

Draft Environmental Assessment

Palm Beach Harbor Operations and Maintenance Activities Palm Beach Harbor-Lake Worth Inlet

Palm Beach County, Florida



**US Army Corps
of Engineers**®
Jacksonville District

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**ENVIRONMENTAL ASSESSMENT
ON
PALM BEACH HARBOR
OPERATIONS AND MAINTENANCE ACTIVITIES
PALM BEACH HARBOR-LAKE WORTH INLET
PALM BEACH COUNTY, FLORIDA**

TABLE OF CONTENTS

1	PROJECT PURPOSE AND NEED.....	6
1.1	PROJECT AUTHORITY	6
1.2	PROJECT LOCATION	6
1.3	PROJECT NEED OR OPPORTUNITY	6
1.4	AGENCY GOAL OR OBJECTIVE	6
1.5	RELATED ENVIRONMENTAL DOCUMENTS.....	8
1.6	DECISIONS TO BE MADE.....	8
1.7	SCOPING AND ISSUES	8
1.7.1	Issues Evaluated in Detail	8
1.7.2	Issues Eliminated from Detailed Analysis.....	9
1.8	PERMITS, LICENSES, AND ENTITLEMENTS.....	9
2	ALTERNATIVES.....	10
2.1	DESCRIPTION OF ALTERNATIVES.....	10
2.1.1	Type of Dredging Equipment.....	10
2.1.2	Alternative 1: No Action (Status Quo).....	11
2.1.3	Alternative 2: Extension of Existing Beach Template and Disposal at Mid-town.....	11
2.2	ADDITIONAL DREDGED MATERIAL DISPOSAL LOCATIONS.....	15
2.3	PREFERRED ALTERNATIVE.....	15
2.4	COMPARISON OF ALTERNATIVES.....	15
2.5	MITIGATION	16
3	AFFECTED ENVIRONMENT.....	18
3.1	GENERAL ENVIRONMENTAL SETTING.....	18
3.2	FISH AND WILDLIFE RESOURCES	18

3.3	THREATENED AND ENDANGERED SPECIES	19
3.4	THREATENED AND ENDANGERD SPECIES	21
3.4.1	Sea Turtles.....	21
3.4.2	West Indian Manatee.....	22
3.4.3	Piping Plover.....	23
3.5	MIGRATORY BIRDS	24
3.6	ESSENTIAL FISH HABITAT	24
3.7	HARDBOTTOM	26
3.8	SHORELINE STABILITY	27
3.9	WATER QUALITY	28
3.9.1	Water Column.....	28
3.10	SEDIMENT	28
3.11	NAVIGATION	28
3.12	ECONOMICS	28
3.13	CULTURAL RESOURCES	28
3.14	RECREATION	29
3.15	AESTHETICS	29
3.16	HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE	29
3.17	NOISE	29
4	ENVIRONMENTAL EFFECTS	30
4.1	FISH AND WILDLIFE RESOURCES	30
4.1.1	Alternative 1: No Action (Status Quo).....	30
4.1.2	Alternative 2: Extension of Existing Beach Template and Disposal at Mid-town.....	30
4.2	THREATENED AND ENDANGERED SPECIES	30
4.2.1	Sea Turtles.....	30
4.2.1.1	Alternative 1: No Action (Status Quo).....	31
4.2.1.2	Alternative 2: Extension of Existing Beach Template and Disposal at Mid-town.....	31
4.2.2	Manatees.....	31
4.2.2.1	Alternative 1: No Action (Status Quo).....	32
4.2.2.2	Alternative 2: Extension of Existing Beach Template and Disposal at Mid-town.....	32
4.3	MIGRATORY BIRDS	32
4.3.1	Alternative 1: No Action (Status Quo).....	32
4.3.2	Alternative 2: Extension of Existing Beach Template and Disposal at Mid-town.....	32
4.4	ESSENTIAL FISH HABITAT AND HARDBOTTOM	33
4.4.1	Alternative 1: No Action (Status Quo).....	33
4.4.2	Alternative 2: Extension of Existing Beach Template and Disposal at Mid-town.....	33
4.5	SHORELINE STABILITY	33

4.5.1	Alternative 1: No Action (Status Quo)	33
4.5.2	Alternative 2: Extension of Existing Beach Template and Disposal at Mid-town	33
4.6	WATER QUALITY	33
4.6.1	Water Column	33
4.6.1.1	Alternative 1: No Action (Status Quo)	33
4.6.1.2	Alternative 2: Extension of Existing Beach Template and Disposal at Mid-town	34
4.6.2	Sediment	34
4.6.2.1	Alternative 1: No Action (Status Quo)	34
4.6.2.2	Alternative 2: Extension of Existing Beach Template and Disposal at Mid-town	34
4.7	NAVIGATION	34
4.7.1	Alternative 1: No Action (Status Quo)	34
4.7.2	Alternative 2: Extension of Existing Beach Template and Disposal at Mid-town	34
4.8	ECONOMICS	35
4.8.1	Alternative 1: No Action (Status Quo)	35
4.8.2	Alternative 2: Extension of Existing Beach Template and Disposal at Mid-town	35
4.9	CULTURAL RESOURCES	35
4.9.1	Alternative 1: No Action (Status Quo)	35
4.9.2	Alternative 2: Extension of Existing Beach Template and Disposal at Mid-town	35
4.10	RECREATION	35
4.10.1	Alternative 1: No Action (Status Quo)	35
4.10.2	Alternative 2: Extension of Existing Beach Template and Disposal at Mid-town	35
4.11	AESTHETICS	36
4.11.1	Alternative 1: No Action (Status Quo)	36
4.11.2	Alternative 2: Extension of Existing Beach Template and Disposal at Mid-town	36
4.12	HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE	36
4.12.1	Alternative 1: No Action (Status Quo)	36
4.12.2	Alternative 2: Extension of Existing Beach Template and Disposal at Mid-town	36
4.13	NOISE	36
4.13.1	Alternative 1: No Action (Status Quo)	36
4.13.2	Alternative 2: Extension of Existing Beach Template and Disposal at Mid-town	36
4.14	PUBLIC SAFETY	36
4.14.1	Alternative 1: No Action (Status Quo)	36
4.14.2	Alternative 2: Extension of Existing Beach Template and Disposal at Mid-town	37
4.15	CUMULATIVE IMPACTS	38
4.16	IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES	41
4.16.1	Irreversible	41
4.16.2	Irretrievable	41
4.17	UNAVOIDABLE ADVERSE ENVIRONMENTAL EFFECTS	41
4.18	LOCAL SHORT-TERM USES AND MAINTENANCE/ENHANCEMENT OF LONG-TERM PRODUCTIVITY	41
4.19	INDIRECT EFFECTS	41
4.20	COMPATIBILITY WITH FEDERAL, STATE, AND LOCAL OBJECTIVES	41
4.21	CONFLICTS AND CONTROVERSY	41

4.22	UNCERTAIN, UNIQUE, OR UNKNOWN RISKS	41
4.23	PRECEDENT AND PRINCIPLE FOR FUTURE ACTIONS.....	42
4.24	ENVIRONMENTAL COMMITMENTS	42
4.25	COMPLIANCE WITH ENVIRONMENTAL REQUIREMENTS	43
4.25.1	National Environmental Policy Act of 1969	43
4.25.2	Endangered Species Act of 1973.....	43
4.25.3	Fish and Wildlife Coordination Act of 1958.....	43
4.25.4	National Historic Preservation Act of 1966 (Inter Alia)	43
4.25.5	Clean Water Act of 1972.....	43
4.25.6	Clean Air Act of 1972	43
4.25.7	Coastal Zone Management Act of 1972	43
4.25.8	Farmland Protection Policy Act of 1981	44
4.25.9	Wild and Scenic River Act of 1968	44
4.25.10	Marine Mammal Protection Act of 1972.....	44
4.25.11	Estuary Protection Act of 1968	44
4.25.12	Federal Water Project Recreation Act.....	44
4.25.13	Submerged Lands Act of 1953	44
4.25.14	Coastal Barrier Resources Act and Coastal Barrier Improvement Act of 1990.....	44
4.25.15	Rivers and Harbors Act of 1899	44
4.25.16	Anadromous Fish Conservation Act.....	44
4.25.17	Migratory Bird Treaty Act and Migratory Bird Conservation Act	44
4.25.18	Marine Protection, Research and Sanctuaries Act	44
4.25.19	Magnuson-Stevens Fishery Conservation and Management Act	45
4.25.20	Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970.....	45
4.25.21	Executive Order 11990, Protection of Wetlands	45
4.25.22	E.O. 11988, Flood Plain Management.....	45
4.25.23	E.O. 12898, Environmental Justice.....	45
4.25.24	E.O. 13045, Protection of Children.....	45
4.25.25	E.O. 13089, Coral Reef Protection.....	45
4.25.26	E.O. 13112, Invasive Species	45
4.25.27	E.O. 13186, Migratory Birds.....	46
5	LIST OF PREPARERS.....	47
5.1	PREPARERS.....	47
5.2	REVIEWERS	47
6	PUBLIC INVOLVEMENT	48
6.1	SCOPING AND DRAFT EA	48
6.2	AGENCY COORDINATION	48
6.3	LIST OF RECIPIENTS	48
6.4	COMMENTS RECEIVED AND RESPONSE	48
7	REFERENCES.....	50
APPENDIX A 404b(1)		
APPENDIX B COASTAL ZONE MANAGEMENT CONSISTENCY		
APPENDIX C PERTINANT COORESPONDANCE		

1 PROJECT PURPOSE AND NEED

1.1 PROJECT AUTHORITY

The Public Works Act (PWA) Program of 13 March 1934 (House Document 185/73/2) authorized the maintenance of improvements previously constructed by local interests at Palm Beach Harbor. Congress authorized additional project improvements including restoration of jetties, removal of south point, revetment of banks, widening of channels, and enlargement of the turning basin on 30 August 1935 (House Document 185/73/2 and Rivers and Harbor Committee Document 42/74/1). Authorization to deepen the channels to 35 feet and 33 feet and enlarging the turning basin was approved on 14 July 1960 (House Document 283/86/1).

1.2 PROJECT LOCATION

Palm Beach Harbor is on the Atlantic coast of Florida, approximately 53 miles south of Fort Pierce Harbor, and 71 miles north of Miami Harbor. The harbor entrance (also known as Lake Worth Inlet) is an artificial cut through the barrier beach and limestone formation connecting Lake Worth, a coastal lagoon, with the Atlantic Ocean. Communities bordering Palm Beach Harbor are Palm Beach Shores on the barrier beach to the north, Riviera Beach on the west shore of Lake Worth, and the town of Palm Beach to the south. West Palm Beach is located immediately south of Riviera Beach and is the largest community in the area. Lake Worth Inlet is a federally maintained inlet and deepwater port located on the Atlantic Ocean in Palm Beach County, Florida (Figure 1).

1.3 PROJECT NEED OR OPPORTUNITY

The Federal channel at Palm Beach Harbor rapidly shoals requiring routine dredging events to maintain authorized project depths allowing for safe navigation. Dredged material placement is typically on the beach or in the adjacent nearshore. The existing Federal project has several advanced maintenance features that assist in keeping the channel at project depth for a longer duration during the year such as the settling basin and extended settling basins northeast of the northern jetty. Recent disposal events have placed material either on the beach south of the inlet or in the nearshore template south of the inlet.

The U.S. Army Corps of Engineers, Jacksonville District (Corps), is proposing to lengthen the existing beach disposal template immediately south of the inlet (R76-79) by approximately 1350 ft to accommodate dredged material from R79- R80.5. In addition, the Corps will evaluate in this NPEA document, the alternative for disposal of beach quality material at Mid-town, slightly further to the south of the inlet from R 95 to R 101.4.

1.4 AGENCY GOAL OR OBJECTIVE

The objective of this project is to better manage Palm Beach Harbor to meet the expectations of commercial and recreational users and maximize the beneficial use of maintenance material by placing sand where it may best be utilized.

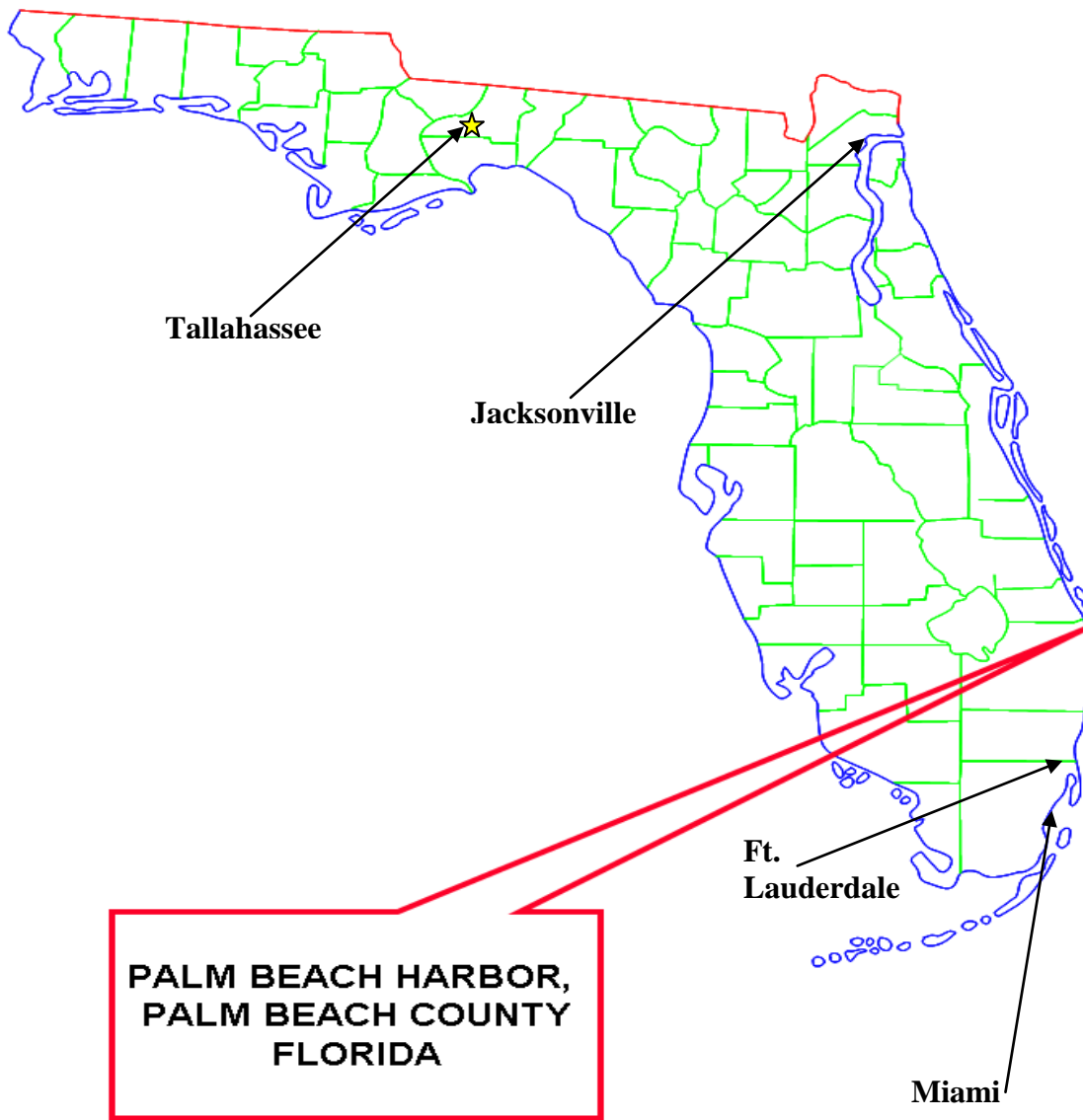


Figure 1. Project Location.

