

April 2019

Environmental Assessment and Proposed Finding of No Significant Impact

**Maintenance Dredging of the
Anclothe River Channel**

Pinellas and Pasco Counties, Florida



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



**US Army Corps of Engineers
JACKSONVILLE DISTRICT**

PROPOSED FINDING OF NO SIGNIFICANT IMPACT

MAINTENANCE DREDGING OF THE ANCLOTE RIVER CHANNEL

PINELLAS AND PASCO COUNTIES, FLORIDA

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 (NEPA), and the White House's Council of Environmental Quality regulations to assess the environmental effects of conducting maintenance dredging within the Anclote River Channel. The dredged material will be dewatered at a staging area near the Anclote River Channel, then used for upland construction fill, disposed of in an approved/permitted dredged material management area, and/or disposed in a licensed landfill. The EA evaluates the effects of the Preferred Alternative and the No Action alternative.

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. The Preferred Alternative shall be in compliance with the Endangered Species Act of 1973, as amended. The Corps has determined that the Preferred Alternative is not likely to adversely affect the threatened Florida manatee or the endangered Eastern indigo snake. Coordination with the U.S. Fish and Wildlife Service regarding these species is ongoing. The Corps determined that the project may

adversely affect sea turtles in the water if a hopper dredge is utilized for project construction. In this case, the National Marine Fisheries Service's Gulf of Mexico Regional Biological Opinion (issued November 19, 2003; revised June 24, 2005 and January 9, 2007) applies to this project.

- b. This project is being coordinated with the State of Florida, and all applicable water quality standards will be met. Water Quality Certification will be obtained from the Florida Department of Environmental Protection prior to construction.
- c. The Preferred Alternative has been coordinated with the Florida State Historic Preservation Officer and the appropriate federally recognized Tribes in accordance with the National Historic Preservation Act and consideration given under the NEPA. SHPO concurrence of no adverse effects to historic properties was provided in a letter dated January 25, 2018.
- d. This project is being coordinated with the National Marine Fisheries Service for potential effects to Essential Fish Habitat. A pre-construction seagrass survey has been conducted, and a post-construction survey will also be conducted. Direct effects to seagrasses should not occur as they are not present within the project channel. Inadvertent direct effects or indirect effects that result in the spatial loss of seagrasses would be mitigated.
- e. The proposed project has been evaluated pursuant to the Migratory Bird Treaty Act. The Jacksonville District's Migratory Bird Protection procedures will be implemented for this project.
- f. Benefits to the public will include improved navigation at the Anclote River Channel.

All practicable means to avoid and minimize adverse environmental effects have been incorporated into the Preferred Alternative. Measures that will be in place during construction to eliminate, reduce, or avoid adverse impacts to below the threshold of significance to fish and wildlife resources include the following:

- Dredging and staging activities will occur within the authorized template;
- Water-based activities will follow standard sea turtle protection measures and the terms and conditions of the National Marine Fisheries Service's Gulf of Mexico Regional Biological Opinion;

- Water quality will be protected by adherence to the State of Florida water quality criteria;
- Any water-based activity would follow standard manatee protection measures.

In view of the above and the attached EA, and after consideration of public and agency comments received on the project, I conclude that the Preferred Alternative would not result in a significant effect on the quality of the human environment; therefore preparation of an Environmental Impact Statement is not required.

Andrew D. Kelly, Jr.
Colonel, U.S. Army
District Commander

Date

ENVIRONMENTAL ASSESSMENT
MAINTENANCE DREDGING
ANCLOTE RIVER CHANNEL
PINELLAS AND PASCO COUNTIES, FLORIDA

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ENVIRONMENTAL ASSESSMENT
MAINTENANCE DREDGING
ANCLOTE RIVER CHANNEL
PINELLAS AND PASCO COUNTIES, FLORIDA

1 PROJECT PURPOSE AND NEED

The federal action evaluated in this document is periodic maintenance dredging of the Anclote River Channel, within the Congressionally authorized project, consistent with the Council on Environmental Quality (CEQ) regulations that define federal actions to include those actions “subject to federal control and responsibility” (40 CFR 1508.18). The U.S. Army Corps of Engineers (Corps) is the federal agency responsible for maintaining the authorized project depth for commercial and recreational navigation throughout the Anclote River Channel, until such time that Congress de-authorizes the project.

1.1 PROJECT AUTHORITY

The Anclote River Channel was initially authorized by the Rivers and Harbors Act of 1927 (Public Law 69-560) in accordance with House Document No. 18, 63rd Congress. It was modified by the Rivers and Harbors Act of 1935 (Public Law 74-409) in accordance with Rivers and Harbors Committee Document No. 36, 73rd Congress, and the Rivers and Harbors Act of 1945 (Public Law 79-14), in accordance with House Document No. 243, 76th Congress. The authorizations direct the Corps to construct and maintain the 12-mile long, 100-ft wide channel to ensure safe and operable navigation to a depth of nine feet plus two feet of overdepth Mean Lower Low Water Level (MLLW) (Corps 2016a). The channel includes a turning basin.

1.2 PROJECT LOCATION

The federally authorized Anclote River Channel is located in Pinellas and Pasco Counties near Tarpon Springs (Figure 1-1). It extends from Tarpon Springs to the Gulf of Mexico and the turning basin is located adjacent to Tarpon Springs.

1.3 PROJECT PURPOSE AND NEED

The purpose of the project is to perform maintenance dredging within the federally authorized Anclote River Channel in order to maintain safe and efficient navigation. The need for the project is driven by the accumulation of sediment, commonly referred to as shoaling, which has restricted the width of portions of the channel and reduced the depth. Shoaling may arise from: (1) the natural, relatively slow processes of sediment movement along barrier islands and waterways resulting from tides, gravity, and wind; and (2) unpredictably and suddenly as a result of storms, especially hurricanes. Shoaling hinders

safe and efficient vessel navigation. Thus, periodic maintenance dredging is required to remove the accumulated sediments and maintain the Anclote River Channel at its federally authorized depth and width.

The Anclote River Channel was originally constructed in 1948, with 23,000 (23K) cubic yards (cy) of material dredged. In 1959 and 1960, 62K cy was dredged from the entrance channel. In 1973, 138K cy was dredged from Cuts 3 and 4, Cuts 6 to 14, and the turning basin. In 1999, 47K cy was dredged from the turning basin and Cuts 3 to 14 (Corps 2017a). The 2016 post-Hurricane Hermine hydrographic survey showed some shoaling through much of the channel, with a need for dredging in Cuts 3, 4, and 5 and the turning basin. Current dredge volume is estimated at 50 to 70K cy (Corps 2016a, #17-029; 2016b; 2018a), but is subject to change. Maintenance dredging is dependent upon federal appropriations.

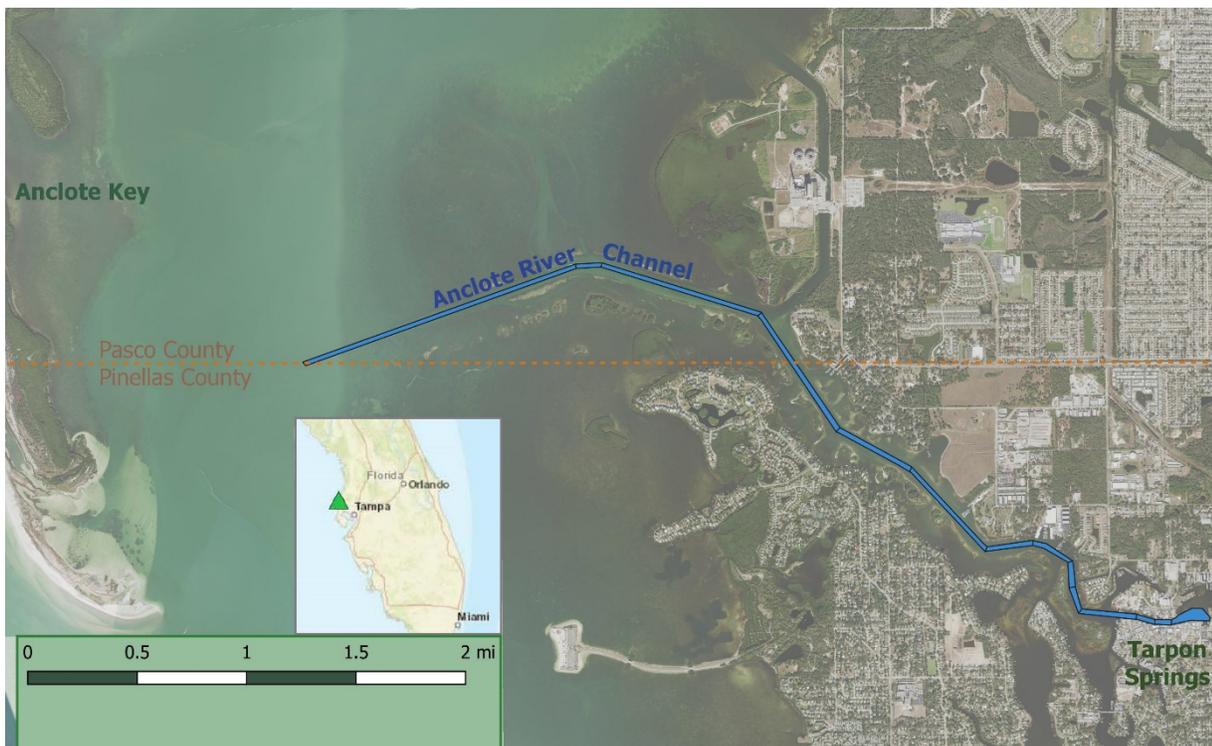


Figure 1-1: Study Area.

1.4 AGENCY GOAL OR OBJECTIVE

Maintenance dredging of the Anclote River channel will meet the Corps' primary objective to maintain safe and efficient navigation through the channel.

1.5 DECISIONS TO BE MADE

The decision to be made upon completion of this EA is whether the proposed maintenance dredging of the Anclote River channel 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 National Environmental Policy Act (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

The Corps held two scoping meetings to present information and solicit public and agency comments on the proposed project. The first scoping meeting was held on January 24, 2018 in Bradenton, Florida and the second meeting was held on January 25, 2018 in Venice, Florida. The comments received from the public and agencies helped inform the Corps on the various issues to be evaluated in this EA. Please refer to Section 6, Public Involvement, for additional information on public outreach and involvement efforts.

1.6.1 Issues Evaluated in Detail

The following issues were identified as relevant to the proposed action and alternatives, and appropriate for detailed evaluation in this EA.

- Soils/Sediment Characteristics
- Threatened and Endangered Species
- Fish and Wildlife Resources
- Essential Fish Habitat
- Coastal Barrier Resources
- Water Quality
- Hazardous, Toxic and Radioactive Waste
- Air Quality
- Noise
- Aesthetics
- Recreation
- Navigation
- Cultural Resources
- Native Americans
- Invasive Species

1.6.2 Public Interest Factors

While the Corps does not process and issue Corps permits for its own activities, 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 maintain the federally authorized depth and width of the Anclote River Channel. The Corps has concluded that the Preferred Alternative is an environmentally acceptable alternative. Relevant public interest factors, which are evaluated in detail in Section 4 of this EA and summarized in Table 2-1 may include the following:

- Conservation
- Economics
- Aesthetics
- General Environmental Concerns
- Wetlands
- Historic Properties
- Fish and Wildlife Values
- Flood Hazards
- Flood Plain Values
- Land Use
- Shore Erosion and Accretion
- Recreation
- Water Supply and Conservation
- Water Quality
- Energy Needs
- Safety
- Mineral Needs
- Consideration of Property Ownership
- Needs and Welfare of the People

1.6.3 Issues Eliminated from Detailed Analysis

The following issues were eliminated from detailed analysis because they were not considered important and/or relevant:

- Transportation
- Water Supply and Conservation
- Socioeconomics
- Urban Quality
- Solid Waste
- Energy Requirements and Conservation
- Natural, Scientific or Depletable Resources
- Food and Fiber Production
- Reuse and Conservation Potential

1.6.4 Impact Measurement

An interdisciplinary team used a systematic approach to analyze the affected area, to estimate the probable environmental effects, and to prepare the EA. This effort included methods such as a literature search, geographic information systems (GIS) data, coordination with agencies having expertise in particular areas, on-site field investigations, presence/absence determinations, and best professional judgment.

1.7 PERMITS, LICENSES AND ENTITLEMENTS

Environmental Resource Permits (water quality certification) for dredging as well as construction of the proposed staging area for dredged material placement shall be obtained from the Florida Department of Environmental Protection. The Environmental Resource Permit for the proposed staging area shall be converted to an operational permit after the site is constructed.

2 ALTERNATIVES

This section describes the No Action Alternative, the Preferred Alternative, and other alternatives considered. Based on the information and analysis presented in sections on the Affected Environment and Environmental Effects, this alternatives section presents the beneficial and adverse environmental effects of the No Action Alternative and the proposed action, providing a clear basis for choice for the decision-maker and the public.

2.1 DESCRIPTION OF ALTERNATIVES

2.1.1 No Action Alternative (Status Quo)

Under the No Action Alternative, the Corps would discontinue maintenance dredging of the federal navigation channel within the Anclote River. This alternative would also preclude the placement of dredged material from the Anclote River into the upland placement area identified in Section 2.1.3.

2.1.2 Dredging with Upland Placement (Preferred Alternative)

Under the Preferred Alternative, the Corps would continue to perform maintenance dredging of the federal navigation channel. Shoaled locations have been identified within Cuts 3, 4, and 5 and the turning basin (Figure 2-1), but are subject to change. For the next dredging event, dredge volume is estimated at 50K to 70K cy, based on the most recent bathymetric data (Corps 2016a, #17-029; 2016b; 2018a), and are also subject to change. Future periodic maintenance dredging may occur anywhere within the federally authorized channel where shoaling has occurred subject to appropriated funds. Also, project features may be prioritized if resources do not allow the maintenance of the entire project.

The dredged material would be placed in a containment basin within an upland staging area for dewatering, such as the location shown in Figure 2-1. The dredged material would be pumped as a sediment-slurry into the end of the containment basin opposite the staging area outlet. Sediment would settle out and the residual water would be released through the outlet structure through a pipe that would lead back to the Anclote River, where the water would be returned to the river. Water release through the outlet structure would be permitted and controlled to ensure compliance with the CWA. The containment basin could be constructed with earthen dikes, soil-filled synthetic geotubes, or, alternatively, a temporary pool such as a GeoPool could be used. Other upland temporary staging areas could also be used, provided that no ground-intrusive activities are needed and no impacts beyond those evaluated in this EA occur. This may be most likely with use of geotubes or a GeoPool. After the material dried, any part of the material meeting applicable criteria (which is generally based on grain size and specific to the construction use) would be available for use for construction material such as for roadways or other construction fill. If no construction uses were found, the material would



Figure 2-1: Areas Planned for Dredging in 2019 and Upland Staging Area.

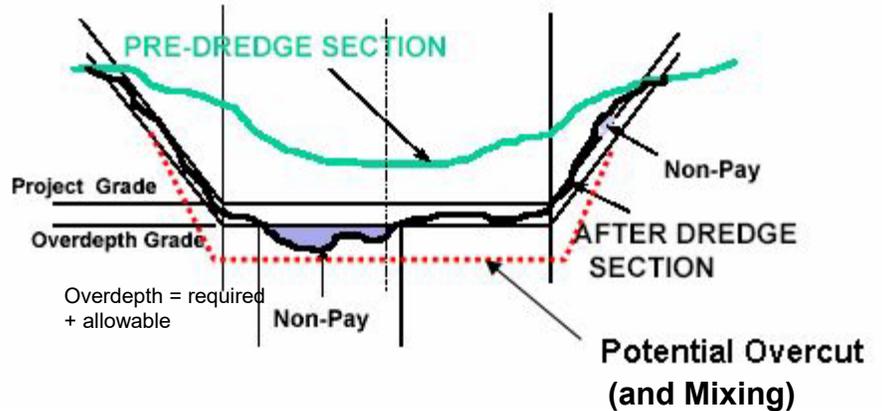
be disposed of in a permitted/approved dredged material management area (DMMA) or a licensed Class I landfill. Class I landfills are disposal facilities that accept all wastes except hazardous waste, yard waste, and other special wastes as defined by Florida law. The staging area shown in Figure 2-1 is the area that had been used for dredged material management during the 1999 dredging event. This site is in an industrial area and is currently partially unused and partially used for truck parking. It is owned by Anclote Properties, LLC (Pinellas County Property Appraiser 2018).

2.1.2.1 Type of Dredging Equipment

The Corps does not normally specify the type of dredging equipment to be used. This decision is generally left to dredging industry vendors to offer the most appropriate and competitive equipment available at the time. Nevertheless, certain types of dredging equipment are normally considered more appropriate depending on the type of material, the depth of the channel, the depth of access to the disposal or placement site, the amount of material, the distance to the disposal or placement site, and the wave-energy environment. 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 Management*.

Required, Allowable, and Over-cut 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 (reduce the frequency of dredging required to maintain the project depth for navigation). In addition, the dredging contractor is allowed to go beyond the required depth. This “allowable” accounts for the inherent variability and inaccuracy of the dredging equipment (normally ± 2 feet). In addition, the dredge operator may practice over-cutting. An “over-cut” along the sides of the channel may be employed in anticipation of movement of material down the sides of the channel. Over-cut



throughout the channel bottom may be the result of furrowing or pitting by the dredging equipment (the suction dredge’s cutterhead, the hopper dredge’s drag arms, or the clam-shell dredge’s bucket). In addition, some mixing and churning of material below the channel bottom may occur (especially with a large cutterhead). Generally, the larger the dredging equipment the greater the potential for over-cut and mixing of material below the “allowable” channel bottom. Some of this material may become mixed-in with the dredged material. If the characteristics of the material in the overcut and mixing profile differ from that above it, then the character of the dredged material may be altered. The quantity and/or quality of material for disposal or placement may be substantially changed depending on the extent of over-depth and over-cut.

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).

Transport of Dredged Material

Dredged material is typically transferred to placement areas by barge and/or through hydraulic pumping, depending on the distance and location of the placement areas in relation to the dredging site. Depending on the distance between the dredge site and

placement area, booster pumps and/or scows may be used to facilitate transport of material. The typical distance for cost effective transport of material is approximately 6 miles. Alternatively, placement in an Ocean Dredged Material Placement Site (ODMDS) typically requires the use of hopper dredges or hopper scows for transport of dredged material.

Upland Placement of Dredged Material

Placement of dredged material in an upland placement area typically requires the construction of a berm/dike to contain the material and allow for the collection and removal of water from the sediments, commonly referred to as dewatering. Water can be discharged back into the adjacent waterways consistent with associated state agency permits issued under the Clean Water Act (CWA) that authorize such releases.

2.2 ISSUES AND BASIS FOR CHOICE

As mentioned in Section 1.3, Project Purpose and Need, shoaling has occurred in the Anclote River Channel and reduced the width and depth of the federally maintained channel, thus hindering safe and efficient navigation. As a result, periodic dredging is necessary to maintain the authorized depth and width of the federal channel.

2.3 ALTERNATIVES ELIMINATED FROM DETAILED ANALYSIS

The use of an ocean dredged material disposal site (ODMDS) was considered but not fully evaluated as an alternative disposal option because of the prohibitive distance of the nearest ODMDS from the project area. The nearest ODMDS is the Tampa ODMDS, which is approximately 50 miles from the project area. The distance is greater than 6 miles, and it renders the alternative not practicable as it would be cost prohibitive versus other potential placement sites located near the project area.

Beach and nearshore placement are not evaluated in this EA, although both alternatives may be considered in the future. Specifically, the future evaluation may include possible placement of beach quality sand along the Anclote River Park area. Beach and nearshore placement are not included in this EA primarily because there is insufficient lead time for assessment of potential impacts to cultural resources for these areas.

2.4 COMPARISON OF ALTERNATIVES

Table 2-1 summarizes the direct and indirect impacts of the No Action Alternative and the Preferred Alternative (see Section 4, Environmental Effects for a more detailed discussion of effects of alternatives).

2.5 PREFERRED ALTERNATIVE

The Preferred Alternative is discussed in Section 2.1.3 and consists of dredging the Anclote River Channel to maintain authorized depths and widths, and upland placement of dredged material. The dredged material will be dewatered at a staging area near the Anclote River Channel, then used for upland construction fill, disposed of in an approved/permitted DMMA, and/or disposed in a licensed landfill. The Preferred Alternative best meets the project purpose and need as described in Section 1.3.

2.6 MITIGATION

Mitigation may be required for impacts to various resources including submerged aquatic vegetation. Potential mitigation measures are discussed in Section 4, and environmental commitments are presented in Section 4.21.

