

**ENVIRONMENTAL ASSESSMENT  
PONCE DELEON INLET NAVIGATION IMPROVEMENTS  
VOLUSIA COUNTY, FLORIDA**

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1.00. Need for and Objectives of the Proposed Action. The existing Ponce DeLeon Inlet navigation project was authorized under the Rivers and Harbors Act of October 27, 1965. The harbor area consists of an entrance channel which provides access to a northwesterly channel along the Halifax River and a southeasterly channel along the Indian River. Both inner harbor channels connect with the Intracoastal waterway (Figure 1).

1.01. The local sponsor has requested that the Corps of Engineers (Corps) examine navigation and channel improvements for the following reasons:

- a. Navigation is a safety problem as documented by the Coast Guard which has recorded numerous groundings and occasional loss of life in the vicinity of the inlet.
- b. The entrance and inner channels are quite unstable, requiring the Coast Guard to frequently monitor the area and relocate navigational aids. The northward migration of the entrance channel also threatens to undermine the north jetty.
- c. The cost of maintenance for project features is quite expensive as a result of the unstable inlet channel.
- d. Shoreline changes following project construction remain a public concern.
- e. A potential breach through the north shore inside the inlet threatens property in the area.
- f. Expand the Federal project to accommodate a proposed marina and seafood processing facility to be constructed on County property on the Intracoastal Waterway in the vicinity of Rockhouse Creek.

2.00. Alternatives. The Federal objective in water and related land resources planning is to develop a plan which provides maximum contribution to national economic development consistent with protecting the nation's environment. The formulation and preliminary analysis of alternative plans to achieve planning objectives were based on the Water Resource Council's Principles and Guidelines, the National Environmental Policy Act and related Corps regulations. These guidelines provide for developing alternative resource management systems that address planning objectives. A combination of measures for stabilizing the inlet resulted in an array of alternatives for improvement of Ponce DeLeon Inlet. Eight alternatives, including the no-action alternative, were initially considered and are described below:

- a. Lengthening the south jetty approximately 1000 feet.
- b. Construction of a scour apron on the south side of the north jetty for a distance of 700 feet.
- c. Repair damaged portions of the north jetty, which have slumped up to 3 feet since initial construction because of scouring or rock displacement due to wave action.
- d. Construction of a groin field along the sand spit inside the inlet and adjacent to the north jetty.
- e. Construct a storm revetment to prevent erosion of the sand spit inside the inlet, adjacent to the north jetty, and for protection of wetlands, public property and commercial docking facilities.
- f. Re-open the weir in the north jetty.

- g. Construct a channel at the site of the potential breakthrough along the sand spit inside the inlet.
- h. Take no action.

2.01. Alternatives (b), construction of a scour apron along the south side of the north jetty, and (c), repair damaged portions of the north jetty were identified as maintenance features in the Reconnaissance Report. Because of the need for more immediate attention on the north jetty, these two alternatives are no longer considered as construction alternatives.

2.02. Subsequent to completion of the draft feasibility report, local interests proposed a new commercial marina and seafood processing facility which would be constructed on county property adjacent to the Intracoastal Waterway in the vicinity of Rockhouse Creek. The local sponsor requested that the Corps study the feasibility of expanding the Federal project to accommodate these facilities.

2.03. Locally Preferred Plan. As a result of a Public Workshop held on July 24, 1997 the local sponsor presented a preferred plan ( See Volusia County letter dated March 2, 1998 in Appendix C , Correspondence). The locally preferred plan is the 1000- foot extension of the south jetty.

3.00. Existing Conditions. This section describes the existing environmental resources of the areas that would be affected if any or all of the alternatives were implemented. It describes only those resources that are relevant to the decision to be made.

3.01. Ponce DeLeon Inlet is located in Volusia County on the east coast of Florida, about 65 miles south of St. Augustine and 60 miles north of Canaveral Harbor. The inlet is a natural waterway connecting the Halifax River and Indian River Lagoon to the Atlantic Ocean (Figure 1). The original project included the following features:

- a. An entrance channel 15 feet deep by 200 feet wide from the 15-foot contour line in the ocean into the mouth of the harbor; and
- b. A channel 12 feet deep by 100 feet wide inside the inlet and extending southward in the Indian River to the Intracoastal waterway; and
- c. A channel 7 feet deep and 100 feet wide extending northward in the Halifax River to the Intracoastal waterway; and
- d. Ocean jetties about 4000 feet long on the north and south sides of the inlet; and
- e. A weir in the north jetty with an impoundment basin on the south side of the north jetty to accumulate littoral drift material for transport across the inlet to the beach south of the inlet. The weir has subsequently been closed.

