June 2020

ENVIRONMENTAL ASSESSMENT

BERTHING AREA IMPROVEMENTS

JACKSONVILLE HARBOR
DUVAL COUNTY, FLORIDA

U.S. Army Corps of Engineers
JACKSONVILLE DISTRICT

US Army Corps of Engineers
JACKSONVILLE DISTRICT

FINDING OF NO SIGNIFICANT IMPACT

DUVAL COUNTY, FLORIDA
BERTHING AREA IMPROVEMENTS
JACKSONVILLE HARBOR
ENVIRONMENTAL ASSESSMENT

1. The U.S. Army Corps of Engineers, Jacksonville District (Corps), has prepared an Environmental Assessment (EA) in accordance with the National Environmental Policy Act of 1969, as amended, and the White House's Council of Environmental Quality regulations to assess the effects of Berthing Area Improvements, Jacksonville Harbor, Duval County, Florida. The preferred alternative includes the following:

a. Blount Island Berths 30-35 and Dames Point Berths 16-18 would be deepened from their current depth of -40 feet plus 2 feet of depth to -47 feet plus 2 feet of depth. Future dredging of these berths would be periodically performed in order to maintain the new depth.

b. An estimated 1,301,521 cubic yards of sediment and rock would be dredged from the berths and may be placed within the designated Ocean Dredged Material Disposal Site. Significantly smaller amounts of sediment would be removed during future maintenance dredging and may also be placed within this site.

c. Dredged material resulting from the deepening and future maintenance dredging of the berths may also be placed within a designated upland location, either at Bartram or Buck Island Dredged Material Management Areas.

d. The preferred alternative would be performed in association with Contract C of the Jacksonville Harbor Deepening Project.

2. I have reviewed the EA for the proposed action. This Finding incorporates by reference all discussions and conclusions contained in the EA enclosed hereto. Based on information analyzed in the enclosed EA, reflecting pertinent information obtained from agencies having jurisdiction by law and/or special expertise, I conclude that the proposed action will not significantly affect the quality of the human environment, does not require an Environmental Impact Statement, and is not contrary to the public interest. Reasons for these conclusions are in summary:

a. All practicable means to avoid and minimize adverse environmental effects have been incorporated into the preferred alternative. Environmental commitments as detailed in the EA will be implemented to minimize impacts.

b. Pursuant to the Clean Water Act of 1972, as amended, any discharge of dredged or fill material associated with the preferred alternative have been found to be compliant with section 404(b)(1) Guidelines (40 CFR Part 230). The Clean Water Act Section 404(b)(1) Guidelines evaluation is found in Attachment A of the EA.

c. This project is being coordinated with the State of Florida, and all applicable water quality standards will be met. Water Quality Certification in the form of an Environmental Resource Permit will be obtained from the Florida Department of Environmental Protection (FDEP) prior to construction. In addition, a determination of consistency with the Florida Coastal Management program pursuant to the Coastal Zone Management Act of 1972 was obtained from the State of Florida on 15 July 2019.

d. The Preferred Alternative is in compliance with the Endangered Species Act of 1973, as amended. The Corps has determined that the proposed work may affect, but is not likely to adversely affect the West Indian (Florida) manatee, wood stork, or piping plover. Coordination with the U.S. Fish and Wildlife Service (USFWS) regarding these species has been completed. The USFWS concurred with the Corps' determination in a letter dated 12 March 2019. The Corps South Atlantic Division, by email dated 11 September 2019, stated that they have coordinated the Preferred Alternative with the National Marine Fisheries Service (NMFS) and it was determined that the proposed work is to be covered by the new South Atlantic Regional Biological Opinion which was subsequently issued by NMFS on 27 March 2020.

e. The preferred alternative has been coordinated with the Florida State Historic Preservation Officer (SHPO) and the appropriate federally-recognized Tribes in accordance with the National Historic Preservation Act (NHPA) and consideration given under the National Environmental Policy Act. SHPO concurrence of no adverse effects to historic properties was provided in a letter dated 3 January 2019.

3. In view of the above, and consideration of public and agency comments received in response to the above referenced documents, I conclude that the Action would not result in a significant effect on the quality of the human environment. This Finding of No Significant Impact incorporates by reference all discussions and conclusions contained in the referenced documents enclosed herewith. A copy of these documents will be made available to the public on the Corps' Environmental planning website, under Duval County:

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

(On that page, click on the “+” next to “JACKSONVILLE HARBOR BERTHING AREAS.” The documents available for download include the FONSI and environmental assessment).

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ON
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1 PROJECT PURPOSE AND NEED

1.1 INTRODUCTION

The U.S. Army Corps of Engineers, Jacksonville District (Corps) in partnership with its non-federal sponsor, the Jacksonville Port Authority (JAXPORT), proposes to improve berthing areas located within Jacksonville Harbor, Florida. In short, the work would include deepening Blount Island Berths 30 through 35 and Dames Point Berths 16 through 18. These berths are currently constructed to -40 feet plus 2 feet of depth, and would be deepened to -47 feet plus 2 feet of depth. An estimated 1,301,521 cubic yards of sediment and rock would be dredged from the berths and placed within the designated Ocean Dredged Material Disposal Site (ODMDS) or upland placement locations (Bartram or Buck Island Dredged Material Management Area (DMMA)). Periodic maintenance dredging will also be required to remove accumulated sediments and maintain the depth of the berthing area for navigation purposes. Excavated material from future maintenance dredging events may be placed either within the designated ODMDS or Bartram or Buck Island DMMAs. Maintenance dredging is expected to occur on an annual basis and will be completed by JAXPORT; however, frequency may vary due to storm induced shoaling and availability of funds.

Berthing area costs associated with federal harbor projects, whether construction costs or maintenance costs, are generally paid in total by others, not the Federal government. In this case, JAXPORT will be paying 100% for deepening of the berths. However, construction or maintenance dredging at berthing areas, and placement of that material, sometimes occurs simultaneously with dredging of a Federal channel.

1.2 PROJECT LOCATION

Jacksonville Harbor is located within Duval County, Florida and begins at the mouth of the St. Johns River where it empties into the Atlantic Ocean (**Figure 1**). Blount Island Berths 30 through 35 and Dames Point Berths 16 through 18 are located between River Miles 11 and 13 (**Figures 2 and 3**). The designated ODMDS is located within the Atlantic Ocean approximately 4.4 nautical miles (nmi) east of the Jacksonville coast. The Bartram Island DMMA is located directly across the St. Johns River from the Dames Point Berths 16 through 18, and the Buck Island DMMA is located approximately 4 river miles downstream of the berthing area (refer to **Figure 1**).

FIGURE 1: Location of Jacksonville Harbor

FIGURE 2: Blount Island Berths 30-35

FIGURE 3: Dames Point berths 16-18

1.3 PROJECT NEED OR OPPORTUNITY

At the request of JAXPORT, the Corps has prepared this Environmental Assessment (EA) and will obtain the necessary permits to perform the berthing area improvements. Corps-Regulatory Division may utilize this EA under their regulations implementing the National Environmental Policy Act (NEPA) for the issuance of permits to JAXPORT for the proposed work. The purpose of deepening the Blount Island and Dames Point berths is to allow deep draft vessels to safely navigate to these facilities and load or unload containers and bulk commodities. This work would improve navigation at Jacksonville Harbor by reducing transportation costs for deep draft vessels. Deepening of the berths is likely to occur during construction of Contract C of the federally authorized Jacksonville Harbor Navigation (Deepening) Project. Contract C is tentatively scheduled to commence in 2020.

1.4 RELATED DOCUMENTS

Summaries of prior Federal studies relevant to this project are as follows:

a. Final Integrated General Reevaluation Report II and Supplemental Environmental Impact Statement, Duval County, Florida, Jacksonville Harbor Navigation Study (April 2014). Corps. This report recommended deepening the federally authorized navigation channel to 47 feet from the entrance channel to approximately River Mile 13, two areas of widening at the Training Wall Reach and St. Johns Bluff Reach, and two new Turning Basins at Blount Island and Brills Cut. The Assistant Secretary of the Army (Civil Works) signed the Record of Decision on April 8, 2015.

b. Final Supplemental Environmental Assessment (SEA), Duval County, Florida, Review of Recent Storm Events and Flooding, Jacksonville Harbor Navigation Project (December

2017). Corps. The SEA considers whether the recent flooding conditions in the vicinity of the Jacksonville Harbor Navigation Project following the 2017 nor'easter and Hurricane Irma constitute significant new circumstances or information relevant to environmental concerns and bearing on the project or its impacts. A Finding of No Significant Impact was signed on January 3, 2018.

c. Final Environmental Impact Statement for Designation of an ODMDS Offshore Jacksonville, Florida (October 2014). U.S. Environmental Protection Agency (USEPA). This report provides an extensive evaluation of the criteria and other related factors for the expansion of the ODMDS. Per the USEPA, proposed and final rulemaking will be performed in addition to the Final Environmental Impact Statement; therefore, a Record of Decision will not be issued.

1.5 DECISIONS TO BE MADE

The decision to be made upon completion of this EA is whether the proposed berthing area improvements would result in significant environmental effects on the natural and human environment. The need for mitigation measures or best management practices (BMPs) to reduce any potentially adverse effects, particularly in regard to associated activities, is also a decision to be made. If no significant impacts are identified during the NEPA process for the Preferred Alternative, the Corps will make the decision to sign a Finding of No Significant Impact (FONSI) and move forward with the Preferred Alternative. If significant impacts are identified, the Corps will decide to implement mitigation measures to reduce the impacts to a lower-than-significant threshold, proceed with the Notice of Intent (NOI) to prepare an Environmental Impact Statement (EIS), or not implement the Preferred Alternative.

1.6 SCOPING AND ISSUES

1.6.1 ISSUES EVALUATED

The following issues were identified to be relevant to the proposed deepening of Blount Island and the Dames Point berths: (1) general environmental setting; (2) threatened and endangered species; (3) marine mammals; (4) Essential Fish Habitat; (5) migratory birds; (6) other wildlife resources; (7) water quality; (8) hazardous, toxic, and radioactive waste (HTRW); (9) air quality; (10) cultural, historic, and archaeological resources; (11) Native American lands and concerns; (12) navigation; (13) aesthetics; (14) recreation; and (15) noise.

1.6.2 PUBLIC INTEREST FACTORS

Pursuant to 33 CFR § 336.1, the Corps is required to comply with all applicable substantive legal requirements, document compliance and publish the compliance discussion within a NEPA document, and allow public review and comment. As part of its review, the Corps evaluates the probable impacts, including cumulative impacts, of the proposed activity and its intended use on the public interest. All factors that may be relevant to the proposed action must be considered, including the cumulative effects thereof. The major public interest factor relevant to this EA is navigation, specifically, the need to deepen and maintain the Blount Island and Dames Point berths. The Corps has

concluded that the Preferred Alternative is an environmentally acceptable alternative. Relevant public interest factors are evaluated in Section 4 of this EA and summarized in Table 2-1.

1.7 PERMITS

On behalf of JAXPORT, the Corps will obtain an Environmental Resource Permit from DEP and a Department of Army Permit in accordance with Section 10 of the River and Harbors Act.

2 ALTERNATIVES

The Alternatives Section is perhaps the most important component of the EA. This section describes the no-action alternative, the preferred alternative, and other reasonable alternatives. The beneficial and adverse environmental effects of the alternatives are presented in comparative form, providing a clear basis for choice. 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 (STATUS QUO)

Blount Island Berths 30-35 and Dames Point Berths 16-18 would not be deepened from their currently authorized depth of -40 feet plus 2 feet of depth to -47 feet plus 2 feet of depth. However, they would continue to be periodically dredged and maintained to -40 feet plus 2 feet of depth. Implementation of the No Action alternative would result in a significant number of larger deep draft vessels not being able to navigate from the federal channel to the berths to load or unload containers or bulk commodities. The No Action Alternative does not meet the intent of the 2014 Final Integrated General Reevaluation Report II and Supplemental Environmental Impact Statement federally authorizing deepening in order to improve navigation conditions for deep draft vessels.

2.1.2 ACTION ALTERNATIVE: DEEPENING AND FUTURE MAINTENANCE DREDGING OF BERTHING AREA

Blount Island Berths 30-35 and Dames Point Berths 16-18 would be deepened from their current depth of -40 feet plus 2 feet of depth to -47 feet plus 2 feet of depth. Future dredging of these berths would be periodically performed in order to maintain the new depth. Making these improvements would allow deep draft vessels to navigate from the Federal channel to the berths to load or unload containers or bulk commodities.

2.1.2.1 PLACEMENT OF DREDGED MATERIAL WITHIN THE ODMDS

An estimated 1,301,521 cubic yards of sediment and rock would be dredged from the berths and may be placed within the designated ODMDS. Much smaller amounts of sediment would be removed during future maintenance dredging and may also be placed within this open ocean site. The ODMDS is located within the Atlantic Ocean approximately 4.4 nmi miles east of the Jacksonville coast.

2.1.2.2 PLACEMENT OF DREDGED MATERIAL WITHIN UPLAND LOCATIONS (BARTRAM OR BUCK ISLAND DMMAS)

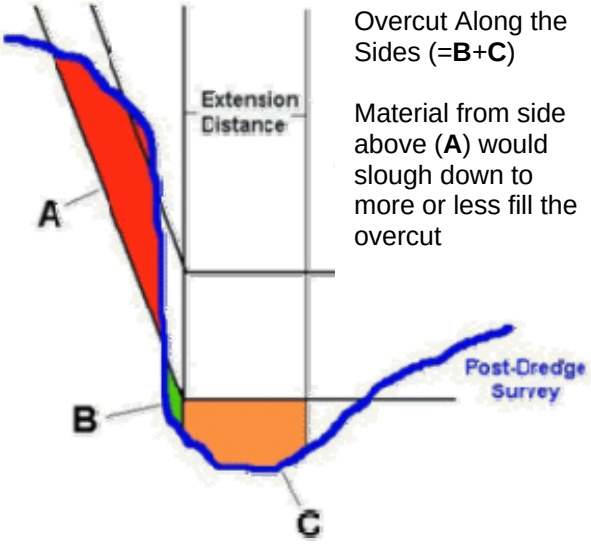
Dredged material resulting from the deepening and future maintenance dredging of the berths may be placed within a designated upland location, Bartram or Buck Island DMMAs. Bartram Island DMMA is located directly across the St. Johns River from the berths, and Buck Island DMMA is located approximately 4 river miles downstream of the berthing area.

2.2 TYPE OF DREDGING EQUIPMENT

The Corps does not normally specify the type of dredging equipment to be used. It is generally left to the dredging industry to offer the most appropriate and competitive equipment available at the time. Never-the-less, 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.usace.army.mil/publications/eng-manuals/em1110-2-5025/toc.htm.

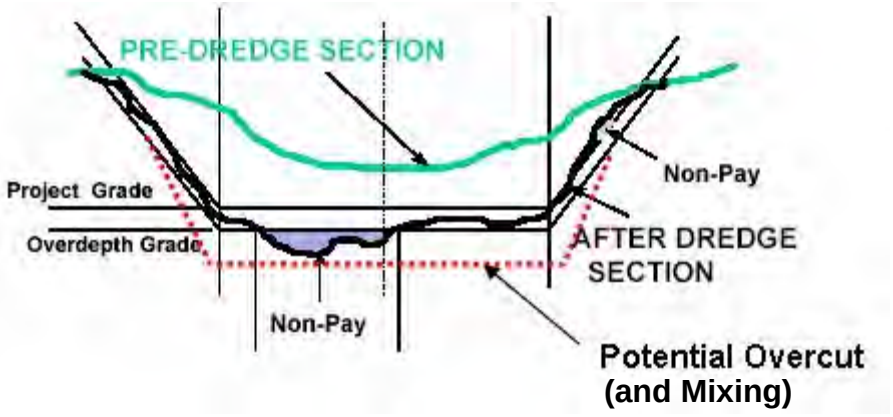
Required, Allowable, and Overcut Beyond the Project Depth or Width.

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 and to 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" additional dredging accounts for the inherent variability and inaccuracy of the dredging equipment (normally ±2 feet). In addition, the dredge operator may practice overcutting. An "overcut" along the sides of the channel may be employed in anticipation of movement of material down the sides of the channel. Overcutting throughout the channel bottom may be the result of furrowing or pitting by the dredging equipment (i.e. the suction dredge's cutterhead, the hopper dredge's drag arms, or the clamshell 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 overcut 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



Overcut Along the Sides (=**B**+**C**)

Material from side above (**A**) would slough down to more or less fill the overcut



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 overcut.

Use of a Drag Bar.

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, and possibly less hazardous to sea turtles than additional hopper dredging.

2.3 ISSUES AND BASIS FOR CHOICE

The proposed deepening and future maintenance dredging of the berths with placement of excavated material within the designated ODMDS or upland locations (Bartram or Buck Island DMMAs) provides the greatest flexibility in accomplishing the work while meeting the intent of the federally authorized deepening project. This alternative also meets the objectives of the Operations and Maintenance, Dredged Material Management Plan, 2012-2031 Update, Jacksonville Harbor, Duval County, Florida. As previously stated, deepening of the berths is likely to occur during construction of Contract C of the congressionally authorized Jacksonville Harbor Navigation (Deepening) Project. The Corps previously determined that the least cost alternative would be to place dredged material from Contract C within the ODMDS as compared to other locations (*i.e.* beach, nearshore, and upland DMMAs). It would be cost effective to place excavated material from the deepening of the berths within the ODMDS since the contractor would be mobilized and equipped to perform the work. Utilization of the ODMDS would also reserve the storage capacity of Bartram and/or Buck Island DMMAs for future maintenance dredging operations. Excavated material resulting from future maintenance dredging of the berths may be placed within the ODMDS, but it is more likely to be placed within the Bartram Island DMMA. The quantity of material would be significantly less than the deepening making placement within the Bartram Island DMMA the probable least cost alternative. The Buck Island DMMA could be used in the future if there is no longer capacity at Bartram Island, or if the excavated material is suitable for construction fill. Unlike the Bartram Island DMMA, the Buck Island DMMA is accessible by road and material is truck hauled from this site and used for construction purposes. The designated ODMDS and upland placement locations have been previously coordinated with regulatory agencies, as well as other stakeholders, and have been used during multiple dredging events in the past. Therefore, the Corps has determined that the three placement alternatives are all environmentally acceptable for the proposed deepening and future maintenance dredging of the berths.

2.4 PREFERRED ALTERNATIVE(S)

The proposed deepening and future maintenance dredging of the berths with placement of excavated material within the designated ODMDS or upland locations (Bartram or Buck Island DMMAs) is the preferred alternative.

2.5 ALTERNATIVES ELIMINATED FROM ANALYSIS

Core borings taken in the vicinity of the berths indicate areas of silt and clay which would not be suitable for beach nourishment. Furthermore, the State's requirement, State Statutes 161.011-161.242, to place sand on the beach or nearshore typically applies to projects in inlet areas that interrupt the sand downshore littoral drift. The berthing area is not within or immediately adjacent to the inlet. Section 4 of State Statute 161.142 states: "...ports must demonstrate reasonable effort to place beach-quality sand from construction and maintenance dredging and port-development projects on adjacent eroding beaches in accordance with port master plans approved by the Department of Economic Opportunity, and permits approved and issued by the department, to ensure compliance with this section." Also, the current FDEP Strategic Management Plan only mentions maintenance dredging projects being used to fulfill the requirements. The Corps, in coordination with JAXPORT, has screened out the use of berthing area material for beach or nearshore placement due to the following: recent completion and upcoming renourishment of the Duval County Shore Protection Project which addresses critically-eroded down drift areas along the Duval coastline; the lack of a currently permitted nearshore placement area; the distance of the berths from the inlet (10 to 12 miles upriver) affecting both cost and applicability of Chapter 161, Florida Statutes; and areas of silt and clay within the berthing area that cannot be easily segregated to remove sandy material suitable for beach placement.

2.6 COMPARISON OF ALTERNATIVES

Table 1 lists alternatives considered and summarizes the major features and consequences of the proposed action and dredged material placement alternatives. See section 4.0 Environmental Effects for a more detailed discussion of potential impacts of alternatives.

Table 1: Summary of Direct and Indirect Impacts

ALTERNATIVE ENVIRONMENTAL FACTOR	No Action Status Quo	Proposed Action: Deepening and Future Maintenance Dredging of Berthing Areas	Placement of Dredged Material within the ODMDS	Placement of Dredged Material within Upland Locations (Bartram or Buck Island DMMA)
GENERAL ENVIRONMENTAL SETTING	Deepening would not occur. Periodic maintenance dredging would continue and be mitigated with implementation of protection measures.	Minor effects to physical conditions and biological resources would occur and would be mitigated with implementation of protection measures. Moderate disruption of JAXPORT operations due to dredging.	Minor effects to physical conditions and biological resources would occur and would be mitigated with implementation of protection measures.	Minor effects to physical conditions and biological resources would occur and would be mitigated with implementation of protection measures.
THREATENED AND ENDANGERED SPECIES (Federal and State listed species: West Indian manatee, sea turtles, North Atlantic right whale, wood stork, piping plover, Atlantic sturgeon, shortnose sturgeon, smalltooth sawfish. State listed species: gopher tortoise. Designated critical habitat: manatee and right whale).	Deepening would not occur. Periodic maintenance dredging would continue and be mitigated with implementation of protection measures.	May affect, but not likely to adversely affect, threatened and endangered species or designated critical habitat. Protection measures would be implemented.	May affect, but not likely to adversely affect, threatened and endangered species. Protection measures would be implemented.	May affect, but not likely to adversely affect, threatened and endangered species. Protection measures would be implemented.
MARINE MAMMALS (common bottlenose dolphin)	Deepening would not occur. Periodic maintenance dredging would continue and be mitigated with implementation of protection measures.	Minor effects to marine mammals may occur and would be mitigated with implementation of protection measures.	Minor effects to marine mammals may occur and would be mitigated with implementation of protection measures.	No effect.

ALTERNATIVE ENVIRONMENTAL FACTOR	No Action Status Quo	Proposed Action: Deepening and Future Maintenance Dredging of Berthing Areas	Placement of Dredged Material within the ODMDS	Placement of Dredged Material within Upland Locations (Bartram or Buck Island DMMA)
ESSENTIAL FISH HABITAT (EFH)	Deepening would not occur. Periodic maintenance dredging would continue and be mitigated with implementation of protection measures.	Minor effects to EFH would occur and would be mitigated with implementation of protection measures.	Minor effects to EFH would occur and would be mitigated with implementation of protection measures.	No effect.
MIGRATORY BIRDS	Deepening would not occur. Periodic maintenance dredging would continue and be mitigated with implementation of protection measures.	No effect.	No effect.	Monitoring may need to be implemented during placement operations to avoid adverse effects to nesting birds.
OTHER WILDLIFE RESOURCES	Deepening would not occur. Periodic maintenance dredging would continue. Minor effects to other wildlife resources would continue.	Minor effects to other wildlife resources.	Minor effects to other wildlife resources.	Minor effects to other wildlife resources.
WATER QUALITY	Deepening would not occur. Periodic maintenance dredging would continue and be mitigated with implementation of protection measures.	Short term minor increase in turbidity would occur and would be monitored. Protection measures shall be implemented.	Short term minor increase in turbidity would occur and would be monitored. Protection measures shall be implemented.	No effect.
HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE (HTRW)	No effect.	Encountering HTRW is not anticipated.	No effect.	No effect.

ALTERNATIVE ENVIRONMENTAL FACTOR	No Action Status Quo	Proposed Action: Deepening and Future Maintenance Dredging of Berthing Areas	Placement of Dredged Material within the ODMDS	Placement of Dredged Material within Upland Locations (Bartram or Buck Island DMMA)
AIR QUALITY	Deepening would not occur. Periodic maintenance dredging would continue and be mitigated with implementation of protection measures.	Short term minor effect from emissions by construction equipment. Protection measures shall be implemented.	Short term minor effect from emissions by construction equipment. Protection measures shall be implemented.	Short term minor effect from emissions by construction equipment. Protection measures shall be implemented.
CULTURAL, HISTORIC, AND ARCHAEOLOGICAL RESOURCES	No effect on historic properties listed or eligible for listing in the National Register of Historic Places (NRHP).	No effect on historic properties listed or eligible for listing in the National Register of Historic Places (NRHP).	No effect on historic properties listed or eligible for listing in the National Register of Historic Places (NRHP).	No effect on historic properties listed or eligible for listing in the National Register of Historic Places (NRHP).
NATIVE AMERICAN LANDS AND CONCERNS	There are no lands belonging to Native Americans in the project area.	There are no lands belonging to Native Americans in the project area.	There are no lands belonging to Native Americans in the project area.	There are no lands belonging to Native Americans in the project area.
NAVIGATION	Deepening would not occur. Commercial navigation would be severely hindered. As deep draft vessels increase in size they would not be able to navigate to the berthing area.	Significant benefits to deep draft vessels navigating to berthing area. Temporary disruption of deep draft vessel traffic during construction.	Short term minor effects to navigation.	No effect.
AESTHETICS	Deepening would not occur. Periodic maintenance dredging and minor effect to aesthetics would continue.	Minor effect to aesthetic characteristics. Larger ships would be transiting to berthing areas.	Short term minor effect to aesthetic characteristics. Construction vessels temporarily working within the ODMDS.	Short term minor effect to aesthetic characteristics. Construction equipment temporarily working within the DMMAs.

ALTERNATIVE ENVIRONMENTAL FACTOR	No Action Status Quo	Proposed Action: Deepening and Future Maintenance Dredging of Berthing Areas	Placement of Dredged Material within the ODMDS	Placement of Dredged Material within Upland Locations (Bartram or Buck Island DMMA)
RECREATION	Deepening would not occur. Periodic maintenance dredging and minor effect to recreation would continue.	Short term minor effect to boat based recreation due to presence of construction vessels.	Short term minor effect to boat based recreation due to presence of construction vessels.	No effect.
NOISE	Deepening would not occur. Periodic maintenance dredging and noise levels would continue to be short term and minor.	Underwater noise levels would reach moderate levels. Above water noise levels would be short term and minor.	Underwater noise levels would be temporary and reach moderate levels. Above water noise levels would be short term and minor.	Above water noise levels would be short term and minor.

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. 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

Blount Island and Dames Point have been significantly modified to support their current industrial base. The old St. Johns River channel meanders north of Blount Island and a manmade cut runs along the south of the island. Blount Island was once a series of islands within the St. Johns River. The islands were connected using training walls along the river channel to contain the main body of water flow in the navigation channel. Dredged material from maintenance work to remove shoals was placed along the back of the training walls and gradually filled the river bottom between the islands. The manmade cut along the south side of Blount Island, known as the Dames Point-Fulton Cut, removed three sharp turns in the river to enable larger vessels to safely navigate the river. Material from that cut went into the Blount Island DMMAs and aided in the formation of Bartram Island (formally known as Quarantine Island).

Blount Island and Dames Point, located approximately between River Miles 8 and 13, are major port areas operated by JAXPORT. The river has significant commercial and military vessel traffic that utilize the Federal navigation channel associated with the terminals at Dames Point and Blount Island.

3.1.1 ODMDS

The expanded Jacksonville ODMDS is located 4.4 nmi offshore and is 3.7 nmi and 2.7 nmi by 1.3 nmi in size (4.56 nmi^2). This open ocean site has been used for placement of dredged material since 1952. Material placed prior to the mid 1970's was placed in two alternate locations approximately 0.5 nmi east of the original Jacksonville ODMDS. In the late 1970's, material was placed south of the original site. The expanded ODMDS now encompasses the areas of historical disposal (Corps and USEPA 2007; Corps and USEPA 2014). Refer to the Final Environmental Impact Statement for Designation of an ODMDS Offshore Jacksonville, Florida (October 2014) for more detailed information.

Conditions and rules for use of this ODMDS are defined in the Site Management and Monitoring Plan (SMMP) for the site. The plan was developed by the Corps in 1997, and updated and revised between 2007 and 2010, and again in 2014. USEPA has approved the current 2014 plan.

3.1.2 BARTRAM ISLAND DMMA

Bartram Island is approximately 3.5 miles long by 4,000 feet at its widest point and is approximately 933 acres in size. It is located between the Jacksonville Harbor Federal navigation channel and Mill Cove. Bartram Island, formerly called Quarantine Island, has been used for storage of dredged material in some capacity since 1892 when the Federal government began building dikes and filling around Dames Point and eastward in order to improve flow and reduce shoaling in the Federal Navigation Channel (Corps 1981). Bartram Island contains five separate cells for storage and management of dredged material produced from the Federal navigation channel and JAXPORT's berthing areas. Cells A and B lie on West Bartram Island, Cell C is in the center of the island, and Cells G and F are located on east Bartram Island. The eastern end of Bartram Island lies due south of Blount Island and the Dames Point Bridge crosses eastern Bartram Island adjacent to disposal Cell F. The island is heavily disturbed as a result of continuous use as a dredged material disposal site since the earliest development of Jacksonville Harbor. JAXPORT owns Bartram Island in fee. JAXPORT provided the Corps a Certification of Lands in 1997 to use the DMMA in fee for the project.

3.1.3 BUCK ISLAND DMMA

Buck Island is approximately 4,000 feet long by 2,500 feet at its widest point and is approximately 150 acres in size. The island is located at the eastern terminus of Fort Caroline Road in Jacksonville, Florida. It is bordered on the north by the St Johns River, the south by Colorinda Creek, on the west by St Johns Creek, and the east by Chicopit Bay. Like Bartram Island, Buck Island is heavily disturbed as a result of continuous use as a dredged material disposal site. The island is leased by JAXPORT from the State of Florida. JAXPORT has provided the Corps an easement to access and place dredged material at the DMMA.