Table 2-1: Summary of Direct and Indirect Impacts

Resource	No Action Alternative Status Quo	Dredging with Upland Placement (Preferred Alternative)
Soils/Sediment Characteristics	No adverse effects are anticipated.	No adverse effects are anticipated.
Threatened and Endangered Species	No adverse effects are anticipated.	Potential for temporary, localized adverse effect to sea turtles in the water column if a hopper dredge is used during project construction. Loggerhead terrestrial critical habitat would not be adversely modified. Potential for temporary, minor, localized effect to Florida manatee due to in-water activities.
Fish and Wildlife Resources	No adverse effects are anticipated.	Potential for direct, minor adverse impact to fishery resources due to injury or entrainment from dredging operations. Potential for temporary, minor, localized, and indirect adverse effect to fish species due to decreased water quality (turbidity).
Essential Fish Habitat	No adverse effects are anticipated.	Temporary, minor, localized, and direct adverse effect to benthic invertebrates, non-vegetated bottoms and benthic habitat from dredging operations. Temporary, minor, localized, and indirect effect (decreased water quality - turbidity) on managed species, seagrasses, and water column associated in the vicinity of dredging operations. Direct effects to seagrasses should not occur as they are not present within the project channel. Inadvertent direct effects or indirect effects that result in the spatial loss of seagrasses would be mitigated.
Coastal Barrier Resources	No adverse effects are anticipated.	No adverse effects are anticipated.
Water Quality	No adverse effects are anticipated.	Temporary, minor, and localized adverse effect to water quality due to turbidity from dredging and staging operations.
Hazardous, Toxic and Radioactive Waste	No adverse effects are anticipated.	No adverse effects are anticipated.
Air Quality	No adverse effects are anticipated.	Temporary, minor, and localized adverse effect on air quality, including the potential for unpleasant odor associated with exhaust emissions.
Noise	No adverse effects are anticipated.	Temporary, minor, and localized adverse effect to residents and tourists in the vicinity of work areas from dredging and construction equipment.
Aesthetics	No adverse effects are anticipated.	Temporary, minor, and localized adverse effect to aesthetics due to the presence of noise generated by construction equipment located within the waterways and along the pipeline corridors
Recreation	Long-term adverse effects within the waterways as the channel shallows and narrows.	Temporary, minor, and localized adverse effect to recreation along the Anclote River Channel from pipeline placement and construction and operation of dredging equipment. Long-term, localized beneficial effect to recreation with and provision of safe and efficient navigation.

Table 2-1: Summary of Direct and Indirect Impacts

Resource	No Action Alternative Status Quo	Dredging with Upland Placement (Preferred Alternative)
Navigation	Potential for long-term, major, and localized adverse effect to navigation and public safety with shallowing and narrowing of federal channel.	Temporary, minor, and localized adverse effect to navigation during dredging operations; however, periodic maintenance dredging would result in a long-term, major beneficial effect with provision of safe and efficient navigation.
Cultural Resources	No adverse effect.	No adverse effects. Identified anomalies within the dredging area will be avoided.
Native Americans	No adverse effect.	No adverse effect.
Invasive Species	Minor adverse effect to native plant and wildlife species from continued presence of invasive species.	No change from No Action Alternative. Dredge and related equipment have the potential to introduce non-native species to other areas if not properly cleaned between areas. Contract specifications will include provisions to address and minimize this potential.
Environmental Justice	No adverse effect.	Dredging and dredged material placement would not have a disproportionate impact on low-income and minority populations.

3 AFFECTED ENVIRONMENT

The Affected Environment section succinctly describes the existing environmental resources of the areas that would be affected with implementation of the Preferred Alternative. This section describes only those environmental resources that are relevant to the decision to be made. This section, in conjunction with the description of the "No Action" alternative forms the base line conditions for determining the environmental impacts of the Preferred Alternative.

3.1 SOILS/SEDIMENT CHARACTERISTICS

3.1.1 Dredged Material Characteristics

This subsection summarizes the available geotechnical information for the Anclote River sediment, with the focus primarily on percent fines. Locations of surficial sediment samples collected by the Corps in 2017 within the shoaled portion of the Anclote River channel, from Cut-3 to the turning basin, are shown in Figure 3-1 and summarized in Table 3-1.

The grain size results for all but one sample (SS_Ancl17-01) show low fines content for the surface soils sampled. Sample SS_Ancl17-01 was taken adjacent to a closed marina bay (inset in Figure 3-1), where flow rates are very low and finer sediment is more common and there is only little shoaling present compared to the other areas of the turning basin.

Table 3-1: Summary of Geotechnical Properties, Anclote River Sampling

Location	Year	Depth, ft	Elevation MLLW	Description	Munsell	%<#230	Shell%
SS_Ancl17-01	2017	0	NA	Silty Sand	2.5Y 4/2	30	0.1
SS_Ancl17-02	2017	0	NA	Sand (SP)	10YR 4/2	1.4	1.1
SS_Ancl17-03	2017	0	NA	Sand (SP)	5Y 4/1	3.3	0.2
SS_Ancl17-04	2017	0	NA	Sand (SP)	5Y 4/1	3.2	5.7
SS_Ancl17-05	2017	0	NA	Sand (SP)	10YR 5/2	2.0	8
SS_Ancl17-06	2017	0	NA	Sand (SP)	10YR 5/2	2.1	9.3
SS_Ancl17-07	2017	0	NA	Sand (SP)	10YR 5/2	2.1	0.7

Key:

	silt < 10 %
	10% < silt < 20%

Source: Corps files (Anclote_SS2017granular_reports.pdf).

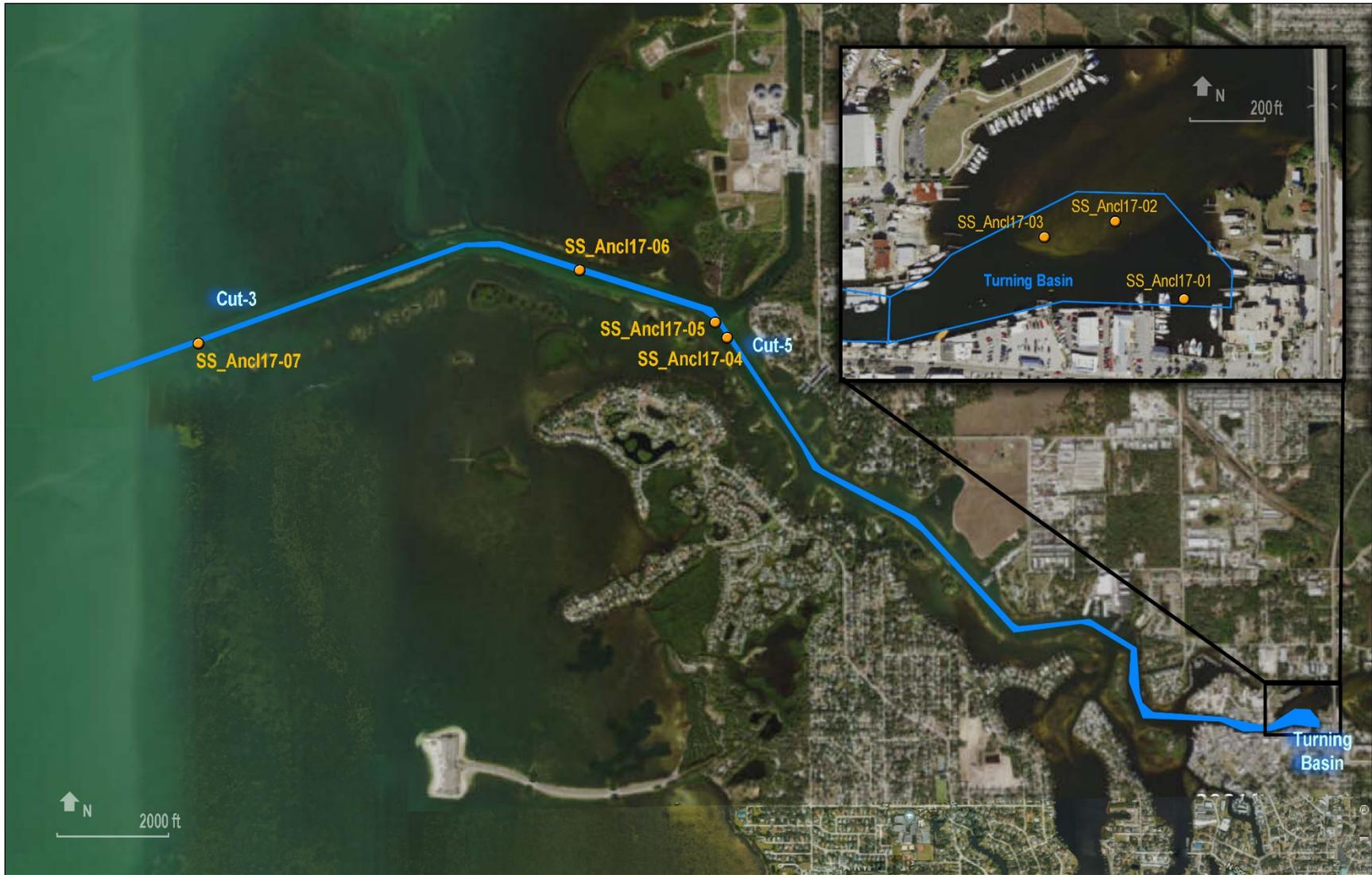


Figure 3-1: Sediment Sampling Locations, Anclote River, Cuts 3 to Turning Basin.
 Source: Corps 2017k.

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3.2 THREATENED AND ENDANGERED SPECIES

There are several federally listed threatened and endangered species, including one candidate species, that can potentially be found in the study area (Table 3-2).

Table 3-2: Protected Species Potentially Found in the Study Area

Common Name	Scientific Name	Federal Status
hawksbill turtle	<i>Eretmochelys imbricata</i>	Endangered
Kemp's ridley turtle	<i>Lepidochelys kempii</i>	Endangered
green turtle	<i>Chelonia mydas</i>	Threatened
leatherback turtle	<i>Dermochelys coriacea</i>	Endangered
loggerhead turtle	<i>Caretta</i>	Threatened
Florida manatee	<i>Trichechus manatus latirostris</i>	Threatened
smalltooth sawfish	<i>Pristis pectinata</i>	Endangered
piping plover (wintering)	<i>Charadrius melodus</i>	Threatened
rufa red knot (wintering)	<i>Calidris canutus rufa</i>	Threatened
eastern indigo snake	<i>Drymarchon corais couperi</i>	Threatened
gopher tortoise	<i>Gopherus polyphemus</i>	Candidate

3.2.1 Sea Turtles

Five species of sea turtles are found in the Gulf of Mexico. These species include the leatherback (*Dermochelys coriacea*), hawksbill (*Eretmochelys imbricate*), green (*Chelonia mydas*), loggerhead (*Caretta caretta*), and Kemp's Ridley (*Lepidochelys kempii*).

Loggerhead sea turtles are found in temperate, tropical, and subtropical waters of the world, including the Atlantic, Pacific, and Indian Oceans, and are widely distributed within their range. They feed in coastal bays, estuaries, and in shallow water along the continental shelves of the Atlantic, Pacific, and Indian Oceans. They can be found hundreds of miles offshore or inshore in bays, lagoons, salt marshes, creeks, ship channels, and the mouths of large rivers (Conant et al. 2009). Loggerheads primarily feed on mollusks, crustaceans, fish, and other marine animals. Feeding areas often include coral reefs, rocky areas, and shipwrecks. Adult loggerheads may migrate considerable distances between foraging areas and nesting beaches. Loggerheads reach sexual maturity at about 35 years of age. No critical habitat for this species exists within the study area; the nearest critical habitat is over 50 miles from the Anclote River. (79 Federal Register (FR) 39755, 2014).

Green turtles are found in temperate and tropical waters around the world and stay mainly near the coastline and around islands. Green turtles are found in shallow flats and seagrass meadows during the day and return to scattered rock ledges, oysters beds, and coral reefs during the evening (Florida Fish and Wildlife Conservation Commission [FFWCC] 2010). In the U.S. Atlantic waters, green turtles are found from Texas to Massachusetts, the U.S. Virgin Islands, and Puerto Rico. Green turtles are generally

found over shallow flats, seagrasses, and algae areas inside bays and inlets. Resting areas include rocky bottoms, oyster, worm, and coral reefs. Post-hatchling pelagic-stage turtles may be omnivorous. Adult turtles are herbivores and consume algae and seagrasses. Critical habitat consists of waters surrounding Culebra Island, Puerto Rico. No critical habitat is present within the study area (50 CFR 226.208).

Leatherbacks, the most widely distributed of the sea turtles, are found throughout the Atlantic, Pacific, and Indian oceans, including areas near Alaska and Labrador. Leatherback turtles are highly migratory and pelagic and can be found at depths more than 3,000 feet. Because of their ability to regulate their body temperature, they can be found in deeper water than other species of sea turtles and can be active in water below 40 F. Leatherbacks primarily feed on jellyfish, but also consume sea urchins, squid, crustaceans, tunicates, fish, blue-green algae, and floating seaweed. In the Gulf of Mexico, leatherbacks are frequently associated with cabbage head *Stomolophus* and *Aurelia* jellyfish. The distribution and food habits of post-hatchling and juvenile leatherbacks are unknown, although they may be pelagic and associate with Sargassum weed. Critical habitat is designated in the U.S. Virgin Islands. No critical habitat is present within the study area.

Kemp's ridley turtles inhabit shallow nearshore and inshore waters of the northern Gulf of Mexico, particularly in Texas and Louisiana. During winter, turtles in the northern Gulf may travel to deeper water (National Marine Fisheries Service [NMFS] and U.S. Fish and Wildlife Service [USFWS] 1992). Kemp's ridleys are often found in waterbodies associated with salt marshes. Kemp's ridley nesting is essentially limited to the beaches of the western Gulf of Mexico, primarily in Tamaulipas, Mexico. In the US, nesting occurs primarily in Texas (especially Padre Island National Seashore), and occasionally in Florida, Alabama, Georgia, South Carolina and North Carolina (NMSF and USFWS 2013a). Neonatal Kemp's ridleys feed on Sargassum and infauna or other epipelagic species. Post-pelagic diets include various items such as mollusks, sea horses, cownose rays, jellyfish, crabs, tunicates and fish. Live bottom (sessile invertebrates attached to hard substrate) has been identified as a preferred habitat of neritic juveniles in the coastal waters of western Florida (NMFS and USFWS 2013a). Hatchlings may become entrained in Gulf of Mexico eddies and dispersed by oceanic surface currents, then enter coastal shallow water habitats when they reach about 20 cm in length. No critical habitat has been designated (USFWS SPBO 2015).

Hawksbill turtles occur in tropical and subtropical seas of the Atlantic, Pacific, and Indian oceans. In the continental U.S., hawksbills have been found along the Gulf of Mexico and along the eastern seaboard as far north as Massachusetts, though are rare north of Florida. Hawksbill turtles are frequently found along rocky areas, coral reefs, shallow coastal areas, lagoons or oceanic islands, and narrow creeks and passes. Seagrass beds

sustain hawksbill foraging aggregations comparable to reef habitat and may become more important as coral reefs decline (Bjorndal and Bolten 2010, as cited in NMFS and USFWS 2013b). Post-hatchlings are pelagic and occupy convergence zones, floating among Sargassum and debris, and may eat fish eggs, Sargassum, and debris (NMFS and USFWS 1993). Hawksbill sea turtles feed primarily on sponges once they transition to a benthic existence. Critical habitat has been designated at Isla Mona, Culebra Island, Cayo Norte, and Island Culebrita, as well as the waters surrounding the islands of Mona and Monita, all in Puerto Rico (NMFS and USFWS 2013b). No critical habitat is present within the study area.

3.2.1.1 Nesting Habitat

Sea turtles nest on Gulf beaches near the project area, with the nearest nesting areas on the Gulf coast of Anclote Key. The number of loggerhead turtle nests surveyed in recent years on Pinellas County Gulf beaches is summarized in Table 3-3. During this same period, one green turtle nest and no leatherback nests were surveyed in Pinellas County. There have been no sea turtle nests documented in the coastal area from north of Anclote Key to the Panhandle (FFWCC 2018i).

Table 3-3: Loggerhead Turtle Nest Counts 2013-2017

County	2013	2014	2015	2016	2017
Pinellas	385	363	420	498	667

Source: FFWCC 2018g

3.2.2 Florida Manatee

The Florida manatee (*Trichechus manatus latirostris*) is a subspecies of the West Indian manatee (*Trichechus manatus*) and can be found in tropical and subtropical coastal waters of the southeastern United States, the Gulf of Mexico, and the Caribbean Sea (Lefebvre and O'Shea 1995), including waters within the study area. In Florida, as a cold-intolerant species, they prefer warm-water sites during the winter, only leaving to feed during warming trends. When temperatures drop, manatees congregate near warm water sites, such as natural springs, power plants, and deep canals. Florida manatees are found in freshwater, brackish, and marine environments, including coastal tidal rivers and streams, mangrove swamps, salt marshes, freshwater springs, and vegetated bottoms. Manatees are herbivores and feed on aquatic vegetation. Preferred feeding areas in coastal and riverine habitats appear to be shallow seagrass beds near deep channels. Primary threats include watercraft-related strikes, entanglement in fishing lines and crab pot lines, exposure to cold, and red tide (USFWS 2007).

Manatee counts from winter aerial surveys conducted by the FFWCC along the west coast of Florida ranged from 1,403 to 3,132 from 2007 to 2018, with the low count in 2007

and the high in 2017 (FFWCC 2018a). The highest concentrations of manatees along Florida's Gulf coast are found in Citrus, Levy, Lee, and Collier counties (Ackerman 1995).

Important Manatees Areas (IMA), as defined by the Corps regulatory program, provide an indication of manatee presence. IMAs are “areas within certain counties where increased densities of manatees occur due to the proximity of warm water discharges, freshwater discharges, natural springs and other habitat features that are attractive to manatees” (Corps 2013b). For dredging and other in-water operations within manatee accessible waters, the 2011 Standard Manatee Conditions for In-Water Work require all on-site personnel to watch for manatees. In IMAs, heightened observation is needed and may require Dedicated Observers (having prior experience and dedicated only for this task) or Approved Observers (Dedicated Observers who are approved by the USFWS and/or the FFWCC). IMAs may have state designated seasonal no-entry zones (Seasonal Restriction Areas). Warm Water Aggregation Area (WWAAs) are locations of natural warm water discharges that attract large numbers of manatees (Corps and Florida Department of Environmental Protection [FDEP] 2013). There is one IMA, a WWAA, designated within the project area, as shown in Figure 3-2. This WWAA is related to warm water discharges from the Duke Energy Anclote Power Plant, north of the Anclote River. No critical habitat for this species is present within the study area.



Figure 3-2: Important Manatee Area, Anclote River Channel.

Sources: Corps 2018.

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3.2.3 Smalltooth Sawfish

The smalltooth sawfish, one of seven sawfish species, is an elasmobranch, in the same group as the sharks, skates, and rays. It is a tropical marine and estuarine fish that has been reported to be circumtropically distributed. Sawfish inhabit shallow coastal waters of tropical seas and estuaries and are generally found in nearshore shallow waters and in estuaries and mouths of rivers. Encounter data have reported sawfish primarily over mud (61 percent), sand (11 percent), seagrass (10 percent), and limestone (75 percent) (Poulakis and Seitz 2004), and mangroves, seagrasses and the shoreline (Simpfendorfer and Wiley 2005). Smaller sawfish have also been encountered more frequently in shallower water, whereas larger sawfish occur regularly at depths greater than 32 feet (Poulakis and Seitz 2004; Simpfendorfer and Wiley 2005). River mouths in southwest Florida have been the location of many of the encounters (Simpfendorfer and Wiley 2005).

Smalltooth sawfish are found in peninsular Florida and are typically found off the extreme southern portion of the state. The current distribution is centered in the Everglades National Park, including Florida Bay. They have been historically caught as bycatch in commercial and recreational fisheries throughout their historic range; however, such bycatch is now rare due to population declines and population extirpations (Simpfendorfer 2000). According to the National Sawfish Encounter Database (NSED), the majority of the Florida encounters with smalltooth sawfish during 2010-2011 have been in Southwest Florida counties, primarily in Monroe (164), Lee (192), Collier (45), and Charlotte (45). (Florida Museum of Natural History 2018).

No critical habitat for this species exists within the study area. Designated critical habitat for the smalltooth sawfish includes the Charlotte Harbor Estuary and the Ten Thousand Islands/Everglades Unit along the southwestern coast of Florida between Charlotte Harbor and Florida Bay, all of which are located more than 100 miles from the Anclote River.

3.2.4 Piping Plover

The piping plover (*Charadrius melodus*), an approximately seven-inch long shorebird, is listed as a federally threatened species. The plover spends up to 10 months of its annual cycle on migration and wintering grounds, typically from mid-July to mid-May, and overwinters along Florida's Gulf Coast beaches (USFWS 2015a). Preferred coastal habitat includes sand spits, small islands, tidal flats, shoals, and sandbars that are often associated with inlets. Sandy mud flat, ephemeral pools, seasonally emergent seagrass beds, mud/sand flats with scattered oysters, and overwash fans are considered primary foraging habitat (USFWS 2015a). Several studies have identified wrack as an important component of roosting habitat for non-breeding piping plovers (USFWS 2015a). In

southwest Florida, Lott et al. (2009) found approximately 75% of foraging piping plovers on intertidal substrates with bay beaches (bay shorelines as opposed to ocean-facing beaches) as the most common landform used by foraging piping plovers (USFWS 2015a). Almost 90% of observations of roosting piping plovers at ten coastal sites in southwest Florida were on inlet shorelines (Lott et al. 2009 as cited in USFWS 2015a). There is a designated unit of piping plover critical habitat on the Gulf beaches of Anclote Key, west of the project study area (Figure 1-1).

Locations of eBird-reported piping plover sightings near the study include Anclote Key and Fred Howard County Park (eBird 2018).

3.2.5 Rufa Red Knot

The red knot was listed as a threatened species under the U.S. Endangered Species Act U.S. (ESA) (16 U.S.C. Chapter 35) in 2014. The Gulf Coast of Florida is one of the most important wintering sites for the *rufa* subspecies of the red knot (*Calidris canutus rufa*). The red knot nests in the summers in Canada and the Great Lakes region, and winters in South America. Some individuals overwinter along the Gulf Coast, and others use it as a stopover location to build their energy stores for the remainder their migration. Although critical habitat has not yet been designated for the species, the project area contains suitable habitat for the red knot.

eBird sighting reports for red knot don't distinguish among subspecies. Locations of eBird-reported red knot sightings near the study include Anclote Key and Fred Howard County Park (eBird 2018).

