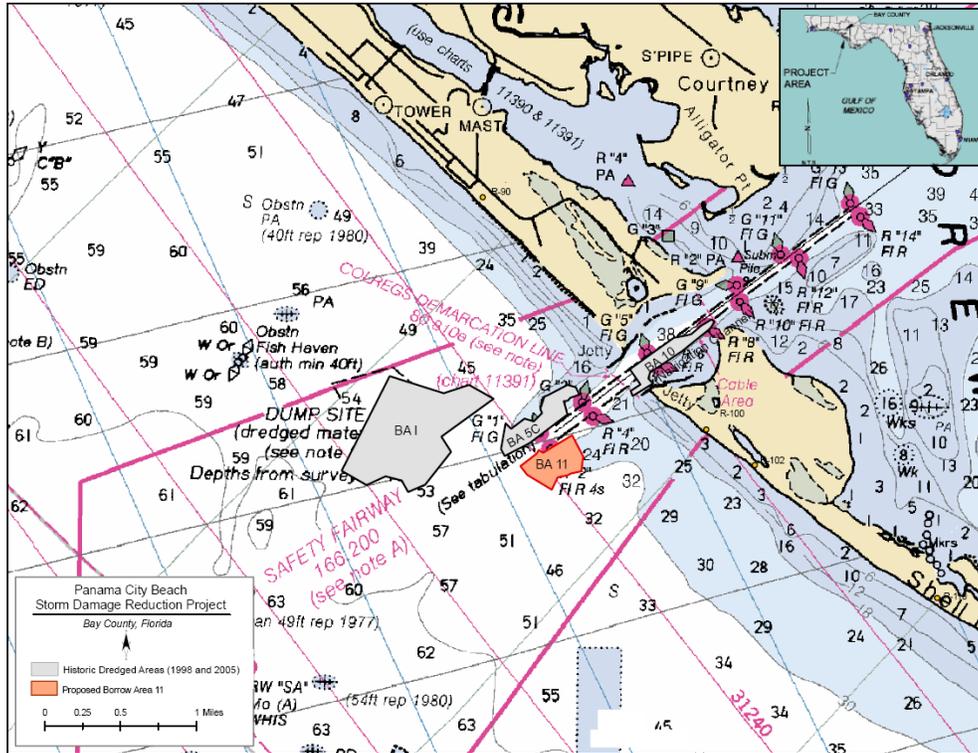


Figure 4: Proposed Borrow Area 11

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.

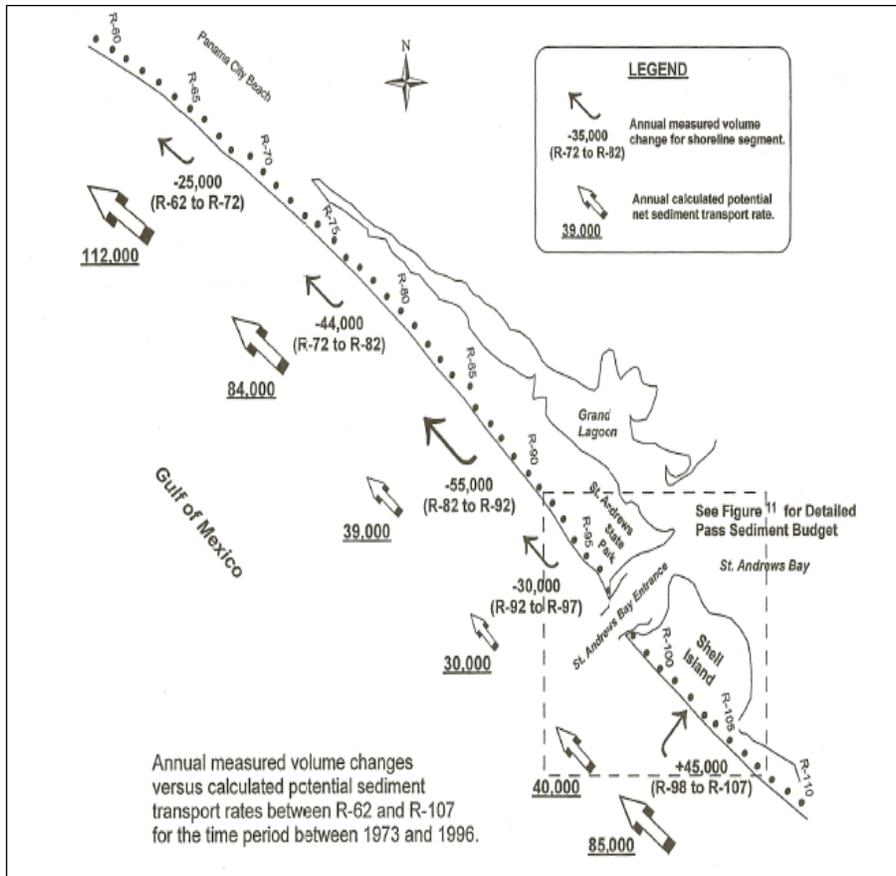


Figure 5: Panama City Beach Sediment Budget (Coastal Technology, 2002)