1.5 RELATED ENVIRONMENTAL DOCUMENTS

Related National Environmental Policy Act (NEPA) documents are listed below:

- Feasibility Report and Environmental Assessment, Palm Beach Harbor, Florida. 1984.
- USACE Permit number SAJ-1995-03779 issued to Town of Palm Beach for Beach Placement at Mid-town. 1995
- Environmental Impact Statement, Coast of Florida Erosion and Storm Effects Study Region III, Palm Beach, Broward, and Dade Counties, Florida. October 1996.
- Environmental Assessment and Finding of No Significant Impact, Maintenance Dredging, Palm Beach Harbor, Palm Beach County, Florida. October 1998.
- Environmental Assessment, Section 107 Small Navigation Project, Palm Beach Harbor-Lake Worth Access Channel Expansion, Palm Beach County, Florida. 2001.
- Environmental Assessment, Sand Transfer Plant Rehabilitation and Extended Outfall, Palm Beach Harbor-Lake Worth Inlet, Palm Beach County, Florida. May 2004.
- Revised Environmental Assessment, Sand Transfer Plant Rehabilitation and Addition of Second Discharge Point and Permanent Booster Pump, Palm Beach Harbor-Lake Worth Inlet, Palm Beach County, Florida. August 2006.
- Palm Beach Harbor Operations and Maintenance Activities, Palm Beach County, Florida. December 2012
- Feasibility Study at Lake Worth Inlet, Palm Beach County, Florida. April 2013

Palm Beach harbor Operations and Maintenance EA (2012) and the USACE Regulatory Permit SAJ-1995-03779 are incorporated by reference herein.

1.6 DECISIONS TO BE MADE

This Environmental Assessment (EA) will evaluate the environmental effects of the proposed maintenance actions that may allow for an extension of the disposal template south of the inlet by 1350 feet on the shoreline of Palm Beach County and/or utilization of the Mid-town beach placement template.

1.7 SCOPING AND ISSUES

1.7.1 Issues Evaluated in Detail

The following issues were identified as relevant to the proposed action and appropriate for detailed evaluation:

- Impacts to federally protected species occurring or potentially occurring within the project area (i.e., sea turtles, West Indian manatee);
- Shoreline stability;
- Essential Fish Habitat (EFH);
- Migratory bird protection;
- Impacts to vegetation (native plant communities);
- Water quality degradation, specifically turbidity levels;
- Impacts to navigation;
- Socio-economic impacts;

-
- Cultural resources;
 - Recreation; and
 - Modification of local aesthetic qualities.

1.7.2 Issues Eliminated from Detailed Analysis

Areas where proposed maintenance activities would occur do not have submerged or emergent aquatic vegetation (i.e., seagrasses, mangroves, salt marsh). In addition, the proposed action is expected to have little or no impact on soils, housing, or population dynamics. Therefore, the above issues were not considered important or relevant to the proposed action.

1.8 PERMITS, LICENSES, AND ENTITLEMENTS

Pursuant to Section 401 of the Clean Water Act, water quality certification from the State of Florida would be required for the proposed maintenance actions. In accordance with the Coastal Zone Management Act, a Federal Consistency Determination (CD) was prepared under previous NEPA documents for the proposed placement of dredged material. The State, through issuance of Permit Number 0216012-007-JC, has concurred with the Federal CD this activity is consistent with the Florida Coastal Management Program. Permit Number 0216012-007-JC expires on March 17, 2017. USACE Permit number SAJ-1995-03779 was issued by USACE Regulatory Division for Mid-town. An associated FDEP permit 0164713-001-JC was issued for Mid-town and includes the beach placement referenced in this EA. This document seeks to incorporate the NEPA conducted by the USACE Jacksonville District Regulatory Division as part of the Department of Army permit.

In accordance with Section 7 of the Endangered Species Act (ESA), consultation in regards to the proposed action with the National Marine Fisheries Service (NMFS) and the U.S. Fish and Wildlife Service (USFWS) would occur.

2 ALTERNATIVES

The alternatives section is perhaps the most important component of this EA. This section describes the no-action alternative and the proposed action. Additional project alternatives were described in previous NEPA documents (reference section 1.5) and will not be discussed in this assessment. The beneficial and adverse environmental effects of the alternatives are presented in comparative form, providing a clear basis for choice to the decision maker and the public. A preferred alternative was selected based on the information and analysis presented in the sections on the Affected Environment and Probable Impacts.

2.1 DESCRIPTION OF ALTERNATIVES

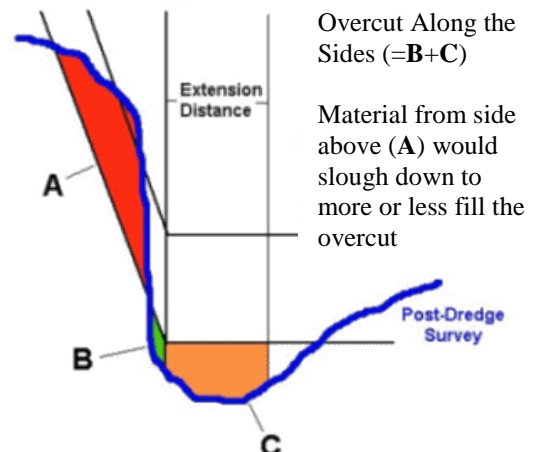
Alternatives for dredging projects can be subdivided into two categories; dredging methods and placement methods. Dredging methodology options include the types of equipment that can be used to perform the routine removal of sediments within the authorized project footprint. Dredging alternatives can be limited by the size and location of the project. Dredging and placement methods were analyzed in a previous NEPA document for Palm Beach Harbor (U.S. Army Corps of Engineers [USACE] 2012) and for Mid-town (USACE Permit number SAJ-1995-03779).

2.1.1 Type of Dredging Equipment

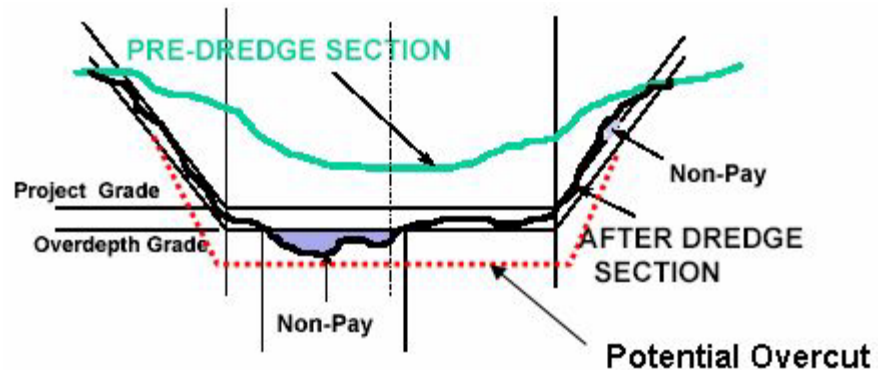
The Corps does not normally specify the type of dredging equipment to be used. This is generally left to the dredging industry to offer the most appropriate and competitive equipment available at the time. Nevertheless, certain types of dredging equipment are normally considered more appropriate depending on the type of material, the depth of the channel, the depth of access to the disposal or placement site, the amount of material, the distance to the disposal or placement site, the wave-energy environment, etc. A more detailed description of types of dredging equipment and their characteristics can be found in Engineer Manual, EM 1110-2-5025, *Engineering and Design - Dredging and Dredged Material Disposal*. This Engineer Manual is available on the internet at http://www.publications.usace.army.mil/Portals/76/Publications/EngineerManuals/EM_1110-2-5025.

The plans and specifications normally require dredging beyond the project depth or width. The purpose of the “required” additional dredging is to account for shoaling between dredging cycles (reduce the frequency of dredging required to maintain the project depth for navigation). In addition, the dredging contractor is allowed to go beyond the required depth. This “allowable” accounts for the inherent variability and inaccuracy of the dredging equipment (normally ± 2 feet).

In addition, the dredge operator may practice over-cutting. An “over-cut” along the sides of the channel may be employed in anticipation of movement of



material down the sides of the channel. Over-cut throughout the channel bottom may be the result of furrowing or pitting by the dredging equipment (the suction dredge's cutterhead, the hopper dredge's drag arms, or the clam-shell dredge's bucket). In addition, some mixing and churning of material below the channel bottom may occur (especially with a large cutterhead). Generally, the larger the equipment, the greater the potential for over-cut and mixing of material below the "allowable" channel bottom. Some of this material may become mixed-in with the dredged material.



If the characteristics of the material in the overcut and mixing profile differ from that above it, the character of the dredged material may be altered.

The quantity and/or quality of material for disposal or placement may be substantially changed depending on the extent of over-depth and over-cut.

Since dredging equipment does not typically result in a perfectly smooth and even channel bottom (see discussion above); a drag bar, chain, or other item may be drug along the channel bottom to smooth down high spots and fill in low spots. This finishing technique also reduces the need for additional dredging to remove any high spots that may have been missed by the dredging equipment. It may be more cost effective to use a drag bar or other leveling device.

2.1.2 Alternative 1: No Action (Status Quo)

Alternative 1, the No Action Alternative would continue to dispose of maintenance dredging materials at the currently authorized placement areas. The maintenance dredging of Palm Beach Harbor consists of the annual removal of shoal material from the entrance channel to a depth of 39 feet [+ 2 feet mean lower low water] (from STA 30+00 to STA 47+00); from the inner channel to a depth of 33 feet; from the turning basin to a depth of 33 feet; and to a depth of 25 feet in the extended turning basin located north of the existing project basin (USACE 1998&2012). The project also includes the expanded settling basin located north of the entrance channel. Alternative 1, the No Action Alternative would continue to dispose of dredged materials within the existing beach and nearshore templates starting immediately south of the inlet near R76 approximately 3000 feet to R79. Location of disposal is dependent on quality of material and time of year. During turtle nesting season, all material is placed in the nearshore template as beach disposal is prohibited. High silt content material (over 5% fines) is also deposited in the nearshore template as it is unsuitable for beach placement as dictated by state regulations.

2.1.3 Alternative 2: Extension of Existing Beach Template and Disposal at Mid-town

Alternative 2 proposes to dredge the existing project and extend the current beach template approximately 1350 feet to the south of R-79 (figure 2), and include a disposal option at the Mid-town beach template (R-95+108 feet and R-101.4) (figure 4).

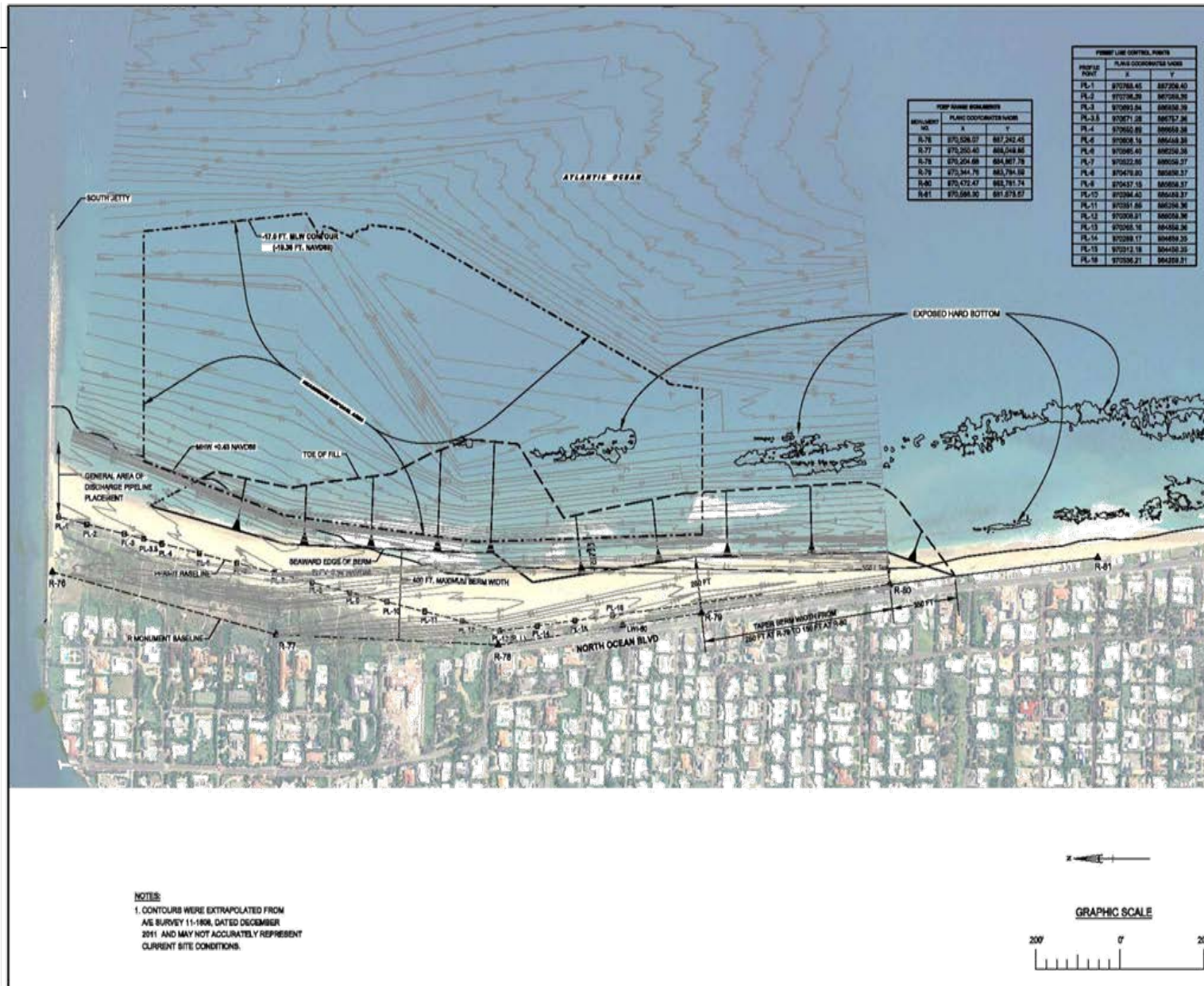


Figure 2. Beach and Nearshore Dredged Material Placement Location.