3.2.6 Eastern Indigo Snake

The Eastern indigo snake (*Drymarchon corais couperi*) is listed as a federally threatened species. The historic home range of the eastern indigo snake includes Florida, southern Alabama, and southern Georgia. While they can be found in most habitats in Florida, the eastern indigo snake most commonly inhabits upland areas and is known frequently to occupy gopher tortoise burrows. The nesting season occurs between May and August, and nests are usually located inside gopher tortoise burrows (FFWCC 2018c). Eastern indigo snakes may potentially inhabit the upland placement area; however, there is no designated critical habitat in the study area.

3.2.7 Gopher Tortoise

The gopher tortoise (*Gopherus polyphemus*) is currently a candidate for listing as an endangered or threatened species by the USFWS in the southeast region east of Mobile, AL, and the Tombigee River (USFWS 2018a). The historic home range of the gopher tortoise includes upland habitats in Alabama, Florida, Georgia, Louisiana, Mississippi,

and South Carolina, including sandhill, pine flatwoods, scrub, scrubby flatwoods, dry prairies, xeric hammock, and coastal dunes.

The gopher tortoise is a deep burrowing reptile species and considered to be a keystone species, as they share their burrows with more than 350 other species. The nesting season for gopher tortoises occurs between mid-May and mid-June, and nests are located within the burrow mounds (FFWCC 2018d). Gopher tortoises potentially inhabit upland portions of the project area, including the potential upland staging area. As a candidate species within the study area, no critical habitat has been designated for the gopher tortoise.

3.3 FISH AND WILDLIFE RESOURCES

This section contains a brief description of the fish and wildlife found in the study area. It does not include species discussed in Section 3.2, Threatened and Endangered Species.

3.3.1 Marine Mammals

Bottlenose dolphins (*Tursiops truncatus*) are frequently observed in the study area and are a common inhabitant of the continental shelf and upper slope waters of the northern Gulf of Mexico. They are opportunistic feeders, taking a wide variety of fishes, cephalopods, and shrimp (Davis and Fargion 1996; Jefferson and Schiro 1997; Wells and Scott 1999; Gimenez et al. 2017).

3.3.2 Fish

The study area estuarine and nearshore waters support a variety of fish species, including important game and commercial species such as redfish (*Sciaenops ocellatus*), snook (*Centropomus undecimalis*), sea trout (*Cynoscion sp.*), southern flounder, Florida pompano, and mullet (*Mugil cephalus*). Further offshore from the study area, the West Florida Shelf is an important spawning and larval nursery ground for many taxa of fishes (Houde and Chitty 1976; Lyczkowski-Shultz et al. 2004).

3.3.3 Terrestrial Mammals

Common mammal species that can be found in the study area, i.e. upland staging area, include raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), Virginia opossum (*Didelphis virginiana*), nine-banded armadillo (*Dasypus novemcinctus*), Eastern cottontail (*Sylvilagus floridanus*), and Eastern gray squirrel (*Sciurus carolinensis*) (SWFWMD 2018).

3.3.4 Birds

Federal legal protection of birds falls under the Migratory Bird Treaty Act (MBTA) (16 U.S.C. §703-712) and the U.S. Endangered Species Act (ESA) (16 U.S.C. Chapter 35).

The Gulf of Mexico Avian Monitoring Network, a network of avian scientists, land managers and decisions makers, reports that hundreds of species and millions of individual birds are supported by barrier islands, beaches, marshes, coastal forests and open ocean across the Gulf (GoMAMN 2017). All birds listed in the Gulf studies are protected under the MBTA, including members of the seabird guild, which represents a wide range of species dependent on the resources of the pelagic zone in the Gulf of Mexico. Much of their time is spent in or over water, and they are capable of staying far from land for long periods. Most species in this guild are colonial nesters that leave the nest to venture far from natal areas. Some of the seabirds that spend significant portions of their life cycle offshore may be found in the project area, such as the magnificent frigatebird (*Fregata magnificens*), greater shearwater (*Puffinus gravis*), sooty shearwater (*P. griseus*), Audubon's shearwater (*P. lherminieri*), manx shearwater (*P. puffinus*), masked booby (*Sula dactylatra*), northern gannet (*Morus bassanus*), Wilson's storm-petrel (*Oceanites oceanicus*), and band-rumped storm-petrel (*Oceanodroma castro*). Other seabirds such as gulls and terns, pelicans, and cormorants divide their time more or less equally between offshore and coastal waters (Ehrlich *et al.* 1988) and may be found in the project area.

Shorebirds often sighted in the study area include the black-bellied plover (*Pluvialis squatarola*), Wilson's plover (*Charadrius wilsonia*), snowy plover (*Charadrius albus*), sanderling (*Calidris alba*), willet (*Tringa semipalmata*), dunlin (*Calidris alpina*), short-billed dowitcher (*Limnodromus gniseus*), marbled godwit (*Limosa fedoa*), ruddy turnstone (*Arenaria interpres*), and American oystercatcher (*Haematopus palliatus*) (Ebird 2018). Most of these species breed at locations north of the study area (from northern Florida to the Arctic). On beaches, most shorebirds feed on marine worms, insects, mollusks and crustaceans in tidal sand and mud flats (Sibley 2000; Ehrlich *et al.* 1988; Audubon, undated).

The west Florida coast also serves as a principal route of the Atlantic Flyway for more than 60 migratory landbird species. Many of the birds that breed east of the Allegheny Mountains move southward in fall, through northwestern Florida, crossing the Gulf to the coastal regions of central Mexico where they follow a land route for the remainder of the journey to Cuba or Central and South America (Lincoln *et al.* 1998). Landbird migrants utilize a variety of habitats, including shrub and forested habitats within the upland placement areas and coastal shoreline, to feed and rest during their migration. In addition, some landbird migrants stop to rest on dredges or boats during storm events and high winds.

3.4 ESSENTIAL FISH HABITAT

The Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA; 16 U.S.C. §1801 *et Seq.*) outlines the Secretary of Commerce and Fishery Management Council authority and responsibilities for the protection of essential fish habitat (EFH). The MSFCMA specifies that each federal agency shall consult with the Secretary with respect to any action authorized, funded, or undertaken, or proposed to be authorized, funded, or undertaken, by such agency that may adversely affect any essential fish habitat identified under the MSFCMA. EFH is defined in the MSFCMA as “those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity.” 50 C.F.R. Part 600, Subpart J establishes guidelines to assist the Regional Fishery Management Councils and the Secretary in the description and identification of EFH in fishery management plans (FMPs), including identification of adverse effects from both fishing and non-fishing activities on EFH, and identification of actions required to conserve and enhance EFH. The regulation promotes the protection, conservation, and enhancement of EFH. The definition of EFH may include habitat for individual species or an assemblage of species; whichever is appropriate within each FMP. Gulf of Mexico FMPs relevant for the project study area include those for shrimp, red drum, reef fish, and coastal migratory pelagics, among others (GMFMC 2005). The FMPs define overall spatial boundaries (maps) for the each species or species group, habitat type, and sometimes for a specific life stage. Within these maps, the FMPs identify EFH. For example, the map of benthic habitat use for all life stages of red drum covers essentially all the waters within the project study area, including coastal, intracoastal and estuarine (GMFMC 2016). The EFH within that specific map (i.e., EFH for red drum benthic habitat for all life stages) includes submerged aquatic vegetation, emergent marsh, sand/shell, and hard bottom out to 70 meters (GMFMC 2016). Other species and species groups have their own set of EFH for various life stages and habitat, within their own particular map. For purposes of consultation and effects analysis, it is necessary only to the collective EFH for a potential area of impact.

This EA is prepared consistent with the Finding between the Corps, Jacksonville District and NMFS Southeast Regional Office regarding the coordination of EFH consultation requirements with NEPA (NMFS 1999).

3.4.1 Habitat Types

The study area is located at the northern end of Eco-Region 1: South Florida, which extends from Tarpon Springs in the north to the Florida Keys, and is within the nearshore and estuarine habitat zones (GMFMC 2016). Pursuant to the MSFCMA, as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-297), the Gulf of Mexico Fisheries Management Council (GMFMC 1998) has designated marine areas of submerged

aquatic vegetation, emergent wetlands, mangrove wetlands, live bottoms (e.g., hard bottoms, oyster reefs), non-vegetated bottoms (e.g., sand/shell), and water column associated (WCA) within the study area as EFH.

3.4.1.1 Submerged Aquatic Vegetation (SAV)

Four species of seagrasses are common in the study area including widgeon grass (*Ruppia maritima*), manatee grass (*Syringodium filiforme*), shoal grass (*Halodule wrightii*), and turtlegrass (*Thalassia testudinum*). Seagrass beds are important to estuarine productivity as they provide nursery habitat for juvenile fish and crustaceans, provide a food source for manatees and turtles, and provide a substrate for growth of algal epiphytes that serve as food for fish and crustaceans.

Coastal development and resulting decreases in water quality resulted in declining acreages of seagrass in the mid-twentieth century. Increasing seagrass coverage trends have occurred since 1982 in response to improved management of nitrogen loadings and increasing water clarity, with the exception of the 1997–1998 El Niño event, which resulted in increased rainfall, stormwater runoff, and nutrient loadings (Dawes et. al 2004).

The Southwest Florida Water Management District (SWFWMD) produces a biannual coverage of seagrasses in their jurisdictional area based on analysis of aerial photography. The coverage is minimally groundtruthed to help verify the methods associated with the photographic analysis. The 2016 SWFWMD seagrass coverage map, which includes Pinellas but not Pasco County, indicated the presence of both patchy and contiguous seagrass beds within the study area. For Pasco County, a statewide dataset compiled by the FFWCC was used. This dataset is compiled from both field measurements and aerial surveys ranging in date from 1987 to 2016 (FFWCC 2017). Both data sets show seagrass in close proximity to Cuts-3, -3A and -4 of the Anclote River Channel.

The published seagrass data were used to inform a field seagrass survey conducted in October 2018 (DCA 2018). An in-field survey was conducted to delineate the edges of seagrass habitat near the Anclote River Channel, then general biological data were gathered to characterize the composition of the seagrass. The results of the mapping are shown in Figures 3-3a and 3-3b. A total of 205.8 acres of submerged aquatic vegetation (SAV) was delineated, including 200.6 acres of continuous seagrass habitat and 5.2 acres of patchy seagrass habitat. Overall, the seagrass habitats surveyed were reported to be in excellent condition (with the exception of prop scarring) and comprised of healthy mixed assemblages of seagrass. The continuous seagrass beds are

comprised of a mixed assemblage of seagrasses. Along the western extents of the project area the grass were dominated by manatee grass and turtle grass with shoal grass occurring in the shallower regions of the survey area. Monotypic beds of shoal grass become more common along the shallower areas adjacent to Anclote River Park and Cut 5 (DCA 2018).

No seagrass was found within the Anclote River Channel, and no seagrass was found within 150 meters (m) (492 feet (ft.)) of the turning basin. For each of the other four proposed areas to be dredged, the nearest distance from the edge of the seagrass to the edge of the proposed dredging is as follows:

- Cut 3, western proposed dredge area: approximately 25 ft.
- Cut 3, eastern proposed dredge area: approximately 65 ft.
- Cut 4, proposed dredge area: approximately 65 ft.
- Cut 5, proposed dredge area: approximately 60 ft.

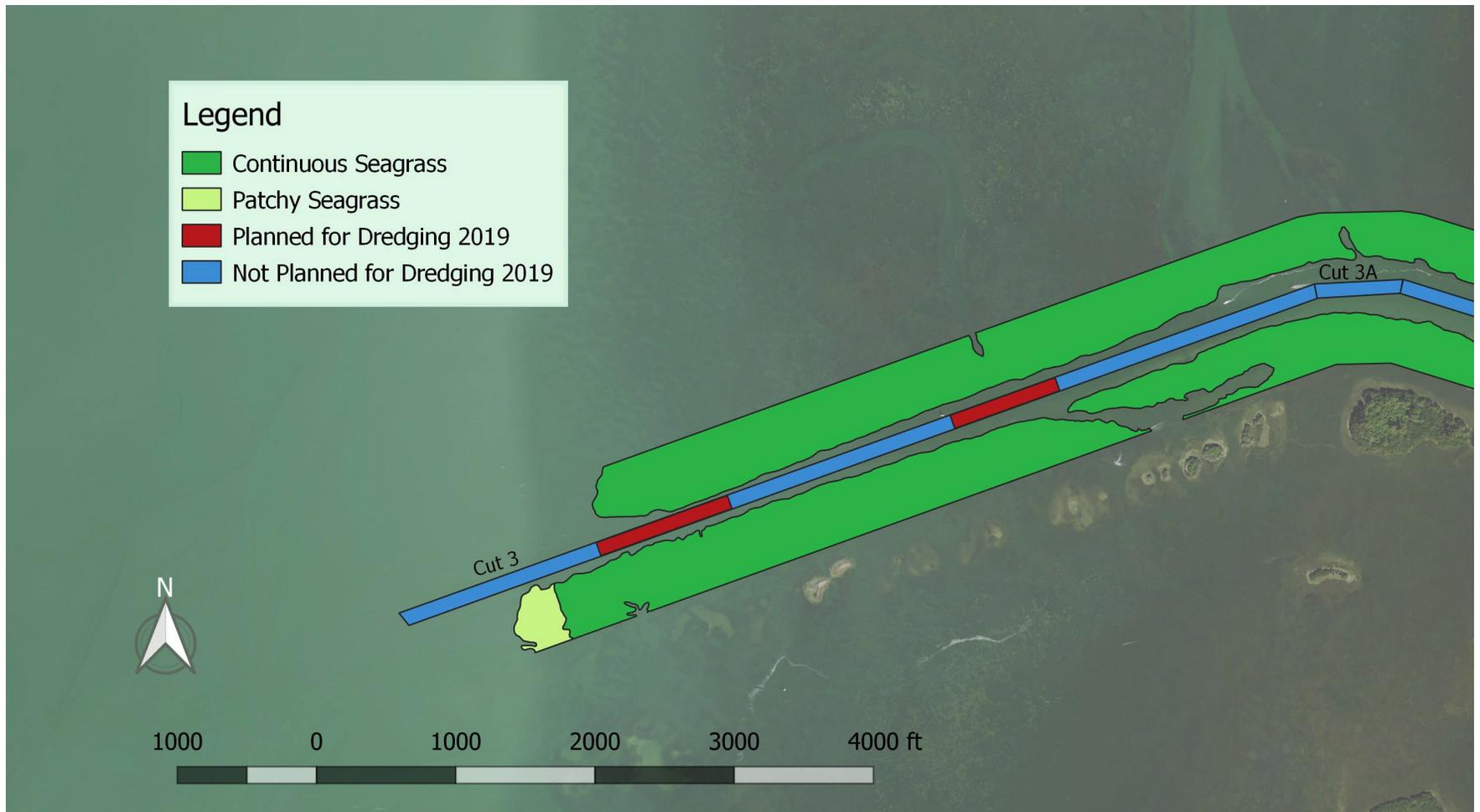


Figure 3-3a: Submerged Aquatic Vegetation, Anclote River Channel Cuts 3 and 3A.

Source: DCA 2018

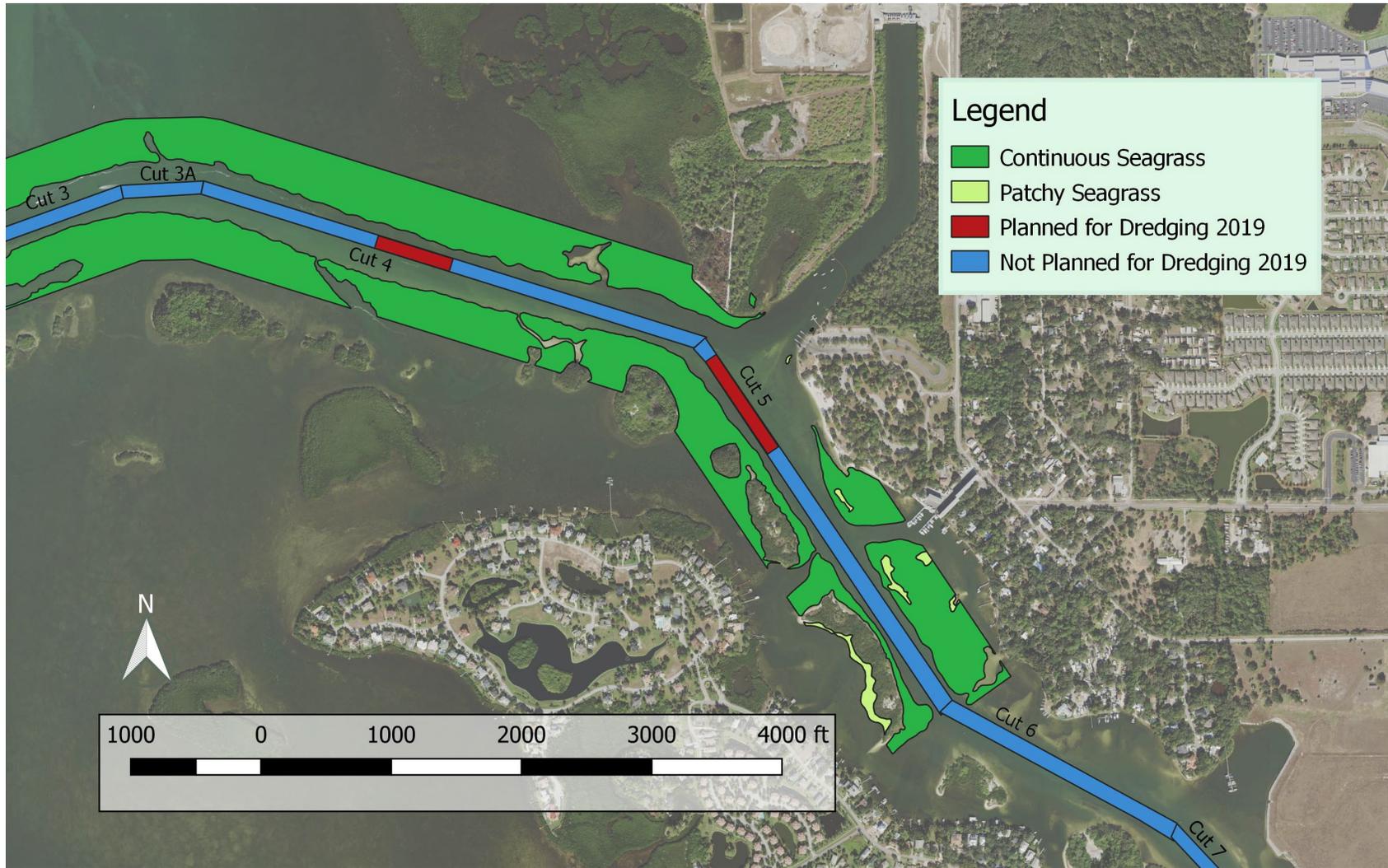


Figure 3-3b: Submerged Aquatic Vegetation, Anclote River Channel Cuts 3A, 4, and 5.
 Source: DCA 2018

**MAINTENANCE DREDGING OF THE ANCLOTE RIVER CHANNEL
 ENVIRONMENTAL ASSESSMENT**

3.4.1.2 Mangrove Wetlands

Red mangrove (*Rhizophora mangle*) grows along the edge of the shoreline and can be easily distinguished from other plant and tree species by tangled, reddish prop roots. These prop roots originate from the trunk with roots growing downward from the branches and can extend three ft. (1 m) or more above the surface of the soil. The interconnected web of mangrove prop roots provides important refugia and nursery habitat for numerous species, including penaeid shrimp and other managed species.

There are some mapped mangrove wetlands on islands near the Anclote River and on some river banks (Figure 3-4).

3.4.1.3 Hard Bottoms

Hard bottoms (hardgrounds) provide substrate for benthic organisms, crevices where organisms can seek protection, and foraging habitat for a number of aquatic species. Hardgrounds can be of various types, artificial or natural, such as reefs, with high and/or low relief, and can be of any shape. Hardgrounds in the nearshore waters of Southwest Florida can generally consist of mixed benthic communities of epifaunal organisms such as algae, sponges, octocorals, stony corals, hydroids, anemones, barnacles, bryozoans, decapods crustaceans, and gastropods. Many of these organisms attach directly to the substrate.

Coverage for hard bottom data for the study area is incomplete. The available data do not indicate the presence of hardbottom near the study area.

3.4.1.4 Oyster Reefs

Based on 2016 surveys, and as shown in Figure 3-4, there are various patches of oyster reefs and oyster clumps in the study area. There are no mapped oyster reefs or clumps within the navigation channels.

3.4.1.5 Non-Vegetated Bottoms

Non-vegetated bottoms can include soft bottoms, such as tidal mud flats, and sand/shell bottoms, both of which are prevalent in coastal Southwest Florida and the study area in particular. Macroinvertebrates commonly found in soft-bottom marine habitat within Florida include annelids, a variety of mollusks, including oysters, arthropods, sponges and polyps (Hoffman and Olsen 1982).

