May 2026

ENVIRONMENTAL ASSESSMENT

Anclote River, Florida Project and Gulf Intracoastal Waterway (GIWW) Cut P-41

Pinellas & Pasco Counties

MAINTENANCE DREDGING AND DREDGED MATERIAL PLACEMENT

NEPA ID: EAXX-202-00-K3P-1765294248

U.S. Army Corps of Engineers
JACKSONVILLE DISTRICT

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, JACKSONVILLE DISTRICT
701 SAN MARCO BOULEVARD
JACKSONVILLE, FLORIDA 32207

DRAFT FINDING OF NO SIGNIFICANT IMPACT

Anclote River, Florida Project and Gulf Intracoastal Waterway (GIWW) Cut P-41
Pinellas & Pasco Counties
NEPA ID: EAXX-202-00-K3P-1765294248

The U.S. Army Corps of Engineers, Jacksonville District (Corps) has conducted an environmental analysis in accordance with the National Environmental Policy Act (NEPA) of 1969, as amended. The draft Environmental Assessment (EA) dated May 2026, for the Anclote River, Florida project addresses shoaling in Anclote Key hindering safe and efficient vessel navigation within Pasco and Pinellas Counties, Florida. The final recommendation will be contained in the final EA. The U.S. Army Corps of Engineers, Jacksonville District (Corps) has conducted an environmental analysis in accordance with the National Environmental Policy Act (NEPA) of 1969, as amended. The draft Environmental Assessment (EA) dated May 2026, for the Anclote River, Florida project addresses shoaling in Anclote Key hindering safe and efficient vessel navigation within Pasco and Pinellas Counties, Florida. The final recommendation will be contained in the final EA

The Anclote River, Florida Project and GIWW (Gulf Intracoastal Waterway) EA evaluates various alternatives and the environmental effects of the Maintenance Dredging of the channel and GIWW, and additional placement options. Alternative 2A (Maintenance Dredging of Anclote Federal Channel & GIWW Cut P-41), 3C (In- water placement in the channel), and 3D (In-water placement Three Rookers) are carried forward as the Preferred Alternative as these alternatives best meet the objectives for the federal project for navigation and anticipated need for current and future maintenance events However, if Cut 2A becomes authorized Alternative 2B will be the Preferred Maintenance Dredging Alternative, adding Cut 2B to the authorized maintenance dredging.

a. Maintenance dredging of Cuts 1-14, the turning basin, and the GIWW Cut P-41 would occur on an as needed basis. The authorized depth of the channel is 9 feet (ft) plus 2 ft of allowable overdepth and 100 ft wide.
b. Material placement options include in-water placement, within portions of the channel and Three Rookers Island. Placement options would be selected based on project construction needs (ex. permitting, etc.) and capacity of the placement area.
    - There are three locations within the channel with capacity for placement, where up to 45,000 cubic yards (CY) of material could be placed to -10 ft mean lower low water (MLLW). The placement footprint is approximately 636,000 sq ft or 14.6 acres.
    - Three Rookers Island placement is 2,500 ft by 1,500 ft. There is capacity for 95,000 CY of material that can be placed up to -8 ft MLLW, which would be considered beneficial use to provide a barrier for incoming energy.

In addition to a "no action" plan, five alternatives were evaluated. The alternatives included Maintenance Dredging alternatives (Alternatives 2A and 2B) and three placement alternatives 3B through 3D (beach placement, in-water placement within the channel and in-water placement at Three Rookers Island).

For all alternatives, the potential effects were evaluated, as appropriate. A summary assessment of the potential effects of the preferred alternative is listed in Table 1:

Table 1: Summary of Potential Effects of the Preferred Alternative

	Insignificant effects	Insignificant effects as a result of mitigation	Resource unaffected by action
Threatened/Endangered species/critical habitat	☒	☐	☐
Essential Fish Habitat	☐	☒	☐
Fish and wildlife habitat	☐	☒	☐
Recreational Resources	☒	☐	☐
Navigation and Safety	☒	☐	☐
Parks and Other Protected Areas	☒	☐	☐
Noise levels	☒	☐	☐
Water quality	☒	☐	☐
Air quality	☒	☐	☐
Sediment Characteristics	☒	☐	☐
Geomorphology	☒	☐	☐
Tribal Nations	☐	☐	☒
Cultural Resources	☒	☐	☐
Socioeconomics	☒	☐	☐

All practicable and appropriate means to avoid or minimize adverse environmental effects were analyzed and incorporated into the preferred alternative. Best management practices (BMPs), as detailed in the EA, will be implemented, if appropriate, to minimize impacts. Minimization measures include T&E species protection criteria, application of the USFWS 2011 Standard Manatee Conditions for in water work, and NMFS' standard species conditions. This project will meet all water quality standards as prescribed by Chapter 62-302, Florida Administrative Code, Department of Environmental Protection (FDEP).

Compensatory mitigation of seagrass is expected for patchy (<0.05% coverage) seagrass found within the 8.57 acres of Cut 1. The Corps estimates that mitigation needed for Cut 1 would be around .43 acres. A seagrass mitigation plan is being coordinated with FDEP and NMFS. Pre- and post-construction seagrass surveys will be completed to help determine the total impact from the project. The mitigation plan continues to be developed, a draft plan can be found in Appendix G.

The draft EA and proposed FONSI will be made available to the public at the following website for a 30-calendar day public and agency review period: https://www.saj.usace.army.mil/About/DivisionsOffices/Planning/Environmental-Branch/Environmental-Documents/ (Click "+ Pinellas" and scroll down to the project name). Comments submitted during the public review period will be incorporated into the final NEPA document.

Pursuant to Section 7 of the Endangered Species Act of 1973, as amended, the Corps determined that the Preferred Alternative may affect but is not likely to adversely affect the following federally listed species: piping plover, rufa red knot, swimming sea turtles (green sea turtle, hawksbill sea turtle, loggerhead sea turtle, Kemp's ridley's sea turtle, and leatherback sea turtle), smalltooth sawfish, Gulf sturgeon, Giant manta ray and Florida manatees. Consultation with the U.S. Fish and Wildlife Service (USFWS) will be conducted concurrently with the release of the draft EA (see Appendix B). The Corps had determined that the project can apply the 2013 USFWS Piping Plover Programmatic Biological Opinion and the 2026 National Marine Fisheries Service Gulf Regional Biological Opinion (GRBO). Additional details on environmental compliance with the ESA can be found in Section 6 of the EA. Pertinent correspondence is included in Appendix A and environmental consultations are included in Appendix B.

Pursuant to the Magnusson-Stevens Fishery Conservation and Management Act of 1976, as amended, the project's Essential Fish Habitat (EFH) Assessment is integrated in this EA consistent with the guidance provided by the NMFS Southeast Regional Office to the Corps regarding coordination of EFH consultation requirements with NEPA. EFH coordination will be conducted with the release of the draft EA. Pertinent correspondence is included in Appendix A.

Pursuant to section 106 of the National Historic Preservation Act of 1966, as amended, the Corps determined that historic properties would not be adversely affected by the recommended plan, provided avoidance areas are maintained. The Corps consulted with the Florida State Historic Preservation Officer (SHPO) and federally recognized tribes (the Seminole Tribe of Florida, the Miccosukee Tribe of Indians, the Seminole Nation of Oklahoma, the Muscogee Nation, and the Thlopthlocco Tribal Town). In a letter dated February 23, 2026, the SHPO concurred with the Corps' determination that historic properties would not be adversely affected by the recommended plan.

Pursuant to the Clean Water Act of 1972, as amended, the discharge of dredged or fill material associated with the recommended plan is compliant with section 404(b)(1) Guidelines (40 CFR 230). The Clean Water Act Section 404(b)(1) Guidelines evaluation is found Appendix D of the EA.

A water quality certification pursuant to Section 401 of the Clean Water Act will be obtained from the Florida Department of Environmental Protection (FDEP). All conditions of the water quality certification will be implemented to minimize adverse impacts to water quality.

A determination of consistency with the Florida Coastal Management Program, pursuant to the Coastal Zone Management Act of 1972, will be obtained from the FDEP, Florida Coastal Management Program prior to construction. Review of the Federal Consistency Determination (FCD) will be initiated with the release of this draft EA. All conditions of the consistency determination will be implemented to minimize adverse impacts to the coastal zone. A copy of the FCD and pertinent correspondence is included in Appendix B.

I certify that the resulting EA represents the following: the Corps good-faith effort to prioritize documentation of the most important considerations and factors required by NEPA within the congressionally mandated page limits and timeline; that this prioritization reflects the Corps expert judgment; the document is substantially complete; that any considerations addressed briefly or left unaddressed were, in the Corps' judgment, comparatively not of a substantive nature that meaningfully informed the consideration of environmental effects and the resulting decision on how to proceed; and that in the Corps judgment the analysis contained therein is adequate to inform and reasonably explain the Corps final decision regarding the proposed federal action.

All applicable laws, executive orders, regulations, and local government plans were considered in evaluation of alternatives. Public comments and responses are included in the draft EA. Based on this assessment, the reviews by other Federal agencies, Tribal Nations, State and local agencies, input of the public, and the review by my staff, it is my determination that the Preferred Alternative would not significantly affect the quality of the human environment; therefore, preparation of an Environmental Impact Statement is not required.

_____
Date

_____
Brandon L. Bowman
Colonel, EN, U.S. Army
Corps of Engineers
District Commander

DRAFT ENVIRONMENTAL ASSESSMENT
Anclote River, Florida Project, Pinellas & Pasco County, FL and Gulf Intracoastal Waterway (GIWW) Cut P-41 Maintenance Dredging, and Dredged Material Placement

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1 INTRODUCTION

1.1 INTRODUCTION

The purpose of this Environmental Assessment (EA) is for the U.S. Army Corps of Engineers, Jacksonville District (Corps) to analyze potential effects of proposed actions for the Anclote River, Florida Project and the adjacent section of the Gulf Intracoastal Waterway (GIWW) Cut P-41 (Station 266+00 to Station 349+61; Figure 1-2). The proposed actions to be evaluated are maintenance dredging within the federal channels and options for dredged material placement. The non-federal sponsor for the Anclote River, Florida Project is the City of Tarpon Springs and Pinellas County is the non-federal sponsor for the GIWW Cut P-41.

1.2 PROJECT AUTHORITY

The Anclote River, Florida Project was authorized by the Rivers and Harbors Appropriation Act of 1899, with modifications in the River and Harbor Act of January 21, 1927 (Public Law 69-560), the Rivers and Harbors Act of 1935 (Public Law 74-409) and the River and Harbor Act of 1945 (Public Law 79-14). The authorized project is a channel 9.1-miles long, 100-feet wide, and nine-feet deep with eleven wideners and a turning basin. There are two (2) feet of allowable overdepth.

The GIWW extends from the Caloosahatchee River to the Anclote River and was authorized by Chapter 19, Section 2 of the Rivers and Harbors Act of 1945 (Public Law 79-14) in accordance with House Document Number 371, 76th Congress, with route modifications authorized by the Rivers and Harbors Acts of 1948 (Public Law 80-858), 1950 (Public Law 81-516) and 1954 (Public Law 83-780). The authorization directed the Corps to construct and maintain 160 miles of Intracoastal Waterway to ensure safe and operable navigation to a depth of nine feet plus two feet of overdepth MLLW; the width is 100 feet. Construction began in 1960 and was completed in 1967.

1.3 PROJECT LOCATION

The Anclote River, Florida Project is located in the Anclote River on the west coast of Florida in Pinellas and Pasco Counties, approximately 20 miles north of Tampa (Figure 1-1). Beginning in the Tarpon Springs turning basin, the federal channel runs along the Anclote River, through Saint Joseph Sound where it meets the GIWW Cut P-41, the remainder of the channel extends from the GIWW and empties into the Gulf of America (Gulf; Figure 1-2). The portion of Cut P-41 that is the subject of this EA is from Station 266+00 to Station 349+61 and is in Pinellas County.

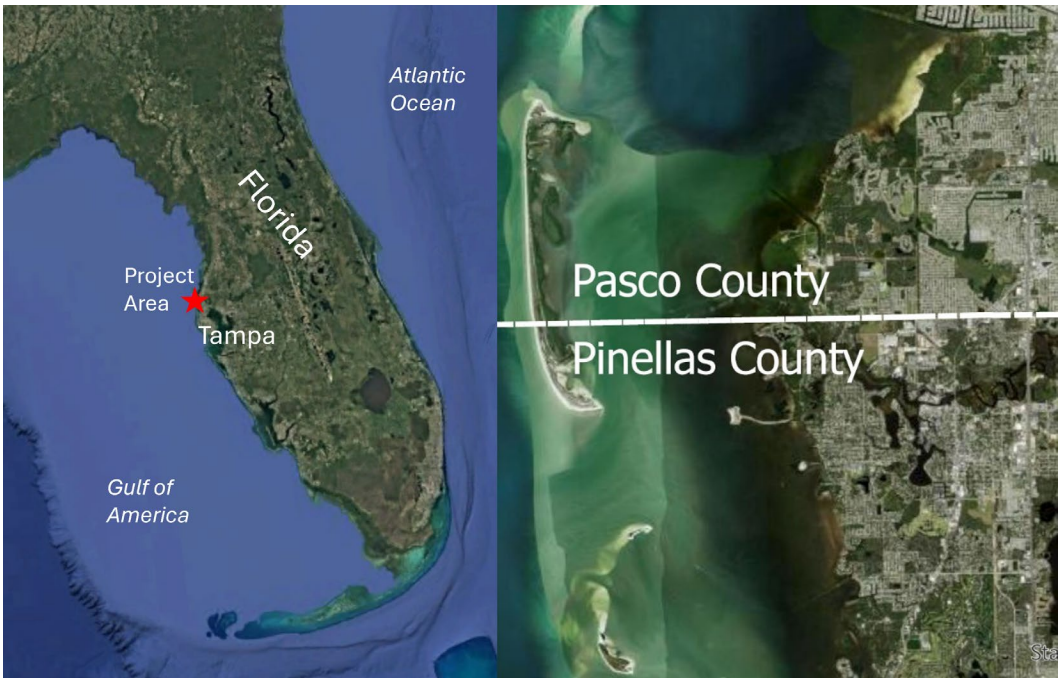

Figure 1-1. Map (left) displays the project area (red star) within the state of Florida. Map (right) is a zoomed in image of the project area showing where the county line is split.

Figure 1-2. Map of the current Anclote River, Florida project (white), and the GIWW Cut P-41 (blue). The area of the GIWW that intersects with the Anclote River federal channel Cut 1A and then meets Cut 2 of the is Station 266+00 to 349+61. The inset displays where the project is within the State of Florida (red star).

1.4 PROJECT BACKGROUND AND HISTORY

Initial construction of the Anclote River, Florida Project started in 1899, and channel construction continued from 1935 through 1945. The turning basin was constructed in in 1927. In 1958, the turning basin was constructed to its current limits.

Federal maintenance dredging of the inner channel (Cuts 3-14 and the turning basin) has occurred five times since initial construction—in 1948, 1969, 1973, 1999, and 2023. Initially, side-cast dredging was use, but in 1999 and 2023, material was placed within the upland dredged material management area (DMMA). In 2024, the City of Tarpon Springs obtained a permit under Section 404 of the Clean Water Act and permission under 33 U.S.C. Section 408 to conduct focused dredging in Cuts 3-14 and the turning basin.

Due to the migration of Anclote Key into Cut 2 of the federal channel (Figure 1-3), the Corps considered a realignment of the federal channel that would save maintenance dredging costs. In 2023, the District Commander approved realignment Cut 2 and extended Cut 1 to intersect with the GIWW Cut P-41(Figure 1-4). The extension changed the distance of the federal channel from 9.1 miles to 10.1 miles. The realignment included a widener at the intersection of the extended Cut 1 and Cut P-41. No dredging was needed for the realignment.

Maintenance dredging of Cuts 1, 2 and the adjacent GIWW Cut P-41 has not occurred since initial construction, and environmental compliance with the National Environmental Policy Act (NEPA) and other environmental laws for maintenance dredging has not previously been completed.

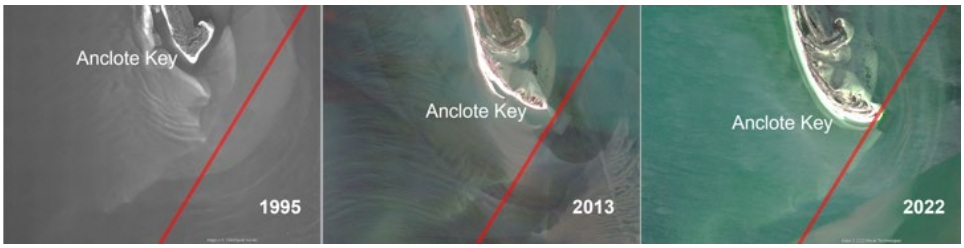

Figure 1-3. Maps of Anclote Key and the federal channel from 1995, 2013, and 2022 showing the migration of Anclote Key across the federal channel (original Cut 2) and the need for the 2023 realignment.

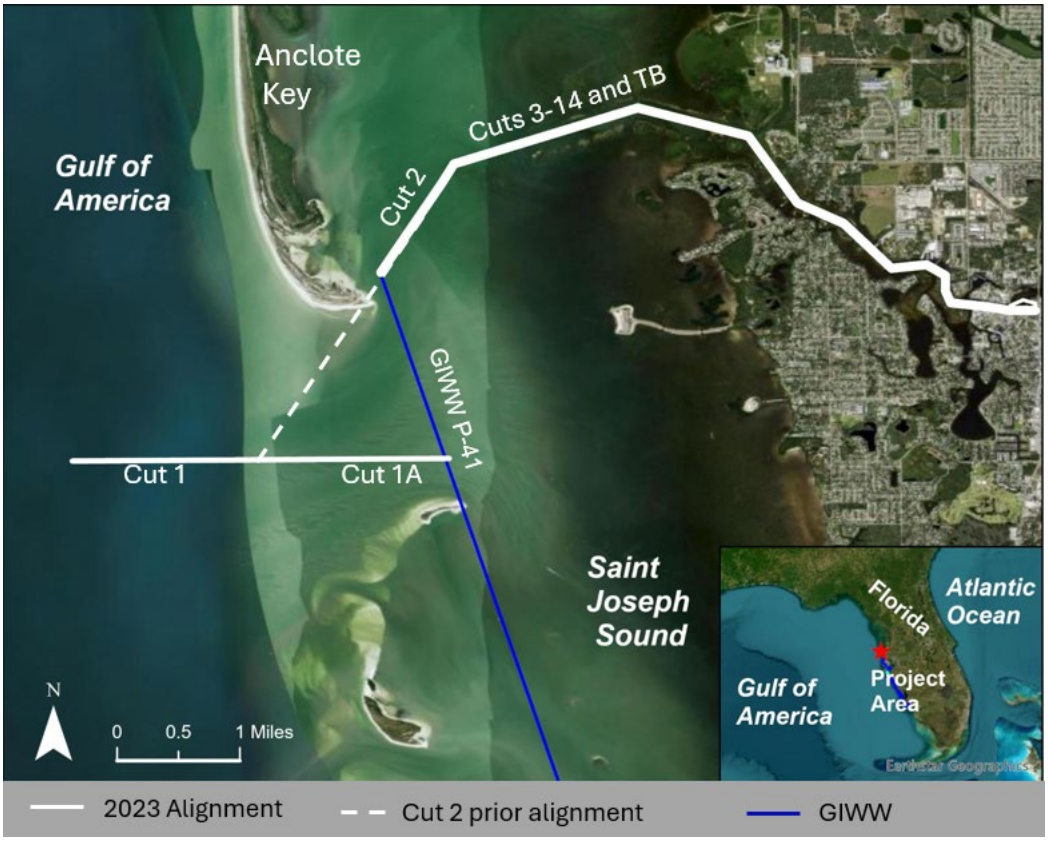

Figure 1-4. Map showing the current alignment (solid white line) of the Anclote River federal channel, the prior alignment of Cut 2 prior to 2023 (dashed white), and GIWW Cut P-41 (blue).

1.4.1 RELATED ENVIRONMENTAL DOCUMENTS

The related NEPA document for the maintenance dredging of the Anclote River federal channel (Cuts 3 to 14 and the turning basin) includes the following, which is available for download at the Corps' environmental documents website:

- *EA Maintenance Dredging of the Anclote River Channel; Pinellas and Pasco Counties, Florida FONSI signed on 25 November 2019.*[1]

[1] The Corps' environmental website can be accessed at https://www.saj.usace.army.mil/About/Divisions-Offices/Planning/Environmental-Branch/Environmental-Documents/. (Click "+ Pinellas" and access documents at the row for "Anclote River Channel".)