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. 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, briars, 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. Saloman 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 texasianus*, a borrowing bivalve; *Scolelepis squamata*, a polychaete worm; *Haustorius sp.*, an amphipod; and *Emerta 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 Texasianus*, 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.*, *Protohaustoriux n. sp.*, and *Psedohaustorius n. sp.* Saloman's research also showed significant populations of two polychaete worms – *Dispio uncinata* 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 than 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 overwintering areas to the east of the St. Andrews inlet along Tyndall and Mexico Beaches (Frank Paruaka, 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. Paruaka, 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.

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 borrow areas 5C, 1 and the navigation channel and proposed borrow area 11) lie within the St. Andrews State Park Aquatic Preserve.

3.6 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.

3.7 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 11 contains sediments that are very similar to the existing beach sands. The borrow area composite grain size of 0.28 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 10%. Dry Munsell color values of beach sediments are generally 8 with a few isolated areas with slightly darker sediments. The average dry Munsell color of the borrow area material is 7.6.

3.8 Hazardous, Toxic, and Radio Active 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.

3.9 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.

3.10 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.

3.11 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.

3.12 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.

3.13 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.

3.14 Historic and Cultural Resources. In November 2005, Tidewater Atlantic Research, Inc. performed magnetometer and side scan sonar surveys to search for submerged cultural resources within the eastern ebb tidal shoal. Approximately seventy magnetic and two acoustic anomalies were identified. Twenty of the magnetic anomalies exhibited signatures consistent with shipwreck or other cultural resource material. It was recommended that these targets be avoided by the creation of a 150-foot radius buffer zone or investigated further to assess the significance of the material generating the signatures. Five targets were also found to contain signature characteristics consistent with shipwreck material and/or other potentially significant submerged cultural resources. Each of these were noted as being located below the historic bottom in and on the adjacent slope of the navigation channel that was created through Shell Island into the Gulf in 1934 and were noted to be most likely associated with modern material. The remaining 45 targets were noted as being generated by a single ferrous object such as navigation aids, pipe, cable, small diameter rods, traps, chain, small boat anchors or other modern debris. The proposed BA limits were delineated such that it avoids any overlap with a 200-foot radius buffer zone around the 20 magnetic anomalies which exhibited signatures consistent with shipwreck or other cultural resource material.

4.0 ENVIRONMENTAL IMPACTS OF THE PROPOSED ACTION

4.1 Coastal Processes. The shape of BA11 was limited to the area along the channel and the offshore toe of the shoal. It leaves the nearshore, central ridge and eastern side of the eastern lobe intact. Water depths within the borrow area range from 27 to 34 feet becoming shallower to the east with increased distance from the navigation channel. Excavation depths in this area would generally be 15 feet or less and in no case would the depths be greater than the existing depth of the navigation channel (-44 feet National Geodetic Vertical Datum (NGVD)). The borrow area dimensions leaves over 2/3rd of the eastern ebb shoal lobe and most of the ebb shoal above the 25-foot NGVD intact to provide protection to the adjacent shoreline.

Hydrodynamic modeling performed during the design of the borrow area indicates only minor potential changes in wave climate, flows and longshore transport rates as a result of excavation.

Waves: Excavating BA 11 would modify the wave refraction patterns in the lee of the borrow area. Given the typical summer conditions, the largest change to the wave height and wave angle in the nearshore zone (-12 feet NGVD) would be 0.7 feet and 6 degrees. The corresponding largest change during typical winter conditions or annual storm conditions were found to be 1 foot and 9 degrees.

Flow: Changes in flow patterns given excavation of BA 11 would largely occurred near the ebb shoal of St. Andrews Inlet. Excavation of the borrow area would deepen the water along the southeast quadrant of the ebb shoal; bring the peak flood flow slightly closer to the shoreline

near the west end of Shell Island. The resulting current speeds near the proposed BA would be slightly higher (on the order of ~5%).

