

JUNE 2017

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# **ENVIRONMENTAL ASSESSMENT**

## **OPERATIONS AND MAINTENANCE DREDGING**

**ST. PETERSBURG HARBOR  
PINELLAS AND HILLSBOROUGH COUNTIES,  
FLORIDA**



U.S. Army Corps  
of Engineers  
Jacksonville District



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

**FINDING OF NO SIGNIFICANT IMPACT**

**ST. PETERSBURG HARBOR  
OPERATIONS AND MAINTENANCE DREDGING  
PINELLAS AND HILLSBOROUGH COUNTIES, FLORIDA**

The U.S. Army Corps of Engineers, Jacksonville District (Corps), has conducted an environmental assessment in accordance with the National Environmental Policy Act of 1969, as amended. The Corps assessed the effects of the following actions in the Environmental Assessment (EA), dated May 2017 for St. Petersburg Harbor, Operations and Maintenance Dredging, Pinellas and Hillsborough Counties, Florida. The proposed action consists of the following:

a Approximately 300,000 cubic yards of material will be periodically dredged from the following locations and authorized depths: An entrance channel 23 feet deep by 300 feet wide from Tampa Bay southwesterly and thence westerly along south side of Port of St. Petersburg basin to Bayboro Harbor; a 24-foot depth in the port basin and in the area between the entrance channel and the Maritime Service south bulkhead; a channel 15 feet deep by 100 feet wide in Bayboro Harbor along southwesterly 300 feet of the Maritime Service bulkhead; a basin 12 feet deep by 700 - 800 feet wide by 1,400 feet long in Bayboro Harbor; a channel 12 feet deep by 75 - 300 feet wide in the mouth of Salt Creek; an entrance channel 20 feet deep by 200 feet wide extending northerly about 5.5 miles from deep water in lower Tampa Bay, and thence a channel 19 feet deep by 250 feet wide leading westward to the 23-foot depth entrance channel;

b Berthing area costs associated with Federal harbor projects, whether construction costs or maintenance costs, are generally paid in total by others, not the Federal government. However, construction or maintenance dredging at berthing areas, and placement of that material, sometimes occurs simultaneously with dredging of a Federal channel;

c Dredging is expected to occur every 10-15 years; however, dredging frequency may vary due to storm induced shoaling;

d Excavated material would be placed within dredged material management areas 2-D and 3-D, or within the Tampa Ocean Dredged Material Disposal Site. However, if economically feasible, dredged material may also be placed within a number of beneficial use sites.

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

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

Maintenance dredging with placement into upland placement areas are exempt from Section 401 of the Clean Water Act. State consistency review was performed during the coordination of the draft EA, and the state's final consistency determination under the Coastal Zone Management Act and Water Quality Certification has been waived through the permit exemption verification process. However, water quality certification (State permit) in accordance with Section 401 would be required if dredged material is placed into any of the beneficial use sites.

Pursuant to section 7 of the Endangered Species Act of 1973, as amended, coordination with the US Fish and Wildlife Service and National Marine Fisheries Service has been completed.

Pursuant to section 106 of the National Historic Preservation Act of 1966 (NHPA), as amended, coordination with the Florida State Historic Preservation Officer and the appropriate federally recognized tribes has been completed. The Corps has determined that maintenance dredging of the St. Petersburg Harbor Federal Navigation Channel and placement of dredged material within dredged material management areas 2-D and 3-D, or within the Tampa Ocean Dredged Material Disposal Site poses no effect to historic properties.

Public review of the draft EA was completed on 26 May 2017. All comments submitted during the public comment period were responded to in the Final EA.

Technical, environmental, economic, and cost-effectiveness criteria used in the formulation of alternative plans were those specified in the Water Resource Council's 1983 Economic and Environmental Principles for Water and Related Land Resources Implementation Studies. All applicable laws, executive orders, regulations, and local government plans were considered in the evaluation of the alternatives. Based on these reports, the reviews by other Federal, State and local agencies, Tribes, input of the public, and the review by my staff, it is my determination that the recommended plan would not significantly affect the human environment; therefore, preparation of an Environmental Impact Statement is not required.



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

8 JUNE 2017

Date

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# ENVIRONMENTAL ASSESSMENT

## ST. PETERSBURG HARBOR

### OPERATIONS AND MAINTENANCE DREDGING

#### 1 PROJECT PURPOSE AND NEED

##### 1.1 PROJECT DESCRIPTION

The U.S. Army Corps of Engineers, Jacksonville District (Corps), is proposing to conduct periodic maintenance dredging of the St. Petersburg Harbor Federal Navigation Project in Pinellas and Hillsborough Counties, Florida (Figure 1: Study Area). In summary, approximately 300,000 cubic yards of material will be periodically dredged from the following locations and authorized depths: An entrance channel 23 feet deep by 300 feet wide from Tampa Bay southwesterly and thence westerly along south side of Port of St. Petersburg basin to Bayboro Harbor; a 24-foot depth in the port basin and in the area between the entrance channel and the Maritime Service south bulkhead; a channel 15 feet deep by 100 feet wide in Bayboro Harbor along southwesterly 300 feet of the Maritime Service bulkhead; a basin 12 feet deep by 700 - 800 feet wide by 1,400 feet long in Bayboro Harbor; a channel 12 feet deep by 75 - 300 feet wide in the mouth of Salt Creek; an entrance channel 20 feet deep by 200 feet wide extending northerly about 5.5 miles from deep water in lower Tampa Bay, and thence a channel 19 feet deep by 250 feet wide leading westward to the 23-foot depth entrance channel (Figure 2: Project Location Map).

Berthing area costs associated with Federal harbor projects, whether construction costs or maintenance costs, are generally paid in total by others, not the Federal government. However, construction or maintenance dredging at berthing areas, and placement of that material, sometimes occurs simultaneously with dredging of a Federal channel.

Dredging is expected to occur every 10-15 years; however, dredging frequency may vary due to storm induced shoaling, subject to appropriated funds, and project features may potentially be prioritized if resources do not allow the maintenance of the entire project. Excavated material would be placed within Tampa Harbor dredged material management areas (DMMA) 2-D and 3-D, or within the Tampa Ocean Dredged Material Disposal Site (ODMDS). If economically feasible, dredged material may also be placed within a number of beneficial use sites (listed below; Figure 3: Locations of Beneficial Use Sites).

1. Egmont Key Beach and Nearshore Placement
2. Fort De Soto/Mullet Key Beach and Nearshore Placement
3. Sunken/Bird Island
4. Gandy Channel North Dredged Hole
5. Northshore Beach Dredged Hole
6. MacDill Runway, Beach, and Docks Holes

7. McKay Bay Dredged Hole
8. Whiskey Stump Key Dredged Holes (1 and 2)
9. St. Petersburg/Clearwater Airport Dredged Hole
10. Bay Point Dredged Hole
11. Big Island Cut Dredged Hole
12. Cypress Point Dredged Hole
13. Culbreath (North and South) Dredged Holes
14. Georgetown (2 Dredged Holes)
15. Northeast St. Petersburg Dredged Hole
16. Venetian Isles Dredged Hole
17. Shore Acres Dredged Hole
18. Skyway Causeway North and South Dredged Holes

Figure 1. Study Area

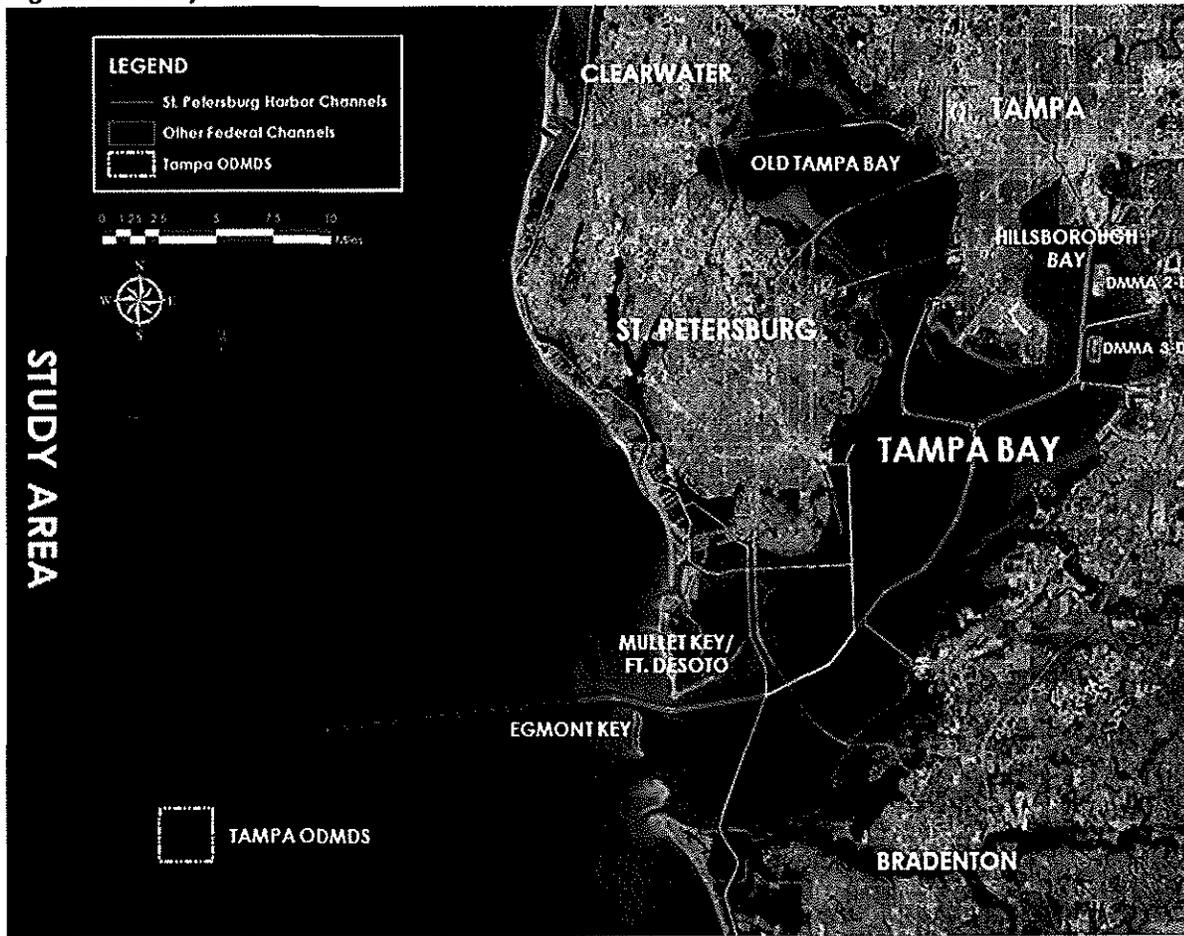


Figure 2. Project Location Map

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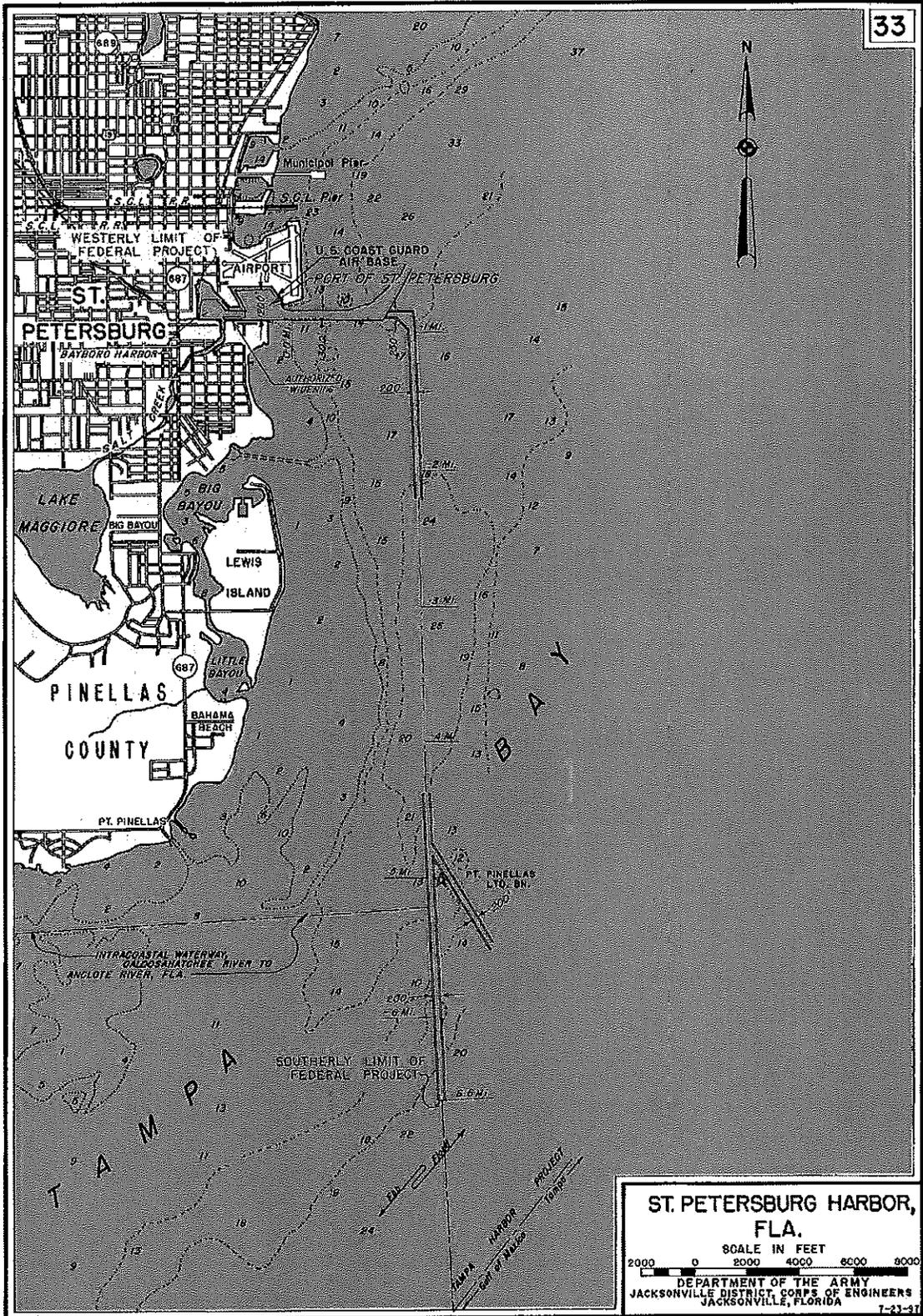
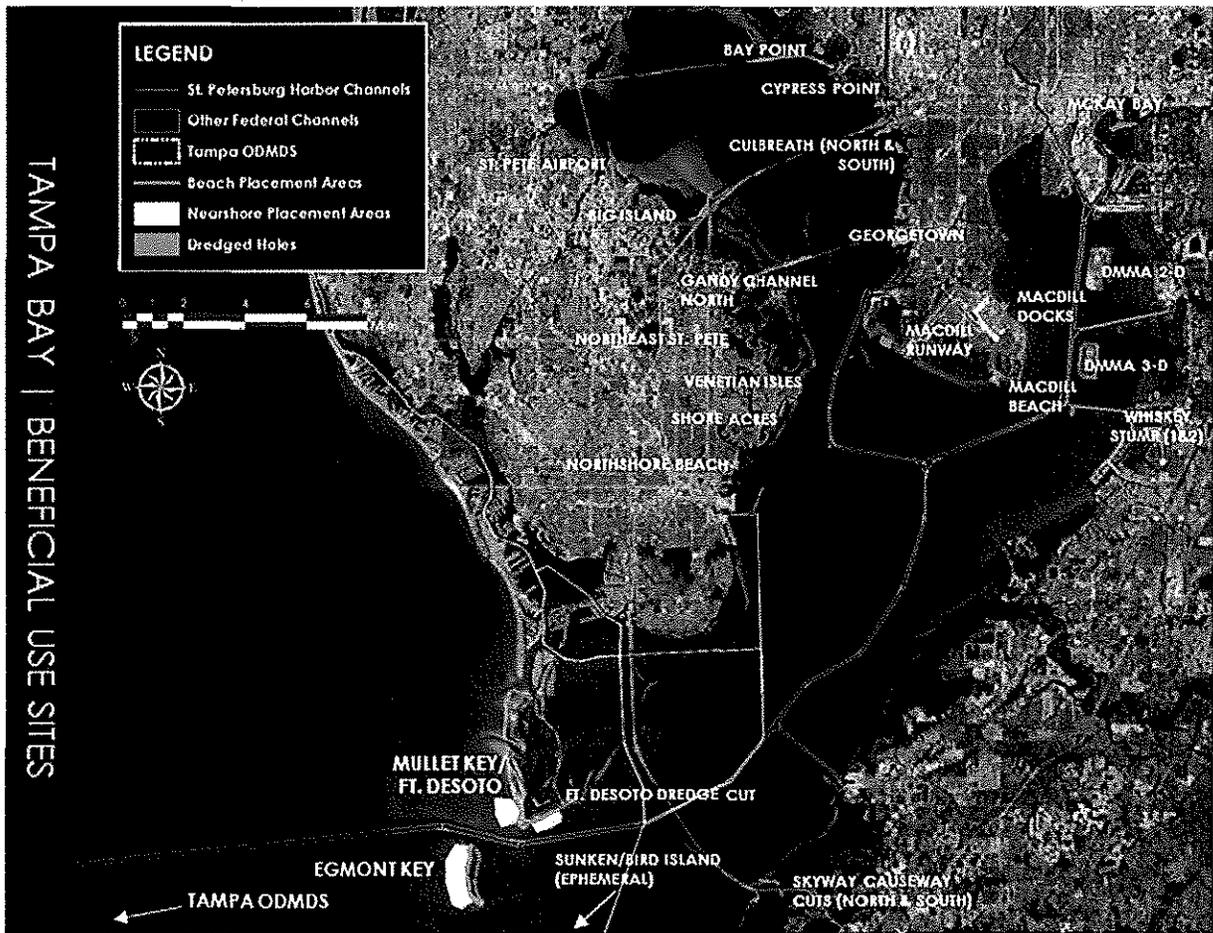