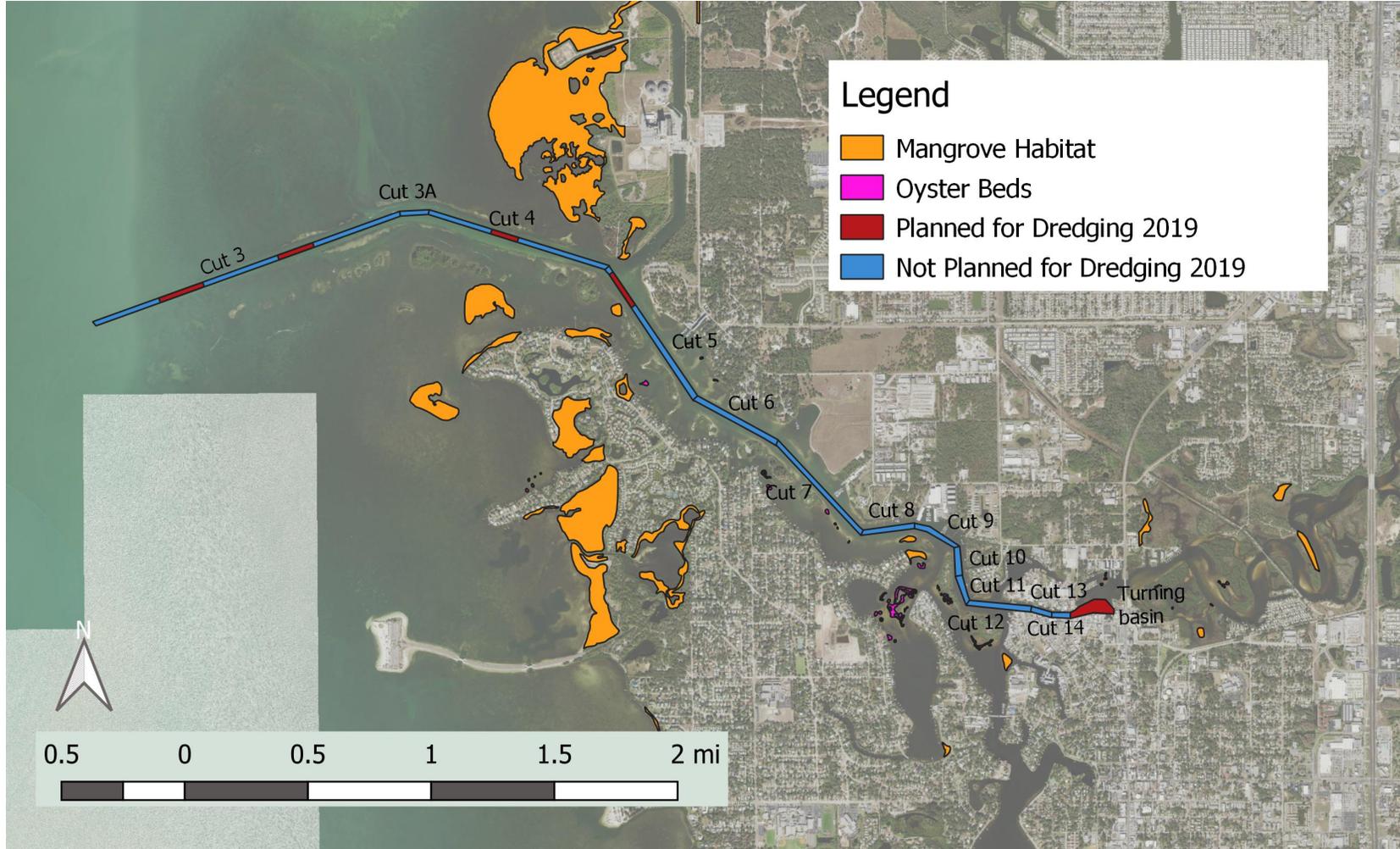


Figure 3-4: Essential Fish Habitat: Mangroves and Oyster Beds, Anclote River Channel.

Sources: FFWCC 2018e, FFWCC 2018f, SWFWMD 2016.

3.4.1.6 Water Column Associated

Water column associated (WCA) EFH connects all habitat types and is critical for fish and animal movement between other habitats. It allows sunlight to reach aquatic plants and algae, facilitates the delivery of oxygen and other essential dissolved nutrients to aquatic plants and animals, and provides a medium for all aquatic organisms to live. WCA can be subdivided into two categories, both of which are found in the study area: marine water column and estuarine water column. The navigation channels and associated estuarine waters are classified as estuarine WCA.

3.4.1.7 Emergent Wetlands

Emergent wetlands in the project study area include intertidal wetlands/salt marshes, collectively referred to as tidal salt marshes. Tidal salt marshes are coastal wetlands that are flooded and drained by salt water brought in by the tides. These salt marshes provide essential food, refuge, or nursery habitat for more than 75 percent of fish species, including shrimp and many finfish. Salt marshes also protect shorelines from erosion by buffering wave action and trapping sediments (NOAA 2018). Salt marsh vegetation includes rushes, sedges and grasses. Florida's dominant salt marsh species include: black needle rush (*Juncus roemerianus*), the grayish rush occurring along higher marsh areas; saltmeadow cord grass (*Spartina patens*), growing in areas that are periodically inundated; smooth cord grass (*Spartina alterniflora*), found in the lowest areas that are most frequently inundated; and sawgrass (*Cladium jamaicense*), which is actually a freshwater plant that sometimes grows along the upper edges of salt marshes. Gulf coast salt marshes occur along low energy shorelines, at the mouth of rivers, and in bays, bayous and sounds (FDEP 2018b). Maps of applicable emergent wetlands, which includes tidal wetlands and salt marshes, are not currently available from the NMFS.

3.4.2 Federally Managed Species

The study area contains habitat designated as EFH for 31 managed species or species groups (Table 3-4).

Table 3-4: Summary of EFH Managed Species

Species	Scientific Name	Young of Year or Neonate	Juveniles	Adults
Coral Species		X	X	X
Shrimp Fishery				
pink shrimp	<i>Farfantepenaeus duorarum</i>	X	X	X
Stone Crab Fishery				
Florida stone crab	<i>Menippe mercenaria</i>	X	X	X
Spiny Lobster Fishery				
spiny lobster	<i>Panulirus argus</i>	X	X	X
Red Drum Fishery				
red drum	<i>Sciaenops ocellatus</i>	X	X	X
Reef Fish Fishery				
gray triggerfish	<i>Balistes capriscus</i>	X	X	X
greater amberjack	<i>Seriola dumerili</i>		X	X
lesser amberjack	<i>Seriola fasciata</i>	X		
gag grouper	<i>Mycteroperca microlepis</i>	X	X	X
red grouper	<i>Epinephelus morio</i>	X	X	X
scamp grouper	<i>Mycteroperca phenax</i>		X	X
yellowfin grouper	<i>Mycteroperca venenosa</i>		X	X
black grouper	<i>Mycteroperca bonaci</i>		X	X
gray snapper	<i>Lutjanus griseus</i>	X	X	X
lane snapper	<i>Lutjanus synagris</i>	X	X	X
red snapper	<i>Lutjanus campechanus</i>		X	X
yellowtail snapper	<i>Ocyurus chrysurus</i>	X	X	X
cubrera snapper	<i>Lutjanus cyanopterus</i>	X	X	X
hogfish	<i>Lachnolaimus maximus</i>	X	X	X
Coastal Migratory Pelagic Fishery				
cobia	<i>Rachycentron canadum</i>	X	X	X
king mackerel	<i>Scomberomorus cavalla</i>		X	X
Spanish mackerel	<i>Scomberomorus maculatus</i>	X	X	X
Highly Migratory Pelagic Fishery				
bull shark	<i>Carcharinus leucas</i>		X	X
blacktip shark	<i>Carcharinus limbatus</i>	X	X	X
great hammerhead shark	<i>Sphyrna. mokarran</i>	X	X	X
lemon shark	<i>Negaprion brevirostris</i>			X
sandbar shark	<i>Carcharinus plumbeus</i>			X
nurse shark	<i>Ginglymostoma cirratum</i>		X	X
tiger shark	<i>Galeocerdo cuvieri</i>		X	X
Atlantic sharpnose shark	<i>Rhizoprionodon terraenovae</i>		X	X
blacknose shark	<i>Carcharinus acronotus</i>	X	X	X

Table 3-4: Summary of EFH Managed Species

Species	Scientific Name	Young of Year or Neonate	Juveniles	Adults
bonnethead shark	<i>Sphyrna tiburo</i>	X	X	X

The managed species include coral and three species of crustaceans from the *Shrimp Fishery Management Plan*, the *Stone Crab Fishery Management Plan*, and the *Spiny Lobster Fishery Management Plan*, as well as 28 species of fishes from the *Red Drum, Reef Fish, Coastal Migratory, and Highly Migratory Fishery Management Plans* (GMFMC 2016; NMFS 2018). The Gulf of Mexico in this region also provides essential forage, cover, and nursery habitats for other species that are commercially and recreationally important such as the blue crab (*Callinectes sapidus*), flounder (*Paralichthys spp.*), and mullet (*Mugil spp.*). There are no Habitat Areas of Particular Concern (HAPCs) located within or near the study area (NMSF 2018).

3.5 COASTAL BARRIER RESOURCES

The Coastal Barrier Resources Act (CBRA) of 1982 (16 U.S.C. §3501 *et seq.*), as amended by the Coastal Barrier Improvement Act (CBIA) of 1990 (Public Law 101-591) limits federally-subsidized development within CBRA Units to minimize 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. Enacted under the CBRA, the John H. Chafee Coastal Barrier Resources System is a collection of specific units of land and associated aquatic habitats that serve as barriers protecting the Atlantic, Gulf, and Great Lakes coasts. The CBRS currently includes 585 System units, which comprise nearly 1.4 million acres of land and associated aquatic habitat, and 277 "otherwise protected areas" (OPAs), a category of coastal barriers already held for conservation purposes that include an additional 2.1 million acres of land and associated aquatic habitat (USFWS 2018b).

The CBIA provides development goals for undeveloped coastal property held in public ownership (e.g., OPAs), including wildlife refuges, parks, and other lands set aside for conservation. These public lands are excluded from most of the CBRA restrictions, although they are prohibited from receiving federal flood insurance for new structures. CBRA unit FL-87P includes all of Anclote Key, located west of the study area (Figure 1-1).

3.6 WATER QUALITY

The Florida Administrative Code (F.A.C.), Section 62-302.400, Classification of Surface Waters, Usage, Reclassification, Classified Waters designates the following classes for state surface waters according to designated uses:

- CLASS I, Potable Water Supplies
- CLASS I-Treated, Treated Potable Water Supplies
- CLASS II, Shellfish Propagation or Harvesting
- Class III, Fish Consumption; Recreation, Propagation and Maintenance of a Limited Population of Fish and Wildlife
- CLASS III-Limited, Fish Consumption; Recreation or Limited Recreation; and/or Propagation and Maintenance of a Limited Population of Fish and Wildlife
- CLASS IV, Agricultural Water Supplies
- CLASS V, Navigation, Utility and Industrial Use

Class I has the most stringent requirements, while Class V has the least stringent. The State of Florida lists the study areas waters as Class III, which is suitable for recreation and the propagation and management of fish and wildlife.

The FDEP, through F.A.C Section 62-302.700, Special Protection, Outstanding Florida Waters, Outstanding National Resource Waters, has identified numerous state surface waters as Outstanding Florida Waters (OFW). These waters are worthy of special protection because of natural attributes, and their designation is also intended to protect existing good water quality. As shown in Figure 3-5, most of the study area is included in the Pinellas County Aquatic Preserve, which incorporates the Anclote Key Preserve State Park and the Anclote River Park, and is a designated OFW. The Anclote federal channel itself is excluded from the designation.

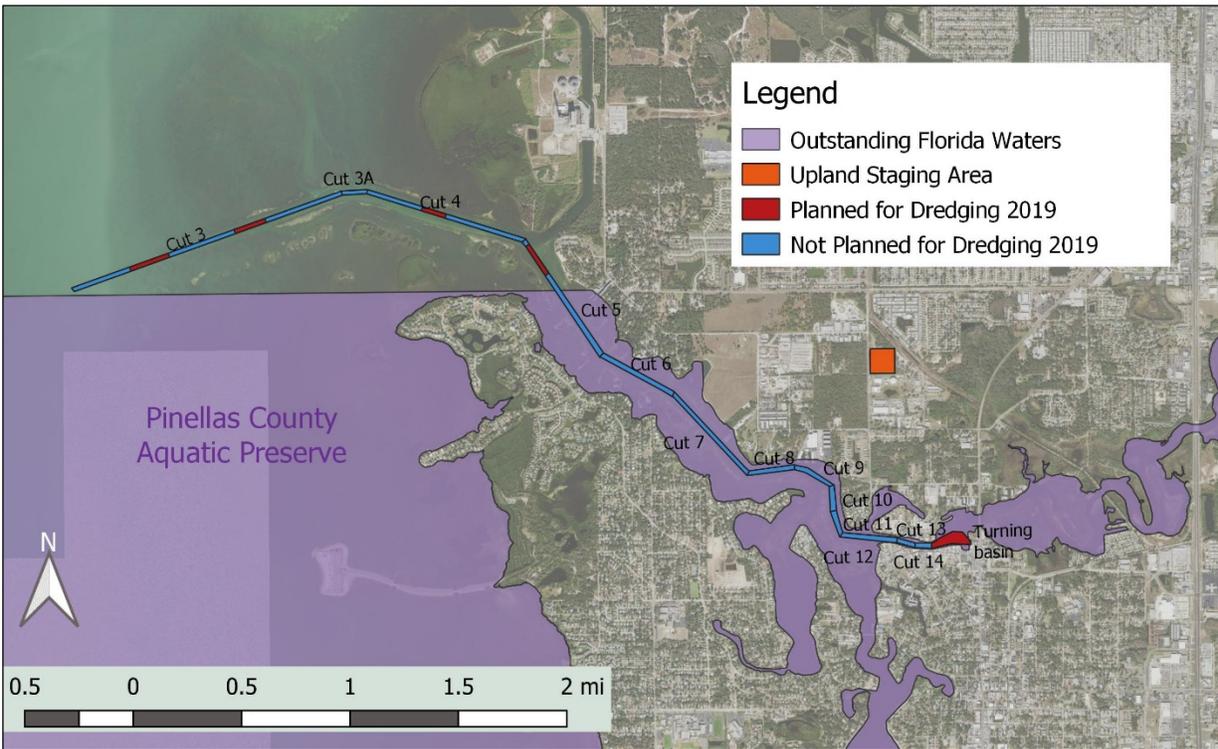


Figure 3-5: Outstanding Florida Waters (Pinellas County Aquatic Preserve).

Source: FDEP 2018a.

3.7 HAZARDOUS, TOXIC AND RADIOACTIVE WASTE

The definition of Hazardous, Toxic and Radioactive Waste (HTRW) according to the USACE Engineering Regulation (ER) 1165-2-132, Water Resources Policies and Authorities for Hazardous, Toxic and Radioactive Waste Guidance for Civil Works Projects, 26 June 1992 reads as follows:

Except for dredged material and sediments beneath navigable waters proposed for dredging, for purposes of this guidance, HTRW includes any material listed as a "hazardous substance" under the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. 9601 et seq. (CERCLA). (See 42 U.S.C. 9601(14).) Hazardous substances regulated under CERCLA include "hazardous wastes" under Sec. 3001 of the Resource Conservation and Recovery Act, 42 U.S.C. 6921 et seq. (RCRA); "hazardous substances" identified under Section 311 of the Clean Air Act, 33 U.S.C. 1321, "toxic pollutants" designated under Section 307 of the Clean Water Act, 33 U.S.C. 1317, "hazardous air pollutants" designated under Section 112 of the Clean Air Act, 42 U.S.C. 7412; and "imminently hazardous chemical substances or mixtures" on which EPA has taken action under Section 7 of the Toxic Substance Control Act, 15

U.S.C. 2606; these do not include petroleum or natural gas unless already included in the above categories. (See 42 U.S.C. 9601(14))

Underground Storage Tanks (USTs) are federally regulated under 40 CFR Part 280, which includes technical standards and corrective action requirements for owner and operators of USTs.

The Anclote River Channel is located adjacent to predominantly residential, commercial, and recreational areas. The project area contains high-energy littoral zones and the materials used for nourishment contain particles with large grain sizes that do not normally absorb contaminants.

Only one Superfund/brownfield site that could potentially have an effect on or be affected by the propose action has been identified. This is the Stauffer Chemical Company Superfund site in Tarpon Springs, adjacent to the Anclote River (Figure 3-6). A Superfund site is any land in the United States that has been contaminated by hazardous waste and identified by the U.S. Environmental Agency (USEPA) as a candidate for cleanup because it poses a risk to human health and/or the environment. An active site is a non-archived Superfund site at which site assessment, removal, remedial, enforcement, cost recovery, or oversight activities are being planned or conducted under the Superfund program.



Figure 3-6: Stauffer Chemical Company Site in Relation to Site Features, Anclote River.

Source: ATSDR 2005.

The Stauffer Site was a former elemental phosphorus production facility that was placed on the National Priorities List (NPL) by USEPA in 1994 (EPA Facility ID FLD010596013). Contaminants found in soil at the site included elemental phosphorus, arsenic, antimony, beryllium, thallium, and radium-226. Some of these chemicals were also found in groundwater at the site (USEPA 2018b). Low levels of some of the same chemicals were also found in surface water and sediment samples taken in the Anclote River, primarily in a shallow cove adjacent to the site known as Meyers Cove (visible east of the Cut-6 label in Figure 3-6). However, risks from exposure to surface water and sediment were judged to be sufficiently low to make remediation unwarranted for protection of human health (ATSDR 2005). Soil cleanup at the site was completed in 2011 and included excavation and capping of the contaminated soil. Deed restrictions are in place on the site property to prohibit the use of groundwater and to prohibit future residential use. The site can be used for industrial or commercial purposes. USEPA conducts reviews of the site every five years to confirm that the remedy remains protective of human health and the environment. The next review is scheduled for 2020 (USEPA 2018b).

3.8 AIR QUALITY

Ambient air quality along the Gulf Coast of Florida is generally good due to prevalent ocean breezes from the northeast through the southeast. Coastal development and the popularity of the beaches area contribute to the presence of motorized vehicles and vessels in the study area at any given time. A review of USEPA data indicates that the study area is in attainment status for all of the criteria pollutants associated with National Ambient Air Quality Standards under the Clean Air Act. A review of F.A.C. 62-204.340 indicates that Pinellas County is designated as an air quality maintenance area for the air pollutant ozone.

3.9 NOISE

Noise is defined as unwanted sound and, in the context of protecting public health and welfare, implies potential effects on the human and natural environment. Noise is a significant concern associated with construction, dredging, and transportation activities and projects. Ambient noise levels within a given region may fluctuate over time because of variations in intensity and abundance of noise sources.

The degree of disturbance or annoyance of unwanted sound depends on: (1) the amount and nature of intruding noise; (2) the relationship between the background noise and the intruding noise; and (3) the type of activity occurring at the location where the noise is heard. Human response to noise varies from individual to individual and is dependent on the ambient environment in which the noise is perceived. Wind, temperature, and other conditions can change the sound volume perceived at distances from the noise source.

The magnitude of noise is described by its sound pressure. A logarithmic scale is used to relate sound pressure to a common reference level, as the range of sound pressure varies greatly. This is called the decibel (dB) and a weighted decibel scale is often used in environmental noise measurements (weighted-A decibel scale or dBA). This scale emphasizes the frequency range to which the human ear is most susceptible. A 70-dBA sound level can be moderately loud, as in an indoor vacuum cleaner, a 120 dBA can be uncomfortably loud, as in a military jet takeoff at 50 feet, and a 40-dBA sound level can be very quiet and is the lowest limit of urban ambient sound.

Noise is administered under the Noise Control Act of 1972, as amended (42 U.S.C. §4901-4918). The USEPA has also established noise guidelines recommending noise limits for indoor and outdoor noise activities. Under these guidelines, an average noise level over a 24-hour period of 70 A-weighted decibels (dBA) is listed as the threshold for hearing noise between 65 and 75 dBA is generally acceptable, and noise exceeding 75 dBA is unacceptable in all situations. Noise monitoring and impacts are typically evaluated by the local government.

Ambient noise in the study area is generated by a broad range of sources, both anthropogenic and natural. Potential sources of anthropogenic sound include commercial and recreational waterborne traffic, construction activities, and land-based vehicular traffic. Natural sound sources include breaking surf, wind, and precipitation. Noise levels are typical of the marine and beach environments, and ambient noise levels in the project area are low to moderate. No ambient noise monitoring appears to have been conducted in the project area; consequently, no quantitative data on noise levels within the project area are available for analysis.

3.10 AESTHETICS

The study area possesses visually pleasing attributes, including the waters and beaches near the Gulf of Mexico, and fringing mangroves, vegetated islands, and mudflats adjacent to portions of the Anclote River. The majority of the land along the Anclote River is developed with single and multi-story commercial and residential buildings; however, green space and county parks/beaches are located along stretches of the waterfronts.

3.11 RECREATION

The Gulf Coast of Florida is heavily populated and a major tourist destination. Beaches that can be accessed by the general public are heavily used year-round, while beaches adjacent to condominiums, apartments, and hotels may have more restricted use. The Anclote River is heavily used by watercraft for commercial and recreational activities.

3.12 NAVIGATION

Navigation in the project area is generally limited to watercraft used for commercial enterprises (fishing) and recreational activities (fishing, sailing, jet skiing, pleasure boating, etc.). Numerous marinas and boat launches are located within the project area, including a marina just north of the turning basin.

3.13 CULTURAL 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 7500 B.C. Few Paleo-Indian archeological sites are recorded in south Florida. During this period, the continental shelves were exposed, and the Florida peninsula encompassed an area approximately twice the current size of the state Florida. Gradual sea level rise which occurred between about 10,000 years ago to 6,000 years ago resulted in the submergence of many terrestrial archaeological sites along the Gulf Coast.