Longshore Transport: Changes in longshore transport rates would alternate between an increase and decrease every 1,000 to 2,000 feet, within the reach located two miles west of the St. Andrew's inlet. Within St. Andrews State Park (R-91+459' to the Inlet), the net gain, including bypassing practices of the harbor channel would decrease one percent from 93,000 c.y. per year to 92,000 c.y. per year. The average shoreline advance rate would remain near 31 feet/year. Within the Panama City Beach project area (R-87 to R-91+459) the erosion rate would not change as a result of excavation. Along Shell Island, east of the St. Andrew's inlet (R-98 to R-102-T), the average shoreline advance rate would remain near 4 feet/year.

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 macroinfauna 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 are being coordinated with the U.S. Department of the Interior, FWS, and the U.S. Department of Commerce, NMFS to address potential affects 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.

The USFWS issued a Biological Opinion for the Panama City Beach Nourishment on April 8, 1998, amended May 24, 2007 (Enclosure 1). 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. Placement of material for recovery efforts as a result of the recent hurricanes may occur in the later part of the 2007 sea turtle nesting season (1 May through 31 October). The Mobile District determined that the proposed action was likely to have an adverse affect on threatened and endangered sea turtles. In order to reduce potential affects the Mobile District has agreed to initiate sea turtle surveys and nesting relocation efforts 75-days prior to construction and continue through September 15, 2007 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. Future renourishment would be scheduled outside sea turtle nesting to avoid conflicts with nesting sea turtles.

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 excavation. 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. As such, offshore excavation of BA 11 is not expected to indirectly render the beach unsuitable or less suitable for foraging, roosting or loafing of the wintering Piping plover.

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 excavation of BA 11. 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 affects to these habitat components. No changes in Aeolian sediment transport are expected.

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) Gulf Regional Biological Opinion (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; (2) the U.S. Fish and Wildlife Service's (USFWS) Panama City Beach Nourishment Biological Opinion (BO), dated April 8, 1998; (3) the NMFS Panama City Beaches Renourishment BO, dated February 11, 2005 and associated amendments of these documents.

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.

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 for the 1998 and 2005 renourishment, which allowed state water quality standards to be exceeded for a limited time during excavation and placement. A similar variance has been requested for this project. 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 affect 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 affect 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 an 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 11 are expected to be minor and are not expected to have an adverse affect on navigation.

4.14 Historic and Cultural Resources. The proposed BA11 limits were delineated such that it does not contain any anomalies identified and selected for avoidance by Tidewater Atlantic Research, Inc during their 2005 Archaeological Remote Sensing Survey. The results of the survey and the proposed borrow limits based on a 200-foot avoidance buffer was coordinated with the Florida State Historic Preservation Office via letter dated May 9, 2006. A concurrence letter was received June 22, 2006 (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 Destine 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 is being coordinated with the USFWS and NMFS. Terms and Conditions of the Services' amended biological opinions would be incorporated into the final document 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).

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 is being requested from the FDEP (permit #0128852-001-JC). No work would occur until the State has issued water quality certification for the proposed action. All State water quality standards would be met. A draft Section 404(b) evaluation is included in this report as Appendix A.

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 initiated May 9, 2006. In a June 22, 2006 response, the SHPO concurred with the Corps' no adverse effect determination. The project would not affect 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 is being coordinated with the NMFS, and will be 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 (3[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 is being 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 disproportionately high and adverse environmental health or safety risks to children in the United States. The proposed site is not used disproportionately 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 disproportionately 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 disproportionately by these populations.

5.17 E.O. 11988, Flood Plain Management. The project is in the base flood plain (100-year flood) and is being evaluated in accordance with this Executive Order. The project will be in compliance with this Act.

6.0 COORDINATION. The general public is being notified of the proposed action via public notice. The public notice is being mailed to Federal and state agencies and the interested public for a 30-day review period. All comments on the action will be 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

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DRAFT

**ENCLOSURE 1
PERTAINANT COORESPONDENCE**



AS POSITION
PD-ES

DEPARTMENT OF THE ARMY
MOBILE DISTRICT, CORPS OF ENGINEERS
P.O. BOX 2288
MOBILE, ALABAMA 36628-0001

May 9, 2006

Day
Sullivan-Corps
2006-5047
RECEIVED XREF: 2006-258
BUREAU OF
HISTORIC PRESERVATION
258