Figure 3. Locations of Beneficial Use Sites



## 1.2 PROJECT NEED OR OPPORTUNITY

The accumulation of sediment, commonly referred to as shoaling, has restricted the width of the project channels and reduced their depths. Last dredged in 2000-2001, the most recent survey documented a total in situ shoaling volume of approximately 200,000 cubic yards (cy) within the authorized channels. Minimum depths recorded from the project channels are less than the authorized depths and are causing navigation restrictions for commercial vessels. Periodic dredging is required to remove accumulated sediments and thus maintain the channels at their federally authorized depth for navigation purposes.

## 1.3 PROJECT AUTHORITY

The maintenance of the Federal channel was authorized by the Rivers and Harbors Act of 1950, P.L. 516, and House Document No. 70, 81st Congress, First Session.

## 1.4 RELATED ENVIRONMENTAL DOCUMENTS

Related National Environmental Policy Act (NEPA), design, and planning reports for the St. Petersburg Harbor Federal navigation project, Pinellas County, FL includes the following documents:

- *Final Environmental Impact Statement for the Designation of an Ocean Dredged Material Disposal Site Located Offshore Tampa, Florida.* USEPA, September 1994
- *Tampa Harbor – Big Bend Channel Navigation Improvements.* USACE, September 1996.
- *Disposal Island 2D Dike Height Increase.* USACE, 1999.
- *Construction and Beneficial Use of Dredged Material Tampa Harbor – Ybor Navigation Channel Turning Basin Hillsborough County, Florida.* USACE, February 2000.
- *Maintenance Dredging, St. Petersburg Harbor, Pinellas County, Florida.* USACE, April 2000.
- *Channel and Turning Basin Tampa Harbor – Alafia River Hillsborough County, Florida.* USACE, August 2000.
- *Port Sutton Channel – Tampa Harbor Hillsborough County, Florida.* USACE, September 2000.
- *Maintenance Dredging and Beneficial Use of Dredged Material Tampa Harbor – MacDill Seagrass Bed and Harbor Isle Lake Restoration Hillsborough and Pinellas Counties, Florida.* USACE, August 2001.
- *Maintenance Dredging and Beneficial Use of Dredged Material Egmont Key Shoreline Placement Tampa Harbor, Pinellas County, Florida.* USACE, June 2004.
- *Evaluation of Two Additional Disposal Options for the New Construction Port Sutton Navigation Channel for Beneficial Uses of Dredged Material, Tampa Harbor, Hillsborough County, Florida,* USACE. September 2000, Revised August 2005.
- *Tampa Harbor O&M (Holes) Navigation Project Final.* USACE, February 2006
- *Tampa Harbor Maintenance Dredging and Beneficial Use of Dredged Material Mullet Key (Ft. De Soto) Shoreline Placement Hillsborough County, Florida.* USACE, September 2006.
- *Maintenance Dredging, Port Tampa, 43 and 34 Foot Project, Cut C, Port Sutton Turning Basin, Sparkman Channel Upper, and the Ybor Channel Hillsborough County, Florida.* USACE, August 2009.
- *Maintenance Dredging, Cut A, Cut F, and Cut G, 43 Foot and 34 Foot Project Hillsborough and Pinellas Counties, Florida.* USACE, June 2010.
- *Tampa Harbor Federal Navigation Project, Operations and Maintenance Dredging.* USACE, 2011.
- *Tampa Harbor, Florida, Dredged Material Management Plan (DMMP) 2010-2030 Update April 2012)*

## **1.5 DECISION TO BE MADE**

This EA updates the assessment completed in April, 2000, *Maintenance Dredging, St. Petersburg Harbor, Pinellas County, Florida*. Updates include, but are not limited to, newly proposed dredged material placement locations (refer to Section 1.1), an Essential Fish Habitat assessment, and revised resource analyses. Potential beneficial uses of dredged material would be considered

whenever economically and environmentally feasible.

## **1.6 SCOPING AND RELEVANT ISSUES**

### **1.6.1 RELEVANT ISSUES**

The following issues were identified as relevant to the proposed action (maintenance dredging with placement into DMMA 3D, 2D, ODMDS, or beneficial use sites) and appropriate for further evaluation: sediment characteristics; fish and wildlife resources; threatened and endangered species; wildlife refuges and sanctuaries; essential fish habitat; air quality; water quality; hazardous, toxic, radioactive waste; noise; aesthetics, recreation; socioeconomics, navigation and public safety; cultural resources; and energy and conservation.

### **1.6.2 ISSUES ELIMINATED FROM FURTHER ANALYSIS**

The proposed action is expected to have little or no impact on soils, housing, or population dynamics.

## **1.7 ENVIRONMENTAL COORDINATION**

### **1.7.1 WATER QUALITY CERTIFICATION**

This project would be performed in compliance with State of Florida water quality standards. In accordance with the Coastal Zone Management Act, a Federal Consistency Determination (CD) has been prepared for the proposed placement locations (Appendix B). State consistency review was performed during the coordination of the draft EA, and the state's final consistency determination under the Coastal Zone Management Act and Water Quality Certification has been waived through the permit exemption verification process by letter dated 4 May 2017 (Appendix C).

### **1.7.2 ENDANGERED SPECIES ACT – SECTION 7 COORDINATION**

In compliance with Section 7 of the Endangered Species Act, the project has been fully coordinated under the Endangered Species Act. The applicable conditions of the Gulf of Mexico Regional Biological Opinion (GRBO) issued by the National Marine Fisheries Service (NMFS) and the U.S. Fish and Wildlife Service coordination letter dated 12 May 2017, Statewide Programmatic Biological Opinion, and Piping Plover Programmatic Biological Opinion would be followed during construction.

## 2 ALTERNATIVES

The alternatives section is perhaps the most important component of this EA. It describes the no-action alternative, the proposed action, and other reasonable alternatives that were evaluated. The beneficial and adverse environmental effects of the alternatives are presented in comparative form, providing a clear basis for choice to the decisionmaker and the public. A preferred alternative was selected based on the information and analysis presented in the sections on the Affected Environment and Probable Impacts.

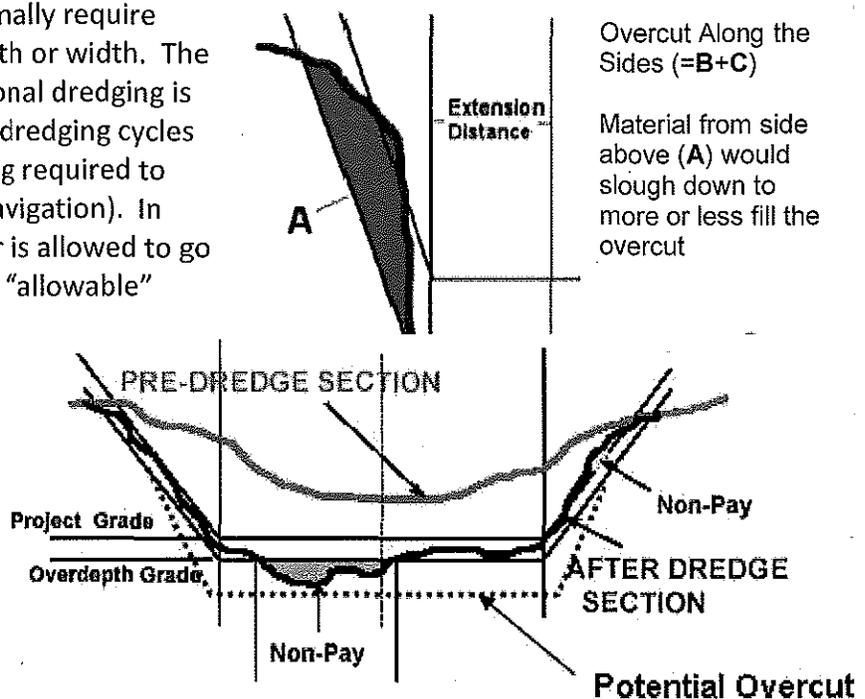
### 2.1 DESCRIPTION OF ALTERNATIVES

#### 2.1.1 TYPE OF DREDGING EQUIPMENT

The U.S. Army Corps of Engineers does not normally specify the type of dredging equipment to be used. This is generally left to dredging industry to offer the most appropriate and competitive equipment available at the time. Never-the-less, certain types of dredging equipment are normally considered more appropriate depending on the type of material, the depth of the channel, the depth of access to the disposal or placement site, the amount of material, the distance to the disposal or placement site, the wave-energy environment, etc. A more detailed description of types of dredging equipment and their characteristics can be found in Engineer Manual, EM 1110-2-5025, *Engineering and Design - Dredging and Dredged Material Disposal*. This Engineer Manual is available on the internet at <http://www.usace.army.mil/publications/eng-manuals/em1110-2-5025/toc.htm>.

Required, Allowable, and Over-cut Beyond the Project Depth or Width.

The plans and specifications normally require dredging beyond the project depth or width. The purpose of the "required" additional dredging is to account for shoaling between dredging cycles (reduce the frequency of dredging required to maintain the project depth for navigation). In addition, the dredging contractor is allowed to go beyond the required depth. This "allowable" accounts for the inherent variability and inaccuracy of the dredging equipment (normally  $\pm 2$  feet). In addition, the dredge operator may practice over-cutting. An "over-cut" along the sides of the channel may be employed in anticipation of movement of material down the sides of the channel. Over-cut throughout



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

#### *Use of a Drag Bar.*

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

### **2.1.2 NO ACTION ALTERNATIVE**

The No Action Alternative is to discontinue maintenance dredging of St. Petersburg Harbor's federal navigation channels. This alternative would also discontinue the placement of dredged material from St. Petersburg Harbor into the placement areas identified in Section 1.1.

### **2.1.3 DREDGING AND UPLAND PLACEMENT ALTERNATIVE**

Periodic maintenance dredging of the federal navigation channels would occur as planned (refer to Section 1.1 for more detail). Dredged material would be placed within DMMA 2-D or 3-D.

### **2.1.4 DREDGING AND ODMDS PLACEMENT ALTERNATIVE**

Periodic maintenance dredging of the federal navigation channels would occur as planned (refer to Section 1.1 for more detail). Dredged material would be placed within the ODMDS in accordance with the Site Material and Management Plan for the Tampa ODMDS (EPA, 2009). The sediments of the Federal navigation channels have not been analyzed pursuant to Section 103 of the Marine Protection, Research, and Sanctuaries Act (MPRSA) for placement into the ODMDS. This testing would need to occur, and the results reviewed and approved by U.S. Environmental Protection Agency prior to placement within the ODMDS.

### **2.1.5 DREDGING AND BENEFICIAL USE SITES PLACEMENT ALTERNATIVE**

Periodic maintenance dredging of the federal navigation channels would occur as planned (refer to Section 1.1 for more detail). If economically feasible, dredged material would be placed within a number of beneficial use sites listed in Section 1.1.

## **2.2 PREFERRED ALTERNATIVE**

The preferred alternative (proposed action) is to continue periodic maintenance dredging of the federal navigation channels with placement of dredged material into DMMA 2-D or 3-D. This

would allow the harbor to operate at full capacity. However, the ODMS or beneficial use sites could also be utilized if capacity becomes limited within the DMMA and/or these other placement alternatives are economically feasible and the appropriate permits are acquired.