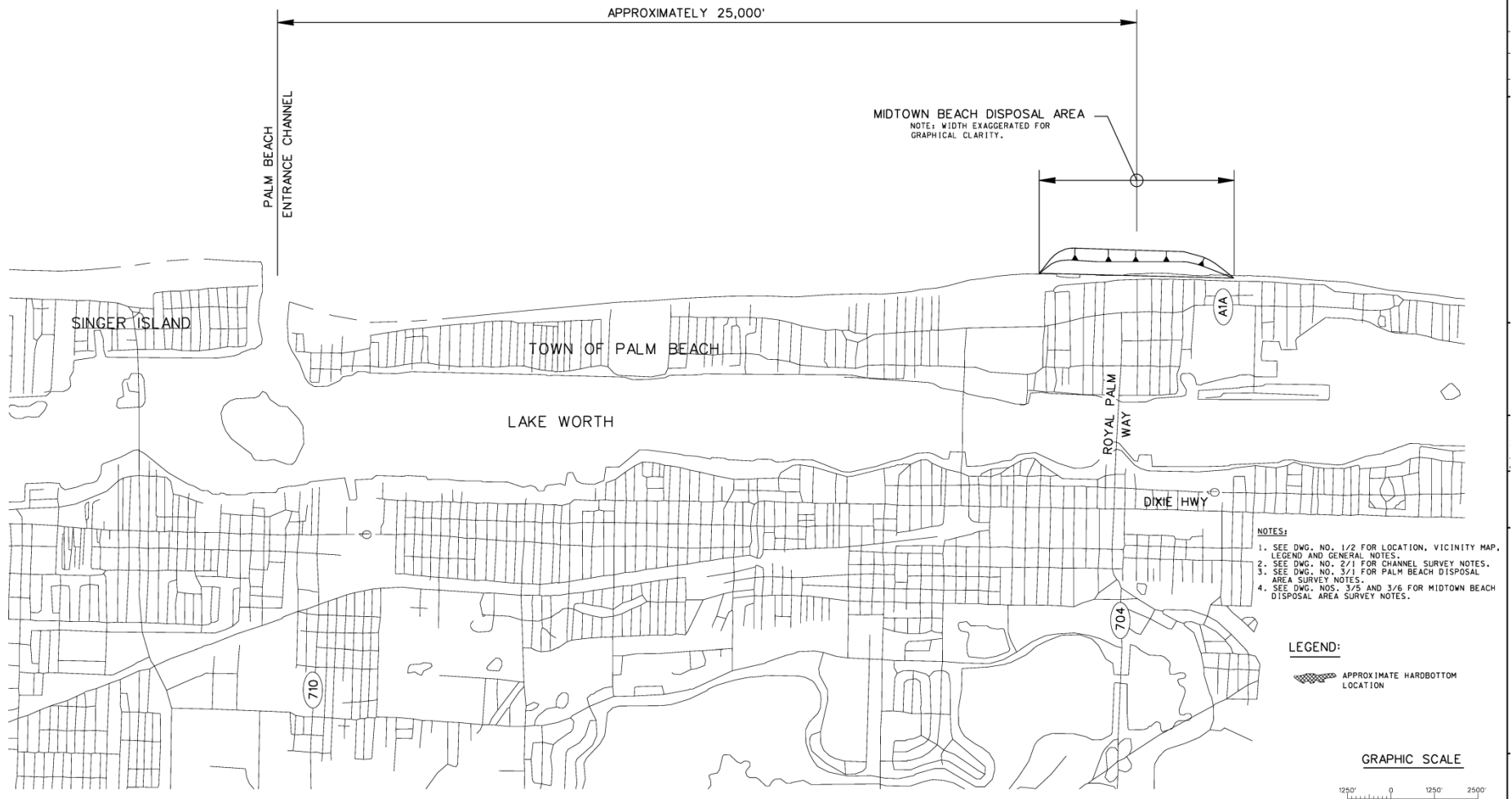


Figure 3. Location of Midtown template

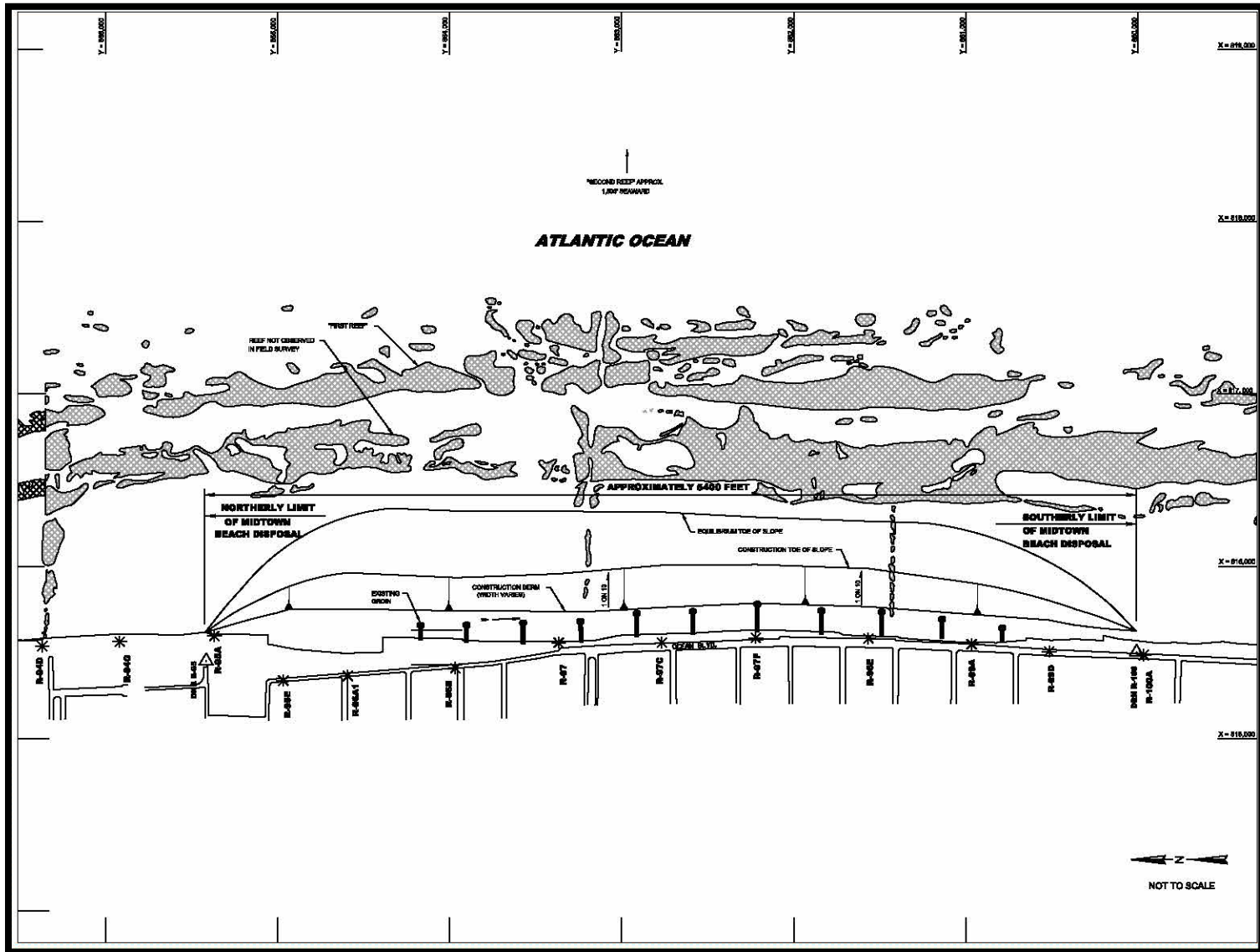


Figure 4. Mid-town Beach Template

2.2 ADDITIONAL DREDGED MATERIAL DISPOSAL LOCATIONS

As identified in previous NEPA documents, activities are within Palm Beach County, Lake Worth Lagoon (Atlantic Intracoastal Waterway), or the Atlantic Ocean, Class III Waters, not Outstanding Florida Waters.

If needed, the dredged material could also be placed at the Palm Beach Harbor ODMDS location.

2.3 PREFERRED ALTERNATIVE

The preferred alternative is to extend the disposal template from R79 approximately 1350 feet and include the Mid-town beach template as described in Alternative 2.

2.4 COMPARISON OF ALTERNATIVES

In the area of the proposed extended beach template from R79- R80.5, exposed hardbottom exists outside the equilibrium toe of fill (ETOF). There are no anticipated direct impacts to hardbottom from disposal, however, secondary indirect impacts from burial of hardbottom outside the ETOF could occur in the extended beach template south of the inlet. The use of pre and post construction surveys of the hardbottom closest to the extended disposal area will serve to identify any secondary impact. Any secondary impacts and potential mitigation will be addressed in the FDEP Water Quality Permit for the project. The Town of Palm Beach has agreed to perform any mitigation required by the extension of the beach disposal template from R79- R80.5. All mitigation for the Mid-town beach disposal area has been previously constructed under the USACE permit SAJ-1995-03779 and FDEP permit 0164713-001-JC. No additional mitigation is anticipated for the Mid-town segment of the project.

Table 1 lists alternatives considered and summarizes the major features and consequences of the proposed action and alternatives. See Section 4 Environmental Effects for a more detailed discussion of impacts of alternatives.

2.5 MITIGATION

In the area of the proposed extended beach template from R79- R80.5, exposed hardbottom exists outside the equilibrium toe of fill (ETOF). There are no anticipated direct impacts to hardbottom from disposal, however, secondary indirect impacts from burial of hardbottom outside the ETOF could occur in the extended beach template south of the inlet. The use of pre and post construction surveys of the hardbottom closest to the extended disposal area will serve to identify any secondary impact. Any secondary impacts and potential mitigation will be addressed in the FDEP Water Quality Permit for the project. The Town of Palm Beach has agreed to perform any mitigation required by the extension of the beach disposal template from R79- R80.5. All mitigation for the Mid-town beach disposal area has been previously constructed under the USACE permit SAJ-1995-03779 and FDEP permit 0164713-001-JC. No additional mitigation is anticipated for the Mid-town segment of the project.

Table 1. Summary of Direct and Indirect Impacts

ALTERNATIVE ENVIRONMENTAL FACTOR	ALTERNATIVE 1: NO ACTION (STATUS QUO)	ALTERNATIVE 2: EXTENDED BEACH PLACEMENT
FISH & WILDLIFE RESOURCES	Minor impacts during maintenance dredging events.	Minor impacts during maintenance dredging events.
THREATENED & ENDANGERED SPECIES	Manatee & Sea Turtles: May affect, but not likely to adversely affect with implementation of standard protection measures.	Manatee & Sea Turtles: May affect, but not likely to adversely affect with implementation of standard protection measures. Slight increase to affect nesting turtles from larger placement area.
MIGRATORY BIRDS	No adverse impacts are anticipated. If deemed necessary, a migratory bird protection plan would be implemented during nesting season.	No adverse impacts are anticipated. If deemed necessary, a migratory bird protection plan would be implemented during nesting season.
ESSENTIAL FISH HABITAT	Estuarine and marine water column with unconsolidated sediment, ocean high salinity surfzone habitat would be impacted during dredging and placement activities.	Estuarine and marine water column with unconsolidated sediment, ocean high salinity surfzone habitat would be impacted during dredging. Extended beach template could cause additional nearshore impacts to exposed hardbottom during disposal.
HARDBOTTOM	No significant impacts to hardbottom expected	Potential impacts to hardbottom offshore of proposed extended beach template.
SHORELINE STABILITY	Shoaling of sand within the Federal channel would continue at current rate.	Sand could be placed on additional shorelines of Palm Beach county increasing shoreline stability.
WATER QUALITY	Short-term localized increase in turbidity at the dredge site and nearshore area.	Short-term localized increase in turbidity at the dredge site and nearshore area.
NAVIGATION	Shoaling would continue to occur at current rate requiring maintenance dredging as well as emergency dredging after storms. Presence of dredge could have minor impact to navigation.	No significant increased impacts to navigation as dredging schedule would be same as no action.
ECONOMICS	Maintenance dredging of the Federal channel and existing settling basin maintain the authorized depth benefiting the regional economy.	No additional economic impacts expected.
CULTURAL RESOURCES	No historic properties affected.	No historic properties affected.
RECREATION	Temporary impacts during dredging events and placement of material on the beach or nearshore.	Temporary impacts during dredging events and placement of dredged material on the beach or nearshore.
AESTHETICS	Temporary impacts during dredging events and placement of material on the beach or nearshore.	Temporary impacts during dredging events and placement of material on the beach or nearshore.
NOISE	Temporary impacts during dredging events and placement of material on the beach or nearshore.	Temporary impacts during dredging events and placement of material on the beach or nearshore.

3 AFFECTED ENVIRONMENT

The Affected Environment section succinctly describes the existing environmental resources of the areas that would be affected if any of the alternatives were implemented. This section describes only those environmental resources that are relevant to the decision to be made. It does not describe the entire existing environment, but only those environmental resources that would affect or that would be affected by the alternatives if they were implemented. This section, in conjunction with the description of the "no-action" alternative, forms the baseline conditions for determining the environmental impacts of the proposed action and reasonable alternatives.

3.1 GENERAL ENVIRONMENTAL SETTING

Lake Worth is an estuary that exhibits characteristics typical of estuarine systems in southeast Florida. Much of the beach and dune ecosystem in this vicinity has been altered by development. Structures such as seawalls and bulkheads have reduced a significant amount of the vegetation that would naturally occur here (Applied Technology and Management Inc. 1995).

The existing channel sediments in the Inlet are predominantly sand and shell and are subject to considerable shifting by wave and tidal action. Limestone rock outcrops are found on either side of the Federal channel at the interface between the Inlet channel and the Intracoastal Waterway (IWW). Littoral drift in the area is predominantly north to south. The mean tidal range is 2.8 feet and the spring tidal range is 3.3 feet.

A sand transfer plant is located on the north jetty of the inlet. The sand transfer plant takes the sand that accumulates on the north jetty, slurries the material with sea water, and passes it under the inlet and to the beach south of the south jetty. Sand continues to accumulate at a rapid rate in this area. The areas to be dredged are located within the Federal project limits.

There is an abundance of fishery resources in the region. Private and commercial sports fishermen are active in the area. Nearby jetties and submerged rock outcroppings provide protected habitat for numerous tropical species. Snook are an important fishery resource in the area. The adjacent coastal beaches provide important feeding and resting sites for resident and migratory birds. Due to extensive residential and commercial development around the harbor and inlet, only a limited number of small animals and reptiles can be found near the project area. Peanut Island, which is located within the harbor area, is a designated upland placement area.

3.2 FISH AND WILDLIFE RESOURCES

The beaches of Palm Beach County are typical of other east-central Florida beaches subject to the full force of ocean waves. These beaches usually have low species diversity, but populations of individual species are often very large.

The beach provides foraging and resting habitat for numerous seabirds and shorebirds such as terns, gulls sandpipers, plovers, and skimmers. Fish and invertebrates within the intertidal zone are the staple diet for these species.

Species such as coquina clams, ghost crabs, and sand drum are highly specialized to survive in this high energy environment. The beaches are used by loggerhead, green and leatherback sea turtles for nesting during the March through October months.

Marine life common to east-central Florida can be found within the project channel and beach placement areas. Sub-tidal oyster beds should not occur within the project channel due to depth and vessel traffic. Other macro invertebrates commonly found in soft-bottom estuarine habitat within Florida include annelids, a variety of mollusks besides oysters, arthropods, sponges and polyps.

There are no seagrass beds or vegetated shorelines located within the Federal navigation channel or the existing beach templates south of the inlet or at Mid-town. Seagrass beds are located within Palm Beach Harbor and outside of the current project limits (PBS&J 2009, DCA 2011).

3.3 THREATENED AND ENDANGERED SPECIES

A number of threatened and endangered species may occur in Palm Beach County (Table 2 and 3). Several threatened and endangered species in Palm Beach County may use project-affected habitats. These include the piping plover, green sea turtle, hawksbill sea turtle, leatherback sea turtle, loggerhead sea turtle, West Indian manatee, staghorn coral, and beach jacquemontia.

Table 2. State or Federally Listed Marine Fishes and Plants That May Occur in the Project Area (<http://el.erdc.usace.army.mil/tessp/>) (T = Threatened, E = Endangered, C = Candidate, SC= Species of Concern)

Category	Scientific Name	Common Name	Federal Status				State
			T	E	C**	SC	
Fishes	<i>Acipenser oxyrinchus oxyrinchus</i>	Atlantic sturgeon				X	SC
	<i>Centropomus undecimalis</i>	Common snook					SC
	<i>Carcharhinus obscurus</i>	Dusky shark			X		
	<i>Mycteroperca spp</i>	Grouper					
	<i>Epinephelus itajar</i>	Goliath grouper				X	
	<i>Menidia conchorum</i>	Key silverside				X	T
	<i>Epinephelus striatus</i>	Nassau grouper				X	
	<i>Carcharhinus signatus</i>	Night shark				X	
	<i>Microphis brachyurus lineatus</i>	Opossum pipefish				X	
	<i>Syngnathus spp.</i>	Pipefish				X	
	<i>Odontaspis Taurus</i>	Sand tiger shark				X	
	<i>Epinephelus drummondhay</i>	Speckled hind				X	
	<i>Epinephelus nigritus</i>	Warsaw grouper				X	
Terrestrial Plants	<i>Suriana maritime</i>	Bay cedar					E
	<i>Jacquemontia reclinata</i>	Beach clustervine		X			E
	<i>Ernodea littoralis</i>	Beach-creeper					T
	<i>Remirea maritime</i>	Beachstar					E
	<i>Avicennia germinans</i>	Black mangrove					SC
	<i>Okenia hypogaea</i>	Burrowing Four-o'clock					E
	<i>Tephrosia angustissm</i>	Devil's shoestring			X		E
	<i>Lantana depressa</i>	Florida lantana			X		E
	<i>Chamaesyce garberi</i>	Garber's spurge	X				E
	<i>Helianthus debilis sp. Vestitu</i>	Hairy beach sunflower			X		

Category	Scientific Name	Common Name	Federal Status				State
			T	E	C**	SC	
	<i>Scaevola plumieri</i>	Inkberry					T
	<i>Conradina grandiflora</i>	Large-flowered Rosemary			X		E
	<i>Eriochloa michauxli</i> var. <i>simpsonii</i>	Longleaf cupgrass	X				
	<i>Rhizophora mangle</i>	Red mangrove					
	<i>Chamaesyce cumulicola</i>	Sand-dune Spurge			X		E
	<i>Limonium carolinianum</i>	Carolina sea lavender					
Marine Plants	<i>Halophila johnsonii</i>	Johnson's sea grass	T				T

**Candidate species are not protected under the ESA, but concerns about their status indicate they may warrant listing in the future. Federal Agencies and the public are encouraged to consider these species during project planning.