1.4.2 RELEVANT ISSUES

Initial project construction, for both projects, occurred prior to the enactment of NEPA in 1969 and other applicable environmental laws. Maintenance dredging of the inner channel (Cuts 3 through 14 and the turning basin) was evaluated in the above-referenced 2019 EA; however, the maintenance dredging of Cut 1, Cut 2, and GIWW Cut P-41 was not included in this 2019 evaluation (Figure 1-2). In addition, the upland DMMA is currently unavailable for use and is not expected to be available in the foreseeable future.

Therefore, this EA provides an evaluation of environmental effects of the following proposed actions: maintenance dredging and dredged material placement for the Anclote River federal channel and the GIWW Cut P-41 (Stations 266+00 to 349+61). The following areas were identified as relevant to the proposed actions and need further evaluation: threatened and endangered (T&E) species, fish and other wildlife communities, essential fish habitat (EFH), water quality, sediment characteristics, air quality, air quality, air quality, noise, cultural resources, recreational resources, parks and other protected areas, navigation and safety, and socioeconomics.

1.5 PURPOSE AND NEED

The purpose of the Anclote River, Florida Project and GIWW Cut P-41 is to maintain safe and efficient vessel navigation. This document evaluates whether the proposed actions have the potential to cause significant environmental effects on the human environment and discusses any plans for mitigation and monitoring, if necessary. The need for mitigation measures or best management practices (BMPs) to reduce any potentially adverse effects will be determined based upon the analysis contained within this EA. If it is determined that there are no significant impacts due to the proposed actions, a Finding of No Significant Impact (FONSI) will be signed, and the Corps will implement the Preferred Alternative. If significant effects are identified, the Corps may choose to implement mitigation measures to reduce the effects to a lower-than-significant threshold, proceed with the Notice of Intent to prepare an Environmental Impact Statement (EIS), or not implement the portion of the Preferred Alternative that will result in significant impacts. See Section 4 for a detailed analysis of the potential effects of each alternative. See Section 5 for a comparison of the alternatives and the selection of the preferred alternative (provided specifically in Section 5.2 and Appendix E-1 Comparison of Alternatives).

1.6 PUBLIC INTEREST FACTORS

As stated in 33 C.F.R. § 336.1(a), although the Corps does not process and issue permits for its own activities, the Corps authorizes its own discharges of dredged or fill material by applying all applicable substantive legal requirements, including public notice, opportunity for public hearing, and application of the section 404(b)(1) guidelines. As part of its review, the Corps evaluates the probable impacts of the proposed action and its intended use on the public interest. All factors that may be relevant to the proposed action must be considered, including the effects thereof. Section 336.1(c) sets forth the factors

that will be used, as appropriate, to evaluate the discharge of dredged material into waters of the United States. The following factors are relevant to the proposed actions, and detailed analysis can be found in the Sections noted: Coastal Zone Consistency (Section 6.2, Table 6-2, Appendix C and Appendix E); Economics (Sections 2.14 and 4.14); Endangered Species (Sections 2.1 and 4.1, Tables 2-1, 4-1, 4-2, and 6-2; Appendix B Environmental Consultation and Appendix E Supplementary Environmental Information); Fish and Wildlife Values (Sections 2.2 and 4.2 and Table 6-2); Historic Properties (Sections 2.12, 2.13, 4.12, and 4.13, Table 6-2 and Appendix E Supplementary Environmental Information); Navigation and Safety (Sections 2.5 and 4.5 and Appendix E Supplementary Environmental Information); Recreation (Sections 2.4, 2.6, 4.4, and 4.6 and Appendix E); and Water Quality (Sections 2.8 and 4.8 and Appendix E Supplementary Environmental Information).

2 EXISTING CONDITIONS

This section describes the existing environmental resources of the areas that would be affected if any of the alternatives are implemented ("Affected Environment"). The existing conditions provide a description of the human environment, which is subdivided into the natural, physical, economic, and built environments. This section forms the baseline conditions for determining the environmental effects of the proposed actions. The proposed actions include maintenance dredging of the two federal channels and dredged material placement options (Figure 2-1). This section discusses the environmental conditions in the areas that encompasses the proposed actions. Section 3 discusses the details of each alternative and impacts are discussed in Section 4.

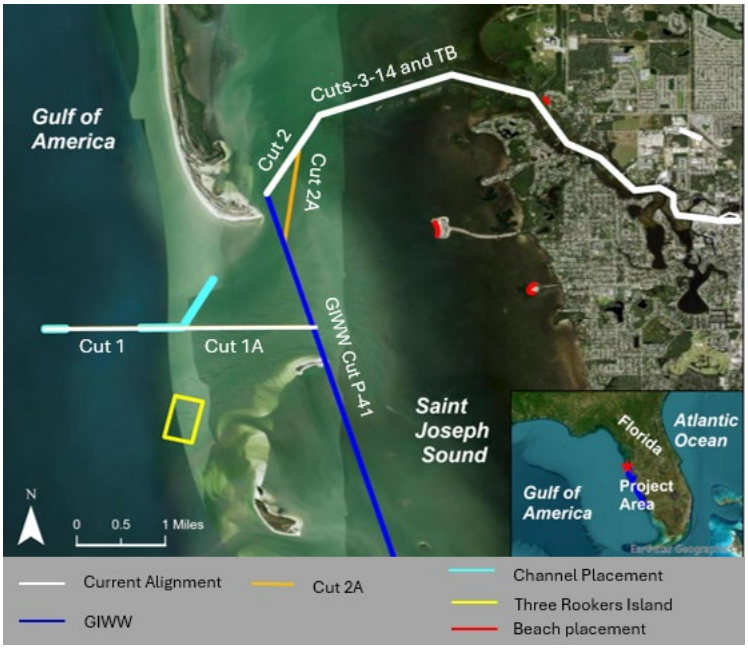

Figure 2-1. Map displaying potential alternatives.

2.1 THREATENED AND ENDANGERED (T&E) SPECIES

The list of T&E species and designated (or proposed) critical habitat for this EA was compiled from the National Marine Fisheries Service (NMFS) Endangered Species Act (ESA) species mapper (NMFS 2025a) and U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPAC; USFWS 2025b). Federally listed T&E species that may be present in or around the project areas are listed below in Table 2-1.

Table 2-1. Federally listed T&E species that may occur in the project area and critical habitat.

Common Name	Scientific Name	Federal Status	Agency
Birds			
Piping plover	*Charadrius melodus*	Threatened	USFWS
Rufa red knot	*Calidris canutus rufa*	Threatened	USFWS
Sea turtles*			
Green sea turtle[1P]	*Chelonia mydas*	Threatened	NMFS
Hawksbill sea turtle	*Eretmochelys imbricata*	Endangered	NMFS
Leatherback sea turtle	*Dermochelys coriacea*	Endangered	NMFS
Loggerhead sea turtle	*Caretta caretta*	Threatened	NMFS
Kemp's ridley sea turtle	*Lepidochelys kempii*	Endangered	NMFS
Fish and Elasmobranch			
Smalltooth sawfish	*Pristis pectinata*	Endangered	NMFS
Gulf sturgeon	*Acipenser oxyrinchus desotoi*	Threatened	USFWS & NMFS
Giant manta ray	*Manta birostris*	Threatened	NMFS
Mammals			
Florida manatee[DP]	*Trichechus manatus latirostris*	Threatened	USFWS

*[1] North Atlantic distinct population segment; [D] Designated Critical Habitat (DCH); [P] Proposed Critical Habitat; *Sea turtles are managed by both NMFS and USFWS, however no nesting habitat exists within the project area and therefore swimming sea turtles within the area would be managed only by NMFS*

BIRDS

Piping Plover

The final rule listing the piping plover (*Charadrius melodus)* as a federally threatened species under the ESA was published on 11 December 1985 in (50 FR 50726). The piping plover migration and wintering period in Florida is July 15 through May 15 (USFWS 2013). They can occur inland but prefer coastal habitat, which includes sand spits, small islands, tidal flats, shoals, mudflats and sandbars that are often associated with inlets (USFWS 2025b). Primary foraging habitat consists of sandy mud flats, ephemeral pools, seasonally emergent seagrass beds, mud/sand flats with scattered oysters, and overwash fans (USFWS 2025A). Several studies have identified wrack as an important component of roosting habitat for non-breeding piping plovers (USFWS 2024). Piping plovers eat a variety of insects and aquatic invertebrates. Recent sightings of piping plover in Anclote Key occurred in 2024 and 2025 (eBird 2025). A USFWS informal consultation was completed in 2019 (FWS Log No. 04EF1000-2019-I-0700) for maintenance dredging of the federal channel (Cuts 3 – 14) with dredged material

placement in the upland DMMA. The USFWS concurred with the Corps' determination that the proposed action would have no effect on piping plover.

Rufa red knot
The rufa red knot (*Calidris canutus rufa*) was listed as a threatened species under the ESA (79 FR 73706, effective on 12 January 2015). The Gulf Coast of Florida is an important overwintering area for the *rufa* subspecies of the red knot (USFWS 2020). 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 of their migration. There were multiple sightings of rufa red knot at Anclote Key and Three Rookers Island in 2024 and 2025 (eBird 2025).

SEA TURTLES
Five species of sea turtles that are federally listed as threatened or endangered under the ESA may exist in the project area. Swimming sea turtles that may occur in the action area include green sea turtles (*Chelonia mydas*), loggerhead sea turtles (*Caretta caretta*), leatherback sea turtles (*Dermochelys coriacea*), hawksbill sea turtles (*Eretmochelys imbricata*) and Kemp's ridley sea turtles (*Lepidochelys kempii*). Nest monitoring from 1993 to 2007 (n=12 nests) showed minimal activity, monitoring has not been conducted since 2007.

Kemp's ridley sea turtles (*Lepidochelys kempii*) were added to the Endangered Species Preservation Act on 2 December 1970 (35 FR 18319). No DCH has been identified for this species. They are considered the smallest sea turtles in the world and prefer nearshore habitats. Kemp's ridley sea turtles are commonly found in the Gulf (NOAA 2025e) and primarily nest in the Gulf. Their distribution in the Atlantic extends from Florida to New England (NOAA 2025e). Their diet consists mainly of swimming crabs, but may also include fish, jellyfish, and an array of mollusks.

Leatherback sea turtles (*Dermochelys coriacea*) were listed as endangered in 1970 (35 FR 8491) and are the largest species of sea turtle in the world (NOAA 2025e). No DCH is present within the projects' areas. Leatherbacks have worldwide distribution. They spend much of their life at sea, make long migrations, and can dive to about 4,000 feet. They feed on soft prey, such as jellyfish.

Green sea turtles (*Chelonia mydas*) were initially listed as endangered under ESA in 1978 (43 FR 32800). In 2016, 11 distinct population segments (DPS) of green sea turtles were listed (NOAA 2025), and their status was changed to threatened. While they are found worldwide, the North Atlantic DPS extends to the project area (NOAA 2025). Most green turtles spend most of their lives in coastal foraging grounds, which include shallow waters in open coastlines and protected bays and lagoons. Hatchling green turtles eat a variety of plants and animals, but adults feed almost exclusively on seagrass and marine algae. The project area is not located within USFWS PCH for nesting green sea turtles. The closest USFWS PCH for nesting green sea turtles is approximately 60 miles away in Siesta Key (Unit: FL-18); however, the project is within NMFS PCH for swimming green

sea turtles. NMFS swimming green sea turtle PCH includes nearshore areas from the mean high-water (MHW) line to 20- meter depth along the coast of Florida. The project areas are included within the NMFS, swimming sea turtle, PCH unit FL01 for the North Atlantic DPS. The Florida Fish and Wildlife Conservation Commission (FWC) for Pasco County does not have records of green sea turtle nesting in the proposed action areas, and Pinellas County has documented very few green sea turtle nests. Therefore, the reproductive, migratory, and surface foraging essential features of NMFS PCH are not present within the action area. Benthic, foraging, and resting are the only essential features that are found within the project area.

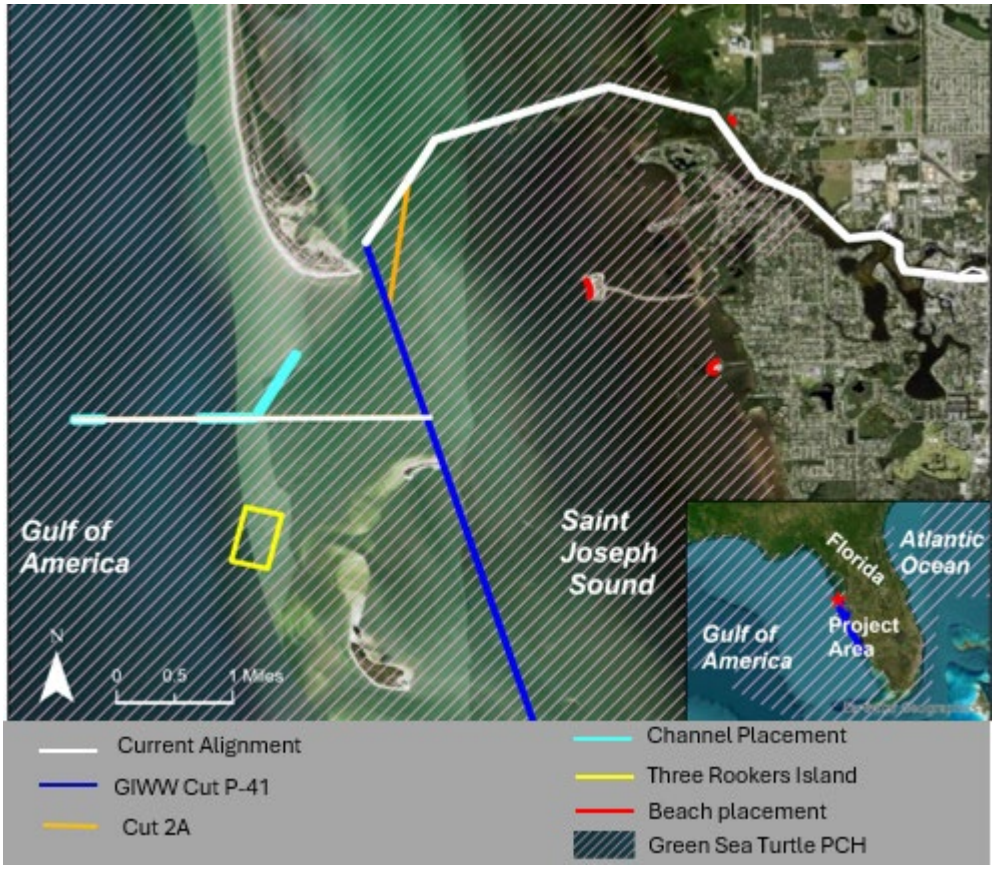

Figure 2-2. Map of NMFS green sea turtle PCH in relation to the current channel (white), all and proposed actions (see legend). All proposed alternatives overlap with NMFS green sea turtle PCH; however, NMFS PCH features are not present within the action area.

Loggerhead sea turtles (*Caretta caretta*) are found worldwide and are the most common species found in Florida (FWC 2025a). They were listed as threatened on July 28, 1978 (79 FR 4837) under the ESA. The Northwest Atlantic Ocean DPS in the United States spans include Florida, South Carolina, Georgia, North Carolina, and Alabama (NOAA 2025). There is no loggerhead DCH within the project area. The nearest NMFS DCH is approximately 48 miles from the project area (Unit: LOGG-N-30 Nearshore Reproductive Habitat) in Manatee County. Loggerhead sea turtles may be found hundreds of miles out to sea, as well as inshore areas such as bays, lagoons, salt marshes, creeks, ship

channels, and the mouths of large rivers. The loggerhead feeds on mollusks, crustaceans, fish, and other marine animals.

FISHES AND ELASMOBRANCHS

Smalltooth Sawfish

The smalltooth sawfish (*Pristis pectinata*) has been listed as endangered under the ESA by NMFS (68 FR 15674) since 2003. The U.S. historic population of smalltooth sawfish once ranged from Texas to North Carolina (Brame et al. 2019), but its current primary range is reduced to south Florida waters. Shallow coastal waters, such as bays and estuaries, provide an important nursery area for juvenile smalltooth sawfish (Carlson et al. 2007). Sawfish of all life stages primarily feed on bony fish. The primary threat for smalltooth sawfish population has been bycatch mortality from both commercial and recreational fisheries and was likely the main contributor to the decline of the species (Brame et al. 2019, NMFS 2009, Poulakis and Grubbs 2019). Sawfish pups are born in all months except September, but numbers peak in March and July (J.K. Carlson unpublished data). The project is not within DCH for smalltooth sawfish (74 FR 45353, September 2, 2009), but in recent years sawfish have been observed as far north as Tampa Bay. Juvenile sawfish have been caught in Tampa Bay (T. Wiley Personal communication). However, sawfish sightings in the Anclote River area are infrequent. It is possible for sawfish to be found within the project area, but it would be a rare occurrence.

Gulf Sturgeon

Gulf sturgeon (A*cipenser oxyrinchus desotoi)* was listed as threatened under the ESA in 1991 and are jointly managed by NMFS and USFWS. Their range is from Louisiana to Florida and extends as far south as Tampa Bay. Gulf sturgeons can live up to 20 or 25 years (NOAA 2025). They spend time in both fresh, estuarine, and marine waters depending on the time of year and life stage (NMFS 2025). They feed on invertebrates including crustaceans, worms, and mollusks.

Giant Manta Ray

Listed as threatened by NMFS in 2018 (83 FR 2916), the giant manta ray (*Manta birostris)* is the world's largest ray with a 29-foot wingspan. Easily recognizable by their large body and elongated wing-like pectoral fins, this species is a filter feeder and eats large amounts of zooplankton. Although migratory, this species has small, fragmented populations that are distributed sparsely across the world and can be found in tropical, subtropical, and temperate waters, commonly offshore in oceanic waters or near productive coastlines. This species uses a wide range of depths for feeding (10m to over 1,000m deep). Generally solitary, giant manta rays will aggregate to feed and mate. Giant manta rays likely occur in small local populations (Stewart et al. 2016) with small home ranges. The project area is identified in the NMFS Section 7 mapper as an area where the giant manta ray could occur.

MAMMALS

Florida Manatee

Manatees mainly reside and feed in the estuarine areas and around inlets and are only

occasionally observed in the open ocean. They prefer warmer water and migrate to springs and power plant discharge canals during the colder months. Manatees are herbivores and feed on seagrass and aquatic plants. Preferred habitats include areas near the shore that have underwater vegetation, like seagrass. There is an abundance of seagrass within the project area (see Section 2.2) that Florida manatees may feed on. While the manatee population has improved in recent years, there continue to be many threats to the population. The greatest threat to manatees stems from human activities, including increased pollution, more frequent red tides, boat strikes, and the destruction of their habitat and food sources.

The Florida manatee (*Trichechus manatus latirostris*) has been protected by the State of Florida since 1893 through the Florida Manatee Sanctuary Act (§379.2431(2), Florida Statutes (FS)). The state provided further protection in 1978, designating the state as a manatee sanctuary and providing signage and speed zones in Florida's waterways. Manatees receive federal protections under both the Marine Mammal Protection Act (MMPA), which prohibits the take of all marine mammals, and the ESA. The manatee was listed as endangered under the Endangered Species Preservation Act of 1966 (32 FR 4001) and was subsequently grandfathered into the List of Endangered and Threatened Wildlife under the ESA in 1973. More recently, they were downlisted from endangered to threatened in May 2017 (82 FR 16668).

Florida manatee DCH was designated in 1976 (41 FR 41914) and 1977 (42 FR 47840) but is not within the range of the project. New PCH (89 FR 78134) was revised based on scientific data, and biological and essential features were identified in 2023. Proposed project features are within PCH unit FL-03: Withlacoochee Bay to Anclote River (Figure 2-3). The total PCH for the state of Florida is 1,904,292 acres, and unit FL-03 contains 364,584 acres. Essential features to the conservation of the Florida manatee include areas of water warmed by natural processes, established use throughout the winter each year, areas supported by submerged or emergent vegetation, and other established manatee aggregation areas. The inner portions of the federal channel (Cuts 3 through 14 and the turning basin) are within an important manatee area (IMA) that USFWS has identified as an area of significance (Figure 2-3). The Corps previously consulted with USFWS on the federal channel, Cuts 3-14 and the turning basin (FWS Log No. 04EF1000-2019-I-0700). Maintenance dredging within those cuts would continue to apply the terms of the previous consultation.