### **2.3 COMPARISON OF ALTERNATIVES**

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

**Table 1: Comparison of Alternatives**

Environmental Factor	Dredging and Upland Placement (Proposed Action)	Dredging and ODMDS Placement	Dredging and Beneficial Use Site Placement	No Action Alternative
<b>Sediment Characteristics</b>	No effect to native sediment characteristics within the navigation channels.	No effect to native sediment characteristics within the navigation channels. Minor change to sediment characteristics at the ODMDS. Placement would occur in accordance with the site plan.	No effect to native sediment characteristics within the navigation channels. Minor change to sediment characteristics within the beneficial use site. Placement would occur in accordance with the State permit.	No effect.
<b>Fish and Wildlife</b>	Restrictions on the placement of material at migratory and shore bird nesting areas would be implemented. Otherwise, dredging and placement would have only minor, temporary adverse effects on fish and wildlife. Beneficial effect to nesting shorebirds occurs through use and maintenance of the DMMA's.	Minor and temporary effect to marine life due to a temporary increase of turbidity and equilibration of sediment placement.	Minor and temporary effect to marine life due to the temporary increase of turbidity and equilibration of sediment placement. Placement within beneficial use sites would enhance or restore habitat.	No effect.
<b>Threatened and Endangered Species</b>	Hopper dredging may affect sea turtles. All other dredging and drag bar use may affect, but is not likely to adversely affect sea turtles, manatees, whales, and Gulf sturgeon. All terms and conditions of USFWS and NMFS biological opinions shall be implemented. Upland placement is not likely to adversely affect the wood stork.	Hopper dredging may affect sea turtles. All other dredging and drag bar use may affect, but is not likely to adversely affect sea turtles, manatees, whales and Gulf sturgeon. All terms and conditions of USFWS and NMFS biological opinions shall be implemented.	Hopper dredging may affect sea turtles. All other dredging and drag bar use may affect, but is not likely to adversely affect sea turtles, manatees, whales and Gulf sturgeon. Placement at some beneficial use sites may affect, but is not likely to adversely affect piping plover, rufa red knot, and wood stork. All terms and conditions of USFWS and NMFS biological opinions shall be implemented. Placement within beneficial use sites would enhance or restore habitat.	No effect.
<b>Wildlife Refuges, Sanctuaries, and Management Areas</b>	Continued erosion at Egmont Key and Mullet Key would result in the loss of important wildlife sanctuaries.	Continued erosion at Egmont Key and Mullet Key would result in the loss of important wildlife sanctuaries.	Egmont Key and Mullet Key would benefit from the placement of sand to offset erosion and to protect resources.	Continued erosion at Egmont Key and Mullet Key would result in the loss of important wildlife sanctuaries.

Environmental Factor	Dredging and Upland Placement (Proposed Action)	Dredging and ODMDS Placement	Dredging and Beneficial Use Site Placement	No Action Alternative
<b>Essential Fish Habitat (EFH)</b>	Temporary and minor impacts would occur to water column and unconsolidated sediment habitats.	Temporary and minor impacts would occur to water column and unconsolidated sediment habitats. Measures will be taken to avoid adverse effects to the hardbottom habitat (Briar Patch) located at the ODMDS.	Temporary and minor impacts would occur to water column and unconsolidated sediment habitats. Placement within some beneficial use sites would enhance or restore EFH.	No effect.
<b>Air Quality</b>	Minor, temporary reduction of air quality due to emissions from dredging and disposal operations.	Minor, temporary reduction of air quality due to emissions from dredging and disposal operations.	Minor, temporary reduction of air quality due to emissions from dredging and disposal operations.	No effect.
<b>Water Quality</b>	Minor, temporary reduction of water quality due to turbidity from dredging and disposal operations.	Minor, temporary reduction of water quality due to turbidity from dredging and disposal operations.	Minor, temporary reduction of water quality due to turbidity from dredging and disposal operations.	No effect.
<b>Hazardous, Toxic, Radioactive Waste</b>	No effect anticipated.	No effect anticipated.	No effect anticipated.	No effect.
<b>Noise</b>	A temporary increase in the noise level during construction in the vicinity of the project would occur.	A temporary increase in the noise level during construction in the vicinity of the project would occur.	A temporary increase in the noise level during construction in the vicinity of the project would occur.	No effect.
<b>Aesthetic Resources</b>	During construction, equipment used for dredging would be visible, resulting in a temporary reduction in the aesthetic value in the construction area.	During construction, equipment used for dredging would be visible, resulting in a temporary reduction in the aesthetic value in the construction area.	During construction, equipment used for dredging would be visible, resulting in a temporary reduction in the aesthetic value in the construction area. Placement within beneficial use sites would enhance aesthetics.	No effect.
<b>Recreation Resources</b>	Dredging operations may cause minor, temporary restrictions in recreation during operations.	Dredging operations may cause minor, temporary restrictions in recreation during operations.	Dredging and placement operations may cause minor, temporary restrictions in recreation during operations. Placement within beneficial use sites would enhance recreational opportunities.	No effect.

Environmental Factor	Dredging and Upland Placement (Proposed Action)	Dredging and ODMS Placement	Dredging and Beneficial Use Site Placement	No Action Alternative
<b>Socioeconomics</b>	Social and economic benefits that are based on navigation associated with the Federal project would continue. The extent of dredging may be limited by the appropriation of funds, approvals by federal and state agencies and appropriate access to dredging and placement areas.	Social and economic benefits that are based on navigation associated with the Federal project would continue. The extent of dredging may be limited by the appropriation of funds, approvals by federal and state agencies and appropriate access to dredging and placement areas.	Social and economic benefits that are based on navigation associated with the Federal project would continue. The extent of dredging may be limited by the appropriation of funds, approvals by federal and state agencies and appropriate access to dredging and placement areas.	Social and economic benefits that are based on navigation associated with the Federal project would continue. The extent of dredging may be limited by the appropriation of funds, approvals by federal and state agencies and appropriate access to dredging and placement areas.
<b>Navigation and Public Safety</b>	Dredging operations during construction may impede or restrict commercial or recreational access or ingress/egress to the area.	Dredging operations during construction may impede or restrict commercial or recreational access or ingress/egress to the area.	Dredging operations during construction may impede or restrict commercial or recreational access or ingress/egress to the area.	Shoaling and reduced channel depths would adversely affect navigation and public safety.
<b>Cultural Resources</b>	No effect.	No effect.	All anomalies of interest within beneficial use sites, including Egmont Key, would be avoided or buffered. Additional cultural resource surveys and consultation may be required.	No effect.
<b>Energy Requirements and Conservation</b>	Fuel would be required to operate dredges, pumps, and land moving equipment.	Fuel would be required to operate dredges, pumps, and land moving equipment.	Fuel would be required to operate dredges, pumps, and land moving equipment.	Fuel would be required to operate dredges, pumps, and land moving equipment.

### **3 AFFECTED ENVIRONMENT**

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

#### **3.1 DREDGED MATERIAL PLACEMENT LOCATIONS**

##### **3.1.1 DREDGED MATERIAL MANAGEMENT AREA (DMMA) 2-D**

This disposal area was created between 1978 and 1982 during the deepening of the Tampa Harbor Federal Navigation Project in Hillsborough County. The placement site was nearing its capacity in the early 2000s and was subsequently enlarged by the Tampa Port Authority. The area's containment dikes have been raised to increase capacity. DMMA 2-D is currently managed by Tampa Port Authority, and the material placed there is primarily from their non-Federal dredging operations.

DMMA 2-D has been assessed for compliance with the National Environmental Policy Act (NEPA) (USACE 1996, 1999a, 2000a, 2000b, 2000c, 2001, 2004, 2009, and 2010a). Coordination with the USFWS was accomplished through the 1999 Fish and Wildlife Coordination Act Report (USFWS 1999) and a Biological Opinion which stated that the project was "not likely to jeopardize the continued existence of the Florida manatee or result in the adverse modification of designated critical habitat. . ." The USFWS provided additional coordination through a letter dated November 3, 1999 (FWS/R4/ES-JAFL. In accordance with Section 7 of the ESA of 1973 the NMFS was consulted and it was determined this project is covered by the NMFS Gulf Regional Biological Opinion (GRBO) (November 19, 2003; Revision No. 1, June 24, 2005; Revision No. 2, January 9, 2007).

##### **3.1.2 DREDGED MATERIAL MANAGEMENT AREA (DMMA) 3-D**

DMMA 3-D was created between 1978 and 1982, in association with DMMA 2-D, during the deepening of the Tampa Harbor Federal Navigation Project. The area's containment dikes were raised to increase capacity from 2014 to 2015 using sandy material from inside the DMMA. The weir structure was also moved from the north end of the island to the eastern side of the island. Sandy material is generally placed at the southern end of the island, and siltier material is typically placed on the northern end of the island. DMMA 3-D is currently leased by the Corps from the landowner, Port Tampa Bay, and material placed at the site is typically dredged as part of the Federal navigation project.

The use of DMMA 3-D was evaluated under NEPA by the USACE (USACE 1996, 2001, 2004, 2010a, and 2011). The USFWS provided comments dated July 20, 2009. In accordance with Section 7 of the ESA of 1973 the NMFS was consulted and this project is covered by the NMFS GRBO (November 19, 2003; Revision No. 1, June 24, 2005; Revision No. 2, January 9, 2007).

DMMA 2-D and DMMA 3-D received a Consolidated Environmental Resource Permit and Sovereign Submerged Lands Authorization from Florida Department of Environmental Protection dated April 7, 2006.

### **3.1.3 TAMPA ODMDS**

The ODMDS is on average 72-feet deep, approximately four square miles in size, and located 21 miles offshore in Federal waters of the Gulf of Mexico. An Environmental Impact Statement was prepared by the U.S. Environmental Protection Agency (USEPA 1995). The ODMDS was approved for use by St. Petersburg Harbor in 1995 under the MPRSA of 1972. It is operated jointly by the USEPA and the USACE. Suitability of fill is outlined in the Site Management and Monitoring Plan (USACE 2009).

### **3.1.4 BENEFICIAL USE SITES**

Dredged material may be placed within a number of beneficial use sites (listed below). Additional information on these sites can be found in Appendix D of this document.

1. Egmont Key Beach and Nearshore Placement
2. Fort De Soto/Mullet Key Beach and Nearshore Placement
3. Sunken/Bird Island
4. Gandy Channel North Dredged Hole
5. Northshore Beach Dredged Hole
6. MacDill Runway, Beach, and Docks Holes
7. McKay Bay Dredged Hole
8. Whiskey Stump Key Dredged Holes (1 and 2)
9. St. Petersburg/Clearwater Airport Dredged Hole
10. Bay Point Dredged Hole
11. Big Island Cut Dredged Hole
12. Cypress Point Dredged Hole
13. Culbreath (North and South) Dredged Holes
14. Georgetown (2 Dredged Holes)
15. Northeast St. Petersburg Dredged Hole
16. Venetian Isles Dredged Hole
17. Shore Acres Dredged Hole
18. Skyway Causeway North and South Dredged Holes

## **3.2 SEDIMENT QUALITY**

### **3.2.1 TAMPA BAY SEDIMENT QUALITY**

Shoaled material dredged from Tampa Bay navigation channels ranges from sandy material suitable for beach placement to extremely silty or mucky material. Material obtained from the lower reaches of a watershed are typically sandier, while material shoaled in the upper reaches are likely to be siltier. The Environmental Protection Commission of Hillsborough County (EPCHC) conducts sediment sampling throughout Tampa Bay. Data from the EPCHC are consistent with this understanding, as sediments in upper Tampa Bay near the outflow of the Hillsborough River in downtown Tampa contain greater than 50 percent fines content. The data for the Federal

navigation channels shown in Figure 4 were obtained from historic dredging data for these areas. Based on this information, sediments from the southern cuts of St. Petersburg Harbor are anticipated to be sand, while those in the northern portions of the Harbor near the turning basin are anticipated to be silty material.

**Figure 4. Map showing sediment types throughout Tampa Bay, including sediment dredged from Federal navigation channels (sediment data courtesy of HCEPC).**

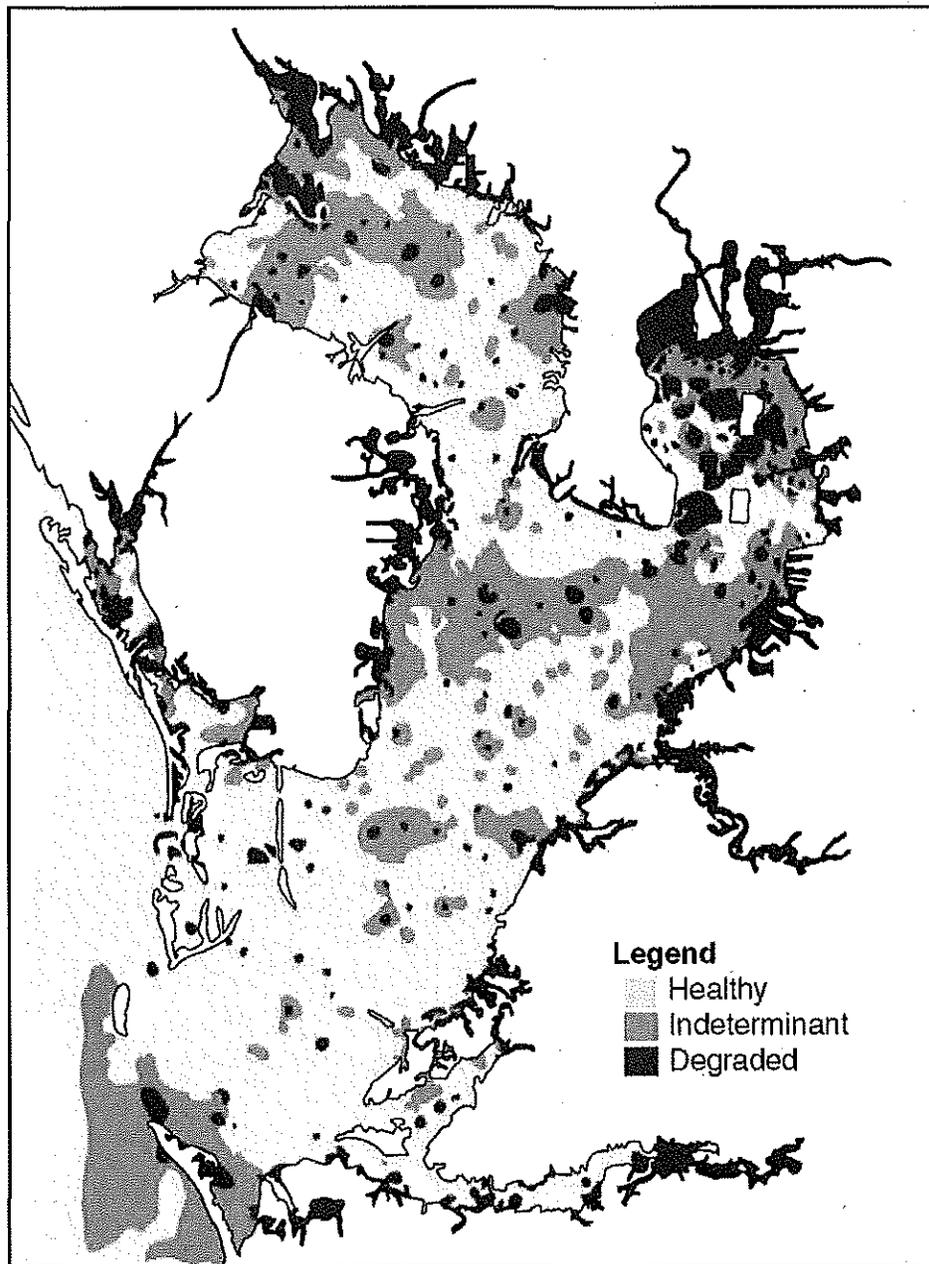


The development and use of the Tampa Bay Benthic Index (TBBI) has enabled the assessment of contaminated sediments in the Tampa Bay system. Low dissolved oxygen, excessive contamination of heavy metals, and hydrocarbons in sediments can affect the structure of the assemblages of benthic (bottom-dwelling) organisms living in or on these sediments (Malloy et al., 2007). Benthic monitoring is coordinated by the Tampa Bay Estuary Program (TBEP) and the EPCHC with participation by Manatee and Pinellas counties. About 120 samples are analyzed each year (TBEP 2006).