2006 MAY 18 P 12:54

REPLY TO
ATTENTION OF

Inland Environment Team
Planning and Environmental Division

Mr. Frederick Gaske
Florida State Historic Preservation Officer
Attention: Ms. Laura Kammerer, Deputy
R.A. Gray Building
500 South Bronough Street
Tallahassee, Florida 32399-0250

Dear Mr. Gaske:

Enclosed for your review and comment is one copy of the report, *Archaeological Remote Sensing Survey Panama City Beach Renourishment Project, Bay County, Florida*. This report details the findings of a remote sensing cultural resources survey by Tidewater Atlantic Research, Inc. (Tidewater) of an area designated Borrow Area 11 (Page 2) south of the St. Andrew State Recreation Area on Shell Island and immediately east of the existing navigation channel through St. Andrews Inlet in St. Andrews Bay, Bay County, Florida. Side scan sonar, magnetometer, and sub-bottom profiler equipment was utilized in the survey area. Tidewater located approximately seventy magnetic and two acoustic anomalies. Twenty of the magnetic anomalies exhibited signatures consistent with shipwreck or other cultural resource material and have been chosen for avoidance (Page 18, Figure 5). The U.S. Army Corps of Engineers, Mobile District contracted Coastal Planning and Engineering, Inc. (CPE) to conduct geophysical studies of this proposed borrow area, and they in turn contracted Tidewater to perform the cultural resources investigation. CPE has been able to delineate a borrow pit that does not contain any of the anomalies identified and selected for avoidance (Page 18, Figure 5). Therefore, Tidewater has not recommended that any of the anomalies receive further investigation. Other recommendations include that additional investigation be performed of the identified targets should dredging activities be altered.

This project has been coordinated in earlier correspondence through this office in 1994 and again in 2005, however, previously the proposed borrow pit location was only tentative and now has been positively identified and more thoroughly investigated. Copies of the letters have been enclosed for your convenience. Dredging in the borrow area will only be conducted ten feet below the current sand bottom. Through this additional investigation into the identified borrow pit location, we are satisfied that the dredging of sand from Borrow Area 11 will pose no effect to cultural resources.

ENCLOSURE 1

We would appreciate any comments or your concurrence within thirty (30) days of the receipt of this letter. If you have further questions, please contact Ms. Ree Rodgers by phone (251) 690-2775 or via email ree.r.rodgers@sam.usace.army.mil. Your assistance to our cultural resources program is valuable and greatly appreciated.

Sincerely,


Kenneth P. Bradley
Chief, Environment and Resources
Branch

Enclosure

CONCUR:

for Laura A. Kammerer, Deputy SHPO 6/22/2006
Mr. Frederick Gaske Date
Florida State Historic Preservation Officer



IN REPLY REFER TO:

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Field Office
1601 Balboa Avenue
Panama City, FL 32405-3721

Tel: (850) 769-0552
Fax: (850) 763-2177

May 24, 2007

Mr. Kenneth Bradley
Coastal Environmental Team
Planning and Environmental Division
U.S. Army Corps of Engineer, Mobile District
P.O. Box 2288
Mobile, Alabama 36628-0001

Attn: Elizabeth Godsey

Re: FWS Log No. 4-P-97-008
Date Started: April 19, 2007
Applicant: Mobile District, Corps of Engineers
Project Title: Panama City Beach Nourishment
Emergency Restoration, Post-Hurricane Seasons
2004 and 2005
Project Extension- 4,500 feet
Beaches of Bay County
Ecosystem: NE Gulf
County: Bay County, Florida

Dear Mr. Bradley:

This letter constitutes amendment no. 7 to the April 8, 1998, biological opinion (BO) on the Panama City Beaches offshore dredging and beach nourishment project on the beaches of the City of Panama City Beach and Bay County, Florida. The Fish and Wildlife Service (Service) received your letter dated April 19, 2007, requesting consultation concerning the completion of nourishment post hurricane seasons of 2004 and 2005 and extension of the project 4,500 feet to the west. The U.S. Army Corps of Engineers (Corps) has determined the project will adversely affect nesting loggerhead, green, and leatherback sea turtles as covered under the existing biological opinion for the Panama City Beaches Nourishment project dated April 8, 1998. Thus, the Corps has determined that the "Reasonable and Prudent Measures" and the "Terms and Conditions" contained in the biological opinion continue to be applicable to the proposed work. Our comments are provided in accordance with the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1351 *et seq.*).