3.2 THREATENED AND ENDANGERED SPECIES

Table 2 lists threatened and endangered species that may occur in the project area, and that may be affected by the proposed work. They are protected in accordance with the Endangered Species Act of 1973, as amended, and/or by Florida State Statute.

Table 2: Status of Listed Species that May Occur Within the Study Area

Species	***State Listing****	***Federal Listing****
West Indian (Florida) Manatee	T	T
Green Sea Turtle	T	T
Loggerhead Sea Turtle	T	T
Leatherback Sea Turtle	E	E
Kemp's Ridley Sea Turtle	E	E
North Atlantic Right Whale	E	E
Wood Stork	T	T
Piping Plover	T	T
Gopher Tortoise	T	C
Atlantic Sturgeon	E	E
Short-nosed Sturgeon	E	E
Smalltooth Sawfish	E	E

* E=Endangered, T=Threatened, and C=Candidate

3.2.1 WEST INDIAN MANATEE

In the southeastern U.S., West Indian manatees are limited primarily to Florida and Georgia. This geographic group constitutes a separate subspecies named the Florida manatee (*Trichechus manatus latirostris*) and includes four recognized management units (Atlantic Coast, Southwest, Upper St. Johns River, and Northwest), based on regional manatee wintering sites (USFWS 2001; USFWS 2014). Manatees belonging to the Atlantic Coast unit are known to occur in the project area primarily during the spring, summer, and fall months. As water temperatures decline during the winter months, manatees generally leave the main stem of the St. Johns River and move to warm water refugia such as springs or industrial warm water discharges (O'Shea and Ludlow 1992). Since 1993, researchers at Jacksonville University have been conducting manatee surveys of the St. Johns River and other water bodies within Duval County. Manatees are occasionally recorded in the berthing area during these surveys but most observations occur further upstream. These data can be viewed at https://www.ju.edu/marco/latest-sightings.php. The St. Johns River has been designated critical habitat for this species.

3.2.2 GREEN SEA TURTLE

Green sea turtles (*Chelonia mydas*) typically occupy three habitat types: high-energy oceanic beaches, convergence zones in the pelagic (open ocean) habitat, and benthic (bottom) feeding grounds in relatively shallow, protected waters. Except when migrating green sea turtles are attracted to fairly shallow waters inside reefs, bays, inlets, lagoons, and shoals with an abundance of marine grass and algae (USFWS 2015a). During fisheries sampling, Florida Fish and Wildlife Conservation Commission (FWC) incidentally collected six green sea turtles in the near vicinity of Blount Island between 2001 and 2018. This is the only species of sea turtle that FWC has recorded in this area (Russ Brodie,

FWC, personal communication 2018). Green sea turtles have also been recorded by endangered species observers working on dredges within Jacksonville Harbor, but generally downstream of the project area. The Corps' Sea Turtle Database (http://el.erdc.usace.army.mil/seaturtles/disclaimer.cfm) indicates that hopper dredging within the harbor between 1994 and 2008 resulted in the take of one green sea turtle between St. Johns River Mile 0 (mouth of river) and 4. There is no designated critical habitat for this species within the project area.

3.2.3 LOGGERHEAD SEA TURTLE

The loggerhead sea turtle (*Caretta caretta*) is the most common species of sea turtle nesting along the Florida coast. It may be found hundreds of miles out to sea, as well as in inshore areas such as bays, lagoons, salt marshes, creeks, ship channels, and the mouths of large rivers (USFWS 2015b). During previous dredging operations, endangered species observers working on dredges have occasionally seen loggerhead sea turtles within Jacksonville Harbor, but generally downstream of the project area. A review of the Corps' Sea Turtle Database indicates that hopper dredging within Jacksonville Harbor between 1994 and 2008 resulted in the take of three loggerheads. All three takes occurred between St. Johns River Mile 0 (mouth of river) and 4. There is no designated critical habitat for this species within the project area.

3.2.4 LEATHERBACK SEA TURTLE

The leatherback (*Dermochelys coriacea*) is the most pelagic of the sea turtles and moves into coastal waters only during the reproductive season. It is the most migratory and wide ranging of all sea turtles (USFWS 2015c). This species may occasionally occur in the vicinity of the ODMDS. A review of the Corps' Sea Turtle Database indicates that hopper dredging within Jacksonville Harbor between 1994 and 2008 resulted in zero take of this species. There is no designated critical habitat for this species within the project area.

3.2.5 KEMP'S RIDLEY SEA TURTLE

Outside of nesting, the major habitat for Kemp's ridley sea turtles (*Lepidochelys kempii*) is the nearshore and inshore waters of the northern Gulf of Mexico (USFWS 2015d). However, this species is known to occur in nearshore waters along the east coast of Florida (Schmid and Ogren 1992). Endangered species observers have not recorded the Kemp's ridley sea turtle within the project area. A review of the Corps' Sea Turtle Database indicates that hopper dredging within Jacksonville Harbor between 1994 and 2008 resulted in zero take of this species. No critical habitat has been designated for the Kemp's ridley sea turtle.

3.2.6 NORTH ATLANTIC RIGHT WHALE

The North Atlantic right whale (*Eubalaena glacialis*) is one of the most endangered whales in the world. This species ranges from Iceland to eastern Florida, primarily in coastal waters. Coastal waters of the southeastern U.S. (off Georgia and northeastern Florida) are important wintering and calving grounds for right whales. Designated critical habitat for the North Atlantic right whale includes coastal waters extending from southern Georgia to Sebastian Inlet, Florida. The southern critical habitat area widens near the Georgia-

Florida boundary where the highest concentrations of individual whales gather during their winter calving season (typically December through March, with peak calving in December and January). During this time, the population consists primarily of mothers and newborn calves, some juveniles, and occasionally some adult males and non-calving adult females. Sightings of North Atlantic right whales within waters off Florida are limited to late fall to early spring months. Sightings are concentrated near northeastern Florida and southeastern Georgia (Firestone et al. 2008). In 2011, two individuals were spotted in the St. Johns River**.**

3.2.7 WOOD STORK

Wood storks (*Mycteria americana*) primarily occur in the southeastern United States with nesting areas mostly restricted to Florida, Georgia, and South Carolina (USFWS 2013). In the project vicinity, wood storks are occasionally observed feeding within the cells used for storage and management of dredged material on Bartram and Buck Island DMMAs. The project site is within the 13-mile foraging buffer of three nesting colonies of Wood Storks in Duval County (USFWS, 2018). No critical habitat has been designated for this species.

3.2.8 PIPING PLOVER

The piping plover *(Charadrius melodus)* is a rare to uncommon winter-spring-fall resident that can occur along both the Gulf and Atlantic coasts between August and May (Kale et al. 1990). This small shorebird has occasionally been observed at Bartram Island DMMA and may occasionally occur at Buck Island DMMA. There is no designated critical habitat for this species within the project area.

3.2.9 GOPHER TORTOISE

The eastern population of the gopher tortoise (*Gopherus polyphemus*), including Florida, is a candidate species for possible future listing as federally threatened or endangered (USFWS 2015e). It is currently listed as state threatened. This species has been documented at both the Buck Island and Bartram Island DMMAs. Corps' contractors, operating under a FWC permit, have relocated gopher tortoises at Buck Island to an approved recipient site; however, tortoises may be recolonizing this site. A small number of gopher tortoises have been observed in the eastern half of Bartram Island DMMA.

3.2.10 ATLANTIC STURGEON

The marine range of Atlantic sturgeon (*Acipenser oxyrinchus*) from the South Atlantic distinct population segment extends from the Hamilton Inlet, Labrador, Canada, to Cape Canaveral, Florida (NMFS 2012). There have been reports of Atlantic sturgeon tagged in the Edisto River (South Carolina) being recaptured in the St. Johns River, indicating this river may serve as a nursery ground; however, there are no data to support the existence of a spawning population (i.e. young-of-the-year or running ripe adults) in the St. Johns (Rogers and Weber 1995; Kahnle et al*.* 1998). The FWC reported that two juveniles (approximately 50 centimeters, age 1 or 2) were captured in the St. Johns River in February 2011, though these captures do not provide new evidence of spawning based

on the size/age classes of sturgeon caught (NMFS 2012). There is no designated critical habitat for this species within the project area.

3.2.11 SHORTNOSE STURGEON

The shortnose sturgeon (*Acipenser brevirostrum*) historically occurred in the St. Johns River (Gilbert, 1992); however, this species has experienced significant declines within its southern geographic range (Rogers and Weber 1994; Kahnle et al. 1998; Collins et al. 2000). Beginning in the spring of 2001, the Florida Fish and Wildlife Research Institute and the USFWS began research on the population status and distribution of the species in the St. Johns River. During approximately 4,500 hours of gill-net sampling in the St. Johns River from January through August of 2002 and 2003, only one shortnose sturgeon was captured in 2002. No critical habitat has been designated for this species.

3.2.12 SMALLTOOTH SAWFISH

The smalltooth sawfish (*Pristis pectinata*) is widely distributed within the coastal waters of the eastern and western Atlantic (Last and Stevens 1994). However, according to Simpfendorfer et al. (2008), this species' western Atlantic population was dramatically reduced during the 20th century, from widespread and abundant, to very rare with a restricted population range. They reported that the present core range of the western Atlantic population extends along the southern coast of Florida from the Ten Thousand Islands to Florida Bay, with moderate occurrence in the Florida Keys and at the mouth of the Caloosahatchee River. They also reported that smalltooth sawfish observations have not been recorded within the St. Johns River from 1950 to 2008 (Simpfendorfer et al. 2008). The occurrence of this species within the project area is highly unlikely. There is no designated critical habitat for this species within the project area.

3.3 MARINE MAMMALS

The common bottlenose dolphin (*Tursiops truncatus*) is protected under the Marine Mammal Protection Act of 1972. Common bottlenose dolphins occurring within the footprint of the proposed work belong to the Jacksonville Estuarine System (JES) Stock (Nekolny 2014). According to University of North Florida (UNF) researchers, Northern Florida Coastal Stock (CS) common bottlenose dolphins rarely venture further upriver than Naval Station Mayport, which is located at the river's mouth. UNF researchers have occasionally seen CS animals (who they consider transients) as far upriver as the confluence with the Intracoastal Waterway, but this is fairly rare. The JES Stock is defined as a separate estuarine stock primarily by the results of photo-ID and genetic studies. It is bounded in the north by the Florida/Georgia border at Cumberland Sound, abutting the southern border of the Southern Georgia Estuarine System Stock, and extends south to Jacksonville Beach, Florida (NOAA 2014).

UNF researchers have recorded a strong seasonal shift during winter in which almost all dolphin sightings within the river occurred between the Dames Point Bridge (River Mile 11) and the mouth of the river. The entrance to Mill Cove across from Blount Island is heavily used for socializing and resting. Also, the section of the river between the Hecksher dry dock facility and Chicopit Bay is heavily used for foraging (dry dock) and

socializing/resting (Chicopit). These are very clearly important areas for the dolphins year-round and are used by all age/sex classes of individuals (Dr. Quincy Gibson, UNF, personal communication 2015).

UNF conducted mark-recapture abundance estimates of common bottlenose dolphins in the St. Johns River and determined seasonal abundance estimates. Estimates ranged from 174-203 dolphins in summer and 74-109 in winter. These abundance estimates are based on “marked” or distinctive individuals only. UNF is in the process of revising the estimates to better account for unmarked individuals (Dr. Quincy Gibson, UNF, personal communication 2017). Because the abundance of the JES Stock is small, NMFS considers this to be a strategic stock under the Marine Mammal Protection Act. There are other cetaceans (dolphins and whales) that may occur offshore of the project area but are unlikely to be encountered.

3.4 ESSENTIAL FISH HABITAT

The substrate of the berthing area, totaling about 130 acres, consists primarily of loose to firm silts, shell and sands, and underlying soft to hard limestone rock. The water column and substrate of the lower St. Johns River and adjacent coastal waters are essential fish habitat (EFH) for species managed by the Mid-Atlantic Fisheries Management Council (MAFMC) and the South Atlantic Fisheries Management Council (SAFMC), and the NMFS, as well as their prey species (**Table 3** and **Table 4**, **Figure 4**).

The St. Johns River within the proposed project area has been designated a “Habitat Area of Particular Concern” (HAPC) by the MAFMC and the SAFMC. Habitats of particular concern are those important to the Summer Flounder, Coastal Migratory Pelagics, Snapper-Grouper Complex, and Penaeid Shrimp (SAFMC 1998; NMFS 2017). Depending on the species, most of the project area (the river mouth to Palatka) is identified as EFH (e.g. see habitat maps for penaeid shrimps at https://www.habitat.noaa.gov/protection/efh/efhmapper/).

Table 3: Managed species identified by the NMFS that are known to occur in St. Johns River and nearby coastal waters, Duval County, Florida.

Common Name	Species	HAPC	Presence
MAFMC			
Summer Flounder	*Paralichthys denatatus*	Yes	Year Round
Bluefish	*Pomatomus saltatrix*	No	Year Round
SAFMC			
Coastal Migratory Pelagics	5 species	No	Summer
Snapper-Grouper Complex	73 species	Yes	Summer
Penaeid Shrimp	3 species	Yes	Summer/Winter
Highly Migratory Atlantic Species			
Atlantic Sharpnose Shark	*Rhizoprionodon terraenvae*	No	Year Round
Blacktip Shark	*Carcharinus limbatus*	No	Summer
Blacknose Shark	*Carcharhinus acronotus*	No	Summer
Bonnethead Shark	*Sphyrna tiburo*	No	Year Round
Bull Shark	*Carcharhinus leucas*	No	Unknown/Rare
Dusky Shark	*Carcharhinus obscures*	No	Unknown/Rare
Finetooth Shark	*Carcharhinus isodon*	No	Unknown/Rare
Lemon Shark	*Negaprion brevirostris*	No	Unknown/Rare
Nurse Shark	*Gingloymostoma cirratum*	No	Unknown/Rare
Sandbar Shark	*Carcharhinus plumbeus*	Yes	Unknown/Rare
Sand Tiger Shark	*Odontaspis taurus*	No	Unknown /Rare
Scalloped Hammerhead	*Sphyrna lewini*	No	Seasonal Migration
Spinner Shark	*Carcharhinus brevipinna*	No	Seasonal Migration
Tiger Shark	*Galeocerdo cuvieri*	No	Unknown/Rare

Table 4: Prey species that May Occur within the Project Area.

Species	Life Stage	Substrate Preference	
		Unconsolidated Sediment	Salt Marsh & Tidal Channel
Ladyfish (*Elops saurus)*	A	A	
Striped anchovy (*Anchoa hepsetus)*	A, J, L	A, J, L	
Bay anchovy (*Anchoa mitchilli)*	A, J, L	A, J, L	
Scaled sardine (*Harengula jaguana)*	J	J	
Atlantic thread herring (*Opisthonema oglinum)*	A, J, L	A, J, L	
Sheepshead minnow (*Cyprindon variegates)*	A, J, L	A, J, L	A, J, L
Atlantic menhaden (*Brevoortia tyrannus)*	A, J, L	A	J, L
Yellowfin menhaden (*Brevoortia smithi)*	A, J, L	A	J, L
Bay scallop (*Argopecten irradians)*	A, J, L	A, J	L
Atlantic rangia (*Rangia cuneata)*	A, J, L	A, J, L	A, J, L
Quahog (*Mercenaria sp.)*	A, J	A, J	
Grass shrimp (*Palaemonetes pugio)*	A, J		A, J
Striped mullet (*Mugil cephalus)*	A, J	A, J	
Spot (*Leiostomus xanthurus)*	A, J	A	
Atlantic croaker (*Micropogonias undulates)*	A, J	A, J	
Silversides (*Menidia sp.)*	A, J, L	A, J, L	A, J, L
American eel (*Anguilla rostrata)*	A, J, L	J, L	A, J, L
Hardhead catfish (*Arius felis)*	A, J, L	A, J, L	
Gafftopsail catfish (*Bagre marinus)*	A, J, L	A, J, L	
Inshore lizardfish (*Synodus foetens)*	A, J, L		A, J, L
Oyster toadfish (*Opsanus tau)*	J	J	
Atlantic needlefish (*Strongylura marina)*	A, J, L	A, J, L	
Timucu (*Strongylura timucu)*	J	J	
Killifish (*Fundulus sp.)*	A, J, L		A, J, L
Sailfin molly (*Poecilia latipinna)*	A, J, L		A, J, L
Pipefish (*Sygnathus sp.)*	A, J, L		A, J, L
Sea robin (*Prionotus sp.)*	J	J	
Mojarra (*Eucinostomus sp.)*	A, J	A, J	
Pinfish (*Lagodon rhomboides)*	A, J, L	A, J, L	A, J, L
Silver perch (*Bairdiella chrysoura)*	A, J, L	A, J, L	
Kingfish (*Menticirrhus sp.)*	A, J	A, J	
Gobies (*Bathygobius sp., Gobionellus sp.)*	A, J, L	A, J, L	A, J, L

Source: Dennis et al. 2001; SAFMC 1998; University of Florida 2008.
A=adult; J=juvenile; L=larvae

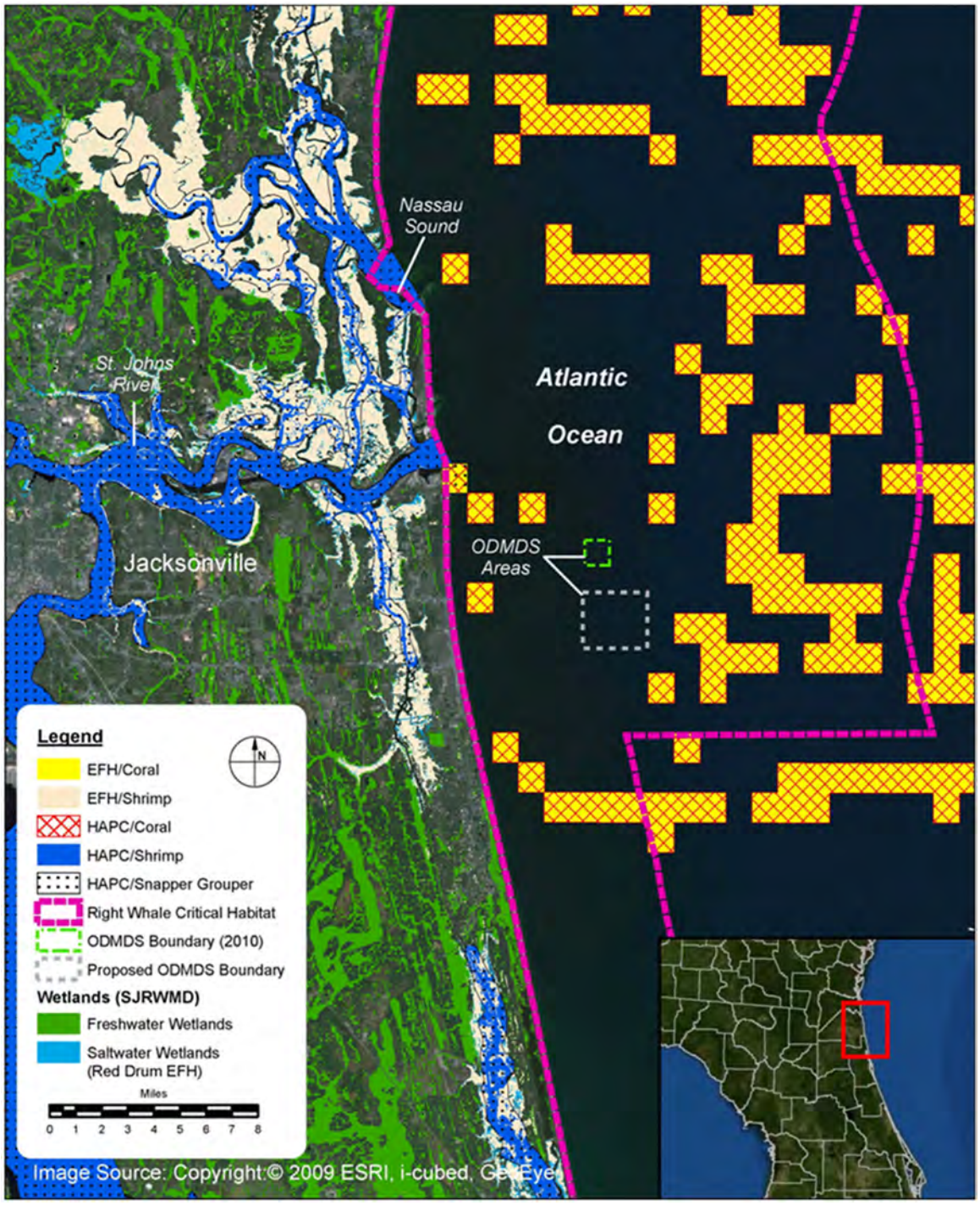


FIGURE 4: Essential Fish Habitat (EFH) and habitat areas of particular concern (HAPC) within the lower St. Johns River and adjacent coastal waters

3.5 MIGRATORY BIRDS

The Migratory Bird Treaty Act applies to over 800 species of migratory birds and protects both live and dead birds and bird parts (including nests, feathers, and eggs). Over 200 species, including fulltime residents and seasonal migratory bird species visit the St.

Johns River, as it lies along the Atlantic flyway for birds migrating to winter habitat in the Caribbean, Central and South America, and Florida (SJRWMD 2012).

Numerous species including both migratory and non-migratory species have been recorded as part of monitoring efforts at dredged material management areas maintained by the Corps (**Table 5**: Bartram Island, Buck Island). Note that this is a partial list of species recorded at these locations.

Table 5: Records of Bird Species from locations in the project construction area

Common Name	Species	2006-2010 Bartram Island[1]	2006-2010 Buck Island[2]
American Crow	*Corvus brachrhynchos*	x	
American Redstart	*Setophaga ruticilla*		x
American Robin	*Turdus migratorius*	x	
American White Pelican	*Pelecanus erythrorhynchos*		x
Anhinga	*Anhinga*	x	x
Bald Eagle	*Haliaeetus leucocephalus*		x
Black-bellied Plover	*Himantopus mexicanus*	x	
Black Skimmer	*Rynchops niger*	x	
Black Vulture	*Coragyps atratus*		x
Black-crowned Night Heron	*Nycticorax*		x
Black-necked Stilt	*Himantopus mexicanus*	x	x
Canada Goose	*Branta canadensis*		x
Cattle Egret	*Bubulcus ibis*		x
Common Grackle	*Quiscalus quiscula*	x	
Common Ground Dove	*Columbina passerine*	x	
Common Tern	*Sterna hirundo*	x	
Common Yellowthroat	*Geothylypis trichas*	x	x
Cooper's Hawk	*Accipiter cooperii*	x	
Double-crested Cormorant	*Phalacrocorax auritus*	x	x
Dowitcher spp.	*Limnodromus spp.*	x	x
Dunlin	*Calidris alpina*	x	x
Eurasian Collared Dove	*Streptopelia decaocto*		x
Fish Crow	*Corvus ossifragus*		x
Gadwall	*Anas strepera*	x	x
Great Black-backed Gull	*Larus marinus*	x	x
Great Blue Heron	*Ardea beroaies*	x	x
Great Egret	*Ardea alba*	x	
Greater Yellowlegs	*Tringa melanoleuca*	x	x
Gull-billed Tern	*Gelochelidon nilotica*		x
Killdeer	*Charadrius vociferus*	x	x
Laughing Gull	*Larus atricilla*	x	x
Least Sandpiper	*Calidris minutilla*	x	x
Least Tern	*Stema albifron*	x	x
Lesser Yellowlegs	*Tringa flavipes*		x
Little Blue Heron	*Egretta caerulea*	x	x
Mottled Duck	*Anas fulvigula*	x	x

Common Name	Species	2006-2010 Bartram Island[1]	2006-2010 Buck Island[2]
Mourning Dove	*Zenaida macroura*	x	x
Northern Harrier	*Circus cyaneus)*	x	x
Northern Mockingbird	*Mimus polyglottos*		x
Northern Shoveler	*Anas clypeata*	x	
Osprey	*Pandion haliaetus*		x
Peep spp.	*Calidris spp.*	x	
Piping Plover	*Charadrius melodus*	x	
Purple Sandpiper	*Erolia maritima*	x	
Red-winged Blackbird	*Agelaius phoeniceus*	*x*	x
Red-tailed Hawk	*Buteo jamaicensis*		x
Red-winged Blackbird	*Agelaius phoeniceus*	x	x
Roseatte Spoonbill	*Ajaia ajaja*	*x*	x
Royal Tern	*Thalasseus maximus*		x
Ruddy Turnstone,	*Arenaria interpres*	x	x
Sanderling	*Calidris alba*	x	x
Sandwich Tern	*Thalasseus sandvicensis*		x
Semipalmated Plover	*Charadrius semipalmatus*	x	x
Snowy Egret	*Earetta thula*	x	x
Spotted Sandpiper	*Actitis macularius*	x	
Stilt Sandpiper	*Calidris himantopus*	x	x
Swallow-tailed Kite	*Elanoides forficatus*	x	x
Tree Swallow	*Tachycineta bicolor*		x
Turkey Vulture	*Cathartes aura*		x
Western Sandpiper	*Calidris mauri*		x
White Ibis	*Eudocimus albus*		x
White Pelican	*Pelecanus evthrorhvnchos*	x	
Willet	*Tringa semipalmata*		x
Wilson's Plover	*Charadrius wilsonia*	x	x
Wilson's Snipe	*Gallinago delicata*	x	
Wood Stork	*Mvcteria americana*	x	x

1. Bartram Island Bird Monitoring reports, various dates 2006-2010.
2. Buck Island Bird Monitoring reports, various dates 2006-2010.

3.6 OTHER WILDLIFE RESOURCES

In addition to the protected species and EFH resources described above, the project area supports other marine organisms. Oysters can be found on the bulkheads of the berthing areas. Other macroinvertebrates commonly found in soft-bottom estuarine habitat in northeast Florida include annelids, a variety of mollusks other than oysters, arthropods, sponges, and polyps (Hoffman and Olsen 1982).

A number of authors have made investigations of the number and kinds of invertebrates in the LSJR. Most recently, Hymel (2009) produced a literature based inventory of benthic macroinvertebrates in the Timucuan Ecological and Historic Preserve (TIMU), reporting that in TIMU, six stations from the Environmental Monitoring and Assessment Program (EMAP), 27 from the LSJR studies, and four from a 2003 commissioned study, documented more than 350 benthic macroinvertebrates (BMI) taxa. Dominant BMI taxa included polychaetes (*Sabellaria vulgaris*, *Tharyx* spp., *Aphelochaeta marion*i, *Paraonis fulgens*, *Caullerilla* spp., *Streblospio benedicti*, *Mediomastus* spp., *Marenzellaria viridis*, *Podarke* spp., *Paraprionospio pinnata*), gastropods (*Boonea impressa*, *Nassarius obsoletus*), bivalves (*Pleuromeris tridentata*, *Tellina versicolor*, *Gemma* spp., *Abra aequalis*), amphipods (*Rhepoxynius hudsoni*, *Protohaustorius deichmannae*, *Apocorophium lacustre*), and phoronid worms (*Phoronis* spp.).

Commercial fishing in the St. Johns River from Duval County south includes the estuarine harvest of species such as American eel, American shad, blue crab, mullet, and all species of catfish (Brody 1994). Recreational anglers also fish for these taxa and other species such as penaeid shrimp (where almost all the commercial catch comes from the nearshore Atlantic). The shrimp spend a significant portion of their lifetime, however, in the lower St. Johns River (SJRWMD 2012; MacDonald et al. 2009).

3.7 WATER QUALITY

The State of Florida classifies the lower St. Johns River (LSJR) main channel as Class III (designated uses: Fish Consumption; Recreation, Propagation and Maintenance of a Healthy, Well-Balanced Population of Fish and Wildlife). Florida's Surface Water Improvement and Management (SWIM) Act of 1987 identified the LSJR as a priority water body for immediate restoration. In 1993, the St. Johns' River Water Management District completed the required SWIM Plan (Campbell et al.1993). The SWIM plan noted that river water quality was degraded in parts of the main stem and in many of the tributaries. Water quality degradation had occurred due to nonpoint source pollution from agricultural, urban, and industrial runoff; point source pollution from numerous permitted and unpermitted sources; leaking septic tank drain fields and other sources. Water (and sediment) quality issues included high nutrient loads, high turbidity, low dissolved oxygen, and chemical contamination.

The State of the River Report (Jacksonville University/University of North Florida/Valdosta State University 2017) provides the most recent summary of water quality conditions in the LSJR basin. The report examined status and trends of several water quality indicators (dissolved oxygen [DO], nutrients, turbidity, algal blooms, fecal coliforms, and metals) with respect to historical conditions and current water quality criteria (WQC). The report notes that while water quality problems remain, several measures of water quality have improved during recent years. The remainder of this section summarizes information from the 2017 report.

The trends of some indicators have improved:

- Total nitrogen levels in the main stem and tributaries have declined.

- Total phosphorus levels in the main stem and tributaries have declined.
- Dissolved oxygen levels in the main stem are improving.

The trends of some indicators have worsened:

- Salinity has gradually risen over the last two decades and is expected to continue its increase, with increasing potential negative impacts on submerged aquatic vegetation and the aquatic life that depends upon it.

The trends of many indicators are unchanged:

- Dissolved oxygen levels in the tributaries have remained unsatisfactory and have not shown improvement.
- Chlorophyll a, an indicator of harmful algal blooms, has not decreased in the ten-year timeframe and shows no indication of decreasing soon.
- Fecal coliform levels remain significantly above water quality criteria in many tributaries.
- Submerged aquatic vegetation has experienced some very recent regrowth due to rainfall, but the long term trend is uncertain.