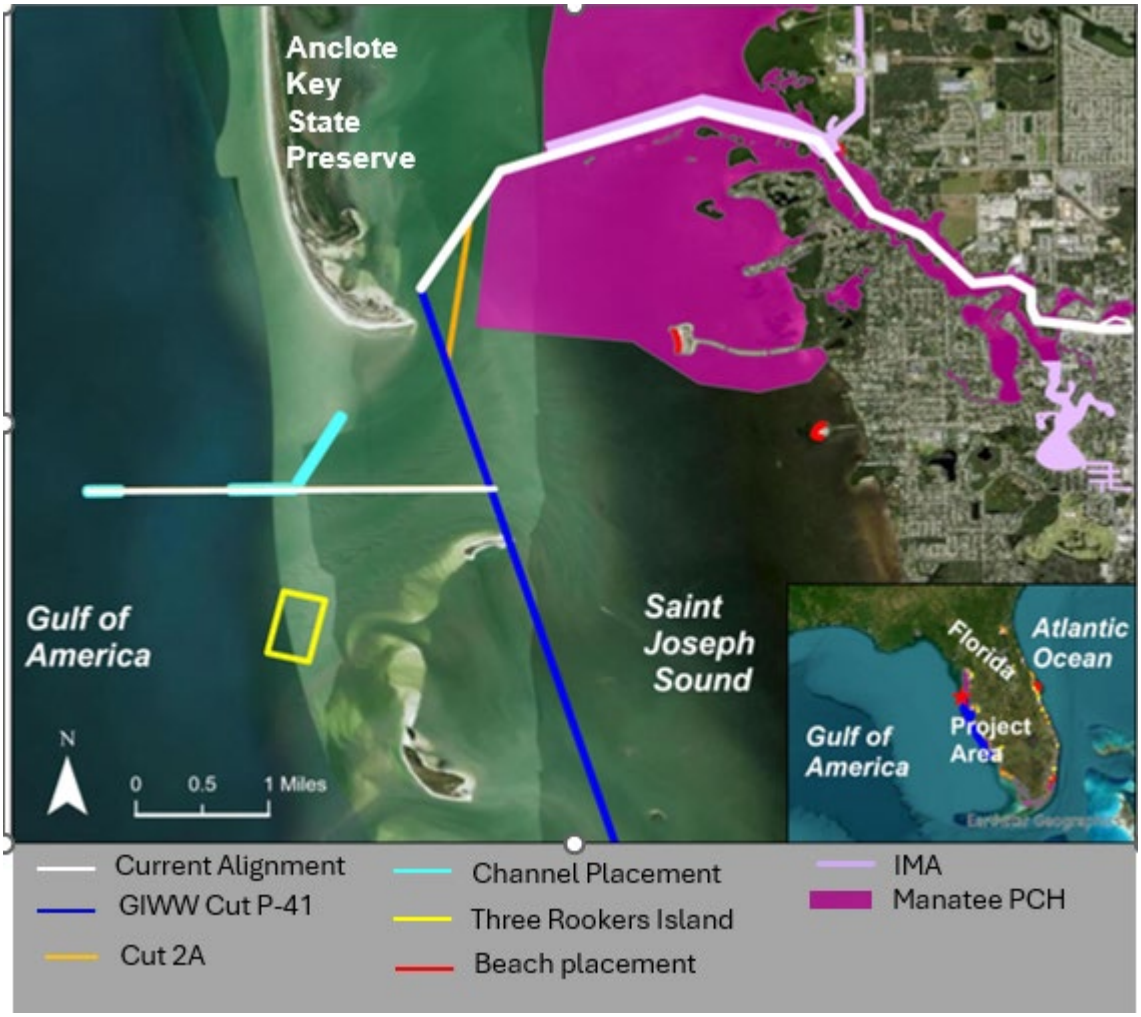

Figure 2-3. Map of proposed USFWS manatee PCH and proposed project activities.

2.2 ESSENTIAL FISH HABITAT (EFH)

EFH, as defined by NMFS (NMFS 2025b), includes all types of aquatic habitat where fish spawn breed or mature, including wetlands, corals, seagrasses, and rivers (NMFS 2025b). The Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA), as amended by the Sustainable Fisheries Act of 1996, requires federal agencies to consult with NMFS on activities that may adversely affect EFH. The Regional Fishery Management Councils are tasked to provide recommendations for federal and state actions that may adversely affect EFH. This includes the identification of managed species and ecologically important habitat features and habitat areas of particular concern (HAPC) (e.g., life stage, breeding, feeding, growth, maturity) to help provide additional focus for conservation efforts. Guidelines (in 50 CFR, Part 600, Subpart J) 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 on EFH from both fishing and non-fishing activities, and identification of actions required to conserve and enhance EFH. The regulation promotes the protection, conservation, and enhancement of EFH.

MANAGED SPECIES

The Gulf Fisheries Management Council (Gulf Council) and Highly Migratory Species advisory panel advises NOAA Fisheries on managing the federal fisheries in the Gulf. Highly Migratory species (HMS) are typically pelagic (within the water column) species that spend most of the time within the open ocean but may spend part of their life-cycle nearshore. The NOAA Fisheries EFH Mapper (NMFS 2025b) was used to identify managed species within the project area. There were 34 managed species identified that have EFH near or within the project area (see **Table 2-2**). Managed species and their prey (listed in Table 2-2) live in SAV, water column, and soft bottom habitat where they feed on oysters, crustaceans, small fish, shrimp, squid, plankton and benthic invertebrates.

Table 2-2. Species Managed by NMFS with EFH near the project site. Species were identified using the NOAA Fisheries EFH Mapper and identified by region and life stages

Species	Management plan	Life Stage	EFH/HAPC within the project area	Prey
Red Drum	Gulf	ALL	Water column, SAV, soft bottom	Crabs, shrimp, worms, small fish
Reef Fish	Gulf	ALL	SAV, soft bottom, water column	Corals, invertebrates, plankton, crustacean, shrimp
Shrimp	Gulf	ALL	Water column, SAV, soft bottom	copepods, small mollusks, diatoms, algae, plant detritus, bacterial films, slime molds, yeast, detritus, plants, microorganisms, macroinvertebrates, and small fish
Coastal Migratory pelagics	Gulf	ALL		Fish and invertebrates
Sandbar Shark	HMS	Adult	Undefined	Fish, invertebrates, sharks, and rays
Bonnethead	HMS	ALL		

Lemon Shark	HMS	Adult	
Bull shark	HMS	Juvenile/Adult	
Blacknose	HMS	ALL	
Bonnethead Shark	HMS	ALL	
Lemon shark	HMS	Adult	
Nurse Shark	HMS	Juvenile/Adult	
Great Hammerhead Shark	HMS	ALL	
Tiger Shark	HMS	Juvenile/Adult	
Blacktip shark	HMS	Neonate	
Atlantic Sharpnose Shark	HMS	Juvenile/Adult	

EFH AND HAPC

The Gulf Council describes and identifies EFH as all waters of the Gulf within the known distribution range of managed species and their life stages that include submerged aquatic vegetation (SAV), mangroves, marshes, oyster beds, reefs, rocky coral reefs, octocoral reefs, hard/live bottoms, ledges, outcrops, sargassum, and clay substrates. HAPCs are defined by NMFS as "subsets of EFH that exhibit one or more of the following traits: rare, stressed by development, provide important ecological functions for federally managed species, or are especially vulnerable to anthropogenic (or human impact) degradation." These include areas such as submerged aquatic vegetation, hard bottom, coral, coral reefs, pupping areas, sargassum, etc. Considering their designation as EFH-HAPCs and Executive Order (E.O.) 13089, NMFS applies greater scrutiny to projects affecting corals, coral reefs, hardbottom, and seagrass to ensure practicable measures to avoid and minimize adverse effects to these habitats. The NMFS EFH Mapper did not define any HAPCs in the project area, however there is known seagrass nearby. The Corps identified water column habitat, SAV, and soft bottom habitat within the project area.

Water Column Habitat

The water column is used by all managed EFH species and life stages acting as a connection between various habitats. The water column can also provide habitat for eggs and larval fishes or provide transportation to different habitats, deliver nutrients, and breeding. Highly migratory species, reef fish, or coastal pelagic, will spend most of their life in the water column. All species listed in Table 2-2 would use EFH within the water column.

Submerged Aquatic Vegetation (SAV)

SAV includes seagrass and macroalgae as EFH because it provides shelter and food to manage species. Species that may occur in the project area and have SAV identified for their EFH include red drum, reef fish, shrimp species, grouper species, snapper species,

hogfish, and spiny lobster (NMFS 2025b). Identification of SAV within the project area was done with desktop and field surveys. A desktop assessment was completed using the FWC GIS data set that represents the most recent seagrass mapping available in Florida from various data sets. The dataset is mapped from sources ranging from 1987 to 2021 (FWC 2025b). The FWC seagrass mappers show an abundance of seagrass within the Saint Joseph Sound.

A benthic survey was conducted by Cummins and Cederberg, Inc. in 2025 which included the upcoming (FY27) dredging areas, three potential placement areas, mitigation areas, and potential channel realignment areas. The survey found seagrass, hardbottom, and oyster patches within and near the proposed action areas (Figure 2-6). Most seagrass beds were dominated by *Halodule wrighti*i, followed by *Syringodium filiforme* and *Thalassia testudinum*. Seagrass was found outside of the inner channel Cuts 3 - 9 at various densities. There was no seagrass found near Cut 12 or the turning basin. Patchy seagrass was found within Cut 1, but outside of the proposed in-water channel placement areas. There was no seagrass found in the in-water placement area for Cut 2 or Three Rookers Island placement area. There were significant amounts of dense seagrass outside the beach placement areas. Cut 1A had patches of seagrass (5-25% coverage) within the eastern portion of the channel. The GIWW Cut P-41 had patchy seagrass within the channel (25-50% coverage). All surveys are available in Appendix E-3.

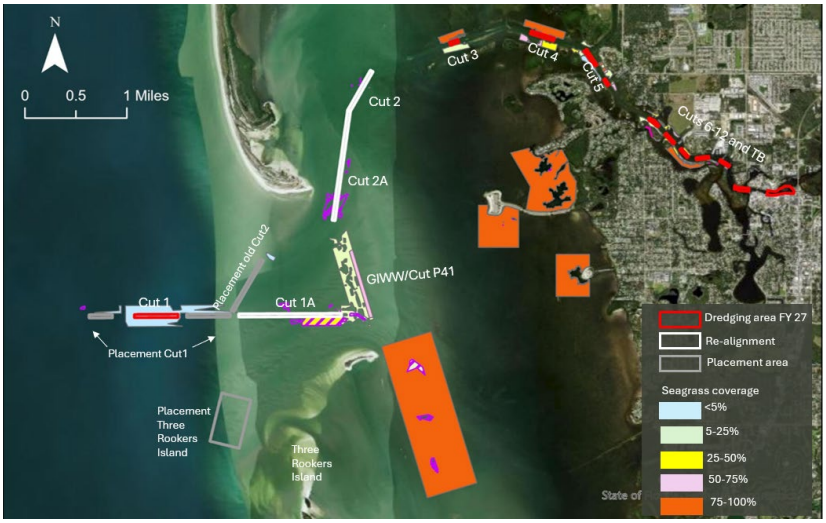

Figure 2-4. Map of the 2025 benthic survey seagrass results completed by Cummins and Cederberg, Inc. The survey looked at dredging areas for FY27, potential placement areas, potential realignment areas and mitigation areas. The seagrass coverage is identified on a color scale from warm (being the highest density) to cool (being the lowest density).

Hardbottom

Hardbottom communities are benthic habitats dominated by epifaunal organisms such as sponges, hard and soft corals, hydroids, anemones, barnacles, bryozoans, decapod crustaceans, and gastropods. Hardbottom was identified in the 2025 benthic survey by Cummins Cederberg, Inc. (Figure 2-7). Hardbottom was present inside within the eastern

portion of Cut1A channel and overlapped with seagrass coverage. There was a small area of hardbottom within the GIWW Cut P-41 that also overlapped with the seagrass present. Cut 2A also had hardbottom within the channel (8.6%) and surrounding the channel, while Cut 2 had hardbottom outside the channel. There were small patches outside of the placement area in Cut 1. No ESA listed corals were identified within the project area, however there were species of corals identified within the hardbottom. Corals found within areas of the project include *Siderastrea radians, Solenastrea bournoni*, *Phyllangia americana*, *Oculina diffusa*, *Stephanocoenia intersepta*, *Cladocora arbuscula*, and *Occulina spp*.

Figure 2-5. Map of hardbottom from the 2025 benthic survey by Cummins Cederberg, Inc.

Oysters

American Oysters (*Crassostrea virginica*) are sessile as adults, attaching to hard surfaces (including dead oyster shells), and fuse together creating complex reefs that provide habitat, shelter, and foraging habitat for many fish species. Managed species within the project area that utilize oyster reef EFH include reef fish, pink and white shrimp, grouper, and snapper. These bivalve mollusks also clean the water by filtering it and help protect against erosion. Recruitment of spat (young oysters) occurs with the presence of structure or hard bottom. The 2025 benthic survey found oysters outside of the federal channel (Cut 6), however there is a mangrove island between the channel and the oyster bed (Figure 2-8).

Figure 2-6. Map from the 2025 benthic survey by Cummins Cederberg, Inc that shows oyster habitat outside of Cut 6.

Soft bottom Habitat

Soft bottom habitat includes unconsolidated sediments such as mud, sand, or shell. It is home to benthic invertebrates such as worms, crustaceans, mollusks, isopods, amphipods, and echinoderms. The project area is encompassed by soft bottom habitat within the channel and potential in-water placement sites. Marine unconsolidated sediment makes up a large area of the Nature Coast Aquatic Preserve (NCAP), most of which is found on Anclote Key (FDEP 2024a).

2.3 FISH AND OTHER WILDLIFE COMMUNITIES

Sport fish within the area include drum, grouper, gag grouper, spotted seatrout, snook, redfish, tarpon, cobia, and snapper (FDEP 2024a & b; Cummins and Cederberg, Inc. 2025). Other fish that have been found in the area include stingrays, menhaden, catfish, pinfish, spadefish, pinfish, lizardfish, porcupinefish, sea robin, angel fish, spot, striped mullet, various species of shrimp, horseshoe crab, eels, goby, and perch (FDEP 2024a; Cummins and Cederberg, Inc. 2025). Sponges and scallops are highly common in the area (see Section 2.4), among other benthic species such as crabs, oysters, whelk, isopods, and starfish (FDEP 2024a). Non-ESA listed corals observed in the 2025 benthic survey include species of octocorals, lesser starlet coral, hidden cup coral, smooth star coral, compact ivory bush coral, robust Ivery tree coral, tube coral, knobby star coral, band bushing star coral (Cummins and Cederberg, Inc. 2025). Sessile invertebrates commonly found in the estuaries include mussels, worms, shells, anemones, clams, oysters, mollusk reefs, snails, slugs, and barnacles (FDEP 2024a & b). Invasive species found within the area include Asian green mussel and red lionfish, and non-native species include blue tilapia, killifish, oyster leech, island apple snail, acorn barnacle, isopod, rough sea squirt, and Mayan cichlid. Bottlenose dolphin sightings are common within the estuary. There are many species of birds that can be observed in the area which include osprey, owls, bald eagles, anhinga, heron, woodpeckers, roseate spoonbill, egret, grebe,

dove, ibis, flacon, turkey, loons, limpkin, cranes, rails, cardinal, blue jay, swallow, blackbirds, orioles, sparrow, flycatcher, and the cormorant (FDEP 2024b).

2.4 RECREATIONAL RESOURCES

The project area is used for a wide variety of recreation including boating, fishing, kayaking, swimming, sunbathing, and ecotourism. Anclote Key Preserve State Park is a popular area for birding, camping, and has four sandy beaches. Other beach areas within the sound include Sunset Beach and Fred Howard Park Beach in Tarpon Springs, and Anclote River Park in Holiday, Florida. The beaches offer areas for relaxing, enjoy picnics, kiteboard, shelling, snorkeling, swimming, and enjoy the river. Sponging and scalloping are a popular recreational pastime in the area. Sponging is a historical practice unique to the area and includes harvesting natural sponges. Recreational harvesting of scallops is allowed from July 16 until July 25 in Pasco County (FDEP 2024a). There are nature trails and campgrounds on Anclote Key and the surrounding areas.

2.5 NAVIGATION AND SAFETY

Anclote River is a federally maintained channel used by mariners including recreational fisherman, boaters, guides, commercial fisherman, etc. While there is no federal port located at Anclote River, the federal channel supports the livelihood of businesses and citizens in the area such as commercial fishing, fishing guides, ecotourism, recreational boating, and recreational fishing. The project area includes a segment of the GIWW, a system that extends along much of the west coast of Florida.

2.6 PARKS AND OTHER PROTECTED AREAS

The project area is within the boundaries of a state park and several state preserves, which may be subject to additional regulations (FDEP 2025). Anclote Key is the state park within the area; there are two aquatic preserves within the project area. The Aquatic Preserve Act was enacted in 1975 to “preserve, protect and enhance submerged lands.” On the north side of the project is the NCAP which encompasses 454,786 acres within Citrus, Hernando, and Pasco Counties (FDEP 2024A). NCAP was established in 2020 by Florida legislature and is the newest aquatic preserve in the state. Within the NCAP are boat ramps, wildlife refuges, and numerous state and local parks. To the south is the Pinellas County Aquatic Preserve which was established in 1972 in response to concerns about the extensive development in Tampa Bay (FDEP 2025There is also proposed beach placement in two local parks, Sunset Beach and Fred Howard Beach Park.

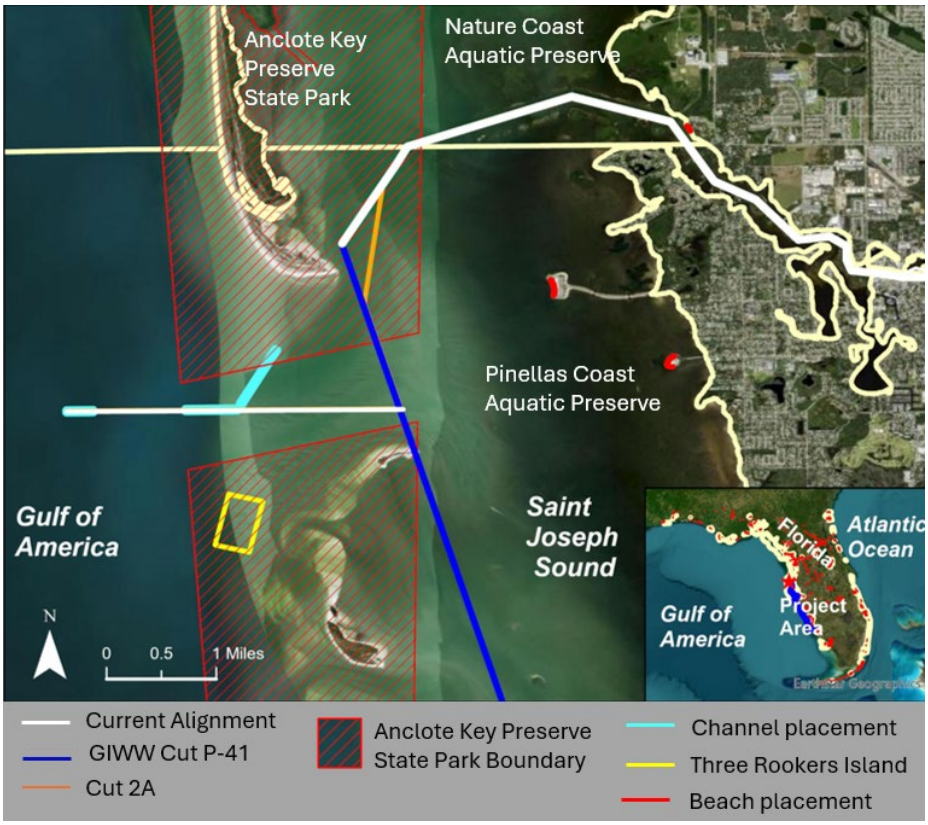

Figure 2-7. Map of Anclote Key Preserve State Park boundaries (red slash) and Aquatic Preserve boundaries (separated by yellow line) within the vicinity of the proposed project actions. The Nature Coast Aquatic Preserve is to the north in Pasco County. The Pinellas County Aquatic Preserve and county are within the southern half of the project area and potential placement areas.

2.7 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. Ambient noise levels within a given region may fluctuate over time because of variations in the intensity and abundance of noise sources. Natural sources of ambient noise include weather, insects, birds, wildlife, rain, and thunder. Anthropogenic noise within the project area includes noise from the vessels occurring in and around the project vicinity.

2.8 WATER QUALITY

The Anclote channel occurs in the Saint Joseph Sound; this water body is located within Florida Class III waters bounded by inter strewn barrier island chains on the west and the Floridian peninsula on the east. Class III surface waters are designated for use as recreation, propagation, and maintenance of a healthy, well-balanced population of fish and wildlife (Florida Administrative Code (FAC) 62-302.400). Saint Joseph Sound has also been designated as an Outstanding Florida Waters (OFW) Aquatic Preserve according to the Florida Department of Environmental Protection (FDEP) website (Pinellas County Aquatic Preserve for the portions of the project in Pinellas County;

Nature Coast Aquatic Preserve for the portions of the project in Pasco County). Section 403.061(28), Florida Statutes, empowers the FDEP to designate and protect "OFW" waterbodies with exceptional natural value. As is typical for estuarine and inlet areas, higher turbidity levels are expected due to dynamic currents, naturally occurring nutrients, and suspended sediments. While natural disturbances, such as rain, wind, and other weather events, may temporarily increase turbidity through the suspension of colloidal materials, conditions generally return to baseline levels within days to weeks, depending on the magnitude and duration of the event and the concentration of fine sediments (Corps 1996).

