

JANUARY 2016

ENVIRONMENTAL ASSESSMENT

PLACEMENT OF INTRACOASTAL WATERWAY AND OKEECHOBEE WATERWAY DREDGED MATERIAL IN THE ST. LUCIE INLET SEDIMENT IMPOUNDMENT BASIN

MARTIN COUNTY, FLORIDA



**U.S. Army Corps
of Engineers
JACKSONVILLE
DISTRICT**



REPLY TO
ATTENTION OF

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

FINDING OF NO SIGNIFICANT IMPACT
PLACEMENT OF INTRACOASTAL WATERWAY AND OKEECHOBEE WATERWAY
DREDGED MATERIAL IN THE ST. LUCIE INLET SEDIMENT IMPOUNDMENT BASIN
MARTIN COUNTY, FLORIDA

This Finding references three previous Environmental Assessments (EA) and the current Supplemental Environmental Assessment SEA conducted for the proposed dredging of the federally authorized Intracoastal Waterway (IWW) and Okeechobee Waterway (OWW) projects in Martin County, FL. The initial EA was completed in 1996 by the Planning Division (PD) under the Civil Works Project authority and evaluated the dredging and placement of dredged sand from the IWW-OWW to MSA-M5 (Dredged Material Management Area), St. Lucie Inlet State Park and Hobe Sound National Wildlife Refuge beaches, and St. Lucie Inlet State Park and Hobe Sound National Wildlife Refuge nearshore areas. A subsequent EA developed by the Planning Division was completed in 2000 to raise the north jetty and raise and lengthen the south jetty at St. Lucie Inlet and construct a 1750 x 450 foot sediment impoundment basin to a depth of -16 feet MLW plus 2 feet overdepth. A third EA was completed in 2011 by PD and evaluated maintenance dredging of St. Lucie Inlet and the IWW and the use of Peck's Lake Staging Area which is south of the inlet in Martin County. This Supplemental Environmental Assessment (SEA) evaluates the periodic maintenance dredging at the intersection of the IWW and OWW with placement of dredged material into the St. Lucie Impoundment Basin. Based on information analyzed in the three previous EAs and this SEA, reflecting pertinent information obtained from agencies having jurisdiction by law and/or special expertise, I conclude that the proposed action will not significantly impact the quality of the human environment and does not require an Environmental Impact Statement. Reasons for this conclusion are in summary:

- a. The proposed action would be conducted in accordance with the Endangered Species Act, and specifically in compliance with the Currituck Specific Biological Opinion issued by the National Marine Fisheries Service and standard manatee construction conditions for in water work per US Fish and Wildlife Service concurrence letter dated 8 Feb 2016. The work would not jeopardize the continued existence of any threatened or endangered species or impact any designated "critical habitat."
- b. This project has been coordinated with the State of Florida, and all applicable water quality standards will be met.

c. The State of Florida has concurred with the Corps consistency determination that the proposed work is consistent with the enforceable policies of the Florida Coastal Management Program.

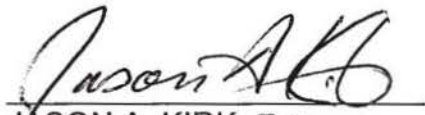
d. Consultation for the proposed work has been initiated under Section 106 of the National Historic Preservation Act with the Florida State Historic Preservation Officer and appropriate federally recognized tribes. The Corps has determined no historic properties would be affected by the proposed project. Consultation will be completed prior to project implementation.

e. Public benefits (navigation, recreation) will be provided with unobstructed channel navigation.

f. Measures will be in place during construction to eliminate, reduce, or avoid adverse impacts below the threshold of significance to fish and wildlife resources.

In consideration of the information summarized, I find that the proposed Federal navigation project, IWW-OWW Crossroads, Martin County, FL, will not significantly affect the human environment and does not require an Environmental Impact Statement. A copy of these documents will be made available to the public at the following website:

<http://www.saj.usace.army.mil/About/DivisionsOffices/Planning/EnvironmentalBranch/EnvironmentalDocuments.aspx>.



JASON A. KIRK, P.E.
Colonel, Corps of Engineers
Commanding

29 FEB 2016
Date

**DRAFT ENVIRONMENTAL ASSESSMENT
 PLACEMENT OF INTRACOASTAL WATERWAY AND OKEECHOBEE WATERWAY
 DREDGED MATERIAL IN THE ST. LUCIE INLET SEDIMENT IMPOUNDMENT
 BASIN MARTIN COUNTY, FLORIDA**

TABLE OF CONTENTS

1. PROJECT PURPOSE AND NEED 7

1.1 PROJECT DESCRIPTION. 7

1.2 PROJECT NEED OR OPPORTUNITY. 7

1.3 PROJECT AUTHORITY. 8

 1.3.1 AUTHORIZATION 8

1.4 RELATED ENVIRONMENTAL DOCUMENTS. 8

1.5 DECISIONS TO BE MADE. 9

1.6 SCOPING AND ISSUES. 9

 1.6.1 RELEVANT ISSUES. 9

 1.6.2 ISSUES ELIMINATED FROM FURTHER ANALYSIS. 9

1.7 ENVIRONMENTAL COORDINATION 10

 1.7.1 WATER QUALITY CERTIFICATION 10

 1.7.2 ENDANGERED SPECIES ACT- SECTION 7 CONSULTATION 10

 1.7.3 ESSENTIAL FISH HABITAT (EFH) CONSULTATION 11

 1.7.4 11

2. ALTERNATIVES 12

2.1 DESCRIPTION OF ALTERNATIVES. 12

 2.1.1 NO-ACTION ALTERNATIVE 12

2.2 PREFERRED ALTERNATIVE 12

2.3 ALTERNATIVES ELIMINATED FROM FURTHER EVALUATION 12

 2.3.1 SIDE-CASTING/OPEN WATER DISPOSAL 12

2.4 COMPARISON OF ALTERNATIVES 12

3. AFFECTED ENVIRONMENT 13

3.1 GENERAL ENVIRONMENTAL SETTING 14

 3.1.1 ST. LUCIE SEDIMENT IMPOUNDMENT BASIN 14

3.2 GEOLOGY 14

 3.2.1 ST. LUCIE SEDIMENT IMPOUNDMENT BASIN 14

3.3 THREATENED AND ENDANGERED SPECIES 14

 3.3.1 14

 3.3.2 14

 3.3.3 14

3.3.4	14
3.4	WATER QUALITY	14
3.4.1	SEDIMENT ANALYSIS	14
3.5	ESSENTIAL FISH HABITAT	15
3.6	BENTHIC RESOURCES	15
3.7	AIR QUALITY	15
3.8	NATIVE AMERICANS	15
3.9	CULTURAL RESOURCES	15
3.10	RECREATIONAL RESOURCES	15
4.	ENVIRONMENTAL EFFECTS	16
4.1	THREATENED AND ENDANGERED SPECIES	16
4.1.1	NO-ACTION ALTERNATIVE	16
4.1.2	ST. LUCIE SEDIMENT IMPOUNDMENT BASIN.....	16
4.1.2.1	Sea Turtles, STSF, and West Indian Manatees.....	16
4.1.2.2	Piping Plover.....	17
4.2	WATER QUALITY	17
4.2.1	NO-ACTION ALTERNATIVE	17
4.2.2	ST. LUCIE SEDIMENT IMPOUNDMENT BASIN.....	17
4.3	ESSENTIAL FISH HABITAT	17
4.3.1	NO-ACTION ALTERNATIVE	17
4.3.2	ST. LUCIE SEDIMENT IMPOUNDMENT BASIN.....	17
4.4	FISH AND WILDLIFE RESOURCES	18
4.4.1	NO-ACTION ALTERNATIVE	18
4.4.2	ST. LUCIE SEDIMENT IMPOUNDMENT BASIN.....	18
4.5	BENTHIC RESOURCES	18
4.5.1	NO-ACTION ALTERNATIVE	18
4.5.2	ST. LUCIE SEDIMENT IMPOUNDMENT BASIN.....	18
4.6	AIR QUALITY	19
4.6.1	NO-ACTION ALTERNATIVE	19
4.6.2	ST. LUCIE SEDIMENT IMPOUNDMENT BASIN.....	19
4.7	NATIVE AMERICANS	19
4.7.1	NO-ACTION ALTERNATIVE	19
4.7.2	ST. LUCIE SEDIMENT IMPOUNDMENT BASIN.....	19
4.8	CULTURAL RESOURCES	19
4.8.1	NO-ACTION ALTERNATIVE	19
4.8.2	ST. LUCIE SEDIMENT IMPOUNDMENT BASIN.....	19
4.9	RECREATIONAL RESOURCES	20
4.9.1	NO-ACTION ALTERNATIVE	20
4.9.2	ST. LUCIE SEDIMENT IMPOUNDMENT BASIN.....	20
4.10	NAVIGATION	20
4.10.1	NO-ACTION ALTERNATIVE	20