3.8 HAZARDOUS, TOXIC, OR RADIOACTIVE WASTES

There are no known sources of hazardous, toxic, or radioactive wastes (HTRW) within the proposed project footprint. HTRW includes any material listed as a "hazardous substance" under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA); Occupational Safety and Health Act of 1970 (OSH Act); the Resource Conservation and Recovery Act (RCRA); the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA); and the Emergency Planning and Community Right-to-Know Act (EPCRA). The Clean Water Act (CWA) also addresses hazardous materials and waste through Spill Prevention, Control, and Countermeasures (SPCC) and National Pollutant Discharge Elimination System (NPDES) requirements. Per the Resource Conservation and Recovery Act of 1976, as amended by the Hazardous and Solid Waste Amendments of 1984 (42 USC § 6903[5]), the definition of hazardous waste is as follows: The term ‘‘hazardous waste’’ means a solid waste, or combination of solid wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may: (A) Cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or (B) Pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed.

An HTRW Assessment for River Miles 0-20 of the St. Johns River Federal channel, as well as various potential Dredged Material Management Area (DMMA) sites in the project vicinity was conducted by the Corps in 2013. Based upon a review of current and previous HTRW assessments, the project area is highly likely to be free of HTRW materials.

3.9 AIR QUALITY

USEPA currently defines the Jacksonville/Duval County area as an air quality attainment area meaning the area meets Federal ambient air quality standards. In accordance with

Federal and State regulations, the City of Jacksonville, Environmental Quality Division (EQD) monitors and reports concentrations of carbon monoxide, sulfur dioxide, nitrogen dioxide, ozone, and particulate matter. EQD monitors ambient air quality at eleven stations strategically located throughout Duval County. The data provide the information necessary to develop the air quality index the city reports on a daily basis. On most days from 2013 through 2017 (83%), air quality in Jacksonville has measured "Good" (**Table 6**). During 16% of the time the air was judged "Moderate", and less than 1% of the time the air fell below Moderate (**Table 6**).

Table 6: City of Jacksonville/Duval County Air Quality Index History

	Days Per Year			
Year	**Good**	**Moderate**	**Unhealthy For Sensitive Groups**	**Unhealthy**
2017	299	35	1	0
2016	294	72	0	0
2015	300	64	1	0
2014	284	79	2	0
2013	330	34	1	0
	83%	**16%**	**<1%**	**0%**

Good - Air quality is considered satisfactory, and air pollution poses little or no risk.
Moderate - Air quality is acceptable; some pollutants may present a moderate health concern for very few people.
Unhealthy for Sensitive Groups - General public is not likely to be affected; people with lung disease, older adults, and children are at a greater risk from exposure to ozone, whereas persons with heart and lung disease, older adults and children are at greater risk from the presence of particles in the air.
Unhealthy - Everyone may begin to experience some adverse health effects, and members of the sensitive groups may experience more serious effects.

Source: http://www.coj.net/departments/neighborhoods/environmental-quality/ambient-air-monitoring-activity.aspx

3.10 CULTURAL, HISTORIC AND ARCHAEOLOGICAL RESOURCES

The earliest widely accepted date of occupation by aboriginal inhabitants of Florida dates from around 12,500 years ago, and new evidence suggests that people were present in the region even earlier. This earliest cultural period, called the Paleo-Indian period, lasted until about 10,000 Y years before present (YBP). Sea level was lower and the continental shelves were exposed (an area almost twice the width of the current size of Florida). The St. Johns River was smaller and more deeply entrenched due to lower sea level, exposing land on both sides of the river that is now submerged. Channel meanders, point bars, and bluffs that once existed have been eroded and are now submerged by sea level rise. The stabilization of sea levels resulted in the formation of estuaries where Archaic period populations heavily exploited coastal resources. Known terrestrial archaeological sites in Duval County mostly date to the Late Archaic time period and are located along existing inland waterways and marshes. Presumably, Early Archaic sites (~9,000 YBP) are located in now drowned river valleys and positive relief features offshore since sea level rose around 10,000 years ago.

European entry into the area began with the French, under Jean Ribault in 1562, and continued with Spanish attempts to colonize northeastern Florida. Fort Caroline was built along the banks of the St. Johns River by the French in 1564, but was captured by the Spanish in 1565. Spain maintained control of northeastern Florida until 1763 when the British took it over (Tebeau 1999). Great Britain returned Florida to the Spanish in 1784 and finally Florida became a part of the United States in 1821. More than 50 shipwrecks have been recorded in the vicinity of Duval County, including the St. John's River and offshore in the Atlantic (Singer 1996). Due to the long maritime history of the Atlantic Coast and the St. Johns River, and fact that the once exposed river valleys were available for occupation during prehistory, there is potential for submerged historic properties to be adversely impacted by the proposed project.

Several previous submerged cultural resource investigations have been completed within and adjacent to the proposed study area including "A Cultural Resources Assessment Survey and Archaeological Testing of the Proposed JAXPORT Dames Point Marine Terminal, Duval County, Florida" (Johnson 2006); "Phase I Remote Sensing Marine Archaeological Survey and Anomaly Identification at the Dames Point Container Terminal Site St. Johns, Jacksonville, Florida" (Tubby and Watts 2006); "Cultural Resources Remote Sensing Survey of the Jacksonville Harbor Project General Reevaluation Report 2, Duval County, Florida" (James and Faught 2010); and "Diver Identification and Archaeological Testing: Addendum to Cultural Resources Remote Sensing Survey of the Jacksonville Harbor Project GRR2, Duval County, Florida" (Faught and James 2011).

Johnson's (2006) investigation identified 8DU17760 and 8DU17761, two low-density prehistoric sites on terrestrial portions of the property during his survey. Neither site was determined eligible for inclusion in the National Register of Historic Places (NRHP). Faught and James (2011) identified 8DU21117 approximately 2.0 miles west of the study dredge area. Site 8DU21117, a submerged middle archaic site, was determined eligible for inclusion in the NRHP; however, the site is located well outside of the proposed dredging area and over 0.5-miles from the Bartram Island DMMA.

In 2012, PCI conducted a remote sensing survey of portions of the Jacksonville ODMDS titled "CR Remote Sensing Survey of the Jacksonville Harbor Project Potential Ocean Dredged Material Disposal Sites alternatives 1 and 2, Duval County, Florida" (James et al. 2012). The survey identified 55 MAG anomalies, 24 sidescan sonar contacts, and 405 sub-bottom features. PCI recommended avoidance of seven areas consisting of eight MAG anomalies (M-014, M-016, M-017, M-050, M-052, M-053, M-054, and M-055), and four sub-bottom features including a protective buffer. There was no determination of effects at this time. The State Historic Preservation Office (SHPO) concurred with these determinations and found the report complete (DHR Project File No. 2012-00444). In July 2012, PCI completed an archaeological diver ID of two sub-bottom features and three magnetic anomaly clusters that were identified during a remote sensing survey of the (ODMDS) (Lydecker et al. 2012). The anomalies were determined to be non-cultural or too deeply buried to be investigated. In a letter dated October 1, 2012, SHPO concurred with the determination of no effect (DHR Project File No. 2012-04037). In June 2014, the

Corps completed a submerged cultural resource investigation of a portion of the Jacksonville Harbor ODMDS which had previously not been surveyed. The survey is located adjacent and to the south of the previous ODMDS extension area. The report generated from this investigation is titled Submerged Cultural Resources Survey of the Duval County Shore Protection Project, Duval County, Florida: Addendum to the CR Marine Remote Sensing Survey of the Jacksonville Harbor ODMDS (Weaver and Spinning 2016). The report identified three magnetic anomalies (9, 11, and 14) that were possibly indicative of significant submerged cultural resources. The final borrow area (now ODMDS) was redesigned to exclude these targets from project impacts (DHR Project File No. 2016-1371).

Bartram Island, formerly called Quarantine Island, has been used for storage of dredged material in some capacity since 1892 (Corps, 1981). The island is heavily disturbed as a result of continuous use as a dredged material disposal site for over 100 years. The majority of Bartram Island has not been previously surveyed; however, some areas surrounding the proposed project have been subjected to previous archaeological investigations and no resources have been identified. Studies include: “A Cultural Resources Assessment Survey and Archeological Testing of the Proposed JAXPORT Dames Point Marine Terminal, Duval County, Florida” Johnson (2006) and the “Cultural Resources Remote Sensing Survey of the Jacksonville Harbor Project GR2, Duval County, Florida” (James and Faught 2010). In 2005, the Corps determined that a project to raise the existing dikes on Bartram Island had no potential to effect historic properties. The SHPO concurred with the Corps determination of no effect (DHR No. 2005-2436).

Buck Island, The Island is heavily disturbed as a result of continuous use as a dredged material disposal area. Portions of Buck Island were surveyed by Russo et al. (1993) as part of a National Park Service (NPS) and University of Florida cultural resources survey of Timucuan Ecological and Historic Preserve. This work was documented in The Timucuan Ecological and Historic Preserve Phase III Final Report. No archaeological sites recorded within or adjacent to the Buck Island DMMA.

3.11 NATIVE AMERICAN LANDS AND CONCERNS

No portion of the proposed action is located within or adjacent to known Native American-owned lands, reservation lands, or Traditional Cultural Properties. However, Native American groups have lived throughout the region in the past and their descendants continue to live within the State of Florida and throughout the United States. Pursuant to Section 106 of the National Historic Preservation Act (NHPA) (54 U.S.C. §306101 et. seq.) obligations regarding Corps’ Trust Responsibilities to Federally-recognized Native American Tribes, and in consideration of the Burial Resources Agreement between the Corps and the Seminole Tribe of Florida, consultation is ongoing with Native American tribes having ancestral ties to this region, including the Seminole Tribe of Florida, the Seminole Nation of Oklahoma, Thlopthlocco Tribal Town and the Miccosukee Tribe of Indians of Florida.

3.12 NAVIGATION

Jacksonville Harbor is the primary deep draft port for waterborne commerce in northeast Florida. The closest major ports to Jacksonville Harbor are Savannah Harbor, which is located about 150 statute miles to the north in Georgia, and Canaveral Harbor, about 170 miles to the south in Florida. Jacksonville Harbor allows for transportation of international and domestic cargo to and from the terminals located along the Federal channel. The existing harbor project provides access to deep draft vessel traffic using terminal locations located in the City of Jacksonville.

Total tonnage handled in the port is approximately 18.5 million tons according to the Waterborne Commerce of the U.S. 2016. This tonnage is sufficient to place the port among the top three cargo ports in the State of Florida and 35th in the country.

Coal, petroleum products, food and farm products, vehicles and parts, and construction materials made up over 75% of the cargo composition. These commodities transit primarily on container, liquid bulk and dry bulk vessels.

3.13 AESTHETIC RESOURCES

NEPA requires the "Federal Government to use all practicable means ... [to] ... assure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings ... [and to] ... preserve important historic, cultural, and natural aspects of our national heritage, and maintain, wherever possible, an environment which supports diversity and variety of individual choice." 42 USC § 4331. In the NEPA context, the aesthetic concept is used when referring to things (i.e. beauty) that are apprehended through human senses (i.e. visual) (USEPA 1973). Perkins and Brown (1999) also defined environmental aesthetics as the interaction between an individual and the environment in relation to beauty.

The northern shoreline of the project area is comprised of major marine terminals on Blount Island and Dames Point. Specifically, the terminals include hardened shoreline (bulkheads), large cranes for loading and unloading containers filled with commodities, space and facilities for containers and, when docked, deep draft vessels. Bartram Island is located just south of the study area. The island has been historically used for the placement and management of dredged material and consists of diked cells which are bordered by wetlands and/or disturbed uplands. The main stem of the St. Johns River lies between the northern shoreline and Bartram Island and is typically 1,500 to 2,000 feet wide in this area. Mill Cove, a large shallow expanse of open water, and the southern shoreline of the St. Johns River lie to the south of Bartram Island. Dense residential areas are found all along this portion of the southern shoreline. Overhead, the Dames Point Bridge and I-295 spans this reach of the river. In summary, land use within the project area consists primarily of developed areas on both the northern and southern shorelines. The river within the project area is routinely traversed by commercial and military vessels.

3.14 RECREATION RESOURCES

Recreational boat traffic regularly transits through the project area via the St. Johns River, including the main stem as well as Mill Cove. Fishing is a popular recreational activity within the river. Other types of recreation includes such activities as sailing and pleasure boating.

3.15 NOISE

The ambient (or surrounding) noise level of the project area includes human (deep draft commercial and military vessels, recreational boat traffic, aircraft, construction activities, etc.) and natural (wind, waves, birds, etc.) sources. All of these sources are intermittent; their strength, as well as frequency, can vary considerably due to the type of activity, distance from receptor, and weather conditions. USEPA has established that construction noise resulting in an hourly equivalent sound level of 75 dB at a sensitive receptor (e.g., hospital, residence, church) would represent a significant impact. However, there are no sensitive receptors in the vicinity of the project. In addition to noise in the air, commercial and military vessels, dredging, pile driving and other construction activities, as well as recreational boat traffic produce underwater noise. Commercial and military vessels are some of the most common sources of ambient underwater noise in the project area (**Table 7)**. Dredging operations, including projects performed by JAXPORT and the Corps, are periodically conducted in or near the project area (**Table 7**). Natural underwater noise is also produced by tides, currents, waves, and marine mammals.

Table 7: Sound levels generated by dredges and commercial commercial shipping.

SHIP OR DREDGE TYPE	UPPER LIMIT SOUND PRESSURE LEVEL (SPL) dB re: 1 uPa-1m rms	COMMENTS (cited sources consider frequencies less than 1000 Hz)	SOURCE
COMMERCIAL SHIPPING			
Container Vessels and Supertankers	172 to 190	Ships running in length from 135 to 337 meters. Dominant frequencies of sound source less than 500 Hz; most below 100 Hz.	Buck and Chalfant (1972), Ross (1976), Thiel and Odegard (1983) as reported in Richardson et al. 1995.
Commercial Shipping-Container(Maersk Idaho)	188.9	Sound Exposure Levels (SEL) were not used in this study, as the author cited unrealistic assumption of a static environment associated with the SEL parameter. Propeller cavitation is generally considered the foremost sound source of commercial ships, which generally occur and increase with higher speeds, generally in excess of 10 knots and more.	Reine, J. Kevin, Clarke, Douglas, Characterization of underwater sounds produced by hydraulic and mechanical dredging operations, pg 4/15
Commercial Shipping - Container (MMSI Number 211207740)	188.1	Propeller cavitation and accoustical interference (constructive) cited as factors	McKenna, F. Megan, Ross Donald, Underwater radiated noise from modern commercial ships, pg 5/12
Commercial Shipping - Container (MMSI Number 440223000)	187.4	Propeller cavitation and accoustical interference cited as factors	McKenna, F. Megan, Ross Donald, Underwater radiated noise from modern commercial ships, pg 5/12
DREDGES BY CLASS			
Three different large sized hopper dredges	179 to 187	Levels are similar to commercial shipping and propeller cavitation also considered principal source. Cavitation is not considered problematic while dredging, which occurs at about 2 knots. Instead, cavitation occurs during the transport process, at higher speeds. Note that larger hopper are generally NOT used on the east coast	Reine, J. Kevin, Clarke, Douglas, Characterization of underwater sounds produced by hydraulic and mechanical dredging operations, pg 12/15
Three different medium sized hopper dredges	161 to 178	Levels are less than commercial shipping and propeller cavitation considered principal source. These are the size ranges generally used on the east coast	Reine, J. Kevin, Clarke, Douglas, Characterization of underwater sounds produced by hydraulic and mechanical dredging operations, pg 12/15
Mechanical Dredge Dredging Rock (Large Backhoe, The New York)	151	Levels are significantly lower than those produced from commercial shipping	Reine, J. Kevin, Clarke, Douglas, Characterization of underwater sounds produced by hydraulic and mechanical dredging operations, pg 7/15
Large Cutterhead Dredge (The Florida), Dredging Rock	175	Levels are lower than those produced by commercial shipping	Reine, J. Kevin, Clarke, Douglas, Dickerson, Charles, Characterization of Underwater Sounds Produced by a Hydraulic Cutterhead Dredge Fracturing Limestone Rock, pg 17/19

4 ENVIRONMENTAL EFFECTS

This section is the scientific and analytic basis for the comparisons of the proposed dredging, dredged material placement alternatives, as well as the no action alternative. 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 GENERAL ENVIRONMENTAL EFFECTS

4.1.1 PROPOSED ACTION, DEEPENING AND FUTURE MAINTENANCE DREDGING OF THE BERTHING AREA

Deepening and future maintenance dredging of the berthing area (approximately 130 acres) would result in minor physical and biological changes to this previously and significantly modified portion of the river; specifically, the berthing area would be deepened from the existing 40 foot depth plus 2 feet to 47 feet plus 2 feet. The resulting substrate is expected to be similar to the existing conditions, which is a mixture of loose to firm silts, shell and sands, and underlying soft to hard limestone rock. JAXPORT operations, particularly the ability of deep draft vessels to dock at the berthing area, would be temporarily disrupted due to dredging.

4.1.2 PLACEMENT OF DREDGED MATERIAL WITHIN THE ODMDS

Approximately 1,301,521 cubic yards sediment and rock resulting from the deepening of the berthing area would be placed within the expanded Jacksonville ODMDS. Much smaller quantities of future shoal material would be maintenance dredged and may also be placed within this open ocean site. Berthing area sediment samples have been tested in accordance with Section 103 of the Marine Protection, Research, and Sanctuaries Act and have been approved by USEPA for placement within the Jacksonville ODMDS. Dredged material from the berthing area is likely to be transported to this site within a bottom opening scow and tug boat. All placement would be performed in compliance with the Site Material Management Plan (2014). Refer to the Final Environmental Impact Statement for Designation of an ODMDS Offshore Jacksonville, Florida (October 2014) for more detailed information.

4.1.3 PLACEMENT OF DREDGED MATERIAL WITHIN UPLAND LOCATIONS (BARTRAM OR BUCK ISLAND DMMAS)

Future shoal material shall be maintenance dredged and may be placed within the Bartram Island DMMA. This option would likely be the least cost alternative due to the proximity of this DMMA to the berthing area as well as the expected relatively small quantities of shoal material. The Buck Island DMMA could also be used in the future if there is no longer capacity at Bartram Island, or if the excavated material is suitable to be used for construction fill. Unlike the Bartram Island DMMA, the Buck Island DMMA is accessible by road and material is truck hauled from this site and used for construction purposes. As previously stated, both DMMAs consist of diked cells surrounded by disturbed uplands and/or fringe wetlands. Minor physical and biological effects are

expected with continued placement of dredged material within diked cells at Bartram and Buck Island. These upland placement locations have been previously coordinated with regulatory agencies as well as other stakeholders and have been used during multiple dredging events in the past. Maintenance dredged material would be piped as a slurry, water and sediment, to the appropriate cell at either of these DMMAs.

4.1.4 NO ACTION ALTERNATIVE (STATUS QUO)

Periodic maintenance dredging of the berthing area would continue, but deepening would not occur. The depth of the berthing area would remain the same. Dredged material from future maintenance dredging would likely be placed within Bartram or Buck Island DMMAs.

4.2 THREATENED AND ENDANGERED SPECIES

Table 8 summarizes threatened and endangered species that may occur in the project area, effect determinations, and consultations between NMFS, USFWS and the Corps regarding those effects.

Table 8. Threatened and Endangered Species that may occur in the project area, effect determinations, and interagency consultation.

Common Name	Scientific Name	Status	Determination	SARBO	Individual Consultation
Marine Mammals					
West Indian Manatee	*Trichechus manatus*	E	MANLAA		03/12/2019
North Atlantic Right Whale	*Eubalaena glacialis*	E	MANLAA	Included in 2020 SARBO	
Sea Turtles					
Green Sea Turtle	*Chelonia mydas*	T	MANLAA	Included in 2020 SARBO	
Loggerhead Sea Turtle	*Caretta caretta*	T	MANLAA	Included in 2020 SARBO	
Leatherback Sea Turtle	*Dermochelys coriacea*	E	MANLAA	Included in 2020 SARBO	
Kemp's Ridley Sea Turtle	*Lepidochelys kempii*	E	MANLAA	Included in 2020 SARBO	
Birds					
Wood Stork	*Mycteria americana*	T	MANLAA		03/12/2019
Piping Plover	*Charadrius melodus*	T	MANLAA		03/12/2019
Turtles					
Gopher Tortoise	*Gopherus polyphemus*	C	NA		NA
Fish					
Atlantic Sturgeon	*Acipenser oxyrinchus*	E	MANLAA	Included in 2020 SARBO	
Short-nosed Sturgeon	*Acipenser brevirostrum*	E	MANLAA	Included in 2020 SARBO	
Smalltooth Sawfish	*Pristis pectinata*	E	MANLAA	Included in 2020 SARBO	

E=Endangered, T=Threatened, C=Candidate for Listing as Threatened or Endangered; MANLAA=May Affect Not Likely to Adversely Affect. SARBO=South Atlantic Regional Biological Opinion; NA=Not Applicable

4.2.1 PROPOSED ACTION, DEEPENING AND FUTURE MAINTENANCE DREDGING OF THE BERTHING AREA

The Corps has determined that the proposed action, deepening and future maintenance dredging of the berthing area, may affect, but is not likely to adversely affect, West Indian manatee and its designated critical habitat, sea turtles, Atlantic sturgeon, shortnose sturgeon or smalltooth sawfish. The USFWS concurred with the Corps' determination on the manatee in a letter dated March 12, 2019. The Corps South Atlantic Division, by email dated September 11, 2019, stated that they have coordinated the Preferred Alternative with the NMFS and it was determined that the work shall be covered by the new SARBO which was subsequently issued on March 27, 2020. All of the above listed species, other than the manatee, are covered under the SARBO.

Dredge, dredge support, and construction vessel traffic would be operating within the berthing area. To make the contractor and his personnel aware of the potential presence of protected species in the berthing area, their endangered or threatened status, and the need for precautionary measures, the contract specifications would include, but would not necessarily be limited to the following protection clauses:

- The Contractor shall instruct all personnel associated with the project of the potential presence of protected species in the area, and the need to avoid collisions with and harming these animals. All construction personnel shall be advised that there are civil and criminal penalties for harming, harassing, or killing manatees, sea turtles, sturgeon, and sawfish which are protected under the Marine Mammal Protection Act of 1972, the Endangered Species Act of 1973, the Marine Turtle Protection Act, and the Florida Manatee Sanctuary Act. The Contractor shall be held responsible for any protected species harmed, harassed, or killed as a result of construction activities.

- If siltation barriers are used, they shall be made of material in which manatees cannot become entangled, are properly secured, and are regularly monitored to avoid manatee entrapment. Barriers must not block manatee entry to or exit from essential habitat.

- All vessels associated with the project shall operate at "no wake/idle" speeds at all times while in the immediate vicinity of the construction area (i.e. within 500 feet of dredging activity) and while in waters where the draft of the vessel provides less than a four-foot clearance from the bottom, and vessels shall follow routes of deep water whenever possible. Boats used to transport personnel shall be shallow-draft vessels, preferably of the light-displacement category, where navigational safety permits. Mooring bumpers shall be placed on all barges, tugs, and similar large vessels wherever and whenever there is a potential for protected species to be crushed between two moored vessels. The bumpers shall provide a minimum stand-off distance of four feet.

- If a protected species is sighted within 100 yards of the project area, all appropriate precautions shall be implemented by the Contractor to ensure protection of the manatee or protected species. These precautions shall include the operation of all moving equipment no closer than 50 feet of a protected species. If a protected species is closer than 50 feet to moving equipment or the project area, the equipment shall be shut down and all construction activities shall cease within the waterway to ensure protection of the protected species. Construction activities shall not resume until the animal has moved beyond the 50-foot radius around the project operation, or until 30 minutes elapses if the animal has not reappeared within 50 feet of the operation. Animals shall not be herded away or harassed into leaving by on-site personnel.

- A dedicated observer shall be present (i.e., on-site) when in-water work is being performed using a clamshell or other mechanical dredge. The observer shall perform no other duties that may interfere with their ability to observe for protected species during dredging activities. The observer shall have significant prior on-the-job experience observing for protected species (including manatees if observing inshore, or whales if observing offshore) during previous dredging events where the activities were similar in nature to this project. The observer shall be equipped with a marine radio, and shall use binoculars and polarized sunglasses to aid in observation during the daytime. A dedicated observer shall be on site during all dredging activities and shall advise the Contractor to cease operation upon sighting a protected marine species within 50 feet of any in-water construction activity. If the observer determines that detection of protected marine species is not possible (such as during fog, rain, wind, etc.), then the observer shall advise the Contractor to cease in-water work operations until weather conditions improve and detection is again possible. The Contractor shall immediately notify the Contracting Officer, who will have the authority to cease and reinitiate in-water operations, if an observer advises that in-water work should cease.

- Pipelines used to convey dredged material shall be installed and secured along the bottom to the maximum extent practical.

- Hopper dredge dragheads shall be equipped with rigid sea turtle deflectors.

- Cutterhead dredging in the St. Johns River will be monitored for take of sturgeon as follows: Between St. Johns River Mile 0-11 from 1 August - 30 September and River Mile 11+ from 1 June - 30 September, Protected Species Observer (PSO) is required at the DMMA to monitor for sturgeon take. The PSO will monitor the inflow pipe and discharge weir at the placement area for sturgeon or parts at least twice per day.

4.2.2 PLACEMENT OF DREDGED MATERIAL WITHIN THE ODMDS

The Corps has determined that transport of dredged material to the ODMDS may affect, but is not likely to adversely affect, the North Atlantic right whale and its designated critical

habitat. The Corps South Atlantic Division, by email dated September 11, 2019, stated that they have coordinated the Preferred Alternative with the NMFS and it was determined that the work shall be covered by the new SARBO issued by NMFS which was subsequently issued on March 27, 2020. The North Atlantic right whale and its designated critical habitat are covered under the 2020 SARBO.

The contract specifications would include, but would not necessarily be limited to the following right whale protection clauses in order to avoid potential collisions with these highly endangered animals: during the period November 15 through April 15, barges or dredges moving through the designated critical habitat of the right whale shall take the following precautions. The Contractor shall provide one whale observer text message mailbox per dredge to receive real time whale alerts throughout the calving season. Vessels shall not travel at speeds in excess of 10 knots. During evening hours or when there is limited visibility due to fog or sea states greater than Beaufort 3, the tug/barge or dredge operator shall slow down to 5 knots or less when traversing between areas if whales have been spotted within 15 nautical miles (nm) of the vessel's path within the previous 24 hours. During the period 15 November through 15 April, daily aerial surveys within 15 nautical miles (nm) of the dredging and disposal sites will be conducted by others to monitor for the presence of the right whale. The Contractor shall receive daily whale sighting reports from NMFS at nmfs.ser.rw.noaacorps@noaa.gov. These reports shall be used in order to reduce the risk of ship and right whale collisions. The request for sighting updates shall include at least one valid email address (within the text of the email) for the observer to receive alerts. Right whale sightings will be immediately communicated by marine radio to the dredging Contractor's dredge. In addition, the tug/barge or dredge operator shall maintain a 750-yard buffer between the vessel and any whale. The area designated as critical habitat in the southeastern United States encompasses waters between 31 degrees 15 seconds North (approximately located at the mouth of the Altamaha River, GA) and 30 degrees 15 seconds North (approximately Jacksonville, FL) from the shoreline out to 15 nm offshore; and the waters between 30 degrees 15 seconds N and 28 degrees 00 seconds N (approximately Sebastian Inlet, FL) from the shoreline out to 5 nm. If a stranded/injured/incapacitated whale is observed within the construction site, the Contractor is requested to immediately contact the NMFS Whale Stranding Network pager number at 305-862-2850. The Contractor shall report all right whale sightings to the Florida Fish and Wildlife Conservation Commission Wildlife Alert Toll-Free Number 1-888-404-3922 (FWCC) or for cell phone customers *392 (*FWC) or #392 (#FWC).

4.2.3 PLACEMENT OF DREDGED MATERIAL WITHIN UPLAND LOCATIONS (BARTRAM OR BUCK ISLAND DMMAS)

The Corps has determined that placement of dredged material into the diked cells of Bartram or Buck Island DMMAs may affect, but is not likely to adversely affect, the wood stork and piping plover. The USFWS concurred with this determination in a letter dated March 12, 2019.

The placement of dredged material into the diked cells of Bartram and Buck Island DMMAs may actually have a beneficial effect on the wood stork and piping plover. Placement activity creates shallow pools of water as well as sand flats that these species occasionally use as foraging and loafing habitat. Additionally, public entry is prohibited at both DMMAs, placement operations are intermittent and limited in scope, and the vast size of the diked cells have contributed to the creation of desirable habitat for the wood stork and piping plover as well as many other avian species. If placement activities were no longer performed, then the interior bottom of diked cells would eventually become thickly vegetated and desirable habitat for wood storks and piping plovers would significantly decrease or be completely eliminated.

Gopher tortoises are known to occur at both DMMAs. To make the contractor and his personnel aware of the potential presence of gopher tortoises, their protected status, and the need for precautionary measures, the contract specifications would include, but would not necessarily be limited to, the following protection clauses: the Contractor shall keep construction activities under surveillance, management, and control to prevent impacts to gopher tortoises and their burrows. The Contractor shall stay at least 25 feet from the entrance of individual burrows. All construction personnel shall be advised that gopher tortoises are listed by the State of Florida as a Threatened Species and protected by the Florida Administrative Code, Chapter 68A-27.004. The Contractor shall be held responsible for taking, harming, or harassing the tortoises, their eggs or their burrows as a result of the construction. The destruction of burrows constitutes taking under this law. If a burrow cannot be avoided, the Contractor shall notify the Corps prior to any construction activity within 25 feet of the burrow. If necessary, the Contractor shall abide by the trapping and relocation permitting conditions listed in the State of Florida's "GOPHER TORTOISE PERMITTING GUIDELINES" located on the web at: http://www.myfwc.com/license/wildlife.