During the Archaic period (ca. 7500 B.C.-ca. 500 B.C.), prehistoric people exploited a wider range of resources and may have led a more sedentary existence than earlier periods. Most Archaic period archeological sites recorded in the Florida Master Site File (FMSF) are clustered along the Atlantic and Gulf coasts, near the Caloosahatchee River

and along old remnant lake shorelines. Sea levels continued to rise until reaching approximate modern levels during this period. The stabilization of sea levels resulted in the formation of estuaries where Archaic period populations heavily exploited coastal resources. Large prehistoric Archaic period shell rings have been identified on coastal sites including Bonita Bay and Horr's Island in southwest Florida (Russo 2006). In the Tampa Bay area, evidence of Native American occupation has been recovered in numerous spoil areas from past dredging events and immediately adjacent to the coastline. For example, dredging in the vicinity of Gadsden Point within Tampa Bay identified thick layers of shell midden containing diagnostic artifacts dating from the Paleoindian through the Late Archaic Periods (Goodyear et al. 1983).

Two Late Archaic cultures are generally archaeologically recognized in South Florida; the Orange culture and the Glades Archaic cultures. The Orange culture is recognized for using a distinctive type of pottery manufactured using fiber temper. While most widely known from northeast Florida, Orange culture sites are recognized along the southeast coast. Site types generally consist of middens composed of oyster and coquina shell along the coasts and freshwater pond snail along the inland rivers and streams. The Archaic traditions eventually developed into the unique cultural affiliations identified temporally as Orange, Manasota, Weeden Island, and Safety Harbor.

European exploration of the southwest Florida began in the sixteenth century. The earliest recorded historic maritime activity in the project area dates to 1521, when Ponce de Leon led an attempt to establish a Spanish colony in the vicinity of Charlotte Harbor. This early attempt at settlement was repulsed by the Calusa. Later, other explorers including Panfilio de Narvaez, and Hernando de Soto landed near present day Tampa Bay. Pedro Menéndez de Avilés made brief attempt to establish a Spanish mission to the Calusa in 1567; however, the attempt was abandoned by 1569. In 1763, the Spanish relinquished control of Florida to the British in a settlement following the Seven Years War. The area remained relatively unsettled by Europeans.

The Gulf Coast of Florida has been explored by warships, trading vessels, submarines and pleasure craft since the Age of Exploration until the present. The potential exists for both prehistoric and historic cultural resources to occur within the project area and submerged prehistoric sites been identified within and adjacent to the project area.

3.13.1 Previous Cultural Resource Investigations

In 2017, Pan-American Consultants, Inc. (PCI), under contract to the Corps, found 161 magnetic anomalies, 26 sidescan sonar targets, and one subbottom paleo feature in a survey of the Anclote River Channel from Cut 3 to the turning basin. Based on further investigation, one magnetic anomaly cluster, Target 1 (M012 and M013), located near the western end of Cut 3, was determined to be potentially significant. While there is no evidence of historic shipwrecks in the vicinity of Target 1, and the target most likely

represents modern debris, significance is still a potential. PCI recommended avoidance of Target 1 with a 300-foot buffer, where no dredging, anchoring or spudding would be permitted (Wilson 2018). This buffer area is in the western part of Cut 3, outside the area of proposed 2019 dredging.

3.13.2 Traditional Cultural Properties

The only Traditional Cultural Property (TCP) designated to date by the National Park Service (NPS) within the study area in Florida is the Tarpon Springs Greek town Historic District. It was entered into the National Register in 2014 (14000321; NPS 2014). The location is shown in Figure 3-7. The sponge industry was already established in Tarpon Springs when Greek sponge diving crews began arriving in large numbers in the early 1900s. Using techniques imported from Greece, the immigrants revolutionized the sponge industry and Tarpon Springs soon became the largest sponge port in the U.S. During the early 1900s, sponging was Florida's most lucrative sea product. Profits financed other local industries and construction of traditional churches and residences. Area residents have maintained the Greek culture and traditions (NPS 2014).

The property is bounded on the north by the Anclote River; however, this boundary "includes sponge boats docked in the river, since they are an integral part of the history and current functioning of this traditional cultural property" (NPS 2014).



Figure 3-7: Tarpon Springs Greek Town Historic District TCP in Relation to Anclote River Features.

Source: NPS 2014.

3.14 NATIVE AMERICANS

No portion of the proposed action is located within or adjacent to known Native American-owned lands, reservation lands, or TCPs relevant to Native Americans; however, Native American groups have lived throughout the region as evidenced by the presence of prehistoric archaeological sites in 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 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.

3.15 INVASIVE SPECIES

Many invasive plant species have been recorded in the project area. Among the most important are the air potato (*Dioscorea bulbifera*), Japanese climbing fern (*Lygodium*

japonicum), Brazilian peppertree (*Schinus terebinthifolius*), Chinese tallow (*Sapium sebiferum*) and cogongrass (*Imperata cylindrical*) (NCCISMA 2018).

The air potato, native to tropical Asia, is considered one of Florida's most invasive plants due to its ability to displace native species and disrupt natural processes such as water flow. It grows extremely quickly and typically climbs to the tops of trees. Japanese climbing fern can reach 90 ft. in length and infests trees and shrubs forming dense mats of vegetation. Brazilian peppertree invades a variety of habitats and forms dense thickets that displace native vegetation. Chinese tallow can grow to over 40 ft. and favors areas adjacent to wetlands. Australian pine is a deciduous tree that occurs in coastal habitats. Cogongrass, native to Southeast Asia, was introduced for forage and soil stabilization (NCCISMA 2018).

3.16 ENVIRONMENTAL JUSTICE

The goal of environmental justice is to ensure that all Americans are afforded the same degree of protection from environmental and health hazards and have equal access to the decision-making process to maintain a healthy environment in which to live, learn, and work. On February 11, 1994, President Bill Clinton issued Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," to focus Federal agencies' attention on the environmental and human health conditions in minority and/or low-income communities with the goal of achieving environmental justice. The Executive Order directs Federal agencies to make environmental justice part of their mission to the greatest extent practicable and permitted by law.

The proposed work includes dredging the federal channel within the Anclote River to its authorized depth. Dredged material would be temporarily placed within an upland staging area. The staging area being considered is a highly disturbed vacant area bordered on the south and west by light industry and other disturbed areas. A power line right-of-way occurs to the north and east of the staging area and a residential area is located just beyond the right-of-way. The nearest portion of the residential area, which consists of mixed housing (including but not limited to double wide manufactured homes), is approximately 200 feet from the proposed staging area. Other upland temporary staging areas could also be used, provided that no ground-intrusive activities are needed and no impacts beyond those evaluated in this EA occur.

4 ENVIRONMENTAL EFFECTS

This chapter is the scientific and analytic basis for the comparisons of the alternatives (see Table 2-1: Summary of Direct and Indirect Impacts). The following analysis includes anticipated changes to the existing environment including direct, indirect, and cumulative effects:

- **Direct effects** – Direct effects are caused by a proposed action and occur at the same time and place (40 CFR 1508.8). Direct impacts may have both beneficial and adverse effects.
- **Indirect effects** – Indirect effects are caused by a proposed action but occur later in time or are farther removed in distance but still reasonably likely to occur. Indirect effects may include growth inducing effects and other effects related to “induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems” (40 CFR 1508.8).
- **Cumulative effects** – Cumulative effects are additive or indirect effects that would result from the incremental impact of a proposed action when added to other past, present, and reasonably foreseeable future actions (RFFAs), regardless of what agency or person undertakes such other actions (40 CFR 1508.7).

Direct and indirect impacts of the proposed project and alternatives are further evaluated for each resource in relation to context, duration, intensity, type, and potential to occur:

- **Context** (limited, local, or regional)
- **Duration** (temporary, short-term, long-term, or permanent)
- **Intensity** (negligible, minor, moderate, major, No Effect, No Adverse Effect, Adverse Effect)
- **Type** (beneficial or adverse)
- **Potential to occur** (unlikely, possible, or probable)

In the introduction for each resource section, the reader is provided a brief description of the methodology used for assessing and evaluating potential impacts. Each resource section used the following definitions related to the duration of potential impacts:

- **Temporary** = Up to 3 months
- **Short-Term** = Up to 1 year
- **Long-Term** = More than 1+ years

4.1 SOILS/SEDIMENT CHARACTERISTICS

Impacts to soils/sediment characteristics were evaluated using data from on-site technical investigations and best professional judgment.

4.1.1 No Action Alternative (Status Quo)

Under the No Action Alternative, there would be no adverse effects on native sediment characteristics in the project area.

4.1.2 Dredging with Upland Placement (Preferred Alternative)

There would be no adverse effect on native sediment characteristics within the navigation channels as a result of dredging activities.

There would be temporary, minor and localized change to existing sediment characteristics at the dredged material staging site. There would be no adverse effects on existing soil or sediment with use as upland construction fill material; or with approved/permitted DMMA or landfill placement, as the dredged material would be placed with, or used as cover for, other waste materials.

4.2 THREATENED AND ENDANGERED SPECIES

Impacts to threatened and endangered species were evaluated by coordination with the USFWS and NMFS through the use of programmatic biological opinions on maintenance dredging activities, literature search, GIS data, presence/absence determinations, and best professional judgment.

4.2.1 No Action Alternative (Status Quo)

Under the No Action Alternative, there would be no adverse effects on threatened and endangered species in the project area.

4.2.2 Dredging with Upland Placement (Preferred Alternative)

4.2.2.1 Sea Turtles

The Corps has determined that dredging activities conducted with a hopper dredge may affect swimming sea turtles. All other dredging activities are not likely to adversely affect swimming sea turtles. The Corps determined that the project activities fall within the scope of the NMFS Gulf of Mexico Regional Biological Opinion (GRBO, NMSF 2003; rev. 2005 and 2007). Only loggerhead, green, hawksbill, and Kemp's ridley sea turtles are vulnerable to being taken by the use of hopper dredges to maintain navigation channels (NMFS 2003). To minimize the risk to these sea turtles, if a hopper dredge is used,

standard sea turtle protection conditions will be implemented such as draghead deflectors, inflow screens, and monitoring of the operation by qualified personnel.

There are seagrasses located adjacent to the Anclote River Channel (see Section 4.4.2). The project will adhere to all turtle safety precautions outlined in the 2003 GRBO, as well as implement the NMFS Sea Turtle and Smalltooth Sawfish Construction Conditions during project construction.

4.2.2.2 Florida Manatee

Manatees typically use nearshore waters for migration, and their movements may be affected by the presence of in-water construction equipment. The Corps and its contractors will abide by the 2011 Standard Manatee Conditions for In-Water Work to ensure no adverse effects occur to any manatees that may venture into the project area during construction activities. For example, siltation or turbidity barriers (if used) “shall be made of material in which manatees cannot become entangled, shall be properly secured, and shall be regularly monitored to avoid manatee entanglement or entrapment.” In addition, within the WWAA shown in Figure 3-2, the Corps has agreed to the restriction of no dredging between November 15 and March 31 (Corps 2018). With adherence to the manatee protocols identified in Section 4.22 Environmental Commitments, the Corps has determined that the proposed project may affect, but is not likely to adversely affect, the Florida manatee.

4.2.2.3 Smalltooth Sawfish

Smalltooth have an affinity for shallow, estuarine waters, though primarily in far south Florida, well south of the study area. In light of the rarity of the species in the study area and the Corps’ implementation of the NMFS Sea Turtle and Smalltooth Sawfish Construction Conditions during project construction, the Corps has determined that the proposed project may affect, but is not likely to adversely affect, the smalltooth sawfish.

4.2.2.4 Piping Plover and Rufa Red Knot

The Corps has determined that the proposed project will have no effect on piping plover or rufa red knot, as there will be no beach placement or beach staging activities associated with the project.

4.2.2.5 Eastern Indigo Snake

Construction activities associated with the use of the upland staging areas have the potential to affect the Eastern indigo snake, which is known to occur in the study area. Pre-construction surveys for the snake will be conducted and monitoring during construction activities will occur. With the implementation of pre-construction surveys and

with on-site monitoring during construction activities, the Corps has determined that the proposed project may affect, but is not likely to adversely affect, the Eastern indigo snake.

4.2.2.6 Gopher Tortoise

Construction activities associated with the use of upland staging areas have the potential to adversely affect the gopher tortoise. At upland staging areas where suitable habitat exists, pre-construction surveys for the tortoise will be conducted and the property owner will obtain the appropriate authorizations to relocate individuals to a suitable on- or off-site location if discovered. Furthermore, at upland staging areas with suitable habitat, the Corps will require on-site monitoring during construction activities to minimize any potential effect to the gopher tortoise. If this species becomes listed under the ESA, the Corps will reinstate consultation with USFWS.

4.3 FISH AND WILDLIFE RESOURCES

Effects to fish and wildlife resources were evaluated through literature search and best professional judgment.

4.3.1 No Action Alternative (Status Quo)

Under the No Action Alternative, there would be no adverse effects to fish and wildlife resources.

4.3.2 Dredging with Upland Placement (Preferred Alternative)

4.3.2.1 Marine Mammals

Dredging and placement of material at the upland staging area are not likely to have a direct, adverse effect on the majority of non-listed marine mammal species as these species are highly mobile and can vacate areas at the commencement of construction activities. Moreover, vessels associated with dredging and placement activities are slow moving and are not likely to strike marine mammals such as bottlenose dolphin. In the April 25, 2005 notice in the Federal Register (70FR 21174) for the issuance of an Incidental Harassment Authorization (IHA) for Small Takes of Marine Mammals Incidental to Specified Activities; Port of Miami Construction Project (Phase II), NMFS stated: *According to the Corps, bottlenose dolphins and other marine mammals have not been documented as being directly affected by dredging activities and therefore the Corps does not anticipate any incidental harassment of bottlenose dolphins by dredging.* Potential impacts to, and measures to protect, the Florida manatee are outlined in Section 4.2.2.2.

4.3.2.2 Fish

The potential for injury or entrainment due to dredging would most likely affect demersal species (those living close to the sea floor). Moreover, dredging may affect foraging

habitat and feeding success of managed species and their prey due to temporary turbidity and loss of benthic organisms. For example, re-suspended materials may interfere with the diversity and concentration of phytoplankton and zooplankton, and therefore could affect foraging success and patterns of schooling fishes and other grazers that comprise prey for managed species. Notwithstanding these potential temporary, minor adverse impacts, adjacent fish habitat is available for feeding activity, and foraging patterns would be expected to return to normal at the end of dredging and placement activities. In addition, measures taken to reduce turbidity, with the attendant monitoring, sampling, and allowable maximum turbidity levels, will help minimize effects of turbidity.

4.3.2.3 Terrestrial Mammals

Construction of a containment berm/dike and subsequent placement of dredged material in the upland staging area may result in a temporary, minor, and localized adverse effect to wildlife species as existing open, grassy, and scrub habitat is converted to a dredged material placement site. In addition, certain species may be temporarily displaced during placement operations; however, after the conclusion of periodic maintenance dredging activities, terrestrial wildlife would re-enter the area and inhabit impacted areas within the upland placement areas.

4.3.2.4 Birds

Vision has been shown to be an important component in the foraging activity of a number of seabird species (Essink 1999; Garthe et al. 2000; Gaston 2004; Thaxter et al. 2010). As a result, water clarity may play an important role in the foraging success of these, and other, species. Therefore, the changes to water clarity resulting from the suspension of sediments during dredging operations may have an indirect, temporary, and localized adverse effect on the foraging capabilities of some species; however, mobility of the seabirds and the availability of abundant foraging areas adjacent to the project area would minimize any potential adverse effect. Surveys shall be conducted to determine if upland placement would result in the take of migratory birds. Protections measures such as buffer zones around nests shall be implemented.

4.4 ESSENTIAL FISH HABITAT ASSESSMENT

The proposed project description is in Section 2.1.3, Dredging with Upland Placement (Preferred Alternative), while a description of “existing conditions” of EFH, federally managed fisheries, and associate species such as major prey species, including affected life history stages, is in Section 3.4, Essential Fish Habitat. The following subsections describe the individual and cumulative effects of the No Action Alternative and the Preferred Alternative on EFH, federally managed fisheries, and associate species such

as major prey species, including affected life history stages. This EA will satisfy the coordination requirement for EFH under the MSFCMA (see Section 5.9).

Marine areas of submerged aquatic vegetation, mangrove wetlands, live bottoms (e.g., hard bottoms, oyster reefs), non-vegetated bottoms (e.g., sand/shell), and water column associated (WCA) within the study area have been designated as EFH. Impacts to EFH were estimated through coordination with NMFS, literature search, GIS data, on-site field investigations, presence/absence determinations, and best professional judgment.

4.4.1 No Action Alternative (Status Quo)

The No Action Alternative would have no effect on EFH in the project area.

4.4.2 Dredging with Upland Placement (Preferred Alternative)

4.4.2.1 Submerged Aquatic Vegetation

Direct, adverse effects to seagrasses are not anticipated because all occurrences of seagrasses are located outside of the dredging footprint. In addition, the dredging contractor will be prohibited from anchoring in, placing pipe on, or otherwise directly impacting seagrass (see Section 4.22.2 c). There is the potential for indirect, temporary and localized adverse effect to seagrasses from increased turbidity levels within the mixing zone; however, the Corps' contractor will monitor turbidity levels during dredging and placement activities to ensure compliance with State water quality standards. Because of the proximity of seagrasses to proposed dredging areas of the Anclote River Channel, the Corps will conduct post-construction surveys to assess any potential impact.

4.4.2.2 Mangrove Wetlands, Hardbottoms and WCA

Direct, adverse effects to mangrove wetlands are not anticipated because all occurrences of mangroves are located well outside of the dredging footprint, and potential pipeline locations for the staging area. As with seagrasses, there is the potential for indirect, temporary and localized adverse effect to mangroves from increased turbidity levels within the mixing zone; however, proposed turbidity monitoring for compliance with State water quality standards will minimize the adverse, indirect effect.

Direct or indirect effects to hardbottoms are not anticipated as there are no known or expected hardbottoms in the study area.

The water column is used for foraging, spawning, and migration. Adverse effects to the water column may have localized effects on marine species. Injury or entrainment due to dredging would most likely affect demersal species (those living close to the sea floor)

and less mobile species, such as shellfish. Dredging may temporarily affect foraging habitat and feeding success of managed species and their prey due to turbidity and loss of benthic organisms. For example, resuspended materials may interfere with the diversity and concentration of phytoplankton and zooplankton, and therefore could affect foraging success and patterns of schooling fishes and other grazers that comprise prey for managed species. During dredging operations, adjacent similar habitat is available for feeding and foraging patterns would be expected to return to normal at the end of dredging activities. Other potential adverse effects include behavioral alterations due to sound, light, and structure, and changes to soft bottom bathymetry in the shoal areas during dredging.

4.5 COASTAL BARRIER RESOURCES

Impacts to coastal barrier resources were evaluated using literature search, GIS data, and best professional judgment.

4.5.1 No Action Alternative (Status Quo)

Under the No Action Alternative, there would not be impacts to coastal barrier resources.

4.5.2 Dredging with Upland Placement (Preferred Alternative)

The proposed project does not include the construction of structures that would require Federal Flood Insurance; therefore, federal expenditures for the proposed project are not restricted in the Anclote Key Unit FL-87P.

4.6 WATER QUALITY

Water quality impacts were evaluated using literature search and best professional judgment.

4.6.1 No Action Alternative (Status Quo)

Under the No Action Alternative, there would be no effect on water quality in the study area.

4.6.2 Dredging with Upland Placement (Preferred Alternative)

Dredging activities would likely produce a temporary, minor, and localized adverse effect to water quality. Specifically, turbidity levels within the mixing zone would likely elevate above established background levels during periodic maintenance dredge operations. Visible plumes at the water surface would also be expected in the immediate vicinity of the operation. Elevated turbidity levels are expected to dissipate rapidly, returning to background levels in a short time period. In order to ensure that turbidity levels do not exceed the compliance standards, turbidity monitoring will be undertaken at the dredge site and at the location of the outlet of the discharge water from the staging area. If

turbidity levels exceed compliance standards, the Corps and/or its contractor will alter construction techniques or shut down the dredging or dredged material placement operations until such time that compliance with turbidity standards are met. Any return water from the use of staging areas will meet applicable water quality standards. Water quality certification will be obtained prior to the commencement of any periodic maintenance dredging activities associated with this EA.

The Corps and/or its contractor will implement a spill contingency plan for hazardous, toxic, or petroleum material to minimize the potential for adverse effects to water quality from accidental spills.

4.7 HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE

Hazardous, toxic, and radioactive waste (HTRW) impacts were evaluated using literature search, GIS data, and best professional judgment.

4.7.1 No Action Alternative (Status Quo)

Under the No Action Alternative, there would be no HTRW effects in the study area.

4.7.2 Dredging with Upland Placement (Preferred Alternative)

There is a documented NPL site adjacent to the Anclote River (but not adjacent to the Federal channel; Figure 3-6). The site was remediated in 2011 but remains on the NPL because the site is not suitable for unrestricted use. There are institutional controls in place to prevent residential development of the site or the use of groundwater wells. The site may be used for industrial or commercial purposes. No effects from this site are expected.

Accidental spills and releases of waste/fuel, although remote, are possible. The Corps and/or its contractor will implement a spill contingency plan that contains measures to prevent oil, fuel, or hazardous and toxic substances from entering the air or water. All wastes and refuse generated by project construction would be removed and properly disposed. If an HTRW issue were to be discovered during construction and operation activities, the Corps would comply with all applicable state and federal regulations and guidance to ensure the issue would be addressed and resolved. Compliance with USEPA Vessel General Permits would be ensured, as applicable.

4.8 AIR QUALITY

Impacts to air quality were evaluated based on literature search and best professional judgment.

4.8.1 No Action Alternative (Status Quo)

Under the No Action Alternative, there would be no effect on the air quality of the study area.