4.10.2	ST. LUCIE SEDIMENT IMPOUNDMENT BASIN.....	20
4.11	CUMULATIVE IMPACTS	20
4.12	IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES	20
4.12.1	IRREVERSIBLE	20
4.12.2	IRREVERSIBLE	20
4.13	UNAVOIDABLE ADVERSE ENVIRONMENTAL EFFECTS.....	21
4.14	LOCAL SHORT-TERM USES AND MAINTENANCE/ENHANCEMENT OF LONG-TERM PRODUCTIVITY	21
4.15	INDIRECT EFFECTS	21
4.16	COMPATIBILITY WITH FEDERAL, STATE, AND LOCAL OBJECTIVES	21
4.17	CONFLICTS AND CONTROVERSY.....	21
4.18	UNCERTAIN, UNIQUE, OR UNKNOWN RISKS.....	21
4.19	PRECEDENT AND PRINCIPLE FOR FUTURE ACTIONS.....	21
4.20	ENVIRONMENTAL COMMITMENTS	21
4.21	COMPLIANCE WITH ENVIRONMENTAL REQUIREMENTS.....	22
4.21.1	NATIONAL ENVIRONMENTAL POLICY ACT OF 1969	22
4.21.2	ENDANGERED SPECIES ACT OF 1973	22
4.21.3	FISH AND WILDLIFE COORDINATION ACT OF 1958	22
4.21.4	NATION HISTORIC PRESERVATION ACT OF 1966 (INTER ALIA)	23
4.21.5	CLEAN WATER ACT OF 1972.....	23
4.21.6	CLEAN AIR ACT OF 1972	23
4.21.7	COASTAL ZONE MANAGEMENT ACT OF 1972.....	23
4.21.8	FARMLAND PROTECTION POLICY ACT OF 1981	23
4.21.9	WILD AND SCENIC RIVER ACT OF 1968.....	23
4.21.10	MARINE MAMMAL PROTECTION ACT OF 1972	23
4.21.11	ESTUARY PROTECTION ACT OF 1968	24
4.21.12	FEDERAL WATER PROJECT RECREATION ACT	24
4.21.13	SUBMERGED LANDS ACT OF 1953	24
4.21.14	COASTAL BARRIER RESOURCES ACT AND COASTAL BARRIER IMPROVEMENT ACT OF 1990	24
4.21.15	RIVERS AND HARBORS ACT OF 1899	24
4.21.16	ANADROMOUS FISH CONSERVATION ACT.....	24
4.21.17	MIGRATORY BIRD TREATY ACT AND MIGRATORY BIRD CONSERVATION ACT.....	24
4.21.18	MARINE PROTECTION, RESEARCH AND SANCTUARIES ACT.....	24
4.21.19	MAGNUSON-STEVENS FISHERY CONSERVATION AND MANAGEMENT ACT	24
4.21.20	E.O. 11990, PROTECTION OF WETLANDS	25
4.21.21	E.O. 11988, FLOODPLAIN MANAGEMENT	25
4.21.22	E.O. 12898, ENVIRONMENTAL JUSTICE	25
4.21.23	E.O. 13089, CORAL REEF PROTECTION	25
4.21.24	E.O. 13112, INVASIVE SPECIES	25
5.	LIST OF PREPARERS	26
5.1	PREPARERS	26
5.2	REVIEWERS.....	26
6.	PUBLIC INVOLVEMENT.....	27

6.1	SCOPING AND DRAFT EA	27
6.2	AGENCY COORDINATION.....	27
6.3	LIST OF RECIPIENTS	27
6.4	COMMENTS RECEIVED AND RESPONSE	27
APPENDIX A - SECTION 404(B) EVALUATION		28
APPENDIX B - COASTAL ZONE MANAGEMENT CONSISTENCY		36
APPENDIX C - PERTINENT CORRESPONDENCE.....		41

LIST OF FIGURES

Figure 1. IWW-OWW St. Lucie Inlet Project Map8

LIST OF TABLES

Table 1. Summary of Environmental Factors Evaluated in NEPA Documents Prepared in 1996, 2000, and 2011.....10

Table 2. Summary of Direct and Indirect Impacts.....12

**DRAFT ENVIRONMENTAL ASSESSMENT
PLACEMENT OF INTRACOASTAL WATERWAY AND OKEECHOBEE WATERWAY
DREDGED MATERIAL IN THE ST. LUCIE INLET SEDIMENT IMPOUNDMENT
BASIN MARTIN COUNTY, FLORIDA**

1. PROJECT PURPOSE AND NEED

1.1 PROJECT DESCRIPTION.

The U.S. Army Corps of Engineers, Jacksonville District (Corps), is proposing to conduct periodic maintenance dredging of the intersection of the Intracoastal Waterway (IWW) and Okeechobee Waterway (OWW) Federal navigation project at St. Lucie Inlet in Martin County, Florida. This Supplemental Environmental Assessment (SEA) will evaluate the periodic maintenance dredging at the intersection of the IWW and OWW with placement of dredged material into the St. Lucie Impoundment Basin. The Corps currently proposes to place approximately 10,000 CY of beach quality dredged material into the St. Lucie Impoundment Basin (Figure 1). OWW Cut 1 is approximately 3,500 feet in length and 80 feet wide with an authorized depth of eight feet and two feet overdepth. Authorized depth of the IWW is ten feet with two feet of overdepth. The centerline of Cut 1 extends into the intersection of the IWW along the eastern boundary of the Cut (OWW Cut 1 Sta. 00+00.00) and terminates at the midpoint of a widener along the western boundary of the Cut (OWW Cut 1 Sta. 35+17.51). The St. Lucie Impoundment Basin is approximately 8,500 feet east of OWW Cut 1 and is 1750 x 450 feet and is authorized to a depth of -16 feet MLW plus 2 feet allowable overdepth.

1.2 PROJECT NEED OR OPPORTUNITY.

The accumulation of sediment, commonly referred to as shoaling, has restricted the width of the project channel and reduced navigable depth. Minimum depths recorded from the project channel are less than 6 feet mean low water (MLW), resulting in navigation restrictions. Removal of the shoal material would maintain the navigable capacity of the project channel.