Sampling indicates no significant changes in contamination since 1993, when intensive sediment sampling began (TBEP 2006). However, the TBBI has enabled the identification of sites where degraded benthic communities are associated with contaminants and the severity of contamination at the sites (TBEP 2005). Contaminants of concern include cadmium, chromium, copper, lead, zinc, polychlorinated biphenyls (PCBs), polyaromatic hydrocarbons (PAHs), and the pesticides DDT, Chlordane, Mirex, Endosulfan, and Dieldrin (TBEP 2006).

The TBBI scores indicate that much of Tampa Bay is not adversely affected by sediment contamination (Figure 5). There are, however, contaminated sites at the Port of Tampa, the mouth of the Hillsborough River, the St. Petersburg/Clearwater Airport, Bayboro Harbor, and the Apollo Beach/Big Bend area; contaminants include heavy metals, PAHs, PCBs, and pesticides (TBEP 2011). It was concluded that the source of most of the contamination was stormwater runoff and atmospheric deposition.

Figure 5. Distribution of Contamination in Tampa Bay based on the Tampa Bay Benthic Index



Source: TBEP 2006.

### 3.2.2 CHARACTERISTICS OF SEDIMENTS IN DREDGE HOLES

As part of the 2005 study of Tampa Bay dredged holes (TBEP 2005), the quality of sediments in ten of the dredged holes identified in Section 1.1 was assessed. For each of the contaminants sampled, a determination was made for the possible effects of the contaminant. Two threshold levels have been defined by the USEPA: Threshold Effects Level (TEL) and Probable Effects Level (PEL). TEL is defined as “a chemical concentration in some item (dose) that is ingested by an organism, above which some effect (or response) will be produced and below which it will not. This item is usually food, but can also be soil, sediment, or surface water that is incidentally (accidentally) ingested as well.” PEL is defined as “a chemical concentration in some item (dose) prey that is ingested by an organism, which is likely to cause an adverse effect. The ingested item is usually food, but can be soil, sediment, or surface water that is incidentally (accidentally) ingested” (USEPA 2011). No contaminant concentrations that exceeded PELs were found during the TBEP (2005) study. Exceedances for TELs are presented in Table 2.

**Table 2: Threshold Effects Level (TEL) Exceedances on Sediments at Tampa Bay Dredge Holes**

Dredge Hole	Threshold Effects Level (TEL) Exceedances
Big Island Cut	Cadmium, chromium, nickel
Cypress Point	Cadmium, chromium, copper, nickel, lead, PAHs
Gandy North	Cadmium
MacDill Runway	Cadmium, chromium, nickel
McKay Bay	Cadmium, chromium, copper, nickel, lead, zinc, Lindane
NE St. Petersburg	Cadmium, copper, chromium, nickel, lead
Northshore Beach	Cadmium, copper, chromium, nickel, lead, zinc
Shore Acres	Cadmium
St. Petersburg/ Clearwater Airport	Cadmium, chromium, nickel
Whiskey Stump 1	Cadmium, chromium, copper, nickel, Lindane
Whiskey Stump 2	Cadmium, chromium, copper, nickel

Source: TBEP 2005.

### 3.2.3 CHARACTERISTICS OF DREDGED MATERIAL

The sediments of the Federal navigation channels have not been analyzed pursuant to Section 103 of the MPRSA for placement into the ODMDS. This testing would need to occur, and the results reviewed and approved by USEPA prior to placement within the ODMDS. Currently, dredged material can only be placed within DMMA 3-D or 2-D. Testing is not required for placement into the DMMA.

### 3.3 BIOLOGICAL COMMUNITIES AND LAND USE

#### 3.3.1 LAND USE

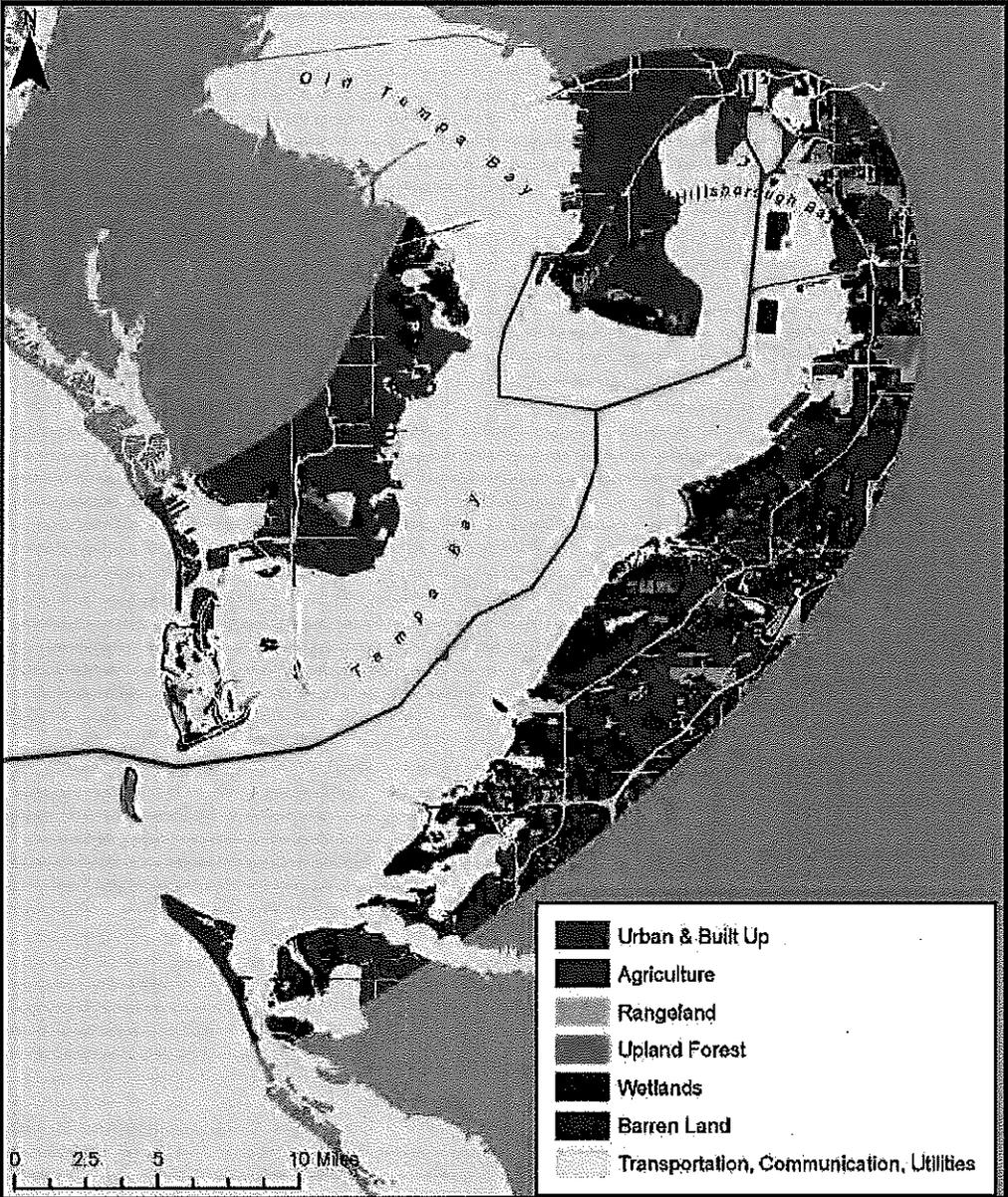
The Florida Land Use, Cover, and Forms Classification System (FLUCFCS) was used to examine the land use and land cover of the Tampa Bay area. A three-level hierarchy can be used to define a wide variety of land uses with FLUCFCS. Due to the large number of categories present in the Tampa Bay area, the first-level hierarchy was primarily examined (FDOT 1999).

Vegetation and land use in the area surrounding Tampa Bay consists of water (including bays, lakes, and streams); urban and built up areas; agriculture; wetlands; transportation, communication, and utilities; upland forest; rangeland; and barren land (Table 3; Figure 6). Water is the most common land cover in the Tampa Bay area and the water bodies present are primarily bays and estuaries. Urban and built-up land in the Tampa Bay area is predominantly high density residential units. Agricultural lands are lands cultivated to produce food crops and livestock. Agricultural lands in the Tampa Bay area are primarily cropland, pastureland, and other open lands (rural areas). Rangeland has historically been defined as land where the potential natural vegetation is predominantly grasses, grass-like plants, forbs, or shrubs and is capable of being grazed. Rangeland in the Tampa Bay area is generally shrub and brushland. Upland forests support a tree canopy closure of 10 percent or more. Most of the upland forests in the Tampa Bay area are hardwood conifer mixed forests. Wetlands are areas where the water table is at, near, or above the land surface for a significant portion of most years. Wetlands in the Tampa Bay area are predominantly mangrove swamps, in addition to mixed wetland forests. Transportation, communication, and utilities in the Tampa Bay area are primarily transportation and utilities. Barren land has little or no vegetation and limited potential to support vegetative communities. In the Tampa Bay area, barren land is generally disturbed land (FDOT 1999; SWFWMD 2008).

**Table 3: FLUCFCS 2008 Land Use and Land Cover in the Study Area**

FLUCFCS Category	FLUCFCS Code	Acres
Water	500	109,557.3
Bays and Estuaries	540	97,708.9
Urban and Built-Up Land	100	72,720.9
Agriculture	200	21,830.7
Wetlands	600	21,584.5
Transportation, Communication, and Utilities	800	8,441.4
Upland Forest	400	6,207.7
Rangeland	300	2,386.5
Barren Land	700	1,444.3

Figure 6: FLUCFCS 2008 Map of Land Use and Land Cover in the Study Area



FLUCFCS 2008 Map of Land Use and Land Cover in the Study Area

### 3.3.2 PLANT COMMUNITIES

Plant community types surrounding Tampa Bay include forests, scrub forests, hammocks, and wetlands including salt marshes. Pine flatwoods are the most widespread terrestrial vegetative habitat in Florida and are the dominant vegetative association in the Tampa Bay watershed. Flatwoods are generally found in flat, poorly drained areas. The two main types of pine flatwoods are the slash pine (*Pinus eliottii*) and the longleaf pine (*P. palustris*). Slash pine flatwoods are generally found in wetter, more poorly drained areas, whereas longleaf pine flatwoods are in drier sites (Schomer *et al.* 1990). Sand pine scrub is a minor habitat in Tampa Bay and consists of an overstory of sand pine (*P. clausa*) and a well-developed shrub layer of evergreen shrubs. Four types of hammocks are found in the area. Hammocks are forests that are differentiated by the dominant species and moisture level; these types include live oak (*Quercus virginiana*), cabbage palm (*Sabal palmetto*), with mesic and hydric variations (Schomer *et al.* 1990).

Estuarine and coastal habitats in the Tampa Bay area include salt prairies, marshes, and mangrove forests. Salt-tolerant herbs and succulents are generally found in salt prairie transitional zones. Marsh vegetation can range from freshwater species such as spikerush (*Eleocharis* spp.) to smooth cordgrass (*Spartina alterniflora*), saltmeadow cordgrass (*S. patens*), and needlegrass rush (*Juncus roemerianus*). Three species of mangroves are commonly found around Tampa Bay. Red mangroves (*Rhizophora mangle*) typically grow close to the water and have roots that branch out over the water. Black mangroves (*Avicenna germinans*) have projections called pneumatophores surrounding the base of the tree, and typically occur within the intertidal zone. White mangroves (*Laguncularia racemosa*) are frequently found at higher elevations than the other mangrove species.