3.02. Vicinity of Ponce DeLeon Inlet. The area in and around Ponce DeLeon Inlet is a combination of natural and man-made features, including rock jetties on the north and south sides of the inlet, boardwalks, buildings, parking lots, and docks associated with two county parks and a U.S. Coast Guard station, and a commercial marina and boat yard. In addition, there are several man-made disposal islands associated with the jetties and inside the inlet. The natural environment consists of a combination of sub-littoral habitat and fauna associated with the Atlantic Ocean, inlet mouth and throat, the Halifax and Indian Rivers, north spit coves, sand beach and tidal sand flats, coastal dunes and tidal marshes. The marsh and open-water areas support a wide variety of marine and brackish fauna and flora.

3.03. Intracoastal Waterway. Because of existing water depths and clarity, there is no submerged aquatic vegetation in or adjacent to the channel that would be affected by dredging. The eastern shoreline of the

IWW is vegetated by a mixture of black mangrove *Avicennia germinans*, and smooth cordgrass *Spartina alterniflora*. Landward of this vegetation is Brazilian pepper *Shinus terebinthifolius* and waxmyrtle *Myrica cerifera*, intermixed with cabbage palm *Sabal palmetto* and redcedar *Juniperus virginiana*. Most of the western shoreline is developed with single-family residences and the shoreline is bulkheaded.

3.04. Two potential upland disposal sites are located on the east bank of the IWW, on the north and south sides of Rockhouse Creek. Both sites historically were used as disposal sites for the IWW. The north site (MSA 434) is approximately 378 acres and appears not to have been used for disposal for many years based on existing vegetation. The FWS observed four active gopher tortoise burrows and one gopher tortoise. The south site (MSA 434C) is approximately 47 acres and appears to have been used more recently than the north site. There has been little recruitment of vegetation on this site with sea oats being the predominant vegetation.

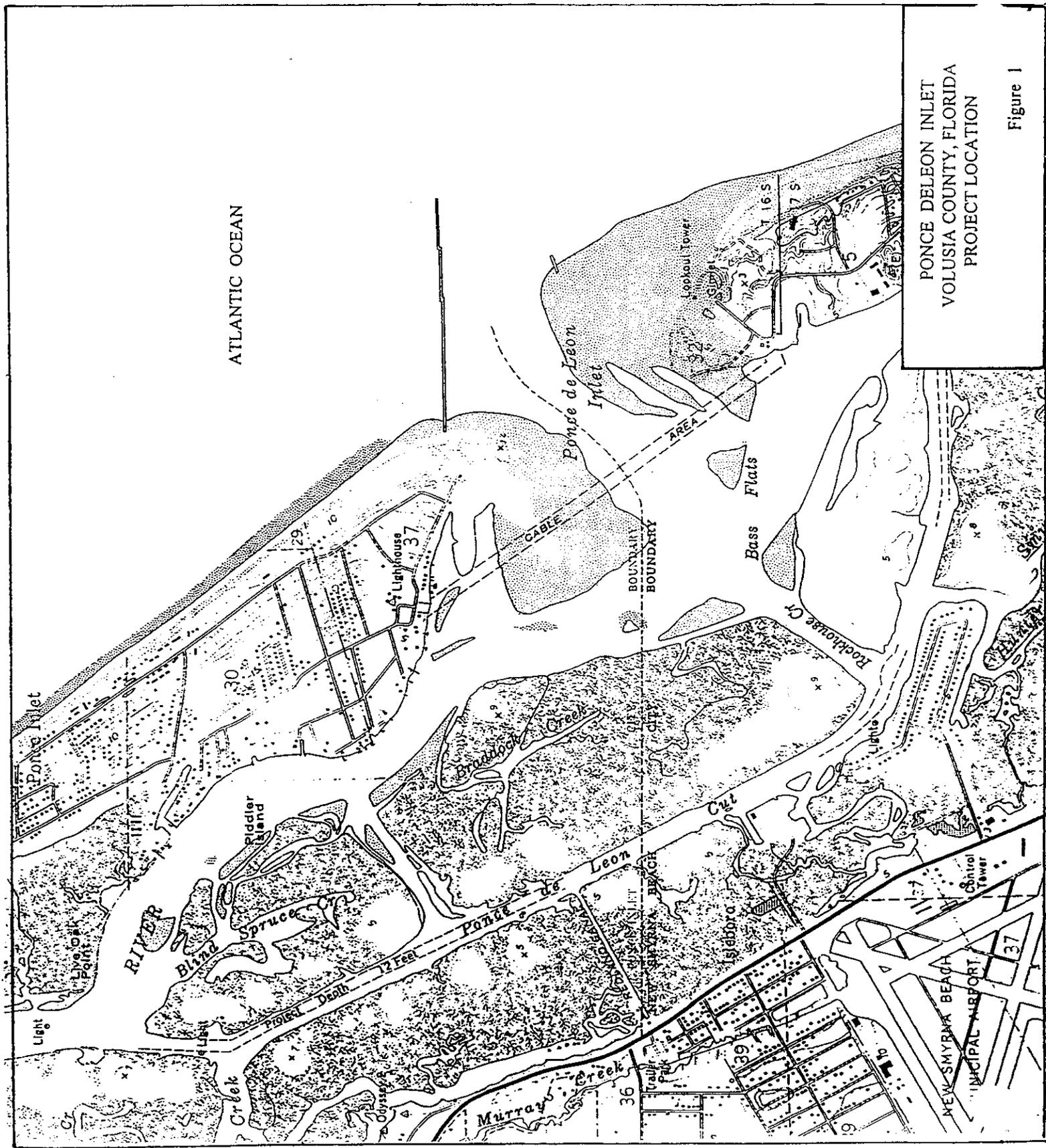
3.05. Shoal Areas. Two shoal areas are located between the inlet and mouth of Rockhouse Creek and were considered as possible disposal areas for material from the IWW. Except for a small patch of smooth cordgrass found on the extreme south end of the south shoal, these areas are unvegetated. Adjacent to the shoal areas are tidal flats which are periodically exposed. Shore birds were observed feeding on these flats.