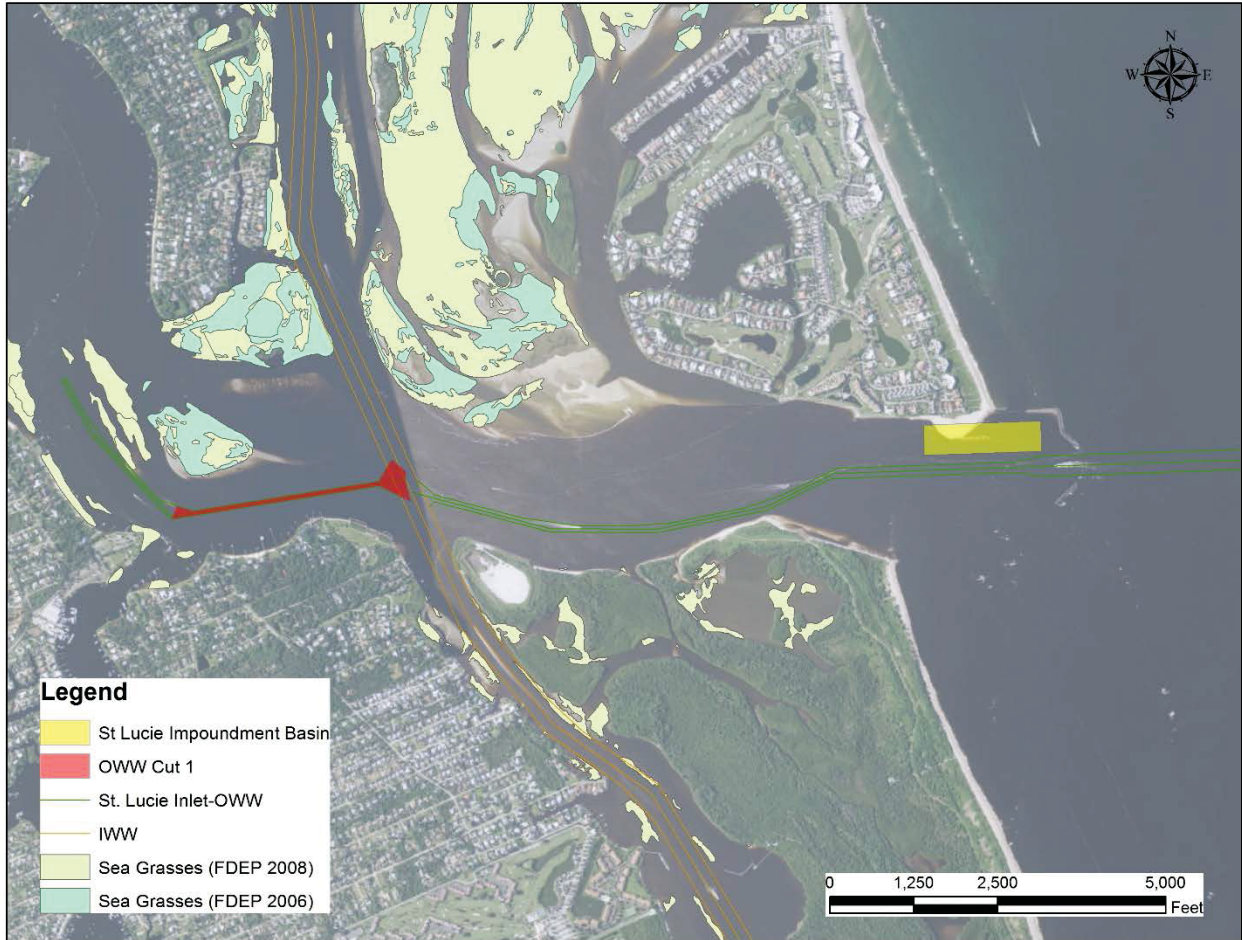


Figure 1. 2016 IWW-OWW Crossroads St. Lucie Inlet Project Map. Note: Sea grass data provided by Florida Department of Environmental Protection was acquired in 2006 and 2008.

1.3 PROJECT AUTHORITY.

1.3.1 Authorization

Maintenance of the IWW was authorized by the Rivers and Harbors Act of 2 March 1945, House Document 740, 79th Congress, 2nd Session, and Chief of Engineers Report 22 July 1960, modifying the 12-foot channel. The OWW was authorized by the Harbor and River Act of 31 May 1974, House Document 294/93/1.

1.4 RELATED ENVIRONMENTAL DOCUMENTS.

Related National Environmental Policy Act (NEPA), design, and planning documents for the IWW-OWW Crossroads Federal navigation project, Martin County, FL includes the following:

- Finding of No Significant Impact and Environmental Assessment on Peck’s Lake Staging Area Operations and Maintenance Activities St. Lucie Inlet, Martin County, FL. Army Corps of Engineers. Jacksonville, FL. 2011.

- Permit Modification No. 0129368-007-JC Martin County. Florida Department of Environmental Protection, Tallahassee, FL. 2002.
- Finding of No Significant Impact St. Lucie Inlet Navigation Improvements and Environmental Assessment St. Lucie Inlet Navigation Study Design Memorandum, Martin County, FL. Army Corps of Engineers. Jacksonville, FL. 2000.
- SAW99-BO-sidecast.pdf National Marine Fisheries Service, St. Petersburg, FL. 1999.
- Finding of No Significant Impact Maintenance Dredging IWW-OWW Interface (Cross Roads) and Environmental Assessment, Martin County, FL. Army Corps of Engineers. Jacksonville, FL. 1996.

1.5 DECISIONS TO BE MADE.

This SEA will evaluate the proposed placement of dredged material in the St. Lucie Impoundment Basin from the periodic maintenance of the IWW and OWW Federal navigation projects, Martin County, FL (hereafter project channel).

1.6 SCOPING AND ISSUES.

1.6.1 Relevant Issues.

The following issues were identified as relevant to the proposed action and are appropriate for further evaluation: cultural resources; air quality; threatened and endangered species including sea turtles, piping plover, West Indian manatee, and smalltooth sawfish (STSF); essential fish habitat; benthic resources; turbidity and water quality; fish and wildlife resources; recreation and tourism; navigation; and cumulative impacts.

1.6.2 Issues Eliminated from Further Analysis.

The proposed action is expected to have little or no impact on soils, housing, or population dynamics. In addition, this SEA supplements the 1996, 2000, and 2011 EA and FONSI documents listed in section 1.4. It provides an evaluation of the effects of placing beach quality dredged material from IWW and OWW into the St. Lucie Impoundment Basin only. The previous NEPA documents evaluated issues of concern related to maintenance dredging, modifications to the St. Lucie Inlet jetties, development of the St. Lucie Inlet Impoundment Basin, material placement options which included beach and nearshore, and use of Peck's Lake for beach placement. These evaluations have been determined to be still valid since the project limits and construction methodology have remained the same. In addition, Permit Modification 0129368-007-JC, approved in November 2002, allowed for dredging of 10,400 CY of material from the intersection of the IWW and OWW and placement in the St. Lucie Inlet Sediment Impoundment Basin, which is similar to the proposed project. The information presented in these evaluations appears to be complete, and relevant Federal laws have not changed in a manner that would require re-evaluation of these resources. Table 1 presents a summary of environmental factors evaluated in the previous NEPA documents.

Table 1. Summary of Environmental Factors Evaluated in NEPA Documents Prepared in 1996, 2000, and 2011.

NEPA DOCUMENT ENVIRONMENTAL FACTOR	1996 EA	2000 EA	2011 EA
ARCHAEOLOGY/ CULTURAL RESOURCES	No impact.	Potentially significant historic properties were not affected by maintenance dredging and disposal activities.	No adverse effect to known historic properties.
AIR QUALITY	Not evaluated.	No long term accumulation of particulates. No significant adverse impacts.	Not evaluated.
THREATENED AND ENDANGERED SPECIES	No impact with implementation of standard protection conditions.	Not evaluated.	May affect, but not likely to adversely affect, with implementation of standard protection measures.
ESSENTIAL FISH HABITAT (EFH)	Not evaluated.	Not evaluated.	No significant adverse impacts to estuarine water column and unconsolidated substrate.
BENTHIC RESOURCES	No impact.	Benthos temporarily impacted. Rapid recovery of populations expected.	No adverse impact as avoidance measures are in place.
TURBIDITY AND WATER QUALITY	Short-term localized increase in turbidity at dredge and disposal sites.	Temporary impacts to the water column. No significant detrimental impact.	No impacts expected at Peck's Lake.
FISH & WILDLIFE RESOURCES	No impact.	Not evaluated.	No additional impact.
RECREATION AND TOURISM	Short-term impact to recreational boat traffic and beach activities in project vicinity.	Not evaluated.	Short-term disruption of recreation within the Peck's Lake area.
NAVIGATION	Short-term impact from presence and operation of dredging equipment. Long term moderate impact from maintaining navigable capacity of the channel.	Not evaluated.	Short term impacts to IWW boat traffic when barges are in transport.
CUMULATIVE IMPACTS	Temporary degradation in water quality at dredging site and some loss of organisms at dredge site. Repopulation of organisms anticipated.	Not evaluated.	No significant cumulative impacts expected.

1.7 ENVIRONMENTAL COORDINATION

1.7.1 Water Quality Certification

This project would be performed in compliance with State of Florida water quality standards. In accordance with the Coastal Zone Management Act, a Federal Consistency Determination (CD) has been prepared for the proposed placement (Appendix B) and will be reviewed by the State for their concurrence that the project is consistent with the enforceable policies of the Florida Coastal Management Program. State consistency review will be performed during the coordination of the Draft EA and the modification review to JCP 0269814-007-JC (Issuance Date: Sept. 14, 2014).

1.7.2 Endangered Species Act- Section 7 Consultation

In accordance with Section 7 of the Endangered Species Act, the project will be coordinated under the Endangered Species Act. The applicable conditions of the South Atlantic Regional Biological Opinion (SARBO) issued by National Marine Fisheries Service (NMFS) and the Statewide Programmatic Biological Opinion (SPBO) issued by the US Fish and Wildlife Service (USFWS) would be followed during construction.