4.2.4 NO ACTION ALTERNATIVE (STATUS QUO)

Periodic maintenance dredging of the berthing area would continue, but deepening would not occur. Effects to threatened and endangered species would be similar during future maintenance dredging and precautionary protection measures as described above would continue to be implemented.

4.3 MARINE MAMMALS

4.3.1 PROPOSED ACTION, DEEPENING AND FUTURE MAINTENANCE DREDGING OF THE BERTHING AREA

Deepening and future maintenance dredging of the berthing area may have minor effects on common bottlenose dolphins. Dredge, dredge support, and construction vessel traffic would be operating within the berthing area. The contract specifications would include, but would not necessarily be limited to the following protection clauses: the Contractor shall instruct all personnel associated with the project of the potential presence of dolphins in the area, and the need to avoid collisions with and harming these animals. All construction personnel shall be advised that there are civil and criminal penalties for

harming, harassing, or killing dolphins which are protected under the Marine Mammal Protection Act of 1972. The Contractor shall be held responsible for any dolphin harmed, harassed, or killed as a result of construction activities. Specific relevant protections as described in Section 4.2.1 would also be extended to dolphins.

4.3.2 PLACEMENT OF DREDGED MATERIAL WITHIN THE ODMDS

Transport and placement of the material into the ODMDS may have minor behavioral impacts on common bottlenose dolphins. Protection measures as described in Section 4.3.1 would be implemented.

4.3.3 PLACEMENT OF DREDGED MATERIAL WITHIN UPLAND LOCATIONS (BARTRAM OR BUCK ISLAND DMMAS)

There would be no effect to common bottlenose dolphins if dredged material is placed within Bartram or Buck Island DMMAs.

4.3.1 NO ACTION ALTERNATIVE (STATUS QUO)

Periodic maintenance dredging of the berthing area would continue, but deepening would not occur. Effects to common bottlenose dolphins would be similar during future maintenance dredging and precautionary protection measures as described above would continue to be implemented.

4.4 ESSENTIAL FISH HABITAT (EFH)

4.4.1 PROPOSED ACTION, DEEPENING AND FUTURE MAINTENANCE DREDGING OF THE BERTHING AREA

The proposed deepening and future maintenance dredging of the berthing area would result in several direct impacts on EFH and managed species. As previously stated, the berthing area would be deepened from the existing 40 foot depth plus 2 feet to 47 feet plus 2 feet. Approximately 130 acres of unconsolidated substrate and rock consisting primarily of loose to firm silts, shell and sands, and underlying soft to hard limestone rock would be excavated. Unconsolidated material, or shoal material, would continue to accumulate within the berthing area after the deepening and would be periodically dredged in order to maintain the new depth. The resulting substrate is expected to be similar to the existing conditions. Dredging activity would increase turbidity and this would result in a temporary reduction in habitat quality for the benthic and water column habitats. No other water quality effects (i.e. salinity change) are expected due to the relatively small area to be dredged. In summary, these effects would cause temporary and minor effects to species using bottom habitat, except during construction. Individuals would be impacted if they did not or could not move to avoid these effects.

Hydraulic dredging (i.e. hopper or cutter head) would result in some entrainment of organisms, and would likely most affect sessile and planktonic individuals. Motile organisms will become entrained if they have insufficient strength or speed to avoid the dredge head. Turbidity and noise from the dredging may result in some avoidance behavior by many motile organisms. However, fish may be attracted to areas where

sediment is disturbed due to the potential for the co-occurrence of prey species in the turbid water column.

Penaeid shrimp may be found in the berthing area. The project would impact a small area of unconsolidated sediment, rock, and water column compared to the available EFH for managed shrimp species (white, brown, and pink shrimp) within the lower St. Johns River. Direct impacts to shrimp may occur as a result of limited entrainment during hydraulic dredging. Localized turbidity could clog gill structures in those shrimp unable to avoid the plume. If turbidity plumes are localized and minimized, turbidity impacts would likely be minor and temporary to these species.

Summer flounder may also utilize the berthing area. Juveniles and adults may occur there, albeit in low numbers (MacDonald et al. 2009). This species may utilize sandy bottom or vegetated habitats (NOAA 1999). No seagrass and little cover of macroalgae occur in the project construction area. The project would impact a small area of unconsolidated bottom compared to the available EFH for summer flounder within the lower St. Johns River.

Impacts to the Snapper-Grouper complex of fishes may result from impacts to unconsolidated (sand) bottom and water column that this set of species may use. This complex is expected to possibly occur in small numbers, if at all, within this portion of the river.

Invertebrates that have limited movement capabilities (e.g. some crustaceans, echinoderms, mollusks, polychaetes, and annelids) may incur direct impacts from dredging, which would result in a significant localized reduction in abundance, diversity, and biomass. However, dredging will impact a relatively small fraction of the total similar benthic habitat in the lower St. Johns River. Emigration from adjacent, unaffected habitat and rapid reproduction typical of these species will result in relatively minor impacts to associated benthic infaunal species. Recovery of the dredged site with respect to these invertebrates may range from months to several years (Greene et al. 2002; Hammer et al. 2005). However, subsequent maintenance dredging may suppress benthic recovery within the berthing area.

Zooplankton are primarily filter feeders and suspended inorganic particles can foul the fine structures associated with feeding appendages. Zooplankton that feed by ciliary action (e.g., echinoderm larvae) would also be susceptible to mechanical effects of suspended particles (Sullivan and Hancock 1977). Zooplankton mortality is assumed from the physical trauma associated with dredging activities (Reine and Clark 1998). The overall impact on the zooplankton community should be minimal due to the limited extent and transient nature of the sediment plume.

Over 170 species of coastal and estuarine fish have been identified for the lower St. Johns River (Dennis et al. 2001; MacDonald et al. 2009). These fishes may play important roles in the various life stages of managed species, especially as prey. Displacement of

individuals through avoidance behavior and entrainment in dredging equipment during construction are the primary impacts to these species. Suspended sediments may affect feeding and oxygen exchange of pelagic individuals, but these impacts should be minimal due to the limited extent and transient nature of the sediment plume.

The NMFS, by letter dated December 4, 2018, stated that the measures described the EA are adequate for minimizing impacts to EFH and federally managed fishery species.

4.4.2 PLACEMENT OF DREDGED MATERIAL WITHIN THE ODMDS

The following is a summary of effects on EFH and managed species associated with placement of dredged material within the ODMDS. A detailed description of effects can be found within the Final Environmental Impact Statement for Designation of an ODMDS Offshore Jacksonville, Florida (October 2014). The proposed work would result in several direct and indirect impacts to the coastal migratory pelagics complex, including king mackerel, cero mackerel, Spanish mackerel, little tunny, and cobia. The EFH for these species includes inshore and continental waters. Use of the ODMDS for placement of dredged material may result in localized turbidity. With best management practices, impacts would include temporary displacement, and interference with gill functions if fishes enter a turbidity plume; however, fishes may avoid such plumes and the project area should quickly return to expected ambient conditions with cessation of the activity.

There are thirteen species of sharks represented in the coastal migratory pelagics group that are relatively uncommon in the project area (MacDonald et al 2009). Only the Atlantic sharpnose and bonnethead sharks are considered to be year-round residents of the coastal area surrounding the St. Johns River, while the blacknose and blacktip sharks may occur as seasonally abundant. The other species listed are either rare within the area or occur in seasonal migrations up and down the coast (NMFS 2006). These species are very mobile and avoidance of areas where construction occurs is likely. Indirect impacts from placement of dredged material in the ODMDS may occur due to turbidity. Water clarity in areas where sediment has been placed would quickly return to normal ambient conditions. Therefore, impacts to this managed species group should be temporary and minimal.

Effects to benthic fauna found within the ODMDS, such as macroinvertebrates, is expected to be similar as described in Section 4.4.1.

4.4.3 PLACEMENT OF DREDGED MATERIAL WITHIN UPLAND LOCATIONS (BARTRAM OR BUCK ISLAND DMMAS)

There would be no effect to EFH due to placement of dredged material within the Bartram or Buck Island DMMAs.

4.4.4 NO ACTION ALTERNATIVE (STATUS QUO)

Periodic maintenance dredging of the berthing area would continue, but deepening would not occur. Effects to EFH would be similar during future maintenance dredging as described above.

4.5 MIGRATORY BIRDS

4.5.1 PROPOSED ACTION, DEEPENING AND FUTURE MAINTENANCE DREDGING OF THE BERTHING AREA

There would be no effect to migratory birds during the proposed deepening and future maintenance dredging of the berthing area.

4.5.2 PLACEMENT OF DREDGED MATERIAL WITHIN THE ODMDS

There would be no effect to migratory birds during placement of dredged material within the ODMDS.

4.5.3 PLACEMENT OF DREDGED MATERIAL WITHIN UPLAND LOCATIONS (BARTRAM OR BUCK ISLAND DMMAS)

Placement of dredged material into the diked cells of Bartram or Buck Island DMMAs may have minor impacts on nesting species of migratory birds. The use of construction equipment to install pumps and pipeline as well as flooding of diked cells during the nesting season (April 1 through September 15 in north Florida) may disturb nesting birds. The contract specifications would include, but would not necessarily be limited to the following migratory bird protection clauses: the Contractor shall keep construction activities under surveillance, management, and control to prevent impacts to migratory birds and their nests. All construction personnel shall be advised that migratory birds are protected by the Florida Endangered and Threatened Species Act of 1977, Title XXVIII, Chapter 372.072, and the U.S. Fish and Wildlife Service pursuant to the Migratory Bird Treaty Act of 1918 and the Endangered Species Act of 1973, as amended. The Contractor may be held responsible for harming or harassing the birds, their eggs or their nests as a result of the construction. In summary, additional protection measures shall be implemented as follows:

- Nesting migratory bird surveys shall be conducted by qualified bird monitors. Surveys for detecting new nesting activity shall be completed on a daily basis prior to movement of equipment, operation of vehicles, or other activities that could potentially disrupt nesting behavior or cause harm to the birds or their eggs or young.
- Any nesting activity shall be reported immediately.
- Within the project area, the Contractor shall establish a 300 feet wide buffer zone around any location where migratory birds have been engaged in nesting behavior, including territory defense. Any and all construction activities, including movement of vehicles shall be prohibited in the buffer zone.
- Travel corridors shall be designated and marked outside the buffer areas. Heavy equipment, other vehicles, or pedestrians or personnel may transit past nesting areas in these corridors. However, other activities such as stopping or turning shall be prohibited within the designated travel corridors adjacent to the nesting site. When flightless chicks are present within or adjacent to travel corridors, movement of vehicles shall be accompanied by the bird monitor, who will ensure no chicks

are in the path of the moving vehicle and no tracks capable of trapping flightless chicks result.
- Passive deterrents shall be utilized to make critical construction areas undesirable for nesting (i.e. maintaining activity in these areas, flooding of cells, etc. prior to nesting).

4.5.4 NO ACTION ALTERNATIVE (STATUS QUO)

Periodic maintenance dredging of the berthing area would continue, but deepening would not occur. Effects to migratory birds would be similar during future maintenance dredging and placement of dredged material at Bartram or Buck Island DMMAs. Protection measures as described above would continue to be implemented.

4.6 OTHER WILDLIFE RESOURCES

4.6.1 PROPOSED ACTION, DEEPENING AND FUTURE MAINTENANCE DREDGING OF THE BERTHING AREA

The proposed deepening and future maintenance dredging of the berthing area would impact other wildlife resources. Affected resources would primarily include benthic biota such as invertebrates (e.g. some crustaceans, echinoderms, mollusks, polychaetes, and annelids). A number of studies show that recovery of soft bottom infaunal invertebrate assemblages recovery time ranges from months to several years (Greene et al. 2002; Hammer et al. 2005). While recovery of the infaunal invertebrate assemblage takes place, feeding opportunities would be present in the surrounding areas. Recovery should occur in phase with normal seasonal recruitment patterns. Subsequent maintenance dredging may continue to suppress benthic recovery within the berthing area.

4.6.2 PLACEMENT OF DREDGED MATERIAL WITHIN THE ODMDS

Effects to benthic fauna found within the ODMDS is expected to be similar as described in Section 4.6.1. A detailed description of effects can be found within the Final Environmental Impact Statement for Designation of an ODMDS Offshore Jacksonville, Florida (October 2014).

4.6.3 PLACEMENT OF DREDGED MATERIAL WITHIN UPLAND LOCATIONS (BARTRAM OR BUCK ISLAND DMMAS)

Deepening and future maintenance dredging of the berthing area and placement of dredged material into the diked cells of Bartram or Buck Island DMMAs may have short term and minor impacts on other wildlife resources (i.e. macroinvertebrates, reptiles, small mammals, etc.). Placement activities would primarily be confined to pipeline corridors and diked cells where habitats have been previously disturbed. Both DMMAs have upland and wetland habitats adjacent to pipeline corridors and diked cells where mobile wildlife can find refuge.

4.6.1 NO ACTION ALTERNATIVE (STATUS QUO)

Periodic maintenance dredging of the berthing area would continue, but deepening would not occur. Effects to other wildlife resources would be similar during future maintenance dredging.

4.7 WATER QUALITY

4.7.1 PROPOSED ACTION, DEEPENING AND FUTURE MAINTENANCE DREDGING OF THE BERTHING AREA

Deepening and future maintenance dredging of the berthing area would have short term minor impacts on water quality, specifically turbidity, within this portion of the St. Johns River. In accordance with the State permit, turbidity samples shall be taken to ensure that turbidity generated by dredging is in compliance with State standards. If turbidity exceeds background levels by more than 29 Nephelometric Turbidity Units, the Contractor shall immediately notify the Corps. In addition, all dredging activity shall cease immediately. The Contractor shall modify the work procedures that were responsible for the exceedance such as reducing the dredge rate and/or installing or performing additional best management practices or repairing any non-functioning turbidity containment devices. Dredging shall not resume until two monitoring events conducted at least one hour apart confirm that turbidity readings are in compliance with the levels stated above.

4.7.2 PLACEMENT OF DREDGED MATERIAL WITHIN THE ODMDS

The Corps and the Contractor shall monitor scows transiting to the ODMDS for leaks and non-compliance with water quality standards. Additional sampling shall be performed if it is determined that there may be non-compliance with water quality standards. The Contractor shall immediately correct any exceedance of State water quality standards.

4.7.3 PLACEMENT OF DREDGED MATERIAL WITHIN UPLAND LOCATIONS (BARTRAM OR BUCK ISLAND DMMAS)

All weirs (water control structures) shall be inspected for proper operation prior to placement of dredged material within diked cells at Bartram or Buck Island DMMAs. No water quality issues are anticipated.

4.7.4 NO ACTION ALTERNATIVE (STATUS QUO)

Periodic maintenance dredging of the berthing area would continue, but deepening would not occur. Effects to water quality would be similar during future maintenance dredging. Protection measures as described above would continue to be implemented.

4.8 HAZARDOUS, TOXIC, OR RADIOACTIVE WASTES (HTRW)

4.8.1 PROPOSED ACTION, DEEPENING AND FUTURE MAINTENANCE DREDGING OF THE BERTHING AREA

HTRW is not expected to be encountered during the proposed deepening and future maintenance dredging of the berthing area.

4.8.2 PLACEMENT OF DREDGED MATERIAL WITHIN THE ODMDS

There would be no effects associated with HTRW during placement of dredged material within the ODMDS.

4.8.3 PLACEMENT OF DREDGED MATERIAL WITHIN UPLAND LOCATIONS (BARTRAM OR BUCK ISLAND DMMAS)

There would be no effects associated with HTRW during placement of dredged material within Bartram or Buck Island DMMAs.

4.8.4 NO ACTION ALTERNATIVE (STATUS QUO)

Periodic maintenance dredging of the berthing area would continue, but deepening would not occur. There would be no effects associated with HTRW during future maintenance dredging.

4.9 AIR QUALITY

4.9.1 PROPOSED ACTION, DEEPENING AND FUTURE MAINTENANCE DREDGING OF THE BERTHING AREA

Deepening and future maintenance dredging of the berthing area would have short term minor impacts on local air quality. The contract specifications would include, but would not necessarily be limited to the following air quality protection clauses: the Contractor shall keep construction activities under surveillance, management, and control to minimize pollution of air resources. Odors shall be controlled at all times for all construction activities. All activities, equipment, processes and work operated or performed by the Contractor in accomplishing the specified construction shall be in strict accordance with the applicable air pollution standards of the State of Florida (Florida Statute, Chapter 403 and others and Chapters 200 series of the FAC) and all Federal emission and performance laws and standards, including the U.S. Environmental Protection Agency's Ambient Air Quality Standards. Information regarding Florida Statutes can be obtained from the following web site: http://www.dep.state.fl.us.

4.9.2 PLACEMENT OF DREDGED MATERIAL WITHIN THE ODMDS

The air quality protection clauses described in Section 4.9.1 would be extended to placement of dredged material within the ODMDS.

4.9.3 PLACEMENT OF DREDGED MATERIAL WITHIN UPLAND LOCATIONS (BARTRAM OR BUCK ISLAND DMMAS)

The air quality protection clauses described in Section 4.9.1 would be extended to placement of dredged material within Bartram and Buck Island DMMAs. Furthermore, particulates, such as dust, shall be controlled at all times, including weekends, holidays, and hours when work is not in progress. The Contractor shall maintain permanent and temporary access roads, plant sites, placement areas, and work areas within or outside the project boundaries free from particulates that would cause air pollution standards to be exceeded or that would cause a hazard or nuisance. The Contractor shall have the

necessary equipment and approved methods to control particulates as the work proceeds and before a problem develops.

4.9.4 NO ACTION ALTERNATIVE (STATUS QUO)

Periodic maintenance dredging of the berthing area would continue, but deepening would not occur. Effects to air quality would be similar during future maintenance dredging. Protection measures as described above would continue to be implemented.

4.10 CULTURAL, HISTORIC AND ARCHAEOLOGICAL RESOURCES

4.10.1 PROPOSED ACTION, DEEPENING AND FUTURE MAINTENANCE DREDGING OF THE BERTHING AREA

There are no known cultural resources listed or eligible for listing in the NRHP within the berthing area; however, there is potential for submerged archaeological sites within portions of the berthing area which have not been previously surveyed. Based on the potential for identifying submerged cultural resource sites, the Corps has contracted Panamerican Consultants Inc. (PCI) to complete a submerged cultural resource survey of the unsurveyed portions of the study area that are proposed for dredging. Based on the preliminary results of the survey, there are no potential historic properties located within the berthing area.

Pursuant to Section 106 of the NHPA, and in consideration with the NEPA, consultation with the Florida SHPO, the Miccosukee Tribe of Indians of Florida, the Seminole Nation of Oklahoma, the Seminole Tribe of Florida, and the Thlopthlocco Tribal Town of Oklahoma is ongoing. Appendix C includes correspondence regarding cultural resources.

4.10.2 PLACEMENT OF DREDGED MATERIAL WITHIN THE ODMDS

Dredged material placement within the designated ODMDS would have no effect to cultural resources listed or eligible for listing in the NRHP.

4.10.3 PLACEMENT OF DREDGED MATERIAL WITHIN UPLAND LOCATIONS (BARTRAM OR BUCK ISLAND DMMAS)

Dredged material placement within Bartram or Buck Island DMMA would have no effect to cultural resources listed or eligible for listing in the NRHP.

4.10.4 NO ACTION ALTERNATIVE (STATUS QUO)

The No Action Alternative would have no effect to cultural resources listed or eligible for listing in the NRHP.

4.11 NATIVE AMERICAN LANDS AND CONCERNS

4.11.1 PROPOSED ACTION, DEEPENING AND FUTURE MAINTENANCE DREDGING OF THE BERTHING AREA

No portion of the berthing area is located within or adjacent to known Native American-owned lands, reservation lands, or Traditional Cultural Properties. However, Native

American groups have lived throughout the region as evidenced by the presence of prehistoric archaeological sites near the project area, and their descendants continue to live within the State of Florida and throughout the United States. Pursuant to Section 106 of the National Historic Preservation Act (NHPA) (54 U.S.C. §306101 et seq.), obligations regarding Corps' Trust Responsibilities to Federally-recognized Native American Tribes, and in consideration of the Burial Resources Agreement between the Corps and the Seminole Tribe of Florida, the Corps shall consult with SHPO and the appropriate Federally-recognized tribes prior to dredging. Consultation has been initiated and is on-going and will be completed prior to dredging.

4.11.2 PLACEMENT OF DREDGED MATERIAL WITHIN THE ODMDS

Placement of dredged material placement within the ODMDS is unlikely to affect Native American lands and concerns; however, consultation with the Miccosukee Tribe of Indians of Florida, the Seminole Nation of Oklahoma, the Seminole Tribe of Florida, and the Thlopthlocco Tribal Town of Oklahoma is ongoing and will be completed prior to dredging.

4.11.3 PLACEMENT OF DREDGED MATERIAL WITHIN UPLAND LOCATIONS (BARTRAM OR BUCK ISLAND DMMAS)

Placement of dredged material within Bartram or Buck Island DMMAs is unlikely to affect Native American lands and concerns; however, consultation with the Miccosukee Tribe of Indians of Florida, the Seminole Nation of Oklahoma, the Seminole Tribe of Florida, and the Thlopthlocco Tribal Town of Oklahoma is ongoing and will be completed prior to dredging.

4.11.4 NO ACTION ALTERNATIVE (STATUS QUO)

Periodic maintenance dredging of the berthing area would continue, but deepening would not occur. The No Action Alternative would have no effect on Native American.

4.12 NAVIGATION

4.12.1 PROPOSED ACTION, DEEPENING AND FUTURE MAINTENANCE DREDGING OF THE BERTHING AREA

Deepening and future maintenance dredging of the berthing area would significantly benefit the economy by allowing larger deep draft vessels to navigate from the Federal channel to the berths and unload or load containers or bulk commodities. JAXPORT operations, particularly the ability of deep draft vessels to dock at the berthing area, would be temporarily disrupted due to dredging. Other vessels would be able to navigate around the dredge.

4.12.2 PLACEMENT OF DREDGED MATERIAL WITHIN THE ODMDS

There would be no effect to navigation during placement of dredged material within the ODMDS.

4.12.3 PLACEMENT OF DREDGED MATERIAL WITHIN UPLAND LOCATIONS (BARTRAM OR BUCK ISLAND DMMAS)

There would be no effect to navigation during placement of dredged material within Bartram or Buck Island DMMAs.

4.12.4 NO ACTION ALTERNATIVE (STATUS QUO)

Commercial navigation would be severely hindered. As deep draft vessels increase in size they would not be able to navigate from the Federal channel to the berthing area which would result in significant adverse effects on the economy.

4.13 AESTHETIC RESOURCES

4.13.1 PROPOSED ACTION, DEEPENING AND FUTURE MAINTENANCE DREDGING OF THE BERTHING AREA

Deepening and future maintenance dredging of the berthing area would result in minor effects to aesthetic characteristics. The primary short term impact would be the presence of the dredge and support vessels working within the project area. The primary long term impact would be larger container and bulk commodity ships navigating from the Federal channel to berthing areas once the deepening is completed. Secondary long term impacts may include additional infrastructure, semi-tractor trailers, trains, and other facilities or vehicles to store and transport containers or bulk commodities. All of these changes would physically alter the berthing area; however, this area is already a significantly modified and industrialized portion of the river.

4.13.2 PLACEMENT OF DREDGED MATERIAL WITHIN THE ODMDS

Placement of dredged material within the ODMDS would result in short term and minor effects to aesthetic characteristics. Construction vessels would be temporarily working within the ODMDS.

4.13.3 PLACEMENT OF DREDGED MATERIAL WITHIN UPLAND LOCATIONS (BARTRAM OR BUCK ISLAND DMMAS)

Placement of dredged material within Bartram or Buck Island DMMAs would result in short term and minor effects to aesthetic characteristics. Construction equipment would be temporarily working within the DMMAs. However, no significant physical changes would result from placement activities.

4.13.4 NO ACTION ALTERNATIVE (STATUS QUO)

Periodic maintenance dredging of the berthing area would continue, but deepening would not occur. There would be no additional effects to aesthetic characteristics during future maintenance dredging.

4.14 RECREATION RESOURCES

4.14.1 PROPOSED ACTION, DEEPENING AND FUTURE MAINTENANCE DREDGING OF THE BERTHING AREA

Deepening and future maintenance dredging of the berthing area would result in short term minor effects to recreational opportunities. The presence of the dredge and support vessels may disrupt recreational boaters and fishermen transiting through or utilizing this portion of the river.

4.14.2 PLACEMENT OF DREDGED MATERIAL WITHIN THE ODMDS

Placement of dredged material within the ODMDS may result in short term minor effects to recreational opportunities. The presence of the dredge and support vessels may disrupt recreational boaters and fishermen transiting through or utilizing this area.

4.14.3 PLACEMENT OF DREDGED MATERIAL WITHIN UPLAND LOCATIONS (BARTRAM OR BUCK ISLAND DMMAS)

Placement of dredged material within Bartram or Buck Island DMMAs would not result in any effects to recreational opportunities. Public access to these sites is prohibited.

4.14.4 NO ACTION ALTERNATIVE (STATUS QUO)

Periodic maintenance dredging of the berthing area would continue, but deepening would not occur. There would be no additional effects to recreational opportunities during future maintenance dredging.

4.15 NOISE

4.15.1 PROPOSED ACTION, DEEPENING AND FUTURE MAINTENANCE DREDGING OF THE BERTHING AREA

Deepening and future maintenance dredging of the berthing area would result in short term minor increases in above water noise levels. No sensitive receptor sites (i.e. hospitals) would be affected. The Contractor shall keep construction activities under surveillance and control to minimize noise levels.

Underwater noise levels resulting from dredging of the berthing area and larger deep draft vessels docking at this location would reach moderate levels (see Table 7). NMFS interim criterion for underwater sound levels resulting in physical injury to fish is 206 dB peak, regardless of fish size. Sound emissions of various dredging activities have been monitored by the Corps and ranged from 151 to 187 dB re 1µPa @ 1 m (Reine et al. 2014). Commercial shipping source levels have been estimated at 171 to 190 dB re 1µPa @ 1 m (Richardson et al. 1995). It is important to note that the dB scale is a logarithmic scale. There is a significant difference between the sound generated by dredging activities and commercial shipping and the NMFS interim criteria. However, dredging operations may cause the temporary displacement of fish species as a behavioral response to underwater noise. Other marine life within the lower St. Johns River, i.e. common bottlenose dolphins, are also routinely exposed to sound levels associated with

commercial shipping and dredging. Permanent threshold shift or permanent hearing loss for non-impulsive underwater sound (continuous sound from sources like dredging or commercial shipping) begins at 198 dB for mid-frequency dolphins (NMFS 2016); therefore, no injury to common bottlenose dolphins would occur due to sound levels generated by commercial shipping and dredging. The Corps and protected species observers working on dredges have regularly documented dolphins and other marine life (i.e. manatees) approaching, interacting, or moving past operating dredges and commercial ships.

4.15.2 PLACEMENT OF DREDGED MATERIAL WITHIN THE ODMDS

Placement of dredged material within the ODMDS would result in similar effects as described in Section 4.14.2.

4.15.3 PLACEMENT OF DREDGED MATERIAL WITHIN UPLAND LOCATIONS (BARTRAM OR BUCK ISLAND DMMAS)

Placement of dredged material within Bartram or Buck Island DMMAs would result in similar above water effects as described in Section 4.14.2. There would be no underwater noise effects associated with the utilization of these sites.

4.15.4 NO ACTION ALTERNATIVE (STATUS QUO)

Periodic maintenance dredging of the berthing area would continue, but deepening would not occur. There would be no additional noise effects during future maintenance dredging.

4.16 ENERGY REQUIREMENTS AND CONSERVATION

4.16.1 PROPOSED ACTION, DEEPENING AND FUTURE MAINTENANCE DREDGING OF THE BERTHING AREA

Energy requirements for the proposed deepening and future maintenance dredging of the berthing area would include fuel for the dredges, equipment and labor transportation, and other construction operations. The proposed work would have initial energy requirements for the dredging to deepen the berthing area.

Deepening of the berthing area would allow larger Post-Panamax vessels to use the port of Jacksonville in the future. These larger ships carry more cargo than the older, smaller vessels that they would eventually replace. Consequently, the Corps predicts that the deeper berthing area would result in fewer ship calls at JAXPORT than would occur with the No Action Alternative. The newer, larger vessels are mandated to have more efficient engines. Fewer, more efficient ships using the port could reduce energy requirements associated with vessel operations.

4.16.2 PLACEMENT OF DREDGED MATERIAL WITHIN THE ODMDS

Placement of dredged material within the ODMDS would result in similar energy requirements as described in Section 4.15.1.

4.16.3 PLACEMENT OF DREDGED MATERIAL WITHIN UPLAND LOCATIONS (BARTRAM OR BUCK ISLAND DMMAS)

Placement of dredged material within Bartram or Buck Island DMMAs would result in similar energy requirements as described in Section 4.15.1.

4.16.4 NO ACTION ALTERNATIVE (STATUS QUO)

Periodic maintenance dredging of the berthing area would continue, but deepening would not occur. There would be no additional energy requirements during future maintenance dredging.