2.9 CLIMATOLOGY AND AIR QUALITY

Climatology is the scientific study of Earth's climate. Natural processes and human actions have been identified as affecting the climate. Increasing greenhouse gas (GHG) concentrations in the atmosphere resulting from human activity since the 19th century, such as fossil fuel combustion, deforestation, and other activities, are believed to be a major factor in impacts to climate conditions. Increases in the concentrations of GHGs, such as carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O), in the atmosphere during the last 100 years have trapped additional solar radiation, intensified the natural greenhouse effect and resulted in an increase in global average temperature at an average rate of 0.17 F per decade since 1901 (USEPA, 2021).

CO_2, CH_4, N_2O, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride are the principal GHGs emitted which contribute to the rise in global air temperatures since the 1800s. Emissions of CO_2 and N_2O are largely byproducts of fossil fuel combustion, while CH_4 results from off-gassing, natural gas leaks from pipelines and industrial processes, and incomplete combustion associated with agricultural practices, landfills, energy providers, and other industrial facilities. Fluorinated gases such as hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride, which have much higher potential for heat absorption than CO_2 are byproducts of certain industrial processes. Conversely, CO_2 sinks include vegetation and the ocean, which absorb CO_2 through sequestration and dissolution. Vegetation and the ocean are two of the largest reservoirs of CO_2 sequestration.

The U.S. Environmental Protection Agency (EPA) has established national ambient air quality standards (NAAQS) for six of the most common air pollutants known as "criteria" pollutants, including carbon monoxide (CO), lead (Pb), ground-level ozone (O_3), particulate matter (10 microns or less in diameter (PM10)), and 2.5 microns or less in diameter (PM2.5), nitrogen dioxide (NO_2), and sulfur dioxide (SO_2). Criteria pollutants have been identified as causing health effects at concentrations in the ambient air above thresholds established at levels known to be safe. Air monitoring reports are prepared annually by the FDEP to inform the public of the air pollutant levels throughout the state of Florida. All areas within the State are designated with respect to each of the criteria pollutants as attainment (i.e., in compliance with the standards); non-attainment (i.e., not in compliance with the standards); or unclassifiable (i.e., insufficient data to classify). Attainment areas can be further classified as maintenance areas. Maintenance areas are

areas previously classified as non-attainment which have successfully reduced air pollutant concentrations to below the standard. As of August 31, 2025, both Pinellas County and Pasco County are in attainment for criteria pollutants (https://www.epa.gov/green-book).

In 2022, the United States' total gross greenhouse gas emissions were 6,343.2 million metric tons of carbon dioxide equivalent (MMT CO_2e). Total gross U.S. emissions decreased by 3.0 percent from 1990 to 2022, down from a high of 15.2 percent above 1990 levels in 2007. Gross emissions increased from 2021 to 2022 by 0.2 percent (14.4 MMT CO_2e). Net emissions (including sinks) were 5,489.0 MMT CO_2e in 2022. Overall, net emissions increased by 1.3 percent from 2021 to 2022 and decreased by 16.7 percent from 2005 levels. Between 2021 and 2022, the increase in total greenhouse gas emissions was driven largely by an increase in CO_2 emissions from fossil fuel combustion across most end-use sectors due in part to increased energy use from the continued rebound of economic activity after the height of the COVID-19 pandemic. In 2022, CO_2 emissions from fossil fuel combustion increased by 1.0 percent compared to the previous year and were 1.1 percent below emissions in 1990. Carbon dioxide emissions from natural gas use increased by 5.2 percent (84.8 MMT CO_2e) from 2021, while CO_2 emissions from coal consumption decreased by 6.1 percent (58.6 MMT CO_2e) from 2021 to 2022. The increase in natural gas consumption and associated emissions in 2022 is observed across all sectors except U.S. Territories, while the coal decrease is due to reduced use in the electric power sector. Emissions from petroleum use also increased by 0.9 percent (19.0 MMT CO_2e) from 2021 to 2022. Carbon sequestration from the Land Use, Land-Use Change, and Forestry (LULUCF) sector offset 14.5 percent of total emissions in 2022 (USEPA, 2024).

The total gross GHG emissions for the state of Florida in 2018 were estimated to be 304.8 MMT CO_2e. The 2018 net emissions were estimated at 292.4 MMT CO_2e, with sinks being factored in. The corresponding emission estimates for 2005 were a gross of 297.6 and a net of 293.7 MMT CO_2e, respectively. The total gross GHG emissions in 2018 were higher compared to the 2005 baseline, however, the net emissions were similar. This is attributed to the higher GHG removals from forest management activities in 2018 (-12.4 MMT CO_2e) and from coastal wetlands (-2.4 MMT CO_2e). Although the total GHG emissions in Florida showed an increasing trend from 2005 to 2018, GHG emissions intensity [emissions per capita and emissions per million USD ($) Gross State Product (GSP)] showed a general declining trend given the increase in population in that period. In 2018, the highest GHG emissions in Florida came from the energy sector, where transportation and electric power generation (at energy utilities as well as residential, commercial, and industrial facilities) were the largest contributors. Total GHG emissions from the energy sector for 2018 amounted to 251.3 MMT CO_2e, roughly 82.5% of the state's total gross emissions. The values for the transportation and electric power generation components of that 2018 sector total are 128.6 MMT CO_2e (~42% of state gross emissions) and 122.8 MMT CO_2e (~40%), respectively. The main fuel types for energy generation in Florida are petroleum, coal, and natural gas. The largest current and historical GHG emissions in the state are generated from petroleum use, with emissions ranging from 110.2 to 153.9 MMT CO_2e across the entire time series. Coal was the

second largest emitter in the state until 2010 when natural gas emissions surpassed those of coal. Petroleum is expected to be the largest contributor in the future although it has shown some decline (FCI, 2022).

The project location falls within the Tampa-St. Petersburg-Clearwater Metropolitan Statistical Area (MSA). In 2021, a baseline greenhouse gas inventory of MSA was conducted. In 2021, the total GHG emission for the MSA were 31,747,346 MT CO_2e. Transportation and Mobile Sources was the largest sector contributing GHG emissions, representing 42.8% of the total emissions. Residential Energy and Commercial Energy represented 21.7% and 19.3% of total GHG emissions, respectively. The top three categories accounted for 83.8% of total emissions. Other sources of GHG emissions, all contributing less than 5% of the total, include Solid Waste, Industrial Energy, Process and Fugitive emissions, Upstream Impacts and Agriculture, Forestry, and Other Land Use. Forests and other trees sequestered an estimated 1,553,630 MT CO_2e from the atmosphere, resulting in total net emissions of MT 30,193,715 CO_2e for the Tampa-St. Petersburg-Clearwater MSA (TBRPC, 2024).

2.10 SEDIMENT CHARACTERISTICS

Within the federal navigation channel of Anclote River, a total of 37 surficial samples were collected by the Corps to characterize the dredged material.

Laboratory results show that the dredged material within the dredge template from the Anclote River Turning Basin to the GIWW Cut P-41 is predominately comprised of poorly graded fine-grained quartz sand with trace to some silt, and varying amount of sand to gravel-sized shell fragments. A composite sample was calculated from these samples; the mean grain size is 0.20 mm and the average percentage of fines passing the #230 sieve is 6.28%. The coarse material retained in the #4 sieve averages 0.33%.

Laboratory results show that the dredged material within the dredge template from Anclote River Cut 1 and Cut 1A is predominately comprised of poorly-graded fine-grained quartz sand with trace silt and varying amounts of sand to gravel-sized shell fragments. A composite sample was calculated from these samples; the mean grain size is 0.24 mm and the average percentage of fines passing the #230 sieve is 1.3%. The coarse material retained in the #3 sieve averages 5.1%.

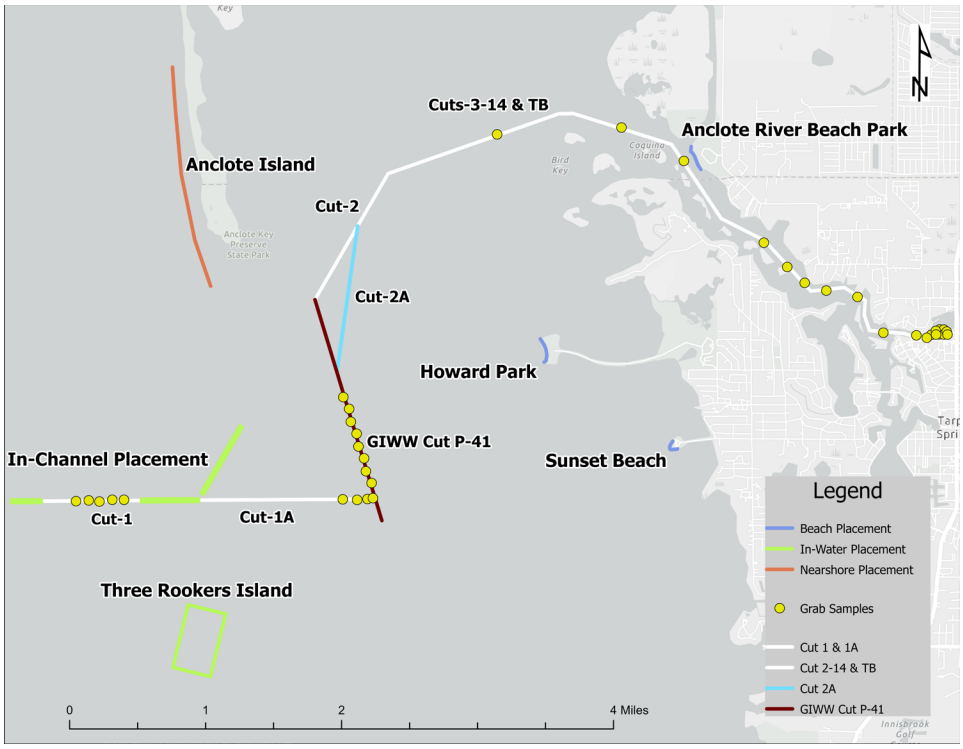

Figure 2-8. Surficial sample locations and placement areas within federal channel of Anclote River.

2.11 GEOMORPHOLOGY

Anclote Key, Three Rooker Island, and Honeymoon Island barrier island system has experienced accelerated morphologic change since the mid-20th century. The accretion of Anclote Key, emergence of Three Rooker Bar, and growth of the northern spit at Honeymoon Island have been linked with an extensive seagrass die off in the nearshore during the 1960s, which coincided with increased shoreface sediment mobility (Hine et al. 1987, FDEP 2014).

The changing geomorphology of the three barrier islands is predominantly regulated by abundant nearshore sediment sources, tidal currents, and wave driven currents.

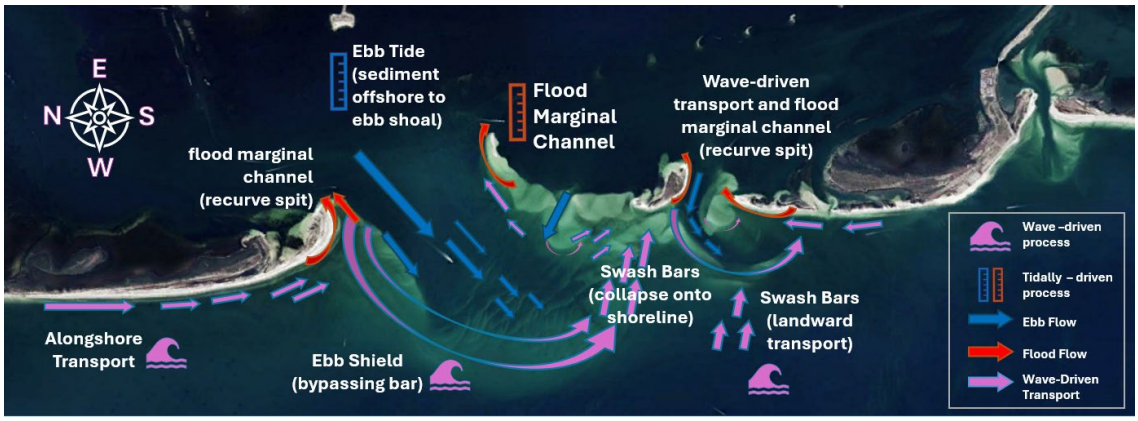

Figure 2-9. Conceptual Tidally Driven and Wave Driven Sediment Transport Pathways at Anclote Key, Three Rooker Island and Honeymoon Island.

Figure 2-9 details the salient physical oceanographic and transport processes for the region. Tidally driven flows govern the formation of the ebb-shoals and the recurved spits at each of the islands during ebb and flood tidal currents, respectively. The wave-driven transport governs the shore-ward transport of sediments in the form of swash-bars and recurved spits to the north and south of each island. Most importantly, wave-driven transport drives the ebb shoal bypassing bars to cascade sediment from Anclote Key to Three Rooker Island and finally to Honeymoon Island. The timeline detailing significant morphologic change for the past 10 years can be viewed online and is detailed in Table 2-3.[2]

Table 2-3. Timeline of Morphologic Change (1984–Present).

Year/Period	Anclote Key	Three Rooker Bar	Honeymoon Island
1984	Northward spit growth ongoing, prograding since 1960s	Emerged as supratidal barrier island south of Anclote	South end groins and 1969 fill in place; erosion ongoing
Late 1980s–1990s	Emergence of North Anclote intertidal bar	Continued supratidal emergence; progradation and recurved spit	1985 Hurricane Elena causes widespread erosion

[2]Google Earth Time Lapse of Anclote Key, Three Rooker Island, and Honeymoon Island, Morphologic evolution from 2015-2030: https://earth.google.com/web/@28.12774052,-82.80537081,-7.48299185a,44424.54993554d,30y,92.95856163h,0t,0r/data=ChY6EAgBEQAAAAAAAABAGOIPIAFCAggBQgIIAEoICMasn6wDEAA?utm_source=earth7&utm_campaign=vine&hl=en.

		elongation north and south	
1989			First nourishment (~230,000 cubic yards(cy))
1990s–2000s	Continued progradation and recurved spit elongation both north and south	Rapid island reshaping, progradation and recurvature of north and south spits	Chronic erosion: nourishment required
2010s - Present	North and south recurved spit continues to grow, influenced by wave forcing and tidal flows	Migration of barrier island to the east, recurved spit growth, bifurcation due to narrowing of inlet between Rookers Bar and Honeymoon Island	169,641 cy nourishment post-Elsa; fill between R7–R9.5

The subaerial portion of the island system is extremely dynamic as evidenced by recurving spits, onshore migration, and bifurcation to create new tidal inlets. Despite this, the entire system, on a regional scale, behaves in a coherent manner with predictable sediment transport pathways and morphologic change. The backbone of the entire system is the nearshore ebb shoal cascade which feeds and transports sediment through the three islands. It is a constant feature that persists over decades, both maintaining its structure and location in the nearshore, and providing fixed sediment transport pathways along the cascade.

2.12 TRIBAL NATIONS

There are two federally recognized tribes living in Florida, the Miccosukee Tribe of Indians and the Seminole Tribe of Florida, and additional removed tribes with ancestral ties to the region. Both tribes share a long history of inhabiting the project area and maintain continued traditional and cultural practices in the region. These tribes regard the indigenous population of Florida as their ancestors. Though neither tribe has landholdings in the project area, both tribes retain an interest in area. No sacred sites or trust resources have been identified in the project area.

The Seminole Tribe of Florida received federal recognition as a sovereign nation in 1957. To maintain their own unique cultural identity, independence, and heritage, other Native American groups, primarily located along Tamiami Trail, refused to join in tribal recognition with the Seminole Tribe of Florida. Through their continued persistence and resistance to join, these groups held out to establish their own governance resulting in their federal recognition as the Miccosukee Tribe of Indians in 1962.

Today, the Miccosukee Tribe of Indians generally occupy reservations within two counties of southern Florida. The population primarily resides within the Tamiami Trail Reservation located 40 miles west of Miami. The Miccosukee also maintain a perpetual lease within Water Conservation Area 3A on lands administered by the South Florida Water Management District (SFWMD). The tribe uses this lease to maintain their uniquely adapted Everglades traditional and cultural lifeways including subsistence agriculture, medicinal practices, ceremonial activities, hunting, and fishing. Alligator Alley Reservation is the Miccosukee Tribe's largest reservation consisting of 74,812.37 ac, on the north and south sides of Interstate 75. Approximately 50,000 ac of this land are set aside for wetland conservation, and the remaining is planned for development. Two additional smaller reservations, known as the Krome Avenue Reservations, are located at the intersection of Krome Avenue and Tamiami Trail. These smaller reservations administer the Miccosukee Indian Resort and Gaming operations and the Miccosukee Tobacco Shop.

The Seminole Tribe of Florida members reside on several reservations and properties, with the largest being those of Big Cypress, Hollywood, and Brighton Reservations. Hollywood is the headquarters location for the Seminole Tribe of Florida, and the smaller reservations are Tampa, Fort Pierce, and Immokalee. As with the Miccosukee Tribe of Indians, the Seminole Tribe of Florida practice traditional cultural activities uniquely adapted to the Everglades, including hunting, fishing, agriculture, medicinal, and ceremonial activities. They also engage in modern entrepreneurship through various enterprises including cattle ranching, gaming, and businesses centering on tourism.

2.13 CULTURAL RESOURCES

Background

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 of 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 to 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). The Archaic traditions eventually developed into the unique cultural affiliations identified temporally as Orange, Manasota, Weeden Island, and Safety Harbor.

European exploration of 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 Panfilo 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

Previous investigations

One Traditional Cultural Property (TCP) is designated within the study area: Tarpon Springs Greektown Historic District, located south of the turning basin. It was entered into the National Register in 2014 (14000321; NPS 2014). 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; 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).

In 2017, a submerged cultural resources survey was conducted by PanAmerican Consultants, Inc. (Florida Master Site File [FMSF] 24837, *Submerged Cultural Resources Survey, Anclote River Federal Navigation Project, Pasco County, Florida*), extending from Cut 3 to the turning basin. One magnetic anomaly cluster (USACE-243; Target 1) near the western end of the survey area was determined to be potentially significant.

In 2019, a combined submerged and terrestrial cultural resources survey was performed (FMSF #26394, *Anclote River Federal Navigation Project Submerged Cultural Resources Survey and Terrestrial Phase I Survey, Pasco and Pinellas Counties, Florida*). The

submerged survey covered Cuts 1, 1A, 2, 2, 2A, a portion of GIWW Cut P-41, and a potential placement area to the west of Three Rookers Island. The terrestrial survey focused on a potential upland disposal area. Five avoidance areas and upland eligible archaeological sites (8PA10) were identified. In a letter dated August 19, 2019, the Corps agreed to avoid the five submerged anomalies if diver identification investigation was not possible and to avoid the terrestrial site (see DHR Project File No. 2019-2895B).

In 2024, Southeastern Archaeological Research, LLC (SEARCH) was contracted to perform a combined submerged cultural resources survey and diver identification investigation of nine different areas, encompassing 1,356 acres. These areas included the navigation channel near the proposed Cut 2A, placement areas to the west of Three Rooker Island, a pipeline corridor extending east of the GIWW, and mitigation areas east of the GIWW navigation channel (i.e., expanded islands), as well as areas adjacent to Fred Howard Park and Sunrise Beach.

The survey identified 121 magnetic anomalies and 16 sonar contacts. One remote sensing anomaly within the proposed Cut 2A was not relocated (USACE-106). The anomaly (USACE-110) in this area was reidentified as an ancient submerged landscape feature (ASLF). It is one of seven such features within the APE which are recommended for avoidance with a 50-foot buffer, as they are generally not deeply buried. Two features are located near Cut 2A (Features 1 and 2), two features are located within the Three Rooker Island placement area (Features 3 and 4), and three are located within the expanded islands mitigation area east of the GIWW channel (Features 5, 6, and 7).

Two diver identification investigations (Targets M006 and M010) were performed within the expanded islands mitigation area due to their association with a marked shipwreck location. M0006 was determined not to be culturally significant. M010 consisted of two targets; the first was determined to be modern debris. Cultural material was not identified for the second target and will not require additional avoidance measures for this undertaking. However, if in the future ground disturbing activity is planned at a greater depth than 5 feet below the seafloor, additional investigation may be warranted.

The survey and diver identification investigations have been completed and consultation with SHPO and federally recognized tribes is pending.