1.7.3 Essential Fish Habitat (EFH) Consultation

EFH consultation will be conducted in accordance with the EFH provisions of the Magnuson-Stevens Fishery Conservation and Management Act. Consultation with the National Marine Fisheries Service Habitat Conservation Division will be conducted concurrently with the public notice.

1.7.4 Section 106 of the National Historic Preservation Act (NHPA) Consultation

Consultation of the proposed action will be in compliance with Section 106 of the National Historic Preservation Act of 1966 (PL 89-665), as amended, and its implementing regulations (36 CFR 800). Consultation with the Florida State Historic Preservation Office (SHPO), appropriate federally recognized tribes, and other interested parties has been initiated and is ongoing. Consultation will be concluded prior to project implementation. The project will be in compliance with the goals of this Act upon completion of the coordination.

2. ALTERNATIVES

The alternatives section is perhaps the most important component of this SEA. It describes the no-action alternative and the proposed action. Additional alternatives were assessed in the previously described EAs which included placement in adjacent beach and nearshore locations. The beneficial and adverse environmental effects of the alternative is 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.

2.1.1 No-Action Alternative

The St. Lucie Sediment Impoundment Basin would not be used for the disposal of suitable dredged material from the maintenance of the project channels. This would allow for continued maintenance dredging with beach, nearshore and upland DMMA placement options. While each of the other placement options are viable, this periodic dredging of a small shoal (approximately 10,000 CY) does not warrant the greater effort, equipment, and expense required for placement in the previously evaluated locations.

2.2 PREFERRED ALTERNATIVE

The preferred alternative is to dispose of suitable dredged material from the maintenance of the project channel in the St. Lucie Sediment Impoundment Basin. This would minimize overall effects of the no-action alternative which would result in the potential loss of navigation and recreation benefits. Placement in the St. Lucie Sediment Impoundment Basin would allow for future beneficial use of the beach quality dredged material for shore protection or other Regional Sediment Management (RSM) opportunities.

2.3 ALTERNATIVES ELIMINATED FROM FURTHER EVALUATION

2.3.1 Side-Casting/Open Water Disposal

This particular method of material disposition was perhaps the most widely used approach prior to the evolution of today's environmental regulatory programs addressing sediment management and shore protection. As a result, the use of side-casting/open water disposal was not considered an acceptable dredged material management strategy for the project channels.

2.4 COMPARISON OF ALTERNATIVES

Table 2 lists alternatives considered and summarizes the major features and consequences of the proposed action and alternatives. See section 4.0 Environmental Effects for a more detailed discussion of impacts of alternatives.

Table 2: Summary of Direct and Indirect Impacts.

ALTERNATIVE	No Action Status Quo	St. Lucie Impoundment Basin Placement
ENVIRONMENTAL FACTOR		
CULTURAL RESOURCES	No impact.	The Corps has determined no historic properties affected. Consultation ongoing.

ALTERNATIVE ENVIRONMENTAL FACTOR	No Action Status Quo	St. Lucie Impoundment Basin Placement
AIR QUALITY	No impact.	Anticipated emissions within national ambient air quality standards. Adverse impacts not anticipated.
SEA TURTLES	No impact.	Effects to marine turtles may be avoided or minimized with approved protective measures. The Corps will comply with the SARBO.
WHALES	No impact.	Not likely to adversely affect with implementation of standard protection measures as outlined by the SARBO.
WEST INDIAN MANATEE	May affect, but not likely to adversely affect, with implementation of standard protection measures as outlined by the RBO.	May affect, but not likely to adversely affect, with implementation of standard protection measures as outlined by the RBO.
STSF	No impact.	May affect, but not likely to adversely affect, with implementation of protection measures as outlined by the re-initiation of the SARBO..
ESSENTIAL FISH HABITAT	No impact.	Marine water column and unconsolidated sediment habitat would be temporarily impacted during placement.
BENTHIC RESOURCES	No impact.	Benthos would be temporarily impacted by placement.
TURBIDITY AND WATER QUALITY	No impact.	Short-term localized increase in turbidity during placement.
FISH AND WILDLIFE RESOURCES	Wildlife temporarily displaced during placement. No significant long-term adverse impacts anticipated.	Wildlife temporarily displaced during placement. No significant long-term adverse impacts anticipated.
RECREATION AND TOURISM	Recreational boating opportunities could be lost due to inability to utilize IWW and OWW.	Recreational opportunities and tourism may be temporarily impacted during placement.
NAVIGATION	Loss of safe navigation for both IWW and OWW.	Navigation may be temporarily impacted during placement.
CUMULATIVE IMPACTS	Major long-term loss of navigation and recreation at IWW-OWW Crossroads at St. Lucie Inlet.	No long term impacts are anticipated.

3. AFFECTED ENVIRONMENT

The Affected Environment section succinctly describes the existing environmental resources of the areas that would be affected if the alternative was 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 alternative.

3.1 GENERAL ENVIRONMENTAL SETTING

3.1.1 St. Lucie Sediment Impoundment Basin

Summarized in the 2000 EA and referenced in section 1.4 of this document.

3.2 GEOLOGY

3.2.1 St. Lucie Sediment Impoundment Basin

Predevelopment conditions summarized in the 2000 Environmental Assessment, St. Lucie Inlet Navigation Study Design Memorandum. Since development and utilization of the Impoundment Basin, material primarily consists of beach quality sand.

3.3 THREATENED AND ENDANGERED SPECIES

3.3.1 Manatees

Manatees can be found in the inshore waters of the project channels and in the coastal waters of the Atlantic Ocean primarily during migration. The proposed work does not overlap any designated critical habitat for this species.

3.3.2 Sea Turtles

Three sea turtle species nest regularly on beaches of the southeastern US. Approximately 90% of Loggerhead (*Caretta caretta*) turtles nest in Florida. Green Sea Turtle (*Chelonia mydas*) nesting in the US occurs principally along the east central Florida beaches and Leatherback (*Dermochelys coriacea*) primarily nest in Puerto Rico and the Virgin Islands.

3.3.3 Piping Plover

The piping plover is a small, pale sand-colored shorebird listed which is endangered principally because of habitat destruction, predation, and human disturbance. The piping plover winters in coastal areas of the US from North Carolina to Texas.

3.3.4 STSF

The STSF (*Pristis pectinata*), currently listed as endangered by NMFS, rarely occurs within the project area. This species has become rare along the southeastern Atlantic and northern Gulf of Mexico coasts of the U.S. during the past 30 years, with its known primary range now reduced to the coastal waters of Everglades National Park in extreme southern Florida

3.4 WATER QUALITY

DEP has designated waters in the project area as Class III – Fish Consumption, Recreation, Propagation and Maintenance of a Healthy, Well-Balanced Population of Fish and Wildlife.

3.4.1 Sediment Analysis

Material from inlet and IWW-OWW Crossroads is generally beach quality material. See Florida Department of Environmental Protection (FDEP) Rule 62B-41.007 (Rules and Procedures for Application for Coastal Construction Permits).

3.5 ESSENTIAL FISH HABITAT

Estuarine/inshore EFH within footprint of the project consists of estuarine water column and unconsolidated substrate. Species managed by the NMFS that are common within the project area can be found in Table 2, and prey species in Table 3, of the 2011 EA.

3.6 BENTHIC RESOURCES

Limestone rock outcrop reef extends along the full length of Martin County with a large community north of the inlet known as the Bathtub Reef. One section of reef intersects the shoreline at the Hobe Sound Public beach and another area outcrops at the shoreline north of Coral Cove Park where it forms Blowing Rocks. Approximately 1,150 acres of hardbottom habitat exists in the St. Lucie Inlet and offshore Jupiter Island characterized by limestone, worm rock, and limestone/worm rock mix reefs.

3.7 AIR QUALITY

St. Lucie County lies within the Southeast Florida Intrastate Air Quality Region, as established by 40 CFR Part 81.49. The U.S. Environmental Protection Agency (EPA) (40 CFR Part 81.310) designates St. Lucie County as being in attainment with National Ambient Air Quality Standards for ozone, nitrogen dioxide, carbon monoxide, total suspended particulates, and sulfur dioxide. Air quality in St. Lucie County exceeds national standards. Ambient air quality along coastal St. Lucie County is generally good due to prevalent ocean breezes from the northeast through the southeast. Coastal development and the popularity of the beaches area all contribute to the presence of motorized vehicles and vessels in the project area at any given time. The usually present sea breezes along the shore readily disperse airborne pollutants.