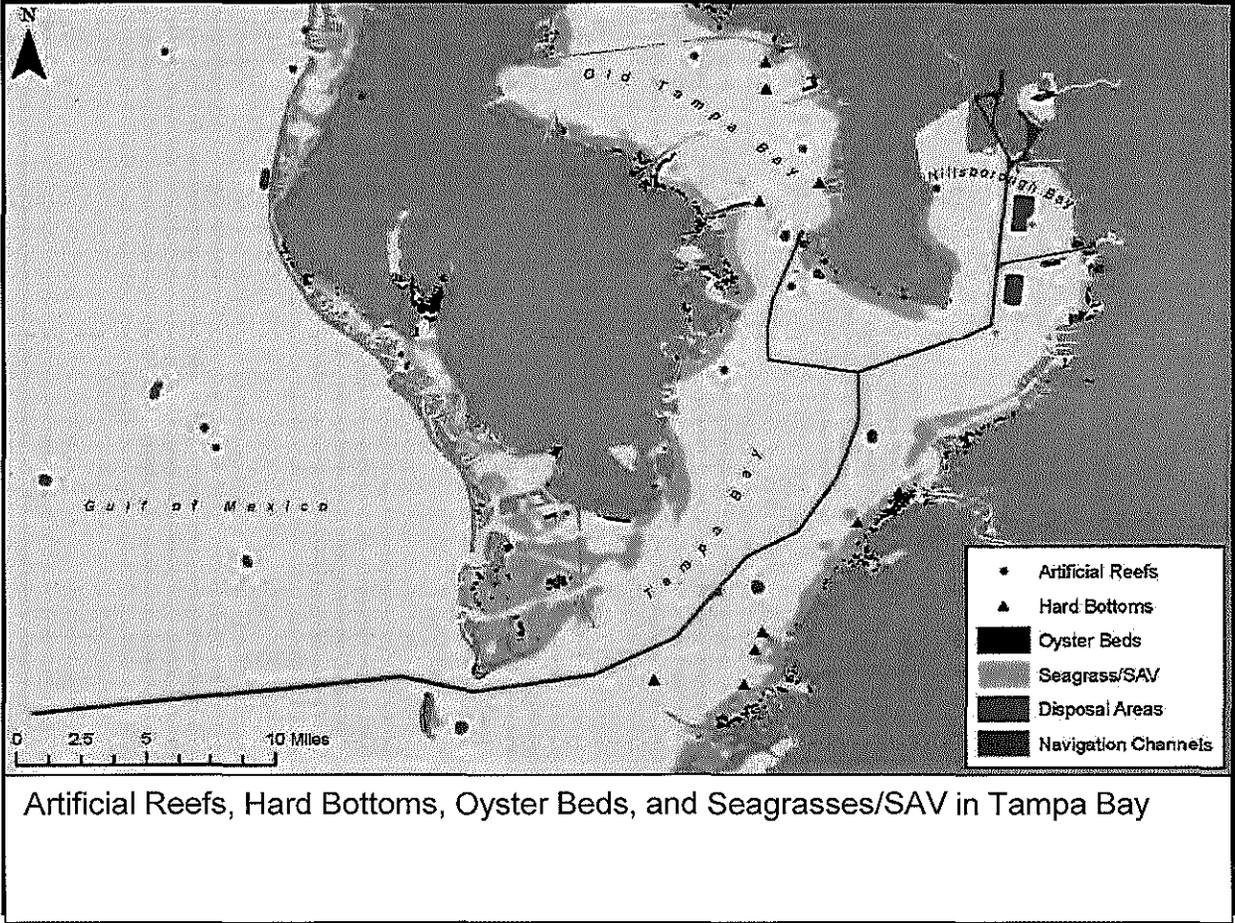
### 3.3.3 OPEN WATER HABITATS

The open water habitats of Tampa Bay consist of vegetated communities and nonvegetated open-bottom benthic communities composed of mixtures of sand, mud, and oystershell (Schomer *et al.* 1990). Hard bottom areas and artificial reefs are also present in Tampa Bay. Three hard bottom areas have been located within the bay (Savercool and Lewis 1994): (1) from the mouth of Cockroach Bay south to the mouth of Terra Ceia Bay in Lower Tampa Bay; (2) near the Gandy Bridge in Middle Tampa Bay; and (3) in northern portions of Old Tampa Bay off Booth and Rocky Points. Artificial reefs are located in: (1) Old Tampa Bay near the Courtney Campbell and Howard Frankland bridges, Picnic Island; and (2) in Hillsborough Bay off Ballast Point; and in Tampa Bay off Bahia Beach, Port Manatee, and near Shell Island, east of Egmont Key (FFWCC 2010b). Oyster (*Crassostrea virginica*) beds in the area are primarily in Old Tampa Bay, the southeastern shore of Hillsborough Bay, the Ybor Turning Basin, and Tampa Bay. Potential beneficial use sites with nearby oyster beds include Big Island Hole, Gandy Channel North Hole, Howard Frankland Hole West, MacDill AFB Runway Extension Hole, Snug Harbor West Hole, and Whiskey Stump Key Holes 1 and 2. Artificial reefs, hardbottoms, oyster beds, and seagrasses/submerged aquatic vegetation (SAV) in Tampa Bay are shown in Figure 7.

Open water vegetated communities in Tampa Bay consist of seagrass/SAV and algal beds (Schomer *et al.* 1990). Due to high turbidities, vegetation is found in shallow water up to about 3 meter

water depths. Seagrass beds can be patchy or continuous and are generally limited to soft marl, mud, or sand substrates.

Figure 7. Artificial Reefs, Hard Bottoms, Oyster Beds, and Seagrasses/SAV in Tampa Bay



## **3.4 FISH AND WILDLIFE**

### **3.4.1 MIGRATORY BIRDS**

Migratory birds are protected through the provisions of the Migratory Bird Treaty Act (MBTA) and the Wild Bird Conservation Act. Some 40,000 pairs of over 25 species of ducks, wading birds, and shorebirds nest annually on protected islands in the bay (<http://tbep.org/estuary.html>). DMMA-2D and 3-D are extremely important nesting habitat for a number of beach nesting species, as they provide a safe environment away from humans and many predators. Nesting species include pelicans, cormorants, herons, egrets, gulls, ibis, spoonbills, terns, and skimmers.

The 2009 Seasonal Bird Survey by the Audubon of Florida provides data for birds present on the DMMA-2D, DMMA-3D, and Alafia Bank islands (Table 4 ; Hillsborough County and City of Tampa 2010).

### **3.4.2 BALD EAGLE**

Although the bald eagle has been delisted from the Endangered Species Act by the USFWS, it remains protected by the Bald and Golden Eagle Protection Act and the MBTA of 1918. In Florida, the bald eagle was abundant and common during the early 20th century. Florida's historic bald eagle population is thought to have exceeded 1,000 nesting pairs, with populations around Tampa Bay and Merritt Island believed to be among the densest breeding concentrations of any large raptor (Peterson and Robertson 1978; FFWCC 2008).

The FFWCC has defined bald eagle important use areas as sites used by more than one eagle or by an individual eagle during more than one year. To identify these areas, satellite transmitter locations were combined for 48 migratory Florida sub-adult (less than five years old) eagles and analyzed using a nearest-neighbor clustering program. Much of the Tampa Bay vicinity is an important use area (Figure 8).

Table 4. Audubon of Florida Coastal Islands Sanctuaries

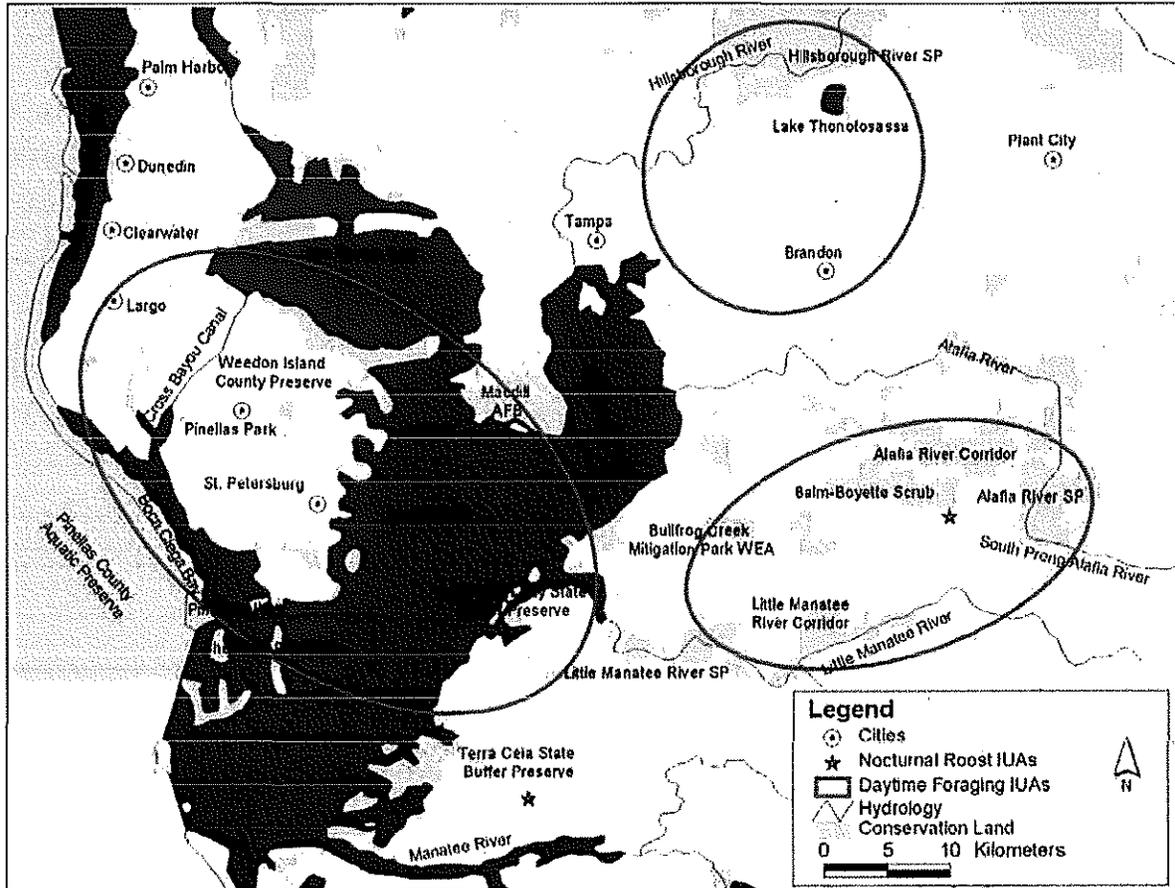
Bird Species		Colony Name		
		DMMA-2D	Alafia Bank	DMMA-3D
Brown Pelican	<i>Pelecanus occidentalis</i>		150	
Double-Crested Cormorant	<i>Phalacrocorax auritus</i>		65	
Anhinga	<i>Anhinga</i>			
Least Bittern	<i>Ixobrychus exilis</i>			
Great Blue Heron	<i>Ardea herodias</i>		30	
Great Egret	<i>Ardea alba</i>		225	
Snowy Egret	<i>Egretta thula</i>		95	
Little Blue Heron	<i>Egretta caerulea</i>		65	
Tricolored Heron	<i>Egretta tricolor</i>		160	
Reddish Egret	<i>Egretta rufescens</i>		10	
Cattle Egret	<i>Bubulcus ibis</i>		320	
Green Heron	<i>Butorides virescens</i>			
Black-crowned Night-Heron	<i>Nycticorax</i>		50	
Yellow-crowned Night-Heron	<i>Nyctanassa violacea</i>		15	
White Ibis	<i>Eudocimus albus</i>		4,520	
Glossy Ibis	<i>Plegadis falcinellus</i>		200	
Roseate Spoonbill	<i>Ajaja</i>		310	
Wood Stork	<i>Mycteria americana</i>			
Common Moorhen	<i>Gallinula chloropus</i>			
Limpkin	<i>Aramus guarauna</i>			
Snowy Plover	<i>Charadrius alexandrinus</i>			
Wilson's Plover	<i>Charadrius wilsonia</i>			
American Oystercatcher	<i>Haematopus palliatus</i>	34	15	18
Black-necked Stilt	<i>Himantopus mexicanus</i>	50		
Willet	<i>Tringa semipalmata</i>	5	4	5
Laughing Gull	<i>Larus atricilla</i>	1,810		
Gull-billed Tern	<i>Gelochelidon nilotica</i>	7		
Caspian Tern	<i>Hydroprogne caspia</i>	64		
Royal Tern	<i>Thalasseus maximus</i>	25		
Sandwich Tern	<i>Thalasseus sandvicensis</i>			
Least Tern	<i>Sternula antillarum</i>	50		
Black Skimmer	<i>Rynchops niger</i>	107		
<b>TOTAL PAIRS</b>		<b>2,152</b>	<b>6,234</b>	<b>23</b>

Notes:

- All Colonies are in Hillsborough County.
- 2D and 3D Colonies were counted on multiple occasions; Alafia Bank was counted on 05/12/2009.
- On nearby Fantasy Island, one American oystercatcher pair nested several times throughout the season, but did not fledge any chicks.

Source: Hillsborough County and City of Tampa 2010.

Figure 8. Bald Eagle Important Use Areas



Source: FFWCC, Important Use Areas of the Florida Bald Eagle; information from Mojica and Meyers 2006.

### 3.4.3 MARINE MAMMALS

The marine mammals of the Gulf of Mexico are represented by members of the taxonomic order Cetacea, which is divided into the suborders Mysticeti (i.e., baleen whales) and Odontoceti (i.e., toothed whales), as well as the order Sirenia, which includes the manatee. Within the Gulf of Mexico, there are 28 species of cetaceans (seven mysticete and 21 odontocete species) and one sirenian species, the manatee (Jefferson *et al.* 1992; Davis *et al.* 2000). Bottlenose dolphins (*Tursiops truncatus*) and Atlantic spotted dolphins (*Stenella frontalis*) are common in shallow Gulf waters [up to 656 feet (200 m) deep]. Threatened and endangered marine mammals are discussed further in Section 3.5.

#### **3.4.4 BENTHOS**

The Tampa Bay Estuary Program (TBEP) conducted benthic surveys of 11 dredge holes as part of their assessment of habitats for determining recommendations for using dredged material for filling holes (TBEP 2005). The other locations listed in Section 1.1 are expected to have similar benthic fauna. A synopsis of the findings for the predominant animals (crustaceans, annelids, and mollusks) is presented in Table 5. An index based on benthic community variables was used to ascertain the health of the community at each location and provide a means for comparing assemblages and ranking the various dredged holes considered in the study.

#### **3.4.5 FISHERY RESOURCES**

Recreationally and commercially important species found within Tampa Bay include shellfish: blue crab (*Callinectes sapidus*), stone crab (*Menippe* spp.), and pink shrimp (*Farfantepenaeus duorarum*); and finfish: red drum (*Sciaenops ocellatus*), spotted seatrout (*Cynoscion nebulosus*), common snook (*Centropomus undecimalis*), southern kingfish (*Menticirrhus americanus*), Gulf flounder (*Paralichthys albigutta*), cobia (*Rachycentron canadum*) and snappers (*Lutjanus* spp.)(TBEP 2005; USGS 2011).

An examination of the fish populations at 11 of the dredge holes considered in this EA was conducted by the TBEP (2005). The other locations listed in Section 1.1 are expected to have similar fishery resources. Using data from seines and trawls, samples were collected within the holes and the surrounding area, where possible. The Fisheries Independent Monitoring (FIM) program developed by the Fish and Wildlife Research Institute (a division of the Florida Fish and Wildlife Conservation Commission) was used to evaluate and compare fishery data among the holes. Results of the survey are presented in Table 6.

### **3.5 THREATENED AND ENDANGERED SPECIES**

This section provides background information on federally protected species potentially affected by the project. Listed species known to be present in the Tampa Bay vicinity and evaluated to determine if they may be affected by the project are presented in Table 7.

The Florida scrub-jay, red-cockaded woodpecker, and Florida golden aster are present in the Tampa Bay area, but are unlikely to be found in the project area. The following sections discuss sea turtles, Florida manatee, Gulf sturgeon, smalltooth sawfish, wood stork, rufa red knot, and piping plover. These species have the potential to be affected by the proposed project.

**Table 5. Benthic Community Characteristics of Eleven Dredge Holes in Tampa Bay**

Dredged Hole	Dominant Organisms	Benthic Rank	Notes
Gandy North	Fall: amphipods Spring: amphipods	1	"Unusually speciose and diverse" fall assemblage
Shore Acres	Fall: amphipods Spring: amphipods	2	"Relatively diverse" benthic community
MacDill Runway	Fall: decapods, bivalves hemichordates Spring: bivalves, polychaetes	3	Fall community was more speciose, diverse, and abundant than similar habitats in Tampa Bay
St. Petersburg AP	Fall: amphipods, polychaetes Spring: polychaetes, amphipods	4	Benthic community similar to comparable habitats in Tampa Bay
Whiskey Stump 2	Fall: polychaetes, cumaceans, amphipods Spring: amphipods	5	Sparsely populated during fall sampling
Big Island Cut	Fall: polychaetes Spring: amphipods, oligochaetes	6	Benthic community similar to comparable habitats in Tampa Bay
Whiskey Stump 1	Fall: polychaetes, cumaceans, amphipods Spring: amphipods, bivalves	7	Sparsely populated during fall sampling
Northshore Beach	Fall: polychaetes Spring: amphipods	8	"Impoverished" benthic community
Cypress Point	Fall: None Spring: amphipods	9	Low species richness and diversity
NE St. Petersburg	Fall: None Spring: polychaetes, oligochaetes, amphipods	10	"Noticeably degraded" benthic assemblage
McKay Bay	Fall: bivalves Spring: polychaetes	11	"Most impoverished" of the 11 dredge holes

Source: TBEP 2005.