4.8.2 Dredging with Upland Placement (Preferred Alternative)

Exhaust emissions from vehicles, vessels, and construction equipment associated with the project would have a temporary, minor, and localized adverse effect on air quality, including the potential for unpleasant odor associated with exhaust emissions. Exhaust emissions would likely result in a minor and localized increase in concentrations of nitrogen oxides, sulphur dioxide, carbon monoxide, volatile organic compounds, and particulate matter. Emissions associated with the dredge plant would likely provide the largest contribution to the inventory; however, the total proposed project emissions would represent an extremely minor percentage of the existing point and nonpoint and mobile source emissions in Pinellas and Pasco Counties. Prevailing offshore winds would quickly disperse any pollutant released into the atmosphere from the project area. Greenhouse gas emissions would minimally affect global emissions or total United States emissions.

The proposed project is exempt from the Clean Air Act (CAA) conformity requirements because it is not located in a federal nonattainment area. The proposed project does not require air quality permits.

4.9 NOISE

Noise impacts were evaluated using literature search, GIS) data, presence/absence determinations, and best professional judgment.

4.9.1 No Action Alternative (Status Quo)

Under the No Action Alternative, there would not be any effect on noise levels in the project area. Existing ambient noise levels in the study area resulting from residential and commercial activities, construction activities, and vehicular traffic would persist.

4.9.2 Dredging with Upland Placement (Preferred Alternative)

Dredging can result in underwater noise that can affect marine mammals, sea turtles, and fishes. Possible effects of dredging noise can vary depending on a variety of internal and external factors, and can be divided into masking (obscuring of sounds of interest by interfering sounds, generally at similar frequencies), response, discomfort, hearing loss, and injury (MALSF 2009). Deeper water operations may propagate sound over greater distances than those in confined nearshore areas (Hildebrand 2004). Noise associated with dredging activities can be placed into five categories:

1. **Collection noise** – The noise generated from the collection of material from the sea-floor; for example, the scraping of the buckets on a bucket ladder dredge or the operation of the drag head. This noise is dependent on the structure of the sea floor and the type of dredge used.
2. **Pump noise** – The noise from the pump driving the suction through the pipe.
3. **Transport noise** – The noise of the material being lifted from the sea floor to the dredge and pumped through a pipeline to the staging area. For trailing suction hopper and cutter suction dredges, this would be the noise of the material as it passes up the suction pipe. For clamshell dredges, it would be the sound of the crane dropping/lifting the bucket.
4. **Deposition noise** – This noise is associated with the placement of the material within the barge or hopper.
5. **Ship/machinery noise** – The noise associated with the dredging ship itself. For stationary dredges, the primary source will be the onboard machinery. Mobile dredges will also have propeller and thruster noise (MALSF 2009).

Field investigations have been undertaken to characterize underwater sounds typical of bucket, hydraulic cutterhead, and hopper dredging operations (Dickerson *et al.* 2001). Preliminary findings indicate that cutterhead dredging operations are relatively quiet as compared to other dredging operations in aquatic environments. Hopper dredges produce somewhat more intense sounds similar to those generated by vessels of comparable size. Bucket dredges create a more complex spectrum of sounds, very different than either cutterhead or hopper dredges. Hopper dredge noises consist of a combination of sounds emitted from two relatively continuous sources: engine and propeller noise similar to that of large commercial vessels, and sounds of dragheads moving in contact with the substrate. The intensity, periodicity, and spectra of emitted sounds differ greatly among dredge types. Components of underwater sounds produced by each type are influenced by a host of factors including substrate type, geomorphology of the waterway, site-specific hydrodynamic conditions, equipment maintenance status, and skill of the dredge plant operator (Dickerson *et al.* 2001).

Noise generated by construction activities may result in a temporary, minor, and localized adverse effect to residents and tourists adjacent to Anclote River Channel. In addition, noise generated from construction equipment used to construct a containment dike/berm within an upland staging area may also result in a temporary, minor, and localized adverse effect.

BMPs that may be used to reduce noise produced by equipment include:

- Using standard equipment with noise control devices (e.g., mufflers) that meet manufacturers' specifications;
- Using quiet equipment (i.e., equipment designed with noise control elements)
- Installing portable barriers to shield compressors and other small stationary equipment where necessary;
- Identify any noise-sensitive receptors, such as residential areas, churches, schools, recreation areas, etc., that might be disturbed by construction noise and notify them in advance of upcoming work; and
- Respond immediately to complaints raised by nearby residents.

4.10 AESTHETICS

Effects to aesthetics were evaluated using best professional judgment.

4.10.1 No Action Alternative (Status Quo)

Under the No Action Alternative, there would be a long-term, minor, and localized adverse effect to aesthetics due to the loss of sand from erosional processes at Anclote River Park.

4.10.2 Dredging with Upland Placement (Preferred Alternative)

There would be a temporary, minor, and localized adverse effect to aesthetics in the project area due to the presence of construction equipment located within the waterways and along the pipeline corridors where dredged material is pumped from in-water dredging operations to the upland placement area.

4.11 RECREATION

Effects to recreation were evaluated using best professional judgment.

4.11.1 No Action Alternative (Status Quo)

Under the No Action Alternative, recreation activities by watercraft within the Anclote River Channel would be adversely affected in the long-term as a result of continued shoaling and the narrowing of the waterways, thus interfering with safe and efficient navigation within the channels.

4.11.2 Dredging with Upland Placement (Preferred Alternative)

Recreational watercraft would experience a temporary, minor adverse effect as a result of the presence of dredging equipment within the Anclote River Channel; however, there would be a long-term, localized beneficial effect to watercraft recreation after the periodic maintenance dredging of the federal channel to its authorized width and depth. There

would be a temporary, minor, and localized adverse effect to recreational fishing along the Anclote River Channel during dredging operations in the channel as fishing opportunities would likely be curtailed by localized loss of access and/or disrupted by the displacement of target fish species by underwater dredging activities.

4.12 NAVIGATION

Effects to navigation were evaluated using literature review and best professional judgment.

4.12.1 No Action Alternative (Status Quo)

Under the No Action Alternative, shoaling would continue within the navigation channels and result in a shallowing of the Anclote River Channel. The shallowing of the channels would in turn restrict the navigability for recreational and commercial watercraft using the waterways resulting in a potential long-term, major, and localized adverse effect to navigation.

4.12.2 Dredging with Upland Placement (Preferred Alternative)

Periodic maintenance dredging of sediment within the federally-maintained Anclote River Channel would result in a long-term, major beneficial effect to safe and efficient navigation; however, there could be a temporary, minor, and localized adverse effect to navigation during dredging operations from the presence of in-water construction equipment.

There are existing aids to navigation that will be affected by routine maintenance dredging of the Anclote River Channel. Temporary relocation of the U.S. Coast Guard (USCG) aids to navigation (ATONs) that mark the channel will be required to complete maintenance dredging of these waterways.

4.13 CULTURAL RESOURCES

The Corps contracted Panamerican Consultants, Inc. (PCI), to complete a submerged cultural resource survey of the Anclote River Channel, Cuts 3 through 14 and the turning basin. This investigation identified no historic or prehistoric cultural resources within the dredge area of potential effects (APE). However, as discussed in Section 3.13.1, one magnetic anomaly cluster was determined to be potentially significant and PCI recommended a 300-ft buffer around Target 1, where no dredging, anchoring or spudding will be permitting. The work is documented in the PCI report titled *Submerged Cultural Resources, Survey Pasco County, Florida* (Wilson 2018).

4.13.1 No Action Alternative (Status Quo)

The No Action Alternative would have no effect to cultural resources listed or eligible for listing in the National Register of Historic Places (NRHP).

4.13.2 Dredging with Upland Placement (Preferred Alternative)

There will be no direct effects to any of the features of the TCP as a result of dredging and placement of dredged material. The sponge boat industry, both commercial and tourism, would experience a temporary, minor adverse effect as a result of the presence of dredging equipment; however, there would be a long-term, localized beneficial effect to the industry after the periodic maintenance dredging of the Anclote River to its authorized width and depth.

The Corps will buffer cluster M012 and M013 with a 300-ft. margin where no dredging, anchoring, or spudding will be permitted. Based on this information, the Corps determines that the periodic maintenance dredging and used of the upland staging area will have no effect on historic properties eligible for inclusion in the NHRP.

With this buffer in place, the Preferred Alternative poses no adverse effect to cultural resources listed or eligible for listing in the NRHP. Pursuant to Section 106 of the NHPA, the Corp's determination of no adverse effect to historic properties for the Preferred Alternative was coordinated 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 by letters dated December 20, 2017. In a letter January 25, 2018 the Florida SHPO concurred with the Corps determination of no adverse effects to historic properties eligible for inclusion in the NRHP from the Preferred Alternative, with the condition of the 300-ft buffer around cluster M012 and M013. The Seminole Tribe of Florida concurred in a letter dated January 23, 2018, and the Thlopthlocco Tribal Town of Oklahoma concurred in a letter dated January 30, 2018 (Appendix D).

4.14 NATIVE AMERICANS

No portion of the proposed action is located within or adjacent to known Native American-owned lands, reservation lands, or Traditional Cultural Properties related to Native Americans. 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 the 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' coordinated consultation with the appropriate federally-recognized tribes on December 20, 2017. (Appendix D).

4.14.1 No Action Alternative (Status Quo)

The No Action Alternative would have no effect on Native Americans.

4.14.2 Dredging with Upland Placement (Preferred Alternative)

The Preferred Alternative is not likely to affect Native Americans. The Preferred Alternative has been coordinated 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.

4.15 INVASIVE SPECIES

Effects of the project on invasive species were evaluated based on a literature search, GIS data, on-site field investigations, presence/absence determinations, and best professional judgment.

4.15.1 No Action Alternative (Status Quo)

Under the No Action Alternative, invasive species such as the air potato, Japanese climbing fern, Brazilian peppertree, and Chinese tallow would persist locations of the study area and continue to represent a long-term, minor, and localized adverse effect to native vegetation and terrestrial species, until current and/or future efforts are completed to eradicate the invasive and noxious species from the study area.

4.15.2 Dredging with Upland Placement (Preferred Alternative)

In-water maintenance dredging activities would have no adverse effect on the presence and/or distribution of terrestrial invasive and noxious species within the study area. Construction of a containment berm(s) and use of the upland staging areas for dredged material may provide areas of disturbed habitat where Brazilian peppertree could propagate, thus resulting in a short-term, minor, and localized adverse effect. BMPs to thoroughly clean construction equipment and vehicles would prevent the transportation of both marine and terrestrial invasive and noxious species to and from the study area.

4.16 ENVIRONMENTAL JUSTICE

4.16.1 No Action Alternative (Status Quo)

The No Action Alternative would have no effect on minority, elderly, low-income populations, or children.

4.16.2 Dredging with Upland Placement (Preferred Alternative)

A review of recent aerial imagery (2018) indicates that the project area does not appear to contain disproportionate populations of low-income areas are dispersed throughout and are not disproportionately located near the project area, so disproportionate impacts to low-income areas are not expected. The proposed maintenance dredging would provide a service to the local community by providing safer navigation within the federal channel. Construction activities within the proposed staging area would be performed in compliance with local ordinances. Dredged material would be temporarily placed within the staging area, then removed and the site returned to the pre-existing grade and stabilized. The Corps has determined that the proposed action would not cause disproportionately high and adverse impacts on minority, elderly, low-income populations, or children. Schools/childcare facilities and hospitals are dispersed throughout the community and are not disproportionately located near the project area, so disproportionate impacts to children are not expected.

4.17 CUMULATIVE IMPACTS

Cumulative effects are defined in 40 CFR §1508.7 as those effects that result from:

“...the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or nonfederal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.”

Cumulative environmental effects for the proposed project were assessed in accordance with guidance provided by the President’s Council on Environmental Quality (CEQ). A six-step process was followed to assess cumulative effects on resources affected by the Maintenance Dredging of the Anclote River Channel project. The first step was to identify which resources to consider in the analysis. All impacts on affected resources can be called cumulative; however, according to CEQ guidance, *“the role of the analysis is to narrow the focus of the cumulative effects analysis to important issues of national, regional, or local significance.”* In addition to this relevancy criterion, only those resources expected to be directly or indirectly affected by the project as well as by other actions within the same geographic scope and time frame were chosen for the analysis. Based on these criteria, the following resources were identified as target resources for the cumulative effects analysis: threatened and endangered species, fish and wildlife resources, essential fish habitat, water quality, and cultural resources.

The next steps of the cumulative effects analysis included:

- Defining the study area for each resource.
- Describing the historical context and existing condition of each resource. Descriptions are summarized from more detailed descriptions in Section 3.0 of this report.
- Summarizing the direct and indirect effects of each alternative on each identified resource. Environmental effects of each alternative are presented in more detail in Chapter 4.0 of this EA.
- Identifying the accumulated effects on each resource from the proposed action and other actions.
- Summarizing the magnitude of the cumulative effects of the projects and actions on the affected resources.

The geographic scope of this analysis includes the general area of the study area (Figure 1-1). Past actions in the study area have included, but are not limited to, the original construction of the Anclote River Channel, construction of recreational and commercial infrastructure, dredging activities within the Anclote River Channel, and recreational and commercial waterborne traffic within the waterways and nearshore environment. In addition to future periodic maintenance dredging and placement of dredged material associated with the proposed action, other reasonable foreseeable future actions within the study area may include additional, permitted dredging activities and beneficial use of dredged material, construction of new and/or redevelopment of existing residential and commercial infrastructure, and recreational and commercial waterborne traffic. Table 4-1 summarizes the impact of cumulative actions by identifying the past, present, and reasonably foreseeable future condition of the various resources which are directly or indirectly impacted by the with-project and without-project condition (the difference being the incremental impact of the project).

Table 4-1: Summary of Cumulative Impacts

	Past (baseline condition)	Present (existing condition)	Future Without Project (No Action Alternative)	Future with Preferred Alternative
<i>Threatened and Endangered Species</i>	Populations were significantly greater prior to urban development in the area. Declines are primarily 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., nesting sea turtles, manatees). Habitat quality has improved in some cases due to land conservation, pollution abatement, and regulatory practices. Individuals of some species becoming increasingly rare and geographic ranges have decreased as coastal and upland habitat continues to shrink in size; coastal and upland species adversely impacted by anthropogenic activities.	Habitat alteration occurs due to sea level change; continued loss and degradation of coastal and upland habitat due to development and erosion; species that utilize these areas are adversely impacted under the No Action Alternative.	Habitat alteration occurs due to sea level change; continued loss and degradation of coastal and upland habitat due to development and coastal erosion; species that utilize these areas are adversely impacted. The proposed work would be performed in compliance with all applicable laws and may help provide habitat for coastal species. Individuals may be temporarily affected by dredging and placement activities, though the cumulative adverse impact would be minor.

Table 4-1: Summary of Cumulative Impacts

	Past (baseline condition)	Present (existing condition)	Future Without Project (No Action Alternative)	Future with Preferred Alternative
<i>Fish and Wildlife Resources</i>	Populations were significantly greater prior to urban development and associated hunting/fishing in the area. Declines are primarily attributed to loss or degradation of habitat as well as other human related factors such as decreased water quality over the past 30 years. There has been beneficial impact to species that are able to coexist with increased development and urban environment.	Habitat quality has improved in some cases due to land conservation, pollution abatement, and regulatory practices (e.g., air quality and water quality); however, coastal and upland habitat continues to shrink in size; coastal and upland species adversely impacted by anthropogenic activities; fisheries stocks and habitat are impacted by anthropogenic activities.	Habitat alteration occurs due to sea level change; continued loss and degradation of coastal and upland habitat due to development and coastal erosion; fisheries stocks and habitat may be impacted by anthropogenic activities; species that utilize these areas are adversely impacted under the No Action Alternative.	Habitat alteration occurs due to sea level change; continued loss and degradation of coastal and upland habitat due to development and coastal erosion; fisheries stocks and habitat may be impacted by anthropogenic activities; species that utilize these areas are adversely impacted. Individuals may be temporarily affected by dredging and placement activities, though the cumulative adverse impact would be minor.
<i>Essential Fish Habitat</i>	Quality and extent of EFH were significantly greater prior to urban development in coastal and upland areas. Declines in both quality and acreage of EFH are a result of direct and indirect adverse impacts from anthropogenic activities, including previous dredging activities.	EFH habitat quality and acreage has improved in some cases due to land conservation, pollution abatement, and regulatory practices; however, EFH, fisheries stocks and habitat continue to be impacted by anthropogenic activities, including dredging activities.	Habitat alteration occurs due to sea level change; EFH, fisheries stocks and habitat continue to be impacted by anthropogenic activities, including future dredging activities, under the No Action Alternative.	Habitat alteration occurs due to sea level change; EFH, fisheries stocks and habitat continue to be impacted by anthropogenic activities, including future dredging activities; however, the cumulative adverse impact from the proposed project would be minor.

Table 4-1: Summary of Cumulative Impacts

	Past (baseline condition)	Present (existing condition)	Future Without Project (No Action Alternative)	Future with Preferred Alternative
<i>Water Quality</i>	Pristine prior to urban development; significant declines in water quality due to anthropogenic related factors (i.e., turbidity caused by upland runoff, septic tank leachate, industrial effluent, fertilizers, etc.) prior to federal and state laws being enacted and enforced.	Some degradation due to anthropogenic actions; however, present day water quality has significantly improved due to local, state, and federal pollution abatement programs.	No anticipated change to present condition in light of local, state, and federal pollution abatement programs; no known projects in the vicinity that would cause a decline in water quality including future dredging activities under the No Action Alternative.	No anticipated change to present condition in light of local, state, and federal pollution abatement programs; no known projects in the vicinity that would cause a decline in water quality including future dredging activities; temporary adverse impact to water quality as a result of the proposed project but the cumulative impact would be minor.
<i>Cultural Resources</i>	Cultural resources have been degraded or lost due to development, private collecting, erosion, and other factors such as dredging activities.	Education and enforcement of local, state, and federal laws have helped identify and conserve cultural resources.	Urban development, sea level change, and coastal erosion may adversely affect some cultural resources.	Urban development, sea level change, and coastal erosion may adversely affect some cultural resources.

4.18 SEA LEVEL CHANGE

The infrastructure of Pinellas and Pasco Counties is vulnerable to sea level change; however, this project's primary purpose is safe and efficient navigation. No changes to the authorized project or its project purpose are proposed as part of this EA. Specific federal action for the purpose of shoreline protection within the project area would be undertaken using a separate federal authority. A potential acceleration in sea level change may reduce the need for dredging due to naturally deepening channels.

4.19 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

An irreversible commitment of resources is one in which the ability to use and/or enjoy the resource is lost forever. One example of an irreversible commitment might be the mining of a mineral resource. An irretrievable commitment of resources is one in which, due to decisions to mandate the resource for another purpose, opportunities to use or enjoy the resources as they presently exist are lost for a period of time. An example of an irretrievable loss might be where a type of vegetation is lost due to road construction.

4.19.1 Irreversible

Other than the use of fuel, equipment and supplies, and the expenditure of federal funds, there would be no irreversible commitment of resources.

4.19.2 Irretrievable

As natural processes restore the sand volumes in the shoals near the Anclote River Channel over time, and as coastal and riverine processes and tropical storm events result in shoaling within the Anclote River Channel, the Preferred Alternative would not result in an irretrievable commitment of resources.

4.20 COMPATIBILITY WITH FEDERAL, STATE, AND LOCAL OBJECTIVES

Maintenance dredging of the Anclote River Channel will help meet various objectives of federal, state, and local agencies by ensuring safe and efficient navigation.

4.21 UNCERTAIN, UNIQUE, OR UNKNOWN RISKS

The Corps has completed numerous dredging, staging, and upland placement projects throughout the country, including past projects along the Gulf Coast of Florida. The Corps projects allow for adaptive management through construction and post-construction monitoring, as required. If monitoring shows relevant results or changes from what was anticipated, future dredging, staging, and upland placement activities can be modified to address any concerns.

4.22 ENVIRONMENTAL COMMITMENTS

The Corps shall comply with any applicable state water quality certifications for this proposed project. The Corps and its contractors commit to avoiding, minimizing or mitigating for adverse effects during activities associated with the periodic maintenance dredging of the Anclote River Channel by including the following commitments in the contract specifications.

4.22.1 Threatened and Endangered Species

All construction personnel will be informed of the potential presence of protected species in the project area, their endangered status, the need for precautionary measures, and the ESA prohibition on taking threatened or endangered species. All construction personnel will be advised that there are civil and criminal penalties for harming, harassing, or killing manatees or marine turtles, which are protected under the ESA.

4.22.1.1 Marine Turtles

- a) The Corps and its Contractor will follow the most recent NMFS Sea Turtle and Smalltooth Sawfish Construction Conditions.
- b) If a hopper dredge is utilized, then the following requirements shall be implemented:
 - Rigid draghead deflectors will be used and the inflow/overflow will be screened, using a standard mesh of 4-inch by 4-inch, unless other screen sizes are approved by NMFS.
 - Dredging pumps will be disengaged by the operator when the dragheads are not firmly on the bottom.
 - A NMFS-approved observers will be aboard the dredge to monitor for entrainment of protected species.
 - All requirements specific to take, relocation trawling, stranding and reporting will be done in accordance with the NMFS GRBO.

4.22.1.2 Florida Manatee

To ensure the Corps contractor and their personnel are aware of the potential presence of the manatee in the project area, their threatened status, and the need for precautionary measures, the Corps contract specifications will include the Standard Manatee Conditions for In-Water Work (FFWCC 2011). These conditions are outlined in Items *a* through *f* below. The USFWS has concluded that if these conditions are met and the WWAA seasonal restriction is followed, dredging activities are not likely to adversely affect the Florida Manatee.