3.8 NATIVE AMERICANS

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

3.9 CULTURAL RESOURCES

A review of the Florida Master Site File (FMSF) indicates that no prehistoric or historic resources eligible for the National Register of Historic Places (NRHP) are recorded within the project area. Previous consultation regarding development and maintenance dredging of the St. Lucie Impoundment Basin with the Florida State Historic Preservation Officer (SHPO) occurred on 22 April 1999. Further consultation regarding maintenance dredging of OWW Cut 1 and the Impoundment Basin with the SHPO, appropriate federally recognized tribes, and other interested parties occurred on 06 October 2011. In both instances it was the Corps' determination that the proposed dredging of St. Lucie Inlet and the Impoundment Basin would not affect historic properties. The SHPO concurred with these determinations (DHR Project File Nos.: 992804 and 2011-05140).

3.10 RECREATIONAL RESOURCES

A total of 16,050 boats were registered in Martin County as of 2014 (Florida Dept. of Highway Safety and Motor Vehicles). The waterway provides recreational opportunities for boaters, fishermen, wildlife observation, and leisure.

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 THREATENED AND ENDANGERED SPECIES

4.1.1 No-Action Alternative

No impacts to the St. Lucie Sediment Impoundment Basin are anticipated as the no-action alternative is beach placement. Impacts associated with beach placement are provided EAs listed in section 1.4 of this document.

4.1.2 St. Lucie Sediment Impoundment Basin

The following protection measures will be implemented to minimize adverse impacts to threatened and endangered species.

4.1.2.1 Sea Turtles, STSF, and West Indian Manatees

Per the 2011 EA, USACE determined that the proposed dredge work may affect, but is not likely to adversely affect sea turtles in the water, manatees, or STSF based on protective measures. Protection of manatees will follow the standard manatee construction conditions for in water work per US Fish and Wildlife Service concurrence letter dated 8 Feb 2016 and protection of swimming sea turtles and STSF are covered under the terms and conditions of the Currituck Specific Biological Opinion issued by NMFS. The proposed action is not likely to adversely affect sea turtles, STSF, or manatees with implementation of the following standard protection measures.

- The contractor would instruct all personnel associated with construction activities about the potential presence of manatees, sea turtles and STSF in the area and the need to avoid collisions with them.
- If siltation barriers are used, they shall be made of material in which manatees, sea turtles and STSF cannot become entangled, are properly secured, and are regularly monitored to avoid entrapment. Barriers must not block entry to or exit from essential habitat.
- If a manatee, sea turtle or STSF were sighted within 100 yards of the project area, all appropriate precautions would be implemented by the contractor to ensure protection of these species. These precautions would include the operation of all moving equipment no closer than 50 feet of these species. If a manatee, sea turtle or STSF were closer than 50 feet to moving equipment, the equipment would be shut down and all placement activities would cease to ensure protection of the animal. Placement activities would not resume until the species 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.

- Mooring bumpers would be placed on all large vessels wherever and whenever there is a potential for manatees to be crushed between two moored vessels. The bumpers would provide a minimum stand-off distance of four feet.
- All personnel would be advised that there are civil and criminal penalties for harming, harassing, or killing manatees, sea turtles and STSF, which are protected under the Endangered Species Act and the Marine Mammal Protection Act.

4.1.2.2 Piping Plover

Impacts are highly unlikely as all activities associated with placement will occur below MLW and will not impact the intertidal portions of the Impoundment Basin.

4.2 WATER QUALITY

4.2.1 No-Action Alternative

No impacts to the St. Lucie Sediment Impoundment Basin are anticipated as the no-action alternative is beach placement. Impacts associated with beach placement are provided in previous EAs.

4.2.2 St. Lucie Sediment Impoundment Basin

The primary anticipated change in water quality at the St. Lucie Sediment Impoundment Basin would be a temporary increase in turbidity. According to the State of Florida's Class III water quality standards, turbidity levels during placement of dredged material are not to exceed 29 Nephelometric turbidity units (NTUs) above background levels at the edge of normally a 150-meter mixing zone. In order to comply with this standard, turbidity will be monitored according to State protocols during the proposed placement. If at any time the turbidity standard were exceeded, those activities causing the violation would temporarily cease.

4.3 ESSENTIAL FISH HABITAT

4.3.1 No-Action Alternative

No impacts to the St. Lucie Sediment Impoundment Basin are anticipated as the no-action alternative is beach placement. Impacts associated with beach placement are provided in previous EAs.

4.3.2 St. Lucie Sediment Impoundment Basin

The proposed placement area could impact approximately 18 acres of estuarine water column and unconsolidated substrate. Species managed by the NMFS that are common within the project area can be found in Table 2, and prey species in Table 3, of the 2011 EA. The Corps has determined that the proposed action would not have a substantial adverse impact on EFH or federally managed fisheries along the east coast of Florida. This determination was based on the fact that the substrate of the project area is naturally dynamic and unconsolidated, and measures shall be 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 duration of the placement operations. Impoundment basin placement activities are

anticipated to take up to 90 days every 10-13 years and migrating larvae and/or juvenile fish could be subject to project related elevated turbidity and suspended sediment levels during that time period. A fall-winter placement window could minimize impacts to migrating larvae and juvenile fish. The Corps will consider this window as funding and scheduling allow. In addition, it is important to note that the placement area encompasses a fraction of the entire water body, and similar habitat occurs immediately adjacent. EFH coordination with NMFS for EFH from dredging was completed in section 4 of the 2000 EA. EFH coordination for the proposed action with the NMFS will be initiated concurrent with noticing of this draft NEPA document.

4.4 FISH AND WILDLIFE RESOURCES

4.4.1 No-Action Alternative

No impacts to the St. Lucie Sediment Impoundment Basin are anticipated as the no-action alternative is beach placement. Impacts associated with beach placement are provided in previous EAs.

4.4.2 St. Lucie Sediment Impoundment Basin

Fish and wildlife within the placement area would be temporarily displaced during construction. Any fish or seabirds displaced during placement operations would be expected to return following completion of construction. All material will be placed below MLW so upland bird nesting and foraging habitat should not be impacted. In addition, some opportunistic foraging during placement is expected by some fish and birds species.

4.5 BENTHIC RESOURCES

4.5.1 No-Action Alternative

No impacts to the St. Lucie Sediment Impoundment Basin are anticipated as the no-action alternative is beach placement. Impacts associated with beach placement are provided in previous EAs.

4.5.2 St. Lucie Sediment Impoundment Basin

Placement would result in temporary impacts to benthos but re-colonization by benthic organisms from adjacent similar habitats is expected. Deposition of dredged materials can bury and smother localized populations of benthic organisms, thereby reducing abundance and diversity of the benthic communities in the immediate area of dumping. Brooks et al. 2006 (The Benthic Community of the Eastern US Continental Shelf: A Literature Synopsis of the Benthic Faunal Resources, Continental Shelf Research 26: 804-818) found in most cases, polychaetes were the first to recolonize dredged or disposal sites, with crustaceans, specifically amphipods, also recolonizing relatively quickly. Therefore, due to the relatively small area that will be impacted as viewed on a spatial scale, impacts to the benthic community are anticipated to be minimal due to the relatively short period of recovery regarding infaunal communities following disturbance. Adjacent areas not impacted would most likely be the primary source of recruitment to the impacted area.

4.6 AIR QUALITY

4.6.1 No-Action Alternative

No impacts to the St. Lucie Sediment Impoundment Basin are anticipated as the no-action alternative is beach placement. Impacts associated with beach placement are provided in previous EAs.

4.6.2 St. Lucie Sediment Impoundment Basin

The short-term impacts from emissions by the dredge and other construction equipment associated with the project are not anticipated to affect onshore or offshore air quality significantly. Exhaust emissions from vehicles, vessels, and construction equipment associated with the project would have a temporary and localized effect on air quality. Offshore sea breezes are anticipated to disperse pollutants.

4.7 NATIVE AMERICAN RESOURCES

4.7.1 No-Action Alternative

No portion of the proposed project exists within or adjacent to any Native American properties. Selection of the No Action Alternative would have no adverse effect on Native American resources.