3.06. Migratory Birds. The sand spit adjacent to the north jetty is utilized by both breeding and wintering shorebirds. In 1994 the area was renourished with approximately 1.8 million cubic yards of sand from the Intracoastal waterway near the inlet. However a large portion of the nourished area has already eroded. Given present conditions in the inlet, it is expected that this area will continue to erode.

3.07. Threatened or Endangered Species. The Corps, FWS and NMFS have identified the following listed species whose ranges include the study area: saltmarsh snake, bald eagle, piping plover, wood stork, manatee, shortnose sturgeon, green, hawksbill, loggerhead, Kemp's ridley and leatherback sea turtles, and right, finback, humpback, sei and sperm whales. A marine seagrass, Johnson's seagrass, proposed for listing as threatened, has also been identified as possibly occurring in the project area. There is no designated critical habitat in the area. The southeastern beach mouse was identified as possibly occurring south of the inlet in the area where consideration was given to using stone from the western end of the south jetty for the south jetty extension. This alternative was dropped from consideration; therefore, recommendations for beach mouse protection are no longer applicable.

3.08. Coastal Barrier Resources Act. The Coastal Barrier Resources Act (CBRA), first enacted in 1982 (16 U.S.C. 3502 *et seq.*), was reauthorized and amended by the Coastal Barrier Improvement Act (CIBA) of 1990 (U.S.C. 3501) Its purpose, as stated in section 2(b), is ".....to minimize the loss of human life, wasteful expenditure of Federal revenues, and damage to fish, wildlife and other natural resources associated with the coastal barriers.....". CBRA established the Coastal Barrier Resources System, and mapped a series of undeveloped coastal barriers on the Atlantic and Gulf coasts, including the Great Lakes region, Virgin Islands and Puerto Rico. Areas within the system are designated as either "units" or "otherwise protected areas" (OPA's). Section 5(a) prohibits all new Federal expenditures and financial assistance within unit boundaries, with some exceptions as determined through a process of consultation. Ponce DeLeon Inlet is located on the Florida east-central coast between the cities of Daytona Beach and New Smyrna Beach. The inlet and much of the adjacent coastal river wetlands east of Route 1 are grouped within the P08 unit of the Coastal Barrier Resources System.

3.09. Habitats found within the Ponce DeLeon Inlet unit include marine, estuarine, brackish riverine, salt marsh, tidal mud and sand flats, beaches and coastal dunes. These habitats not only support diverse communities of both resident plants and animals, but are also important for migratory birds, including waterfowl and neotropical migrants. The extensive coastal wetlands support both shellfish and adults and juveniles of many commercially valuable finfish.



PONCE DELEON INLET  
 VOLUSIA COUNTY, FLORIDA  
 PROJECT LOCATION  
 Figure 1

3.10. Historic Properties. Ponce DeLeon Inlet, known as Mosquito Inlet until the 1920's, has changed significantly over the past 200 years. The bar at the entrance to Mosquito Inlet was said to *change with every gale*. An 1851 U.S. Coast Guard Survey map depicts an opening south of the current inlet. The survey also indicates that previously the inlet had been about 3500 feet north of the 1851 location.