- a) All personnel associated with the project shall be instructed about the presence of manatees and manatee speed zones, and the need to avoid collisions with and injury to manatees. The permittee shall advise all construction personnel that there are civil and criminal penalties for harming, harassing, or killing manatees which are protected under the Marine Mammal Protection Act, the Endangered Species Act, and the Florida Manatee Sanctuary Act.
- b) All vessels associated with the project shall operate at "Idle Speed/No Wake" at all times while in the immediate area and while in water where the draft of the vessel provides less than a four-foot clearance from the bottom. All vessels will follow routes of deep water whenever possible.
- c) Siltation or turbidity barriers, if used, shall be made of material in which manatees cannot become entangled, shall be properly secured, and shall be regularly monitored to avoid manatee entanglement or entrapment. Barriers must not impede manatee movement.
- d) All on-site project personnel will be responsible for observing water-related activities for the presence of manatee(s). All in-water operations, including vessels, will be shut down if a manatee(s) comes within 50 feet of the operation. Activities will not resume until the manatee(s) has moved beyond the 50-foot radius of the project operation, or until 30 minutes elapses if the manatee(s) has not reappeared within 50 feet of the operation. Animals must not be herded away or harassed into leaving.
- e) Any collision with or injury to a manatee shall be reported immediately to the FFWCC Hotline at 1-888-404-3922. Collision and/or injury should also be reported to the Vero Beach (1-772-562-3909), and to FFWCC at ImperiledSpecies@myFWC.com
- f) Temporary signs concerning manatees shall be posted prior to and during all in-water project activities. All signs shall be removed by the Corps' contractor upon completion of the project. Temporary signs that have already been approved for this use by the FFWCC shall be used. One sign which reads *Caution Boaters – Watch for Manatees* will be posted. A second sign measuring at least 8 ½" by 11" explaining the requirements for "Idle Speed/No Wake" and the shutdown of in-water operations will be posted in a location prominently visible to all personnel engaged in water-related activities.

- g) Anclote River Cuts-3, 3A and 4 have recommended Seasonal Restrictions of no dredging between November 15 and March 31, associated with the Anclote Power Plant (Corps 2013b and Figure 3-2). The Corps will consult with the USFWS if this commitment cannot be met, prior to beginning work activities.

4.22.1.3 Smalltooth Sawfish

- a) The Corps and its Contractor will follow the most recent NMFS Sea Turtle and Smalltooth Sawfish Construction Conditions.
- b) Any collision with and/or injury to a smalltooth sawfish shall be reported immediately to the NMFS Protected Resources Division (727-824-5312), the FFWCC Hotline at 1-888-404-FWCC, and the USFWS in Vero Beach (1-772-562-3909).

4.22.1.4 Eastern Indigo Snake

- a) Surveys will be conducted at those parts of the upland staging area with the potential to support Eastern indigo snakes prior to dredged material staging activities.
- b) Should an Eastern indigo snake be encountered in the area of dredge related activities or at the upland staging site, the following actions will take place:
- Cease clearing activities and allow the live Eastern indigo snake sufficient time to move away from the site without interference.
 - Personnel must NOT attempt to touch or handle snake due to protected status.
 - Take photographs of the snake, if possible, for identification and documentation purposes.
 - Notification to the appropriate USFWS office and the FFWCC will occur providing the location and condition of the snake.
- c) If a dead Eastern indigo snake is encountered, the following action will take place:
- Clearing activities will cease, and notification will occur to the appropriate USFWS office and the FFWCC with the location and condition of the snake.
 - Photographs of the snake will be taken (if possible) for identification and documentation purposes.

- The dead snake will be soaked in water and frozen for retrieval by the appropriate wildlife agency.

4.22.1.5 Gopher Tortoise

- a) Surveys will be conducted at those parts of the upland staging area with the potential to support gopher tortoises prior to dredged material staging activities.
- b) Should gopher tortoise be encountered in the area of dredge related activities or at the upland staging site, work will stop immediately until the gopher tortoises can be relocated on- or off-site.

4.22.2 Essential Fish Habitat

- a) Seagrass is present near Cuts 3 and 4 of the Anclote River Channel (Section 3.4.1.1). The Corps will coordinate with the NMFS regarding protection of the seagrasses, and will conduct a post-construction survey.
- b) The Corps' contractor shall instruct all personnel associated with the project of the presence of seagrasses and the need to avoid contact with seagrasses.
- c) All construction personnel will be advised that there are civil and criminal penalties for harming or destroying seagrasses.
- d) The Corps' contractor will be advised not to anchor, place pipeline, or stage equipment in a manner that will cause damage to seagrasses or mangroves. Anchoring, placing pipeline, or staging equipment will avoid these sensitive areas.

4.22.3 Other Fish and Wildlife Resources

The Corps' contractor will be required to keep construction activities under surveillance, management, and control to minimize interference with, disturbance to, and damage of fish and wildlife.

4.22.4 Migratory Birds

The Corps' contractor will be informed that migratory birds are protected under the Migratory Bird Treaty Act, and that there are civil and criminal penalties for harming birds under the Act.

4.22.5 Water Quality

- a) The Corps' contractor will implement a spill prevention system and spill contingency plan for hazardous substances, toxic, or petroleum material(s).

- b) The Corps' contractor will be responsible for ensuring that its construction methods do not result in violations of water quality standards. The Corps' contractor will monitor background turbidity areas as well as turbidity at specific compliance points at the dredge location and the upland staging area. Should monitoring reveal turbidity levels above state standards, work will be suspended until turbidity levels return to levels that comply with state water quality standards. Turbidity barriers may also be utilized.

4.22.6 Cultural Resources

- a) Underwater vessels and/or anomalies will be avoided by maintaining a 300-foot buffer surrounding each resource. Any known historic, archaeological or other cultural resource within the Corps' contractor's work areas will be designated as "environmentally sensitive areas" on contract drawings or other documents. As these areas will be protected the relevant documents will be distributed only to contractor's staff with a "need to know."
- b) An "inadvertent discoveries" clause will be included in the Corps' construction contractor specifications. Anomalies of interest would be avoided or buffered, and additional surveys and/or monitoring may be required.

4.22.7 Air

- a) All work will be conducted in accordance with all federal emission and performance laws and standards, as applicable.
- b) The Corps' contractor will be required to control particulates (such as dust) such that any air pollution standards are not exceeded and so that the particulates do not cause a hazard or nuisance.

4.22.8 Noise

Local noise ordinances will be followed, as applicable, to reduce equipment noise. The Corps' contractor will be required to keep construction activities under surveillance and control to minimize damage to the environment by noise and will be required to include noise in its environmental monitoring plan. BMPs that may be used to reduce noise produced by equipment include:

- Using standard equipment with noise control devices (e.g., mufflers) that meet manufacturers' specifications;
- Using quiet equipment (i.e., equipment designed with noise control elements)
- Installing portable barriers to shield compressors and other small stationary equipment where necessary;

- Identify any noise-sensitive receptors, such as residential areas, churches, schools, recreation areas, etc., that might be disturbed by construction noise and notify them in advance of upcoming work; and
- Respond immediately to complaints raised by nearby residents.

4.22.9 Invasive Species

- a) The Corps' contractor will thoroughly clean equipment prior to and following work on the project site to ensure that items/materials including, but not limited to, soil, vegetative debris, eggs, mollusk larvae, seeds, and vegetative propagules are not transported from a previous work location to this project site, nor transported from this project site to another location. Prevention protocols require cleaning all equipment surfaces, including but not limited to, undercarriages, tires, and sheet metal. All equipment, including but not limited to, heavy equipment, vehicles, trailers, all-terrain vehicles, and chippers must be cleaned. Smaller equipment, including, but not limited to, chainsaws, loppers, shovels, and backpack sprayers, must be cleaned and inspected to ensure they are free of eggs, vegetative debris, vegetative propagules, etc. Prevention protocols should also address clothing and personal protective equipment.
- b) Prior to the commencement of work, the Corps' contractor shall complete and provide an invasive and nuisance species transfer prevention plan to the Corps for approval. This plan shall be part of the Environmental Protection Plan. The invasive and nuisance species transfer prevention plan shall identify specific transfer prevention procedures and designated cleaning sites/locations.

4.22.10 Environmental Protection Plan

The Corps contractor will prepare and implement an Environmental Protection Plan that will include the following:

- Summary of applicable environmental federal, state and local laws, regulations, and permits; procedures to assure compliance, and corrective actions.
- Methods for protecting resources, e.g., air and water quality, fish and wildlife, soil, cultural resources, vegetation.
- List of species that require specific attention along with measures for their protection.
- Permit or license for and location of the solid waste disposal area.
- Drawings showing locations of work areas and proposed activities, material storage areas, any proposed stream crossings, temporary roads, etc.
- Environmental monitoring plan for the job site, including land, water, air and noise.
- Traffic control plan and applicable permits.
- Methods of protecting surface and ground water during construction activities.

- A spill prevention plan that identifies all hazardous substances to be used on the job site, requirements for storage, labeling and disposal; and actions to prevent spills.
- A spill contingency plan for hazardous substances, toxic, or petroleum material(s).
- A Recycling and Waste Management Plan. This is in reference to non-hazardous substances, non-toxic or non-petroleum materials.
- Invasive and nuisance species transfer protection plan.

5 COMPLIANCE WITH ENVIRONMENTAL REQUIREMENTS

5.1 NATIONAL ENVIRONMENTAL POLICY ACT OF 1969 (42 U.S.C. §4321 TO §4335)

This EA and Proposed FONSI were prepared to document the effects of the proposed project, and will subject to public review and comment for a 30-day period. This public coordination and environmental assessment comply with NEPA.

5.2 ENDANGERED SPECIES ACT OF 1973 (16 U.S.C. §1531 TO §1544)

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 project falls under the scope of the NMFS November 19, 2003 GRBO, as amended in 2005 and 2007, for federally listed marine species. As such, no additional coordination is required with NMFS for these species. Consultation is ongoing with USFWS. The project is in full compliance with the Act.

5.3 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 as well as construction of the proposed staging area for dredged material placement shall be obtained from the FDEP. The Environmental Resource Permit for the proposed staging area shall be converted to an operational permit after the site is constructed.

5.4 CLEAN AIR ACT OF 1972, AS AMENDED (42 U.S.C. §7401 TO §7671Q)

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. Pinellas and Pasco Counties are not designated as nonattainment or maintenance areas 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).

5.5 COASTAL BARRIER RESOURCES ACT AND COASTAL BARRIER IMPROVEMENT ACT OF 1990 (16 U.S.C. §3501 TO §3510)

The CBRA and 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 is a CBRA unit west of the study area, which includes Anclote Key; this area is not affected by the proposed project. The proposed project does not include the construction of structures that would require Federal Flood Insurance in the area designated as an “otherwise protected area” pursuant to the CBIA; therefore, federal expenditures for the proposed project are not restricted in this area.

5.6 COASTAL ZONE MANAGEMENT ACT OF 1972 (16 U.S.C. §1451 TO §1466)

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. 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.

5.7 FISH AND WILDLIFE COORDINATION ACT OF 1958, AS AMENDED (16 U.S.C. §661 TO §666B)

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 wildlife resources and provide for any measures taken to mitigate such impacts. FWCA consultation for the proposed project is being coordinated with the USFWS concurrently with the ESA consultation. This project will be in full compliance with the FWCA.

5.8 MARINE MAMMAL PROTECTION ACT OF 1972 (16 U.S.C. §1361 TO §1423H)

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 and staging operations (see also Sections 4.2.2.2 and 4.3.2.1). Therefore, this project will be in compliance with the Act.

5.9 MAGNUSON-STEVENS FISHERY CONSERVATION AND MANAGEMENT ACT (16 U.S.C. §1801 TO §1891D)

The 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 initiates the Corps' consultation under the MSFCMA. The Corps will respond to any NMFS comments on this EA prior to finalizing the document, including the evaluation of the proposed project's effects on essential fish habitat (Section 4.4, Essential Fish Habitat). The project will be in compliance with the MSFCMA.

5.10 NATIONAL HISTORIC PRESERVATION ACT OF 1966 (INTER ALIA) (16 U.S.C. §461 TO §470X-6)

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 800, the proposed project is also in compliance through ongoing consultation 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 was initiated in a letter dated December 20, 2017 (Appendix D – Pertinent Correspondence). Consultation will be concluded prior to project implementation. The proposed project will be in compliance with the goals of the NHPA upon completion of coordination as stated above.

5.11 RIVERS AND HARBORS ACT OF 1899, AS AMENDED (33 U.S.C. §400 TO §467N)

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 section 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.

5.12 SUBMERGED LANDS ACT OF 1953 (43 U.S.C. §1301 TO §1356A)

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 (three marine leagues for Texas and Florida’s Gulf of Mexico coastlines). The project would occur on submerged lands of the State of Florida. The project will be coordinated with the State of Florida and will be in compliance with the Act.

5.13 ESTUARY PROTECTION ACT OF 1968 (16 U.S.C. §1221 TO §1226)

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. This project is consistent with the purposes of this Act.

5.14 WILD AND SCENIC RIVER ACT OF 1968 (16 U.S.C. §1271 TO §1287)

The Wild and Scenic River Act of 1969, 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.

5.15 ANADROMOUS FISH CONSERVATION ACT (16 U.S.C. §757A TO §757F)

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.

5.16 MARINE PROTECTION, RESEARCH, AND SANCTUARIES ACT (16 U.S.C. §1361 TO §1447F)

The Marine Protection, Research, and Sanctuaries Act (MPRSA), also referred to as the Ocean Dumping Act, generally prohibits transportation activities by U.S. agencies or U.S.-flagged vessels for the purpose of ocean dumping and dumping of material transported from outside the United States into the U.S. territorial sea. Therefore, the MPRSA does not apply to the proposed project. The placement activities addressed in this EA have been evaluated under Section 404 of the Clean Water Act (see Appendix A - Section 404(b) (1) Evaluation).

5.17 MIGRATORY BIRD TREATY ACT AND MIGRATORY BIRD CONSERVATION ACT (16 U.S.C. §703 TO §715S)

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.

Migratory birds would be minimally affected by dredging activities at the Anclote River Channel. Migratory songbirds may also be impacted during the construction of containment berms/dikes and placement of dredged material in the upland staging area. The Corps will include migratory bird protection measures in the project plans and specifications and will require the Contractor to abide by those requirements. The project will be in compliance with these Acts.

5.18 BALD AND GOLDEN EAGLE PROTECTION ACT, AS AMENDED (16 U.S.C. 668-668C)

The Bald and Golden Eagle Protection Act, enacted in 1940, and amended several times since then, prohibits anyone, without a permit issued by the Secretary of the Interior, from "taking" bald eagles, including their parts, nests, or eggs. The Act provides criminal penalties for persons who "take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle . . . [or any golden eagle], alive or dead, or any part, nest, or egg thereof." The Act defines "take" as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb." Foraging habitat for the bald eagle (*Haliaeetus leucocephalus*) is present within the study

area; however, there are no nests that would be affected by project activities. The project will be in full compliance with the Act.

5.19 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.

5.20 UNIFORM RELOCATION ASSISTANCE AND REAL PROPERTY ACQUISITION POLICIES ACT OF 1970 (42 U.S.C. §4601 TO §4655)

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. This project does not involve any real property acquisition or the displacement of property owners or tenants. Therefore, this Act is not applicable to this project.

5.21 E.O. 11990, PROTECTION OF WETLANDS

This Executive Order requires, among other things, that federal agencies avoid to the extent possible the long and short term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative. This project is in compliance with the goals of this Executive Order.

5.22 E.O. 11988, FLOOD PLAIN MANAGEMENT

To comply with Executive Order 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 EO 11988, Floodplain Management.

5.23 E.O. 12898, ENVIRONMENTAL JUSTICE

On February 11, 1994, the President of the United States issued Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*. The Executive Order mandates that each federal agency make environmental justice 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.

Any potential adverse effects of the proposed project would be more likely to temporarily affect those of higher socioeconomic status, such as large watercraft owners or those living in the coastal area surrounding the project. There are no disproportionate adverse effects to minority or low-income populations resulting from the implementation of the project. For the reasons stated above, the project is in compliance with EO 12898, Environmental Justice.

5.24 E.O. 13089, CORAL REEF PROTECTION

This Executive Order recognizes the significant ecological, social, and economic values provided by the Nation's coral reefs and the critical need to ensure that federal agencies are implementing their authorities to protect these valuable ecosystems. Per the Executive Order, "All federal agencies whose actions may affect U.S. coral reef ecosystems shall identify their actions that may affect U.S. coral reef ecosystems; (b) utilize their programs and authorities to protect and enhance the conditions of such ecosystems; and (c) to the extent permitted by law, ensure that any actions they authorize, fund, or carry out will not degrade the conditions of such ecosystems." There are no coral reefs within the project area; therefore, this Executive Order does not apply.

5.25 E.O. 13112, INVASIVE SPECIES

This Executive Order 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 EO 13112, Invasive Species.

5.26 E.O. 13186, MIGRATORY BIRDS

This Executive Order 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 are described in a section above on the MBTA. The Corps will include migratory bird protection measures in the project plans and specifications and will require the contractor to abide by those requirements. There are no Corps lands within the project area; therefore, this Executive Order does not apply.

6 LIST OF PREPARERS

6.1 PREPARERS

This Environmental Assessment was prepared by the following personnel:

Name	Specialty	Organization
Mary Hagerty	NEPA	Sustainment and Restoration Services (SRS)
Webb Smith	NEPA	The NDN Companies
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6.2 REVIEWERS

This Environmental Assessment was reviewed by the following personnel:

Name	Specialty	Organization
Paul Stodola	Biologist	Corps
Jason Spinning	Supervisory Biologist	Corps
Gina Paduano Ralph	Supervisory Biologist	Corps
Laurel P. Reichold	Project Manager	Corps
Philip Elson	Project Director	The NDN Companies
Steven Bartell	Biologist	SRS

7 PUBLIC INVOLVEMENT

7.1 SCOPING AND EA

A scoping letter dated January 12, 2018 was issued for this action and included a public scoping period that ended on February 16, 2018. The Corps held two scoping meetings to present information about and solicit public and agency comments on the proposed project. The first scoping meeting was held on January 24th, 2018 in Bradenton, Florida and the second meeting was held on January 25th, 2018 in Venice, Florida. Three (3) individuals attended the scoping meeting in Bradenton and thirteen (13) individuals attended the scoping meeting in Venice. Notices for the meetings were placed in local newspapers. Input received by the public and agencies during the scoping process helped inform the Corps on the various issues to be evaluated in this EA.

The EA and the Proposed FONSI will be made available to the public for a 30-day comment period. The scoping letter and Notice of Availability (NOA) of the EA and Proposed FONSI 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 summary of the parties who received copies of the scoping letter and NOA is included in Appendix C, Mailing List. A complete list of all addresses is on file at the Corps, Jacksonville District, and will be made available upon request.

7.2 COMMENTS RECEIVED AND RESPONSE

Comments received during the scoping period that are relevant to the Anclote River Channel dredging are included in Appendix D, Pertinent Correspondence. The Corps responses to comments received during the scoping period are provided below, and responses to comments received during the public comment period on the EA will be included here in the final document.

7.2.1 Public Scoping

The Corps received both oral and written comments during the scoping period. The USEPA, NMFS, USFWS, Sarasota Bay Watch, and a concerned member of the public submitted written comments, and the City of Venice provided oral comments. Comments from the concerned member of the public and the City of Venice are specific to the EA for Maintenance Dredging of the Gulf Intracoastal Waterway near Venice and the Venice Inlet and are included only that that EA. Comments from Sarasota Bay Watch are specific to the PEA and included only in that document.

The USEPA provided written comments regarding (1) the suitability of dredged material associated with the project for ocean disposal under the MPRSA 103 process, (2) beneficial use of dredged material for ecosystem restoration, and (3) the need for a robust cumulative impact analysis. Items (2) and (3) are relevant to this EA; Corps' responses are:

Item (2) – the Corps will continue to explore additional opportunities for beneficial use with the USEPA and other federal, state, and local agencies in the future.

Item (3) - The Corps considered the cumulative impact on a variety of resources in light of current, past, and reasonably foreseeable future dredging operations and other activities (see Section 4.16, Cumulative Impacts).

The NMFS provided written comments regarding (1) the presence of estuarine habitats in the study area that constitute EFH, and (2) the presence of federal threatened and endangered species in the study area. The Corps' responses to each of these comments is provided below:

Item (1) - In Section 3.4, Essential Fish Habitat and Section 4.4, Essential Fish Habitat Assessment, the Corps:

- Identifies and describes the types of EFH and federally-managed species within the study area,
- Analyzes the effects on these habitats and species as a result of periodic maintenance dredging activities and placement of dredged material, and
- Identifies management actions to minimize and/or avoid impacts to EFH and managed species.

Item (2) - In Sections 3.2 and 4.2, Threatened and Endangered Species, the Corps:

- Identifies and describes the types of federally listed threatened and endangered species and associated critical habitat located within the study area,
- Analyzes the effects on these species and habitats as a result of periodic maintenance dredging activities and placement of dredged material, and
- Identifies management actions to minimize and/or avoid impacts to these protected species.

The USFWS provided comments regarding (1) potential impacts to federal threatened and endangered species and critical habitat, and (3) project compliance with existing

programmatic biological opinions and other species-specific conditions. The Corps' responses to each of these comments with respect to this EA is provided below:

Item (1) - The Corps has evaluated the potential effects on federal threatened and endangered species, as a result of both dredging and staging. These evaluations can be found in Section 4.2 Threatened and Endangered Species and correspondence with USFWS (Appendix D).

Item (2) - The project would be implemented in compliance with the 2003 Gulf Regional Biological Opinion (GRBO) issued by NMFS (revised in 2005 and 2007). The project will adhere to all requirements outlined in the GRBO, will implement the NMFS Sea Turtle and Smalltooth Sawfish Construction Conditions during project construction, and will abide by the Standard Manatee Conditions for In-Water Work.