Table 3. Federally Listed and Candidate Species That May Occur in the Project Area, Palm Beach County, Florida ([http://www.fws.gov/verobeach/images/pdfLibrary/Palm Beach County2.pdf](http://www.fws.gov/verobeach/images/pdfLibrary/Palm%20Beach%20County2.pdf))

Scientific Name	Common Name	Federal Status	Habitat
<i>Trichechus manatus</i>	West Indian manatee	Endangered, Critical Habitat	Fresh and saltwater habitats, mangroves
<i>Aphelocoma coerulescens</i>	Florida scrub-jay	Threatened	Scrub, Scrubby flatwoods and adjacent areas
<i>Dendroica kirtlandii</i>	Kirtland's warbler	Endangered	Migrant 1982
<i>Charadrius melodus</i>	Piping plover	Threatened	Sandy beaches, mudflats, sandflats, spoils islands, areas adjacent to inlets and passes. Historic date unknown
<i>Calidris canutus rufa</i>	Red knot	Threatened	Shorelines
<i>Chelonia mydas</i>	Green sea turtle	Endangered	Beach dune/coastal strand, seagrass, nearshore reef
<i>Eretmochelys imbricata</i>	Hawksbill sea turtle	Endangered	Beach dune/coastal strand, seagrass, nearshore reef
<i>Dermochelys coriacea</i>	Leatherback sea turtle	Endangered	Beach dune/coastal strand, seagrass, nearshore reef
<i>Caretta caretta</i>	Loggerhead sea turtle	Threatened, Critical Habitat	Beach dune/coastal strand, seagrass, nearshore reef
<i>Lepidochelys kempii</i>	Kemp's ridley sea turtle	Endangered	Nearshore and offshore sand bottom
<i>Pristis pectinata</i>	Smalltooth sawfish	Endangered	Nearshore, inlets, estuaries

<i>Acropora cervicornis</i>	Staghorn coral	Threatened	Nearshore reef
<i>Jacquemontia reclinata</i>	Beach jacquemontia	Endangered	Beach dune/coastal strand
<i>Halophila johnsonii</i>	Johnson's seagrass	Threatened	Estuarine polyhaline/euhaline waters

3.4 THREATENED AND ENDANGERED SPECIES

3.4.1 Sea Turtles

The loggerhead (*Caretta caretta*), green (*Chelonia mydas*), leatherback (*Dermochelys coriacea*), hawksbill (*Eretmochelys imbricata*), and Kemp's Ridley (*Lepidochelys kempii*) sea turtles can occur within the coastal waters near the project area (Dodd 1992, Ogren 1992, Meylan 1992, Ehrhart 1992, Pritchard 1992). All of these species are federally endangered except the loggerhead, which is classified as threatened. Three of these species, loggerhead, green, and leatherback are known to nest within the proposed beach placement areas. Table 4 lists the number of sea turtle nests recorded by Palm Beach County for the beach placement area south of the south jetty and Mid-town (<http://www.co.palm-beach.fl.us/erm/permitting/sea-turtles/nesting.htm>).

Table 4. Sea Turtle Nesting Data for Beach Placement Areas.

Year	Lake Worth Inlet	Mid-town
2007	116	303
2008	174	345
2009	154	386
2010	295	410
2011	418	438
2012	223	869
Mean	230	458
Mean Nest Density per Mile	278.5	191.8

The critical habitat units for loggerhead sea turtle within the action area are USFWS Unit LOGG-T-FL-12 and NMFS Unit LOGG-N-14. Unit LOGG-T-FL-12 is designated by the USFWS as terrestrial nesting beach (the extra-tidal or dry sandy beach from the mean high water (MHW) line shoreward to the toe of the secondary dune) from Lake Worth Inlet to Boynton Inlet. Terrestrial nesting beach is capable of supporting high densities of nests, contains relatively unimpeded nearshore access, is high enough to avoid frequent nest inundation, contains sand quality appropriate for nest construction and egg incubation, dark enough to avoid disorientations, and contains or mimics natural coastal conditions. Unit LOGG-N-19 is designated by the NMFS as nearshore reproductive habitat (from the MHW line seaward 1.6 km) from the Martin County/Palm Beach County line to Hillsboro Inlet. Nearshore reproductive habitat is a portion of the nearshore waters adjacent to the nesting beach that is used by

hatchlings to egress to the open-water environment as well as by nesting females to transit between the beach and open water during the nesting season.

3.4.2 West Indian Manatee

The West Indian manatee (*Trichechus manatus*) has been listed as a protected mammal in Florida since 1893. The manatee is federally protected under the Marine Mammal Protection Act (MMPA) as a depleted species and was listed as an endangered species throughout its range in 1967 (32 FR 4061) and received Federal protection with the passage of the ESA. Critical habitat was designated in 1976 for the Florida subspecies (*Trichechus manatus latirostris*) (50 CFR 19.95(a)) and includes Lake Worth Inlet and Palm Beach Harbor. Florida provided further protection in 1978 by passing the Florida Marine Sanctuary Act designating the state as a manatee sanctuary and providing signage and speed zones in Florida's waterways.

The turning basin of the project is located within a Federal Important Manatee Area (IMA). Dredging in this area is limited to exclude mechanical clamshell dredging during winter months (November 15 – March 31). Outside the project area to the south is a manatee Warm Water Aggregation Area (WWAA) Table 5. Annual surveys document manatee congregations during the cold periods in the vicinity of the Riviera Beach Florida Power and Light Company power plant located at the southern extreme of the turning basin on the western shore of Lake Worth.

Table 5: Maximum number of manatees sited during surveys at Florida Power and Light Riviera Plant (Reynolds 2011).

Survey Year	Number of Manatees
1994-95	249
1995-96	345
1996-97	177
1997-98	102
1998-99	64
1999-00	297
2000-01	409
2001-02	373
2002-03	479
2003-04	80
2004-05	403
2005-06	313
2006-07	288
2008-09	454
2009-10	581
2010-11	554

3.4.3 Piping Plover

The piping plover (*Charadrius melodus*), a state and federally listed species, generally winters in a variety of areas of Florida, including the Atlantic coast. Piping plovers migrate south to Florida as early as late July and remain as late as early April (non-breeding season). This small shorebird may be found inland but prefers sandy beaches and tidal mudflats where it forages along the waterline or high up the beach along the wrack line. Piping plovers primarily use intertidal habitats within estuaries, but sightings along the Atlantic Coast intertidal area have occurred (Robert Ernest, Ecological Associates, Inc., personal communication, June 2009). Piping plovers feed within the intertidal zone on invertebrates such as marine worms, insect larvae, crustaceans, and mollusks (Atlantic Coast Piping Plover Recovery Team, 1995). Piping plover foraging and resting habitat may occur within the project area. Tagged piping plover observations have occurred on Juno Beach (August 2009) and in the Town of Palm Beach (January 2011) (personal communication, Kimberly Miranda, February 2011).

Decline of the species population has resulted from direct and unintentional harassment by people, dogs, and vehicles; destruction of beach habitat for development; and changes in water level regulation (Haig, 1992). Florida Atlantic coast designated critical habitat for wintering piping plovers is located around St. Lucie and Ponce de Leon inlets, and near the northern border of Florida on Fort George Island within Huguenot Memorial Park, Jacksonville, Florida (<http://www.fws.gov/plover/>). The project area does not contain designated piping plover critical habitat.

3.4.4 Rufa Red Knot

The USFWS listed the *rufa* subspecies of red knot (*Calidris canutus rufa*) as threatened under the Endangered Species Act on December 11, 2014. The *rufa* red knot is a medium-sized shorebird that winters at the tip of South America in Tierra del Fuego, in northern Brazil, throughout the Caribbean, and along the U.S. coasts from Texas to North Carolina. The *rufa* red knot breeds in the tundra of the central Canadian Arctic from northern Hudson Bay to the southern Queen Elizabeth Islands. Red knots are one of the longest-distance migrants in the animal kingdom, and can travel more than 9,300 miles every spring and fall.

Due to the extensive distances over which red knots travel, it is critical that their stopover areas are rich in easily digested foods with thin or no shells. They seem to time their stopovers with the spawning seasons of intertidal invertebrates to take advantage of juvenile clams, mussels, and horseshoe crab eggs. The *rufa* red knot is similar to the piping plover in its habitat requirements, as they both require coastal habitats for foraging and roosting during their wintering period.

3.4.5 Small Tooth Sawfish

The smalltooth sawfish (*Pristis pectinata*) has a circumtropical distribution and has been reported from shallow coastal and estuarine habitats. In U.S. waters, the smalltooth sawfish historically occurred from North Carolina south through the Gulf of Mexico, where it was sympatric with the largetooth sawfish (*P. perotteti*) (Adams and Wilson, 1995). Individuals have also historically been reported to migrate northward along the Atlantic seaboard in the warmer months, as far north as New York, though it is rarely observed outside of peninsular Florida.

Smalltooth sawfish were once common in Florida, as detailed by the Final Smalltooth Sawfish Recovery Plan (NMFS, 2009), and are very rarely reported in southeast Florida. Their core range extends along the Everglades coast from the Ten Thousand Islands to Florida Bay, with moderate occurrence in the Florida Keys and at the mouth of the Caloosahatchee River. Outside of these areas, sawfish are rarely encountered and appear to be relatively infrequent (Simpfendorfer, 2006). It does not appear to be a coincidence that the core range of smalltooth sawfish corresponds to the section of Florida with the smallest amount of coastal habitat modification. Habitat use by sawfish appears to be divided by animal size. Small sawfish (0-79 inches/0-200 cm) use shallow water areas as nursery areas often dominated by red mangrove habitats.

Populations likely decreased due to a low intrinsic rate of natural increase, the long interval to time of reproduction, and human impacts, most notably overfishing, incidental take in nets (due in part to its body size and unusual morphology), and habitat loss (development of shoreline and nearshore habitats). As summarized and discussed in Carlson & Osborne 2012, the current smalltooth sawfish population is found mainly in marine waters surrounding Everglades National Park and its adjacent areas.

3.5 MIGRATORY BIRDS

Common shorebird and larid species such as black-bellied plover (*Pluvialis squatarola*), sanderling (*Caladris alba*), willet (*Catoptrophorus semipalmatus*), laughing gull (*Larus atricilla*), ring-billed gull (*L. delawarensis*), and royal tern (*Sterna maxima*) have been observed feeding and resting in the project area.

3.6 ESSENTIAL FISH HABITAT

Essential fish habitat (EFH) is defined as “those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity” in the Magnuson-Stevens Fishery Conservation and Management Act. Essential fish habitat includes all types of aquatic habitat such as wetlands, coral reefs, seagrasses, and rivers. Species managed by the NMFS that may occur within the project channel and Beach Placement Area can be found in Table 6, and possible prey species in Table 7.

The proposed extension to the existing beach template from R79- R80.5 lies primarily within the shallow sublittoral zone, as is the existing Mid-town template. This area is non-vegetated and has an extremely dynamic sandy substrate. Diverse communities of haustoriid and other amphipod groups, Donax, Tellina, gastropods, polychaetes, burrowing callianssid shrimps, as well as a variety of fishes are typically found within this habitat type along the central east coast of Florida (Spring 1981, Gorzelany 1983, Peters and Nelson 1987, Nelson and Collins 1987). Managed species that may occur within the project area include various life stages of penaeid shrimp, red drum, the snapper-grouper complex, and coastal migratory pelagic fishes (South Atlantic Fishery Management Council 1998).

Table 6. Federally Managed Species of Fish that May Occur within the Project Area.

Species	Life Stage	Substrate Preference ¹	
		Unconsolidated Sediment	Seagrass
Brown shrimp <i>Farfantepenaeus aztecus</i>	A, J, L	A, J, L	J, L
Pink shrimp <i>Farfantepenaeus duorarum</i>	A, J	A, J	J
White Shrimp <i>Litopenaeus setiferus</i>	A, J	A, J	J, L
Spiny Lobster <i>Panulirus argus</i>	A, J	A, J	A, J
Black seabass <i>Centropristis striata</i>	A, J	A, J	
Common snook <i>Centropomus undecimalis</i>	A, J	A, J	J, L
Gag <i>Mycteroperca microlepis</i>	A, J	A, J	
Cobia <i>Rachycentron canadum</i>	J	J	
Mutton snapper <i>Lutjanus analis</i>	A, J	J	J
Gray snapper <i>Lutjanus griseus</i>	A, J, L	A, J, L	A, J, L
Lane snapper <i>Lutjanus synagris</i>	A, J	A, J	J
Yellowtail snapper <i>Lutjanus chrysurus</i>	A, J	J	J
White grunt <i>Haemulon plumieri</i>	A, J	A, J	A, J
Sheepshead <i>Archosargus probatocephalus</i>	A, J, L	A, J	J, L
Red drum <i>Sciaenops ocellatus</i>	A, J, L	A, J, L	J, L
Hogfish <i>Lachnolaimus maximus</i>	A, J	J	J
Spanish mackerel <i>Scomberomorus maculatus</i>	A, J	A, J	
Black drum <i>Pogonias cromis</i>	A, J	A, J	A, J
Southern flounder <i>Paralichthys lethostigma</i>	A, J	A, J	J

Source: South Atlantic Fishery Management Council 1998; Florida Museum of Natural History-Ichthyology website 2008.

Table 7. Prey Species that May Occur within the Project Area.

¹ Substrate preference, unconsolidated sediment and seagrass habitats occur in or near the project area.
A=adult; J=juvenile; L=larvae

Species	Life Stage	Substrate Preference ²	
		Unconsolidated Sediment	Seagrass
Thinstripe hermit crab <i>Clibanarius vittatus</i>	A, J	A, J	
Horse conch <i>Pleuroploca gigantea</i>	A, J	A, J	A, J
Bay anchovy <i>Anchoa mitchilli</i>	A, J, L	A, J, L	L
Sheepshead minnow <i>Cyprinodon variegatus</i>	A, J, L	A, J, L	
Atlantic menhaden <i>Brevoortia tyrannus</i>	A, J, L	A	J, L
Bay scallop <i>Argopecten irradians</i>	A, J, L	A, J	A, J, L
Atlantic rangia <i>Rangia cuneata</i>	A, J, L	A, J, L	
Quahog <i>Mercenaria mercenaria</i>	A, J	A, J	
Grass shrimp <i>Palaemonetes pugio</i>	A, J		A, J
Striped mullet <i>Mugil cephalus</i>	A, J	A, J	A, J
Spot <i>Leiostomus xanthurus</i>	A, J	A	J
Atlantic croaker <i>Micropogonias undulates</i>	A, J	A, J	
Silversides <i>Menidia menidia</i>	A, J, L	A, J, L	A, J, L
American eel <i>Anguilla rostrata</i>	A, J, L	J, L	A, J, L

Source: South Atlantic Fishery Management Council 1998; Florida Museum of Natural History-Ichthyology website 2008.

3.7 HARDBOTTOM

Hardbottom surveys conducted south of the inlet, between DEP markers R-76 and R-83 indicated that hardbottom communities are much more prevalent south of R-79. Commonly encountered organisms included red boring sponge (*Cliona* sp.), red algae (*Meristiella echiocarpum*), and the tube building annelid *Phragmatopoma lapidosa*. Hardbottom habitat significantly declines between R-76 and R-79. Hardbottom habitat has been documented in this area include: a small section (27 square feet) of uncolonized exposed rock north of R-77, a small area of exposed rock in the intertidal region 350 feet north of R-78, and a lone outcropping of rock located midway between R-78 and R-79, and an area of exposed rock between R79 and R-80 to the east of the proposed beach extension.

Previous material placement in Mid-town required mitigation to offset burial of hardbottom located within the ETOF between R95 and R101.

3.8 SHORELINE STABILITY

The natural beach process has continual erosion and accretion occurring during different times of the year. A normal situation would cause a balance between the two. The wave patterns along the east coast of Florida also cause a net southward movement of sand. At Palm Beach Harbor, the construction of the entrance channel and jetties to protect the entrance channel has interrupted the southward movement of sand, thereby causing a net erosion of the beach south of the jetties. Presently, shoreline change south of Lake Worth Inlet is governed by seasonal operation of the sand transfer plant (STP) and by the dominant physical processes in the inlet's vicinity (i.e. local wave climate and tidal activity). Prior to being shut down in 1990, the sand transfer plant averaged between 60,000 and 80,000 cubic yards annually (from 1974 to 1990). In 1996, the STP was rehabilitated by local interests and resumed operation with an annual bypassing volume of approximately 135,000 cubic yards per year (cy/yr).