The Service concurs with the determination that the proposed project is covered under the existing BO for effects on nesting sea turtles. The work is to begin during the latter part of the 2007 sea turtle nesting season in September and completion is anticipated within 3 to 4 months. Nourishment will take place between R-76 and R-88 and R-4.5 and R-30. Construction would begin at the eastern end (R-88) of the project area and proceed westward.

An additional issue under this consultation is to address the lighting situation on the developed beaches of Bay County including the beaches of the City of Panama City Beach. The Service required that a plan of action be developed to address the lighting issue by April 1, 2007. The Bay County Tourist Development Council (TDC) prepared a Plan and Process document dated March 26, 2007, to that effect. The Service provided comments on the plan in a letter dated April 12, 2007. Also required by the Service was concurrence by the City of Panama City Beach (PCB) and Bay County to participate in completing and implementing the Plan. By letter dated May 11, 2007, the TDC forwarded documentation that both the PCB and Bay County approved the Plan on April 26, 2007 and April 17, 2007, respectively. A lighting ordinance is to be finalized by December 31, 2007.

The Service has determined that the work would not increase the likelihood of take of sea turtles beyond that covered in the existing and amended consultation for the beach nourishment project because the work consists of completing nourishment of areas previously restored, and the nourishment extension area does not cause a significant increase in the project size. However, this will require the following changes to the existing Reasonable and Prudent Measures (RPMs) and Term and Conditions (T&Cs). All other RPMs and T&Cs of the April 8, 1998 biological opinion and amendments dated April 16, 1999, March 9, 2000, December 18, 2000, March 29, 2001, and January 14, 2005, remain applicable to the proposed work.

Reasonable and Prudent Measures

Nest Relocation Reasonable and Prudent Measure (RPM no. 2)

Surveys for nesting sea turtles shall be conducted. All sea turtle nests that are laid in the area of active beach nourishment between R-76 and R-88 shall be relocated. All other nests not relocated for conservation purposes shall remain *in situ*.

Beachfront Lighting Reasonable and Prudent Measure (New RPM no. 10)

The local sponsor shall complete implementation of their Plan and Process to Address Protection of Endangered Sea Turtles on Panama City Beach. The existing Beachfront Lighting Ordinance (02-07) shall continue to be enforced.

Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the Endangered Species Act, the Corps must comply with the following terms and conditions, which implement the reasonable and prudent measures. These terms and conditions are non-discretionary.

West End Nest Protection Terms and Condition (TC no. 1 revised)

Beach nourishment work including the staging and storing of pipe and equipment shall not be conducted prior to October 1, 2007, between R-4.5 and R-25.75 unless no sea turtle nests remain in place. The goal will be to protect the highest density of turtle nesting in the project area during the peak nesting period by allowing natural development of the sea turtle nests.

Eastern End Work Nest Protection Terms and Condition (TC No. 4 revised)

Daily early morning surveys shall be required if any portion of the beach nourishment project occurs during the period from May 1 through October 31. Nesting surveys shall be initiated 75 days prior to nourishment activities or by May 1, whichever is later. Nesting surveys shall continue through the end of the project or through September 1, whichever is earlier. Hatching and emerging success monitoring will involve checking nests beyond the completion date of the daily early morning nesting surveys.

From June 15, 2007 until September 30, 2007, nests laid between R-76 and R-88 shall be relocated to Sunnyside Beach. Eggs shall be relocated per the following requirements.

- a. Nest surveys and egg relocations shall only be conducted by personnel with prior experience and training in nest survey and egg relocation procedures. Surveyors shall have a valid Florida Fish and Wildlife Conservation Commission permit. Nest surveys shall be conducted daily between sunrise and 9 a.m. Surveys shall be performed in such a manner so as to ensure that construction activity does not move on to a "new" location prior to completion of the necessary sea turtle protection measures.
- b. Nests requiring relocation shall be moved no later than 9 a.m. the morning following deposition to Sunnyside Beach, Panama City Beach, Bay County where the effects of artificial lighting on hatchling orientation are minimized.

All other nests laid between R-4.5 and R-88 not relocated for conservation purposes shall remain *in situ*. The turtle permit holder shall install an on-beach marker at the nest site and a secondary marker at a point landward as possible to assure that future location of the nest will be possible should the on-beach marker be lost. A series of stakes and highly visible survey ribbon or string shall be installed to establish an area of 10 feet radius surrounding the nest. No activity shall occur within this area nor shall any activity occur which could result in impacts to the nest. Nest sites shall be inspected daily to assure nest markers remain in place and the nest has not been disturbed by the nourishment activity.