**Table 6. Fishery Resources of Eleven Dredge Holes in Tampa Bay**

<b>Dredged Hole</b>	<b>Dominant Species</b>	<b>FIM Rank</b>	<b>Notes</b>
Shore Acres	Spot, pinfish, silver perch, blue crab, pink shrimp	1	Economically important species: 11 in hole, 5 in trawls outside hole, 8 in seines
Whiskey Stump 1	Bay anchovy, pink shrimp, pinfish, silver jenny, blue crab	2	Economically important species: 10 in hole, 9 in trawls outside hole, 7 in seines
Whiskey Stump 2	Silver perch, silver jenny, pinfish, bay anchovy, pink shrimp	3	Economically important species: 9 in hole, 9 in trawls outside hole, 8 in seines
Gandy North	Bay anchovy, blue crab, code goby, pinfish, pink shrimp	4	Economically important species: 12 in hole, 8 in trawls outside hole, 8 in seines
MacDill Runway	Pink shrimp, bay anchovy, leopard searobin, blue crab, inshore lizardfish	5	Economically important species: 8 in hole, 5 in trawls outside hole, 9 in seines
Cypress Point	Bay anchovy, spot, sand seatrout, pink shrimp, blue crab	6	Economically important species: 11 in hole, 6 in trawls outside hole, 11 in seines
St. Petersburg AP	Pinfish, spot, bay anchovy, blue crab, sand seatrout	7	Economically important species: 8 in hole, 9 in trawls outside hole, 8 in seines
Northshore Beach	Pinfish, mojarras, silver perch, pink shrimp, silver jenny	8	Economically important species: 11 in hole, 7 in trawls outside hole, 11 in seines
McKay Bay	Bay anchovy, spot, sand seatrout, pink shrimp Atlantic croaker	9	Economically important species: 8 in hole, 6 in trawls outside hole, 7 in seines
Big Island Cut	Bay anchovy, spot, sand seatrout, pink shrimp, blue crab	Not Ranked	Economically important species: 7 in hole. No external sampling.
NE St. Petersburg	Bay anchovy, blue crab, mojarras, sand seatrout, southern kingfish	Not Ranked	Economically important species: 9 in hole. No external sampling.

Source: TBEP 2005.

**Table 7. Federally-Listed Species in the Project Area**

Category	Common Name	Scientific Name	Status
Reptiles	Green turtle	<i>Chelonia mydas</i>	E
	Leatherback sea turtle	<i>Dermochelys coriacea</i>	E
	Hawksbill turtle	<i>Eretmochelys imbricata</i>	E
	Kemp's ridley sea turtle	<i>Lepidochelys kempii</i>	E
	Loggerhead sea turtle	<i>Caretta</i>	T
Mammals	Florida manatee	<i>Trichechus manatus latirostris</i>	T/CH
	Blue whale	<i>Balaenoptera musculus</i>	E
	Fin whale	<i>Balaenoptera physalus</i>	E
	Sei whale	<i>Balaenoptera borealis</i>	E
	Sperm whale	<i>Physeter catodon</i>	E
Fish	Gulf sturgeon	<i>Acipenser oxyrinchus desotoi</i>	T/CH
	Smalltooth sawfish	<i>Pristis pectinata</i>	E
Birds	Piping plover	<i>Charadrius melodus</i>	T/CH
	Rufa red knot	<i>Calidris canutus rufa</i>	T
	Florida scrub-jay	<i>Aphelocoma coerulescens</i>	T
	Wood stork	<i>Mycteria americana</i>	E
	Red-cockaded woodpecker	<i>Picoides borealis</i>	E
Plants	Florida golden aster	<i>Chrysopsis Heterotheca) floridana</i>	E

Code: E = Endangered, T = Threatened, CH = Critical Habitat Designated in the Tampa Bay area

Source: U.S. Fish and Wildlife Service (<http://www.fws.gov/northflorida/gotocfy.htm>)

### 3.5.1 SEA TURTLES

*Distribution and Habitats.* Loggerhead, green, Kemp's ridley, and hawksbill sea turtles occur in and around the Tampa Bay area (Meylan *et al.* 1998). The leatherback turtle is also reported in offshore waters (USFWS 2009a). Most sea turtles in the Tampa Bay area are loggerheads (Meylan *et al.* 1998). The loggerhead is currently listed as threatened. The other species of turtles are listed as endangered (USFWS 2009b).

Loggerhead sea turtles are found in temperate and subtropical waters of the world. They feed in coastal bays, estuaries, and in shallow water along the continental shelves of the Atlantic, Pacific, and Indian Oceans (Conant *et al.* 2009). Loggerhead turtles occur throughout the temperate and tropical regions of the Atlantic, Pacific, and Indian oceans and are widely distributed within their range. They can be found hundreds of miles offshore or inshore in bays, lagoons, salt marshes, creeks, ship channels, and the mouths of large rivers (Conant *et al.* 2009). Loggerheads primarily feed on mollusks, crustaceans, fish, and other marine animals. Feeding areas often include coral reefs, rocky areas, and shipwrecks. Adult loggerheads may migrate

considerable distances between foraging areas and nesting beaches. Loggerheads reach sexual maturity at about 35 years of age. Critical habitat for this species does not occur within the project area.

Green turtles are found in all temperate and tropical waters around the world and stay mainly near the coastline and around islands. Green turtles are found in shallow flats and seagrass meadows during the day and return to scattered rock ledges, oysters beds, and coral reefs during the evening (FFWCC 2010a). In the U.S. Atlantic waters, green turtles are found from Texas to Massachusetts, the U.S. Virgin Islands, and Puerto Rico. Green turtles are generally found over shallow flats, seagrasses, and algae areas inside bays and inlets. Resting areas include rocky bottoms, oyster, worm, and coral reefs. Post-hatchling pelagic-stage turtles may be omnivorous. Adult turtles are herbivores and consume algae and seagrasses. Critical habitat consists of waters surrounding Culebra Island, Puerto Rico. No critical habitat is present within the Tampa Bay area.

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

Kemp's ridley turtles inhabit shallow nearshore and inshore waters of the northern Gulf of Mexico, particularly in Texas and Louisiana. During winter, turtles in the northern Gulf may travel to deeper water. Turtles found in the northwestern Atlantic Ocean feed in coastal waters of New England during the summer and migrate southward during the winter (NMFS and USFWS 1992). Kemp's ridleys are often found in waterbodies associated with salt marshes. Nesting occurs along the western Gulf of Mexico primarily in the Mexican state of Tamaulipas, but sometimes on Padre Island, Texas. Neonatal Kemp's ridleys feed on *Sargassum* and infauna or other epipelagic species. Post-pelagic turtles are benthic feeders over sand and mud bottoms and primarily consume crabs, particularly portunid crabs, and other crustaceans. Hatchlings may become entrained in Gulf of Mexico eddies and dispersed by oceanic surface currents, then enter coastal shallow water habitats when they reach about 20 cm in length. No critical habitat has been designated.

Hawksbill turtles occur in tropical and subtropical seas of the Atlantic, Pacific, and Indian oceans. In the continental U.S., hawksbills have been found along the Gulf of Mexico and along the eastern seaboard as far north as Massachusetts; however, but are rare north of Florida. Hawksbill turtles are frequently found along rocky areas, coral reefs, shallow coastal areas,

lagoons or oceanic islands, and narrow creeks and passes. Post-hatchlings are pelagic and occupy convergence zones, floating among *Sargassum* and debris and may eat fish eggs, *Sargassum*, and debris (NMFS and USFWS 1993). Hawksbill sea turtles feed primarily on sponges once they transition to a benthic existence. Critical habitat has been designated at Isla Mona, Culebra Island, Cayo Norte, and Island Culebrita, Puerto Rico. No critical habitat is present within the Tampa Bay area.

*Nesting.* Three species of sea turtles regularly nest in Florida: the loggerhead, green, and leatherback. Kemp’s ridley turtles have historically nested on the Gulf coast. Loggerhead nests are the most prevalent sea turtle nests in the Tampa Bay. Egmont Key averaged 41.3 nests per year from 2005-2014, with a high of 80 nests in 2013 and a low of 21 in 2006 (USFWS 2014). Nesting information of the three species in Hillsborough, Pinellas, and Manatee counties is summarized in Table 8.

The loggerhead sea turtle concentrates its nesting efforts in two main areas of the world: at Masirah Island, Oman, and on the coast of the southeastern U.S. Most nesting in the U.S. occurs between Cape Canaveral and the Sebastian Inlet on the eastern coast of Florida. More than 15,000 female loggerheads migrate to the beaches of Brevard, Indian River, St. Lucie, Martin, and Palm Beach counties each May through August (FFWCC 2010a).

**Table 8. Sea Turtle Nesting in the Tampa Bay Area, 2015**

County	Loggerhead	Green	Leatherback
	No. of Nests	No. of Nests	No. of Nests
<b>Manatee</b>	<b>691</b>	<b>5</b>	<b>0</b>
<b>Hillsborough</b>	<b>31</b>	<b>0</b>	<b>0</b>
<b>Pinellas</b>	<b>420</b>	<b>0</b>	<b>0</b>
<b>State Totals</b>	<b>89,295</b>	<b>37,341</b>	<b>1,493</b>

The NMFS has prepared an ESA, Section 7 Consultation Regional Biological Opinion, Dredging of Gulf of Mexico Navigation Channels and Sand Mining (“Borrow”) Areas Using Hopper Dredges by COE Galveston, New Orleans, Mobile, and Jacksonville Districts (Consultation Number F/SER/2001/01287 (as amended). The NMFS prepared reasonable and prudent measures to protect sea turtles, which are summarized below:

*NOAA Fisheries believes that seasonal dredging windows, deflector dragheads, observer and screening requirements, and relocation trawling have proved convincingly over the last decade to be an excellent combination of reasonable and prudent measures for minimizing the number and impact of sea turtle takes, enabling NOAA Fisheries to assess the quantity of turtles being taken, and*

allowing the affected COE Districts (Wilmington, Charleston, Savannah, Jacksonville, New Orleans, and Galveston) to meet their essential dredging requirements to keep Federal navigation channels open.

### 3.5.2 MARINE MAMMALS

Three baleen whales (blue, fin, and sei), one toothed whale (the sperm whale), and one sirenian (the West Indian manatee) occur in the Gulf of Mexico and are listed as endangered under the ESA. The sperm whale is common in oceanic waters of the northern Gulf of Mexico and may be a resident species, while the baleen whales are considered rare or extralimital in the Gulf (Würsig *et al.* 2000). The West Indian manatee (*Trichechus manatus*) inhabits only coastal marine, brackish, and freshwater areas.

The Florida manatee is a subspecies of the West Indian manatee (*Trichechus manatus*) and can be found throughout the southeastern United States, including the project area. Manatees may travel great distances during warm months and have been spotted in Massachusetts and Texas (USFWS 2007). Manatees are a sub-tropical species and are cold intolerant. In Florida, they prefer warm-water sites during the winter, only leaving to feed during warming trends. Manatees congregate near warm water sites, such as natural springs, power plants, and deep canals, when temperatures drop. Florida manatees are found in freshwater, brackish, and marine environments, including coastal tidal rivers and streams, mangrove swamps, salt marshes, freshwater springs, and vegetated bottoms. Manatees are herbivores and feed on aquatic vegetation. Preferred feeding areas in coastal and riverine habitats appear to be shallow grass beds near deep channels. Primary threats include watercraft-related strikes, entanglement in fishing lines and crab pot lines, exposure to cold and red tide (USFWS 2007).

Several Federal and state manatee protection areas are located in Tampa Bay, including around several power plants (Figure 9). Manatees inhabit both fresh and salt water and have been observed in canals, rivers, estuaries, bays, and on rare occasion have been seen as far as 6 km off the Florida Gulf coast (USFWS 1996). Beneficial Use sites at which manatee protection has been established include Gandy Channel North, Snug Harbor West, and Whiskey Stump Key Holes 1 and 2.

Surveys show that over 900 manatees inhabit the west coast of Florida with as many as 190 using Tampa Bay (Ackerman 1995). The highest concentrations of manatees along Florida's Gulf coast are found in Citrus, Levy, Lee, and Collier counties. Most of the manatees living in the Tampa Bay area appear to occur within the bay where water temperatures are more stable year round.

Critical habitat within the Tampa Bay area includes Important Manatee Areas (IMAs) and Warm Water Aggregation Areas (WWAAs) (Figure 10). An IMA is a recognized gathering area for manatees due to natural habitat features. Some IMAs are federally designated (Dedicated Observer Areas), other IMAs are state designated *seasonal no-entry zones* (Seasonal Restriction Areas). WWAAs are locations of natural warm water discharges that attract large numbers of manatees (USACE 2008).

Figure 9. Important Manatee Areas in Tampa Bay.



Figure 10. Important Manatee Areas in the vicinity of St. Petersburg Harbor.



### 3.5.3 GULF STURGEON

The Gulf sturgeon is a geographically distinct subspecies of the Atlantic sturgeon (*Acipenser oxyrinchus*). This anadromous species is generally restricted to the Gulf of Mexico from Tampa Bay to Lake Pontchartrain in Louisiana. Its range also includes the drainages of the Gulf of Mexico from the Mississippi River to the Suwannee River in Florida. It also occurs sporadically as far west as Texas and in Florida waters from Tampa Bay south to Florida Bay (Florida Museum of Natural History 2010a).

The gulf sturgeon inhabits coastal rivers during the warm months. Subadults and adults spend three to four months during the winter in estuaries, bays, or open waters of the Gulf of Mexico. Sturgeon younger than two years old may stay year-round in rivers and estuaries and not enter Gulf waters (USFWS and GSMFC 1995). Mud bottoms, sand bottoms, and seagrass areas appear to be important habitats for this species. Sturgeon do not appear to forage in the rivers, but feed only in estuaries and the Gulf of Mexico (NMFS 2010). Gulf sturgeon are bottom feeders, and typically feed on macroinvertebrates, including brachiopods, mollusks, worms, and crustaceans.

Gulf sturgeon may not sexually mature until eight or 12 years of age for females and seven to nine years old for males. Adult sturgeon spawn during the spring in fresh water and migrate to the Gulf and estuarine waters in the fall. Spawning may only occur in specific rivers.