Sediment that enters the project area from the north is trapped by the settling basin and the channel. The annual shoal quantities for the years 1994 through 2012 are provided below in Table 8.

Table 8. Annual Dredged Quantities

No. of Events	Year	Cubic Yards	Exceptions
2	1994	169,700	
1	1995	179,330	
1	1996	150,110	
1	1997	175,500	
1	1998	55,100	
1	1999	52,900	
1	2000	143,600	
1	2001	75,300	
1	2002	151,900	
1	2003	97,900	
2	2004	275,500	Routine & Emergency
1	2005	305,500	
2	2006	73,000	Routine & Emergency
1	2007	185,000	
1	2008	157,800	
1	2009	64,000	
1	2012	69,275	
1	2012	418,616	Enlarged settling basin

The average annual shoaling rate during 1994 through 2009 was 144,000 cy/yr. The average annual shoaling rate during 1994 through 2003 was 125,000 cy/yr. The average annual shoaling rate during 2004 through 2009 was 176,000 cy/yr. The hurricanes in 2004 and 2005

significantly increased the average annual shoaling rate even though the south jetty was sand-tightened in early 2004.

3.9 WATER QUALITY

3.9.1 Water Column

The waters adjacent to the project area are classified by the State of Florida as Class III waters, suitable for recreation as well as propagation and maintenance of a healthy and well-balanced population of fish and wildlife. Water quality within the estuarine coastal areas of Palm Beach County is highly variable. Water quality is best in the vicinity of the four tidal inlets, where the water bodies are subject to diurnal flushing and enhanced circulation.

3.10 SEDIMENT

Sediments within the channel are primarily sandy in nature with less than 5% fines. Some sediment within the turning basin contains higher silt content and is not suitable for beach placement and is deposited in the nearshore area between R76-R79.

3.11 NAVIGATION

Palm Beach Harbor is a deep-draft harbor and extends from the Atlantic Ocean to the Port of Palm Beach, a distance of 1.7 miles. The closest major ports to Palm Beach Harbor are Port Everglades and Miami Harbor. The maintenance dredging of Palm Beach Harbor consists of the annual removal of shoal material from the entrance channel to a depth of 39 feet [+ 2 feet mean lower low water] (from STA 30+00 to STA 47+00); from the inner channel to a depth of 33 feet; from the turning basin to a depth of 33 feet; and to a depth of 25 feet in the extended turning basin located north of the existing project basin (USACE 1998&2012).

3.12 ECONOMICS

The transport of commercial freight in and out of the harbor provides a significant stimulus to the regional economy. Also, the port provides employment and generates income for the local community through the purchase of goods and services.

3.13 NATIVE AMERICANS

No portion of the proposed project exists within or adjacent to any Native American properties.

3.14 CULTURAL RESOURCES

Initial consultation with the Florida State Historic Preservation Officer (SHPO) (DHR Project file No. 2000-03471) indicated the potential for cultural resources to be present in the project area. An underwater cultural resource survey including diver identification was conducted for the Intracoastal Waterway in 2001 (Hall 2001a, b). These surveys included the Palm Beach Harbor Inlet. No cultural resources were identified within the Palm Beach Harbor project area as a result of this survey. The Florida SHPO concurred with the Corps determination of no historic properties (DHR Project file No. 2000-5816).

A review of the Florida Master Site File (FMSF) records no prehistoric or historic resources eligible for the National Register of Historic Places (NRHP) from FDEP range markers R79 to R80.5. A National Register of Historic Places (NRHP) eligible historic district, the Palm Beach

Estate Resource Group (PB13345), is located adjacent to the project from FDEP range markers R99 to R101.5 (west of Ocean Boulevard) but is not within the project area and will not be impacted by the proposed action. Sand placement on the beach will be a beneficial effect by preventing possible future erosion. NOAA's Automated Wrecks and Obstructions Information database (AOIS) records no vessels or obstructions in the nearshore adjacent to the project area.

3.15 RECREATION

There are a large number of recreational boaters that frequent the main turning basin, inner channel, the entrance channel, and areas outside the inlet entrance. Numbers of recreational boaters increase on the weekends and holidays. In addition, numerous scuba dive boats drift or anchor in different areas of the harbor though these vessels do not anchor in the entrance channels or turning basins. Commercial and privately owned fishing vessels regularly utilize the Lake Worth Inlet in order to access the nearby Atlantic Ocean and Gulf Stream. There were 39,795 pleasure craft and 1,057 commercial vessels registered in Palm Beach County in 2010 (<http://www.flhsmv.gov/dmv/vslfacts.html>). Beach access is somewhat limited due to the predominance of private property found in the vicinity of the inlet.

3.16 AESTHETICS

Lake Worth is a two inlet system that courses from north to south and is identified as North, Central, and South Lake Worth Lagoon. The lagoon runs parallel to the Atlantic Ocean, coastal beaches, and the man-made Intracoastal Waterway. Lake Worth lagoon is considered to be a picturesque waterway with adjacent marsh, wetlands, and proximity to Peanut Island. The Lake Worth Inlet is a man-made inlet and development associated with the harbor facilities has impacted the aesthetics of the area. Also, numerous private residences and commercial businesses have been constructed along the inlet and the adjacent beach areas.

3.17 HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE

There are no known sources of hazardous, toxic, or radioactive wastes in the project area.

3.18 NOISE

The ambient sound level of a region is the total noise generated, including sounds from natural and artificial sources. The magnitude and frequency of environmental noise may vary considerably over the course of a day and throughout the month because of changing weather conditions and seasonal vegetative cover. Land use adjacent to the north and south jetties and beach placement area has been zoned residential. Background noise from vessel traffic, urban beach, residential development, and nearby roadways appears to be moderate.

4 ENVIRONMENTAL EFFECTS

This section is the scientific and analytic basis for the comparisons of the alternatives. See Table 1 in section 2.0 Alternatives, for summary of impacts. The following includes anticipated changes to the existing environment including direct, indirect, and cumulative effects.

4.1 FISH AND WILDLIFE RESOURCES

4.1.1 Alternative 1: No Action (Status Quo)

Continuing to place dredged material in the existing beach template would result in temporary impacts to benthos as discussed in previous NEPA documents including shorebirds and arthropods. The area would be re-colonized with organisms such as annelids and arthropods from adjacent similar habitats following completion of dredging events. Shorebirds would return to the beach shortly after construction. Nearshore disposal would have temporary impacts to benthic fauna from burial and turbidity during disposal.

4.1.2 Alternative 2: Extension of Existing Beach Template and Disposal at Mid-town

The additional beach templates proposed would not have significant impacts to fish and wildlife resources compared to current project effects as a similar quantity of dredged material would be placed on the beaches, only the location could change. Nearshore disposal would have temporary impacts to benthic fauna from burial and turbidity during disposal.

4.2 THREATENED AND ENDANGERED SPECIES

Pursuant to Section 7 of the ESA, coordination with the NMFS and the FWS in regard to this project is ongoing. The Corps has determined that the proposed action may affect nesting sea turtles and may affect, but is not likely to adversely affect the West Indian manatee. These species fall under the jurisdiction of the FWS and the minimization measures, Reasonable and Prudent Measures, and Terms and Conditions in the 2011 Statewide Programmatic Biological Opinion (SPBO) would be followed. The use of a hopper dredge also may affect swimming sea turtles and would fall under the jurisdiction of the NMFS. The Corps' final determination relative to project impacts and the need for mitigation measures is subject to review by and coordination with the FWS and NMFS.

4.2.1 Sea Turtles

Construction activities within the beach placement areas may affect sea turtle nesting success. Visual surveys for escarpments along the beach fill area and landward of any nearshore placement would be made immediately after completion of the placement of dredged material. All scarps would be leveled or the beach profile would be reconfigured to minimize scarp formation. In addition, in order to minimize this impact, the following measure would be implemented:

- No beach placement of dredged material would occur from May 1 through October 31, the primary sea turtle nesting season. If beach placement activities were to occur outside of this time frame but still within potential sea turtle nesting (March 1 to May 15 and November 1 to November 30), sea turtle monitoring and relocation would be performed in accordance with the SPBO.

In the event that a hopper dredge is used, the conditions stated by the NMFS in the 1997 South Atlantic Regional B.O. for the use of this type of dredge would be implemented.

4.2.1.1 Alternative 1: No Action (Status Quo)

Maintenance dredging and beach placement rates should remain the same. No additional impacts to sea turtle nesting would be anticipated.

4.2.1.2 Alternative 2: Extension of Existing Beach Template and Disposal at Mid-town

The proposed additional beach template should not result in any additional impacts to nesting sea turtles as the quantity of material will not increase, only the location of the material. Nesting numbers for all the Mid-town area are historically slightly lower per mile (Table 4) to the existing beach template, therefore additional nesting turtle impacts are not expected. With additional disposal options, the existing beach template may be used less frequently, allowing more time for natural beach contours to develop between events.

The Corps has determined that the presence of the hopper dredge in the nearshore waters would have a minor and temporary impact the physical or biological features (PBF) and primary constituent elements (PCE) of loggerhead critical habitat unit LOGG-N-19 during construction. Hatchling egress from the water's edge to open water and nesting female transit back and forth between the open water and the nesting beach during nesting season could be hindered by the presence of the hopper dredge and pipeline. As there is a prohibition of beach disposal during the turtle nesting season, there would not be an expected impact to LOGG-T-FL-12. Therefore, the Corps has determined that the project will not destroy or adversely modify loggerhead critical habitat.

4.2.2 Manatees

Protective measures would be taken to ensure the safety of manatees when workboats are used, including having an observer(s) aboard the dredging equipment to maintain a watch for manatees during dredging operations and during the dredge transit to and from the disposal site. To make the contractor and his personnel aware of the potential presence of this species in the project area, their endangered status, and the need for precautionary measures, the contract specifications would include the following standard manatee protection clauses:

- The contractor would instruct all personnel associated with construction activities about the potential presence of manatees in the area and the need to avoid collisions with them.
- If a manatee were sighted within 100 yards of the project area, all appropriate precautions would be implemented by the contractor to ensure protection of the manatee. These precautions would include the operation of all moving equipment no closer than 50 feet of a manatee. If a manatee were closer than 50 feet to moving equipment or the project area, the equipment would be shut down and all construction activities would cease to ensure protection of the manatee. Construction activities would not resume until the manatee has departed the project area.
- All vessels associated with the project would operate at 'no wake' speeds at all times while in shallow waters or channels where the draft of the boat provides less than three feet clearance from the bottom. Boats used to transport personnel would be shallow draft vessels, preferably of the light-displacement category, where navigational safety permits. Vessels transporting personnel between the landing and any workboat would follow

routes of deep water to the greatest possible extent. Shore crews would use upland road access if available.

- All personnel would be advised that there are civil and criminal penalties for harming, harassing, or killing manatees, which are protected under the Endangered Species Act and the Marine Mammal Protection Act.

4.2.2.1 Alternative 1: No Action (Status Quo)

Maintenance dredging and beach placement rates should remain the same. No additional impacts to manatees would be anticipated.

4.2.2.2 Alternative 2: Extension of Existing Beach Template and Disposal at Mid-town

As the dredging remains the same, no additional impacts are expected to manatees as placement of dredged material has not historically been an issue. The extra distance to Mid-town would not pose a significant impact to manatees.

4.2.3 Piping Plover and Rufa red knot

USACE determined that the project includes areas identified to be non-optimal piping plover areas

due to the included beaches are on private property. USACE has determined that placing sediment from proposed dredging on the proposed beaches may affect, not likely to adversely affect the piping plover and the *rufa* red knot. The Final Rule listing the *rufa* red knot, published December 11, 2014, notes that “beach nourishment can be beneficial or detrimental to red knot habitat, though any negative effects are mostly considered to be short-term (79 FR 73707).” USACE has determined that the minimization measures, Reasonable and Prudent Measures, and Terms and Conditions in the USFWS Piping Plover Programmatic Biological Opinion (P3BO; May 22, 2013) are applicable to the project, and will request concurrence from USFWS.

4.2.4 Migratory Birds

Surveys for shorebirds and other migratory bird species would be completed prior to construction activities. Surveys would begin on April 1 or 45 days prior to construction commencement, whichever is later, and be conducted daily throughout the construction period or August 31, whichever is earlier.

4.2.4.1 Alternative 1: No Action (Status Quo)

No adverse impacts to migratory birds are anticipated. However, if any construction were performed from April 1 to August 31, the Corps’ standard migratory bird protection policy (MBPP) would be implemented.

4.2.4.2 Alternative 2: Extension of Existing Beach Template and Disposal at Mid-town

No adverse impacts to migratory birds are anticipated. However, if any construction were performed from April 1 to August 31, the Corps’ standard MBPP would be implemented. The existence of additional beach placement options could result in less frequent disturbances to the same area of beach over time.

4.3 ESSENTIAL FISH HABITAT AND HARDBOTTOM

4.3.1 Alternative 1: No Action (Status Quo)

The continued maintenance dredging of the existing settling basin and authorized channel depths with disposal in the existing template would not have a substantial adverse impact on EFH or federally managed fisheries along the eastern coast of Florida as discussed in previous NEPA documents for Palm Beach Harbor Operations and Maintenance. The substrate of the project area is naturally dynamic and unconsolidated, and measures are taken to protect adjacent habitat. Turbidity could affect vision of marine life within the sediment plume as well as those marine organisms with gills, but these effects would be temporary as they would be limited to the actual dredging and placement operations. Routine maintenance dredging may suppress recolonization of certain benthic organisms and therefore could impact other trophic levels within the food chain. However, it is important to note that the project channels are man-made, the actual channel widths encompass a fraction of the entire water body, and similar habitat occurs immediately adjacent to the channels.

4.3.2 Alternative 2: Extension of Existing Beach Template and Disposal at Mid-town

The Corps has determined that the proposed action would not have a substantial adverse impact on EFH or federally managed fisheries along the eastern coast of Florida. This determination was based on the fact that the substrate of the project area is naturally dynamic and consists of unconsolidated sediments. Placement of material in a larger overall template could result in a slight decline in the current rate of beach placement in each area and may result in less adverse impacts to EFH over time. The proposed extension and Mid-town do not include any direct impacts to EFH, although the Corps recognizes that secondary impacts may occur outside of the project template. Pre and post surveys of the documented hardbottom outside of the extended template from R79-R 80.5 would assist in assessing any impact. No EFH impacts outside of the already permitted Mid-town template are expected as the proposed project is within the already permitted project limits.

4.4 SHORELINE STABILITY

4.4.1 Alternative 1: No Action (Status Quo)

Current rates of erosion of the shoreline, shoaling or accumulation of sand within the inlet, and maintenance dredging would continue as discussed in previous NEPA documents for Palm Beach Harbor Operations and Maintenance Dredging.

4.4.2 Alternative 2: Extension of Existing Beach Template and Disposal at Mid-town

With additional disposal options as part of the proposed alternative, the Corps has flexibility in placement of material. No significant impacts to shoreline stability are expected from this alternative.

4.5 WATER QUALITY

4.5.1 Water Column

4.5.1.1 Alternative 1: No Action (Status Quo)

The No Action Alternative would continue to cause temporary increases in turbidity along and adjacent to the beach disposal site during maintenance dredging events. The State of Florida

water quality regulations require that water quality standards not be violated during dredging operations. The standards require that turbidity outside the 150 meter mixing zone shall not exceed 29 Nephelometric Turbidity Units (NTU) above background. Results from turbidity monitoring at previous beach nourishment projects have shown that the turbidity did not exceed the standard. Maintenance dredging and beach placement rates would remain the same as described in previous NEPA documents for Palm Beach Harbor Operations and Maintenance Dredging.

Various protective measures and monitoring programs would be conducted during dredging operations to ensure compliance with state water quality criteria as stated in DEP Permit Number 0216012-007-JC at both the dredge site, beach and nearshore disposal sites. Should turbidity exceed State water quality standards as determined by monitoring, the contractor would be required to cease work until conditions returned to normal in accordance with the permit.