4.17 NATURAL OR DEPLETABLE RESOURCES

4.17.1 PROPOSED ACTION, DEEPENING AND FUTURE MAINTENANCE DREDGING OF THE BERTHING AREA

No natural energy resources occur within the berthing area. The sediments excavated to deepen the Jacksonville Harbor channel are a depletable resource that will be permanently placed within the Jacksonville ODMDS. Fuel is a depletable resource that would be consumed by construction equipment during initial construction and subsequent maintenance dredging. Impacts to natural resources are discussed elsewhere in this document. The use of these natural or depletable resources is not considered an unacceptable adverse impact of the proposed project.

4.17.2 PLACEMENT OF DREDGED MATERIAL WITHIN THE ODMDS

Placement of dredged material within the ODMDS would result in similar effects to natural or depletable resources as described in Section 4.16.1.

4.17.3 PLACEMENT OF DREDGED MATERIAL WITHIN UPLAND LOCATIONS (BARTRAM OR BUCK ISLAND DMMAS)

Placement of dredged material within Bartram or Buck Island DMMAs would result in similar effects to natural or depletable resources as described in Section 4.16.1.

4.17.4 NO ACTION ALTERNATIVE (STATUS QUO)

Periodic maintenance dredging of the berthing area would continue, but deepening would not occur. There would be no additional effects to natural or depletable resources during future maintenance dredging.

4.18 REUSE AND CONSERVATION POTENTIAL

4.18.1 PROPOSED ACTION, DEEPENING AND FUTURE MAINTENANCE DREDGING OF THE BERTHING AREA

There is no potential for reuse associated with the proposed dredging activities, therefore this is not applicable to the proposed action. Energy requirements for the proposed alternatives would be confined to fuel for construction equipment as stated in Section 4.15.

4.18.2 PLACEMENT OF DREDGED MATERIAL WITHIN THE ODMDS

There is no potential for reuse associated with the proposed placement of dredged material within the ODMDS, therefore this is not applicable to the proposed action. Energy requirements for the proposed alternatives would be confined to fuel for construction equipment as stated in Section 4.15.

4.18.3 PLACEMENT OF DREDGED MATERIAL WITHIN UPLAND LOCATIONS (BARTRAM OR BUCK ISLAND DMMAS)

There is no current potential for reuse associated with the proposed placement of dredged material within Bartram Island DMMA, therefore this is not applicable to the proposed action. However, dredged material placed within Buck Island DMMA would be used for construction activities.

4.18.4 NO ACTION ALTERNATIVE (STATUS QUO)

Periodic maintenance dredging of the berthing area would continue, but deepening would not occur. Placement of dredged material within Bartram or Buck Island DMMAs would have the same reuse and conservation potential as stated in 4.18.3.

4.19 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). Table 8 summarizes the impact of select 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. The table also illustrates the proposed action, dredged material placement alternatives, and no action alternatives (the difference being the incremental impact of the project). Also illustrated is the future condition. The time boundary condition for this analysis has been set from pre-development to 2018. The space boundary condition includes the berthing area (Blount Island and Dames Point terminals), relevant portion of the lower St. Johns River, Jacksonville ODMDS, and Bartram and Buck Island DMMAs.

Table 9: Summary of Cumulative Impacts

	No-Action Alternative (Maintenance Dredging would Continue)	Past (baseline condition)	Present (existing condition)	Future with Proposed Action, Deepening and future maintenance dredging of the Berthing Area	Future with Placement of Dredged Material within the ODMDS	Future with Placement of Dredged Material within Bartram and Buck Island DMMAs	No-Action Alternative (Maintenance Dredging would Continue)
General Environmental Setting (Lower St. Johns River, Blount Island, Dames Point, Bartram and Buck Islands, ODMDS)	Expansion of JAXPORT facilities would be more limited. Other development along the river is expected.	Historical maps (late 1700's) and early aerial photographs (1900's) of the project area show a very different shape to the river channel. Adjacent shorelines were once comprised of wetlands and uplands.	Project areas have been developed or altered to facilitate JAXPORT related activities. Residential and other development has occurred along large portions of the river. Natural areas (Timucuan) are limited.	The lower St. Johns River, including berths, would be deepened. Terminal expansion would be limited due to adjacent river channels and infrastructure. Other development along the river is expected.	Recent expansion of the ODMDS is sufficient to accommodate dredged material from the proposed deepening and future maintenance dredging for the 50 year life of the project.	Bartram Island diked cells may continue to be modified in order to accommodate dredged material. Material may be offloaded in the future. Dredged material on Buck Island would continue to be offloaded	Expansion of JAXPORT facilities would be more limited. Other development along the river is expected.
Protected Species and Habitats Protected Species (manatee, sea turtles, right whale, wood stork, piping plover, gopher tortoise, sturgeon, gopher tortoise; Essential Fish Habitat; Migratory Birds; Other Wildlife Resources	Climate change effects (i.e. sea level rise), continued loss or degradation of habitat, and other human related factors may combine to affect these species and their habitats within or adjacent to the St. Johns River. Protective and evolving regulation should continue to reduce the risk of jeopardizing these species or their habitats.	Populations of protected species were significantly greater prior to human development. Declines are attributed to loss or degradation of habitat as well as other human related factors.	Education and enforcement of relevant laws have resulted in some population increases (i.e. manatee). Habitat has also improved in some cases due to land conservation, pollution abatement, and other regulatory practices.	Climate change effects (i.e. sea level rise), continued loss or degradation of habitat, and other human related factors may combine to affect these species and their habitats within or adjacent to the St. Johns River. Protective and evolving regulation should continue to reduce the risk of jeopardizing these species or their habitats.	Placement of dredged material within the ODMDS would not result or contribute to jeopardizing protected species or significantly altering habitats.	Placement of dredged material within Bartram or Buck Island DMMAs would not result or contribute to jeopardizing protected species or significantly altering habitats.	Climate change effects (i.e. sea level rise), continued loss or degradation of habitat, and other human related factors may combine to affect these species and their habitats within or adjacent to the St. Johns River. Protective and evolving regulation should continue to reduce the risk of jeopardizing these species or their habitats.

Water Quality	Cumulative adverse impacts due to point source and non-point source pollution may occur. Protective and evolving abatement programs should continue to reduce impacts.	Prior to Federal and State laws being enacted and enforced, water quality had significantly declined due to human related factors (i.e. point and non-point source discharges).	Present day water quality has improved due to local, State, and Federal pollution abatement programs.	Cumulative adverse impacts due climate change, point source, and non-point source pollution may occur. Protective and evolving abatement programs should continue to reduce impacts.	Cumulative adverse impacts due climate change, point source, and non-point source pollution may occur. Protective and evolving abatement programs should continue to reduce impacts.	Placement of dredged material within Bartram or Buck Island DMMAs would not result in water quality impacts.	Cumulative adverse impacts due to point source and non-point source pollution may occur. Protective and evolving abatement programs should continue to reduce impacts.
Hazardous, Toxic, and Radioactive Waste (HTRW)	There are no known HTRW locations in the project area.	There are no known HTRW locations in the project area.	There are no known HTRW locations in the project area.	There are no known HTRW locations in the project area.	There are no known HTRW locations in the project area.	There are no known HTRW locations in the project area.	There are no known HTRW locations in the project area.
Air Quality	Cumulative local emissions are not expected to significantly change air quality.	Prior to Federal and State laws being enacted and enforced, air quality may have declined.	Present day air quality has improved due to local, State, and Federal pollution abatement programs. The area remains in attainment with air quality criteria.	Cumulative local emissions are not expected to significantly change air quality.	Cumulative local emissions are not expected to significantly change air quality.	Cumulative local emissions are not expected to significantly change air quality.	Cumulative local emissions are not expected to significantly change air quality.

Cultural, Historic and Archaeological Resources	Cultural resource surveys have identified no known historic properties within the Area of Potential Effects (APE).	Historic maps and aerial photos show that this area consisted of tidal marsh and remnant oxbow lakes.	Project conditions for cultural resources have been altered beginning with the straightening of the river in 1945 during the excavation of the Dames Point/Fulton Cut and creation of Blount Island.	Cultural resource surveys have identified no known historic properties within the Area of Potential Effects (APE).	Cultural resource surveys have identified no known historic properties within the Area of Potential Effects (APE).	Cultural resource surveys have identified no known historic properties within the Area of Potential Effects (APE).	Cultural resource surveys have identified no known historic properties within the Area of Potential Effects (APE).
Navigation	Smaller deep draft vessels would continue to call on JAXPORT.	Historical documents indicate that commercial navigation as well as dredging of the St. Johns River has been ongoing for many years.	Jacksonville Harbor is the primary deep draft port for waterborne commerce in northeast Florida.	Deep draft vessels accessing JAXPORT would increase in size but the number of vessels to call on JAXPORT is expected to decrease.	Placement of dredged material within the ODMDS would not result or contribute to long term navigation impacts.	Placement of dredged material within the Bartram or Buck Island DMMAs would not result or contribute to long term navigation impacts.	Smaller deep draft vessels would continue to call on JAXPORT.
Aesthetics	Cumulative future development would further affect aesthetic characteristics. However, these additional changes are expected to be limited due to the extent of existing development.	The lower St. Johns River historically was a meandering, black water river. Adjacent shorelines consisted primarily of wetlands and some uplands.	The river channel has been significantly modified in the project area (Dames Point-Fulton Cut). Shorelines have been significantly filled or altered and developed. Some natural areas (wetlands, maritime hammock) still exist.	Cumulative future development would further affect aesthetic characteristics. However, these additional changes are expected to be limited due to the extent of existing development.	Placement of dredged material within the ODMDS would not result or contribute to long term aesthetic impacts.	Placement of dredged material within Bartram or Buck Island DMMAs would not result or contribute to long term aesthetic impacts.	Cumulative future development would further affect aesthetic characteristics. However, these additional changes are expected to be limited due to the extent of existing development.

Recreation	Commercial operations and other forms of development may result in minor impacts to recreational opportunities.	Past recreational use of the lower St. Johns River has been historically documented and consisted primarily of water borne activities.	High recreational use presently occurs in the project area and consists primarily of water borne activities.	Commercial operations and other forms of development may result in minor impacts to recreational opportunities.	Commercial operations and other forms of development may result in minor impacts to recreational opportunities.	Placement of dredged material within Bartram or Buck Island DMMAs would not result or contribute to long term recreational impacts.	Commercial operations and other forms of development may result in minor impacts to recreational opportunities.
Noise	The authorized project would be built using sand from Canaveral Shoals. Beach placement would result in additional temporary and minor noise. No nighttime placement would occur.	Past noise levels were undoubtedly less along the St. Johns River and have increased as the area became urbanized.	Noise levels continue to be typical for this urbanized project area.	Commercial operations and other forms of development may result in minor increases in noise levels. Sensitive receptor sites would be protected by regulation.	Placement of dredged material within the ODMDS would not result or contribute to long term noise impacts.	Placement of dredged material within Bartram or Buck Island DMMAs would not result or contribute to long term noise impacts.	The authorized project would be built using sand from Canaveral Shoals. Beach placement would result in additional temporary and minor noise. No nighttime placement would occur.

4.20 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

4.20.1 IRREVERSIBLE

An irreversible commitment of resources is one in which the ability to use and/or enjoy the resource is lost forever. The removal of sediment from the channel and placement in the ODMDS would irreversibly commit those sediment resources. Dredged material placed within the Buck Island DMMA would be used for construction purposes. Consumption of fossil fuels by project construction equipment would be an irreversible commitment of energy resources.

4.20.2 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. Typically, it refers to the use of renewable resources, including human effort, and to other utilization opportunities foregone in favor of the proposed action.

The project would result in the temporary loss of benthic habitat and associated fauna within the dredging template and at the ODMDS. This is an irretrievable loss because benthic habitat will redevelop and fauna will reoccupy the affected areas following construction.

4.21 UNAVOIDABLE ADVERSE ENVIRONMENTAL EFFECTS

Unavoidable adverse impacts of the proposed action include:

- Burial of infauna and non-motile epifauna in the ODMDS due to placement of dredged material. Recovery would depend on the ability of buried organisms to burrow through the sediment layer and the ability of adjacent populations to recolonize the area. However, the affected area is a small percentage of the total offshore bottom habitat in the region.
- Impacts to infaunal communities within the dredged area due to sand removal and habitat alteration. These impacts are reversible, as the affected areas would gradually fill with sand from adjacent areas and be recolonized by infauna.
- Temporary, localized water column turbidity at the dredge and ODMDS during construction. Turbidity would be monitored during construction to ensure that turbidity from construction activities conforms to state water quality standards.
- Short term, localized air quality and noise impacts due to emissions from offshore and onshore construction equipment.
- Short term aesthetic/visual impacts due to the presence of construction equipment in the channel and along the project shoreline.
- Temporary interruption of commercial and recreational vessel traffic during construction.

4.22 LOCAL SHORT TERM USES AND MAINTENANCE/ENHANCEMENT OF LONG TERM PRODUCTIVITY

The proposed action is expected to produce localized, short term impacts on riverine and offshore benthic communities and water quality, but are not expected to cause significant adverse impacts on long term biological productivity. Channel dredging projects have a temporary and short term impact on benthic biological resources in the dredged area and in the offshore disposal area.

Most motile organisms (fishes, crabs, and some sand dwelling organisms) within the dredging and ODMDS should be able to escape these areas during construction. Less-motile individuals that are unable to escape from construction would be lost, but lost populations of those individuals will likely recolonize rapidly after project completion. The proposed action would produce temporary increases in turbidity but would not result in significant long term water quality degradation. Short term reductions in primary productivity and reproductive and feeding success of invertebrate species and fish are expected. These impacts should not negatively affect the sustainability of these populations given the localized scale of impacts.

Construction of the proposed action would involve a short term increase in consumption of energy resources. The larger, more fuel-efficient ships that would use the deeper channel should result in more efficient long term energy consumption and increased productivity.

4.23 INDIRECT EFFECTS.

An indirect impact of a project can be defined as an effect on the environment in the project area that is not immediately attributable to the project but is caused indirectly by the project. The proposed action would allow deeper draft vessels to access the berthing area and allow the port to handle greater volumes of cargo. An increase in goods moving through the port could trigger a need for more and larger facilities to handle the increased cargo. Construction of the proposed project alternatives will benefit JAXPORT, Jacksonville, the shipping industry, and local and State economies.

4.24 COMPATIBILITY WITH FEDERAL, STATE, AND LOCAL OBJECTIVES

The Federal objective is to contribute to national economic development consistent with protecting the nation’s environment, pursuant to national environmental statutes, applicable executive orders, and other Federal planning requirements. Federal planning concerns other than economic include environmental protection and enhancement, human safety, social wellbeing, and cultural and historical resources. The proposed action would be compatible with Federal, State, and local objectives to ensure the economic viability of JAXPORT and support economic activity in the region.

With the appropriate environmental impact avoidance, minimization, and monitoring, the proposed action would be compatible with the Federal, State, and local objectives for environmental protection. The proposed action is consistent with Federal and Local objectives and with the State’s Coastal Zone Management Plan.

4.25 CONFLICTS AND CONTROVERSY

There are no known conflicts or controversy associated with the proposed action or placement alternatives.

4.26 UNCERTAIN, UNIQUE, OR UNKNOWN RISKS

There are no uncertain, unique or unknown risk associated with the proposed action or placement alternatives.

4.27 PRECEDENT AND PRINCIPLE FOR FUTURE ACTIONS.

The proposed activities are consistent with, and/or adaptions of, prior permitted activities conducted by the Corps.

4.28 ENVIRONMENTAL COMMITMENTS

The Corps commits to implementing the following measures:

1. Protection measures for threatened and endangered species shall be implemented in accordance with USFWS ESA coordination, NMFS ESA coordination, and the State Water Quality permit and Department of the Army permit.

2. All water quality terms and conditions of the State permit shall be implemented.

3. Migratory birds shall be protected during construction activities.

4. In the event that cultural resources are inadvertently discovered, then protective measures shall be utilized.

5. Air emissions such as vehicular exhaust and dust shall be controlled.

6. 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.

7. The contractor would train his personnel in all phases of environmental protection.

8. The environmental resources within the project boundaries and those affected outside the limits of permanent work would be protected during the entire period of work.

9. An oil spill prevention plan shall be required.

4.29 COMPLIANCE WITH ENVIRONMENTAL REQUIREMENTS

4.29.1 NATIONAL ENVIRONMENTAL POLICY ACT OF 1969 (42 U.S.C. §4321 ET SEQ.)

NEPA requires that Federal agencies assess the environmental effects of their proposed Federal action prior to making any decisions. Environmental information on the project has been compiled and this EA has been prepared. A scoping letter on the proposed action was mailed out to all federal, state, and local agencies and other stakeholders on November 30, 2017. A Notice of Availability (NOA) regarding the EA and proposed FONSI was sent to stakeholders on November 9, 2018. The NOA announced that the EA and proposed FONSI were available to the public for a 30-day comment period, which began upon receipt of the NOA. The project is in full compliance with the Act.

4.29.2 ENDANGERED SPECIES ACT OF 1973, AS AMENDED (16 U.S.C. §1531 ET SEQ.)

The proposed project is in compliance with the Endangered Species Act of 1973, as amended, 16 U.S.C. §1531, et seq. (Public Law 93-205), which was designed to protect critically imperiled species from extinction as a "consequence of economic growth and development untempered by adequate concern and conservation." The Corps has determined that the proposed work may affect, but is not likely to adversely affect the West Indian (Florida) manatee, wood stork, or piping plover. Coordination with the U.S. Fish and Wildlife Service (USFWS) regarding these species has been completed. The USFWS concurred with the Corps' determination in a letter dated March 12, 2019. The Corps South Atlantic Division, by email dated September 11, 2019, stated that they have coordinated the Preferred Alternative with NMFS and it was determined that the proposed work shall be covered by the new South Atlantic Regional Biological Opinion subsequently issued by NMFS on March 27, 2020. The project is in full compliance with the Act.

4.29.3 FISH AND WILDLIFE COORDINATION ACT OF 1958, AS AMENDED (16 U.S.C. §661 ET SEQ.)

The Fish and Wildlife Coordination Act (FWCA), as amended, provides the basic authority for the involvement of the USFWS in evaluating impacts to fish and wildlife from proposed water resource development projects. The FWCA requires Federal agencies involved with such projects to first consult with the USFWS and the respective state fish and wildlife agencies regarding the potential impacts of the project on fish and wildlife resources. While the results of the consultation are not binding, the Federal agency must strongly consider input received during consultation to prevent loss or damage to this project has been fully coordinated with USFWS. Requirements of the Act have been completed through the NEPA and ESA coordination processes. This project is in full compliance with the Act.

4.29.4 NATIONAL HISTORIC PRESERVATION ACT OF 1966 (INTER ALIA) (54 U.S.C §300101 ET SEQ.)

The NHPA was enacted to preserve historical and archaeological sites in the United States, and it created the NRHP, the list of National Historic Landmarks, and the State Historic Preservation Offices. The proposed project is in compliance with Section 106 of the NHPA, as amended. As part of the requirements and consultation process contained within the NHPA implementing regulations of 36 CFR Part 800, the proposed project is also in compliance with the Archaeological and Historic Preservation Act, as amended (Public Law 93-291), Archaeological and Resources Protection Act (Public Law 96-95), American Indian Religious Freedom Act (Public Law 95-341), Native American Graves Protection and Repatriation Act (NAGPRA) (25 U.S.C. §3001 et seq.) and its implementing regulations, Executive Orders (EO) 11593, 13007, and 13175, the Presidential Memo of 1994 on Government to Government Relations and appropriate Florida Statutes, and the Abandoned Shipwrecks Act (43 U.S.C. §§2101-2106). Consultation with the Florida State Historic Preservation Office, the Miccosukee Tribe of Indians of Florida, the Seminole Nation of Oklahoma, the Seminole Tribe of Florida, and Thlopthlocco Tribal Town of Oklahoma has been completed (Appendix D – Pertinent Correspondence). SHPO concurrence of no adverse effects to historic properties was provided in a letter dated January 3, 2019. The proposed project is in compliance with the goals of the NHPA.

4.29.5 CLEAN WATER ACT OF 1972, AS AMENDED (33 USC §1251 ET SEQ.)

The CWA establishes the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters. Section 404(b) of the CWA (33 U.S.C. §1344(b)) requires the USEPA, in conjunction with the Corps, to promulgate Guidelines for the discharge of dredged or fill material to ensure that such proposed discharge will not result in unacceptable adverse environmental impacts to waters of the United States. Section 404(b) assigns to the Corps the responsibility for authorizing all such proposed discharges and requires application of the Guidelines in assessing the environmental acceptability of the proposed action. Under the Guidelines, the Corps is also required to examine practicable alternatives to the proposed discharge, including alternatives to placement in waters of the United States and alternatives with potentially less damaging consequences. In addition, Section 401 of the CWA (33 U.S.C. §1344) provides the State a certification role as to project compliance with applicable State water quality standards. While the proposed project does not specifically include discharge of dredged material, it does include dredging, which will result in sediment displacement. Therefore, an evaluation under Section 404(b) of the CWA has been completed and is included as Appendix A. Environmental Resource Permits (Section 401 water quality certification) for dredging shall be obtained from FDEP.

4.29.6 CLEAN AIR ACT OF 1963, AS AMENDED (42 U.S.C. §7401 ET SEQ.)

The Clean Air Act (CAA) was designed to control air pollution on a national level by regulating air emissions from stationary and mobile sources. Among other things, the CAA authorizes USEPA to protect public health and public welfare by establishing National Ambient Air Quality Standards (NAAQS) for principal pollutants (“criteria

pollutants") and by establishing standards for emissions of hazardous air pollutants. Duval County is not designated as a nonattainment or maintenance area for any criteria pollutant and therefore USEPA's General Conformity Rule to implement Section 176(c) of the CAA (42 U.S.C. §7506(c)) does not apply. The short-term effects from construction equipment associated with the project would not significantly affect air quality in the study area. Air quality permits would not be required for this project. The project is in compliance with Section 309 of the CAA (42 U.S.C. §7609).

4.29.7 COASTAL ZONE MANAGEMENT ACT OF 1972 (16 U.S.C. §1451 ET SEQ.)

The Coastal Zone Management Act (CZMA) was established as a National policy to preserve, protect, develop, and where possible, restore or enhance, the resources of the Nation's coastal zone for current and future generations. The CZMA created two national programs: the National Coastal Zone Management Program (CZMP) and the National Estuarine Research Reserve System. A Federal consistency determination in accordance with 15 CFR Part 930, Subpart C is included in this report as Appendix B. The Corps has determined that the project is consistent at this time with the Florida Coastal Management Plan (FCMP) concerning acquisition of Water Quality Certifications and other state authorizations. The EA and Section 404(b) (1) Evaluation was submitted to the State of Florida during the public comment period in lieu of a summary of environmental effects to show consistency with the FCMP. A determination of consistency with the FCMP was obtained from the State of Florida on July 15, 2019. The state's final concurrence of the project's consistency with the FCMP will be determined during water quality certification. The proposed project is in compliance with the CZMA.

4.29.8 FARMLAND PROTECTION POLICY ACT OF 1981 (7 U.S.C. 4201 ET SEQ.)

The Farmland Protection Policy Act (FPPA) is intended to minimize the impact Federal programs have on the unnecessary and irreversible conversion of farmland to nonagricultural uses. For the purpose of FPPA, farmland includes prime farmland, unique farmland, and land of statewide or local importance. To the extent possible, the FPPA ensures that Federal programs are administered to be compatible with state, local units of government, and private programs and policies to protect farmland. No prime or unique farmland would be affected by implementation of the proposed project; therefore, the FPPA is not applicable.

4.29.9 WILD AND SCENIC RIVER ACT OF 1968 (16 U.S.C. §1271 ET SEQ.)

The Wild and Scenic River Act of 1968, among other things, declared that "certain selected rivers of the Nation which, with their immediate environments, possess outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values, shall be preserved in free-flowing condition, and that they and their immediate environments shall be protected for the benefit and enjoyment of present and future generations." No designated Wild and Scenic river reaches would be affected by the proposed project; therefore, the Act is not applicable.

4.29.10 MARINE MAMMAL PROTECTION ACT OF 1972 (16 U.S.C. §1361 ET SEQ.)

The Marine Mammal Protection Act (MMPA) prohibits, with certain exceptions, the "take" of marine mammals in U.S. waters and by U.S. citizens on the high seas, and the importation of marine mammals and marine mammal products into the U.S. The MMPA defines "take" as “to harass, hunt capture, or kill any marine mammal." The MMPA defines harassment as any act of pursuit, torment or annoyance which has the potential to either: a. injure a marine mammal in the wild, or b. disturb a marine mammal by causing disruption of behavioral patterns, which includes, but is not limited to, migration, breathing, nursing, breeding, feeding, or sheltering.

The Corps does not anticipate the take of any marine mammal during any activities associated with the proposed project. Should a hopper dredge be utilized, a trained, government-certified marine mammal observer will be stationed on the dredge during all water-related construction activities. To ensure the protection of any manatees or dolphins present in the project area, incorporation of safeguards used to avoid and/or protect these species will be implemented during dredging (see also Sections 4.2 and 4.3). Therefore, this project is in compliance with the Act.

4.29.11 ESTUARY PROTECTION ACT OF 1968 (16 U.S.C. §1221 ET SEQ.)

In the Estuary Protection Act of 1968, Congress declared that “many estuaries in the United States are rich in a variety of natural, commercial, and other resources, including environmental natural beauty, and are of immediate and potential value to the present and future generations of Americans.” This Act is intended to protect, conserve, and restore estuaries in balance with developing them to further the growth and development of the Nation, and specifically recognizes “their importance to navigation.” The Corps has determined that the proposed berthing area improvements would not result in any significant adverse effects to the St. Johns River estuary. As previously stated, the purpose of deepening the Blount Island and Dames Point berths is to allow deep draft vessels to safely navigate to these facilities and load or unload containers and bulk commodities. This work would improve navigation at Jacksonville Harbor by reducing transportation costs for deep draft vessels. It is assumed that overall vessel calls will be lower after the deepening project is completed due to existing vessel calls shifting to larger more efficient vessels over time. This project is consistent with the purposes of this Act.

4.29.12 SUBMERGED LANDS ACT OF 1953 (43 U.S.C. §1301 ET SEQ.)

The Submerged Lands Act of 1953 granted coastal states title to submerged navigable lands and the natural resources located within their coastal submerged lands out to three miles from their coastlines. The project would occur on submerged lands of the State of Florida. The project has been coordinated with the State of Florida and is in compliance with the Act.

4.29.13 COASTAL BARRIER RESOURCES ACT OF 1982 AND COASTAL BARRIER IMPROVEMENT ACT OF 1990 (16 U.S.C. §3501 ET SEQ.)

The Coastal Barrier Resources Act (CBRA) and Coastal Barrier Improvement Act (CBIA) limit federally subsidized development within the CBRA units to limit the loss of human

life by discouraging development in high risk areas, to reduce wasteful expenditures of Federal resources, and to protect the natural resources associated with coastal barriers. CBIA provides development goals for undeveloped coastal property held in public ownership, including wildlife refuges, parks, and other lands set aside for conservation ("otherwise protected areas," or OPAs). These public lands are excluded from most of the CBRA restrictions, although they are prohibited from receiving Federal Flood Insurance for new structures. There are no designated coastal barrier resources in the project area that would be affected by this project. These Acts are not applicable.

4.29.14 RIVERS AND HARBORS ACT OF 1899 (33 U.S.C. §400 ET SEQ.)

The Rivers and Harbors Act of 1899 regulates the construction, excavation, or deposition of materials in, over, or under "navigable waters of the U.S.," or any work which would affect the course, location, condition, or capacity of those waters. While the proposed project would temporarily obstruct navigable waters of the United States, the project has been subject to the public notice, public hearing, and other evaluations normally conducted for activities subject to the Act. In consideration of applicable factors listed in 33 CFR § 320.4, the Corps has determined the project is not contrary to public interest. As a result, the project is in compliance with this Act.

4.29.15 ANADROMOUS FISH CONSERVATION ACT OF 1965 (16 U.S.C. §757A ET SEQ.)

This Anadromous Fish Conservation Act authorizes the Secretaries of the Interior and Commerce to enter into cooperative agreements with the States and other non-Federal interests for conservation, development, and enhancement of anadromous fish and to contribute up to 50 percent as the Federal share of the cost of carrying out such agreements. As the proposed project is not receiving funding for these purposes, and because anadromous fish species would not be affected, this Act does not apply.

4.29.16 MIGRATORY BIRD TREATY ACT OF 1918 AND MIGRATORY BIRD CONSERVATION ACT OF 1929 (16 U.S.C. §703 ET SEQ.)

The Migratory Bird Treaty Act (MBTA) makes it illegal for anyone to take, possess, import, export, transport, sell, purchase, barter, or offer for sale, purchase, or barter, any migratory bird, or the parts, nests, or eggs of such a bird except under the terms of a valid permit issued pursuant to Federal regulations. The Migratory Bird Conservation Act (MBCA) provides financial support and fosters international cooperation for initiatives that will help conserve populations and habitats of neotropical migratory birds in the Western Hemisphere. Protective measures shall be implemented so that migratory birds are not affected by project activities. The project is in compliance with these Acts.

4.29.17 MARINE PROTECTION, RESEARCH AND SANCTUARIES ACT OF 1972 (16 U.S.C. §1431 ET SEQ. AND 33 U.S.C. § 1401 ET SEQ.)

The Marine Protection, Research and Sanctuaries Act of 1972 regulates intentional dumping of materials into the ocean. The term "dumping" as defined in the Act, 33 U.S.C. §1402(f), does apply to the disposal of material within a designated ODMDS. Berthing area sediment samples have been tested, including bio-assays, in accordance with

Section 103 of the Act and dredged material from the berthing areas has been approved by USEPA for placement within the Jacksonville ODMDS. The project is in compliance with the Act.