2.14 SOCIOECONOMICS

The major economic driver within the Anclote River project area is Tarpon Springs, Florida. According to the U.S. Census Bureau, as of 2024, Tarpon Springs had a population of 26,168 and a median per capita income of $54,559. The major economic drivers for the area are tourism, Greek Heritage, the sponge industry, and retail. Tarpon Springs is home to several Greek restaurants and shops as well as several retail stores. There is a strong sea sponge industry brought in by sea sponge divers who sell their product in the area. There are also fishing piers and boating/sea sponge tours of the area.

Tourism revenue as of 2021 is estimated around $20 million with sea sponge revenues adding an additional $2 million. However, in January 2025 in response to recovery from two major hurricanes in the state, $8.29 million in tourism tax revenue was collected, which was a new high for the area. In addition to Tarpon Springs, there are several marinas and fishing piers along the Anclote River leading into the Gulf.

3 ALTERNATIVES

This section describes in detail the No Action Alternative and other reasonable alternatives that were evaluated and/or eliminated from further analysis. The beneficial and adverse environmental effects of the alternatives are presented in comparative form. Section 4 (Environmental Effects) compares the alternatives in more detail, providing a clear basis for choice.

For all maintenance dredging alternatives, pre-dredge surveys may identify and confirm that maintenance dredging is only needed in certain reaches of the proposed action areas, which could be less than the full project footprint. There are different combinations of areas that could be determined to need maintenance dredging. Maintenance dredging and the removal of shoals are needed to maintain the currently authorized channel dimensions. The period of performance of a dredging contract is greater than the days of actual dredging, allowing for weather delays, contractor starts and stops (i.e., contractor leaves and returns to the project within the contract's period of performance), and potential mechanical/equipment issues. Active dredging is dependent on the volume and material of shoaling that requires removal and assumes that the dredge will operate twenty-four hours per day, seven days per week except when there are necessary environmental restrictions (e.g., for Florida manatees per the USFWS consultation). Environmental commitments are detailed in Section 6, and continued coordination with regulating agencies and implementation of any recommended conservation measures would reduce any potentially adverse effects to the environment.

As the Corps does not dictate contractor means and methods to perform the required dredging, the Corps has evaluated a wide range of potential hydraulic or mechanical dredge techniques, equipment, and associated characteristics, as described in the Corps' Engineer Manual (EM) 1110-2-5025, Dredging and Dredged Material Management, dated 31 July 2015.[3] In addition to these methods, the use of a drag bar also may be employed to smooth down high spots and fill in low spots. Although drag bars are generally used as a finishing technique, this method also may be effective to remove high spots in the vicinity of sensitive resources. Effects of a drag bar are similar to large draft (that is, vessel passage resulting in the temporary disruption of sediment). Use of a drag bar is limited to the bottom or side slopes to minimize potential adverse effects.

[3] EM 1110-2-5025 is available at https://www.publications.usace.army.mil/portals/76/publications/engineermanuals/em_1110-2-5025.pdf.

3.1 DESCRIPTION OF ALTERNATIVES

ALTERNATIVE 1: NO ACTION

The No Action Alternative is the continuation of existing conditions of the affected environment without implementation of, or in the absence of, the Preferred Alternative. the upland DMMA is unavailable for the foreseeable future. In the absence of the upland DMMA, there are no placement options and, consequently, no maintenance dredging of the Anclote River federal channel (Cuts 3-14 and the turning basin) would be conducted.

ALTERNATIVE 2A: MAINTENANCE DREDGING OF ANCLOTE RIVER FEDERAL CHANNEL AND GIWW CUT P-41 FROM STATIONS 266+00 TO 349+61

Under Alternative 2A, maintenance dredging of the inner channel (Cuts 3-14 and the turning basin (Figure 3-1); Cuts 1, 1A, and 2 as currently realigned; and the GIWW Cut P-41 (from Stations 266+00 to 349+61) would be performed. Maintenance dredging would occur on an as needed basis. Based on the maintenance dredging cycle for Cuts 3-14 and the turning basin, the estimated cycle for maintenance dredging is approximately every 5-10 years. The authorized depth and width of the channel is 9 feet plus 2 feet of allowable overdepth and 100 feet, respectively. The estimated total amount of dredged material for a maintenance dredging event for Cuts 1, 1A, 2, and 3-14; the turning basin; and the GIWW Cut P-41 (from Stations 266+00 to 349+61) is 89,000 cy.

ALTERNATIVE 2B: MAINTENANCE DREDGING OF ANCLOTE RIVER FEDERAL CHANNEL, WITH PROPOSED REALIGNMENT OF CUT 2, AND GIWW CUT P-41 FROM STATIONS 266+00 TO 349+61

The Corps is evaluating a modification to the realignment of Cut 2 (that is, further realignment) due to the continuing migration of Anclote Key into the federal channel in the area near the intersection of Cut P-41. The modification would realign Cut 2 by creating Cut 2A and Cut P-41 would intersect with Cut 2A at a point that is south of the current intersection of Cut P-41 and Cut 2. No dredging of the proposed Cut 2A would be required to meet the authorized channel depth (nine (9) feet + two (2) feet allowable overdepth) because the realignment would occur in naturally deeper water. Authorization of Cut 2A is pending, but it is anticipated in 2027.

Alternative 2B includes maintenance dredging of the entire channel (the same as Alternative 2A) but also includes the realignment of Cut 2A. Authorization of Cut 2A is pending, but it is anticipated in 2027. No dredging of the proposed Cut 2A is necessary to meet the authorized channel depth (9 feet + 2 feet allowable overdepth) because the realignment would occur in naturally deeper water. Maintenance dredging would occur on an as needed basis. The anticipated dredging frequency and the quantity of dredged material is expected to be similar to Alternative 2A given the proximity and length to the current Cut 2 conditions.

3.2 PLACEMENT ALTERNATIVES

ALTERNATIVE 3A. NEARSHORE PLACEMENT AT ANCLOTE KEY

Alternative 3A would place dredged material in the nearshore placement area on the west side of Anclote Key. The nearshore placement area is approximately 1.64 miles long and has a capacity of approximately 1,000,000 cy of material.

ALTERNATIVE 3B. BEACH PLACEMENT

Alternative 3B would place dredged material onto three beach placement areas (see Figure 3-1), which are the Anclote River Park Beach (.2 miles), Fred Howard Park Beach (.2 miles), and Sunset Beach (.12 miles). The placement footprint of all three sites is approximately 0.52 miles, with a capacity of approximately 30,000 cy of material. Placement would most likely occur via pipeline from hydraulic dredge.

ALTERNATIVE 3C. IN-WATER PLACEMENT – WITHIN THE CHANNEL CUT 1 AND CUT 2 (PRIOR TO REALIGNMENT)

Under Alternative 3C, dredged material would be placed in in-water areas that are located within deep areas of Cut 1 and a portion of Cut 2 prior to the realignment in 2023 (see Figure 3-1). These three locations have the capacity for placement totaling approximately 45,000 cy of material up to -10 feet MLLW. The placement footprint is approximately 636,000 sq feet or 14.6 acres.

ALTERNATIVE 3D. IN-WATER PLACEMENT – THREE ROOKERS ISLAND

Under Alternative 3D, dredged material would be placed in in-water placement areas at Three Rookers Island (see Figure 3-1). The Three Rookers Island Placement Area is 2,500 feet by 1,500 feet. There is capacity for approximately 95,000 cy of material that can be placed up to -8 ft MLLW. This placement would benefit the preservation of Three Rookers Island because it would provide a barrier for incoming wave energy. The in-water placement area at Three Rookers Island is within the Pinellas County Aquatic Preserve that is managed by the FDEP and may be subject to additional rules and permitting.

ALTERNATIVE 3E. NEARSHORE PLACEMENT AT THREE ROOKERS ISLAND

Under Alternative 3E, nearshore quality dredged material would be placed in the nearshore area on the west side of Three Rookers Island (see Figure 3-1). The placement footprint for Three Rookers Island is approximately 2.0 miles long and with a capacity of approximately 36,000 cy.

3.3 ALTERNATIVES ELIMINATED FROM DETAILED EVALUATION

ALTERNATIVE 3A. NEARSHORE PLACEMENT AT ANCLOTE KEY

Alternative 3A, would use nearshore quality dredged material to place material in the nearshore area on the west side of Anclote Key. This alternative is eliminated from further evaluation because it is not a feasible option. The area is shallow, making access difficult for placement; much of the area would need to be avoided due to existing seagrass; and placement at this location could result in sediments migrating into Cut 1.

ALTERNATIVE 3E. NEARSHORE PLACEMENT AT THREE ROOKERS ISLAND

Alternative 3E would place nearshore quality dredged material in the nearshore placement area on the west side of Three Rookers Island. This alternative is eliminated from further evaluation because placement at Three Rookers Island nearshore could migrate to the southern end of that island and either be transported to Honeymoon Island along the ebb shoal shield or be transported into the recurved southern spit within the flood marginal channel.

3.4 FINAL ARRAY OF ALTERNATIVES

The final array of alternatives includes the No Action Alternative (Alternative 1); two maintenance dredging alternatives (Alternatives 2A and 2B); and three placement alternatives — 3B, 3C, and 3D (Beach Placement, In-Water Placement within the Channel, and In-Water Placement at Three Rookers Island; Figure 3-1).

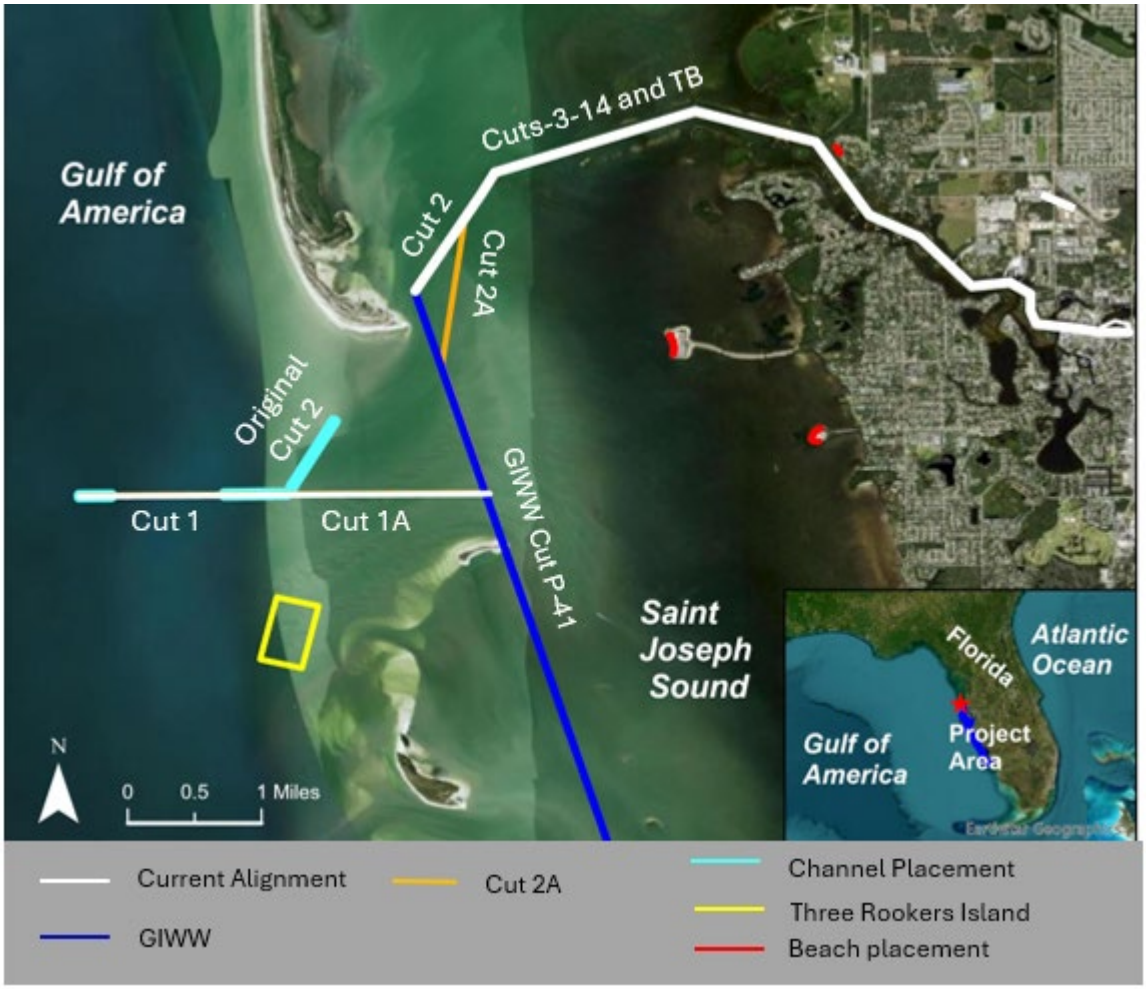

Figure 3-1. Map of the final array of alternatives. Alternative 2A is maintenance dredging of the current Anclote River channel alignment (white) and GIWW Cut P-41 from Stations 266+00 to 349+61 (dark blue). Alternative 2B is maintenance dredging with the proposed realignment addition of Cut 2A (orange). Alternative 3B consists of three beach placement options (red) in the east of Saint Joseph Sound; Alternative 3C is in-water channel placement, (light blue areas) and 3D is in-water placement at Three Rookers Island (yellow).

4 ENVIRONMENTAL EFFECTS

This section is the scientific and analytic basis for the comparisons of the alternatives carried forward. This section is organized by resource topic as listed in Section 2 (Existing Conditions) and presents the analysis of potential effects of each alternative for each resource. This evaluation includes determining anticipated effects of the alternatives described in Section 3 (Alternatives) on the existing conditions described in Section 2 (Existing Conditions), relative to the No Action Alternative (Alternative 1) described in Section 3 (Alternatives).

Effects or impacts are changes to the human environment from alternatives that are reasonably foreseeable and have a reasonably close causal relationship to the alternatives. The potential effects of the alternatives are described in this EA using the following terms:

- **Beneficial**: A positive change in the condition or appearance of the resource or a change that moves the resource toward a desired condition.
- **Adverse**: A change that moves the resource away from a desired condition or detracts from its appearance or condition.

Intensity, or severity of the potential impact, was rated as follows:

- **Negligible Effect**: Change to the resource or discipline is barely perceptible, not measurable, and confined to a small area.
- **Minor Effect**: Change to the resource or discipline is perceptible, measurable, and localized.
- **Moderate Effect**: Change is clearly detectable and could have appreciable effect on the resource or discipline; or the effect is perceptible and measurable throughout the action area.
- **Major Effect**: Change to the resource or discipline is substantial, highly noticeable, and would occur on a regional scale.

Duration of the potential impact was rated as follows:

- **No Duration**: No effect.
- **Temporary**: Effects generally occur during construction, by the end of which the resources recover their pre-construction conditions.
- **Short-term**: Effects generally occur during construction and for a limited time thereafter, generally less than two years, by the end of which the resources recover to their pre-construction conditions.
- **Long-term**: Effects last beyond the construction period, and the resources may not regain their pre-construction conditions for a longer period.

The 2019 EA is incorporated by reference for the maintenance dredging of Cuts 3-14 and the turning basin, and this EA analyzes the effects of dredged material placement in a new location.

4.1 T&E SPECIES

The Corps has described T&E species effect determinations below for alternatives in the final array Table 4-1 and Table 4-2. Consultation letters are included in Appendix B (Environmental Consultations).

Table 4-1: Corps effect determinations for maintenance dredging alternatives for T&E species listed under the ESA.

Common Name	Scientific Name	Agency	Alt 1: No Action	Alt 2A:	Alt 2B:
Birds					
Piping plover	*Charadrius melodus*	USFWS	NE	MANLAA	MANLAA
Rufa red knot	*Calidris canutus rufa*	USFWS	NE	MANLAA	MANLAA
Sea Turtles					
Green sea turtle[1P]	*Chelonia mydas*	NMFS	NE	MANLAA	MANLAA
Hawksbill sea turtle	*Eretmochelys imbricata*	NMFS	NE	MANLAA	MANLAA
Leatherback sea turtle	*Dermochelys coriacea*	NMFS	NE	MANLAA	MANLAA
Loggerhead sea turtle	*Caretta caretta*	NMFS	NE	MANLAA	MANLAA
Kemp's ridley sea turtle	*Lepidochelys kempii*	NMFS	NE	MANLAA	MANLAA
Fish and Elasmobranch					
Smalltooth sawfish	*Pristis pectinata*	NMFS	NE	MANLAA	MANLAA
Gulf sturgeon	*Acipenser oxyrinchus desotoi*	NMFS	NE	MANLAA	MANLAA
Giant manta ray	*Manta birostris*	NMFS	NE	MANLAA	MANLAA
Mammals					
Florida manatee[DP]	*Trichechus manatus latirostris*	USFWS	NE	MANLAA	MANLAA

[D]Designated critical habitat;[1]North Atlantic distinct population segment (DPS), [P]Proposed critical habitat; May Affect, Not Likely to Adversely Affect (MANLAA); No Effect (NE)

ALTERNATIVE 1: NO ACTION

The No Action Alternative would not affect T&E species. There would be no maintenance dredging under this alternative.

MAINTENANCE DREDGING ALTERNATIVES

ALTERNATIVE 2A: MAINTENANCE DREDGING OF ANCLOTE RIVER FEDERAL CHANNEL AND GIWW CUT P-41 FROM STATIONS 266+00 TO 349+61

BIRDS

The channel Cuts 1, 1A and 2 and the portion of GIWW Cut P-41 under this alternative are near optimal overwintering habitat for piping plover and rufa red knot. Therefore, maintenance dredging may have temporary adverse effects on the rufa red knot or piping plover. Birds may be using nearby habitats for wintering, protection, or foraging; however, similar habitats are available nearby. Birds may be temporarily disturbed by noise and equipment, or they may avoid the area. Any potential effects would cease with the completion of maintenance dredging. Therefore, the project MANLAA piping plover and rufa red knot. Any potential for adverse impacts would cease with the completion of maintenance dredging. Under this alternative, the Corps has determined that proposed actions fall within the scope of the Piping Plover Programmatic Biological Opinion (P^3BO; USFWS 2013). This alternative would implement the non-discretionary Terms and Conditions of the P^3BO to protect piping plover and rufa red knot that may be within the footprint of the project(s). While the P^3BO is written for piping plover, the opinion will also provide protection to the rufa red knot due to the similarities in habitat and lifestyle. However, an informal consultation with USFWS will be initiated to cover impacts on the rufa red knot.

SEA TURTLES

The project area is within the range of all five species of sea turtles; however, there is no nesting habitat nearby and no nesting would be impacted under this alternative. Swimming sea turtles may use the area within the footprint of the project(s) to forage for benthic invertebrates and macroalgae. They may traverse the channel areas in search of food and shelter. Temporary adverse impacts to swimming sea turtles from dredging may occur from increases in noise, turbidity, and vibration. The presence of dredging equipment within the area of either project could pose a potential risk of vessel strikes or interactions with sea turtles in the project area during maintenance dredging or may temporarily displace sea turtles. Swimming sea turtles are highly mobile and can avoid equipment working in this area. The risk of entrainment associated with hopper dredge and relocation trawling operations may be greater for animals feeding or resting on or near the seafloor (i.e., primarily swimming sea turtles). These animals will be vulnerable to entrainment as this effect is believed to occur primarily when the draghead is operating on the bottom, if suction is created in the draghead while the device is being placed or removed. The Corps has determined that swimming sea turtles fall under the scope of the 2026 NMFS Gulf Regional Biological Opinion (GRBO). All terms and conditions of the GRBO would be adhered to, as well as implementation of the NMFS-protected species

construction conditions[4] and the applicable Environmental Commitments (see Section 6.1). Any potential for adverse impacts would cease with the completion of maintenance dredging. Therefore, this alternative MANLAA swimming sea turtles.

In addition, this alternative is within NMFS green sea turtle PCH. The PCH within the project area contains benthic, foraging, and resting essential features. The maintenance dredging would only occur to maintain the authorized depth of the channel. Therefore, the conditions of the area would not be modified and there will be no effect on green sea turtle PCH.

FISH AND ELASMOBRANCHS

Smalltooth sawfish, giant manta ray, and Gulf sturgeon may experience impacts during maintenance dredging from increases in noise, turbidity, and vibration. During any active maintenance dredging events there would also be an increase in large vessels within the area, which pose a risk of vessel strikes or interactions with ESA-listed species during maintenance dredging. However, this risk is reduced through implementation of the NMFS protected species construction conditions, as well as the applicable minimization measures outlined in Environmental Commitments (see Section 6.1). Additionally, these species are highly mobile and would likely be able to avoid dredges and associated equipment. The 2026 NMFS GRBO analyzed effects of dredging (i.e., mechanical, hopper, and cutter suction), including water quality impacts on the smalltooth sawfish, giant manta ray, and Gulf sturgeon and determined these effects to be discountable due to the infrequency of documented take as well as the species' ability to avoid the area. Any potential for adverse impacts would cease with the completion of dredging activities. The 2026 NMFS GRBO recognizes smalltooth sawfish, Gulf sturgeon, and giant manta ray as "not likely to be affected" by dredging projects. Therefore, this alternative MANLAA smalltooth sawfish, giant manta rays, and Gulf sturgeon.