4.5.1.2 Alternative 2: Extension of Existing Beach Template and Disposal at Mid-town

Similar to the No Action alternative, temporary increases in turbidity are expected by the dredging of the Federal channel. Turbidity would be monitored according to State protocols during the proposed dredging work at the dredging site and at the dredged material placement site per the applicable FDEP permit. Various protective measures and monitoring programs would be conducted during dredging operations to ensure compliance with state water quality criteria as stated in DEP Permit Number 0216012-007-JC and 0164713-001-JC, and any subsequent permits applicable to the disposal site extensions. Should turbidity exceed State water quality standards as determined by monitoring, the contractor would be required to cease work until conditions returned to normal.

4.5.2 Sediment

4.5.2.1 Alternative 1: No Action (Status Quo)

Impacts to sediment composition are not expected as a result of normal maintenance dredging operations.

4.5.2.2 Alternative 2: Extension of Existing Beach Template and Disposal at Mid-town

Impacts to sediment composition are not expected as a result of the proposed action. The material would remain the same as the no action alternative, only disposal location is proposed as part of this project.

4.6 NAVIGATION

4.6.1 Alternative 1: No Action (Status Quo)

Continuing maintenance dredging of Palm Beach Harbor as currently authorized would temporarily disrupt vessel traffic due to dredging activities. Maintenance dredging would continue to occur as needed.

4.6.2 Alternative 2: Extension of Existing Beach Template and Disposal at Mid-town

No significant impacts to navigation are anticipated from the proposed alternative. Transport to Mid-town would potentially include several additional miles of transit depending on dredge type.

4.7 ECONOMICS

4.7.1 Alternative 1: No Action (Status Quo)

The operations and maintenance dredging of the entrance channel and existing settling basin benefits the regional economy by helping to maintain the authorized depth of the inlet or entrance channel to the Port of Palm Beach.

4.7.2 Alternative 2: Extension of Existing Beach Template and Disposal at Mid-town

No significant impact to economics would be anticipated as the dredging remains the same as the no action alternative.

4.9 NATIVE AMERICANS

No portion of the proposed project exists within or adjacent to any Native American properties.

4.8 CULTURAL RESOURCES

4.8.1 Alternative 1: No Action (Status Quo)

No historic properties affected.

Alternative 2: Extension of Existing Beach Template and Disposal at Mid-town

The Corps has determined no historic properties affected by the proposed project. A National Register of Historic Places (NRHP) eligible historic district, the Palm Beach Estate Resource Group (PB13345), is located adjacent to the project from FDEP range markers R99 to R101.5 (west of Ocean Boulevard) but is not within the project area and will not be impacted by the proposed action. Sand placement would be a beneficial effect by preventing possible future erosion. Coordination with the Florida State Historic Preservation Officer and appropriate federally recognized tribes was initiated April, 2105.

4.9 RECREATION

4.9.1 Alternative 1: No Action (Status Quo)

There would be temporary impacts to recreational boating during maintenance dredging as identified and discussed in previous NEPA documents for Palm Beach Harbor. Vessel traffic would be temporarily disrupted due to construction activities. Both the nearshore placement area and the beach would be temporarily impacted during placement of dredged material as identified in previous NEPA documents.

4.9.2 Alternative 2: Extension of Existing Beach Template and Disposal at Mid-town

There would be temporary impacts to recreational boating during maintenance dredging as identified and discussed in previous NEPA documents for Palm Beach Harbor. Vessel traffic would be temporarily disrupted due to construction activities at either disposal site. Beach recreation would be temporarily disrupted at the disposal location.

4.10 AESTHETICS

4.10.1 Alternative 1: No Action (Status Quo)

Construction activities within the Palm Beach Harbor navigation channel would temporarily impact the aesthetics of the area as discussed in previous NEPA documents on maintenance dredging for the project area.

4.10.2 Alternative 2: Extension of Existing Beach Template and Disposal at Mid-town

Construction activities within the Palm Beach Harbor navigation channel would temporarily impact the aesthetics of the area as discussed in previous NEPA documents on maintenance dredging for the project area. Activities at the disposal site would cause temporary impact to aesthetics, but would be limited to the construction timeframe.

4.11 HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE

4.11.1 Alternative 1: No Action (Status Quo)

There are no known sources of hazardous, toxic, or radioactive wastes in the project area.

4.11.2 Alternative 2: Extension of Existing Beach Template and Disposal at Mid-town

There are no known sources of hazardous, toxic, or radioactive wastes in the project area. Sediments and materials for the areas to be excavated during construction have been evaluated to be sandy material, with no indication of contaminants. USACE construction Best Management Practices (BMP) would be in place addressing petroleum control/spills. As stated in the standard contract specifications, the disposal of hazardous or solid wastes would be in compliance with Federal, State, and local laws. A spill prevention plan would also be required.

4.12 NOISE

4.12.1 Alternative 1: No Action (Status Quo)

Construction activity associated with normal maintenance dredging would result in a short term increase in noise over the existing background level.

4.12.2 Alternative 2: Extension of Existing Beach Template and Disposal at Mid-town

Construction activity associated with maintenance dredging and the disposal would result in a short term increase in noise over the existing background level.

4.13 PUBLIC SAFETY

4.13.1 Alternative 1: No Action (Status Quo)

Continuing maintenance dredging of Palm Beach Harbor as currently authorized would temporarily disrupt vessel traffic due to dredging activities. Notices to mariners would be coordinated and issued prior to dredging activities as per U.S. Coast Guard regulations. It is the intention of the Corps to maintain a safe environment for recreational and commercial vessels through Operations and Maintenance dredging of Palm Beach Harbor while complying with U.S. Coast Guard regulations.

4.13.2 Alternative 2: Extension of Existing Beach Template and Disposal at Mid-town

As discussed for the No Action Alternative, notices to mariners would be coordinated and issued prior to dredging activities as per U.S. Coast Guard regulations. Vessel traffic within Palm Beach Harbor and its inlet channel could be temporarily disrupted due to dredging activities. It is the intention of the Corps to maintain a safe environment for recreational and commercial vessels through Operations and Maintenance dredging of Palm Beach Harbor while complying with U.S. Coast Guard regulations.

4.14 CUMULATIVE IMPACTS

Cumulative effects are defined in 40 CFR 1508.7 as those effects 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 nonfederal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

Cumulative environmental effects for the proposed project were assessed in accordance with guidance provided by the President's Council on Environmental Quality (CEQ).

Table 9 summarizes the impact of such cumulative actions by identifying the past, present, and reasonably foreseeable future condition of the various resources which are directly or indirectly impacted by the proposed action and its alternatives. Also illustrated is the future condition with any reasonable alternatives (or range of alternatives).

PAST ACTIONS IN THE PROJECT AREA

Palm Beach Harbor was authorized as a Federal Navigation Project beginning in the 1930s. Expansion activities during the past fifty years include deepening the channels and turning basin to 25 feet (1945), extending the turning basin southward 550 feet (1950), deepening the channels to 35 and 33 feet and enlarging the turning basin (1960), maintenance of locally expanded turning basin to a depth of 25 feet (1986), and authorization for the Port of Palm Beach to deepen the northern side of existing basin from 25 to 33 feet (1992). Palm Beach Harbor has undergone numerous maintenance events in addition to the navigation improvements listed above with placement in the existing beach and nearshore template at R76-R79. The USACE fully expects the Port of Palm Beach and Lake Worth Inlet to remain viable for many years and to continue undergoing maintenance and navigation improvements. Several beach nourishment projects have occurred at Mid-town over the last several decades including 1996, 2003, and 2006.

FUTURE ACTIONS IN THE PROJECT AREA

Future without-project actions will include the port's bulkhead improvements in slip 3, as well as deepening slip 3 to the recommended depth. Operation and maintenance to remove shoaled areas and restore project depth facilitate safer navigation are ongoing events. In addition, the Florida Inland Navigation District (FIND) requested authorization through the USACE Regulatory Division to deepen approximately 0.67 miles of the Intracoastal Waterway in Lake Worth Lagoon, north of the Lake Worth Inlet project area. The USACE Regulatory Division estimated the FIND project would directly impact 5.82 acres of seagrass. Other documents which discuss potential actions in the project area include the Florida Department of Environmental Protection (DEP) Strategic Beach Management Plan, and the Inlet Management Plan of Palm Beach.

Table 9. Summary of Cumulative Impacts

Resources/Issues	Past Actions & Their Effects	No Action Alternative	Proposed Alternative	Other Present and Reasonably Foreseeable Future Actions & Their Effects
Fish & Wildlife Resources	Stabilization of the inlet due to the north and south jetties allowed increased vessel traffic. Additional hard bottom habitat created along jetties. Temporary impacts to fish and wildlife from disposal.	Minimal impact on migratory birds with protective measures. Benthic organisms would be impacted during dredging events. Other wildlife temporarily displaced during beach placement.	Minimal impact on migratory birds with protective measures. Other wildlife temporarily displaced during beach placement.	Minimal impact on migratory birds with protective measures. Benthic organisms would be impacted during dredging events. Other wildlife temporarily displaced during beach placement.
Threatened & Endangered Species	Stabilization of the inlet due to the north and south jetties allowed increased vessel traffic. Nesting sea turtles may have been affected by past beach disposal.	Minimal effect with use of standard protection measures. Use of clamshell or cutterhead dredge would have minimal effect on sea turtles.	Minimal effect with use of standard protection measures. Use of clamshell or cutterhead dredge would have minimal effect on sea turtles.	Minimal effect with use of standard protection measures. Use of clamshell or cutterhead dredge would have minimal effect on sea turtles.
Essential Fish Habitat	Increased tidal flushing at inlet. Burial of EFH from past disposal.	No substantial effect on Federally managed fish species with avoidance of resources outside the channels. Benthic organisms temporarily displaced due to dredging of channel and settling basin, but area recolonized after disturbance.	No substantial effect on Federally managed fish species with avoidance of resources outside the channels. Benthic organisms temporarily displaced due to dredging, but recolonize area after disturbance. Benthic habitat could be disturbed less frequently with additional disposal options	No substantial effect on Federally managed fish species with avoidance of resources outside the channels. Benthic organisms temporarily displaced due to dredging, but recolonize area after disturbance.
Water Quality	Temporary increase in turbidity with past dredging.	Temporary increase in turbidity with past dredging.	Temporary increase in turbidity with past dredging,	Temporary increase in turbidity during dredging.

Resources/Issues	Past Actions & Their Effects	No Action Alternative	Proposed Alternative	Other Present and Reasonably Foreseeable Future Actions & Their Effects
Economics	Construction of navigation channels and stabilization of inlet due to the north and south jetties created a significant positive economic stimulus.	Lake Worth Inlet/Palm Beach Harbor would continue to provide an economic stimulus to the region.	Lake Worth Inlet/Palm Beach Harbor would continue to provide an economic stimulus to the region.	Lake Worth Inlet/Palm Beach Harbor would continue to provide an economic stimulus to the region.
Cultural Resources	No historic properties affected	No historic properties affected.	No historic properties affected	No historic properties affected
Navigation	Stabilization of the inlet due to the north and south jetties allowed increased vessel traffic and additional recreational opportunities (boating).	Temporary impacts to vessel traffic due to dredging activities.	Temporary impacts to vessel traffic due to additional transit time to Mid-town.	Temporary impacts to vessel traffic due to dredging activities.

4.15 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

4.15.1 Irreversible

An irreversible commitment of resources is one in which the ability to use and/or enjoy the resource is lost forever. Other than the use of fuel, equipment and supplies, there would be no irreversible commitment of resources.

4.15.2 Irretrievable

An irretrievable commitment of resources is one in which, due to decisions to manage the resource for another purpose, opportunities to use or enjoy the resource as they presently exist are lost for a period of time. Benthic organisms within the project area would be temporarily lost due to construction but are expected to recover. Dredging would temporarily disrupt navigation and recreational activities.

4.16 UNAVOIDABLE ADVERSE ENVIRONMENTAL EFFECTS

There would be an unavoidable temporary increase in turbidity levels limited to the waters adjacent to the various construction activities. As previously stated, benthic organisms within the project area would be temporarily lost due to construction but are expected to recover.

4.17 LOCAL SHORT-TERM USES AND MAINTENANCE/ENHANCEMENT OF LONG-TERM PRODUCTIVITY

The proposed maintenance work is typically of short duration. Adversely affected benthos would be expected to recover in less than a year, possibly longer. However, some benthic species may not achieve full recovery since dredging and sand placement occurs on a biennial basis. Most fish species and other motile organisms like crabs should be able to avoid the dredging equipment. Since the project area is limited in size, the long-term productivity of fish and other motile species should not be significantly affected. Placement of dredged material within the beach and nearshore disposal sites is also typically of short duration but could temporarily adversely impact wildlife. Wildlife would re-colonize the area and habituate the site between dredging events.

4.18 INDIRECT EFFECTS

Maintaining the authorized depth of the project channel would benefit the shipping industry and local and statewide economies. This may contribute to increased development in adjacent areas.

4.19 COMPATIBILITY WITH FEDERAL, STATE, AND LOCAL OBJECTIVES

This project has support and is compatible with federal, state, and most local objectives.

4.20 CONFLICTS AND CONTROVERSY

There are no known areas of conflicts and controversy over the proposed disposal locations at this time.

4.21 UNCERTAIN, UNIQUE, OR UNKNOWN RISKS

There are no uncertain, unique or unknown risks associated with the proposed alternative.

4.22 PRECEDENT AND PRINCIPLE FOR FUTURE ACTIONS

As this project involves maintenance dredging, there would be no precedent and or principle for future actions established.

4.23 ENVIRONMENTAL COMMITMENTS

The U.S. Army Corps of Engineers and contractors commit to avoiding, minimizing or mitigating for adverse effects during construction activities by including the following commitments in the contract specifications:

1. Standard protective measures for manatees shall be required.
2. The District's migratory bird protection policy shall be implemented.
3. The work shall be performed in compliance with State water quality standards.
4. Air emissions such as vehicular exhaust and dust shall be controlled.
5. The contracting officer would notify the contractor in writing of any observed noncompliance with Federal, State, or local laws or regulations, permits and other elements of the contractor's Environmental Protection Plan. The contractor would, after receipt of such notice, inform the contracting officer of proposed corrective action and take such action as may be approved. If the contractor fails to comply promptly, the contracting officer would issue an order stopping all or part of the work until satisfactory corrective action has been taken. No time extensions would be granted or costs or damages allowed to the contractor for any such suspension.
6. The contractor would train his personnel in all phases of environmental protection. The training would include methods of detecting and avoiding pollution, familiarization with pollution standards, both statutory and contractual, and installation and care of facilities to insure adequate and continuous environmental pollution control. Quality control and supervisory personnel would be thoroughly trained in the proper use of monitoring devices and abatement equipment, and would be thoroughly knowledgeable of Federal, State, and local laws, regulations, and permits as listed in the Environmental Protection Plan submitted by the contractor.
7. The environmental resources within the project boundaries and those affected outside the limits of permanent work under this contract would be protected during the entire period of this contract. The contractor would confine his activities to areas defined by the drawings and specifications.
8. As stated in the standard contract specifications, the disposal of hazardous or solid wastes would be in compliance with Federal, State, and local laws. A spill prevention plan would also be required.

4.24 COMPLIANCE WITH ENVIRONMENTAL REQUIREMENTS

4.24.1 National Environmental Policy Act of 1969

Environmental information on the project has been compiled and this Draft Environmental Assessment (EA) has been prepared. The EA and proposed FONSI will be circulated for review by public notice. All correspondence is included as Appendix A. The project is in compliance with the National Environmental Policy Act.

4.24.2 Endangered Species Act of 1973

Consultation will be initiated with the NMFS and USFWS upon the circulation of the EA and proposed FONSI. This project will be coordinated under the Endangered Species Act and is therefore, in full compliance with the Act. Species under the jurisdiction of NMFS are covered under the South Atlantic Regional Biological Opinion (1998).

4.24.3 Fish and Wildlife Coordination Act of 1958

This project will be coordinated with the FWS. A Coordination Act Report is not required for the proposed work. This project is in full compliance with the Act.