4.29.18 MAGNUSON-STEVENS FISHERY CONSERVATION AND MANAGEMENT ACT OF 1976 (16 U.S.C. §1801 ET SEQ.)

The Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA) requires preparation of an EFH Assessment and coordination with NMFS. Pursuant to the 1999 Finding between the Corps and NMFS, the Corps' Notice of Availability of this EA initiated the Corps' consultation under the MSFCMA. The NMFS, by letter dated December 4, 2018, stated that the measures described within the EA are adequate for minimizing impacts to EFH and federally managed fishery species. The project is in compliance with the MSFCMA.

4.29.19 UNIFORM RELOCATION ASSISTANCE AND REAL PROPERTY ACQUISITION POLICIES ACT OF 1970 (42 U.S.C. §4601 ET SEQ.)

The purpose of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 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 work would not involve real property acquisition and/or displacement of property owners or tenants. This Act does not apply.

4.29.20 E.O. 11990, PROTECTION OF WETLANDS

The purpose of Executive Order (E.O.) 11990 is to minimize negative impacts on wetlands and to preserve and enhance the natural and beneficial values of wetlands. Jurisdictional wetlands shall not be impacted by the proposed work. This project shall be in compliance with the goals of this Executive Order.

4.29.21 E.O. 11988, FLOOD PLAIN MANAGEMENT

To comply with E.O. 11988, the Corps formulates projects that, to the extent possible, avoid or minimize adverse effects associated with the use of the floodplain and avoid inducing development in the floodplain unless there is no practicable alternative. The project shoreline (VE flood zone) is significantly developed, and further development is unlikely. VE flood zones are areas subject to inundation by the 1-percent-annual-chance flood event with additional hazards due to storm-induced velocity wave action. Upland placement areas (AE flood zone) are surrounded by residential and commercial development. The Corps concludes that the proposed project will not result in harm to people, property, and floodplain values, will not induce development in the floodplain, and the project is in the public interest. For the reasons stated above, the project is in compliance with E.O. 11988, Floodplain Management.

4.29.22 E.O. 12898, ENVIRONMENTAL JUSTICE

On February 11, 1994, the President of the U.S. issued E.O. 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations. This E.O. mandates that each Federal agency make environmental justice (EJ) part of the agency mission and to address, as appropriate, disproportionately high and adverse human health or environmental effects of the programs and policies on minority and low-income populations. Significance thresholds that may be used to evaluate the effects of a proposed action related to EJ are not specifically outlined. However, the Council on Environmental Quality (CEQ) guidance requires an evaluation of a proposed action's effect on the human environment.

As defined in E.O. 12898 and the CEQ guidance, a minority population occurs where one or both of the following conditions are met within a given geographic area:

- The American Indian, Alaskan Native, Asian, Pacific Islander, Black, or Hispanic population of the affected area exceeds 50 percent; or
- The minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis.

An affected geographic area is considered to consist of a low-income population (i.e. below the poverty level for purposes of this analysis) where the percentage of low-income persons:

- is at least 50 percent of the total population; or
- is meaningfully greater than the low-income population percentage in the general population or other appropriate unit of geographic analysis.

The Corps shall determine the preferred alternative adversely effects the EJ community if the alternative disproportionately impacts: (1) Environmental conditions such as quality of air, water, and other environmental media; degradation of aesthetics, loss of open space, and nuisance concerns such as odor, noise, and dust; (2) Human health such as exposure of EJ populations to pathogens; (3) Public welfare in terms of social conditions such as reduced access to certain amenities like hospitals, safe drinking water, public transportation, etc.; and (4) Public welfare in terms of economic conditions such as changes in employment, income, and the cost of housing, etc.

The Corps conducted an evaluation of EJ impacts using a two-step process: first, the study area was evaluated to determine whether it contains a concentration of minority and/or low-income populations. If the first threshold is met, then the second step includes an evaluation to determine whether the preferred alternative resulted in a disproportionately, high adverse effect on these populations.

<u>Step 1: Study Area's Minority and Low-Income Population Average Percentages</u>

Using the USEPA EJAssist Tool, the project area was user-defined (22.40 square miles) to calculate the average percentages for minority population and low income

population. **Table 9** compares the average percentages for the project area, state of Florida, and U.S.

Table 10. USEPA EJAssist environmental justice criteria percentages.

	User-Defined Project Area %	Florida Average %	U.S. Average %
Minority Population	40%	45%	39%
Low Income Population	24%	36%	33%

Based on the information provided by the USEPA EJAssist tool, the average minority population is approximately 40% of the total population and approximately 24% of the individuals in the project area are considered below the poverty level. Therefore, the study area which comprises the Jacksonville Harbor Berthing Improvements Project does not constitute an EJ community because the population percentages are below 50 percent.

Step 2: Preferred Alternative's Effect on EJ Community

As stated above, the study area is not comprised of an EJ community. Therefore, the preferred alternative will have no effect on EJ communities.

4.29.23 E.O. 13089, CORAL REEF PROTECTION

The E.O. refers to "those species, habitats, and other natural resources associated with coral reefs." There are no coral reefs in the project area. This E.O. does not apply.

4.29.24 E.O. 13112, INVASIVE SPECIES

This E.O. requires, among other things, that Federal agencies take steps to prevent the introduction and spread of invasive species, and to support efforts to eradicate and control invasive species that are established. The proposed action will require the mobilization of dredge equipment, possibly from other geographical regions, which has the potential to transport species from one region to another. Contract specifications will include provisions to address and minimize this potential. Such introduction of species to new habitats can result in their out-competing native species. The benefits of the proposed project outweigh the risks associated with the very slight potential for introducing non-native species to this region. For the reasons stated above, the project is in compliance with E.O. 13112, Invasive Species.

4.29.25 E.O. 13186, MIGRATORY BIRDS.

This E.O. requires, among other things, a Memorandum of Understanding (MOU) between the Federal Agency and the U.S. Fish and Wildlife Service concerning migratory birds. Neither the Department of Defense MOU nor the Corps' Draft MOU clearly address migratory birds on lands not owned or controlled by the Corps. For many Corps civil works projects, the real estate interests are provided by the non-Federal sponsor. Control and

ownership of the project lands remain with a non-Federal interest. Measures to avoid the destruction of migratory birds and their eggs or hatchlings shall be implemented.

4.30 PUBLIC INTEREST FACTORS.

Public involvement is being conducting in compliance with the following Federal laws and regulations:

- NEPA**,** as amended (Pub. L. 91-190, 42 U.S.C. § 4321 et seq., January 1, 1970, as amended by Pub. L. 94-52, July 3, 1975, Pub. L. 94-83, August 9, 1975, and Pub. L. 97-258, § 4(b), Sept. 13, 1982);
- U.S. Clean Water Act, Section 404(a);
- Council on Environmental Quality Regulations for Implementing the Procedural Provisions of NEPA, Sec. 1501.7 Scoping and Sec. 1506.6 Public Involvement;
- Engineering Regulation (ER) 200-2-2; and
- ER 1105-2-100.

Federal agencies are required under NEPA to undertake an assessment of the environmental effects of their proposed actions prior to making decisions. Two major purposes of the environmental review process are better informed decisions and citizen involvement, both of which should lead to implementation of NEPA policies. There are three Federal agencies that have particular responsibilities for NEPA. Primary responsibility is vested in the CEQ, established by Congress as outlined in NEPA. Congress placed CEQ in the Executive Office of the President and gave it many responsibilities, including the responsibility to ensure that Federal agencies meet their obligations under the Act. The CEQ oversees implementation of NEPA, principally through issuance and interpretation of NEPA regulations that implement the procedural requirements of NEPA. CEQ also reviews and approves Federal agency NEPA procedures, approves of alternative arrangements for compliance with NEPA in the case of emergencies, and helps to resolve disputes between Federal agencies and with other governmental entities and members of the public (CEQ 2007).

The USEPA Office of Federal Activities reviews environmental impact statements (EIS) and some EAs issued by Federal agencies. It provides its comments to the public by publishing summaries of them in the Federal Register, a daily publication that provides notice of Federal agency actions. The USEPA reviews are intended to assist Federal agencies in improving their NEPA analyses and decisions (CEQ 2007).

Another government entity involved in NEPA is the U.S. Institute for Environmental Conflict Resolution, which was established by the Environmental Policy and Conflict Resolution Act of 1998 (P.L. 105-156) to assist in resolving conflict over environmental issues that involve Federal agencies. While part of the Federal Government (it is located within the Morris K. Udall Foundation, a Federal agency located in Tucson, Arizona), it provides an independent, neutral, place for Federal agencies to work with citizens as well as State, local, and Tribal governments, private organizations, and businesses to reach common ground. The Institute provides dispute resolution alternatives to litigation and

other adversarial approaches. The Institute is also charged with assisting the Federal Government in the implementation of the substantive policies set forth in Section 101 of NEPA (CEQ 2007).

In 1978, CEQ issued binding regulations directing agencies on the fundamental requirements necessary to fulfill their NEPA obligations. The CEQ regulations set forth minimum requirements for agencies. The CEQ regulations also called for agencies to create their own implementing procedures that supplement the minimum requirements based on each agency's specific mandates, obligations, and missions. In accordance with these regulations, the Corps created ER 200-2-2 and ER 1105-2-100 to provide specific internal guidance on a number of issues including NEPA.

5 LIST OF PREPARERS

5.1 PREPARERS

Preparer	Discipline	Role
Paul Stodola, U.S. Army Corps of Engineers	Biologist	Principal Author
Jason D. Moser, U.S. Army Corps of Engineers	Archaeologist	Cultural Resources
Jason Spinning, Coastal Section Chief	Supervisory Biologist	Document Reviewer
Dr. Gina Paduano-Ralph, Environmental Branch Chief	Supervisory Biologist	Document Reviewer
Rebecca Onchaga	Technical Writer/Editor	Document Reviewer and Format

6 PUBLIC INVOLVEMENT

6.1 SCOPING, EA AND PROPOSED FONSI

Pursuant to NEPA and U.S. Army Corps of Engineers Regulation, a scoping letter dated November 30, 2017 was issued for the proposed action. A Notice of Availability (NOA) of the EA and proposed FONSI were sent to stakeholders on November 9, 2018. The EA and the proposed FONSI were made available to the public for a 30-day comment period, which began upon receipt of the NOA. The scoping letter and NOA were sent to Federal, state, and local agencies and elected representatives, Tribal Nations, non-governmental organizations, and other concerned stakeholders and members of the public. A complete list of all addresses is on file with the Corps and will be made available upon request. The final EA and signed FONSI are available on online at the following website. Click on Duval County, then scroll down to Jacksonville Harbor, Berthing Area Improvements and click on the Environmental Assessment and FONSI.

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

6.2 COMMENTS RECEIVED AND RESPONSE

Comments received during the public review period for the EA and proposed FONSI, as well as letters received from agencies, are included in Appendix C, Pertinent Correspondence. The Corps responses to these summarized comments are provided below.

6.2.1 AGENCY COMMENTS

USFWS Comments: In order to minimize and mitigate against potential risks to manatees, the Corps stated the following conditions would apply:

- Adherence to the 2011 Standard Manatee Conditions for In-Water Work;
- At least one person shall be designated as a manatee observer when in-water work is being performed. That person shall have experience in manatee observation during dredging activities, and be equipped with polarized sunglasses to aid in observation. The manatee observer shall be on site during all in-water construction activities and advise personnel to cease operation upon sighting a manatee within 50 feet of any in-water construction activity. Two dedicated observers shall be on site during nighttime clamshell dredging. Dedicated observers shall have experience in manatee observation during clamshell operations. The distance at which nighttime clamshell operation shall cease when a manatee is present shall be expanded to 75 feet of any in-water construction activity;
- During clamshell dredging, the dredge operator shall gravity-release the clamshell bucket only at the water's surface, and only after confirmation that there are no manatees within the safety distance identified in the standard conditions, and expanded to 75 feet during nighttime clamshell dredging.

On February 21, 2019, the Corps agreed to include the following additional condition:

- During nighttime dredging operations, lighting must be used to sufficiently illuminate the water surface within 100 feet of the operation hoist line (clam bucket cable). The lighting system must be assessed for compliance prior to commencement of nighttime dredging activities.

Based on the nature and location of the proposed activities and the conservation measures the Corps has agreed to implement, the USFWS concurs with the Corps determination that the proposed activities are not likely to adversely affect piping plovers, wood storks, or manatees. However, if blasting or other pretreatment methods (impact hammers, etc.) are determined to be needed prior to dredging, the Corps will need to re-initiate consultation to address potential impacts to manatees.

Corps Response: The Corps shall implement all of the above conditions during the proposed work. Blasting and the use of impact hammers are not proposed.

NMFS (EFH) Comments: Substrates within the berthing areas consist primarily of loose to firm silts, shell hash, and sand with underlying soft limestone rock. These substrates and the overlying water column are EFH. EA Section 3.4 describes the EFH and federally managed fishery species within the project area. These descriptions do not require amendment to complete this EFH consultation.

EA Section 4.4 describes how the dredging activities would affect EFH and federally managed fishery species within the project area. Dredging would remove sediments and associated benthic organisms, such as shrimp and fauna serving as prey for managed fishery species. Given the current unnatural depths of the berths and the frequent physical disturbances of the bottom by vessels and maintenance dredging, the NMFS views the quality of the benthic habitat as low. This view of the berths is consistent with the reports the NMFS has read regarding benthic communities within dredged areas of Jacksonville Harbor. Consequently, the NMFS expects impacts from removing the sediments should be minimal over both short and long terms.

The dredging process and disposal in the Jacksonville ODMDS and DMMAs would increase turbidity in the water column and sedimentation of nearby areas temporarily reducing habitat quality. No other water quality effects (e.g., changes to salinity or dissolved oxygen concentration) are expected. The District and Jacksonville Port Authority would mitigate the turbidity and sedimentation impacts via standard control measures required and monitored through the Water Quality Certification from the State of Florida or the site management and monitoring plan from the U.S. Environmental Protection Agency for the Jacksonville ODMDS.

In summary, the NMFS has no EFH conservation recommendations for the proposed deepening of Blount Island Berths 30 to 35 and Dames Point Berths 16 to 18 in

Jacksonville Harbor. The measures described the EA are adequate for minimizing impacts to EFH and federally managed fishery species.

Corps Response: The Corps concurs with NMFS comments regarding EFH, and shall monitor turbidity and sedimentation impacts in accordance with State permit requirements.

USEPA Comments: The EPA recommends that the Corps coordinate with the EPA if the project footprint changes from what was previously consulted and concurred upon under the Marine Protection, Research and Sanctuaries Act (MPRSA) Section 103 process.

The EPA requests notification of the Final FONSI/EA. Please contact Jamie Higgins should you have questions.

Corps Response: The Corps shall coordinate with EPA if the project footprint changes. The Corps shall also notify EPA when the EA is complete and the FONSI is signed.

Florida Department of Environmental Protection Comments: The Florida Department of Environmental Protection's Northeast District has determined that an Environmental Resource Permit may be required from the Department. Please note that the Florida Coastal Management Program (FCMP) should be strictly followed during this dredging operation. The environmental impacts from dredged material need to be eliminated during all phases of the dredging process (removal, stockpiling, hauling, and placement at Dredging Material Management Areas [DMMA]). The environmental samples in soil, sediment, groundwater, and surface water should be collected as directed in the FCMP and as additionally warranted.

Based on the information submitted and minimal project impacts, the state has no objections to the subject project and, therefore, it is consistent with the Florida Coastal Management Program (FCMP). The state's final concurrence of the project's consistency with the FCMP will be determined during any environmental permitting processes, in accordance with Section 373.428, Florida Statutes.

Corps Response: The Corps shall obtain an Environmental Resource Permit for the proposed work on the behalf of JAXPORT. As previously stated, the Corps shall monitor turbidity and sedimentation impacts in accordance with permit requirements. The substrate within the berthing area has been tested in compliance with Section 103 of the Marine Protection, Research and Sanctuaries Act, and this testing included bioassays. USEPA concurs with the testing results and has approved future placement of dredged material from the berthing area into the ODMDS. The Corps acknowledges comments provided by the State regarding the project being consistent with the FCMP.

Florida Department of State (State Historic Preservation Officer) Comment: Based on the results of previous surveys, the results of the survey of the area of potential effect, and the past and ongoing use of the disposal sites, the Corps has determined that

deepening of the Jacksonville Harbor berths and placement of dredged materials within the existing Bartram Island or Buck Island DMMAs, or the Jacksonville ODMDS upland disposal site poses no effect to historic properties.

Based on the information provided, we concur with the Corps' determination of no effect to historic properties listed, or eligible for listing, on the National Register of Historic Places. Further, we find the submitted report complete and sufficient in accordance with Chapter 1A-46, *Florida Administrative Code*.

Corps Response: The Corps acknowledges comments provided by the State Historic Preservation Officer.

Seminole Nation of Oklahoma (Cultural Advisor): The Seminole Nation of Oklahoma concurs with the recommendation of 'no adverse effect'. Therefore, we have no other comment on the project as proposed.

We do request that if cultural or archeological resource materials are encountered that all activity cease and the Seminole Nation of Oklahoma and other appropriate agencies be contacted immediately.

Furthermore, due to the historic presence of our people in the project area, inadvertent discoveries of human remains and related NAGPRA items may occur, even in areas of existing or prior development. Should this occur we request all work cease and the Seminole Nation of Oklahoma and other appropriate agencies be immediately notified.

Corps Response: In the event that human remains or cultural or archeological resource materials are encountered, the Corps shall cease activity in that area and the Seminole Nation of Oklahoma and other appropriate agencies shall be contacted immediately.

Seminole Tribe of Florida (STOF; Tribal Historic Preservation Officer) Comment: The proposed undertaking does fall within the STOF Area of Interest. Please continue to consult with us through the Corps cultural resources staff regarding any possible undertaking impacts to cultural resources.

Corps Response: The Corps shall continue to consult with STOF regarding any possible undertakings that may impact cultural resources.

6.2.2 PUBLIC COMMENTS

University of North Florida Comment (UNF: Department of Biology): With regards to the berthing area improvement project specifically, I have significant concerns that the proposed project has the potential to result in habitat degradation severe enough to have lasting consequences on the viability and sustainability of this dolphin population. The

area surrounding Blount Island has been documented as a year-round critical habitat area for SJR dolphins.

Corps Response: Substrates within the berthing areas consist primarily of loose to firm silts, shell hash, and sand with underlying soft limestone rock. The resulting substrate within the berthing area is expected to be similar to the existing conditions after deepening is completed. Given the current unnatural depths of the berths and the frequent physical disturbances of the bottom by vessels and maintenance dredging, the NMFS and the Corps views the quality of the benthic habitat as low. The substrate has also been tested in compliance with Section 103 of the Marine Protection, Research and Sanctuaries Act, and this testing included bioassays. USEPA concurs with the testing results and has approved future placement of dredged material from the berthing area into the ODMDS. Dredging activity within the berthing areas would temporarily increase turbidity. No other water quality effects (i.e. salinity change) are expected due to the relatively small area to be dredged. Importantly, it is assumed that overall vessel calls will be lower after the deepening project is completed due to existing vessel calls shifting to larger more efficient vessels over time.

Using UNF data, the Corps in coordination with NMFS have determined that proposed blasting operations using high explosives would result in unacceptable non-injurious take (behavioral harassment and temporary threshold shift) to common bottlenose dolphins. Therefore, the Corps has prohibited blasting operations using high explosives within the berthing area as well as the on-going deepening of the federal navigation channel. The Corps looks forward to future collaboration with UNF regarding their dolphin research.

St. Johns Riverkeeper: Why was the Environmental Assessment to deepen the approximately 130 acres of the St. Johns River conducted outside the 2014 Final Integrated General Reevaluation Report II and Supplemental Environmental Impact Statement?

Corps Response: At the request of JAXPORT, the Corps has prepared this Environmental Assessment (EA) and will obtain the necessary permits to perform the berthing area improvements. Corps-Regulatory Division may utilize this EA under their regulations implementing NEPA for the issuance of permits to JAXPORT for the proposed work. Berthing area costs associated with federal harbor projects, whether construction costs or maintenance costs, are generally paid in total by others, not the federal government. In this case, JAXPORT will be paying 100% for deepening of the berths.

St. Johns Riverkeeper: How can USACE determine that there will be no impact when consultation with U.S. Fish and Wildlife Service, National Marine Fisheries Services, Florida Department of Environmental Protection and Florida State Historic Preservation are ongoing?

Corps Response: During the public review process, the Corps provided a proposed Finding of No Significant Impact for review and comment. Consultation

with the USFWS, NMFS, FDEP (in regard to the review of this EA), Florida State Historic Preservation Officer, and other relevant agencies has been completed. Please find a summary of agency comments and our responses in Section 6.1. Agency letters are provided in Appendix C, Pertinent Correspondence.

St. Johns Riverkeeper: Reference is made to the letter submitted by UNF regarding common bottlenose dolphins.

Corps Response: Please see our response to the UNF comment in this section.

St. Johns Riverkeeper: Reference is made to the absence of alternatives.

Corps Response: Section 2.1 provides a discussion of the no-action alternative, dredging alternative, as well as ODMDS and upland placement alternatives. Section 2.3 provides additional discussion of these alternatives. Section 2.5 provides discussion on alternatives, such as beach and nearshore placement alternatives, that were screened out from additional consideration.

7 REFERENCES

Brody, R. W. 1994. Lower St. Johns River Basin Reconnaissance Biological Resources. Volume 6. Technical Publication SJ94-2, St. Johns River Water Management District, Palatka, FL.

Campbell, D., M. Bergman, R. Bordy, A. Keller, P. Livingston-Way, F. Morris, B. Watkins. 1993. SWIM Plan for the Lower St. Johns River Basin. St. Johns River Water Management District, Palatka, FL.

Corps 1981. U.S. Army Corps of Engineers, Jacksonville District. 1981. *Jacksonville Harbor, Mill Cove Feasibility Report: Improvement for Circulation, Flow, and Navigation,* May 1981.

Corps/USEPA 2007. U.S. Army Corps of Engineers and U.S. Environment Protection Agency. 2007. Jacksonville Ocean Dredged Material Disposal Site, Site Management and Monitoring Plan.

Corps. 2013. Operations and Maintenance, Dredged Material Management Plan, 2012-2031 Update, Jacksonville Harbor, Duval County, Florida.

Corps/USEPA. 2014. Jacksonville Ocean Dredged Material Disposal Site, Site Management and Monitoring Plan.

Dennis, G. D., K.J. Sulak, and D. C. Weaver. 2001. Nekton species inventory for the Timucuan Ecological and Historical Preserve and surrounding areas. Report to the National Park Service, Timucuan Preserve. Prepared by: USGS Florida Caribbean Research Center, Gainesville, FL. 77 pp.

Firestone, J., S. B. Lyons, C. Wang, and J. J. Corbett. 2008. Statistical modeling of North Atlantic right whale migration along the mid-Atlantic region of the eastern seaboard of the United States. Biological Conservation 141:221–232.

Faught, M. and S. James. 2011. *Diver Identification and Archaeological Testing: Addendum to Cultural Resources Remote Sensing Survey of the Jacksonville Harbor Project GRR2, Duval County, Florida*. Panamerican Consultants, Inc. (PCI). Report prepared for the Corps, Jacksonville District.

Greene, K. 2002. Beach Nourishment: A Review of the Biological and Physical Impacts. Atlantic States Marine Fisheries Commission Habitat Management Series #7. 174 pp. November 2002.

Hammer, R.M., M.R. Byrnes, D.B. Snyder, T.D. Thibaut, J.L. Baker, S.W. Kelley, J.M. Côté, L.M. Lagera, Jr., S.T. Viada, B.A. Vittor, J.S. Ramsey, and J.D. Wood. 2005. Environmental surveys of potential borrow areas on the central east Florida Shelf and the

Environmental Implications of Sand Removal for Coastal and Beach Restoration. Prepared by Continental Shelf Associates, Inc. in cooperation with Applied Coastal Research and Engineering, Inc., Barry A. Vittor & Associates, Inc., and the Florida Geological Survey for the U.S. Department of the Interior, Minerals Management Service, Leasing Division, Marine Minerals Branch, Herndon, VA. OCS Study MMS 2004-037, 306 pp. + apps.

Hoffman, E.G. and S.H. Olsen. 1982. Benthic macroinvertebrate study conducted for ITT Rayioner Fernandina Division. Report for ITT Rayioner, Inc., Olympic Research Division, Shelton, Washington.

Hymel, S.N. 2009. Inventory of marine and estuarine benthic macro invertebrates for nine Southeast Coast Network parks. Natural Resource Report. NPS/SECN/NRR—2009/121. National Park Service. Fort Collins, Colorado.

Jacksonville University/University of North Florida/Valdosta State University. 2017. State of the River Report for the Lower St. Johns River Basin.
http://sjrr.domains.unf.edu/

James S., M. Faught, and A. Lydeker. 2012. Cultural Resources Remote Sensing Survey of the Jacksonville Harbor Project Potential Ocean Dredged Material Disposal Sites alternatives 1 and 2, Duval County, Florida. Panamerican Consultants, Inc. (PCI). Report prepared for the Corps, Jacksonville District

James, S. and M.J. Faught. 2010. Cultural Resources Remote Sensing Survey of the Jacksonville Harbor Project GRR2, Duval County, Florida. Panamerican Consultants, Inc. (PCI). Report prepared for the Corps, Jacksonville District.

Johnson, R. 2006. A cultural Resources Assessment Survey and Archaeological Testing of the Proposed JAXPORT Dames Point Marine Terminal, Duval County, Florida. Report prepared for Weston Solutions, Inc.

Kale, H.W. and D.S. Maehr. 1990. Florida's Birds. Pineapple Press. Sarasota, Florida.

Last, P. and J. Stevens. 1994. Sharks and Rays of Australia. CSIRO; East Melbourne, Australia.

Lydecker, A., M. Faught, and S. James. 2012. Archaeological Diver Identification of Five Targets in the Jacksonville Harbor Ocean Dredged Material Disposal Sites, Duval County, Florida. Panamerican Consultants, Inc. (PCI). Report prepared for the Corps, Jacksonville District.

MacDonald, T.C. J. Solomon; C.B. Guenther; R.B. Brodie; and R.H. McMichael, Jr. 2009. Assessment of Relationships between Freshwater Inflow and Populations of Fish and Selected Macroinvertebrates in the Lower St. Johns River, Florida. Prepared for St.

Johns River Water Management District 4049 Reid Street Palatka, FL 32177. Prepared by Florida Fish and Wildlife Conservation Commission Fish and Wildlife Research Institute 100 8th Avenue Southeast St. Petersburg, Florida 33701-5095 Prepared for St. Johns River Water Management District 4049 Reid Street Palatka, FL 32177 October 1.

McKenna, M.F., D. Ross, S.M. Wiggins, and J.A. Hildebrand. 2012. Underwater radiated noise from modern commercial ships. J. Acoust. Soc. Am. 131 (1), January 2012.

Milanich, J. 1994. *Archaeology of Precolumbian Florida*. University Press of Florida, Gainesville.

NMFS. 2012. Endangered and Threatened Wildlife and Plants; Final Listing Determinations for Two Distinct Population of Atlantic Sturgeon (*Acipenser oxyrinchus oxyrinchus*) in the Southeast. Federal Register/Vol. 77, No. 24/Monday, February 6, 2012/Rules and Regulations.

NMFS. 2017. National Oceanic and Atmospheric Administration. NMFS Essential Fish Habitat mapper. Available from:
https://www.habitat.noaa.gov/protection/efh/efhmapper/

NMFS. 2016. Technical Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing: Underwater Acoustic Thresholds for Onset of Permanent and Temporary Threshold Shifts. U.S. Dept. of Commerce., NOAA. NOAA Technical Memorandum NMFS-OPR- 55.

NOAA Technical Memorandum NMFS-NE-151. 1999. Essential Fish Habitat Source Document: Summer Flounder, *Paralichthys dentatus*, Life History and Habitat Characteristics.

O'Shea, T. J., and M.E. Ludlow. 1992. Florida manatee, *Trichechus manatus latirostris*, p. 190-200, *in* Stephen R. Humphrey, ed., Rare and endangered biota of Florida, Vol. 1. Mammals. University of Florida, Gainesville. Florida.

Perkins N.H., Brown R.D. (1999) Environmental aesthetics. In: Environmental Geology. Encyclopedia of Earth Science. Springer, Dordrecht.

Reine, K.J. and D.G. Clark. 1998. *Entrainment by Hydraulic Dredges - A Review of Potential Impacts*. U.S. Army Engineer Waterways Experiment Station, Research and Development Center, Vicksburg, MS, DOER Tech Notes Collection (TN DOER-E1).

Reine, K. J., D. G. Clarke, and C. Dickerson. 2012a. Characterization of underwater sounds produced by a bucket dredge excavating rock and gravel. DOER Technical Notes Collection. ERDC TN-DOER-E35. Vicksburg, MS: US Army Engineer Research and Development Center. www.wes.army.mil/el/dots/doer.

Reine, K. J., D. G. Clarke, and C. Dickerson. 2012b. Characterization of underwater sounds produced by a hydraulic cutterhead dredge fracturing limestone rock. DOER Technical Notes Collection. ERDC TN-DOER-E-34. Vicksburg, MS: US Army Engineer Research and Development Center. www.wes.army.mil/el/dots/doer.

Reine, K.J., D. Clarke, C. Dickerson, and G. Wikel. 2014. Characterization of underwater sounds produced by trailing suction hopper dredges during sand mining and pump-out operations. Vicksburg, MS: US Army Engineer Research and Development Center.