FLORIDA MANATEE

Maintenance dredging would continue within Cuts 3-14 and the turning basin of the Anclote River channel and the previous consultation with USFWS will be applied to dredging in this portion of the project. Manatees can be particularly vulnerable to mechanical clamshell dredging because of how the bucket approaches the water. The previous consultation has restrictions for mechanical clamshell dredging during specific times of year within the IMA (FWS Log No. 04EF1000-2019-I-0700; See Appendix B). However, this alternative includes additional cuts that are not covered under the current consultation (); therefore, re-initiation of consultation is underway (See Appendix B). Cuts 1, 1A and 2 are not in a warm water aggregation area (WWAA) or IMA. Turbidity levels would be reduced with environmental commitments, and risk of vessel strikes to marine mammals is reduced through implementation of the USFWS 2011 Standard Manatee Conditions for in-water work, which would be included in the project's contract

[4] NMFS-protected species construction conditions https://media.fisheries.noaa.gov/2021-06/Protected_Species_Construction_Conditions_1.pdf

specifications. Any potential for adverse impacts would cease with the completion of dredging. Therefore, the Corps' determination is that this alternative MANLAA Florida manatee.

The PCH unit would impact less than 19% of the total manatee PCH within the State of Florida. The essential features of PCH include areas of warmer water by natural processes or established aggregation areas, which exist nearby within the IMA. The proposed actions would not modify any essential features to manatee PCH but may temporarily disturb the habitat during dredging. Therefore, the project MANLAA the PCH.

ALTERNATIVE 2B: MAINTENANCE DREDGING OF ANCLOTE RIVER FEDERAL CHANNEL, WITH PROPOSED REALIGNMENT OF CUT 2, AND GIWW CUT P-41 FROM STATIONS 266+00 TO 349+61

Impacts on T&E species and the Corps' determinations would be the same as Alternative 2A.

Table 4-2. Effect determinations for placement alternatives

Common Name	Scientific Name	Agency	Alt 3B Beach Placement	Alt 3C In-Water Channel Placement	Alt 3D In-Water Placement Three Rookers
Birds					
Piping Plover	*Charadrius melodus*	USFWS	NE	NE	MANLAA
Rufa Red Knot	*Calidris canutus rufa*	USFWS	NE	NE	MANLAA
Sea Turtles					
Green sea turtle[1P]	*Chelonia mydas*	NMFS	MANLAA	MANLAA	MANLAA
Hawksbill sea turtle	*Eretmochelys imbricata*	NMFS	MANLAA	MANLAA	MANLAA
Leatherback sea turtle	*Dermochelys coriacea*	NMFS	MANLAA	MANLAA	MANLAA
Loggerhead sea turtle	*Caretta caretta*	NMFS	MANLAA	MANLAA	MANLAA
Kemp's ridley sea turtle	*Lepidochelys kempii*	NMFS	MANLAA	MANLAA	MANLAA
Fish and Elasmobranch					
Smalltooth sawfish	*Pristis pectinata*	NMFS	MANLAA	MANLAA	MANLAA
Gulf Sturgeon	A*cipenser oxyrinchus desotoi*	USFWS & NMFS	MANLAA	MANLAA	MANLAA
Giant manta ray	*Manta birostris*	NMFS	MANLAA	MANLAA	MANLAA
Mammals					
Florida manatee[DP]	*Trichechus manatus latirostris*	USFWS	MANLAA	MANLAA	MANLAA

[1]North Atlantic Distinct population segment; [D]Designated critical habitat; [P]Proposed critical habitat; May Affect, Not Likely to Adversely Affect (MANLAA); No Effect (NE)

ALTERNATIVE 3B. BEACH PLACEMENT

BIRDS

Both species of T&E birds are likely to be using habitat in the area and may be temporarily adversely disturbed during material placement. Birds can also be attracted to construction equipment, causing unfavorable interactions, which may cause adverse impacts. These impacts would cease with the completion of material placement. This alternative would implement conditions of the P^3BO, and standard species protections (see 6.1 Environmental Commitments). Implementation of these minimization measures would minimize effects to piping plover and rufa red knot that may be in the project area. Therefore, this alternative MANLAA the piping plover and rufa red knot.

SEA TURTLE

The project area is within range of all five species of sea turtles; however, there is no nesting habitat nearby and no nesting would be impacted under this alternative. Temporary adverse impacts to swimming sea turtles from placement may occur from increases in noise, turbidity, and vibration. There would be a temporary increase in the number of large vessels within the project areas, creating an increased potential risk of vessel strikes or interactions with ESA-listed species in the project area during transit of placement material. This risk is reduced through implementation of the NMFS protected species construction condition, 2026 NMFS GRBO terms and conditions, and the applicable Environmental Commitments (see Section 6.1). Additionally, swimming sea turtle species are mobile and, with reduced vessel speeds, would likely be able to avoid equipment working in this area. Impacts during maintenance activities would cease after the work is completed. Therefore, this alternative MANLAA swimming sea turtles. There would be no effect to green sea turtle PCH under this action alternative.

FISH AND ELASMOBRANCHS

Smalltooth sawfish, giant manta ray, and Gulf sturgeon may experience impacts during transit, or placement of dredged material from increases in noise, turbidity, and vibration. There would also be an increase in large vessels within the project area creating the potential risk of vessel strikes or interactions with ESA-listed species in the project area during maintenance dredging; however, this risk is reduced through implementation of the NMFS protected species construction conditions as well as the applicable minimization measures outlined in Environmental Commitments (see Section 6.1). Additionally, these species are highly mobile and would likely be able to avoid equipment working in this area. Any potential for adverse impacts would cease with the completion of maintenance activities. Therefore, this alternative MANLAA smalltooth sawfish, giant manta rays, and Gulf sturgeon.

FLORIDA MANATEE

Under this alternative, there is the potential that manatees may interact with vessels in transit to beach placement; however, this area is not in an WWAA or IMA, but there is

PCH within the proposed action areas. Any potential for adverse impacts would cease with the completion of maintenance activities. There is nearby seagrass that manatees may be foraging on or transiting through the area (see Figure 2-3). Risk of vessel strike to marine mammals is reduced through implementation of the USFWS 2011 Standard Manatee Conditions for In-water Work, which would be included in the project's contract specifications. Therefore, the project would not modify any essential features to manatee DCH, and the project MANLAA the proposed or current DCH.

ALTERNATIVE 3C. IN-WATER PLACEMENT – WITHIN THE CHANNEL CUT 1 AND CUT 2 (PRIOR TO REALIGNMENT)

BIRDS

Under this alternative, material placement would not impact areas or habitat where piping plover or rufa red knot inhabit. Therefore, there would be no effect on either species.

SEA TURTLES, FISH AND ELASMOBRANCHS AND MANATEE

Under this alternative, effects would be the same as for Alternative 3B.

ALTERNATIVE 3D. IN-WATER PLACEMENT - THREE ROOKERS ISLAND

BIRDS

This alternative would have the same impacts as Alternative 3B. These species may experience disturbance from increases in noise, turbidity, and vibration during maintenance activities. However, all impacts would be temporary and would cease with the completion of placement. Therefore, the piping plover and rufa red knot determination for this alternative is MANLAA.

SEA TURTLES, FISH AND ELASMOBRANCHS AND MANATEE

Under this alternative, effects would be the same as Alternative 3B.

4.2 EFH

ALTERNATIVE 1: NO ACTION

Under the No Action Alternative, there would be temporary adverse impacts to EFH. Vessels navigating in the shoaled areas could re-suspend sediments and increase turbidity in the project area and immediate surrounding areas. This turbidity would cause temporary impacts to managed fish species, and potentially nearby seagrass, but would likely continue a long-term basis until the channel becomes unnavigable.

MAINTENANCE DREDGING ALTERNATIVES

ALTERNATIVE 2A: MAINTENANCE DREDGING OF ANCLOTE RIVER FEDERAL CHANNEL AND GIWW CUT P-41 FROM STATIONS 266+00 TO 349+61

Under this alternative, there would be temporary adverse impacts to EFH.

EFH MANAGED SPECIES

EFH managed species would experience temporary adverse impacts during maintenance dredging. EFH managed species are highly mobile and would likely avoid areas with dredging equipment. However, they may experience temporary disturbance during dredging from turbidity, noise, and the presence of equipment. Dredging could cause a temporary reduction in sessile benthic infaunal communities within the dredge footprint. Prey species and immature or small finfish and shellfish may be unable to avoid the action area. Infaunal organisms are expected to colonize the new channel bottom ensuring benthic habitat recovery post dredging.

EFH AND HAPC

Water Column and SAV Habitat

During maintenance dredging, sediment would become suspended and increase turbidity, resulting in temporary adverse impacts to water column and SAV. A temporary increase in turbidity could have impacts on species that are foraging, spawning, and traversing within the water column near the construction area. Turbidity could affect vision of marine life within any sediment plume. These effects would be temporary as they would be limited to the time of dredging, and adjacent undisturbed habitat would provide a seed source for benthic recolonization. Impacts from turbidity would be reduced by following any permit conditions and environmental commitments (see Section 6.1 Environmental Commitments). In several areas within the channel there are known seagrass beds that would be adversely impacted if these areas needed to be dredged. Pre- and post-benthic surveys will be completed to determine the extent of any impact and mitigation requirements. A mitigation plan is included in Appendix G of this document for the upcoming dredging event (Appendix G). There is seagrass within 8.57 acres of the Cut 1 channel that would be directly impacted. Seagrass in this area is <5% coverage, and the Corps estimates that mitigation needed for Cut 1 would be around 2.95 acres (See Appendix G). In the future, if dredging is to occur in other areas of the channel and seagrass would be impacted, an additional mitigation plan would be needed. Pre- and post-construction surveys will be conducted prior and after maintenance dredging events to determine any impacts that have not been mitigated previously.

Hardbottom

In the 2025 benthic survey, hardbottom and non-ESA listed corals were identified within Cut 1A and the GIWW Cut P-41. These channel cuts may need maintenance dredging in the future, however, any areas containing hardbottom or corals would be avoided to the maximum extent practicable during dredging. Further coordination would be completed with FDEP, NMFS, and FWC if there were any necessary dredging over hardbottom.

Oysters

Oyster habitat was found nearby the inner channel Cut 6. However, there is a mangrove island that acts as a barrier between the channel and the oyster beds. There would be no effect on the oyster beds under this alternative.

ALTERNATIVE 2B: MAINTENANCE DREDGING OF ANCLOTE RIVER FEDERAL CHANNEL, WITH PROPOSED REALIGNMENT OF CUT 2, AND GIWW CUT P-41 FROM STATIONS 266+00 TO 349+61

Under this alternative, the effects to the EFH managed species, water column, SAV, and oysters and would be the same as Alternative 2A. There would be similar impacts to coral and hardbottom under this alternative because additional hardbottom and corals were found in Cut 2A. However, any areas containing hardbottom or corals would be avoided to the maximum extent practicable during dredging. Further coordination would be completed with FDEP, NMFS, and FWC if there were any necessary dredging over hardbottom.

PLACEMENT ALTERNATIVES

ALTERNATIVE 3B. BEACH PLACEMENT

Under this alternative, material would be placed on the beach; however, wave energy would carry material over time into the nearshore area (also known as the equilibrium toe of fill). The migration of sand over time could bury and smother seagrass in the nearshore causing long-term adverse impacts that would require seagrass compensatory mitigation. The slow migration of sand is not expected to impact EFH managed species or the water column. The transit of material or use of pipeline may have temporary adverse effects on fish species with the presence of equipment disturbing habitat, any impacts would cease after placement.

ALTERNATIVE 3C. IN-WATER PLACEMENT – WITHIN THE CHANNEL CUT 1 AND CUT 2 (PRIOR TO REALIGNMENT) EFH MANAGED SPECIES

EFH managed species would experience temporary adverse impacts during placement. EFH managed species are highly mobile and would likely avoid maintenance activity. However, they may experience temporary disturbance during placement from turbidity, noise, and the presence of equipment. Prey species and immature or small finfish and shellfish may be unable to avoid the area. Placement may smother sessile benthic organisms, but they would be expected to re-colonize. Infaunal organisms are expected to colonize the affected placement area, ensuring benthic habitat recovery post-placement. The transit of material or use of pipeline may have temporary adverse effects on fish species with the presence of equipment disturbing habitat, any impacts would cease after placement

EFH AND HAPC

Water Column and SAV Habitat

The 2025 benthic survey showed no seagrass within the In-Water Channel Placement areas. Seagrass is an ephemeral resource, and coverage can change across seasons.

Therefore, seagrass impacts would be determined from pre- and post-construction surveys. If any new seagrass impacts are identified, compensatory mitigation would be completed as necessary. During construction, sediment would become suspended and increase turbidity, resulting in temporary adverse impacts to the water column. A temporary increase in turbidity could impact species that are foraging, spawning, and traversing within the water column near the material placement area. A sediment plume could cause turbidity that affects vision of marine life. These effects would be temporary as they would be limited to the time of material placement. However, there is plentiful suitable habitat near the placement area. Impacts from turbidity would be reduced by following any permit conditions and environmental commitments to reduce turbidity (See Section 6.1, Environmental Commitments).

ALTERNATIVE 3D. IN-WATER PLACEMENT - THREE ROOKERS ISLAND

Under this alternative, managed EFH species and water column effects would be the same as Alternative 3C.

4.3 FISH AND OTHER WILDLIFE COMMUNITIES

ALTERNATIVE 1: NO ACTION

Under the No Action Alternative, there would be both long-term minor adverse and beneficial effects to fish and wildlife. This area is already at an increased risk for vessels to run aground or interact with fish and wildlife because Anclote Key's accretion in a southeasterly direction is causing the island to migrate into the federal channel. Increased shoaling would eventually result in a reduction to operational depths in areas of the federal channel, which could result in additional risk of vessel strikes to wildlife species. Shoaling may also reduce foraging habitat for manatees by impacting seagrass. Vessels navigating in the shoaled areas could re-suspend sediments, disrupt benthic species, and increase turbidity and/or sedimentation. Benefits from the No Action Alternative include reduced fishing pressure within the area. This area is a popular fishing spot and fishing pressure on sport fish or commercial species may decrease as recreational and commercial fisherman become unable to navigate the channel in the area near Anclote Key.

MAINTENANCE DREDGING ALTERNATIVES

ALTERNATIVE 2A: MAINTENANCE DREDGING OF ANCLOTE RIVER FEDERAL CHANNEL AND GIWW CUT P-41 FROM STATIONS 266+00 TO 349+61

Maintenance dredging will have temporary adverse impacts on fish and wildlife communities by briefly increasing turbidity and temporarily disturb species. Dredging would also temporarily result in the removal, burial, or smothering of benthic infauna species; however, recolonization is expected after dredging. Fish and other wildlife may be temporarily displaced or disturbed by the presence and effects of dredging equipment. However, all impacts are expected to be temporary and any potential for adverse impacts

would cease with the completion of maintenance dredging. Dredging areas would be recolonized by benthic invertebrates following dredging.

ALTERNATIVE 2B: MAINTENANCE DREDGING OF ANCLOTE RIVER FEDERAL CHANNEL, WITH PROPOSED REALIGNMENT OF CUT 2, AND GIWW CUT P-41 FROM STATIONS 266+00 TO 349+61

Impacts under this alternative would be the same as impacts under Alternative 2A.

PLACEMENT ALTERNATIVES

ALTERNATIVE 3B. BEACH PLACEMENT

Under this alternative, there would be short-term minor adverse impacts to species within the footprint of the beach placement areas. This includes shorebirds, seabirds, and small mammals, such as racoons, or mice, that may use the beach area as habitat. Noise and presence of equipment during transit or material placement may disturb species in the placement area. Migratory birds may use the area and may be temporarily disturbed during placement. All impacts are expected to be temporary and would cease after placement is complete.

ALTERNATIVE 3C. IN-WATER PLACEMENT – WITHIN THE CHANNEL CUT 1 AND CUT 2 (PRIOR TO REALIGNMENT)

This alternative would have temporary adverse impacts on fish and wildlife species. Placement would result in the burial or smothering of benthic infauna species; however, recolonization is expected after placement. Fish and other wildlife may be temporarily displaced or disturbed due to the presence of equipment, transit of material and turbidity would increase during placement. Equipment may attract birds and increase chances of interaction with equipment during placement. However, impacts are expected to be temporary and would cease after placement is complete.

ALTERNATIVE 3D. IN-WATER PLACEMENT - THREE ROOKERS ISLAND

Under this alternative, effects would be the same as Alternative 3C.

4.4 RECREATIONAL RESOURCES

ALTERNATIVE 1: NO ACTION

Under the No Action Alternative, there would be long-term adverse impacts to the area from shoaling. Portions of the channel are no longer usable due to the severe shoaling and migration of Anclote Key. Mariners would be forced to navigate around Anclote Key without channel guidance. Continued shoaling and migration of Anclote Key into the channel would increase and continue to become more difficult to navigate.

MAINTENANCE DREDGING ALTERNATIVES

ALTERNATIVE 2A: MAINTENANCE DREDGING OF ANCLOTE RIVER FEDERAL CHANNEL AND GIWW CUT P-41 FROM STATIONS 266+00 TO 349+61

Under Alternative 2A, maintenance dredging would result in temporary adverse impacts from construction equipment in the area. Dredging equipment may interfere with recreational users, be considered unsightly, or result in slower speeds in the area. Recreational users may also avoid active dredging sites and divert boat traffic to alternative areas**.** However, these impacts would cease when dredging is complete. In the long term, there would be beneficial impacts with a channel that recreational users would be able to navigate safely.

ALTERNATIVE 2B: MAINTENANCE DREDGING OF ANCLOTE RIVER FEDERAL CHANNEL, WITH PROPOSED REALIGNMENT OF CUT 2, AND GIWW CUT P-41 FROM STATIONS 266+00 TO 349+61

Impacts under this alternative would be identical to Alternative 2A.

PLACEMENT ALTERNATIVES

ALTERNATIVE 3B. BEACH PLACEMENT

Alternative 3B may temporarily disrupt recreational activities on the beach during placement. During beach placement, areas of the shoreline may need to be closed or blocked off, and equipment may be unsightly to recreational users. These adverse impacts would be temporary, and impacts would cease when placement is complete.

ALTERNATIVE 3C. IN-WATER PLACEMENT – WITHIN THE CHANNEL CUT 1 AND CUT 2 (PRIOR TO REALIGNMENT)

Under Alternative 3C, equipment to place material within the in-water channel placement area may disrupt recreational users. Equipment may block navigation through the area, require slow speeds, and be unsightly for recreational users. These would be temporary adverse impacts that would cease when placement is completed.

ALTERNATIVE 3D. IN-WATER PLACEMENT - THREE ROOKERS ISLAND

Impacts under this alternative would be identical to Alternative 3C.

4.5 NAVIGATION AND SAFETY

ALTERNATIVE 1: NO ACTION

Under the No Action Alternative, the migration of Anclote Key into the channel poses risks for both navigation and safety, resulting in long-term adverse impacts. Portions of the channel are no longer usable due to the migration of Anclote Key, and mariners must navigate around Anclote Key without channel guidance. However, there are visible prop scars around the Key from mariners having difficulty navigating.

MAINTENANCE DREDGING ALTERNATIVES

ALTERNATIVE 2A: MAINTENANCE DREDGING OF ANCLOTE RIVER FEDERAL CHANNEL AND GIWW CUT P-41 FROM STATIONS 266+00 TO 349+61

There would be temporary adverse impacts under this alternative during maintenance dredging. The presence of dredging equipment within the channel may temporarily impede navigation which would cease with the completion of dredging.

ALTERNATIVE 2B: MAINTENANCE DREDGING OF ANCLOTE RIVER FEDERAL CHANNEL, WITH PROPOSED REALIGNMENT OF CUT 2, AND GIWW CUT P-41 FROM STATIONS 266+00 TO 349+61

Alternative 2B would have long-term beneficial impacts for navigation and safety. This alternative includes the realignment of Cut 2A, allowing mariners to follow a new cut. Because this proposed realignment is farther away from Anclote Key and is less likely to be obstructed from the migration of the channel, having beneficial effects to navigation and safety. Under this alternative, the two channels approach each other at a perpendicular angle, allowing for a smooth transition to a new cut and easier transition into the GIWW. Channel surveys show that the channel's depth in the proposed realignment has been naturally maintained, and, under this alternative, it is less likely that Anclote Key would migrate into the channel and there is expected to be less need for maintenance dredging. If maintenance dredging is needed, there would be temporary adverse impacts from the presence and operation of dredging equipment within the channel. Any adverse impact would cease with the completion of dredging.