7.2.2 Environmental Assessment and Proposed FONSI

To be completed after the 30-day public comment period on the EA and Proposed FONSI.

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APPENDIX A - SECTION 404(B) EVALUATION

MAINTENANCE DREDGING ANCLOTE RIVER CHANNEL

PINELLAS AND PASCO COUNTIES, FLORIDA

SECTION 404(b) EVALUATION

I. PROJECT DESCRIPTION

Location

The project is located in a Pinellas and Pasco Counties and includes Cuts 3 through 14 and the turning basin of the 12-mile long Anclote River Channel.

General Description

The proposed work includes periodic maintenance dredging done by Corps to maintain authorized depths within Cuts 3 through 14 and the turning basin of the Anclote River Channel. The dredged material would be dewatered in a staging area, then either used for construction fill (when the material meets applicable criteria and there is an economical use), placed in a permitted/approved dredged material disposal area, or placed in a licensed municipal landfill.

Authority and Purpose

The Anclote River Channel was initially authorized by the Rivers and Harbors Act of 1927 (Public Law 69-560) in accordance with House Document No. 18, 63rd Congress. It was modified by the Rivers and Harbors Act of 1935 (Public Law 74-409) in accordance with Rivers and Harbors Committee Document No. 36, 73rd Congress, and the Rivers and Harbors Act of 1945 (Public Law 79-14), in accordance with House Document No. 243, 76th Congress. The authorizations direct the U.S. Army Corps of Engineers (Corps) to construct and maintain the 12-mile long, 100-ft wide channel to ensure safe and operable navigation to a depth of nine feet plus two feet of overdepth Mean Lower Low Water Level (MLLW) (Corps 2016a). The channel includes a turning basin at Tarpon Springs and extends from Tarpon Springs to the Gulf of Mexico.

The purpose of the project is to perform maintenance dredging within Cuts 3 through 14 and the turning basin of the Anclote River Channel. The need for the project is driven by the accumulation of sediment, commonly referred to as shoaling, which has restricted the width of portions of the channel and reduced the depth. Shoaling results from the natural, relatively slow processes of sediment movement along barrier islands and waterways such as rivers and natural channels resulting from tides, gravity, and wind. Shoaling can

also occur unpredictably and suddenly as a result of storms, especially hurricanes. The accumulation of sediment hinders safe and efficient vessel navigation. Thus, periodic maintenance dredging is required to remove the accumulated sediments and maintain the Anclote River Channel at its federally authorized depth and width.

General Description of Dredged or Fill Material

General Characteristics of Material

The fill material is predominantly silica sand with some sand-size shell fragments.

Quantity of Material

Based on past activity, 50K to 100K cy may be dredged every 10-20 years; however, dredging volumes and frequency may vary due to storm induced shoaling.

Source of Material

The dredge material will come from the Anclote River Channel, from Cuts 3 to 14 and the turning basin. For the 2019 event, the material will be dewatered in a staging area near the Anclote River. The dewatered material will be placed only in upland sites.

Description of the Proposed Discharge Site

Location and Size

Fill material will be placed only in upland sites. However, some inadvertent filling may occur incidental to the dredging activity in the immediate vicinity of the dredge.

Type of Site

Fill material will be placed only in upland sites, for construction fill, in existing approved/permitted dredge material management areas (DMMAAs), or in a licensed landfill.

Type of Habitat

Fill material will be placed only in upland sites.

Timing and Duration of Discharge

Dredging and placement timing and duration will vary depending on the extent of shoaling in the project area and the availability of project funds.

Description of Disposal Method

Material will be excavated using a hopper, bucket, clamshell, or cutter-suction dredge. The dredged material will generally be transported through pipelines in a slurry to the staging area.

II. FACTUAL DETERMINATION

Physical Substrate Determination

Substrate Elevation and Slope

Fill material will be placed only in upland areas.

Sediment Type

The sediment is predominantly silica sand with some sand-size shell fragments. Some sediment consists of silt, clay and silty sand.

Dredge/Fill Material Movement

Material will be contained during dewatering at the staging area. Final material disposition will be at upland sites.

Physical Effects on Benthos

Some benthic organisms may be buried by incidental filling in the immediate vicinity of the dredge. Most organisms in this environment are adapted for existence in areas of considerable substrate movement, and they will be able to burrow up through the fill material. Re-colonization would occur in most cases within one year following operations.

Water Circulation, Fluctuation and Salinity Determination

Water Column

Turbidity in the immediate vicinity of dredging operations would be temporarily elevated; however, the turbidity will have no long-term or significant effects, if any, on water column characteristics including salinity, water chemistry, clarity, color, odor, taste, dissolved gas levels, nutrients or eutrophication.

Current Patterns and Circulation

Currents in the project area are both tidal and riverine. Incidental fill resulting from dredging will have no effects on currents.

Normal Water Level Fluctuations and Salinity Gradients

Tides in the project area are semi-diurnal mixed. The project will have no adverse impact to tide characteristics and would not affect salinity gradients in the area.

Suspended Particulate/Turbidity Determinations

Expected Changes in Suspended Particulates and Turbidity Levels in the Vicinity of the Disposal Site

There will be a temporary increase in turbidity levels in the project area during dredging and activities. Turbidity will be temporary and localized, and no significant adverse effects are expected. State standards for turbidity will not be exceeded.

Effects on the Chemical and Physical Properties of the Water Column

(a) Light Penetration. Light penetration will decrease during dredging. This effect will be temporary and will have no adverse impact on the environment.

(b) Dissolved Oxygen. Dredging activities are not expected to affect dissolved oxygen levels. No anoxic layers of sediment would be exposed by dredging due to the low level of organic material in the dredged material.

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

(d) Aesthetics. Aesthetic quality will be temporarily reduced during the period when work is occurring.

Effects on Biota

(a) Primary Productivity and Photosynthesis. Any effects to primary productivity and photosynthesis resulting from dredging activities are expected to be minor and short-term.

(b) Suspension/Filter Feeders. Dredged material resuspended into the water column may contribute to the clogging of siphons of filter-feeders. This is expected to be a temporary condition. Because of high fecundity and turnover rates, rapid repopulation of these organisms is expected.

(c) Sight feeders. Elevated turbidity levels will have a short-term adverse impact on these organisms; however, these organisms are highly motile and are able to migrate into more favorable areas to fulfill their nutritional requirements.

Contaminant Determinations

Deposited dredged material is similar to the existing material in the surrounding areas and would not introduce, relocate, or increase contaminants in the nearshore waters.

Aquatic Ecosystem and Organism Determinations

Effects on Plankton

Decreased light transmission caused by suspended dredged material may have a temporary adverse effect on plankton; however, this effect is expected to be minor and temporary.

Effects on Benthos

Repopulation of benthic communities should occur within a year once operations have ceased because of their high fecundity and turnover rate.

Effects on Nekton

Direct impacts to motile organisms would be minor because of their ability to avoid adverse conditions.

Effects on Aquatic Food Web

No long-term adverse impacts to higher trophic level organisms are expected. No overall adverse effect on the food web is anticipated.

Effects on Special Aquatic Sites

(a) Sanctuaries and Refuges. Much of the Anclote River Channel is within the Pinellas County Aquatic Preserve, which is designated as Outstanding Florida Waters (OFW) by the State. While the channel itself is excluded from the OFW designation, the more stringent state water quality standards established for the OFWs will require stricter controls and monitoring for dredging. No adverse effects on the designated OFW site are expected.

(b) Wetlands. Mangrove wetlands exist near the project area, but periodic maintenance dredging activities will not directly impact the trees or their prop roots. There would not be any violations of any applicable State Water Quality Standards for Class III waters.

(c) Mudflats. There are tidal mudflats within the study area; however periodic maintenance dredging will not directly impact these features as they do not exist within or adjacent to the project area.

(d) Vegetated Shallows. Submerged aquatic vegetation (seagrass beds) are adjacent to the Anclote River Channel. Mitigation will be provided for any direct impacts to seagrasses. Turbidity will be temporary and localized, and no significant adverse effects are expected. State standards for turbidity will not be exceeded

(e) Coral Reefs. There are no coral reefs in or immediately adjacent to the project area.

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

Endangered and Threatened Species

The project would be implemented in compliance with the Gulf Regional Biological Opinion (GRBO) issued by the National Marine Fisheries Service (NMFS). The project will adhere to all requirements outlined in the GRBO, will implement the NMFS Sea Turtle and Smalltooth Sawfish Construction Conditions during project construction, as applicable, and will abide by the 2011 Standard Manatee Conditions for In-Water Work. Standard safeguards would be implemented during operations to assure no adverse impacts from the project. There will be no adverse effect to designated critical habitat for any threatened or endangered species.

7) Other Wildlife

Dredging activities are not expected to have a long-term adverse impact on wading birds or terrestrial foraging animals. These organisms are highly motile and actively seek favorable environmental conditions for foraging and resting.

Proposed Disposal Site Determinations

Mixing Zone Determination

Dredged material will not cause unacceptable changes in the mixing zone specified in the Water Quality Certificate in relation to depth, current velocity, direction and variability, degree of turbulence, stratification, or ambient concentrations of constituents.

Determination of Compliance with Applicable Water Quality Standards

The project will comply with applicable state water quality standards, which allow for a mixing zone.

Potential Effects on Human Use Characteristics

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

(b) Recreational and Commercial Fisheries. Recreational and commercial fisheries may be temporarily impacted by the dredging of material, but these effects should be minor. Finfish are highly motile animals and are well-equipped to seek favorable conditions elsewhere. No long-term effects are anticipated.

(c) Water Related Recreation. Water related recreation will be temporarily impacted during construction; however, it will be preserved and enhanced through the maintenance of safe depths for navigation.

(d) Aesthetics. A temporary decrease in aesthetics will occur with the presence of equipment needed for carrying out the operations.

(e) Parks, National and Historic Monuments, National Seashores Wilderness Areas, Research Sites, and Similar Preserves. OFW sites are discussed in Section 5a above. No other parks, preserves, etc., will be affected by the project.

Determination of Cumulative Effects on the Aquatic Ecosystem

The project would have no incremental impacts that, when considered with past, present, and reasonably foreseeable future projects, would result in major cumulative impairment of water resources or interfere with the productivity and water quality of the existing aquatic ecosystem.

Determination of Secondary Effects on the Aquatic Ecosystem.

No secondary effects are anticipated.

III. FINDINGS OF COMPLIANCE OR NON-COMPLIANCE WITH THE RESTRICTIONS ON DISCHARGE

- A. No significant adaptations of the Section 404(B) (I) guidelines were made relative to this evaluation.
- B. Upland placement of dredged material is a practicable alternative.
- C. 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 disposal of dredged material at any placement areas evaluated (staging area, construction, DMMA, landfill) 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. The project will not degrade waters of the United States. The placement of fill material will not result in significant adverse effects on human health and welfare, including municipal and private water supplies, recreational and commercial fishing, plankton, fish, shellfish, wildlife, and special aquatic sites. The project will not result in significant

adverse effects on life stages of aquatic species and other wildlife, aquatic ecosystem diversity, productivity and stability, and recreational, aesthetic, and economic values.

- F. The composition of the dredged material would not contribute organics or pollutants to the aquatic environment. The earthmoving equipment is not expected to operate in the water (below mean low water) to minimize the potential adverse impact of hydrocarbon release into the water. All responsible precautions will be taken to prevent hazardous materials discharge from any and all activity or equipment.
- G. On the basis of the guidelines, the proposed placement site for the discharge of dredged material is specified as complying with the requirement of these guidelines with the inclusion of appropriate and practical conditions to minimize pollution.

**APPENDIX B – COASTAL ZONE MANAGEMENT
CONSISTENCY DETERMINATION**

FLORIDA COASTAL ZONE MANAGEMENT PROGRAM FEDERAL CONSISTENCY EVALUATION PROCEDURES

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: 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.

These chapters establish the State Comprehensive Plan, which sets goals that articulate a strategic vision of the State's future. Its purpose is to define, in a broad sense, goals, and policies that provide decision-makers directions for the future and provide long-range guidance for an orderly social, economic, and physical growth.

Response: The proposed project will be coordinated with various federal, state, and local agencies during the planning process. The project meets the primary goal of the State Comprehensive Plan.

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 involves periodic maintenance dredging of the Anclote River Channel in order to maintain safe and efficient navigation; therefore, it would be consistent with the efforts of Division of Emergency Management.

4. Chapter 253, Florida Statutes (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 would comply with the intent of this chapter.

5. 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.

6. Chapter 258, Florida Statute (2018) State Parks and Preserves.

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

Response: The proposed project will comply with the water quality standards for aquatic preserves and estuarine systems designated as Outstanding Florida Waters by the State.

7. Chapter 267, Florida Statute (2018) Historical Resources.

This chapter establishes the procedures for implementing the Florida Historic Resources Act responsibilities.

Response: The proposed project has been coordinated with the Florida State Historic Preservation Officer. Historic preservation compliance will be completed to meet all responsibilities under Chapter 267.

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, Florida Statute (2018) Public Transportation.

These chapters authorize the planning and development of a safe, balanced, and efficient transportation system.

Response: The proposed periodic maintenance dredging will promote commercial and recreational navigation within the area; therefore, the proposed project is consistent with the goals of this chapter. There will be no adverse effects to public transportation systems associated with this action.

10. Chapter 379 Florida Statutes, 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 periodic maintenance dredging and placement operations 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.

11. 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. Dredging and staging operations may temporarily adversely affect wildlife, but these areas should be recolonized between dredging and staging events.

12. 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.

13. Chapter 376, Florida Statute (2018) Pollutant Discharge Prevention and Removal.

This chapter regulates the transfer, storage, and transportation of pollutants and the cleanup of pollutant discharges.

Response: The contract specifications will prohibit the Corps and/or its contractor from dumping oil, fuel, or hazardous wastes in the work area and will require the adoption of safe and sanitary measures for the recycling or disposal of solid wastes. A spill prevention plan will be required. The proposed project is consistent with the intent of this chapter.

14. 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: The proposed project does not involve the exploration, drilling, or production of oil, gas, or other petroleum product; therefore, this chapter is not applicable to the proposed project.

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.

Response: The proposed project will not have any regional impact on resources in the area; therefore, it is consistent with the goals of this chapter.

16. Chapter 388, Florida Statutes (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 will not further the propagation of mosquitoes or other pest arthropods; therefore, it is consistent with the goals of this chapter.

17. Chapter 403, Florida Statutes (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 will be 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 Statutes (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 – MAILING LIST

ENVIRONMENTAL ASSESSMENT MAINTENANCE DREDGING OF THE ANCLOTE RIVER CHANNEL, FLORIDA

Mailing List

(Sent by email or hard copy as appropriate.)

I. Federal Representatives and Agencies

US Senate

- Honorable Bill Nelson
- Honorable Marco Rubio

US House of Representatives

- Honorable Gus Bilirakis – District 12

Advisory Council of Historic Preservation

- Executive Director

Bureau of Indian Affairs

- Eastern Regional Office

Federal Emergency Management Administration

- Regional Director – Insurance and Mitigation Division
- Environmental Officer – Region 4

Gulf of Mexico Fishery Management Council

- Chairperson

National Park Service

- Superintendent's Office – Canaveral National Seashore

NOAA/NMFS

- Protected Resource Division – Southeast Regional Office
- Ken Hollingshead – Marine Mammal Conservation Division
- David Bernhart – PRD
- Pace Wilber – Atlantic Branch Supervisor, HCD
- Miles Croom – Deputy Regional Administrator
- Steve Kokkinakis – Office of Strategic Planning

- Chief Protected Species Branch – Southeast Regional Office
- Chief Habitat Conservation Division – Southeast Regional Office
- Andy Strelcheck – Deputy Regional Administrator, Habitat Conservation Division
- Director – Southeast Fisheries Center
- David Keys – Southeast Region NEPA Coordinator
- Director of Ocean Chemistry Division – Atlantic Oceanographic and Meteorological Laboratory of NOAA
- Office of Constituent Services – NMFS Recreational Fisheries Branch
- Mark Sramek – Habitat Conservation Division, Southeast Regional Office
- Mark Thompson – Habitat Conservation Division

SEC Federal Energy Road Committee

SEC Federal Maritime Commission

- Bryant L. Vanbrakle

US Coast Guard

- Headquarter Office of Waterways Management – Oceans and Transportation Branch
- Seventh Coast Guard District
 - Rear Admiral Robert S. Branham – Commander
- St. Petersburg Sector
 - CWO3 Anthony R. Scullo

US Department of Agriculture

- Jeffrey Schmidt – Natural Resources Conservation Service
- Maritime Office – Riviera Beach
- State Conservationist – Natural Resources Conservation Service
- Director – NRCS

US Department of Commerce

- Wilbur Ross – Secretary of Commerce
- Nancy Sutley

US Department of Housing and Urban Development

- Regional Environmental Clearance Officer
- US Department of Housing and Urban Development – Atlanta

US Department of the Interior

- Loretta Sutton – Office of Environmental Policy and Compliance

US Environmental Protection Agency

- Region 4 Water Management Division
- Environmental & Compliance Department
- Richard Harvey – South Florida Office
- Paul Gagliano – Region 4
- Christopher Militscher
- Office of Environmental Policy & Compliance – Atlanta Region

US Fish and Wildlife Service

- Larry Williams – Program Supervisor of Florida, Ecological Services Program
- Rafael Gonzalez – Chief of Staff for Florida, Ecological Services Program
- Jay Herrington – Field Supervisor, North Florida Ecological Services Office
- Project Consultation Biologist – Tampa Area

US Forest Service

- Southern Region Forester

II. State Representatives and Agencies

Office of the Governor

- Governor Rick Scott

Florida Senate

- Honorable Jack Ed Hooper – District 16

Florida House of Representatives

- Honorable Amber Mariano – District 36
- Honorable Chris Sprows – District 65

Florida Department of Agriculture and Consumer Services

Florida Department of Environmental Protection

- Noah Valenstein – Secretary
- Chris Stahl – State Clearinghouse
- Florida Coastal Office
 - Ann Lazar – Coastal and Estuarine Land Conservation Program
 - Director - Division of State Lands, Bureau of Survey and Mapping
- Division of State Lands – Director

Florida Department of Transportation

- David Gwyn – District 7 – District Secretary

Florida Fish and Wildlife Conservation Commission

- Thomas Graef – Director, Southwest Region
- Nancy Douglass – Migratory Bird Coordinator
- Office of Environmental Services
 - Bradley J. Hartman – Director
 - Robbin N. Trindell
- Lisa Gregg – Division of Fisheries Management

State Historic Preservation Office

- Timothy Parsons – Director, Division of Historical Resources

Southwest Florida Regional Planning Council

Southwest Florida Water Management District

- Executive Director
- Tampa Service Office
- Ross Martin - Ombudsman

III. City/County Representatives and Agencies

County Commissioners – Pasco County

- Commissioner Ron Oakley – District 1
- Commissioner Mike Moore – District 2
- Commissioner Kathryn Starkey – District 3
- Commissioner Mike Wells – District 4
- Commissioner Jack Mariano – District 5

County Commissioners – Pinellas County

- Commissioner Janet Long – District 1
- Commissioner Pat Gerard – District 2
- Commissioner Charlie Justice – District 3
- Commissioner Dave Eggers – District 4
- Commissioner Karen Williams Seel – District 5
- Commissioner Kathleen Peters – District 6
- Commissioner Kenneth Welch – District 7

Pinellas County Planning Department

Pinellas County Government

- Dan Biles – County Administrator
- Andy Squires, Coastal Manager, Environment and Infrastructure

IV. Tribal Nations

Alabama Quassarte Tribal Town

- Augustine Asbury – Cultural Preservation Specialist

Kialegee Tribal Town

- Marsey Harjo – NAGPRA Representative
- Henry Harjo – Director Environmental Protection Agency

Council of Original Miccosukee Simanolee Nation Aboriginal People

- Bobby C. Billie

Miccosukee Tribe of Indians

- Craig van der Heiden – Fish and Wildlife
- Kevin Donaldson – Real Estate Services Director

- Fred Dayhoff – NAGPRA Representative
- Gene Duncan – Water Resources Director

Muscogee (Creek) Nation

- Corain Lowe-Zepeda – Tribal Historic Preservation Officer
- James Williams – Environmental Services Manager

Poarch Creek Indians

- Board of Tribal Historic Preservation Officer
- Kristi Weatherford – Environmental Director

Seminole Nation of Oklahoma

- Jennifer Johnson
- Theodore Isham – Tribal Historic Preservation Officer
- Mickey Douglas – Environmental Services Director

Seminole Tribe of Florida

- Dr. Paul Backhouse – Tribal Historic Preservation Officer
- Cherise Maples – Director of Environmental Resources

Thlopthlocco Tribal Town

- Mr. Terry Clouthier - Tribal Historic Preservation Officer

V. Non-Governmental Organizations

Audubon Society

- Audubon Florida

Conservation Foundation of the Gulf Coast

- Debi Osbourne

Defenders of Wildlife

- Florida Program Director

Ducks Unlimited

- Chuck Bohac – State Chairman

Environmental Confederation of Southwest Florida

- Allain Hale – EAC Primary

Environmental Defense Fund

- Director – Southeast Office

Florida Defenders of the Environment

Florida Wildlife Federation

- Manley K. Fuller – President

National Wildlife Federation

- John Hammond

National Resources Defense Council

- Michael Harty

Save the Manatee Club

- Dr. Katie Tripp – Director of Science and Conservation

Science and Environmental Council of SW Florida

- Executive Director

Sea Turtle Conservancy

Sierra Club

- Florida Chapter
 - Mark Walters – Chair

The Nature Conservancy

- Florida Chapter
 - Robert Dendick

The Ocean Conservancy

- South Atlantic Regional Office
 - David White

APPENDIX D – PERTINENT CORRESPONDENCE