Tampa Bay was the location of the first recorded significant sturgeon fishery on the Gulf of Mexico coast. The fishery began in 1886-1887 with a catch of 1,500 fish yielding 2,268 kg (5,000 lb) of roe. Two thousand fish and 2.858 kg (6,300 lb) of roe were marketed in 1887-1888. The fishery ended after the 1888-1889 season when only seven sturgeon were caught. Sturgeon catches in the Tampa Bay vicinity have been reported only sporadically since 1890.

A commercial netter incidentally caught and released a Gulf sturgeon 56.4 cm (1.8 ft) in length, one mile west of Redington Beach near St. Petersburg in December 1992 (Reynolds 1993). Before this time, the most recent Gulf sturgeon catch reported from Tampa Bay was a 144cm (56.7 in) Florida female weighing 25.8 kg (56.9 lb), collected on December 11, 1987 near Pinellas Point (USFWS and GSMFC 1995).

Gulf sturgeon critical habitat is located between the eastern portion of Lake Pontchartrain in Louisiana and Suwannee Sound in Florida. No critical habitat for the Gulf sturgeon is present in the Tampa Bay area.

#### **3.5.4 SMALLTOOTH SAWFISH**

The smalltooth sawfish, one of seven sawfish species, is an elasmobranch, in the same group as the sharks, skates, and rays. The smalltooth sawfish is a tropical marine and estuarine fish that has been reported to be circumtropically distributed. Sawfish have long, flat snouts edged with pairs of teeth used to locate, stun, and kill prey. Sawfish feed primarily on small schooling fish, slashing sideways with their saws through schools of fish to impale and injure the fish. They also appear to feed on some crustaceans. Smalltooth sawfish commonly reach 18 feet in length and may grow to 25 feet. This species appears to mature at about 10 years, and may live to be 25 to 30 years old. Smalltooth sawfish are ovoviviparous, retaining the eggs inside their bodies and giving birth to litters of 15 to 20 pups. Sawfish inhabit shallow coastal waters of tropical seas and estuaries and are generally found in nearshore shallow waters and in estuaries and mouths of rivers. Encounter data have reported sawfish primarily over mud (61 percent), sand (11 percent), seagrass (10 percent), and limestone (75 percent) (Poulakis and Seitz 2004), and mangroves, seagrasses and the shoreline (Simpfendorfer and Wiley 2005). Smaller sawfish have also been encountered more frequently in shallower water, whereas larger sawfish occur regularly at depths greater than 32 feet (Poulakis and Seitz 2004; Simpfendorfer and Wiley 2005). River mouths in southwest Florida have been the location of many of the encounters (Simpfendorfer and Wiley 2005).

According to the National Sawfish Encounter Database (NSED), most of the 46 recent (2008-2009) encounters with smalltooth sawfish have been from Charlotte Harbor south and on the east coast of Florida to northeast of Titusville (Florida Museum of Natural History 2010b). Only two sawfish were reported during 2008- 2009 north of Tampa Bay (near Horseshoe Beach and Bald Point State Point). One smalltooth sawfish was captured and released unharmed during

USACE-authorized relocation trawling associated with Tampa Harbor Entrance Channel maintenance dredging on August 12, 2006.

Designated critical habitat for the smalltooth sawfish includes the Charlotte Harbor estuary and the Ten Thousand Islands/Everglades Unit along the southwestern coast of Florida between Charlotte Harbor and Florida Bay, all of which are located outside of Tampa Bay and are not in the project area.

### **3.5.5 WOOD STORK**

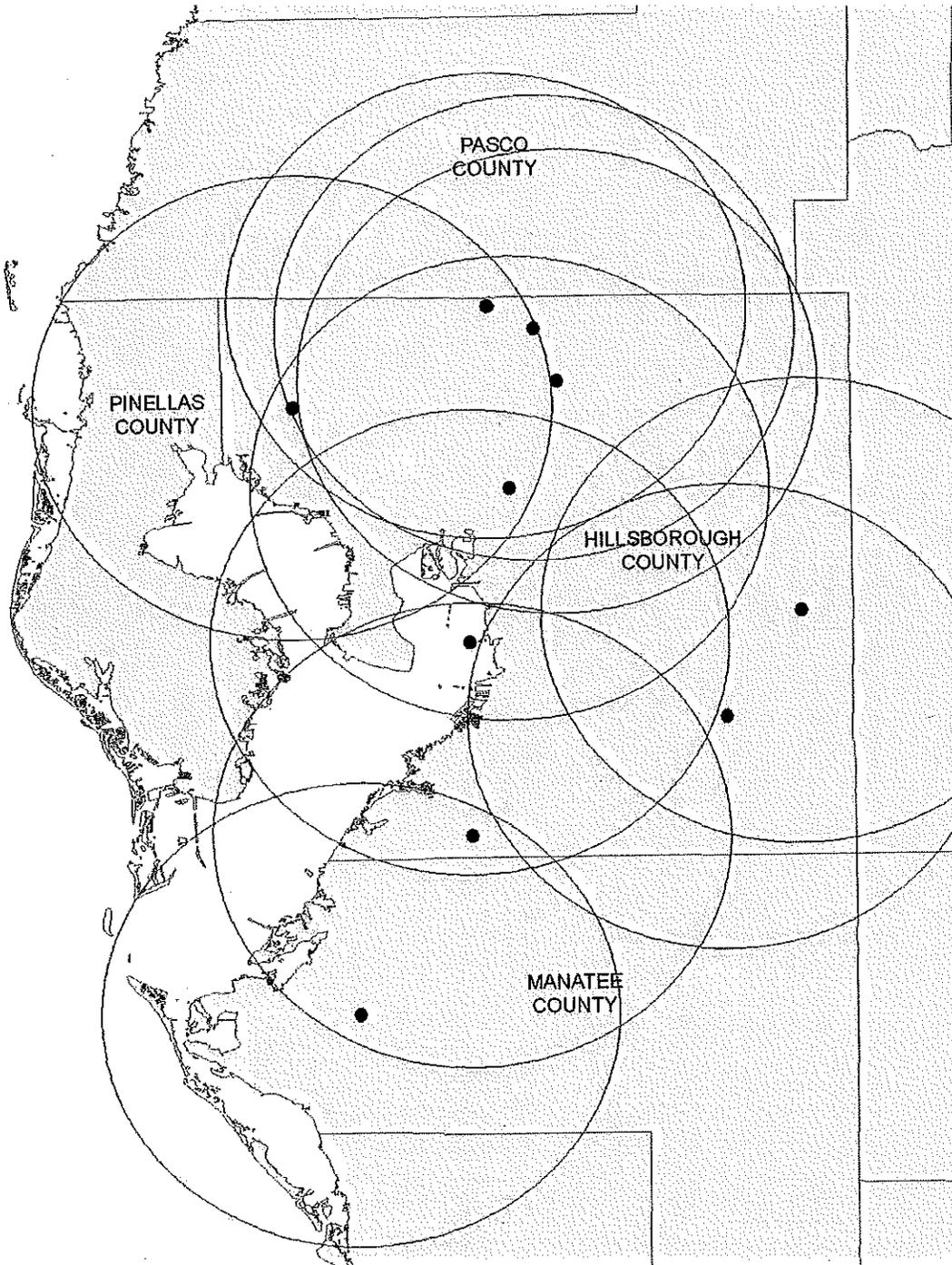
Historically, the wood stork nested almost exclusively in southern Florida, especially in the Corkscrew Swamp, Big Cypress, and Cape Sable area. By the late 1960s, wood stork breeding declined by more than 90 percent due to the degradation and loss of wetland habitat (Kushlan and Frohling 1986; Ogden *et al.* 1987). In 1984, the wood stork was federally listed as an endangered species.

Wood storks feed in shallow water in both freshwater and coastal wetlands, including tidal creeks and flats, marshes, cypress swamps, ponds, ditches, and flooded fields. They have a unique feeding technique that requires higher prey concentrations than other wading birds. Optimal water regimes involve periods of flooding, during which prey (fish) populations increase, alternating with dryer periods, during which receding water levels concentrate fish at higher densities coinciding with the stork's nesting season. Wood storks also eat small reptiles, amphibians, and mammals, as well as other aquatic organisms.

The wood stork is colonial and usually nests in large rookeries and feeds in flocks. Wood stork breeding colonies are found scattered throughout the peninsula north to Columbia, Baker, and Duval counties. Colonies may be found on coastal islands and in swamps, impoundments, and other inundated areas. Nests are platforms of large sticks frequently located in the upper branches of large cypress trees or in mangroves on islands. Several nests are usually located in each tree. Loss of nesting habitat (primarily cypress swamps) may be affecting wood storks in central Florida, where nesting in non-native trees has occurred. Less significant factors known to affect nesting success include prolonged drought and flooding, raccoon predation on nests, and human disturbance of rookeries (FFWCC 2003).

Ten nesting colonies are located in Hillsborough and Manatee counties (Figure 11). Foraging areas associated with the nesting colonies are represented in Figure 7 by circles surrounding each nesting colony point. These 15-mile diameter areas cover much of Tampa Bay. No critical habitat has been designated for the wood stork under the ESA.

Figure 11. Wood Stork Nesting Colonies (dots) and Foraging Areas (circles) in the Tampa Bay Vicinity



Source: USFWS

### 3.5.6 PIPING PLOVER

Piping plovers breed during the late spring and summer in three discrete areas of North America: The Northern Great Plains, the Great Lakes, and the Atlantic Coast. They winter in coastal areas of the United States from North Carolina to Texas. The density of wintering Great Lakes individuals was observed to be highest between St. Catherine's Island, Georgia, and Jacksonville, Florida, and the Gulf coast of Florida, particularly in the Tampa Bay region (Strucker and Cuthbert 2006). Piping plovers begin arriving on the wintering grounds in July, with some late-nesting birds arriving in September. Migration is poorly understood, but most plovers appear to migrate non-stop from interior breeding areas to wintering grounds. Individual plovers tend to return to the same wintering sites year after year (Nicholls and Baldassarre 1990). In late February, piping plovers begin leaving the wintering grounds to migrate back to breeding sites. Northward migration peaks in late March, and by late May most birds have left the wintering grounds (Eubanks 1994).

The piping plover has a patchy distribution along the coasts of Florida that is correlated with the availability of suitable, open habitat. The numbers and distribution of plovers are vulnerable to declines with loss and degradation of habitat. The habitats include beaches, mud flats, sand flats, algal flats, and washover passes (Doonan *et al.* 2005).

Behavioral observations of piping plovers on the wintering grounds suggest that they spend the majority of their time foraging (Nicholls and Baldassarre 1990). Primary prey for wintering plovers includes polychaete marine worms, various crustaceans, insects, and occasionally bivalve mollusks (Nicholls 1989).

The USFWS designated 142 areas along the Gulf and Atlantic coasts as critical habitat for the wintering population of the piping plover; several units are within the Tampa Bay project area. The Federal Register, Vol. 66, No. 132, July 11, 2001 stated:

*Unit FL-20: Shell Key and Mullet Key. 190 ha (470 ac) in Pinellas County. The majority of the unit is within Fort De Soto Park. This unit includes the Shell Key island complex. It also includes the northwest portion of Mullet Key including the western shorelines from Bunces Pass extending south, stopping 1.4 km (.86 mi) north of Ft. De Soto County Park pier. It includes from MLLW to where densely vegetated habitat or developed structures, not used by the piping plover, begin and where the constituent elements no longer occur. Unit FL-21: Egmont Key. 153 ha (377 ac) Hillsborough County. The majority of the unit is within Egmont Key National Wildlife Refuge. This unit includes the entire island to MLLW.*

### 3.5.7 RUFA RED KNOT

The rufa subspecies of the red knot (*Calidris canutus rufa*), listed as threatened, is a small shorebird that can occur along the Atlantic and Gulf coasts during migration. It is also known to overwinter in low numbers along both coasts. Florida is home to the largest concentration of wintering rufa in the United States, with the main concentration occurring in the greater Tampa Bay region (A.C. Schwarzer et al. 2012). In migration and winter, it prefers coastal mudflats, tidal zones, and sometimes open sandy beaches where it feeds on small invertebrates such as small mollusks, marine worms, and crustaceans (Kaufman 1996). The knot population has declined primarily due to reduced food availability from increased harvests of horseshoe crabs (USFWS 2015). Their numbers appear to have stabilized in the past few years, but they remain at low levels relative to earlier decades (USFWS 2015). Critical Habitat has not been designated for this species.

### **3.6 WILDLIFE REFUGES, SANCTUARIES, AND MANAGEMENT AREAS**

Significant wildlife protection/management areas located in the project vicinity are discussed in detail in the sections below (Figure 12).

#### **3.6.1 EGMONT KEY NATIONAL WILDLIFE REFUGE/EGMONT KEY STATE PARK**

Egmont Key National Wildlife Refuge was established in 1974 and includes 392 acres. The island is listed on the National Register of Historic Places. The beach and coastal berm on the island supports more than 110 species of nesting, migrating, and wintering birds. The island is critical habitat for endangered piping plovers, has a high population of gopher tortoises and box turtles, and provides nesting habitat for sea turtles. Egmont Key State Park is cooperatively managed by the Florida Department of Environmental Protection, the USFWS, and the U.S. Coast Guard.