PLACEMENT ALTERNATIVES

ALTERNATIVE 3B. BEACH PLACEMENT

Alternative 3B is not within the vicinity of the channel. Beach placement would have no effect on navigation and safety.

ALTERNATIVE 3C. IN-WATER PLACEMENT – WITHIN THE CHANNEL CUT 1 AND CUT 2 (PRIOR TO REALIGNMENT)

Under Alternative 3C, the presence of equipment within the channel may have temporary adverse impacts on navigation by blocking the channel during placement. Mariners may need to use areas outside of the channel during placement, which may cause difficulties for mariners to navigate and potential safety concerns from using areas outside of the channel. Navigation should not be significantly affected, as these small vessels can easily navigate around the offloading pipeline, hookup/connection points, and dredging vessels. Impacts would cease with the completion of material placement.

ALTERNATIVE 3D. IN-WATER PLACEMENT - THREE ROOKERS ISLAND

Unlike Alternative 3C, the placement area is not within areas of the channel. There would be temporary impacts to navigation during the dredge vessel's transit from the federal channel to this placement area and there would be no impacts to navigation in the federal channel during placement.

4.6 PARKS AND OTHER PROTECTED AREAS

ALTERNATIVE 1: NO ACTION

There would be no impact to the Pinellas County Aquatic Preserve under this alternative because no dredging would occur and no dredge vessels would transit to/from the federal channel across the Preserve.

MAINTENANCE DREDGING ALTERNATIVES

ALTERNATIVE 2A: MAINTENANCE DREDGING OF ANCLOTE RIVER FEDERAL CHANNEL AND GIWW CUT P-41 FROM STATIONS 266+00 TO 349+61

Maintenance dredging may occur as needed to restore the federally authorized channel depth. In addition, equipment may interfere with park and preserve users during dredging, be considered unsightly, or require users to travel at slower speeds in the area. However, these impacts would cease when dredging is complete.

ALTERNATIVE 2B: MAINTENANCE DREDGING OF ANCLOTE RIVER FEDERAL CHANNEL, WITH PROPOSED REALIGNMENT OF CUT 2, AND GIWW CUT P-41 FROM STATIONS 266+00 TO 349+61

This alternative would have the same impacts as Alternative 2A.

PLACEMENT ALTERNATIVES

ALTERNATIVE 3B. BEACH PLACEMENT

This alternative would have short-term benefit two local parks. Placing beach quality material on the shoreline of two local parks that would reduce the effects of erosion. There may be temporary adverse impacts during placement which would cease with the completion of maintenance activities.

ALTERNATIVE 3C. IN-WATER PLACEMENT – WITHIN THE CHANNEL CUT 1 AND CUT 2 (PRIOR TO REALIGNMENT)

Under this alternative there may be temporary adverse impacts during placement. Placement may have temporary adverse impacts to the preserve with increases in turbidity, increases in noise, and unsightly equipment within the area. Any adverse impact would cease after placement is complete. Cut 1 and Cut 2 prior to realignment are both part of the federal channel that is exempt from the rules of the Pinellas Coast Aquatic Preserve (FDEP 2024B).

ALTERNATIVE 3D. IN-WATER PLACEMENT - THREE ROOKERS ISLAND

This alternative would place material on the west side of Three Rookers Island, which is within the Pinellas County Aquatic Preserve. There would be adverse temporary impacts to the Preserve during placement due to disturbances caused by equipment. Material placement may temporarily cause increases in noise, turbidity, and unsightly equipment within the preserve. All impacts would be temporary and cease with the completion of placement. Additional permitting may be needed to place material in this location because it is within the Preserve and outside of the federal channel boundaries.

4.7 NOISE

ALTERNATIVE 1: NO ACTION

There would be no effects from noise under the No Action Alternative. Existing ambient noise would persist.

MAINTENANCE DREDGING ALTERNATIVES

ALTERNATIVE 2A: MAINTENANCE DREDGING OF ANCLOTE RIVER FEDERAL CHANNEL AND GIWW CUT P-41 FROM STATIONS 266+00 TO 349+61

There will be temporary minor adverse effects from noise under this alternative. Dredging, associated vessels, and equipment will increase the noise levels in the area slightly during maintenance dredging. The additional noise in the area may disturb residents or visitors within the area. Noise associated with dredging can occur from engines, pumps, and other vessel noises. Species with sufficient mobility would avoid the project area during dredging and return after completion. Dredging noise can affect marine mammals, sea turtles, birds, 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). Noise generated by the dredge may impact residents adjacent to the proposed action areas. Once dredging has concluded, noise levels will drop back to background levels.

ALTERNATIVE 2B: MAINTENANCE DREDGING OF ANCLOTE RIVER FEDERAL CHANNEL, WITH PROPOSED REALIGNMENT OF CUT 2, AND GIWW CUT P-41 FROM STATIONS 266+00 TO 349+61

This alternative will have the same impacts as Alternative 2A.

PLACEMENT ALTERNATIVES

ALTERNATIVE 3B. BEACH PLACEMENT

There will be temporary minor adverse effects from noise under this alternative. Maintenance vessels and equipment will increase the noise levels in the area slightly during transit and placement. The additional noise in the area may disturb residents or visitors within the area. Noise associated with vessels can occur from engines, collection or placement of material, transportation, pumps, and other vessel noises. The increased noise can temporarily affect marine mammals, sea turtles, birds, and fishes, however, species with sufficient mobility would avoid or leave the area during placement and return after completion of activities. Possible effects include masking (obscuring sounds of interest by interfering with sounds, generally at similar frequencies), response, discomfort, hearing loss, and injury. Once activities have been completed, noise levels will drop back to background levels.

ALTERNATIVE 3C. IN-WATER PLACEMENT – WITHIN THE CHANNEL CUT 1 AND CUT 2 (PRIOR TO REALIGNMENT)

This alternative will have the same impacts as Alternative 3B.

ALTERNATIVE 3D. IN-WATER PLACEMENT - THREE ROOKERS ISLAND

This alternative will have the same impacts as Alternative 3B.

4.8 WATER QUALITY

ALTERNATIVE 1: NO ACTION

Under the No Action Alternative, there will be no water quality impacts because no dredging will occur.

MAINTENANCE DREDGING ALTERNATIVES

ALTERNATIVE 2A: MAINTENANCE DREDGING OF ANCLOTE RIVER FEDERAL CHANNEL AND GIWW CUT P-41 FROM STATIONS 266+00 TO 349+61

Under Alternative 2A, maintenance dredging would have short-term adverse effects on water quality. Turbidity impacts are expected to be minimal with compliance with conditions found under environmental commitments. Impacts to water quality from turbidity may vary with respect to dredge type. Hopper dredges and cutter-suction dredges are likely to have minor impacts from turbidity. Hopper dredging will create minor agitation of sediment at the channel bottom and turbidity from suspension of solids (turbidity) is pulled out of the water column by the suction of the draghead. Cutter suction dredging creates minor turbidity from the rotating cutterhead, the suspension of solids is pulled out of the water column by the suction at the dredge intake (located just behind the cutterhead). Mechanical dredging typically has more moderate turbidity from the digging action of the bucket at the channel bottom in comparison to cuttersuction or hopper dredging. However, effects to water quality are monitored by using performance-based

plans and specifications that require the dredge contractor to meet all relevant water quality standards, regardless of the type of equipment used. Maintenance operations undertaken by the Corps require compliance with Section 401 of the CWA (33 USC §1251 et seq.), as amended or 401 Water Quality Certification. The Corps will apply for and comply with the State's water quality certification that is issued by the FDEP for an Individual Environmental Resource Permit. After completion of dredging, water quality conditions are expected to return to pre-dredging levels. The Pinellas County Aquatic Preserve is an Outstanding Florida Waters (OFW), which are specially designated water bodies in Florida that are protected for their natural, aesthetic, and scientific value. The boundaries of the federal channel are excluded from FDEP's management of OFW.

ALTERNATIVE 2B: MAINTENANCE DREDGING OF ANCLOTE RIVER FEDERAL CHANNEL, WITH PROPOSED REALIGNMENT OF CUT 2, AND GIWW CUT P-41 FROM STATIONS 266+00 TO 349+61

This alternative will have the same impacts as Alternative 2A.

PLACEMENT ALTERNATIVES

ALTERNATIVE 3B. BEACH PLACEMENT

The placement of sediment onto beaches may temporarily impact water quality, particularly when delivered via pipeline or broadcast methods. During placement events, water quality may be further affected as additional sediment is introduced into the water column surrounding the beach areas. However, once beach placement is completed, water quality is expected to return to background levels.

ALTERNATIVE 3C. IN-WATER PLACEMENT – WITHIN THE CHANNEL CUT 1 AND CUT 2 (PRIOR TO REALIGNMENT)

Water quality may be temporarily impacted by vessel movements while transiting to the placement area and placing dredged material in the water. However, conditions are expected to return to pre-placement levels quickly after completion, as the alongshore currents of the Gulf should help restore normal conditions. Turbidity levels are likely to rise temporarily when sediment is released from dredging vessels and dispersed into the water column at the designated dispersal areas.

ALTERNATIVE 3D. IN-WATER PLACEMENT - THREE ROOKERS ISLAND

Water quality, due to turbidity, could be temporarily affected by vessel movement in shallow water and dredged material placement. Thus, after completion of placement, conditions are expected to quickly return to pre-placement levels; any changes should not be in place for more than a short period of time due to the prevalent alongshore currents of the Gulf. The Pinellas County Aquatic Preserve is an Outstanding Florida Waters (OFW), which are specially designated water bodies in Florida that are protected

for their natural, aesthetic, and scientific value. This placement area is outside of the federal channel and may require additional permitting.

4.9 CLIMATOLOGY AND AIR QUALITY

ALTERNATIVE 1: NO ACTION

Under the No Action Alternative, there will be no climatology or air quality impacts because no dredging will occur.

ALTERNATIVES FOR MAINTENANCE DREDGING (2A AND 2B) IN COMBINATION WITH PLACEMENT ALTERNATIVES

If it is determined that dredging of the entire length of the Anclote River federal channel (with or without the proposed realignment) and the nearby section of the GIWW Cut P-41 is needed during the same event with placement at a location furthest from the dredging location (worse case for amount of dredging), channel dredging is anticipated to last approximately three months and would result in a temporary increase in GHG emissions during that time, consisting primarily of CO_2 generated by marine vessels burning diesel fuel. A quantitative analysis of dredging-related GHG emissions, based on a fuel consumption estimate, was prepared by the Corps. Total dredging emissions, including placement Alternatives 3B, 3C, and 3D, are estimated to be 12,612 metric tons of carbon dioxide equivalent (MT CO_2e). Estimated fuel quantities and GHG emissions are summarized in Table 1 of the Air Quality Appendix F.

Based on shoaling rates and the dredging frequency of recent projects, channel dredging will occur as needed, which is estimated to be approximately every five to ten years, and that interval is assumed to remain constant. Therefore, 11 (eleven) maintenance dredging events are anticipated to occur over a 50-year period of analysis.

4.10 SEDIMENT CHARACTERISTICS

ALTERNATIVE 1: NO ACTION

Under the No Action Alternative, there will be no impacts to the sediment characteristics because no dredging will occur under this alternative.

MAINTENANCE DREDGING ALTERNATIVES

ALTERNATIVE 2A: MAINTENANCE DREDGING OF ANCLOTE RIVER FEDERAL CHANNEL AND GIWW CUT P-41 FROM STATIONS 266+00 TO 349+61

The existing sediment that composes the seafloor of the Anclote federal channel and GIWW channel is homogeneous. The act of dredging will have negligible effects on the sediment characteristics in the areas.

ALTERNATIVE 2B: MAINTENANCE DREDGING OF ANCLOTE RIVER FEDERAL CHANNEL, WITH PROPOSED REALIGNMENT OF CUT 2, AND GIWW CUT P-41 FROM STATIONS 266+00 TO 349+61

The existing sediment that composes the seafloor of the Anclote federal channel and GIWW channel is homogeneous. The act of dredging will have negligible effects on the sediment characteristics in the areas.

PLACEMENT ALTERNATIVES

ALTERNATIVE 3B. BEACH PLACEMENT

Anclote River Beach Park, Howard Park, and Sunset Beach are proposed as placement sites for compatible material. Sediment placed on the beach must have clay and/or silt content that is less than 10%, according to the Florida Sand Rule (62B-41.007(2)(j), F.A.C.). Because any dredged material placed on the beach and shoreline in these three areas will be compatible and comply with the Sand Rule, placement will not adversely affect the sediment characteristics in the three locations.

ALTERNATIVE 3C. IN-WATER PLACEMENT – WITHIN THE CHANNEL CUT 1 AND CUT 2 (PRIOR TO REALIGNMENT)

All dredged material placed in the channel locations will be compatible with sediment in the area and will be disbursed naturally via the coastal system. The sediment throughout the project area is homogeneous, thus there will be negligible effects on the sediment characteristics in the placement areas.

ALTERNATIVE 3D. IN-WATER PLACEMENT - THREE ROOKERS ISLAND

All dredged material placed in the area west of Three Rookers Island will be compatible with sediment in the area and will be disbursed naturally via the coastal system. The sediment throughout the project area is homogeneous, thus there will be negligible effects on the sediment characteristics in the placement area.

4.11 MORPHODYNAMICS

ALTERNATIVE 1: NO ACTION

The No Action Alternative will have long-term adverse impacts by allowing the pattern of excessive shoaling into Cut 1 to continue.

MAINTENANCE DREDGING ALTERNATIVES

ALTERNATIVE 2A: MAINTENANCE DREDGING OF ANCLOTE RIVER FEDERAL CHANNEL AND GIWW CUT P-41 FROM STATIONS 266+00 TO 349+61

Maintenance dredging of the navigation channels would have no effect on the larger-scale morphological patterns and evolution of the region due to the small spatial scale and relative volume of maintenance material for this alternative.

ALTERNATIVE 2B: MAINTENANCE DREDGING OF ANCLOTE RIVER FEDERAL CHANNEL, WITH PROPOSED REALIGNMENT OF CUT 2, AND GIWW CUT P-41 FROM STATIONS 266+00 TO 349+61

Alternative 2B will also maintain the pattern of excessive shoaling into Cut 1 but will drastically reduce the need for dredging Cut 2 as the south spit of Anclote Island will continue to recurve eastward and southward and will eventually intersect the GIWW. The GIWW will need to be dredged as these two features intersect. The realignment of the navigation channel would have no effect on the larger-scale morphological patterns and evolution of the region due to the small spatial scale of this alternative.

PLACEMENT ALTERNATIVES

ALTERNATIVE 3B. BEACH PLACEMENT

Alternative 3B will not have long-term adverse impacts. Beach placement along the eastern shoreline of Saint Joseph Sound is proposed to place a volume of sand that, when considering the larger morphologic system in this region, will not have an impact on the overall geomorphology of the region. The spatial scale of the proposed placement is small enough such that the larger system is not impacted due to either the change in the shape of the shoreline or due to the volume of sediment placed.

ALTERNATIVE 3C. IN-WATER PLACEMENT – WITHIN THE CHANNEL CUT 1 AND CUT 2 (PRIOR TO REALIGNMENT)

Alternative 3C will retain sediment to the littoral system instead of placing them at an offshore location by which they are lost to the system for an indefinite period which has negative impacts on the overall morphologic system. The sediments will remain in the nearshore which is beneficial for the preservation of sediment transport pathways and the littoral system. There will be no impact on the overall geomorphologic system.

ALTERNATIVE 3D. IN-WATER PLACEMENT - THREE ROOKERS ISLAND

Alternative 3D will retain sediments to the littoral system within the well-established ebb shoal cascade between Three Rookers Island and Honeymoon Island (Figure 4-1). The placement area is in a region where wave-driven sediment transport pathways are strongly embedded. Sediment will be transported from north to south, along each ebb shoal shield and will feed the southern portion of Three Rookers Bar and will also feed Honeymoon Island. The expected morphologic change into the future will not change from the previously established patterns as this alternative uses the existing features of this system to move sediment through the ebb shoal cascade.

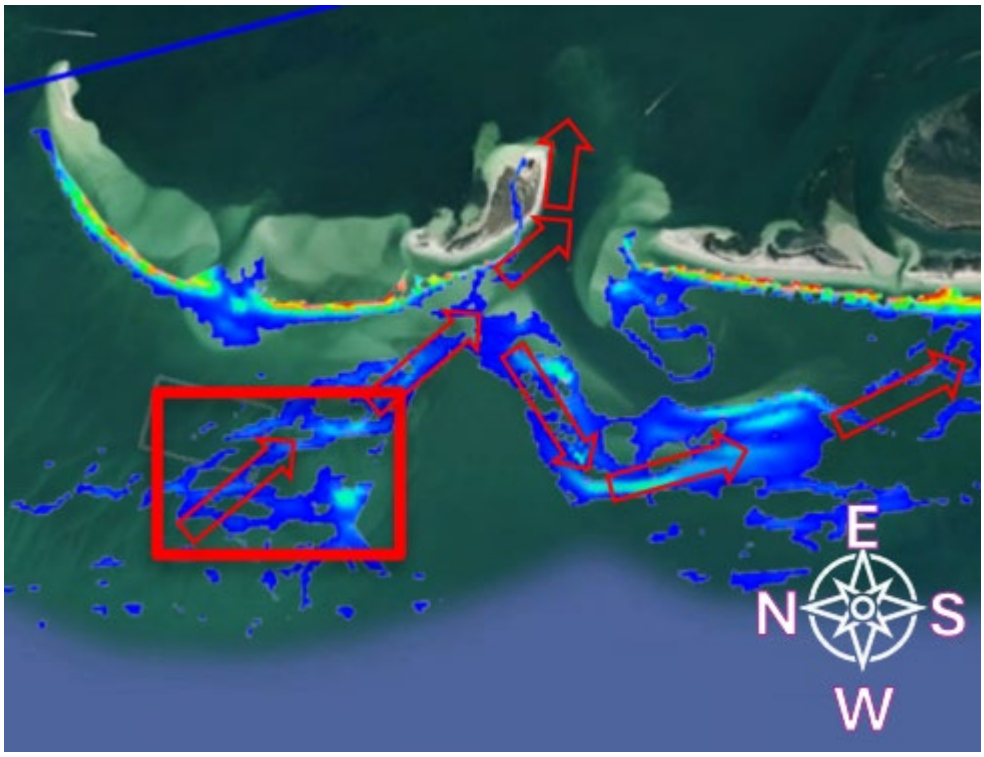

Figure 4-1: Placement Area (red box) and Wave-Driven Sediment Transport Pathways (red arrows).

4.12 TRIBAL NATIONS

ALTERNATIVE 1: NO ACTION

The No Action Alternative will have no effect as there are no tribal trust resources within the proposed action areas.

MAINTENANCE DREDGING ALTERNATIVES

ALTERNATIVE 2A: MAINTENANCE DREDGING OF ANCLOTE RIVER FEDERAL CHANNEL AND GIWW CUT P-41 FROM STATIONS 266+00 TO 349+61

Alternative 2A will have no effect as there are no tribal trust resources within the project area.

ALTERNATIVE 2B MAINTENANCE DREDGING OF ANCLOTE RIVER FEDERAL CHANNEL, WITH PROPOSED REALIGNMENT OF CUT 2, AND GIWW CUT P-41 FROM STATIONS 266+00 TO 349+61

Alternative 2B will have no effect as there are no tribal trust resources within the project area.

PLACEMENT ALTERNATIVES

ALTERNATIVE 3B. BEACH PLACEMENT

Alternative 3B will have no effect as there are no tribal trust resources within the project area.

ALTERNATIVE 3C. IN-WATER PLACEMENT – WITHIN THE CHANNEL CUT 1 AND CUT 2 (PRIOR TO REALIGNMENT)

Alternative 3C will have no effect as there are no tribal trust resources within the project area.

ALTERNATIVE 3D. IN-WATER PLACEMENT - THREE ROOKERS ISLAND

Alternative 3C will have no effect as there are no tribal trust resources within the project area.

4.13 CULTURAL RESOURCES

ALTERNATIVE 1: NO ACTION

No dredging would be conducted under the No Action Alternative and will not adversely affect historic properties.

MAINTENANCE DREDGING ALTERNATIVES

ALTERNATIVE 2A: MAINTENANCE DREDGING OF ANCLOTE RIVER FEDERAL CHANNEL AND GIWW CUT P-41 FROM STATIONS 266+00 TO 349+61

Dredging under Alternative 2A will not adversely affect historic properties, provided that avoidance areas in Cut 1 (USACE-107, at the junction of Cut 2 and GIWW Cut P-41 (Feature 1), and in Cut 3 (USACE-243) are maintained during construction activities.