Beachfront Lighting Terms and Conditions (New TC no. 15)

The local sponsor shall complete implementation of their Plan and Process to Address Protection of Endangered Sea Turtles on Panama City Beach per the dates provided in the document.

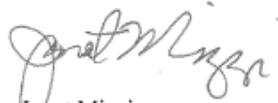
- a. A general lighting survey of the beach shall be completed by June 30, 2007.

- b. A lighting ordinance shall be developed and adopted by the TDC, Bay County Board of County Commissioners, and the City of Panama City Beach Council by December 31, 2007.
- c. The TDC shall continue to coordinate with the Panama City Beach Community Redevelopment Area (CRA) concerning the use of wildlife lighting within the CRA coverage area.
- d. The TDC shall use existing and seek funding opportunities including a state supported mitigation grant program by July 31, 2007, to assist property owners and managers including municipalities to implement wildlife lighting changes.
- e. The TDC shall research and provide community education programs on wildlife lighting by September 30, 2007.
- f. The TDC shall work with the local sea turtle permit surveyor to minimize impacts to sea turtle nests from artificial lighting during the 2007 nesting season.
- g. The TDC shall work with the Service to address the Service's comments on the Plan dated April 12, 2007.
- h. The existing Bay County Beachfront Lighting Ordinance (02-07) shall continue to be enforced.
- i. The TDC shall continue to address and seek resolution of other issues and sea turtle nesting on the beaches of Bay County including driving on the beach by vendors, law enforcement, beach patrol and other entities, beach cleaning, trash pick up, beach furniture remaining on the beach at night, and recreational and other activities.
- j. The TDC shall research and promote eco-friendly tourism.

This concludes formal consultation on the action outlined in the request. As provided in 50 CFR §402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

The above findings and recommendations constitute the report of the Department of the Interior. If you have any questions about this opinion, please contact Lorna Patrick of this office at extension 229.

Sincerely yours,



Janet Mizzi
Deputy Field Supervisor

cc:

FWS, Jacksonville, FL (Nicole Adimey and Sandy MacPherson)
NMFS, Protected Species, St. Petersburg, FL
FWC, Non-game Program, Panama City, FL (John Himes)
FWC, Imperiled Species Mgt. Section, Tallahassee, FL (Robbin Trindell)
FDEP, Office of Beaches and Coastal Systems, Tallahassee, FL
Kennard Watson, RMA, Turtle Watch Program, PCB, FL
Lisa Armbruster, Bay County Tourist Development Council, PCB, FL
Bay County Board of County Commissioners, Bay County, FL
City of Panama City Beach, PCB, FL

**ENCLOSURE 2
PUBLIC NOTIFICATION**



DEPARTMENT OF THE ARMY
MOBILE DISTRICT, CORPS OF ENGINEERS
P.O. BOX 2288
MOBILE, ALABAMA 36628-0001

REPLY TO
ATTENTION OF
CESAM-PD-EC
PUBLIC NOTICE NO. FP07-BCB01-04

22 Jun 2007

**JOINT PUBLIC NOTICE
U.S. ARMY CORPS OF ENGINEERS
AND
FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
RESTORATION OF THE BEACH EROSION CONTROL AND
STORM DAMAGE REDUCTION PROJECT
PANAMA CITY BEACH, BAY COUNTY, FLORIDA**

Interested persons are hereby notified that the U.S. Army Corps of Engineers, Mobile District, is proposing the restoration of the Panama City Beach Storm Damage Reduction Project (SDR) as a result of impacts from the 2004/2005 hurricane season. The rare "clustering" of storm events that occurred in 2004 and 2005 had significant impacts on the Panama City Beach Federal SDR project. Most notable of these storms were Hurricanes 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 1,000,000 cy is still needed to restore the beach from hurricane impacts. Beach quality sand in the existing borrow areas was nearly depleted during the 2005/2006 emergency beach maintenance. An additional offshore sand source is being proposed for use in restoring the beach.

This public notice is issued in accordance with rules and regulations published in the Federal Register on 26 April 1988 (Federal Register/Vol. 53). These laws are applied whenever dredged or fill materials may enter waters of the United States or for the transportation of dredged material for the purpose of placement into ocean waters and other associated disposal sites. The recipient of this notice is requested specifically to review the proposed action as it may impact water quality, relative to the requirements of Section 404(b)(1) of the Clean Water Act. Review of any other potential impacts is also requested.