Richardson, W, J., C. R. Greene, C. I. Malme, and D. H. Thomson. 1995. Marine mammals and noise. New York: Academic Press.

Rogers, S. G., and W. Weber. 1995. Status and restoration of Atlantic and shortnose sturgeons in Georgia. Final report to NMFS for grant NA46FA102-01.

Russo, M., A. Cordell, D. Ruhl. 1993. Timucuan Ecological and Historic Preserve Phase III Final Report. Sponsored by the National Park Service, Southeast Archaeological Center (SEAC), Tallahassee, Florida with the University of Florida, Gainesville.

SAFMC 1998. Final Habitat Plan for the South Atlantic Region: Essential Fish Habitat Requirements for Fishery Management Plans of the South Atlantic Fishery Management Council: The Shrimp Fishery Management Plan, The Red Drum Fishery Management Plan, The Snapper Grouper Fishery Management Plan, The Coastal Migratory Pelagics Fishery Management Plan, The Golden Crab Fishery Management Plan, The Spiny Lobster Fishery Management Plan, The Coral, Coral Reefs, and Live/Hard Bottom Habitat Fishery Management Plan, The Sargassum Habitat Fishery Management Plan, and the Calico Scallop Fishery Management Plan. Charleston, SC, 457 pp.

Schmid, J.R. and L. H. Ogren. 1992. Subadult Kemp's ridley sea turtles in the southeastern U.S.: Results of long term tagging studies. In: M. Salmon and J. Wyneken. Proceedings of the Eleventh Annual Workshop on Sea Turtle Biology and Conservation. NOAA Technical. Memorandum. NMFS SEFSC 302.

Simpfendorfer, C.A., G.R. Poulakis, P.M. O'Donnell, and T.R. Wiley. 2008. Growth rates of juvenile smalltooth sawfish (Pristis pectinata) in the western Atlantic. Journal of Fish Biology 72: 711–723.

SJRWMD. 2012. St. Johns River Water Supply Impact Study. Technical Publication No. SJ2012-1. St. Johns River Water Management District, Palatka, FL.

Sprandel, Gary L., Jeffery A. Gore, and David T. Cobb 1997. Winter Shorebird Survey Final Performance Report November 1, 1993–March 1, 1994 Florida Game and Fresh Water Fish Commission 620 South Meridian Street Tallahassee, FL 32399-1600 February 1997.

Sullivan, B.K. and D. Hancock. 1977. *Zooplankton and Dredging: Research Perspectives from a Critical Review*. Water Research Bulletin 13(3):461-468.

Tebeau C.W. 1999. *History of Florida*. University of Miami Press, Coral Gables, Florida.

Twachtman Snyder & Byrd, Inc. and Center for Energy Studies, Louisiana State University. 2004. *Operational and Socioeconomic Impact of Nonexplosive Removal of Offshore Structures*. U.S. Dept. of the Interior, Minerals Management Service, Gulf of Mexico OCS Region, New Orleans, LA. OCS Study MMS 2004-074. 50 p.

University of Florida. 2008. Ichthyology-Education Biological Profiles. Gainesville (FL): Florida Museum of Natural History-Ichthyology. http://www.flmnh.ufl.edu/fish/Education/bioprofile.htm.

Corps 1981. U.S. Army Corps of Engineers, Jacksonville District. 1981. *Jacksonville Harbor, Mill Cove Feasibility Report: Improvement for Circulation, Flow, and Navigation,* May 1981.

Corps/USEPA 2007. U.S. Army Corps of Engineers and U.S. Environment Protection Agency. 2007. Jacksonville Ocean Dredged Material Disposal Site, Site Management and Monitoring Plan.

Corps. 2013. Operations and Maintenance, Dredged Material Management Plan, 2012-2031 Update, Jacksonville Harbor, Duval County, Florida.

Corps/USEPA. 2014. Jacksonville Ocean Dredged Material Disposal Site, Site Management and Monitoring Plan.

USEPA. 1973. Aesthetics in Environmental Planning. EPA-600/5-73-009.

USFWS. 2001. Florida Manatee Recovery Plan (Trichechus manatus latirostris). Third Revision. U.S. Fish and Wildlife Service, Atlanta, GA.
http://www.fws.gov/northflorida/manatee/Documents/Recovery Plan/MRP-start.pdf

USFWS. 2013. Wood stork fact sheet.
https://www.fws.gov/northflorida/Species-Accounts/Wood-stork-2005.htm

USFWS. 2014. West Indian Manatee *(Trichechus manatus)*, Florida Stock (Florida subspecies, *Trichechus manatus latirostris*). USFWS, Jacksonville, Florida.

USFWS. 2015a. Green sea turtle fact sheet.
https://www.fws.gov/northflorida/SeaTurtles/Turtle%20Factsheets/green-sea-turtle.htm

USFWS. 2015b. Loggerhead sea turtle fact sheet.

https://www.fws.gov/northflorida/SeaTurtles/Turtle%20Factsheets/loggerhead-sea-turtle.htm

USFWS. 2015c. Leatherback sea turtle fact sheet. https://www.fws.gov/northflorida/SeaTurtles/Turtle%20Factsheets/leatherback-sea-turtle.htm

USFWS. 2015d. Kemp's ridley sea turtle fact sheet. https://www.fws.gov/northflorida/SeaTurtles/Turtle%20Factsheets/kemps-ridley-sea-turtle.htm

USFWS. 2015e. Gopher tortoise fact sheet. http://www.fws.gov/northflorida/gophertortoise/gopher_tortoise_fact_sheet.html

USFWS. 2018. Florida (wood stork) Nesting Colonies and Core Foraging Areas Active 2008-2017 Map. https://www.fws.gov/northflorida/WoodStorks/wood-storks.htm

Watts, G. and Tubby R. 2006. Phase I Remote Sensing Marine Archaeological Survey of the Dames Point Container Terminal Site St. Johns River, Jacksonville, Florida. Tidewater Atlantic Research (TAR). Report prepared for HPA, Inc.

Weaver and Spinning 2016. Submerged Cultural Resources Survey of the Duval County Shore Protection Project, Duval County, Florida: Addendum to the CR Marine Remote Sensing Survey of the Jacksonville Harbor ODMDS. Report prepared by US Army Corps of Engineers, Jacksonville District.

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APPENDIX A - SECTION 404 (b) (1) EVALUATION

SECTION 404 (b) (1) EVALUATION
ON
BERTHING AREA IMROVEMENTS
JACKSONVILLE HARBOR
DUVAL COUNTY, FLORIDA

I. Project Description

a. Location. Jacksonville Harbor is located within Duval County, Florida and begins at the mouth of the St. Johns River where it empties into the Atlantic Ocean. Blount Island Berths 30 through 35 and Dames Point Berths 16 through 18 are located between St. Johns River Miles 11 and 13 (**Figures 2 and 3**). The designated ODMDS is located within the Atlantic Ocean approximately 4.4 nmi east of the Jacksonville coast. The Bartram Island DMMA is located directly across the St. Johns River from the berths, and the Buck Island DMMA is located approximately 4 river miles downstream of the berthing area.

b. General Description. The work would include deepening the Blount Island Berths 30 through 35 and the Dames Point Berths 16 through 18. They are currently constructed to -40 feet plus 2 feet of depth, and would be deepened to -47 feet plus 2 feet of depth. Dredged material would be placed within the designated ODMDS or upland placement locations (Bartram or Buck Island DMMA). Periodic maintenance dredging will also be required to remove accumulated sediments and thus maintain the depth of the berthing areas for navigation purposes. Excavated material from future maintenance dredging events may be placed either within the designated ODMDS or Bartram or Buck Island DMMAs. Maintenance dredging is expected to occur on an annual basis; however, dredging frequency may vary due to storm induced shoaling and availability of funds.

c. General Description of Fill Material.

(1) General Characteristics of Material. The substrate of the berthing area, totaling about 130 acres, consists primarily of loose to firm silts, shell and sands, and underlying soft to hard limestone rock.

(2) Quantity of Material. An estimated 1,301,521 cubic yards sediment and rock would be dredged from the berths and placed within the designated ODMDS or upland placement locations (Bartram or Buck

DMMA). Periodic maintenance dredging will also be required to remove accumulated sediments and thus maintain the depth of the berthing areas for navigation purposes.

(3) Source of Material. Blount Island Berths 30 through 35 and the Dames Point Berths 16 through 18, Jacksonville Harbor, St. Johns River.

d. Description of the Proposed Discharge Site.

(1) Location. The designated ODMDS is located within the Atlantic Ocean approximately 4.4 nmi east of the Jacksonville coast. The Bartram Island DMMA is located directly across the St. Johns River from the berths, and the Buck Island DMMA is located approximately 4 river miles downstream of the berthing area.

(2) Size. The expanded Jacksonville ODMDS is 3.7 nmi and 2.7 nmi by 1.3 nmi in size (4.56 nmi^2). Bartram Island is an elongated island, approximately 3.5 miles long. Buck Island is approximately 4,000 feet long by 2,500 feet at its widest point and is approximately 150 acres in size.

(3) Type of Site. The ODMDS is an open ocean site. Both Bartram and Buck Island DMMAs have diked cells that were constructed for dredged material placement within upland locations.

(4) Type of Habitat. The ODMDS has an unconsolidated, primarily sandy, bottom. The diked cells on Bartram and Buck Island DMMAs consist primarily of sandy flats, temporary pools of water, and some vegetation.

(5) Timing and Duration of Discharge. Deepening of the berthing area is scheduled to be performed during Contract C of the Jacksonville Harbor deepening project. Contract C is anticipated to begin in 2020.

e. Description of Disposal Method. Dredged material from the berthing area is likely to be transported to the ODMDS within a bottom opening scow and tug boat. All placement would be performed in compliance with the Site Material Management Plan (2014). Maintenance dredged material would be piped as a slurry, water and sediment, to the appropriate cell(s) at either Bartram or Buck Island DMMAs.

II. Factual Determinations

a. Physical Substrate Determinations.

(1) Substrate Elevation and Slope. The berths are currently constructed to -40 feet plus 2 feet of depth, and would be deepened to -47 feet plus 2 feet of depth. Slope details will be available with the final design.

(2) Sediment Type. Loose to firm silts, shell and sands, and underlying soft to hard limestone rock.

(3) Dredge/Fill Material Movement. Dredged material placed within the ODMDS would be subject to cross-shore erosion by waves with alongshore movement to both the north and south, and with principal net movement of fill material to the south. Materials placed in Bartram and Buck Island DMMAs would not be subject to movement except by offloading to regenerate capacity in the DMMA.

(4) Physical Effects on Benthos. Dredging would impact benthos within the area of dredge influence as the animals living in the sediments are suctioned into the dredge pipe and pump system or excavated. However, these species reproduce rapidly and adjacent undisturbed sediments will supply a ready source of organisms to recolonize the remaining sediments. Where rock is removed for berth deepening, recolonization of the rock with small organisms (e.g. worms, clams, etc.) that live on the surface of and in the crevices of the rock will recover via mechanisms similar to the benthos living in unconsolidated sediments. Maintenance dredging may suppress recovery in berth areas that are prone to shoaling.

The benthos at the ODMDS would be buried under the deposits of materials from channel dredging and subsequent maintenance activities. However, the same process of rapid recolonization from adjacent undisturbed habitat is expected to occur in these areas.

b. Water Circulation, Fluctuation and Salinity Determination.

(1) Water Column Effects. Dredging and dredged material placement would not have 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. Currents in the berthing area are tidal. Offshore currents within the ODMDS are influenced by the Gulf Stream with principal net movement of fill material to the south.

(3) Normal Water Level Fluctuations and Salinity Gradients. Tides in the berthing area are semi-diurnal. The berthing area is within the St. Johns River estuary and salinity varies greatly depending upon the tidal cycle as well as weather patterns.

c. Suspended Particulate/Turbidity Determinations.

(1) Expected Changes in Suspended Particulates and Turbidity Levels in the Vicinity of the Disposal Site. There would be a potential short term increase in turbidity levels within the water column of the berthing area and the ODMDS. Turbidity would be short term and localized and no significant adverse impacts are expected. State standards for turbidity should not be exceeded during construction.

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

(a) Light Penetration. Because the St. Johns River is a turbid black water river and the ODMDS is subject to naturally occurring elevated turbidity, increases due to project construction should not be significant. A turbidity monitoring program with a plume mixing zone of 150 meters from the dredging site would be implemented during construction. State standards for turbidity should not be exceeded.

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

(c) Toxic Metals, Organics, and Pathogens. No toxic metals, organics, or pathogens should be released by the project.

(d) Aesthetics. Aesthetic quality would be reduced during that period when work is occurring.

(3) Effects on Biota.

(a) Primary Productivity and Photosynthesis. The level of suspended particles would temporarily increase in the berthing area during dredging and dredged material placement. Suspended material would prevent light from reaching existing algae temporarily restricting photosynthesis and primary productivity in a very limited area.

(b) Suspension/Filter Feeders. Suspension feeders would experience short term impacts during dredging and dredged material placement, but no long term adverse impact.

(c) Sight Feeders. Visual feeders would experience short term impacts, but no long term adverse impact.

(d) Contaminant Determinations. Dredging and dredged material placement should not introduce, relocate, or increase contaminants.

(e) Aquatic Ecosystem and Organism Determinations. Effects on the St. Johns River ecosystem and ODMDS would be short term. Minor effects on organisms, as described above, would occur.

(1) Effects on Plankton. Although short term effects (e.g., clogging of feeding appendages) on plankton are likely, no adverse long term impacts to planktonic organisms are anticipated.

(2) Effects on Benthos. Short term minor impacts to non-motile or motile benthic invertebrates and soft bottom habitat are anticipated.

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

(4) Effects on the Aquatic Food Web. No adverse long term impacts to any trophic group in the food web are anticipated.

(5) Effects on Special Aquatic Sites.

(a) Coral Reefs. There are no coral reefs located within the dredging or dredged material placement areas.

(b) Sanctuaries and Refuges. There are no sanctuaries or wildlife refuges located within the proposed dredging and dredged material placement areas.

(c) Wetlands. There are no wetlands located within the proposed dredging or dredged material placement areas.

(d) Mud Flats. There are no mud flats located within the proposed dredging or dredged material placement areas.

(e) Vegetated Shallows. There are no grass beds located within or adjacent to the berthing area.

(6) Endangered and Threatened Species. Dredging and dredged material placement may affect, but is not likely to adversely affect the West Indian manatee, sea turtles, Atlantic sturgeon, short-nosed sturgeon, smalltooth sawfish, North Atlantic right whale, piping plover, wood stork and designated critical habitat for the manatee and right whale. Deepening and future maintenance dredging may affect sea turtles if a hopper dredge is used. Protection measures shall be implemented.

(7) Other Wildlife. No significant adverse impacts to small foraging mammals, reptiles, wading birds, or wildlife in general are expected.

(8) Actions to Minimize Impacts. All practical safeguards will be taken during construction to preserve and enhance environmental, aesthetic, recreational, and economic values in the project area.

f. Proposed Disposal Site Determinations.

(1) Mixing Zone Determination. Dredged material placement within the ODMDS would not cause unacceptable changes in the mixing zone specified in the Water Quality Certification in relation to: depth, current velocity, direction and variability, degree of turbulence, stratification, or ambient concentrations of constituents.

(2) Determination of Compliance with Applicable Water Quality Standards. Because of the inert nature of the fill material, State water quality standards would not be violated. Turbidity monitoring would be implemented as stipulated by State permits.

(3) Potential Effects on Human Use Characteristics.

(a) Municipal and Private Water Supplies. No municipal or private water supplies would be impacted by the implementation of the project.

(b) Recreational and Commercial Fisheries. Recreational and commercial fisheries would not be permanently impacted by the dredging or dredged material placement within the ODMDS. Short term minor impacts to recreational fishing may result during dredging and dredged material placement.

(c) Water Related Recreation. Dredging and dredge material placement within the ODMDS would result in only short term minor impacts water related recreation.

(d) Aesthetics. While viewing a plume from dredging or dredged material placement may temporarily decrease the aesthetic experience of that view, these effects would be temporary and minor.

(e) Parks, National and Historic Monuments, National Seashores, Wilderness Areas, Research Sites, and Similar Preserves. The Timucuan Ecological and Historic Preserve and St. Johns River Nassau River Marshes Aquatic Preserve are located downstream of the berthing area. No major or permanent adverse impacts to water quality are expected to the preserves as a result of the project.

(f). Determination of Cumulative Effects on the Aquatic Ecosystem. Dredging and dredged material placement within the ODMDS would result in minor cumulative effects in association with other ongoing activities on the aquatic/marine ecosystem.

(g). Determination of Secondary Effects on the Aquatic Ecosystem. No adverse secondary effects resulting from dredging or dredged material placement are anticipated.

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

a. No significant adaptations of the guidelines were made relative to this evaluation.

b. No practicable alternative exists which meets the study objectives that does not involve discharge of fill into waters of the State of Florida and/or United States.

c. After consideration of disposal site dilution and dispersion, the discharge of fill materials will not cause or contribute to, violations of any applicable State water quality standards for Class III waters. The discharge operation will not violate the Toxic Effluent Standards of Section 307 of the Clean Water Act.

d. The Berthing Improvements Project 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.

e. Dredging and dredged material placement 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 significantly adversely affected. Significant adverse effects on aquatic ecosystem diversity, productivity and stability, and recreational, aesthetic, and economic values will not occur.

On the basis of the guidelines, the proposed placement site for the discharge of quarried sand is specified as complying with the requirements of these guidelines.

APPENDIX B - COASTAL ZONE MANAGEMENT CONSISTENCY

FLORIDA COASTAL ZONE MANAGEMENT PROGRAM
FEDERAL CONSISTENCY EVALUATION PROCEDURES
ON
BERTHING AREA IMROVEMENTS
JACKSONVILLE HARBOR
DUVAL COUNTY, FLORIDA

This appendix evaluates the berthing area improvements project for consistency with Florida's Coastal Zone Management Program (FCMP). The discussion below briefly identifies the FCMP laws and provides a consistency response.

1. Chapter 161, Florida Statute (2018) 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: Proposed deepening and periodic maintenance dredging of sediment will not violate the intent of this chapter. The proposed plans and information associated with the proposed project will be submitted to the State in compliance with this chapter.

2. Chapters 186 and 187, Florida Statute (2018) State and Regional Planning and State Comprehensive Plan (SCP). These chapters establish the 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 SCP goal to promote economic climate for stability and job opportunities while protecting natural resources.

3. Chapter 252, Florida Statute (2018) Emergency Management. This chapter creates a State emergency management agency with authority: in order to ensure that preparations of this state will be adequate to deal with, reduce vulnerability to, and recover from such emergencies and disasters; 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 would provide safer navigation conditions in the berthing area. Therefore, this project is consistent with the efforts of Division of Emergency Management.

4. Chapter 253, Florida Statute (2018) State Lands. This chapter governs the management of State of Florida Board of Trustees of the Internal Improvement Trust Fund State Lands, including submerged State lands and resources within State lands. This includes archeological and historic 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; therefore, it complies with the intent of this chapter.

5. Chapter 258, Florida Statute (2018) State Parks and 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 in the vicinity of the Nassau River-St. Johns River Marshes Aquatic Preserve, and will comply with State water quality standards. The project is consistent with this chapter.

6. Chapters 259, 260, and 375, Florida Statute (2018) Land Acquisition for Conservation and Recreation, Greenways and Trails, Outdoor Recreation and Conservation Lands. These chapters authorize agencies of the State of Florida to acquire land: to protect environmentally sensitive areas for conservation; and for outdoor recreation, including greenways and trails.

Response: The proposed project will not have an adverse effect on state-owned environmentally sensitive or recreational lands. It does not require land acquisition to meet the purpose and need of the project and does not interfere with the authority set forth in these chapters.

7. Chapter 267, Florida Statute (2018) Historical Resources. 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. Surveys have been conducted in order to determine the presence of historic properties. The project is consistent with this chapter.

8. Chapter 288, Florida Statute (2018) Commercial Development and Capital Improvements. This chapter directs the State Office of Economic and Demographic Research and the Office of Program Policy Analysis and Government Accountability to evaluate existing State economic development programs (e.g., tax credits, tax refunds, sales tax exemptions, etc.) for effectiveness and value to taxpayers.

Response: This chapter is not applicable as the project does not involve any of the economic incentive programs listed in Chapter 288.

9. Chapters 334, 335, 336, 337, 338, and 339, Public Transportation. These chapters authorize the planning and development of a safe, balanced, and efficient transportation system.

Response: The proposed work will allow JAXPORT's ability to handle larger and more efficient vessels and is consistent with the intent of these chapters.

10. Chapter 373, Florida Statute (2018) Water Resources. This chapter provides the authority to regulate the withdrawal, diversion, storage, and consumption of water.

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

11. Chapter 376, Florida Statute (2018) Pollutant Discharge Prevention and Removal. This chapter prohibits discharge of pollutants into or upon coastal waters, estuaries, tidal flats, beaches, and lands adjoining the seacoast.

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. The contractor will be required to develop and implement a spill prevention plan. The proposed project is consistent with the intent of this chapter.

12. Chapter 377, Florida Statute (2018) Energy Resources. 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 products. Therefore, this chapter does not apply.

13. Chapter 379, Saltwater Fisheries. 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 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 berthing improvements would not have a substantial adverse effect on saltwater living resources. Benthic organisms may be adversely affected by the work; however, these organisms are highly fecund and are expected to return to pre-construction levels within 6 months to one year after construction. Based on the overall impacts identified in the Environmental Assessment, the proposed project is consistent with the goals of this chapter.

14. Chapter 379, Wildlife. This chapter establishes the Florida 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 proposed project would not have a substantial adverse effect on living land and freshwater resources.

15. Chapter 380, Florida Statute (2018) 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 project will not have any regional impact on resources in the area. Therefore, the project is consistent with the goals of this chapter.

16. Chapter 388, Florida Statute (2018) Mosquito Control. This chapter provides for a comprehensive approach for abatement or suppression of mosquitoes and other pest arthropods within the State.

Response: The proposed project shall not further the propagation of mosquitoes or other pest arthropods. The project is consistent with the goals of this chapter.

17. Chapter 403, Florida Statute (2018) Environmental Control. This chapter authorizes the regulation of pollution of the air and waters of the State by the FDEP.

Response: Water quality certification from the FDEP will be required for the proposed project, but air pollution permits are not required. An Environmental Assessment addressing the proposed project effects has been prepared and has been reviewed by the appropriate resource agencies including the FDEP. Environmental protection

measures will be implemented to ensure that long lasting adverse effects on water quality, air quality, or other environmental resources will not occur. The proposed project complies with the intent of this chapter.

18. Chapter 582, Florida Statute (2018) 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 on-site and on adjoining properties affected by the work. Particular attention will be given to work on or adjacent to agricultural lands.

Response: The proposed project is not located near or on agricultural lands; therefore, this chapter is not applicable to the proposed project.

APPENDIX C - PERTINENT CORRESPONDENCE

United States Department of the Interior
U. S. FISH AND WILDLIFE SERVICE
7915 BAYMEADOWS WAY, SUITE 200
JACKSONVILLE, FLORIDA 32256-7517

IN REPLY REFER TO:

FWS Log No. 04EF1000-2019-I-0162

March 12, 2019

Angie Dunn, Chief
Environmental Branch
Planning and Policy Division
Jacksonville District Corps of Engineers
701 San Marco Boulevard
Jacksonville, Florida 32207
(Attn: Paul Stodola)

Dear Ms. Dunn:

The U.S Fish and Wildlife Service (Service) has reviewed your correspondence of November 9, 2018, the referenced Environmental Assessment and Proposed Finding of No Significant Impacts, and additional information provided through February 21, 2019, regarding the following project: **Berthing Area Improvements, Jacksonville Harbor (Blount Island Berths 30-35 and Dames Point Berths 16-18)**. We submit the following comments in accordance with section 7 of the Endangered Species Act of 1973 (Act), as amended (16 U.S.C. 1531 *et seq.*).

The Corps and its non-Federal partner, Jacksonville Port Authority, propose to deepen Blount Island Berths 30-35 and Dames Point Berths 16-18 from their current depth of -40 feet plus two feet of depth to -47 feet plus two feet of depth and to maintenance dredge as needed in the future to maintain these depths. Deepening would remove an estimated 1,301,521 cubic yards of sediment and rock, with the dredged material placed within the designated Ocean Dredged Material Disposal Site (ODMDS) or within a designated upland location, either at the Bartram or Buck Island Dredged Material Management Area (DMMA). Dredging would be performed using a variety of hydraulic and mechanical methods and would include both daytime and nighttime operations. No underwater blasting is planned. A bed-leveling device may be used to level or remove high spots. The project area is located in the lower St. Johns River, between River Miles 11 and 13, in Jacksonville, Duval County, Florida. The ODMDS is located in the Atlantic Ocean approximately 4.4 nautical miles east of the Jacksonville coast, the Bartram DMMA is directly across from the Dames Point Berths, and the Buck Island DMMA is located approximately 4 river miles downstream (east) of the Blount Island Berths.

The Corps determined the project is within the range of, and has the potential to affect, the federally-listed piping plover (*Charadrius melodus*), wood stork (*Mycteria americana*), and West Indian (Florida) manatee (*Trichechus manatus latirostris*). As discussed below, the Corps determined the proposed project "may affect, but is unlikely to adversely affect" all three of these species.

Piping plovers and wood storks could be affected by the placement of dredge spoil material at the DMMAs; however, effects would most likely be beneficial rather than adverse because placement activity creates shallow pools of water and sand flats that can be used as foraging and resting habitat. Placement activities would be intermittent and limited in scope, thereby leaving considerable useable area even when placement is occurring. In the absence of placement activities, the interior of the diked cells would eventually become thickly vegetated and less desirable for both species.

In order to minimize and mitigate against potential risks to manatees, the Corps stated the following conditions would apply:

- Adherence to the 2011 Standard Manatee Conditions for In-Water Work;
- At least one person shall be designated as a manatee observer when in-water work is being performed. That person shall have experience in manatee observation during dredging activities, and be equipped with polarized sunglasses to aid in observation. The manatee observer shall be on site during all in-water construction activities and advise personnel to cease operation upon sighting a manatee within 50 feet of any in-water construction activity. Two dedicated observers shall be on site during nighttime clamshell dredging. Dedicated observers shall have experience in manatee observation during clamshell operations. The distance at which nighttime clamshell operation shall cease when a manatee is present shall be expanded to 75 feet of any in-water construction activity;
- During clamshell dredging, the dredge operator shall gravity-release the clamshell bucket only at the water's surface, and only after confirmation that there are no manatees within the safety distance identified in the standard conditions, and expanded to 75 feet during nighttime clamshell dredging.

On February 21, 2019, the Corps agreed to include the following additional condition:

- During nighttime dredging operations, lighting must be used to sufficiently illuminate the water surface within 100 feet of the operation hoist line (clam bucket cable). The lighting system must be assessed for compliance prior to commencement of nighttime dredging activities.

Based on the nature and location of the proposed activities and the conservation measures the Corps has agreed to implement, the Service concurs with the Corps determination that the proposed activities are not likely to adversely affect piping plovers, wood storks, or manatees. However, if blasting or other pretreatment methods (impact hammers, etc.) are determined to be needed prior to dredging, the Corps will need to re-initiate consultation to address potential impacts to manatees.

Although this does not represent a biological opinion as described in section 7 of the Act, it does fulfill the requirements of the Act and no further action is required. Reinitiation of consultation is required if modifications are made to the project that were not previously considered and may adversely affect listed species, or their habitat; if the Corps or other parties fail to comply with the permit conditions; if additional information involving potential effects to listed species becomes available; or if take of manatees or other listed species occurs.

If you have any questions regarding this response, please contact Mr. Scott Calleson of my staff at the address on the letterhead, by e-mail at charles_calleson@fws.gov, or by calling (904) 731-3326.

Sincerely,

Jay B. Herrington
Field Supervisor

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southeast Regional Office
263 13th Avenue South
St. Petersburg, Florida 33701-5505
http://sero.nmfs.noaa.gov

(Sent via Electronic Mail) December 4, 2018 F/SER47:PW/pw

Colonel Andrew Kelly, Commander
USACE Jacksonville District
701 San Marco Boulevard
Jacksonville, FL 32232-0019

Attention Paul E. Stodola

Dear Colonel Kelly:

NOAA's National Marine Fisheries Service (NMFS) reviewed the letter dated November 9, 2018, from the Jacksonville District initiating consultation under the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) for adverse impacts to essential fish habitat (EFH) that may result from improvements to Blount Island Berths 30 to 35 and Dames Point Berths 16 to 18, Jacksonville Harbor, Duval County. The letter included *Environmental Assessment and Proposed Finding of No Significant Impact, Berthing Area Improvements, Jacksonville Harbor, Duval County, Florida* dated November 2018 (EA). The depth of these berths is -40 feet MLLW plus two feet of overdepth, and the proposed depth is -47 feet MLLW plus two feet of overdepth. The deepening will make the berths compatible with the newer, authorized depths of the federal navigation channel. To accomplish the berth improvements, the District and Jacksonville Port Authority estimate 1,301,521 cubic yards of sediment and rock need dredging from 130 acres. Disposal would occur in the Jacksonville Ocean Dredged Material Disposal Site (ODMDS) or established dredged material management areas (DMMAs) on Bartram Island or Buck Island. Hydraulic and/or mechanical dredges would accomplish the work; the District is not planning underwater blasting with conventional explosives. The District anticipates the construction beginning in 2020. The initial determination by the Jacksonville District is the proposed dredging would not have a substantial adverse impact on EFH designated by the South Atlantic Fishery Management Council (SAFMC), Mid-Atlantic Fishery Management Council (MAFMC), or the NMFS. As the nation's federal trustee for the conservation and management of marine, estuarine, and anadromous fishery resources, the NMFS provides the following comments and recommendations pursuant to authorities of the Fish and Wildlife Coordination Act and the Magnuson-Stevens Act.