ALTERNATIVE 2B: MAINTENANCE DREDGING OF ANCLOTE RIVER FEDERAL CHANNEL, WITH PROPOSED REALIGNMENT OF CUT 2, AND GIWW CUT P-41 FROM STATIONS 266+00 TO 349+61

Alternative 2B will have no adverse effect on historic properties, provided that existing avoidance areas are maintained during dredging activities in Cut 1 (USACE-107), at the junction of the GIWW- Cut P-41 (Feature 1), and to the west of new Cut 2A (Feature 2).

PLACEMENT ALTERNATIVES

ALTERNATIVE 3B. BEACH PLACEMENT

Under Alternative 3B, dredged material will be placed in the following areas: Fred Howard Park, Sunset Park, and Anclote River Park beach. Shoreline locations at Fred Howard

Park and Sunset Park were surveyed in 2025 with no historic properties identified that are listed or eligible for listing in the National Register of Historic Places (NRHP). However, the Anclote River Park location overlaps with eligible site 8PA10 (Anclote Mound). In a letter addressed to the Florida State Historic Preservation Officer (SHPO) dated August 14, 2019, the Corps determined that any placement would avoid the site. Provided that the avoidance measures in Anclote River Park are maintained as described, there would be no adverse effect on historic properties.

ALTERNATIVE 3C. IN-WATER PLACEMENT – WITHIN THE CHANNEL CUT 1 AND CUT 2 (PRIOR TO REALIGNMENT)

Alternative 3C involves in-water placement northwest of Three Rookers Island in the channel in Cut 1 and an adjacent area that is northeast and was previously within Cut 2. The Corps will avoid the area (USACE-107) in Cut 1 a when placing material. Consequently, this alternative will have no adverse effect on historic properties listed or eligible for listing in the National Register of Historic Places (NRHP).

ALTERNATIVE 3D. IN-WATER PLACEMENT - THREE ROOKERS ISLAND

Alternative 3D involves in-water placement west of Three Rookers Island. Two newly identified ASLFs are present in this location. Placement of dredged material will not adversely affect such features as they are below the seafloor surface. The Corps would not dredge, spudd or anchoring at either of these two locations and, consequently, this alternative will have no adverse effect on historic properties listed or eligible for listing in the NRHP.

4.14 SOCIOECONOMICS

ALTERNATIVE 1: NO ACTION

Under this alternative, there will be long-term adverse effects to the local economy due to the degradation of the navigation channel.

MAINTENANCE DREDGING ALTERNATIVES

ALTERNATIVE 2A: MAINTENANCE DREDGING OF ANCLOTE RIVER FEDERAL CHANNEL AND GIWW CUT P-41 FROM STATIONS 266+00 TO 349+61

Under this alternative, there will be long-term beneficial effects since this alternative will maintain efficient navigation though the channel allowing users to access activities such as ecotours, sponging, and commercial boating.

ALTERNATIVE 2B: MAINTENANCE DREDGING OF ANCLOTE RIVER FEDERAL CHANNEL, WITH PROPOSED REALIGNMENT OF CUT 2, AND GIWW CUT P-41 FROM STATIONS 266+00 TO 349+61

This alternative will have the same positive impacts as those for Alternative 2A.

PLACEMENT ALTERNATIVES

ALTERNATIVE 3B. BEACH PLACEMENT

Under this alternative, there will be long-term beneficial effects since this alternative will ensure more optimal beach usage by visitors to Anclote Key Preserve State Park, Fred Howard Beach, and Sunset Beach.

ALTERNATIVE 3C. IN-WATER PLACEMENT – WITHIN THE CHANNEL CUT 1 AND CUT 2 (PRIOR TO REALIGNMENT)

This alternative will have no significant impact on socioeconomics since the dredged materials will be placed in a different portion of the channel that has capacity for the dredged material.

ALTERNATIVE 3D. IN-WATER PLACEMENT - THREE ROOKERS ISLAND

This alternative will have the same impact as Alternative 3C except the placement will be at Three Rookers Island.

5 PREFERRED ALTERNATIVE

This section compares the alternatives and provides the basis for the selection of the Preferred Alternative.

5.1 COMPARISON OF ALTERNATIVES

As described in Section 4, the Corps examined both the context of the action and the intensity of the effect by considering duration, the extent to which an effect is adverse and/or beneficial. Appendix E-1 summarizes the major features and consequences of the alternatives for comparison.

5.2 PREFERRED ALTERNATIVE

Alternative 2A (Maintenance Dredging of Anclote River Federal Channel and GIWW Cut P-41 (Stations 266+00 TO 349+61), 3C (In-water placement within the channel Cut 1 and Cut 2 prior to realignment), and 3D (In-water placement - Three Rookers Island) are carried forward as the Preferred Alternative as these alternatives best meet the objectives for maintaining navigation for the federal project and anticipated need for current and future maintenance events (Figure 5-1.) Alternative 2A would include maintenance dredging of Cuts 1 and 1A-14 and the turning basin on an as needed basis (approximately every 5-10 years). The authorized depths of both channels is 9 feet and the authorized width is 100 feet wide. Material placement options include in-water placement, within portions of the Cut 1 of the channel and the previous area of Cut 2, and the area west of Three Rookers Island. Placement option(s) would be selected based on the location of

dredging, capacity of the placement area, permitting, and other factors (Table 5-1). However, if the proposed realignment of Cut 2A is authorized, Alternative 2B will be the Preferred Maintenance Dredging Alternative, adding Cut 2A in place of a section of the current Cut 2 to the authorized project for maintenance dredging. Pre-dredge surveys may identify and confirm that maintenance dredging is only needed in certain reaches of the proposed action areas, which could be less than the full project footprint. Therefore, this EA also supports maintenance dredging events where less than the entire specified areas are dredged.

Table 5-1. Preferred alternative placement options.

Rank	Placement Area	Capacity
1	In-Water Placement at Three Rookers Island	95,000 cy
2	In-Water Channel Placement (Cut 1 and Cut 2 prior to realignment)	45,000 cy

The Preferred Alternative does not change the authorized project purposes and is the most engineeringly sound and environmentally acceptable alternative. The Corps has determined that the Preferred Alternative is not contrary to public interest.

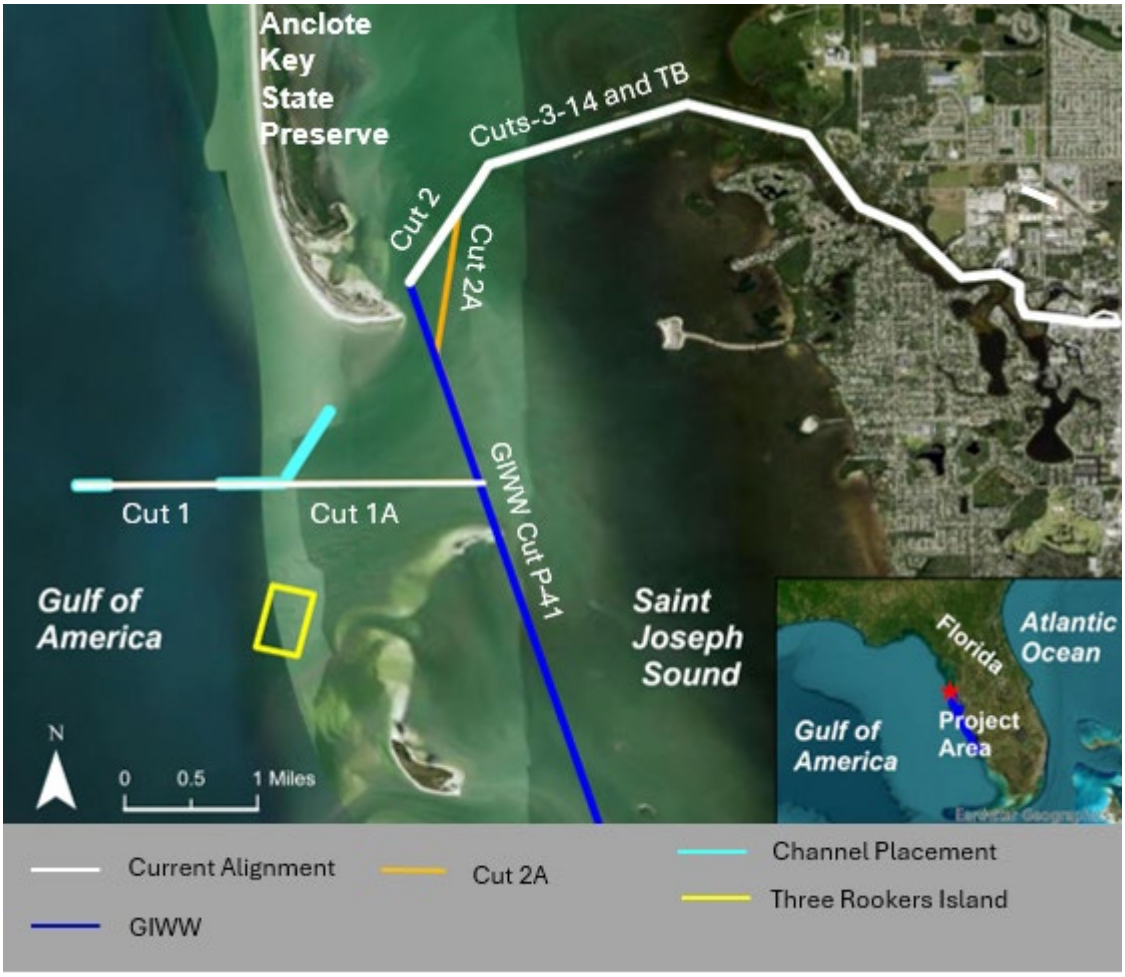

Figure 5-1. Map of the Preferred Alternative. The current Anclote River federal channel is shown in white, the GIWW Cut P-41 is in royal blue and proposed Cut 2A is in orange. The placement alternatives include in-water placement at Three Rookers Island (yellow) and in-water placement within the channel and previous channel cuts (light blue).

UNAVOIDABLE ADVERSE ENVIRONMENTAL EFFECTS

This section summarizes the potential adverse environmental effects as discussed in Section 4. Impacts from the dredging activities on fish and wildlife, including T&E species, are expected to be insignificant and temporary because they are mobile and can relocate to avoid physical effects. Infaunal resources that live inside the boundaries of the dredging or placement footprint will be lethally affected; however, colonization by neighboring communities is expected to occur quickly. Additionally, there is sufficient habitat in the area to be used by any species displaced by dredging activities. Water quality will have temporary impacts from increases in turbidity. Minor degradation of air quality and increases in noise are also expected to occur during dredging activities. Recreational resources, safety and navigation within the area will be temporarily impacted by the presence and operation of equipment. These effects are expected to be temporary and minor in nature, lasting only until the end of the maintenance event.

5.3 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. An irreversible commitment of resources from the preferred alternative would be the use of fuel during dredging. An irretrievable commitment of resources is one in which, due to decisions to manage the resource for another purpose, opportunities to use or enjoy the resource as they presently exist are lost for a period. An irretrievable commitment of resources under the preferred alternative would be the dredged material from the channel.

5.4 MITIGATION, MONITORING, AND ADAPTIVE MANGEMENT

Compensatory mitigation of seagrass is expected for impacts to patchy (<0.05% coverage) seagrass found within 8.57 acres of Cut 1 and the Corps estimates that mitigation needed for Cut 1 impacts would be around 2.95 acres. A seagrass mitigation plan is being developed with federal and state agencies. A seagrass mitigation site is being coordinated with FDEP and NMFS, and a draft plan is in Appendix G. Pre- and post- dredging seagrass surveys will be completed to help determine the total impacts from the maintenance event.

6 ENVIRONMENTAL COMMITMENTS AND COMPLIANCE

This section documents compliance with the Preferred Alternative with NEPA and its implementing regulations.

6.1 ENVIRONMENTAL COMMITMENTS

The Corps continues to refine the projects monitoring requirements and the minimization and avoidance measures that will be included in the dredging contract's specifications as described below. Continued coordination with regulatory agencies and implementation of the 2026 GRBO T&C, RPMs and BMPs in dredging events will reduce any potentially adverse effects to the environment, particularly regarding hardbottom and seagrass communities. The Corps and its contractors commit to avoiding, minimizing, or mitigating for adverse effects during dredging and placement activities. The commitments described in Table 6-1 will be included in the contract's specifications.

Table 6-1. Corp's environmental commitments.

Resource	Corps' Commitment
Fish and Wildlife Resources (Other than T&E Species)	Construction activities will be managed to minimize interference with, disturbance of, and damage to fish and wildlife. Prior to the start of construction, the Contractor will submit their Environmental Protection Plan (EPP) to the Corps for review. The EPP will include protective measures for species that require specific attention and complete compliance with applicable laws and regulations.
T&E Species	Adverse effects to T&E species will be avoided and/or minimized. The NMFS' Protected Species Construction Conditions[5] will be implemented extending protections to other mobile T&E species in the project vicinity. T&E species protection criteria will be included in the Contractor's EPP. Operation of moving equipment shall cease if a protected species is observed within 150 ft of operations. Activities will not resume until the protected species has departed the project area of its own volition (e.g., species was observed departing or 20 minutes have passed since the animal was last seen in the area). Any collision with and/or injury to a sawfish or sea turtle shall be reported immediately to the NMFS Protected Resources Division and the local authorized sea turtle stranding/rescue organization. The Corps would include applicable Terms & Conditions of the GRBO and P3BO.

[5] NMFS 2021 Protected Species Construction Conditions https://media.fisheries.noaa.gov/2021-06/Protected_Species_Construction_Conditions_1.pdf

Resource	Corps' Commitment
T&E Species (manatees)	Anclote River Cuts 3, 3A, and 4 (within the IMA) have seasonal restrictions with no dredging allowed between November 15 and March 31, associated with the Anclote Power Plant. In addition, the dredge operator shall gravity-release (if a clamshell is used) the clamshell bucket only at the water's surface and only after confirmation that there are no manatees within the safety distance. An approved manatee observer is required, and the project will also implement USFWS 2011 Standard Manatee Conditions for In-water Work.[6]
Water Quality	Water quality (turbidity) will be monitored at the dredging and placement areas in compliance with the requirements of 401 Water Quality Certification obtained from FDEP. If turbidity values at the site exceed State Water Quality Standard for turbidity (29 Nephelometric Turbidity Unit (NTU) above background within the Federal Navigation Channel and 0 NTU above background plus a background variability allowance to be determined prior to construction outside of the Federal Navigation Channel per 62-302, F.A.C. at the edge of the permitted mixing zone (150 m), dredging activities will be suspended and will not continue until water quality meets state standards.

[6]USFWS 2011 Standard Manatee Construction conditions for in-water work https://safe.menlosecurity.com/doc/docview/viewer/docN9FFB41649F47fbb260a907f894d142267b720f2e95e6150ace3f46f9419ed712946d4288b3d4

Resource	Corps' Commitment
Cultural Resources	Pursuant to Section 106 of the National Historic Preservation Act (NHPA), the Corps determined that the Preferred Alternative will not adversely affect historic properties, provided avoidance buffers are maintained. The Corps consulted with the State Historic Preservation Officer (SHPO) and federally recognized tribes on the draft cultural resources survey report on January 21, 2026. In a letter dated February 23, 2026, the Florida SHPO concurred with the Corps' determination provided that avoidance areas are maintained during project activities. A post-review inadvertent discovery clause will be included in the project specifications. If any archaeological resources are uncovered during project activities, all activities will be halted immediately within the area and appropriate Corps staff are notified. Additional work in the area of the discovery will be suspended at the site until compliance with all federal and state regulations is successfully completed and the Corps' staff members provide further directives.

6.2 ENVIRONMENTAL COMPLIANCE

This EA has been prepared pursuant to NEPA and the DOD's NEPA Implementing Procedures, published in June 2025. The status of the Preferred Alternative's compliance with environmental acts and E.O.s are provided in Table 6-2, additional details are available in Appendix E-2.

The status of environmental compliance is described as follows:
Compliant: Meets all applicable requirements of the statute.
In Progress: Ongoing, incomplete, or pending completion of required public and/or agency review processes.
Not Applicable: Statute does not apply to the project..

Table 6-2. Status of environmental compliance.

Reference	Law, Policy, and Regulations	Status
42 United States Code (U.S.C.) § 4321 *et seq*.	National Environmental Policy Act of 1969, as amended	In progress
43 U.S.C. §§ 2101-2106	Abandoned Shipwrecks Act, as amended	In Compliance
42 U.S.C. §§ 1996 and 1996a	American Indian Religious Freedom Act	Not Applicable

Reference	Law, Policy, and Regulations	Status
16 U.S.C. §§ 757A-757G	Anadromous Fish Conservation Act	Not Applicable
54 U.S.C. §§ 320301-320303 and 18 U.S.C. 1866(b)	Antiquities Act of 1906, as amended	In Compliance
16 U.S.C. 469-469c	Archaeological and Historic Preservation Act	In Compliance
54 U.S.C. §§ 312501-312508	Archaeological Resources Protection Act, as amended	In Compliance
16 U.S.C. §§ 668-668d	Bald and Golden Eagle Protection Act	In Compliance
42 U.S.C. § 7401 *et seq*.	Clean Air Act of 1972	In Compliance
33 U.S.C. § 1341 and 33 U.S.C. § 1344(b)	Clean Water Act of 1972, Section 401 and Section 404(b)	In Progress
16 U.S.C. § 3501 *et seq*.	Coastal Barrier Resources Act and Coastal Barrier Improvement Act of 1990	Not Applicable
16 U.S.C. § 1451 *et seq*.	Coastal Zone Management Act of 1972	In Progress
16 U.S.C. § 1531 *et seq*.	Endangered Species Act of 1973	In Progress
16 U.S.C. §§ 1221-26	Estuary Protection Act of 1968	Not Applicable
7 U.S.C. § 4201 *et seq*.	Farmland Protection Policy Act	Not Applicable
16 U.S.C. § 460l-12 *et seq*.	Federal Water Project Recreation Act, as amended	Not Applicable
16 U.S.C. §§ 661-666(e)	Fish and Wildlife Coordination Act	In Progress
16 U.S.C. § 1801 *et seq*.	Magnuson-Stevens Fishery Conservation and Management Act of 1976, as amended	In Progress
16 U.S.C. § 1361 *et seq*.	Marine Mammal Protection Act of 1972, as amended	In Compliance
33 U.S.C. § 1401 *et seq*.	Marine Protection, Research, and Sanctuaries Act	Not Applicable
16 U.S.C. §§ 703-712, 715	Migratory Bird Treaty Act and Migratory Bird Conservation Act	In Compliance

Reference	Law, Policy, and Regulations	Status
54 U.S.C. § 300101 *et seq.*	National Historic Preservation Act of 1966, as amended	In Compliance
25 U.S.C. § 3001 *et seq.*	Native American Graves Repatriation Act	In Compliance
33 U.S.C. § 403	River and Harbor Act of 1899, Section 10	In Compliance
43 U.S.C. § 1301 *et seq*.	Submerged Lands Act of 1953	In Progress
42 U.S.C. § 4601 *et seq*.	Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970	Not Applicable
16 U.S.C. § 1271 *et seq*.	Wild and Scenic River Act of 1968	Not Applicable
E.O. 11593	Protection and Enhancement of the Cultural Environment	In Compliance
E.O. 11988	Floodplain Management	In Compliance
E.O. 13007	Indian Sacred Sites	Not Applicable
E.O. 11990	Protection of Wetlands	Not Applicable
E.O. 13045	Protection of Children from Environmental Health Risks and Safety Risks	In Compliance
E.O. 13089	Coral Reef Protection	Not Applicable
E.O. 13112	Invasive Species	In Compliance
E.O. 13175	Consultation and Coordination with Indian Tribal Governments	In Compliance
E.O. 13186	Responsibilities of Federal Agencies to Protect Migratory Birds	In Compliance
Memorandum	Memorandum on Government-to-Government Regulations with Native American Tribal Governments	Not Applicable

6.3 PUBLIC AND AGENCY COORDINATION

PUBLIC COMMENTS RECEIVED AND RESPONSES

A copy of all comments received during the public and agency review and comment period, as well as a summary matrix of the comments and Corps' responses to substantive comments, will be included in Appendix A (Pertinent Correspondence) of the final Environmental Assessment.

7 PREPARERS

Table 7-1. List of preparers.

Name and title	Organization	Discipline/Expertise
Rachel Case, Biologist	Corps	NEPA
Zuzana Chovanec, Archeologist	Corps	Cultural Resources and Tribal Nations
Daniel Adcock, Water Quality Specialist	Corps	Water Quality
Troy Mayhew, Air Quality Specialist	Corps	Air Quality
Del Cabeche, Economist	Corps	Socioeconomics
Aaron Seitz, Geologist	Corps	Geotechnical
Kelly Legault, PhD, PE Coastal Engineer RSM-RCX	Corps	Geomorphology
Jim Lagrone, Project Manager	Corps	Project Management

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