WATERWAYS AND LOCATION: Gulf of Mexico and Panama City Harbor, Bay County, Florida (Figure 1).

AUTHORITY: This Panama City Beach SDR project is a federally authorized and constructed project. The project was originally authorized by Section 501 of the Water Resources Development Act (WRDA) of 1986 (Public Law 99-662) and re-authorized by Section 318 WRDA 1996 (Public Law 104-303). The authority for which this public notice 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 this law 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.

DESCRIPTION OF THE ENTIRE 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-foot 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 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. The locally preferred alternative provides for a 7-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).

DESCRIPTION OF PROPOSED ACTION: The proposed action is to use existing borrow areas (BA), with sufficient quantities of beach quality sand and an additional BA, hereon referred to as BA 11 to restore the beach. The proposed BA is located approximately 4,000 feet south of Shell Island in the eastern lobe of the St. Andrews Inlet ebb tidal shoal (Figure 3). The BA is approximately 45 acres in size. Existing grade varies from elevations -27 to -34 feet. The finished grade within the area planned to be used, excluding side slopes, would vary from an elevation of -36.5 to -41 feet. Sand is expected to be dredged via pipeline or hopper dredge and placed along areas of the downdrift shoreline between R-91.5 and R-5.0 to help restore the beach from the 2004/2005 tropical storm events. Work is expected to commence in the fall of 2007 and would require roughly 3 to 4 months to complete.

WATER QUALITY CERTIFICATION: Pursuant to the requirements of the Clean Water Act, a modification to the Section 401 water quality certification has been requested from the FDEP (DEP permit #0128852-001-JC). No work would occur until the State of Florida (State) has issued water quality certification for the proposed action. All State water quality standards would be met.

COASTAL ZONE CONSISTENCY: The Mobile District 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).

USE BY OTHERS: The proposed rehabilitation of the Panama City Beach SDR project is not expected to cause any significant land use changes. Use of waters in the vicinity of the proposed action include: recreational and commercial fishing, recreational boating, swimming and scuba diving.

NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) CONSIDERATIONS: An Environmental Impact Statement (EIS) entitled, *Beach Erosion Control and Hurricane Protection, Panama City Beaches, Florida* was completed in February, 1979. An EA entitled, *Beach Erosion Control and Storm Damage Reduction Project, Panama City Beach, Bay County, Florida* was completed in April 1995. 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 1997. This EA evaluated impacts associated with changes in the project configuration which were implemented by the local sponsor, the Bay County Tourist Development Council, 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. A draft EA has been prepared to address the potential impacts associated with the use of 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. A final determination of this evaluation will be made upon completion of the required comment period of this public notice. This document is available on the Mobile District website at <http://www.sam.usace.army.mil/pd/Pd1.htm> for review.

CLEAN WATER ACT DETERMINATIONS: An evaluation of water quality impacts associated with the excavation and placement of fill material(s) during construction have been addressed in a draft evaluation report prepared in accordance with the guidelines promulgated by the Environmental Protection Agency under Section 404(b)(1) of the Clean Water Act. No wetlands or other significant aquatic ecosystems would be impacted by this action. A final determination of this evaluation will be made upon completion of the required comment period of this public notice. This document is available on the Mobile District website at <http://www.sam.usace.army.mil/pd/Pd1.htm> for review.

ENDANGERED/THREATENED SPECIES: Pursuant to Section 7 of the Endangered Species Act, the proposed action is being coordinated with the U.S. Department of the Interior, Fish and Wildlife Service (USFWS), and the U.S. Department of Commerce, National Marine Fisheries Service (NMFS). The proposed project is located within Gulf sturgeon designated critical habitat and adjacent to critical habitats of the Piping plover and Choctawhatchee beach

mice. Based on the Mobile District's assessment, the proposed project would not result in the likelihood of destruction or adverse modification of any critical habitat of these species. In addition to the Gulf sturgeon, Piping plover and Choctawhatchee beach mice, the surrounding area is known to support the Florida manatee and various species of listed threatened and endangered sea turtles. The Mobile District has determined that the proposed project would have no effect on the Choctawhatchee beach mice and is not likely to adversely affect the Piping plover or Florida Manatee. The Mobile District would use Standard Manatee Protection Conditions during construction and survey for Piping plovers should work extend into February and April.

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, 09 January 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.