4.7.2 St. Lucie Sediment Impoundment Basin

As part of the development of this project, consultation between the Corps and appropriate federally recognized tribes within the immediate area of potential effect was initiated in December 2015. There are no known Native American properties or resources within the project area, and the project should not have any effect on Native Americans. However, consultation is ongoing and will be updated prior to project implementation.

4.8 CULTURAL RESOURCES

4.8.1 No-Action Alternative

No historic properties affected.

4.8.2 St. Lucie Sediment Impoundment Basin

The Corps has determined no historic properties affected by the proposed maintenance dredging of OWW Cut 1 and the placing of approximately 10,000 CY of beach quality dredged material into the St. Lucie Impoundment Basin. There are no historic properties within the project area and sand placement would be a beneficial effect by preventing possible future erosion. Coordination with the Florida SHPO and appropriate federally recognized tribes was initiated in December 2015 and consultation is ongoing. Consultation under Section 106 of the National Historic Preservation Act will be completed prior to project implementation. The project will maintain a fortuitous find policy that will halt use of an area should any resources be identified during maintenance dredging.

4.9 RECREATIONAL RESOURCES

4.9.1 No-Action Alternative

No impacts to the St. Lucie Sediment Impoundment Basin are anticipated as the no-action alternative is beach placement. Impacts associated with beach placement are provided in previous EAs.

4.9.2 St. Lucie Sediment Impoundment Basin

Recreational activities are likely to be temporarily impacted at OWW Cut 1 and the St. Lucie Sediment Impoundment Basin during placement activity, but no impacts are anticipated upon completion of the project and equipment demobilization.

4.10 NAVIGATION

4.10.1 No-Action Alternative

No impacts to the St. Lucie Sediment Impoundment Basin are anticipated as the no-action alternative is beach placement. Impacts associated with beach placement are provided in previous EAs.

4.10.2 St. Lucie Sediment Impoundment Basin

Navigation is likely to be temporarily impacted at OWW Cut 1 and the St. Lucie Sediment Impoundment Basin during placement activity but long-term benefits expected upon completion of the project.

4.11 CUMULATIVE IMPACTS

Cumulative impact is the "impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions" (40 CFR 1508.7). Placement of dredged material in St. Lucie Impoundment Basin is defined as periodic (Variance No. 0269814-007-JC, 24 September 2014), but could require more frequent offloading due to additional volume placed in the Impoundment Basin.

4.12 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

4.12.1 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.

4.12.2 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. Dredging of OWW Cut 1 and placement in the St. Lucie Sediment Basin could temporarily disrupt navigation and recreational activities.

4.13 UNAVOIDABLE ADVERSE ENVIRONMENTAL EFFECTS

Dredging and placement would temporarily adversely impact water quality, recreation, navigation, and benthic resources. Benthic organisms would be affected during dredging of the impoundment basin and depending on the frequency of dredging, recolonization may be impacted.

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

Most fish species and other motile organisms like crabs should be able to avoid the equipment. Since the project area is limited in size, the long-term productivity of fish and other motile species should not be significantly affected. It is anticipated that the channel and adjacent areas are of sufficient depth for the dredging vessels to operate and maneuver without impacting adjacent sea grasses and benthic resources.

4.15 INDIRECT EFFECTS

Maintaining the authorized depths of the project channels would benefit the commercial vessel traffic industry and local and statewide economies. The project may also create a temporary nuisance to recreational navigation during maintenance activities. This may contribute to increased development in adjacent areas.

4.16 COMPATIBILITY WITH FEDERAL, STATE, AND LOCAL OBJECTIVES

This project has wide support and is compatible with Federal, State, and most local objectives. The project has been scoped, planned and conditioned to maintain compliance Federal, State, and local laws and regulations where the Corps has waived its sovereignty.

4.17 CONFLICTS AND CONTROVERSY

Since the project has been scoped, planned and conditioned to maintain compliance Federal, State, and local laws and regulations where the Corps has waived its sovereignty, the Corps does not anticipate conflict or controversy. Placement would be conducted in a manner that would avoid or minimize impacts to resources outside the project limits.

4.18 UNCERTAIN, UNIQUE, OR UNKNOWN RISKS

There is a potential for the dredged sediment to transport out of the St. Lucie Sediment Basin. The exact amount is uncertain, therefore, there may be “unknown” risks associated with placement activities.

4.19 PRECEDENT AND PRINCIPLE FOR FUTURE ACTIONS

The proposed placement is not anticipated to set a precedent for future actions. Similar work was carried out by the county under permit modification number 0129368-007-JC issued 5 November 2002 to dredge 10,400 CY from the intersection of the IWW and OWW and place the material in the St. Lucie Sediment Impoundment Basin.

4.20 ENVIRONMENTAL COMMITMENTS

The Corps 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. 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.
5. 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.
6. 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 plans and specifications.

4.21 COMPLIANCE WITH ENVIRONMENTAL REQUIREMENTS

4.21.1 National Environmental Policy Act of 1969

Section 1.4 depicts NEPA documents that have previously discussed and evaluated the project's dredging activity and the existing placement area. This SEA was prepared to evaluate the proposed project's effect to the human environment by referencing previous NEPA efforts in combination with the new activity. The SEA will be noticed to disclose the Federal action and offer the public an opportunity to provide comment and participate in the decision making process. Comments received will be incorporated into this document and listed in Section 6.4 below. The project is in compliance with the National Environmental Policy Act.

4.21.2 Endangered Species Act of 1973

The project will be fully coordinated under the Endangered Species Act. The applicable conditions of the SARBO issued by the NMFS and the SPBO issued by the USFWS would be followed during construction.

4.21.3 Fish and Wildlife Coordination Act of 1958

Coordination with USFWS will be conducted. The provisions of the Fish and Wildlife Coordination Act of 1958, as amended (FWCA) (48 Stat. 401; 16 U.S.C. 661 et seq.) are covered in the SPBO and a CAR is not needed.

4.21.4 Nation Historic Preservation Act of 1966 (Inter Alia)

The proposed action is in compliance with Section 106 of the National Historic Preservation Act, as amended (PL89-665). As part of the requirements and consultation process contained within the National Historic Preservation Act implementing regulations of 36 CFR 800, this project is also in compliance through ongoing consultation with the Archaeological and Historic Preservation Act, as amended (PL93-29), Archeological Resources Protection Act (PL96-95), American Indian Religious Freedom Act (PL 95-341), Native American Graves Protection and Repatriation Act (NAGPRA), Executive Order 11593, 13007, and 13175, the Presidential Memo of 1994 on Government to Government Relations, and appropriate Florida Statutes. Consultation with the Florida SHPO, appropriate federally recognized tribes, and other interested parties has been initiated and is ongoing. The proposed action will be in compliance with the goals of this Act upon completion of coordination as stated above.

4.21.5 Clean Water Act of 1972

The project shall be in compliance with this act. A Section 401 Water Quality Certification shall be obtained from the FDEP through the Joint Coastal Permitting Program. All State Water Quality Standards would be met. A Section 404(b) evaluation is included in this report as Appendix A. Martin County is currently modifying JCP 0269814-007-JC to include the proposed action.

4.21.6 Clean Air Act of 1972

Vehicular emission and airborne dust particulates resulting from construction activities shall be controlled. This project will be coordinated with EPA and will be in compliance with Section 309 of the Act.

4.21.7 Coastal Zone Management Act of 1972

A federal consistency determination in accordance with 15 CFR 930 Subpart C is included in this report as Appendix B. State consistency review will be performed during the coordination of the draft EA and the JCP modification process. The State concurrence with the Corps determination that the project is consistent with the enforceable policies of the Florida Coastal Management Program will be issued with the JCP modification.

4.21.8 Farmland Protection Policy Act of 1981

No prime or unique farmland would be impacted by the use of the placement area. Therefore, this Act is not applicable to the proposed work.

4.21.9 Wild and Scenic River Act of 1968

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

4.21.10 Marine Mammal Protection Act of 1972

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

4.21.11 Estuary Protection Act of 1968

The protective measures described in section 4 would insure avoidance and minimization of impacts from the proposed placement. This project is in compliance with the Act.

4.21.12 Federal Water Project Recreation Act

Although the impoundment basin 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.

4.21.13 Submerged Lands Act of 1953

The project would occur on submerged lands of the State of Florida. The project was coordinated with the State and is in compliance with the Act.