3.11. Because of the unpredictable channel and shoals, many ships have been lost in this inlet. More than 40 wrecks are recorded in the vicinity and other unrecorded wrecks are likely to have occurred there. To determine if potentially significant historic properties might be in the study area, a magnetometer survey was conducted for the south jetty extension. The archeologist identified 13 potentially significant magnetic targets during the survey (Hall, 1995a). The magnetic signatures of these targets had a duration and frequency that may represent an historic shipwreck.

3.12. Diver investigations were conducted for 7 magnetic targets that were determined to be in the jetty footprint. The source of each magnetic signal was determined to be modern materials (Hall, 1995b). Although no historic properties were identified during diver investigations, the 6 remaining magnetic targets may represent historic shipwreck remains.

3.13. A 1944 survey of Ponce DeLeon Inlet indicated that a channel was located in an area that is now a sand spit west of the north jetty. It is not likely that significant historic properties are located in the proposed realigned channel. A terrestrial survey was conducted for the Lighthouse Point Park. The survey area included the footprint for the proposed revetment and westward extension of the north jetty. Although the foundation remains of the Hotel Inlet Terrace may be located within the affected area, it was the archeologist's opinion that the site is not significant (Piatek). In a July 7, 1994 letter, the Florida State Historic Preservation Officer (SHPO) agreed that the site is not eligible for inclusion in the National Register of Historic Places.

3.14. Compliance with the National Historic Preservation Act of 1966, as amended. Archival research, magnetometer survey diver investigations, in addition to consultation with the SHPO, were completed for this project. It was determined that significant historic properties are not located within the proposed area of impact for this project. Archeological "no-work zones", with a 200-foot radius, will be established around six potentially significant magnetic targets near the south jetty alignment. The SHPO concurred with the Jacksonville District's no-effect determination for this project in letters dated September 20, 1995 and September 11, 1996.

3.15. Aesthetic Conditions. Consideration of aesthetic resources within the project study area is required by the National Environmental Policy Act (NEPA) of 1969 (P.L. 91-190), as amended. Aesthetic resources are defined in ER 1105-2-50 as "those natural and cultural features of the environment which elicit . . . a pleasurable response" in the observer, most notably from the predominant visual sense. Consequently, aesthetic resources are (commonly referred to as) visual resources, . . . features which can potentially be seen.

3.16. The inlet is a very dynamic coastal feature with seasonal high tides, strong winds and striking weather contrasts. The Lighthouse Point Park consists of approximately 135 acres on the north side of the inlet. The park has capped about 1,000 linear feet of the north jetty which provides access and panoramic views of the Atlantic Ocean horizon, north and south Atlantic Ocean shorelines and Ponce DeLeon Inlet. These resources possess good aesthetic values. The nearshore ocean waters take on a tropical hue of blue found in the Caribbean shallows. This a striking contrast to the nearly white beach along the ocean and in the inlet. Vegetated disposal areas backdrop the inlet and provide moderate aesthetics behind the foreground Halifax River.

3.17. Smyrna Dunes County Park consists of 250 acres to the south of the south jetty. Moderate to good aesthetics characterize the park's natural resource zones that range from the Atlantic Ocean shoreline, oceanfront dunes, backdunes, scrub, small maritime forest and western scrub.

3.18. Recreational Use. The Lighthouse Point Park, adjacent Ponce DeLeon Inlet waters and lands, and the Atlantic Ocean and beach north of the inlet are used for a variety of recreational purposes. Smyrna Dunes County Park, adjacent lands and waters to the south of the inlet are also part of the proposed project lands. These lands contain above average aesthetic quality, recreational use and value. Bathers swim in the ocean and along the north jetty shoreline and surfers and windsurfers use the ocean and inlet waters. Sunbathers frequent all shorelines. Fishing in the area includes surfcasting, bank fishing from the shorelines of the inlet and the capped north jetty, or boats anchored in the inlet. Many visitors walk the shorelines beachcombing or out on the breakwater to get a closer view of the water and related activities. Picnickers utilize facilities in the parks where tables are provided, beachside areas or the inlet shoreline.

3.19. Water Quality. The waters of Ponce De Leon Inlet are classified as Class III by the State of Florida.

#### 4.00. Environmental Impacts of the Proposed Action.

4.01. General. In the Reconnaissance Report phase of the proposed action, seven alternatives and taking no action were analyzed. The reasons for either dropping them from further consideration or retaining them for further study are discussed below.

4.02. No-Action. If no action is taken, the most significant impact will be the continued erosion of the southern and western portions of the sand spit on the north side of the inlet and a probable breakthrough to the old bed of the Halifax River, resulting in the continued shoaling of the Halifax River and new shoaling of the north channel and nearby cove in the vicinity of the expected breakthrough. Continued erosion of the north spit south of the old riverbed will result in the probable loss of the remaining salt marsh and mangrove swamp habitat and its associated biomass. There would also be increased instability and slumping along the north jetty caused by increased undermining of the jetty by wave action and tidal currents associated with the northerly position of the deepwater channel in the throat of the inlet. Continued erosion around the toe of the north jetty may result in a breakthrough around the landside of the jetty, resulting in isolation and loss of function of the jetty.