Placement of material for recovery efforts as a result of the recent hurricanes may occur in the later part of the 2007 sea turtle nesting season (01 May through 31 October). In order to reduce potential adverse impacts to sea turtles from beach placement the Mobile District would implement the terms and conditions set forth in the USFWS 1998 Panama City Beach BO, and subsequent amendments. Any work in the western portion (R-4.5 to R-25.75) of the project area would be constructed either outside of the sea turtle nesting season (after 31 October, 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.

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 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. Of the species managed by the Gulf Coast Fishery Management, the following would be expected to utilize the project area: brown shrimp (*Penaeus aztecus*), pink shrimp (*P. duorarum*), white shrimp (*P. setiferus*), king mackerel (*Scomberomorus cavalla*), Spanish mackerel (*S. maculatus*), gray snapper (*Lutjanus griseus*),

lane snapper (*L. synagris*), gag grouper (*Mycteroperca microlepis*), and red drum (*Sciaenops ocellatus*).

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.

CULTURAL RESOURCES CONSIDERATION: In November 2005, Tidewater Atlantic Research, Inc. performed magnetometer and side scan sonar surveys to search for submerged cultural resources within the eastern ebb tidal shoal of the St. Andrew Inlet. Approximately seventy magnetic and two acoustic anomalies were identified. Twenty of the magnetic anomalies exhibited signatures consistent with shipwreck or other cultural resource material. It was recommended that these targets be avoided by the creation of a 150-foot radius buffer zone or investigated further to assess the significance of the material generating the signatures. Five targets were also found to contain signature characteristics consistent with shipwreck material and/or other potentially significant submerged cultural resources. Each of these were noted as being located below the historic bottom in and or on the adjacent slope of the navigation channel that was created through Shell Island into the Gulf in 1934 and were noted to be most likely associated with modern material. The remaining 45 targets were noted as being generated by a single ferrous object such as navigation aids, pipe, cable, small diameter rods, traps, chain, small boat anchors or other modern debris. The BA limits were delineated such that it does not contain any of the anomalies identified during 2005 Archaeological Remote Sensing Survey and selected for avoidance by Tidewater Atlantic Research, Inc. The results of the survey and the proposed borrow limits based on a 200-foot avoidance buffer were coordinated with the Florida State Historic Preservation Office via letter dated 09 May 2006. A concurrence letter was received 22 June 2006.

EVALUATION: The decision whether to proceed with the proposed action will be made by the Mobile District, based on an evaluation of the overall public interest. That decision will reflect the national concerns for both protection and utilization of important resources. The benefits that may be expected to accrue from this proposal must be balanced against its reasonably foreseeable detriments. The decision whether to proceed and the conditions under which the activity will occur will be determined by the outcome of this general balancing process. All factors that may be relevant to the proposal will be considered. Among these are conservation, economics, esthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, flood plain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership, and in general, the

22 Jun 2007

needs and welfare of the public. The proposed action will proceed unless it is found to be contrary to the overall public interest.

COORDINATION: Among the agencies receiving copies of this public notice are:

Region 4, U.S. Environmental Protection Agency
U.S. Department of the Interior, Fish and Wildlife Service, Panama City, Florida
U.S. Department of Commerce, National Marine Fisheries Service, Panama City, Florida
U.S. Department of Commerce, NOAA Fisheries, Protected Species Branch, St. Petersburg,
Florida
Commander, Eighth Coast Guard District
Florida State Historic Preservation Officer
Florida Department of Environmental Protection
Florida Fish and Wildlife Commission
Gulf of Mexico Fishery Management Council
U.S. Department of Agriculture, Natural Resources Conservation Service

Other federal, state, and local organizations, affiliated Indian Tribe interests, and U.S. Senators and Representatives of the State of Florida are being sent copies of the notice and are being asked to participate in coordinating this proposed work.

CORRESPONDENCE: Any person who has an interest that may be affected by the proposed activity may request a public hearing. Any comments or requests for a public hearing must be submitted in writing to the District Engineer within 30 days of the date of this public notice. A request for a hearing must clearly set forth the interest that may be affected and the manner in which the interest may be affected. You are requested to communicate the information contained in this notice to any other parties who may have an interest in the proposed activities. Correspondence concerning the public notice should refer to Public Notice No. FP07-PCB01-04 and should be directed to the Commander, U.S. Army Engineer District Mobile, Post Office Box 2288, Mobile, Alabama 36628-0001, ATTN: CESAM-PD-EC. For additional information please contact Ms. Elizabeth Godsey at (251) 694-3843.



CURTIS M. FLAKES
U.S. Army Corps of Engineers
Mobile District