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

The proposed placement areas begin between < 500 feet north of Coastal Barrier Resource System (CBRS) unit P12 and 10,000 feet south of CBRS unit P11. Therefore, this act is not applicable to the proposed project.

4.21.15 Rivers and Harbors Act of 1899

The proposed work could temporarily obstruct navigable waters of the United States but would ultimately improve navigability of these waters. The proposed action was subjected to a public notice and other evaluations normally conducted for activities subject to the act. The project is in full compliance.

4.21.16 Anadromous Fish Conservation Act

Anadromous fish species would not be affected. The project was coordinated with the NMFS and is in compliance with the Act.

4.21.17 Migratory Bird Treaty Act and Migratory Bird Conservation Act

Measures shall be taken to protect migratory birds, i.e. avoiding nesting sites. The project is in compliance with these acts.

4.21.18 Marine Protection, Research and Sanctuaries Act

The term "dumping" as defined in Section 3 (f) of Act 33 U.S.C. 1402 does not apply to the disposal of material for beach nourishment or to the placement of material for a purpose other than offshore 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 placement activities addressed in this SEA have been evaluated under Section 404 of the Clean Water Act.

4.21.19 Magnuson-Stevens Fishery Conservation and Management Act

The Corps has determined that the project would not have a substantial adverse impact on EFH or federally managed fish species occurring along the southeast coast of Florida. EFH coordination will be completed concurrent with noticing of this draft NEPA document

4.21.20 E.O. 11990, Protection of Wetlands

There would be no impacts to wetlands by project activities. This project is in compliance with the goals of this Executive Order.

4.21.21 E.O. 11988, Floodplain Management

This project would have no adverse impacts to floodplain management.

4.21.22 E.O. 12898, Environmental Justice

The proposed action would not result in adverse human health or substantial environmental effects. The work would not impact "subsistence consumption of fish and wildlife."

4.21.23 E.O. 13089, Coral Reef Protection

This project would not impact those species, habitats, and other natural resources associated with coral reefs.

4.21.24 E.O. 13112, Invasive Species

This project would not introduce any invasive species.

5. LIST OF PREPARERS

5.1 PREPARERS

Preparer	Discipline	Role
Clay McCoy, U.S. Army Corps of Engineers	Biologist	Principal Author
Meredith Moreno, U.S. Army Corps of Engineers	Archaeologist	Cultural Resources

5.2 REVIEWERS

This SEA was reviewed by the supervisory chain of the Environmental Branch and Planning Division, as well as the Construction-Operations Division, Project Management, and the Office of Counsel of the US Army Corps of Engineers, Jacksonville District.

6. PUBLIC INVOLVEMENT

6.1 SCOPING AND DRAFT EA

A Public Notice will be issued for this action in which the draft FONSI and SEA will be made available to the public. Comments received will be incorporated into this document and discussed in Section 6.4 below.

6.2 AGENCY COORDINATION

Coordination will be conducted with appropriate agencies, described in this report and discussed in section 6.4 below. Agency coordination letters will be located in Appendix C.

6.3 LIST OF RECIPIENTS

Per the Public Notice, copies of the draft SEA were made available to appropriate stakeholders. A list of stakeholders receiving notification can be found within the Public Notice in Appendix A.

6.4 COMMENTS RECEIVED AND RESPONSE

APPENDIX A - SECTION 404(B) EVALUATION

SECTION 404(b) EVALUATION

IWW-OWW CROSSROADS MAINTENANCE DREDGING ST. LUCIE INLET AND ADJACENT INTRACOASTAL WATERWAY MARTIN COUNTY, FLORIDA

I. Project Description

a. Location. The proposed work would be performed at St. Lucie Inlet (Figure 1).

b. General Description. The U.S. Army Corps of Engineers, Jacksonville District (Corps), is proposing to conduct periodic maintenance dredging of the intersection of the Intracoastal Waterway (IWW) and Okeechobee Waterway (OWW) Federal navigation project at St. Lucie Inlet in Martin County, Florida. The Corps proposes to place approximately 10,000 CY of beach quality dredged material from OWW Cut 1 into the St. Lucie Impoundment Basin.

c. Authority and Purpose. Maintenance of the IWW was authorized by the Rivers and Harbors Act of 2 March 1945, House Document 740, 79th Congress, 2nd Session, and Chief of Engineers Report 22 July 1960 modifying the 12-foot channel. The OWW was authorized by the Harbor and River Act of 31 May 1974, House Document 294/93/1.

d. General Description of Dredged or Fill Material.

(1) General Characteristics of Material. Dredged material from the project channels typically consists of sand.

(2) Quantity of Material. Approximately 10,000 cubic yards would be periodically dredged and placed in the St. Lucie Sediment Impoundment Basin.

(3) Source of Material. From the IWW-OWW Crossroads and OWW Cut 1.

e. Description of the Proposed Discharge Site(s).

(1) Location. The St. Lucie Sediment Impoundment Basin (see Figure 1, Sections 1-3 for more information).

(2) Size. St. Lucie Sediment Impoundment Basin: 3,500 feet in length and 80 feet wide.

(3) Type of Site: Beach: open water (inlet).

(4) Type(s) of Habitat. Open water habitat with unconsolidated substrate (please see Section 3 for more information).

(5) Timing and Duration of Discharge. Timing is undetermined and duration is generally less than two months.

f. Description of Disposal Method. A small Corps split-hull hopper dredge would perform the dredging and would bottom dump the sediments in the impoundment basin.

II. Factual Determinations

a. Physical Substrate Determinations.

(1) Substrate Elevation and Slope. The project channels have sloped bottoms with authorized depths (please see Section 1.1 for more information).

(2) Sediment Type. Unconsolidated with sand.

(3) Dredged/Fill Material Movement. Material placed in the St. Lucie Sediment Impoundment Basin will be stored and later placed on the beach.

(4) Physical Effects on Benthos. Benthic organisms would be impacted by dredging activity and placement operations. Re-colonization should begin in less than one year.

(5) Actions to minimize impacts. Placement operations would be monitored to ensure that construction activities are performed in authorized project areas only.

b. Water Circulation. Fluctuation and Salinity Determinations.

(1) Water Column Effects.

(a) Salinity: No significant effect.

(b) Water Chemistry: No significant effect.

(c) Clarity: Turbidity would temporarily decrease clarity.

(d) Color: Turbidity would temporarily change color.

(e) Odor: No significant effect.

(f) Taste: No significant effect.

(g) Dissolved Gas Levels: No significant effect.

(h) Nutrients: No significant effect.

(2) Current Patterns and Circulation.

(a) Current Patterns and Flow: Currents in the project area are primarily tidal.

(b) Velocity: No significant effect.

(c) Stratification: No significant effect.

(d) Hydrologic Regime: No significant effect.

(3) Normal Water Level Fluctuations. Tides in the project area are semi diurnal with varying levels throughout the year. The project would not affect normal water level fluctuations.

(4) Salinity Gradients. The project would not affect salinity gradients.

(5) Actions to minimize impacts. The project would not affect water levels. Turbidity would be monitored per the requirements of the State permit. If at any time the turbidity standard were exceeded, those activities causing the violation would cease.

c. Suspended Particulate/Turbidity Determinations.

(1) Expected Changes in Suspended Particulates and Turbidity Levels in Vicinity of Disposal Site. There will be an increase in suspended particulates and turbidity levels in the vicinity of the disposal site.

(2) Effects (degree and duration) on Chemical and Physical Properties of the Water Column.

(a) Light Penetration: Light penetration would decrease during placement operations.

(b) Dissolved Oxygen: Dissolved oxygen levels would not be significantly altered by this project.

(c) Toxic Metals and Organics: This project would not cause any significant release of toxic metals or organics.

(d) Pathogens: This project would not cause any release of pathogens.

(e) Aesthetics: Turbidity would temporarily impact aesthetic quality of the placement areas.

(3) Effects on Biota.

(a) Primary Production, Photosynthesis: The project would not have a significant impact on primary production or photosynthesis.

(b) Suspension/Filter Feeders: Turbidity would affect suspension/ filter feeders, but the effects would not be significant.

(c) Sight Feeders: Sight feeders would be affected by turbidity, but the effects would not be significant.