4.03. South Jetty Extension. Modeling of Ponce DeLeon Inlet indicates that an extension of the south jetty of approximately 1000 feet would improve the inlet's navigation and flow characteristics, particularly in the entrance reach of the channel. This would be true with or without implementation of the other alternatives. The jetty extension would enable flood and ebb currents to follow a more central flow through the inlet. Flood tide distribution just south of the seaward end of the extended south jetty would reduce littoral drift and sand deposition within the inlet. Initial plans considered use of rock from the embedded western end of the south jetty for the extension, with known and unknown possible impacts occurring from removal of the rock. Subsequent investigations have shown that the old jetty rock is unsuitable for project use; therefore, any potential impacts from the use of this material are avoided.

4.04. Transporting rock to the construction site will involve the use of trucks, barges, or a combination of the two. The actual method or methods are left to the contractor's discretion. The rock will be brought to the general vicinity of the project site by rail and off-loaded. From that point the rock will be trucked either directly to the south jetty or placed in a staging area for transport to the construction site by barge. If the material is trucked directly to the site, the route taken would be from the rail staging area to a beach access road and then along the beach to the jetty. If trucks are used on the beach, appropriate precautions, such as sea turtle nest removal and compaction testing and tilling after construction, will be done. If the rock is moved by barge, some truck transport will still be required, from the railroad staging area to an upland staging area along the Intracoastal Waterway north of Rockhouse Creek. This method may not be feasible because the waters adjacent to the upland staging area are shallow, and fully loaded barges cannot operate in the area.

4.05. Re-opening the North Jetty Weir. Another alternative considered in early planning was the re-opening of an 1800-foot weir in the north jetty. The weir and an accompanying impoundment basin were

designed to collect littoral drift through the jetty for transport across the inlet by pipeline dredge. Further model testing indicated that, because of changes in flow patterns, a re-opened weir would no longer have the desired effect of reducing erosional forces on the north sand spit. This alternative has been dropped from further consideration.

4.06. North Jetty Repair and Scour Apron Extension. Rebuilding slumping portions of the north jetty and extending the scour apron along the south side of the north jetty were originally considered as alternative features of the project. However, because of the severity of the scouring problem at the south side of the north jetty, these alternatives are now considered as maintenance features of the project, and in need of more immediate attention. Completion of these features, however, are expected to contribute to improving overall inlet stability.

4.07. Groin Field Construction. A set of three groins along the sand spit inside the inlet adjacent to the north jetty was originally proposed to preserve the remaining shoreline and prevent breaching of the spit by deflecting tidal current away from the spit. However, erosion has occurred at a faster rate than expected. Further investigation has shown that physical conditions at the site will no longer permit the groin field to operate as planned. This alternative has subsequently been dropped from further consideration.

4.08. Placement of Revetment. The use of some type of hardened barrier to provide direct protection to upland property adjacent to the north spit by preventing further erosion was considered in early planning stages. Three alignments were initially considered, all of which would begin at the west toe of the north jetty and afford varying degrees of protection to adjacent lands. The southerly-most alignment would extend 4800 feet and would have afforded maximum protection from shoreline erosion, inlet breaching and ocean flanking of the north jetty by completely encircling the north sand spit. However, because of rapid erosion in the past four years, much of the area has already been lost, and based on estimated erosion rates, most of the area designed for protection by this alignment will also disappear. Therefore, this alignment has been dropped from further consideration.

4.09. The second, or middle alignment, would extend approximately 2300 feet to the tip of a mixed marsh and upland disposal peninsula along its southern and western borders. This alignment is expected to protect against jetty flanking and potential erosion of the marsh/disposal peninsula, although it would offer no protection against breaching. The overall impact of this alternative will be to protect the remaining 9 acres of habitat, including 6.6 acres of wetlands, between the revetment and the old Halifax River channel, at the expense of 2.1 acres of wetlands lost due to construction activities. This is a net preservation of 6.9 acres of habitat, including 4.5 acres of wetlands, which otherwise would be lost to erosion. It will also offer protection to the commercial harbor area and the Lighthouse Park area. Rock used for revetment construction can be trucked by road directly to one of several staging areas in or adjacent to Lighthouse Park with minimal disturbance to the area. The material would be hauled to the site over the route of the revetment, restricting damage to the area which will be the site of revetment placement.

4.10. The third, or most northerly alignment, would extend approximately 1600 feet from the toe of the north jetty. Because this alignment would provide only minimal protection, it was dropped from further consideration.