4.24.4 National Historic Preservation Act of 1966 (Inter Alia)

The Corps has determined no historic properties affected by the proposed action. Consultation with the Florida State Historic Preservation Officer (SHPO) was initiated April, 2015, and is ongoing in accordance with the National Historic Preservation Act of 1966, as amended, and as part of the requirements and consultation processes contained within the NHPA implementing regulations of 36 CFR 800. This project is also in compliance, through ongoing consultation with the SHPO and appropriate Federally recognized tribes, with the Archeological Resources Protection Act (96-95), the Abandoned Shipwreck Act of 1987 (PL 100-298; 43 U.S.C. 2101-2106) American Indian Religious Freedom Act (PL 95-341), Executive Orders (E.O) 11593, 13007, and 13175 and the Presidential Memo of 1994 on Government to Government Relations. A copy of the letter(s) will be placed in Appendix A.

4.24.5 Clean Water Act of 1972

The project shall be in compliance with this Act. A Section 401(b) evaluation is included as Appendix B of this document. The FDEP WQC associated with this project is 0216012-007-JC. All State water quality standards will be met.

4.24.6 Clean Air Act of 1972

No air quality permits are required for this project. This project will be coordinated with U.S. Environmental Protection Agency (EPA) during the public review period and is in compliance with Section 309 of the Act.

4.24.7 Coastal Zone Management Act of 1972

In accordance with the Coastal Zone Management Act, a Federal Consistency Determination (CD) was prepared under previous NEPA documents for the proposed nearshore placement. The State, through issuance of Permit Number 0216012-007-JC, has concurred with the Federal CD that this activity is consistent with the Florida Coastal Management Program.

4.24.8 Farmland Protection Policy Act of 1981

No prime or unique farmland will be impacted by implementation of this project. This Act is not applicable.

4.24.9 Wild and Scenic River Act of 1968

No designated Wild and Scenic river reaches will be affected by project related activities. This Act is not applicable.

4.24.10 Marine Mammal Protection Act of 1972

Protective measures for marine mammals such as manatees and dolphins shall be implemented. This project will be coordinated with the USFWS and NMFS. The work is in full compliance with the Act.

4.24.11 Estuary Protection Act of 1968

The proposed project will be in full compliance with this act.

4.24.12 Federal Water Project Recreation Act

Although the Lake Worth Inlet/Palm Beach Harbor entrance provides recreational benefits, the principles of the Federal Water Project Recreation Act, (Public Law 89-72) as amended, are not applicable to this project which is Operations and Maintenance of existing Federal navigation channels.

4.24.13 Submerged Lands Act of 1953

The project will occur on submerged lands of the State of Florida. The project has been coordinated with the State and is in compliance with the Act.

4.24.14 Coastal Barrier Resources Act and Coastal Barrier Improvement Act of 1990

There are no designated coastal barrier resources in the project area that will be affected by this project. These Acts are not applicable.

4.24.15 Rivers and Harbors Act of 1899

The proposed work will not obstruct navigable waters of the United States. The project will be in full compliance.

4.24.16 Anadromous Fish Conservation Act

Anadromous fish species will not be affected. The project will be coordinated with NMFS and is in compliance with the act.

4.24.17 Migratory Bird Treaty Act and Migratory Bird Conservation Act

No migratory birds will be affected by project activities. The Corps' standard MBPP will be used to minimize potential impacts to migratory birds. The project is in compliance with these Acts.

4.24.18 Marine Protection, Research and Sanctuaries Act

The term "dumping" as defined in the Act (33 U.S.C. 1402)(f) does not apply to the disposal of material for beach nourishment or to the placement of material for a purpose other than

disposal (i.e. placement of rock material as an artificial reef or the construction of artificial reefs as mitigation). 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.

4.24.19 Magnuson-Stevens Fishery Conservation and Management Act

The Corps has determined that the project will not have a significant adverse impact on EFH or federally managed fish species occurring along the east-central coast of Florida. Coordination with NMFS will occur to ensure compliance with this Act.

4.24.20 Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970

The purpose of PL 91-646 is to ensure that owners of real property to be acquired for Federal and Federally assisted projects are treated fairly and consistently and that persons displaced as a direct result of such acquisition will not suffer disproportionate injuries as a result of projects designed for the benefit of the public as a whole. The proposed project does not involve real property acquisition or displacement of property owners or tenants. This Act is not applicable.

4.24.21 Executive Order 11990, Protection of Wetlands

No wetlands will be affected by project activities. The proposed project is in compliance with the goals of this Executive Order (E.O.).

4.24.22 E.O. 11988, Flood Plain Management

The proposed project will have no adverse impacts to flood plain management and is in compliance with the goals of this E.O.

4.24.23 E.O. 12898, Environmental Justice

The proposed action will not result in adverse human health or substantial environmental effects. The work will not impact "subsistence consumption of fish and wildlife." The proposed project is in compliance with the goals of this E.O.

4.24.24 E.O. 13045, Protection of Children

Executive Order 13045, requires each Federal agency to "identify and assess environmental risks and safety risks [that] may disproportionately affect children" and ensure that its "policies, programs, activities, and standards address disproportionate risks to children that result from environmental health risks or safety risks." This project has no environmental or safety risks that may disproportionately affect children and is in compliance.

4.24.25 E.O. 13089, Coral Reef Protection

This project will not impact those species, habitats, and other natural resources associated with coral reefs. The proposed project is in compliance with the goals of this E.O.

4.24.26 E.O. 13112, Invasive Species

This project will not introduce any invasive species.

4.24.27 E.O. 13186, Migratory Birds

The proposed project will not cause the destruction of migratory birds and their eggs or hatchlings. The proposed project is in compliance with the goals of this E.O.

5 LIST OF PREPARERS

5.1 PREPARERS

Table 10. List of Preparers

Preparer	Discipline	Role
Pat Griffin	Biologist	Principal Author, ESA Coordination
Wendy Weaver	Archeologist	Cultural & Historic Resources
Paul Karch	Environmental Engineer	Water Quality
Matt Miller	Environmental Engineer	HTRW

5.2 REVIEWERS

This EA was reviewed by the supervisory chain of the Environmental Branch and Planning Division, as well as the Operations Division, Project Management, and the Office of Counsel of the U.S. Army Corps of Engineers, Jacksonville District.

6 PUBLIC INVOLVEMENT

6.1 SCOPING AND DRAFT EA

A Public Notice will be issued for this action and disseminated to the public, to provide a 30 day public and agency comment period. The EA and proposed Finding of No Significant Impact (FONSI) will be made available to the public. Comments on the EA and Proposed FONSI will be incorporated into the final document.

6.2 AGENCY COORDINATION

Coordination will be conducted with the appropriate agencies and is described in this report. Agency coordination letters are located in Appendix A.

6.3 LIST OF RECIPIENTS

Copies of the EA and proposed FONSI will be made available to appropriate stakeholders and agencies as well as placed on the internet at the following address under Palm Beach County: <http://www.saj.usace.army.mil/About/DivisionsOffices/Planning/EnvironmentalBranch/EnvironmentalDocuments.aspx> . The draft EA and FONSI will also be posted on the above website. A list of stakeholders receiving notification of this document is included within Appendix A.

6.4 COMMENTS RECEIVED AND RESPONSE

A table summarizing comments received on the EA during the public review period and responses given will be included in the Final EA.

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Appendix A – Section 404(b) Evaluation

I. PROJECT DESCRIPTION

a. Location. Palm Beach Harbor is on the Atlantic Coast of Florida, approximately 53 miles south of Ft. Pierce Harbor, and 71 miles north of Miami Harbor as described in Section 1.2 of the associated project Environmental Assessment (EA).

b. General Description. The U.S. Army Corps of Engineers, Jacksonville District (Corps), is proposing to extend the existing beach template by approximately 1350 feet to the south from R79-80.5. The Corps is also including the beach template at Mid-town by reference as it is already permitted for beach placement.

c. Authority and Purpose. See section 1.1 of the associated project EA.

d. General Description of Dredged Material

(1) General Characteristics of Material: The maintenance material is comprised of mainly sand with some silt. Turning basin material is comprised of sand/silt mix. Expanded settling basin material is comprised of sand with small amounts of silt and shell.

(2) Quantity of Material: It is estimated that up to 775,000 cubic yards of material will be removed and placed in the disposal site.

(3) Source of Material: Material from dredging the expanded settling basin and maintenance of channel and turning basin.

e. Description of the Proposed Discharge Site(s)

(1) Location. Dredged material would be placed along the beach south of the inlet, nearshore, the Mid-town beach template, or on Peanut Island, the dredged material management area (DMMA), as described in the 1998 Operations and Maintenance, Maintenance Dredging Palm Beach Harbor EA.

(2) Size. Beach template is R76-R80.5, nearshore R76-R79 out to -17 feet. Midtown beach template is R94.5 –R101.4.

(3) Type of Site. Beach placement, nearshore or confined upland DMMA.

(4) Type(s) of Habitat. Beach placement would be sandy slopes with a vegetated berm. DMMA area is a confined area of unconsolidated sediments from previous dredging projects.

(5) Timing and Duration of Discharge. The exact timing of dredging operations is not known, although dredging activities are expected to occur in the winter months.

f. Description of Disposal Method. Disposal could be either from a pipeline via hydraulic dredging, hopper or clamshell dredge and transport barge.

II. Factual Determinations

a. Physical Substrate Determinations

(1) Substrate Elevation and Slope: The beach material would be constructed with a berm elevation of +0.5 feet mean low water and a width of 205 feet from the ECL. The construction slope of the beach material would be 1 vertical on 15 horizontal.

(2) Sediment Type. The material to be disposed on the beach will be quartz and/or carbonate sand from an upland sand source that meets the requirements of the sand specification. Upland or nearshore placement would be silty sand in nature.

(3) Dredged Material Movement: Material will settle and remain within boundaries of upland site or be moved to downdrift beaches by wave action if placed in nearshore or beach placement.

(4) Physical Effects on Benthos: Some benthic organisms that are not mobile may be covered by the beach material. Recolonization soon after project completion is expected to replace those organisms that do not survive project construction. It is anticipated that no long-term adverse impacts will occur.

(5) Other Effects: Not applicable.

(6) Actions Taken to Minimize Impacts: BMPs and other benthic protection measures have been coordinated with the resource agencies to minimize impacts

b. Water Circulation. Fluctuation and Salinity Determinations

(1) Water column: During beach or nearshore disposal operations, turbidity will increase temporarily in the water column adjacent to the project. The increased turbidity will be short-term; therefore beach placement or nearshore placement will have no long-term or significant impacts, if any, on salinity, water chemistry, clarity, color, odor, taste, dissolved gas levels, nutrients or eutrophication

(2) Current Patterns and Circulation: Net movement of water is from the north to the south. The project will have no significant effect on existing current patterns, current flow, velocity, stratification, or the hydrologic regime in the area.

(3) Normal Water Level Fluctuations: Mean tidal range in the project area is 3.5 feet with a spring tide range of approximately 4.1 feet.

(4) Salinity Gradients: Salinity is that of oceanic water. Dredged material placement will not affect normal tide fluctuations or salinity.

(5) Actions That Will Be Taken to Minimize Impacts: BMPs and other benthic protection measures have been coordinated with the resource agencies to minimize impacts.

c. Suspended Particulate/Turbidity Determinations

(1) Expected Changes in Suspended Particulates and Turbidity Levels in Vicinity of Disposal Site: There may be a temporary increase in turbidity levels in the project area along the disposal site during discharge. Turbidity will be short-term and localized and no significant adverse impacts are expected. State water quality standards for turbidity outside an allowable mixing zone would not be exceeded.

(2) Effects (degree and duration) on Chemical and Physical Properties of the Water Column: The sea floor, at this location, is characterized by a sandy beach and inshore seabed. There would be little, if any adverse effects to chemical and physical properties of the water as a result of placing clean beach compatible sand on the beach.

(a) Light Penetration: Some decrease in light penetration may occur in the immediate vicinity of the disposal area. This effect will be temporary, limited to the immediate area of construction, and will have no adverse impact on the environment.

(b) Dissolved Oxygen: Dissolved oxygen levels will not be altered by this project due to the high energy wave environment and associated adequate reaeration rates.

(c) Toxic Metals and Organics: No toxic metals or organics are expected to be released by the project.

(d) Pathogens: No pathogens are expected to be released by the project.

(e) Aesthetics: The aesthetic quality of the water in the immediate area of the project will be reduced during construction due to increased turbidity. This will be a short-term and localized condition. The placement of clean beach compatible sand on an erosive beach will likely improve the aesthetic quality of the immediate area. Material placed in the nearshore would likely provide improved beach width downdrift.

(f) Others as Appropriate: None.

(3) Effects on Biota

(a) Primary Production, Photosynthesis: Primary productivity is not a recognized, significant phenomenon in the surf zone, where a temporarily increased level of suspended particulates will occur. There will be no effect on the nearshore productivity as a result of the proposed disposal area.

(b) Suspension/Filter Feeders: An increase in turbidity could adversely impact burrowing invertebrate filter feeders within and adjacent to the immediate construction area. It is not expected that a short-term, temporary increase in turbidity will have any long-term negative impact on these highly fecund organisms.

(c) Sight Feeders: No significant impacts on these organisms are expected as the majority of sight feeders are highly motile and can move outside the project area.

(4) Actions taken to Minimize Impacts: BMPs and other benthic protection measures have been coordinated with the resource agencies to minimize impacts.

d. Contaminant Determinations: The material that will be disposed will not introduce, relocate, or increase contaminants at the area. The material would be clean sand meeting the sand specification and compatible with the existing beach or sandy material with some silt in the nearshore or upland.

e. Aquatic Ecosystem and Organism Determinations: The material that will be placed on the beach is similar enough to the existing substrate so that no impacts are expected. The materials meet the exclusion criteria, therefore, no additional chemical-biological interactive testing will be required.

(1) Effects on Plankton: No adverse impacts on autotrophic or heterotrophic organisms are anticipated.

(2) Effects on Benthos: The material will bury some benthic organisms. Benthic organisms found in the intertidal areas along the project disposal area are adapted for existence in an area with considerable substrate movement, thus most will be able to burrow up through the disposed material. Recolonization is expected to occur within a year after construction activities cease. No adverse long-term impacts to non-motile or motile benthic invertebrates are anticipated.

(3) Effects on Nekton: No adverse impacts to nektonic species are anticipated.

- (4) Effects on Aquatic Food Web: No adverse long-term impact to any trophic group in the food web is anticipated.
- (5) Effects on Special Aquatic Sites: There are no hardground or coral reef communities located in the immediate nearshore area that would be impacted by disposal activities. Section 4 of the EA offers a more detailed discussion on impacts.
- (6) Threatened and Endangered Species: Appropriate measures to avoid, minimize, and mitigate for impacts to listed species have been fully coordinated with NMFS and FWS.
- (7) Other Wildlife: No adverse impacts to small foraging mammals, reptiles, or wading birds, or wildlife in general are expected.
- (8) Actions to Minimize Impacts: BMPs along with terms and conditions associated with ESA Biological Opinions will be followed.

f. Proposed Disposal Site Determinations

- (1) Mixing Zone Determination: Clean sand, compatible with the existing beach, would be placed on the beach. This will not cause unacceptable changes in the mixing zone water quality requirements as specified by the State of Florida's Water Quality Certification permit procedures. No adverse impacts related to depth, current velocity, direction and variability, degree of turbulence, stratification, or ambient concentrations of constituents are expected from implementation of the project.
- (2) Determination of Compliance with Applicable Water Quality Standards: Because of the inert nature of the material to be to be disposed, Class III water quality standards will not be violated.
- (3) Potential Effects on Human Use Characteristic
 - (a) Municipal and Private Water Supply: No municipal or private water supplies will be impacted by the implementation of the project.
 - (b) Recreational and Commercial Fisheries: Fishing in the immediate construction area will be prohibited during construction. Otherwise, recreational and commercial fisheries will not be impacted by the implementation of the project.
 - (c) Water Related Recreation: Beach/water related recreation in the immediate vicinity of construction will be prohibited during construction activities. This will be a short-term impact.

(d) Aesthetics: The existing environmental setting will not be adversely impacted. Construction activities will cause a temporary increase in noise and air pollution caused by equipment as well as some temporary increase in turbidity. These impacts are not expected to adversely affect the aesthetic resources over the long term and once construction ends, conditions will return to pre-project levels.