(4) Actions to minimize impacts. As stated earlier, turbidity would be monitored per the requirements of the State permit. If at any time the turbidity standard were exceeded, those activities causing the violation would cease.

d. Contaminant Determinations. Levels of contaminants are not expected to have a significant impact on plankton, benthos, nekton, or the aquatic food web. Re-suspension of sediment within the placement areas is expected to have minimal impact on these organisms.

e. Aquatic Ecosystem and Organism Determinations.

- (1) Effects on Plankton: Significant effects on plankton are not anticipated.
- (2) Effects on Benthos: Benthos would be impacted by the project, but benthic organisms would be expected to begin recovery within one year.
- (3) Effects on Nekton: Significant effects on nekton are not anticipated.
- (4) Effects on Aquatic Food Web: As stated earlier, benthos would be impacted, but additional significant effects on the food web are not anticipated.
- (5) Effects on Special Aquatic Sites.

(a) Sanctuaries and Refuges: Placement is not expected to have a significant impact on the adjacent areas. This work would be performed in compliance with the Water Quality Certification issued by the State of Florida.

(b) Wetlands: The proposed work would not affect wetlands.

(c) Mud Flats: The proposed work would not have a significant affect to mud flats.

(d) Vegetated Shallows: The proposed work would not affect vegetated shallows.

(e) Coral Reefs: There are no coral reefs in the project area.

(f) Riffle and Pool Complexes: There are no riffle and pool complexes in the project area.

f. Threatened and Endangered Species. Implementation of identified standard protection measures would avoid or minimize adverse impacts to threatened and endangered species per the SARBO and SPBO.

g. Other Wildlife. Use of the beach and nearshore could temporarily displace wildlife. Re-colonization of these sites would occur between maintenance events.

h. Actions to Minimize Impacts. Measures shall be taken to avoid or minimize impacts to threatened and endangered species as well as other wildlife (please refer to Section 4).

i. Proposed Disposal Site Determinations

(1) Mixing Zone Determination. This determination will be in accordance with the Water Quality Certification issued for this project.

(2) Determination of Compliance with Applicable Water Quality Standards. The work would be conducted in accordance with the Water Quality Certification issued for this project.

(3) Potential Effects on Human Use Characteristic.

(a) Municipal and Private Water Supply: No effects are anticipated.

(b) Recreational and Commercial Fisheries: Impacts to fisheries would not be significant (please see Sections 3.5 and 4.3).

- (c) Water Related Recreation: Construction activities would temporarily disrupt water related recreation.
- (d) Aesthetics: Construction would temporarily impact aesthetics.
- (e) Parks, National and Historical Monuments, National Seashores, Wilderness Areas, Research Sites, and Similar Preserves: Work would be conducted in compliance with the Water Quality Certification issued by the State of Florida.

j. Determination of Cumulative Effects on the Aquatic Ecosystem. Periodic placement operations would have impacts on the aquatic ecosystem. Most impacts should be relatively short-term and populations of benthic organisms within the placement areas should fully recover due to the natural sediment dynamics of the placement area.

k. Determination of Secondary Effects on the Aquatic Ecosystem. None.

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 practical alternative exists which meets the project objectives that do not involve discharge of fill into waters of the United States.

c. Compliance with Applicable State Water Quality Standards: Dredging would be performed in compliance with the Water Quality Certification issued by the State of Florida.

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

e. Compliance with Endangered Species Act of 1973: The proposed project would not jeopardize the continued existence of any species listed as threatened or endangered or result in the destruction or adverse modification of any critical habitat as specified by the Endangered Species Act of 1973.

f. Compliance with Specified Protection Measures for Marine Sanctuaries Designated by the Marine Protection, Research, and Sanctuaries Act of 1972: This act does not apply to this project.

g. Evaluation of Extent of Degradation of the Waters of the United States

(1) Significant Adverse Effects on Human Health and Welfare

(a) Municipal and Private Water Supplies: No effect.

(b) Recreation and Commercial Fisheries: No significant adverse impacts are anticipated.

- (c) Plankton: No substantial adverse impacts are anticipated.
- (d) Fish: No substantial adverse impacts are anticipated.
- (e) Shellfish: No substantial adverse impacts are anticipated.
- (f) Wildlife: Use of the impoundment basin could temporarily displace wildlife. Re-colonization of these sites would occur between maintenance events.
- (g) Special Aquatic Sites: No substantial adverse impacts are anticipated.

(2) Significant Adverse Effects on Life Stages of Aquatic Life and Other Wildlife Dependent on Aquatic Ecosystems: Most impacts should be relatively short-term (see section 4.2).

(3) Significant Adverse Effects on Aquatic Ecosystem Diversity, Productivity and Stability: No significant adverse effects are anticipated.

(4) Significant Adverse Effects on Recreational, Aesthetic, and Economic Values: Recreation and aesthetic values would be temporarily disrupted due to construction activity.

h. Appropriate and Practicable Steps Taken to Minimize Potential Adverse Impacts of the Discharge on the Aquatic Ecosystem: Measures shall be taken to minimize impacts.

i. On the basis of the guidelines the proposed disposal sites for the discharge of dredged material are specified as complying with the requirements of these guidelines, with the inclusion of appropriate and practical conditions to minimize pollution or adverse effects on the aquatic ecosystem.

FINDING OF COMPLIANCE
FOR
IWW-OWW CROSSROADS
MAINTENANCE DREDGING
ST. LUCIE INLET AND ADJACENT INTRACOASTAL WATERWAY
MARTIN COUNTY, FLORIDA

1. No significant adaptations of the guidelines were made relative to this evaluation.
2. The St. Lucie Sediment Impoundment Basin is the placement site available for this project. Use of any of this site (Figures 1) would not result in significant impacts to water level fluctuation, circulation or currents.
3. The planned disposal of dredged material at any of the sites would not violate any applicable State water quality standards with the possible exception of turbidity. Therefore, turbidity standards would be monitored per the Water Quality Certification issued by the State of Florida. If a turbidity violation is noted, then those activities causing the violation shall be terminated. The disposal operation will not violate the Toxic Effluent Standards of Section 307 of the Clean Water Act.
4. Use of St. Lucie Sediment Impoundment Basin would 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. Consultation with the U.S. Fish and Wildlife Service will be completed.
5. The proposed disposal of dredged material will not result in significant long-term adverse effects on human health and welfare, including municipal and private water supplies, recreation and commercial fishing, plankton, fish, shellfish, wildlife, and special aquatic sites. Significant adverse effects on life stages of aquatic life and other wildlife, aquatic ecosystem diversity, productivity and stability, and recreational, aesthetic and economic values will not occur.
6. Appropriate steps shall be taken to minimize potential adverse impacts of the discharge on aquatic systems.
7. On the basis of the guidelines the proposed disposal sites for the discharge of dredged material are specified as complying with the inclusion of appropriate and practical conditions to minimize pollution or adverse effects to the aquatic ecosystem.

APPENDIX B - COASTAL ZONE MANAGEMENT CONSISTENCY

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

**IWW-OWW CROSSROADS
MAINTENANCE DREDGING
ST. LUCIE INLET AND ADJACENT INTRACOASTAL WATERWAY
MARTIN 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 will be 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 will be 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 placement of dredged material at the St. Lucie Sediment Impoundment Basin for future use to combat erosion. 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 will be coordinated with the State of Florida regarding project activities within and adjacent to the Hobe Sound National Wildlife Refuge. 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 placement 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 placement would help maintain interstate commerce by ensuring safe navigation of the IWW and OWW 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 dredged material placement would not have a substantial adverse impact on saltwater living resources. Benthic organisms may be adversely affected by the work. 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 would 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 dredged material placement will be 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 will be 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. A Water Quality Certification is being sought from the State. 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 - PERTINENT CORRESPONDENCE

Hi Clay.

I've reviewed the project and spoken with my management. We will not be providing EFH conservation recommendations.

Brandon
Brandon Howard - NOAA

On Fri, Feb 5, 2016 at 12:11 PM, Mccoy, Clay SAJ <Clay.A.Mccoy@usace.army.mil
<mailto:Clay.A.Mccoy@usace.army.mil> > wrote:

Brandon,
This was an expedited emergency action and we were looking to get it out in <30 days. We consider it a minor action considering we have EFH recommendations. Sorry for any confusion. Please let me know when you anticipate being able to provide comments.

Thanks,
Clay

Clay McCoy, PhD
Coastal Section
Environmental Branch
Planning & Policy Division
USACE Jacksonville District
904-232-3657 <tel:904-232-3657>