4.11. Engineered Channel at Breakthrough Site. This alternative would provide a 12-foot-deep, 200-foot-wide channel at the site of the potential breakthrough between the inlet and old Halifax River channel. This alternative is still under consideration although modeling results indicated that little protection would be afforded and severe erosion would continue to occur between the engineered channel and existing channel alignment. In addition, preliminary economic analysis shows that this alternative is not cost effective. Several other alternatives would be needed whether this feature is built or not, including the south jetty extension, north jetty work and revetment construction. Construction of this feature would result in the destruction of nearly 3 acres of mixed salt marsh, mangrove swamp and sand beach. Approximately

one million cubic yards of material will be dredged during construction, requiring suitable disposal sites in the area. Beach quality sand could be placed on nearby beaches, but other material would have to be placed in an upland disposal area. This could result in the loss of additional upland habitat and impacts to associated biota.

4.12. IWW Dredging and Disposal Activities. The proposed dredging and material placement activities associated with the IWW will be minimal. The FWS has recommended that the south disposal site (MSA 434C) be used for upland disposal and recommended against use of the shoal areas for placement of dredged material. There were no objections to use of the beach for disposal of suitable material providing that recommended measures for protection of nesting sea turtles be done

4.13. Threatened or Endangered Species. Species of concern that could be affected by construction activities are the saltmarsh snake, southeastern beach mouse, manatees and sea turtles. According to the U.S. FWS, the saltmarsh snake can easily be captured at night and removed from the area. This requirement will be put into the Plans and Specifications; therefore this species should not be impacted by construction activities. Standard manatee and sea turtle precautions, such as the use of observers and “no-wake” speeds by vessels associated with construction activities will be in effect during construction to minimize the possibility of impacts to those species. If trucks are used to haul rock along the beach, arrangements will be made to locate and move sea turtle eggs during the nesting season. All of the “Reasonable and Prudent Measures” pertaining to sea turtles contained in the Fish and Wildlife Coordination Report will be incorporated into Contract Plans and Specifications where appropriate. The southeastern beach mouse was identified as possibly occurring south of the inlet where consideration was given to use of stone from the west end of the south jetty to south jetty extension. This alternative was dropped from consideration; therefore, recommendations for beach mouse protection are no longer applicable.

4.14. Water Quality. State water quality standards will be met at all times during construction.

4.15. Aesthetic Considerations. The proposed north jetty maintenance extension and revetment westward through the Lighthouse Point Park will be approximately 12 feet above mean low water, very visible, and drastically alter the existing aesthetics. As proposed, it will contrast sharply with the existing sandy inlet beach. The park scrub and marsh/mangrove zones will also be visually degraded by the jetty extension and revetment. The extension of the south jetty into further into the ocean could collect sand on its south side and act to build up the Smyrna Dunes County Park shoreline and beach.

4.16. Aesthetic Measures Plan. The concept of an aesthetic measures plan is to harmoniously blend the project into the setting. The aesthetic measures to counter construction impacts will be compatible with project purposes and in no way compromise the safety, integrity or function of the project. The Ponce DeLeon Inlet scrub and marsh/mangrove zones will be the most visibly impacted project areas.

4.17. The following measures are proposed to help maintain the character of the Lighthouse Point Park landscape; a) quarry and use native stone for the jetty extension and revetment which would blend with the surrounding environment and fit in it’s surroundings regardless of it’s unnatural landform, b) cover the jetty extension and revetment with local sand to conceal the rock and plant with native vines such as *Smilax spp.*, beach morning glory *Impomoea stolonifera*, and dune sunflower *Helianthus debilis*, native grasses such as sea oats *Uniola paniculata*, Love grass *Eragrostis spp.*, and beach cordgrass *Canavalia rosea*, shrubs such as sea oxeye *Borrichia frutescens*, cactus *Opuntia spp.* and saltbush *Bacharrus halimifolia* var. *angustior* and trees such as redbay *Persea borbonia*, sand live oak *Quercus virginia* var. *geminata* and waxmyrtle *Myrica cerifera* on it’s north side. c) cover the rubble jetty with a capped concrete walkway accessible for recreational purposes.

4.18. Recreational Impacts.

4.19. South Jetty Extension. Extension of the south jetty should not adversely affect recreation resources within the Smyrna Dunes County Park and sand accretion should enhance recreational opportunities by increasing available beach area.

4.20. North Jetty Landward Extension. This project feature provides an 800-foot-long westward extension of the north jetty but will be done as an aspect of the inlet maintenance program. This extension could be as much as 12 feet above mean low water and could effectively eliminate pedestrian access to what remains of the inlet north shoreline from the Lighthouse Point Park area. The extended 800-foot long jetty could also effectively increase the rate of park inlet beach erosion in front of it, reducing, if not eliminating, the park inlet beach.