(e) Parks, National and Historical Monuments, National Seashores, Wilderness Areas, Research Sites, and Similar Preserves: No such designated sites are located within the project area.

g. Determination of Cumulative Effects on the Aquatic Ecosystem: There will be no cumulative impacts that result in a major impairment in water quality of the existing aquatic ecosystem resulting from the placement of material at the project site.

h. Determination of Secondary Effects on the Aquatic Ecosystem: There will be no secondary impacts on the aquatic ecosystem as a result of the dredging.

III. Findings of Compliance or Non-Compliance with the Restrictions on Discharge

a. Adaptation of the Section 404(b)(1) Guidelines to this Evaluation: No significant adaptations of the guidelines were made relative to this evaluation.

b. Evaluation of Availability of Practicable Alternatives to the Proposed Discharge Site Which Would Have Less Adverse Impact on the Aquatic Ecosystem: No practicable alternative exists which meets the study objectives that does not involve discharge of fill into waters of the United States. Further, no less environmentally damaging practical alternatives to the proposed actions exist. To test the suitability upland sand sources the borrow areas proposed by the contractor will be used for this project. In addition, the impacts of using other sources on cultural resources, protected species, and other environmental factors would likely be equal to or greater than the impacts of the proposed action. The no action alternative would allow the present condition of the channel to need dredging at increased frequency compared to the preferred alternative.

c. Compliance with Applicable State Water Quality Standards: After consideration of disposal site dilution and dispersion, the discharge of dredged materials will not cause or contribute to, violations of any applicable State water quality standards for Class III waters.

d. Compliance with Applicable Toxic Effluent Standard or Prohibition: Under Section 307 of the Clean Water Act: The discharge operation will not violate the Toxic Effluent Standards of Section 307 of the Clean Water Act.

e. Compliance with Endangered Species Act of 1973: The disposal of dredged material will not jeopardize the continued existence of any species listed as threatened or endangered or result in the likelihood of destruction or adverse modification of any critical habitat as specified by the Endangered Species Act of 1973, as amended. Standard conditions for monitoring and relocating turtle nests would be employed.

f. Compliance with Specified Protection Measures for Marine Sanctuaries Designated by the Marine Protection, Research, and Sanctuaries Act of 1972: No marine sanctuaries are located within the project area.

g. Evaluation of Extent of Degradation of the Waters of the United States: The placement of dredged material will not result in significant adverse effects on human health and welfare, including municipal and private water supplies, recreational and commercial fishing, plankton, fish, shellfish, wildlife, and special aquatic sites. The life stages of aquatic species and other wildlife will not be adversely affected. Significant adverse effects on aquatic ecosystem diversity, productivity and stability, and recreational, aesthetic, and economic values will not occur.

h. Appropriate and Practicable Steps Taken to Minimize Potential Adverse Impacts of the Discharge on the Aquatic Ecosystem: Appropriate steps have been taken to minimize the adverse environmental impact of the proposed action. The material proposed as beach has low silt content, therefore, turbidity due to silt will be low when discharging. Turbidity will be monitored so that if levels exceed State water quality standards of 29 NTU's above background, the contractor will be required to cease work until conditions return to normal. In the vicinity of reef and other hard grounds, measures would be taken to minimize sediment deposition on sensitive reef organisms.

i. On the basis of the guidelines, the proposed dredging and disposal sites are specified as complying with the requirements of these guidelines.

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APPENDIX B - COASTAL ZONE MANAGEMENT CONSISTENCY

**FLORIDA COASTAL MANAGEMENT PROGRAM
FEDERAL CONSISTENCY EVALUATION PROCEDURES**

**MAINTENANCE DREDGING
PALM BEACH HARBOR
PALM BEACH COUNTY, FLORIDA**

1. Chapter 161, Beach and Shore Preservation. The intent of the coastal construction permit program established by this chapter is to regulate construction projects located seaward of the line of mean high water and which might have an effect on natural shoreline processes.

Response: The proposed plans and information have been voluntarily submitted to the State in compliance with this chapter.

2. Chapters 163(part II), 186, and 187, County, Municipal, State and Regional Planning. These chapters establish the Local Comprehensive Plans, the Strategic Regional Policy Plans, and the State Comprehensive Plan (SCP). The SCP sets goals that articulate a strategic vision of the State's future. Its purpose is to define in a broad sense, goals, and policies that provide decision-makers directions for the future and provide long-range guidance for an orderly social, economic and physical growth.

Response: The proposed project has been coordinated with various Federal, State and local agencies during the planning process. The project meets the primary goal of the State Comprehensive Plan through preservation and protection of the shorefront development and infrastructure.

3. Chapter 252, Disaster Preparation, Response and Mitigation. This chapter creates a State emergency management agency, with the authority to provide for the common defense; to protect the public peace, health and safety; and to preserve the lives and property of the people of Florida.

Response: The proposed project involves the maintenance dredging of Palm Beach Harbor in order to maintain safe navigation conditions. Therefore, this project is consistent with the efforts of Division of Emergency Management.

4. Chapter 253, State Lands. This chapter governs the management of submerged State lands and resources within State lands. This includes archeological and historical resources; water resources; fish and wildlife resources; beaches and dunes; submerged grass beds and other benthic communities; swamps, marshes and other wetlands; mineral resources; unique natural features; submerged lands; spoil islands; and artificial reefs.

Response: The proposed project complies with State regulations pertaining to the above resources. The work complies with the intent of this chapter.

5. Chapters 253, 259, 260, and 375, Land Acquisition. This chapter authorizes the State to acquire land to protect environmentally sensitive areas.

Response: Since the affected property already is in public ownership or is under an easement for public placement use, this chapter does not apply.

6. Chapter 258, State Parks and Aquatic Preserves. This chapter authorizes the State to manage State parks and preserves. Consistency with this statute would include consideration of projects that would directly or indirectly adversely impact park property, natural resources, park programs, management or operations.

Response: The proposed project has been coordinated with the State of Florida regarding project activities within and adjacent to ASP. The project is consistent with this chapter.

7. Chapter 267, Historic Preservation. This chapter establishes the procedures for implementing the Florida Historic Resources Act responsibilities.

Response: This project has been coordinated with the State Historic Preservation Officer (SHPO). Because of the nature of the project there is little potential for impact to historic properties. The project is consistent with this chapter.

8. Chapter 288, Economic Development and Tourism. This chapter directs the State to provide guidance and promotion of beneficial development through encouraging economic diversification and promoting tourism.

Response: The proposed maintenance dredging encourages commercial and recreational use that in turn provides economic benefits to the area. This would be compatible with tourism for this area and therefore, is consistent with the goals of this chapter.

9. Chapters 334 and 339, Transportation. This chapter authorizes the planning and development of a safe balanced and efficient transportation system.

Response: The maintenance dredging of the harbor promotes commercial and recreational navigation within the area and therefore is consistent with the goals of this chapter.

10. Chapter 370, Saltwater Living Resources. This chapter directs the State to preserve, manage and protect the marine, crustacean, shell and anadromous fishery resources in State waters; to protect and enhance the marine and estuarine environment; to regulate fishermen and vessels of the State engaged in the taking of such resources within or without State waters; to issue licenses for the taking and processing products of fisheries; to secure and maintain statistical records of the catch of each such species; and, to conduct scientific, economic, and other studies and research.

Response: The proposed maintenance dredging would not have a substantial adverse impact on saltwater living resources. Benthic organisms may be adversely affected by the work, and full recovery may be delayed within the channels or at the placement areas due to the fact that dredging and sand placement is required every 2 years. However, the project footprint is relatively small and lies adjacent to similar habitat. Therefore, substantial impacts to the aquatic

ecosystem are not anticipated. Based on the overall impacts of the project, the project is consistent with the goals of this chapter.

11. Chapter 372, Living Land and Freshwater Resources. This chapter establishes the Fish and Wildlife Conservation Commission and directs it to manage freshwater aquatic life and wild animal life and their habitat to perpetuate a diversity of species with densities and distributions which provide sustained ecological, recreational, scientific, educational, aesthetic, and economic benefits.

Response: The project would not have a substantial adverse impact on living land and freshwater resources. Use of the placement areas could temporarily adversely impact wildlife, but these areas should be re-colonized between uses.

12. Chapter 373, Water Resources. This chapter provides the authority to regulate the withdrawal, diversion, storage, and consumption of water.

Response: This project does not involve water resources as described by this chapter.

13. Chapter 376, Pollutant Spill Prevention and Control. This chapter regulates the transfer, storage, and transportation of pollutants and the cleanup of pollutant discharges.

Response: The contract specifications will prohibit the contractor from dumping oil, fuel, or hazardous wastes in the work area and will require that the contractor adopt safe and sanitary measures for the disposal of solid wastes. A spill prevention plan will be required.

14. Chapter 377, Oil and Gas Exploration and Production. This chapter authorizes the regulation of all phases of exploration, drilling, and production of oil, gas, and other petroleum products.

Response: This project does not involve the exploration, drilling or production of gas, oil or petroleum product and therefore, this chapter does not apply.

15. Chapter 380, Environmental Land and Water Management. This chapter establishes criteria and procedures to assure that local land development decisions consider the regional impact nature of proposed large-scale development. This chapter also deals with the Area of Critical State Concern program and the Coastal Infrastructure Policy.

Response: The proposed maintenance dredging project has been coordinated with the local regional planning commission. Therefore, the project is consistent with the goals of this chapter.

16. Chapters 381 (selected subsections on on-site sewage treatment and disposal systems) and 388 (Mosquito/Arthropod Control). Chapter 388 provides for a comprehensive approach for abatement or suppression of mosquitoes and other pest arthropods within the State.

Response: The project shall not further the propagation of mosquitoes or other pest arthropods.

17. Chapter 403, Environmental Control. This chapter authorizes the regulation of pollution of the air and waters of the State by the Florida Department of Environmental Regulation (now a part of the Florida Department of Environmental Protection).

Response: An Environmental Assessment addressing project impacts has been prepared and has been reviewed by the appropriate resource agencies including the Florida Department of Environmental Protection. Environmental protection measures will be implemented to ensure that no lasting adverse effects on water quality, air quality, or other environmental resources will occur. The project complies with the intent of this chapter.

18. Chapter 582, Soil and Water Conservation. This chapter establishes policy for the conservation of the State soil and water through the Department of Agriculture. Land use policies will be evaluated in terms of their tendency to cause or contribute to soil erosion or to conserve, develop, and utilize soil and water resources both onsite or in adjoining properties affected by the project. Particular attention will be given to projects on or near agricultural lands.

Response: Agricultural lands do not occur in the vicinity of the project; therefore this chapter does not apply.

APPENDIX C – PERTINANT COORESPONDANCE



DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
701 San Marco Boulevard
JACKSONVILLE, FLORIDA 32207-8175

REPLY TO
ATTENTION OF

MAY 18 2006

Planning and Policy Division
Environmental Branch

Mr. Jeffrey Howe
U. S. Fish & Wildlife Service
South Florida Ecological Services Office
1339 20th Street
Vero Beach, FL 32960-3559

Dear Mr. Howe:

This letter initiates the 30-day coordination with your office under the Statewide Programmatic Biological Opinion (SPBO) for beach placement and shore protection in Florida. The U.S. Army Corps of Engineers (Corps) proposes to continue Operations and Maintenance activities for the existing Federal project at Palm Beach harbor. Dredged material would be placed along the beach from R-76 to R-80.5 which adds an additional 1350 feet (R79-R80.5) to the existing beach template, as well as adding the existing permitted beach template at Mid-town (R94.5-101.4). Previous consultations for this project include the 2010 USFWS BO #41420-2006-F-0011 for Mid-town, and the USFWS SPBO acceptance letter #41420-2008-FA-0524 associated with the 2012 O&M Dredging Palm Beach Harbor Environmental Assessment (EA).

Endangered Species Act

The beach placement area currently provides suitable nesting habitat for loggerhead, leatherback and green turtles. In addition, there is loggerhead nesting critical habitat LOGG-T-FL-12, however the project will not be constructed within nesting season, therefore the Corps has determined that the project will not adversely modify loggerhead critical habitat.

As the project footprint is within privately owned beachfront and not state owned lands, the area is identified as non-optimal habitat for piping plover and red knot. The Corps has determined that the project may affect, not likely to adversely affect, the piping plover, red knot and nesting sea turtles. The proposed action does not occur in beach mouse habitat and will not affect beach mice.

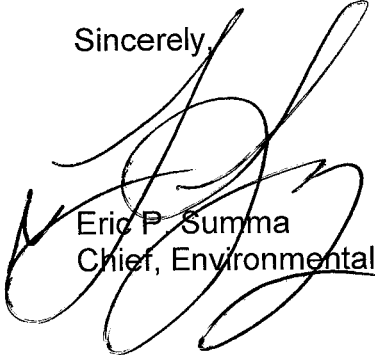
The Corps agrees to adhere to the Terms and Conditions in the Statewide Programmatic Biological Opinion (SPBO) for nesting sea turtles and the Florida manatee. In addition, the project will adhere to the Terms and Conditions in the Piping Plover Programmatic Biological Opinion (P³BO) for piping plovers and red knot. A summary of the affected species is provided below.

Species	Scientific Name	ESA Listing Status	Corps Determination	Status of Consultation
Florida manatee	<i>Trichechus manatus latirostris</i>	Endangered	May affect, not likely to adversely affect	SPBO
Leatherback turtle	<i>Dermochelys coriacea</i>	Endangered	May affect, not likely to adversely affect	SPBO
Loggerhead turtle	<i>Caretta caretta</i>	Threatened	May affect, likely to adversely affect	SPBO
Green turtle	<i>Chelonia mydas</i>	Endangered	May affect, likely to adversely affect	SPBO
Piping plover	<i>Charadrius melodus</i>	Threatened	May affect, likely to adversely affect	P ³ BO
Red knot	<i>Calidris canutus rufa</i>	Threatened	May affect, likely to adversely affect	P ³ BO

If you determine that the proposed activity as described herein falls within the scope of the SPBO and P³BO, please consider this letter as the initiation of the 30-day coordination required by these opinions. If you determine that the proposed activity as described herein does not fall within the scope of the SPBO, please consider this letter a biological assessment initiating consultation.

If you have any questions, please contact Pat Griffin who can be reached at 904 232-2286.

Sincerely,



Eric P. Summa
Chief, Environmental Branch



DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
701 San Marco Boulevard
JACKSONVILLE, FLORIDA 32207-8175

REPLY TO
ATTENTION OF

MAY 18 2015

Planning and Policy Division
Environmental Branch

Mr. Pace Wilbur
National Marine Fisheries Service
Southeast Regional Office
Habitat Conservation Division
219 Fort Johnson Road
Charleston, SC 29412-9110

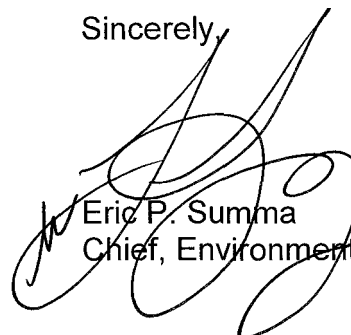
Dear Mr. Wilbur:

Pursuant to the National Environmental Policy Act (NEPA), enclosed for your review and comment is a copy of the draft Environmental Assessment (EA) for extension of the beach template for the Palm Beach Harbor Operations and Maintenance project. The proposed extension to the existing beach template (R-76-79) would add approximately 1350 feet to the southern end (R79- 80.5). Also, the project would add the previously consulted and permitted beach template at Mid-town (R95-101.4) which is included by reference.

Included throughout the EA is information which constitutes the Essential Fish Habitat (EFH) Assessment as required by the 1996 amendments to the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA). Specifically, Sections 3.6 and 4.4 of the enclosed NEPA document constitutes our Essential Fish Habitat Assessment in accordance with procedures and agreements between our agencies. Based on analysis discussed in the EA, the U.S. Army Corps of Engineers has determined that the extension of beach template would not adversely affect the essential habitat of species managed under this Act.

We request your comments pursuant to NEPA and the MSFCMA by 30 days after receiving this letter. If you have any questions or need further information, please contact Pat Griffin at 904-232-2286.

Sincerely,



Eric P. Summa
Chief, Environmental Branch

Copy Furnished:

Ms. Jocelyn Karaszia; National Marine Fisheries Service – Habitat Conservation
Division, 400 North Congressional Ave. West Palm Beach, Florida 33401 (by Fedex)