Substrates within the berthing areas consist primarily of loose to firm silts, shell hash, and sand with underlying soft limestone rock. These substrates and the overlying water column are EFH. EA Section 3.4 describes the EFH and federally managed fishery species within the project area. These descriptions do not require amendment to complete this EFH consultation.

EA Section 4.4 describes how the dredging activities would affect EFH and federally managed fishery species within the project area. Dredging would remove sediments and associated

benthic organisms, such as shrimp and fauna serving as prey for managed fishery species. Given the current unnatural depths of the berths and the frequent physical disturbances of the bottom by vessels and maintenance dredging, the NMFS views the quality of the benthic habitat as low. This view of the berths is consistent with the reports the NMFS has read regarding benthic communities within dredged areas of Jacksonville Harbor. Consequently, the NMFS expects impacts from removing the sediments should be minimal over both short and long terms.

The dredging process and disposal in the Jacksonville ODMDS and DMMAs would increase turbidity in the water column and sedimentation of nearby areas temporarily reducing habitat quality. No other water quality effects (e.g., changes to salinity or dissolved oxygen concentration) are expected. The District and Jacksonville Port Authority would mitigate the turbidity and sedimentation impacts via standard control measures required and monitored through the Water Quality Certification from the State of Florida or the site management and monitoring plan from the U.S. Environmental Protection Agency for the Jacksonville ODMDS.

In summary, the NMFS has no EFH conservation recommendations for the proposed deepening of Blount Island Berths 30 to 35 and Dames Point Berths 16 to 18 in Jacksonville Harbor. The measures described the EA are adequate for minimizing impacts to EFH and federally managed fishery species. Please note these comments do not satisfy consultation responsibilities under section 7 of the Endangered Species Act of 1973, as amended. If an activity "may effect" listed species or critical habitat under the purview of the NMFS, please initiate consultation with the Protected Resources Division at the letterhead address.

The NMFS appreciates the opportunity to provide these comments. Please direct related correspondence to the attention of Pace Wilber at our Charleston Area Office, 219 Ft Johnson Road, Charleston SC, 29412. He also may be reached at (843) 460-9926 or by e-mail at Pace.Wilber@noaa.gov.

Sincerely,

Pace Wilber

/ for

Virginia M. Fay
Assistant Regional Administrator
Habitat Conservation Division

cc: COE, Paul.E.Stodola@usace.army.mil
USEPA, Harper.Cecelia@epa.gov
SAFMC, Roger.Pugliese@safmc.net
F/SER4, David.Dale@noaa.gov
F/SER47, Pace.Wilber@noaa.gov

-----Original Message-----
From: Davis, Richard D (Dylan) CIV USARMY CESAD (USA)
Sent: Wednesday, September 11, 2019 5:03 PM
To: Harrah, Jason S CIV USARMY CESAJ (US) <Jason.S.Harrah@usace.army.mil>; Stodola, Paul E CIV USARMY CESAJ (USA) <Paul.E.Stodola@usace.army.mil>; Dunn, Angela E CIV USARMY CESAJ (USA) <Angela.E.Dunn@usace.army.mil>; Spinning, Jason J CIV USARMY CESAJ (USA) <Jason.J.Spinning@usace.army.mil>
Cc: Hollingsworth, Michael J CIV USARMY CESAJ (US) <Michael.J.Hollingsworth@usace.army.mil>; Scerno, Deborah H CIV USARMY CESAD (US) <Deborah.H.Scerno@usace.army.mil>; Riegert, Michael W SAD <Michael.W.Riegert@usace.army.mil>
Subject: RE: SERO-2019-00239 Jacksonville Harbor Berthing Area Improvements; SERO-2019-00238 Jacksonville Harbor Deepening and Widening (UNCLASSIFIED)

We have discussed with NMFS and the new SARBO, under the supersede process, will be able to cover the berthing area improvements. They will just need to wait until it is signed and get the final ok from NMFS before they can move out with construction. Please let us know if you have any additional questions or comments.

Dylan
Richard Dylan Davis
Coastal Program Manager
for Navigation and Flood Risk Management South Atlantic Division Office - (404) 562-5130 Cell - (404) 354-1783

From: Higgins, Jamie
To: Stodola, Paul E CIV USARMY CESAJ (US)
Cc: Higgins, Jamie; Militscher, Chris; Weiss, Lena
Subject: [Non-DoD Source] Duval County Berthing Area Improvements EA
Date: Monday, December 3, 2018 1:51:33 PM

Hi Paul,
Below are EPA's comments on the Duval County Berthing Area Improvement EA. Please let me know if you have questions.
Thanks,
Jamie

US Environmental Protection Agency (EPA) Comments
for
Jacksonville District, US Army Corps of Engineers (USACE)
Environmental Assessment and Proposed Finding of No Significant Impact
Berthing Area Improvements, Jacksonville Harbor, Duval County, Florida
December 7, 2018

Background: The EPA recently received a letter dated November 8, 2018, announcing the Notice of Availability (NOA) for Environmental Assessment (EA) and Proposed Finding of No Significant Impact (FONSI) for Berthing Area Improvements within Jacksonville Harbor, Duval County, Florida. As stated in the letter, the purpose of the EA was to evaluate the potential effects of deepening Blount Island Berths 30-35 and Dames Point Berths 16-18 from their current depth of approximately 40' plus 2 feet depth to approximately 47 feet plus to 2 feet of depth. The EPA has only one technical comment and recommendation as listed below:

Ocean Dredged Material Disposal Site (ODMDS):

According to the EA, the dredging of the berthing areas will produce approximately 1,301,521 cubic yards of sediment and rock. The USACE plans to place these dredged materials in either the existing Jacksonville Harbor ODMDS or upland placement locations (Bartram or Buck Dredged Material Management Areas (DMMA). **Recommendation:** The EPA recommends
that the USACE coordinate with the EPA if the project footprint changes from what was previously consulted and concurred upon under the Marine Protection, Research and Sanctuaries Act (MPRSA) Section 103 process.

The EPA requests notification of the Final FONSI/EA. Please contact Jamie Higgins should you have questions.

Jamie Higgins
National Environmental Policy Act (NEPA) Program Office
Resource Conservation Restoration Division
Region 4, Environmental Protection Agency
61 Forsyth Street, SW
Atlanta, GA 30303

Stodola, Paul E CIV USARMY CESAJ (USA)

From: Stahl, Chris <Chris.Stahl@dep.state.fl.us>
Sent: Monday, July 15, 2019 2:46 PM
To: Stodola, Paul E CIV USARMY CESAJ (USA)
Cc: State_Clearinghouse
Subject: [Non-DoD Source] State_ClearanceLetter_for_FL201905168601C_Environmental Assessment and Proposed Finding of No Significant Impact Berthing Area Improvements Jacksonville Harbor, Duval County, Florida

July 15, 2019

Paul E. Stodola
U.S. Army Corps of Engineers
Jacksonville District, Planning Division
P. O. Box 4970
Jacksonville, Florida 32232-0019

RE: Department of the Army, Jacksonville District Corps of Engineers - Navigation Projects - Environmental Assessment and Proposed Finding of No Significant Impact Berthing Area Improvements Jacksonville Harbor, Duval County, Florida
SAI # FL201905168601C

Dear Paul:

Florida State Clearinghouse staff has reviewed the proposal under the following authorities: Presidential Executive Order 12372; § 403.061(42), Florida Statutes; the Coastal Zone Management Act, 16 U.S.C. §§ 1451-1464, as amended; and the National Environmental Policy Act, 42 U.S.C. §§ 4321-4347, as amended.

The Florida Department of Environmental Protection's Northeast District has determined that an Environmental Resource Permit may be required from the Department. Please contact Kim Pearce (904) 256-1686 at the Northeast District office regarding details and requirements for this project. Please note that the Florida Coastal Management Program (FCMP) should be strictly followed during this dredging operation. The environmental impacts from dredged material need to be eliminated during all phases of the dredging process (removal, stockpiling, hauling, and placement at Dredging Material Management Areas [DMMA]). The environmental samples in soil, sediment, groundwater, and surface water should be collected as directed in the FCMP and as additionally warranted.

Based on the information submitted and minimal project impacts, the state has no objections to the subject project and, therefore, it is consistent with the Florida Coastal Management Program (FCMP). The state's final concurrence of the project's consistency with the FCMP will be determined during any environmental permitting processes, in accordance with Section 373.428, Florida Statutes.

Thank you for the opportunity to review the proposed plan. If you have any questions or need further assistance, please don't hesitate to contact me at (850) 717-9076.

Sincerely,

Chris Stahl

Chris Stahl, Coordinator
Florida State Clearinghouse
Florida Department of Environmental Protection
2600 Blair Stone Road, M.S. 47
Tallahassee, FL 32399-2400
ph. (850) 717-9076
State.Clearinghouse@dep.state.fl.us

FLORIDA DEPARTMENT of STATE

RICK SCOTT
Governor

KEN DETZNER
Secretary of State

Dr. Gina Paduano Ralph
Jacksonville District Corps of Engineers
Chief, Environmental Branch
701 San Marco Boulevard
Jacksonville, Florida 32207-8175

January 3, 2019

RE: DHR Project File No.: 2017-5655-C, Received by DHR: September 15, 2018
St. Johns River Federal Navigation Jaxport Berths and USMC Blount Island Turning Slip Navigation Report, Duval County, Florida

Dear Dr. Paduano Ralph:

Our office received and reviewed the above referenced project for possible effects on historic properties listed, or eligible for listing, on the *National Register of Historic Places* (NRHP). The review was conducted in accordance with Section 106 of the *National Historic Preservation Act of 1966*, as amended, and its implementing regulations in *36 CFR Part 800: Protection of Historic Properties*.

The U.S. Army Corps of Engineers, Jacksonville District (Corps), in partnership with the Jacksonville Port Authority, is studying proposed improvements to the Jacksonville Harbor port berths. The area of potential effect (APE) includes the Blount Island Berths 30-35 and the Dames Point Berths 16-18, the upland placement locations Bartram or Buck Island Dredged Material Management Areas (DMMAs), and the Ocean Dredged Material Disposal sites (ODMDS). Portions of the APE have been previously surveyed and the Division of Historical Resources (DHR) previously participated in consultation on their results; therefore, those areas were excluded from the above survey. Panamerican Consultants, Inc., (PCI) recorded 459 magnetic anomalies, 65 side scan sonar targets, and zero subbottom features. Following analysis, PCI determined that none of them represent significant historical resources.

Based on the results of previous surveys, the results of the survey of the APE, and the past and ongoing use of the disposal sites, the Corps has determined that deepening of the Jacksonville Harbor berths and placement of dredged materials within the existing Bartram Island or Buck Island DMMAs, or the Jacksonville ODMDS upland disposal site poses no effect to historic properties.

Based on the information provided, we concur with the Corps' determination of no effect to historic properties listed, or eligible for listing, on the NRHP. Further, we find the submitted report complete and sufficient in accordance with Chapter 1A-46, *Florida Administrative Code*. If I can be of any further help, or if you have any questions about this letter, please feel free to contact Lindsay Rothrock at *Lindsay.Rothrock@dos.myflorida.com*.

Sincerely,

For

Timothy A. Parsons, Ph.D.
Director, Division of Historical Resources
and State Historic Preservation Officer

Division of Historical Resources
R.A. Gray Building • 500 South Bronough Street • Tallahassee, Florida 32399
850.245.6300 • 850.245.6436 (Fax) FLHeritage.com

From: Theodore Isham
To: Stodola, Paul E CIV USARMY CESAJ (US)
Subject: [EXTERNAL] SNO Response to USACE"s Jackosnville Harbor Nav Project
Date: Sunday, January 21, 2018 6:00:29 AM

This Opinion is being provided by Seminole Nation of Oklahoma's Cultural Advisor, pursuant to authority vested by the Seminole Nation of Oklahoma General Council. The Seminole Nation of Oklahoma is an independently Federally-Recognized Indian Nation headquartered in Wewoka, OK.

In keeping with the National Environmental Policy Act (NEPA)d, and Section 106 of the National Historic Preservation Act (NHPA), 36 CFR Part 800, this letter is to acknowledge that the Seminole Nation of Oklahoma has received notice of the proposed project at the above mentioned location. The Seminole Nation of Oklahoma concurs with the recommendation of 'no adverse effect'. Therefore, we have no other comment on the project as proposed.

We do request that if cultural or archeological resource materials are encountered that all activity cease and the Seminole Nation of Oklahoma and other appropriate agencies be contacted immediately.

Furthermore, due to the historic presence of our people in the project area, inadvertent discoveries of human remains and related NAGPRA items may occur, even in areas of existing or prior development. Should this occur we request all work cease and the Seminole Nation of Oklahoma and other appropriate agencies be immediately notified.

Theodore Isham

Seminole Nation of Oklahoma

Historic Preservation Officer

PO Box 1498

Seminole, Ok 74868

Phone: 405-234-5218

Cell: 918-304-9443

e-mail: isham.t@sno-nsn.gov <mailto:isham.t@sno-nsn.gov>

From: Bradley Mueller
To: Stodola, Paul E CIV USARMY CESAJ (US)
Cc: Ralph, Gina P CIV USARMY CESAJ (US)
Subject: [EXTERNAL] Jacksonville Harbor Berthing Improvements, NEPA Scoping Process
Date: Wednesday, January 24, 2018 2:10:16 PM
Attachments: image001.png
image002.png

January 24, 2018

Mr. Paul E. Stodola@usace.army.mil.

Planning and Policy Division

Department of the Army

Jacksonville District Corps of Engineers

701 San Marco Blvd.

Jacksonville, FL 32207-8175

Subject: Jacksonville Harbor Berthing Improvements Area, NEPA Scoping Process, Duval County, FL

THPO Compliance Tracking Number: 0030271

Dear Mr. Stodola,

Thank you for contacting the Seminole Tribe of Florida – Tribal Historic Preservation Office (STOF-THPO) regarding the Jacksonville Harbor Berthing Improvements Area, NEPA Scoping Process, Duval County, FL. The

proposed undertaking does fall within the STOF Area of Interest. Please continue to consult with us through the USACE cultural resources staff regarding any possible undertaking impacts to cultural resources. Thank you and feel free to contact us with any questions or concerns.

Respectfully,

Bradley M. Mueller, MA, Compliance Supervisor

STOF-THPO, Compliance Review Section

30290 Josie Billie Hwy, PMB 1004

Clewiston, FL 33440

Office: 863-983-6549 ext 12245

Email: bradleymueller@semtribe.com

ST. JOHNS RIVERKEEPER®

December 9, 2018

Paul E. Stodola
US Army Corps of Engineers (USACE)
P.O. BOX 4970
Jacksonville, FL 32232-0019

VIA EMAIL

RE: USACE Environmental Assessment and Proposed Finding of No Significant Impact (FONSI) -Berthing Area Improvements

Dear Mr. Stodola:

St. Johns Riverkeeper (Riverkeeper) is a Florida nonprofit, membership-based corporation. We are dedicated to the protection, preservation and restoration of the ecological integrity of the lands and waters of the St. Johns River watershed for current users and future generations. Riverkeeper has more than 1,300 members who use and enjoy the waters of the St. Johns and its tributaries for boating, fishing, and observing birds and other wildlife.

Unfortunately, the ecological health and integrity of the St. Johns River system is threatened due to years of neglect and the cumulative impacts of a growing population, sea level rise and navigational dredging.

The decision to issue a FONSI at this time is a bit puzzling.

- Why was the Environmental Assessment to deepen the approximately 130 acres of the St. Johns River conducted outside the 2014 Final Integrated General Reevaluation Report II and Supplemental Environmental Impact Statement?

- How can USACE determine that there will be no impact when consultation with US Fish and Wildlife Service, National Marine Fisheries Services, Florida Department of Environmental Protection and Florida State Historic Preservation are ongoing?

Background

In November 2018, USACE issued a FONSI for Berthing Area Improvements at Jacksonville Harbor, Duval County, Florida. The preferred alternative includes the following:

St. Johns Riverkeeper, Inc. • 2800 University Boulevard N. • Jacksonville, FL 32211 •

• Blount Island Berths 30-35 and Dames Point Berths 16-18 would be deepened from their current depth of -40 feet plus 2 feet of depth to -47 feet plus 2 feet of depth. Future dredging of these berths would be periodically performed in order to maintain the new depth.

• An estimated 1,301,521 cubic yards of sediment and rock would be dredged from the berths and may be placed within the designated Ocean Dredged Material Disposal Site. Significantly smaller amounts of sediment would be removed during future maintenance dredging and may also be placed within this site.

• Dredged material resulting from the deepening and future maintenance dredging of the berths may also be placed within a designated upland location, either at Bartram or Buck Island Dredged Material Management Areas.

Improper Segmentation

The FONSI is clear that the deepening from 42 – 47 feet of the ship berths is a direct requirement of the deepening of the river which was addressed in the 2014 Final Integrated General Reevaluation Report II and Supplemental Environmental Impact Statement. As such it should have been included in the analysis of the river dredging in order to give a complete picture without improperly segmenting the project.

- Why was the Environmental Assessment to deepen the approximately 130 acres of the St. Johns River conducted outside the 2014 Final Integrated General Reevaluation Report II and Supplemental Environmental Impact Statement?

Deciding before Determining

USACE decided that there is no significant impact before it has actually completed critical conferral.

USACE identified the following issues to be relevant to the proposed deepening of Blount Island and the Dames Point berths: (1) general environmental setting; (2) threatened and endangered species; (3) marine mammals; (4) Essential Fish Habitat; (5) migratory birds; (6) other wildlife resources; (7) water quality; (8) hazardous, toxic, and radioactive waste (HTRW); (9) air quality; (10) cultural, historic, and archaeological resources; (11) Native Americans; (12) navigation; (13) aesthetics; (14) recreation; and (15) noise.

Of all the issues identified, many of the critical conferrals are still incomplete.

The EA will be coordinated with the Florida Department of Environmental Protection (DEP) to ensure consistency with the Florida Coastal Management Program (FCMP). The State's final concurrence on the project's consistency with the FCMP will be determined during the environmental permit process, in accordance with Section 373.428, Florida Statutes. A water quality certification (State permit) pursuant to Section 401 of the

> Clean Water Act will be obtained from DEP prior to construction. All conditions of the State permit will be implemented in order to minimize adverse impacts to water quality.
>
> Pursuant to Section 7 of the Endangered Species Act of 1973, as amended, coordination with the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) regarding the preferred alternative is **ongoing.**
>
> Pursuant to section 106 of the National Historic Preservation Act of 1966, as amended, coordination with the Florida State Historic Preservation Officer regarding the preferred alternative is ongoing.

How can USACE determine that there will be no impact when consultation with US Fish and Wildlife Service, National Marine Fisheries Services, FDEP and Florida State Historic Preservation are ongoing?

Atlantic Bottlenose Dolphins Under Stress

In December 2017, Dr. Quincy Gibson, University of North Florida (UNF), submitted the following written concerns about this proposed dredging.

> The estuarine waters of the lower St. Johns River in Jacksonville, FL provide significant year-round habitat for Atlantic bottlenose dolphins (Tursiops truncatus). Dolphins inhabiting the St. Johns River (SJR) are currently managed as part of the Jacksonville Estuarine System stock, which is considered a strategic stock by NOAA Fisheries due to the likelihood that even a few mortalities would exceed the acceptable Potential Biological Removal (PBR) level (Waring et al. 2009). However, given the urban location of this population, the risk of anthropogenic disturbance is high. Overall, the proposed Jacksonville Harbor deepening project poses an imminent risk of short-term disturbances to dolphins and other wildlife through elevated noise levels, increased water turbidity, and the potential release of toxins during river dredging, blasting and construction operations. In addition, the project may generate substantial long-term effects through changes in salinity, prey distribution, and increased large commercial vessel traffic. **With regards to the berthing area improvement project specifically, I have significant concerns that the proposed project has the potential to result in habitat degradation severe enough to have lasting consequences on the viability and sustainability of this dolphin population. The area surrounding Blount Island has been documented as a year-round critical habitat area for SJR dolphins (King 2017).**

Dr. Gibson also recommends continued monitoring of local dolphins both during and following project activities to protect the local dolphins and to detect adverse effects on the population. Unfortunately, USACE does not provide this needed protection.

Most recently, UNF has documented an increase in the prevalence of emaciation and extensive skin lesions, which are indicative of compromised immune systems. If additional toxins are released during the dredging process and/or prey distributions shift, that could potentially push

these animals past their tolerance threshold. It is critical that USACE provide systematic monitoring throughout the construction period.

Absence of Alternatives

While USACE speaks to the importance of alternatives, **no "other reasonable alternatives" were evaluated.**

> ***The Alternatives Section is perhaps the most important component of the EA.*** *This section describes the no-action alternative, the preferred alternative,* ***and other reasonable alternatives.*** ***The beneficial and adverse environmental effects of the alternatives are presented in comparative form, providing a clear basis for choice.*** *A preferred alternative was selected based on the information and analysis presented in the sections on the Affected Environment and Probable Impacts.*

The only two choices USACE considers is "No-Action Alternative" or "Action-Alternative." USACE eliminates the "No-Action Alternative" because "The No Action Alternative" does not meet the intent of the 2014 Final Integrated General Reevaluation Report II and Supplemental Environmental Impact Statement federally authorizing deepening in order to improve navigation conditions for deep draft vessels."

The justification for the Berth Dredge is the 2014 Final Integrated General Reevaluation Report II and Supplemental Environmental Impact Statement **which should have included the 130 acres addressed independently.**

Incomplete and Incapable

For the above reasons, the FONSI is incomplete and incapable of determining that dredging of approximately 130 acres of the St. Johns River will not significantly impact the human environment.

Please contact me at 904-509-3260 or lisa@stjohnsriverkeeper.org for additional information.

Sincerely,

Lisa Rinaman

Lisa Rinaman
St. Johns Riverkeeper

Attachment: Dr. Quincy Gibson – December 2017 Comment Letter

UNF UNIVERSITY of NORTH FLORIDA

COLLEGE OF ARTS AND SCIENCES
DEPARTMENT OF BIOLOGY

1 UNF Drive
Jacksonville, Florida 32224-2660
(904) 620-2830 Fax (904) 620-3885

December 26, 2017

Mr. Paul Stodola
Department of the Army
Jacksonville District Corps of Engineers
Planning and Policy Division
Environmental Branch
701 San Marco Boulevard
Jacksonville, FL 32207

Dear Mr. Stodola:

Please accept the following document as my formal comments in response to the proposed Jacksonville Harbor berthing area improvements, Duval County, Florida.

The estuarine waters of the lower St. Johns River in Jacksonville, FL provide significant year-round habitat for Atlantic bottlenose dolphins (*Tursiops truncatus*). Dolphins inhabiting the St. Johns River (SJR) are currently managed as part of the Jacksonville Estuarine System stock, which is considered a strategic stock by NOAA Fisheries due to the likelihood that even a few mortalities would exceed the acceptable Potential Biological Removal (PBR) level (Waring *et al.* 2009). However, given the urban location of this population, the risk of anthropogenic disturbance is high. Overall, the proposed Jacksonville Harbor deepening project poses an imminent risk of short-term disturbances to dolphins and other wildlife through elevated noise levels, increased water turbidity, and the potential release of toxins during river dredging, blasting and construction operations. In addition, the project may generate substantial long-term effects through changes in salinity, prey distribution, and increased large commercial vessel traffic. **With regards to the berthing area improvement project specifically, I have significant concerns that the proposed project has the potential to result in habitat degradation severe enough to have lasting consequences on the viability and sustainability of this dolphin population. The area surrounding Blount Island has been documented as a year-round critical habitat area for SJR dolphins** (King 2017).

In March 2011, the University of North Florida's Coastal Biology Program initiated a systematic study of the distribution, abundance and behavior of the bottlenose dolphins that inhabit the lower St. Johns River. Our research team has conducted systematic photo-identification and behavioral surveys from the river mouth (mile 0) to 22 miles upriver (Hart Bridge) on a weekly basis since then. Recently, an analysis of five years of dolphin sighting data (June 2011 to May 2016) was conducted to identify population level patterns of habitat use. The kernel density method was used to determine home ranges and critical habitat areas of the dolphin population

based on their 95% and 50% utilization distributions (UD), respectively. Dolphin sighting locations were first weighted based on the number of dolphins in each group. Kernel density estimates (KDEs) were then generated for each behavioral state (e.g., foraging or socializing) and season combination (i.e., warm (>16°C) or cold (≤16°C). Our findings indicate that the entire SJR study area was utilized by foraging and socializing dolphin groups in the warm season, while habitat use was more concentrated towards the river mouth during the cold season. **Although the area surrounding Blount Island was utilized by dolphins in all possible behavioral states, this area was notably identified as one of only two critical habitat areas (50% UD) for socializing dolphins within the SJR. More importantly, it was the only critical habitat area for socializing dolphins during the cold season.** Socializing is a key behavioral state for maintaining the health and viability of a population and the individuals within it. Social behavior is related to the reproductive output of dolphins and less time spent socializing may result in reduced reproductive success and population growth. For more detailed analyses and discussion of factors affecting dolphin habitat use within the SJR, please see King (2017).

There are indications that Jacksonville's estuarine dolphins may already be experiencing substantial anthropogenic disturbance. In September 2010, an unusual mortality event (UME) was declared for dolphins within the SJR in response to 19 documented strandings/deaths within the river, approximately half of which were neonates or young calves. A UME working group (mandated by NOAA Fisheries) was created to assess possible causes of these strandings; however, the investigation was inconclusive due to limited knowledge (insufficient data) of this population at the time. SJR dolphins were again impacted by the large-scale 2013-2014 morbillivirus epidemic and UME along the Atlantic coast. Although the epidemic was initially assumed to be limited to coastal dolphins, at least 9 SJR dolphins stranded during the UME. Therefore, I have strong concerns that the proposed berthing area improvement project has the potential to result in habitat degradation severe enough to have lasting consequences on the viability and sustainability of this already impacted dolphin population. Even if monitoring efforts are successful at preventing acute dolphin mortalities and/or injuries during dredging and blasting events, the risk of displacement from critical habitat is still great.

Raising further concerns, a study in Aberdeen Harbor, Scotland indicated that dolphins were displaced by dredging operations even though they were presumably already habituated to high levels of shipping traffic (Pirotta *et al.* 2013). Notably, the Pirotta study demonstrated that dolphins responded negatively to both maintenance dredging and port expansion dredging (widening and deepening), but that the effects were more substantial during the port expansion. Dolphins spent less time in the harbor during periods of maintenance dredging, but left the area completely for five weeks during port expansion dredging. It is not currently known if maintenance dredging has had a similar impact on dolphins' use of the St. Johns River, as this has not yet been a focus of study in this region. However, given that the St. Johns River dolphins are utilizing the river during all behavioral states, rather than just while foraging as was the case in Aberdeen, the consequences of potential displacement are likely greater.

Over the past six years, our research team has obtained high quality baseline data on the ranging patterns and habitat use of dolphins within the proposed dredging, blasting, and construction areas. Contrary to previous reports (Caldwell 2016a, 2016b), our data indicate that the lower St.

Johns River is an important year-round habitat for dolphins. Consequently, the risk of cumulative anthropogenic disturbance may be much greater than previously suggested. We hope that these data will enable management agencies to better assess the conservation issues associated with the proposed port expansion. If the berthing area improvement project moves forward, continued monitoring of local dolphins both during and following project activities will be instrumental in detecting adverse effects on the population. Our research team is willing to work with the USACE and management agencies to identify and develop strategies for mitigating the potential impacts of the project on the St. Johns River dolphin population. If we can provide any additional data or information that would assist with this process, please do not hesitate to contact me.

Sincerely,

Quincy Anne Gibson, Ph.D.
Assistant Professor
Department of Biology
University of North Florida
1 UNF Drive
Jacksonville, FL 32224
Quincy.gibson@unf.edu
(904) 620-5938

Literature Cited:

Caldwell, M. 2016a. Historical seasonal density and distribution patterns of *Tursiops truncatus* in Northeast Florida. *Aquatic Mammals, 42*(1), 74-88. DOI: 10.1578/AM.42.1.2016.74

Caldwell, M. 2016b. Historical evidence of *Tursiops truncatus* exhibiting habitat preference and seasonal fidelity in Northeast Florida. *Aquatic Mammals, 42*(1), 89-103. DOI: 10.1578/AM.42.1.2016.89

King, C. 2017. The soundscape of the St. Johns river and its potential impacts on the habitat use patterns of bottlenose dolphins. A thesis submitted to the Faculty of the University of North Florida in partial fulfillment of the requirements for the degree of Masters of Science in Biology. Jacksonville, FL. June 2017.

Pirotta, E., Laesser, B., Hardaker, A. Riddoch, N., Marcoux, M. and Lusseau, D. 2013. Dredging displaces bottlenose dolphins from an urbanized foraging patch. Mar. Pollut. Bull., http://dx.doi.org/10.1016/j.marpolbul.2013.06.020.

Waring, G.T., Josephson, E., Maze-Foley, K. and Rosel, P.E. (eds.). 2009. Bottlenose Dolphin (*Tursiops truncatus*), Jacksonville Estuarine System Stock. In: U.S. Atlantic and Gulf of Mexico Marine Mammal Stock Assessment Report, NOAA Technical Memorandum, NMFS-NE-213, 532 pp. Available for download from: http://www.nmfs.noaa.gov/pr/pdfs/sars/ao2009dobn-jes.pdf

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