4.21. Revetment. A 1500 foot long revetment is proposed to connect with the inlet north jetty 800 foot extension, at a finished elevation of 10 feet mlw. The revetment will curve to the north as it extends west. The proposal, as designed, could effectively deny pedestrian access to the inlet north shoreline from the Lighthouse Point Park. The revetment could also effectively increase the rate of park inlet erosion in front of it, reducing, if not eliminating, the park inlet beach.

4.22. Coastal Barrier Resource Act. Section 6(a) of the Coastal Barrier Resources Act (CBRA) requires that the appropriate Federal officer consult with the Secretary of the Interior (Secretary) prior to making commitments on Federal expenditures or financial assistance within CBRA units. The Secretary has delegated his consultation responsibility to the U.S. Fish and Wildlife Service (Service). The Service, therefore, offers the following comments on Ponce DeLeon Inlet, a designated CBRA unit, pursuant to Section 6.

4.23. Section 6(a)(2) of CIBA provides an exception to Section 5, Limitations on Federal Expenditures Affecting the System, if the expenditure is for “the maintenance or construction of improvements of existing Federal navigation channels (including the Intracoastal Waterway) and related structures (such as jetties), including the disposal of dredged materials related to such maintenance or construction”. The proposed jetty extensions, north jetty weir re-opening and north jetty repair and scour aprons are actions which qualify under this exception.

4.24. Subsections 6(a)(6A-F) of CBRA also provide exceptions to Section 5, provided that the actions or projects are consistent with the purposes of CBRA as previously stated. The proposed new channel and rock revetment would greatly reduce, or eliminate, the erosion potential of facilities within Lighthouse Point County Park, located adjacent to the north spit. These measures thus could be considered under subsection 6(F), which exempts expenditures and assistance for the “maintenance, replacement, reconstruction, or repair, but not the expansion, of publicly owned or operated roads, structures or facilities”. Both actions are also consistent with the purposes of CBRA because:

- a. They will contribute to increased inlet navigability, which should minimize the existing risk of loss of human life
- b. Current Federal expenditures for containment of inlet breaching will be eliminated and dredging for shoal removal will be greatly reduced, and
- c. Mitigation for habitat loss and other measures proposed in the Fish and Wildlife Coordination Report for each action will minimize any damage to fish, wildlife and other natural resources associated with the unit.

4.25 Based on the preceding review, the Service concludes that the proposed jetty extensions, weir re-opening and north jetty repair, scour apron, deepening of the IWW and disposal of dredged material are exempted under Section 6(a)(2) and the engineered channel and rock revetment are exempted under Section 6(a)(6F).

4.26. Migratory Birds. The sand spit on the inside of the north jetty has been used for nesting and overwintering by migratory birds. In 1994 approximately 1.8 million cubic yards of sand from the IWW was placed on the spit. However, the spit is in an area of extremely high erosion and much of the area has already eroded and, regardless of which alternative is selected, the remaining portion is expected to disappear in a short period of time.

4.27. Historic Properties. As discussed in paragraphs 3.05 through 3.08 (above), both terrestrial and underwater historic property investigations have been conducted in the Ponce DeLeon Inlet study area. Potentially significant submerged magnetic targets are located in the vicinity of the south jetty extension. Targets in the jetty alignment were investigated by archeological divers and were determined to be modern materials. Two -hundred-foot radius archeological "no-work zones" will be required to protect the six remaining potentially significant magnetic targets from construction activities. Although one historic terrestrial site was identified along the revetment alignment, the site is not eligible for the National Register of Historic Places.

4.28. Executive Order 12898, Environmental Justice. The purpose of the proposed action is to enhance navigational safety in and around Ponce DeLeon Inlet by stabilizing the inlet and by doing so reduce future maintenance costs for the inlet. The proposed action will enhance human health and environmental effects by increasing safety in and around the inlet and stabilizing the environment of the area. The proposed activity will not (a) exclude persons from participation in, (b) deny persons the benefits of, or (c) subject persons to discrimination because of their race, color or national origin, nor will the proposed action adversely impact "subsistence consumption of fish and wildlife".

4.29. Irreversible and Irrecoverable Commitment of Resources. Mobilization of equipment and construction operations will require the expense of time and resources such as labor, energy and project materials. Species of concern that could be affected by construction activities are the saltmarsh snake, southeastern beach mouse, manatees and sea turtles. According to the U.S. FWS, the saltmarsh snake can easily be captured at night and removed from the area. This requirement will be put into the Plans and Specifications; therefore this species should not be impacted by construction activities. Standard manatee and sea turtle precautions, such as the use of observers and "no-wake" speeds by vessels associated with construction activities will be in effect during construction to minimize the possibility of impacts to those species. If trucks are used to haul rock along the beach, arrangements will be made to locate and move sea turtle eggs during the nesting season. All of the "Reasonable and Prudent Measures" pertaining to sea turtles *contained in the Fish and Wildlife Coordination Report (Appendix D) will be incorporated into Contract Plans and Specifications where appropriate*. The southeastern beach mouse was identified as possibly occurring south of the inlet where consideration was given to use of stone from the west end of the south jetty to south jetty extension. This alternative was dropped from consideration; therefore, recommendations for beach mouse protection are no longer applicable.

5.00. Coordination. The proposed action was coordinated with appropriate Federal, State and local governmental agencies and interested groups and individuals in scoping letters dated 29 September 1992 and 7 February 1995. Responses are included in Appendix C. The proposed action was coordinated with the FWS and NMFS under Section 7 of the Endangered Species Act and with the FWS under the Fish and Wildlife Coordination Act. A Draft Coordination Act Report was received on 20 June 1996, and a Final Report was received on 26 September 1996, which determined that the proposed action is exempted under

the Coastal Barrier Resources Act (Appendix D). The proposed action was coordinated with the Florida State Historic Preservation Officer (SHPO) under the National Historic Preservation Act. In a letter dated September 20, 1995, the SHPO concurred with the Jacksonville District's no effect determination for the south jetty extension. A no effect determination for an engineered channel and revetment west of the north jetty was coordinated with the SHPO in a June 25, 1996 letter. Concurrence with this determination is expected. The Environmental Assessment and Feasibility Report will be coordinated with appropriate Federal, State and Local agencies, organizations and individuals.

6.00. Environmental Commitments. The following precautions will be taken to ensure the safety of sea turtles, manatees and the saltmarsh snake during the construction period.

6.01. Manatee and Sea Turtle Protection. The Contractor will instruct all personnel associated with project construction activities about the possible presence of sea turtles and/or manatees in the area and the need to avoid contact with them. All vessels associated with the project will operate at "no-wake" speeds at all times while in shallow water or channels where the draft of the boat provides less than 4 feet clearance of the bottom. Boats used to transport personnel will be shallow-draft vessels, preferably of the light-displacement category where navigational safety permits. Vessels transporting personnel between the dock and work area will follow routes of deep water where possible. All personnel will be advised that there are civil and criminal penalties for harming, harrassing, injuring or killing manatees, which are protected under the Endangered Species Act and the Marine Mammal Protection Act, and sea turtles, which are protected under the Endangered Species Act. The Contractor will be held responsible for any sea turtle or manatee harmed, harrassed , injured or killed as a result of construction activities.

6.02. Manatee Signs. The Contractor will install and maintain a minimum of two(2) manatee awareness signs at prominent locations within the construction area. Placement of the signs will be in prominent locations such as adjacent to safety boards or in the dining area. Photo(s) of the signs in place will be sent to the Florida Department of Natural Resources (DNR) Marine Mammal Recovery Program at 100 Eighth Avenue, S.E., St. Petersburg, Florida 33701-5095, prior to commencement of construction activities or use of facilities associated with construction. The manatee signs may be removed upon completion of the project.

6.03. Manatee or Sea Turtle Sightings. The Contractor will keep a log detailing all sightings, collisions, injuries or deaths of manatees or sea turtles that occur during the construction period. The data will be recorded on forms provided by the Contracting Officer. All data, in original form, will be forwarded directly to Dr. Hanley K. Smith, Chief, Environmental Branch, U.S. Army Corps of Engineers, P.O. Box 4970, Jacksonville, Florida 32232-0019, within 10 days of collection, and copies furnished to the Contracting Officer's representative.

6.04. Other Activities. The recommendations presented in the "Reasonable and Prudent Measures" section of the Fish and Wildlife Coordination Act Report will be put into Contract Plans and Specifications, where appropriate.

7.00 Preparers and Reviewers.

**Preparers:**

Environmental Assessment Preparation and Coordination ....Rea N. Boothby, Ecologist  
Cultural and Historic Resources Coordination..... Janice E. Adams, Archeologist  
Aesthetic and Recreation Resource Assessment..... Paul C. Stevenson, Landscape Architect

**Reviewers:**

Supervisory Biologist .....Kenneth R. Dugger, Biologist  
Supervisory Biologist .....Hanley K. Smith, Biologist

## 8.0 REFERENCES

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Piatek, Bruce John. 1993. *Archaeological and Historical Survey of Lighthouse Point Park, Ponce Inlet, Volusia County, Florida*. Prepared by Bruce Piatek and Associates for the County of Volusia, Ponce De Leon Port Authority.

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