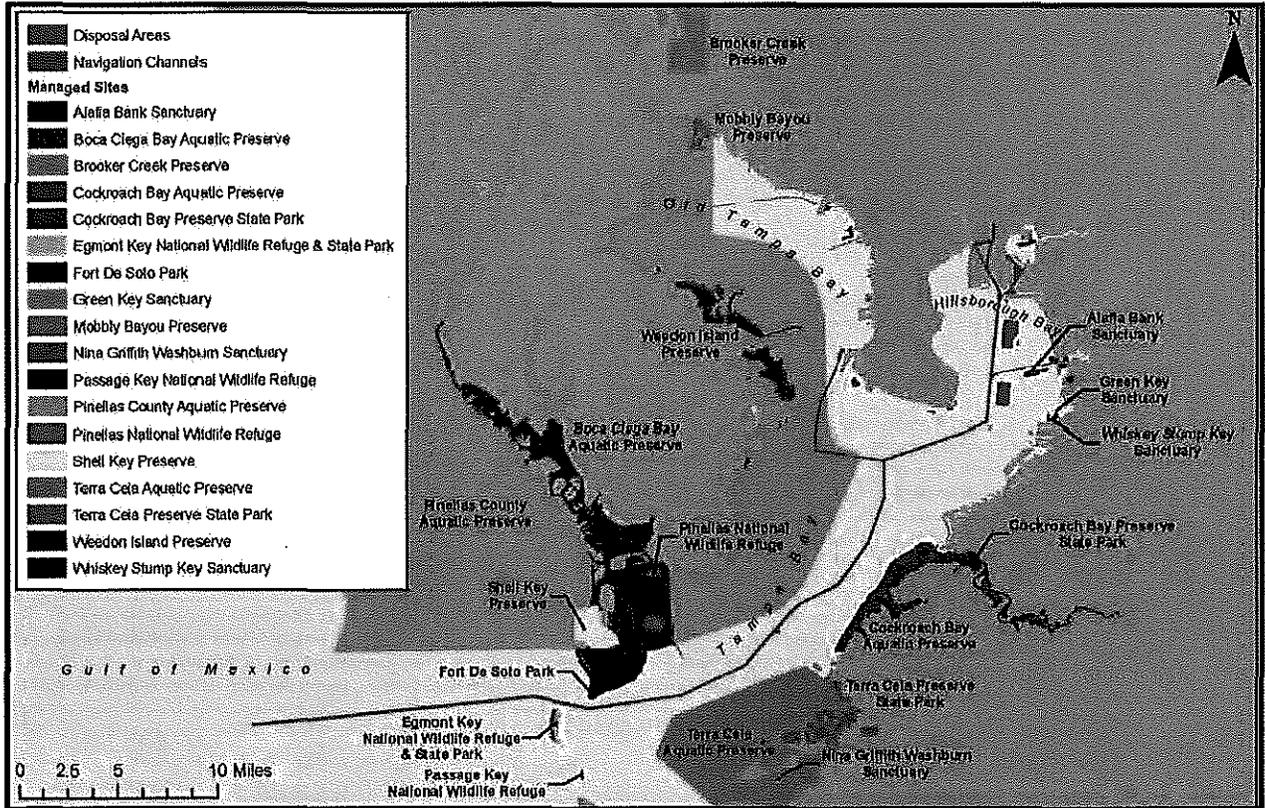
#### **3.6.2 PASSAGE KEY NATIONAL WILDLIFE REFUGE**

Passage Key National Wildlife Refuge was established in 1905 as a preserve and breeding ground for native birds. The 30-acre island was once a mangrove island with a freshwater lake; however, a 1921 hurricane destroyed much of the island. Passage Key is an important nesting site for shorebirds, gulls, terns, and other species. The royal and sandwich tern nesting colonies may be the largest in the state and the refuge is an important loafing and nesting site for brown pelicans. The island is a loafing/feeding site for migrating and wintering shorebirds and other migratory coastal avian species. Passage Key was designated a Wilderness Area in 1970.

#### **3.6.3 PINELLAS NATIONAL WILDLIFE REFUGE**

The Pinellas National Wildlife Refuge was established in 1951 to preserve a 403- acre breeding ground for colonial bird species. The refuge consists of four keys in Pinellas County. Many species of birds nest on the refuge, including herons, cormorants, egrets, and brown pelicans. Tarpon Key contains the largest brown pelican rookery in the state of Florida.

Figure 12. Wildlife Refuges, Sanctuaries, and Management Areas



#### **3.6.4 PINELLAS COUNTY AND BOCA CIEGA BAY AQUATIC PRESERVES (STATE)**

The Pinellas County and Boca Ciega Bay Aquatic Preserves include more than 336,000 acres of state-owned submerged land in Pinellas County. This preserve is also classified as an Outstanding Florida Water. The preserves include nearshore habitats, sand beaches, and mangrove-forested shorelines. Submerged habitats in the preserves include oyster bars, seagrass beds, coral communities, and spring-fed caves. Numerous islands, including dredged material islands, are located in the preserves.

#### **3.6.5 TERRA CEIA AQUATIC PRESERVE/TERRA CEIA PRESERVE STATE PARK**

The Terra Ceia Aquatic Preserve contains 22,000 acres of sovereign submerged lands in northwestern Manatee County. The shoreline of the preserve is dominated by mangroves and mangrove islands and includes tidal creeks and sinkholes. Oyster bars, seagrass beds, and hard bottom habitat are present in open water areas. At least five species of bats, white pelicans and other migratory bird species, and numerous fish and shellfish species are present in the preserve.

#### **3.6.6 COCKROACH BAY AQUATIC PRESERVE/COCKROACH BAY PRESERVE STATE PARK**

The Cockroach Bay Aquatic Preserve encompasses 8,583 acres of submerged lands owned by the Hillsborough Port Authority in northwestern Manatee County. The preserve contains numerous mangrove islands, seagrass beds, hard bottom, and oyster reefs.

#### **3.6.7 MOBBLY BAYOU PRESERVE**

The Mobbly Bayou Preserve is located at the north end of Upper Tampa Bay and contains a wide diversity of upland and coastal plant communities. The preserve contains 396 acres and is managed through an agreement with the City of Oldsmar.

#### **3.6.8 SHELL KEY PRESERVE**

The Shell Key Preserve contains 1,828 acres and is located immediately west of Tierra Verde in southern Pinellas County. The preserve contains a barrier island, several mangrove islands, seagrass beds, and sandflats.

#### **3.6.9 WEEDEN ISLAND PRESERVE**

The Weeden Island Preserve now includes the Gateway Tract and additional land parcels. The preserve is approximately 3,164 acres and extends along the west side of Tampa Bay in Pinellas County. The eastern edge of the preserve contains mangrove islands, whereas the landward sections contain upland communities (pine flatwoods, scrub, and scrub flatwoods) and hammocks.

#### **3.6.10 BROOKER CREEK PRESERVE**

The Brooker Creek Preserve is located in the northeast corner of Pinellas County and contains 8,700 acres. The preserve contains wetland areas, including the Brooker Creek, hardwood and mixed wetland forests, cypress domes and strands, marshes and wet prairies. Upland areas are dominated by pine flatwoods with some areas of hammocks and sandhills.

### **3.6.11 ALAFIA BANK SANCTUARY**

The Alafia Bank Audubon Sanctuary (Richard T. Paul Sanctuary) contains Bird Island and Sunken Island and is located in Hillsborough Bay at the mouth of the Alafia River. These two dredged material islands were constructed in the late 1920s and are important bird nesting sites for gulls, terns, and skimmers. Nearly 18,000 nesting pairs of 16 to 20 species of birds nest annually on the Alafia Bank Sanctuary, making it one of the largest colonies in Florida and one of the most diverse colonies in the continental United States. The Alafia Extension, a 12-acre area was added to the west end of Sunken Island in 1977 using material from a nearby dredging project. The extension was planted with smooth cordgrass and is vegetated by mangroves, containing tidal pools, sand and mud flats, small creeks, and salt barrens.

### **3.6.12 GREEN KEY SANCTUARY**

The Green Key Audubon Sanctuary is a small island located south of the mouth of the Alafia River and Bullfrog Creek in southeastern Hillsborough Bay. Green Key provides important bird foraging and loafing habitats. The seagrass meadows and oyster bars around the key are excellent bird feeding sites.

### **3.6.13 WHISKEY STUMP KEY SANCTUARY**

Whiskey Stump Key Audubon Sanctuary is a small sandy, mangrove island located in Hillsborough Bay three miles south of the mouth of the Alafia River. This island is an important bird nesting area that is managed by Audubon of Florida.

### **3.6.14 NINA GRIFFITH WASHBURN SANCTUARY**

Nina Griffith Washburn Sanctuary is located in Terra Ceia Bay. This Sanctuary has been protected by Audubon wardens since 1939, and it is now owned by the Audubon Society. It is a beautiful natural mangrove key that supports a large breeding colony of up to 4000 pairs of pelicans, cormorants, anhingas, herons, egrets, ibis, and spoonbills. With 16 nesting species, this colony is ranked the second most important in Florida by the Florida Fish and Wildlife Commission.

### **3.6.15 FORT DE SOTO PARK**

Fort De Soto Park is the largest park in the Pinellas County Park System. The park consists of five interconnected islands encompassing 1,136 acres. Fort De Soto is a Spanish-American era fortification consisting of two batteries (Battery Bigelow and Battery Laidley), as well as support facilities constructed on Mullet Key as part of the Tampa Bay turn of the century defense systems (Pinellas County Parks and Recreation Undated). Features of this important cultural resource are summarized in Section 3.14.5. The park contains several nature, recreational, and canoe trails, and almost three miles of beach. Fort De Soto is the first landfall for many migratory birds traveling across the Gulf of Mexico in the spring, which makes it a popular location for birding. Brown pelicans, double-crested cormorants, herons, egrets, plovers, gulls, and black skimmers are present throughout the year. Sea turtles nest along the beach in summer.

### 3.7 ESSENTIAL FISH HABITAT

The Gulf of Mexico Fisheries Management Council (GMFMC) has designated areas of vegetated and non-vegetated bottoms, live bottoms, and water columns within the study area as Essential Fish Habitat (EFH) in compliance with the Magnuson-Stevens Fishery Conservation and Management Act, as amended by the Sustainable Fisheries Act of 1996. Managed species that commonly occur in the project area include the stone crab (*Menippe mercenaria*), Spanish mackerel (*Scomberomorus maculatus*), and pink shrimp (*Farfantepenaeus duorarum*).

The Gulf of Mexico in this region also provides essential forage, cover, and nursery habitats for other species that are commercially and recreationally important. These species include the blue crab (*Callinectes sapidus*), flounder, and mullet (*Mugil spp.*).

The project area and its vicinity have been designated as EFH for 30 species (Table 9). The managed species include four species of crustaceans from the Shrimp, Stone Crab and Spiny Lobster Fishery Management Plans and 26 species of fishes from the Red Drum, Reef Fish, Coastal Migratory, and Highly Migratory Fishery Management Plans.

EFH in the project area includes mud, shell, and rock substrates and the estuarine water column in Tampa Bay and the water column and non-vegetated bottoms in the Gulf of Mexico. No Habitat Areas of Particular Concern (HAPCs) are in the project area.

Table 9. Summary of EFH Designation in the Project Area Vicinity

Species	Scientific Name	Young of Year	Juveniles	Adults
<b>Shrimp Fishery</b>				
Brown shrimp	<i>Farfantepenaeus aztecus</i>	X	X	X
Pink shrimp	<i>F. duorarum</i>	X	X	X
<b>Stone Crab Fishery</b>				
Florida stone crab	<i>Menippe mercenaria</i>	X	X	X
<b>Spiny Lobster Fishery</b>				
Spiny lobster	<i>Panulirus argus</i>	X	X	X
<b>Reef Fish Fishery</b>				
Gag grouper	<i>Mycteroperca microlepis</i>	X	X	X
Gray snapper	<i>Lutjanus griseus</i>	X	X	X
Gray triggerfish	<i>Balistes caprisicus</i>	X	X	X
Goliath grouper	<i>Epinephelus itaiara</i>		X	
Greater amberjack	<i>Seriola dumerilli</i>	X	X	X
Lane snapper	<i>L. synagris</i>	X	X	X
Lesser amberjack	<i>S. fasciata</i>	X	X	X
Red snapper	<i>L. campechanus</i>	X	X	X
Scamp grouper	<i>M. phenax</i>	X	X	X
Yellowtail snapper	<i>Ocyurus chrysurus</i>	X	X	X
<b>Coastal Migratory Pelagic Fishery</b>				
Bluefish	<i>Pomatomus saltatrix</i>			X
Cobia	<i>Rachycentron canadum</i>	X	X	X
King mackerel	<i>Scomberomorus cavalla</i>	X	X	X
Little tunny	<i>Euthynnus alletteratus</i>	X	X	X
Spanish mackerel	<i>S. maculatus</i>	X	X	X
<b>Highly Migratory Pelagic Fishery</b>		Neonate	Juveniles	Adults
Blacknose shark	<i>Carcharinus acronotus</i>			X
Blacktip shark	<i>C. limbatus</i>	X	X	X
Bonnethead shark	<i>Sphyrna tiburo</i>		X	
Bull shark	<i>C. leucas</i>	X	X	X
Great hammerhead shark	<i>S. mokarran</i>			X
Lemon shark	<i>Negaprion brevirostris</i>		X	X
Sandbar shark	<i>C. plumbeus</i>	X	X	X
Spinner shark	<i>C. brevipinna</i>	X		
Nurse shark	<i>Ginglymostoma cirratum</i>		X	X
Tiger shark	<i>Galeocerdo cuvieri</i>		X	

### 3.7.1 SEAGRASSES

Five species of seagrasses are found in Tampa Bay, including widgeongrass (*Ruppia maritima*), manatee grass (*Cymodocea filiformis*), shoalweed (*Halodule wrightii*), turtlegrass (*Thalassia testudinum*), and Englemann's seagrass (*Halophila engelmannii*). Turtlegrass and shoalweed are the most abundant species. Widgeongrass dominates the northern portions of the bay, whereas shoalweed and turtlegrass dominate the southern portions. Seagrass beds in the Tampa Bay area declined between 1940 and 1963, primarily due to major shoreline modifications; these losses included Hillsborough Bay (94 percent), Old Tampa Bay (45 percent) and Tampa Bay proper (35 percent) (Schomer *et al.* 1990). Since 1982, seagrass cover has expanded throughout the bay because of improved water quality (Li and Nui 2005; Sherwood 2010). The Southwest Florida Water Management District's most recent seagrass survey indicates that seagrass extents have surpassed those observed in the 1950s.

No seagrass has been previously mapped within the project footprint and little seagrass has been previously mapped in the project area; however, seagrasses are known to occur south of St. Petersburg Harbor and along the shoreline of the Albert Whitted Airport north of the Harbor. The 2015 SWFWMD survey also mapped patchy seagrass along the southern shoreline of DMMA 3-D and the eastern shoreline of DMMA 2-D. Extensive seagrass beds occur along the shorelines of Old Tampa Bay and Hillsborough Bay adjacent to the project area, and most of the dredged holes listed as potential beneficial use sites are surrounded by seagrass habitat.

Figures 13 and 14 depicts seagrasses in the project area, including those in proximity to the potential beneficial use areas. Of the various beneficial use sites, only McKay Bay has no adjacent or nearby seagrass beds.

Figure 13. Seagrasses, tidal flats, oyster bars, and attached macroalgae in the vicinity of St. Petersburg Harbor (SWFWMD, 2015).



Figure 14. Extent of seagrasses in Tampa Bay and in proximity to the beneficial use sites.



### 3.7.2 MACROALGAE

Macroalgae are generally attached to a substrate and are another important vegetative community type in Tampa Bay. A total of 221 taxa of macroalgae are reported from the Tampa Bay area. Algae grow in the sand areas between grass beds, as epiphytes on seagrasses, on limestone rubble, oyster shells, and man-made objects (Schomer *et al.* 1990).

### 3.7.3 HARDBOTTOM HABITATS

The Tampa ODMDS site contains documented hardbottom habitats on a berm referred to as the "Briar Patch." The habitat was created during the deepening of Tampa Harbor from May 1984 to November 1985. The work was completed using a 50-cubic-yard bucket dredge, and 3.4 million cubic yards of material was placed at the ODMDS. The channel deepening cut through a subbottom limestone layer, which provided the hardbottom substrate of the Briar Patch habitat.

The Environmental Protection Agency conducted a site visit to the Briar Patch to evaluate the habitat using an underwater Rapid Bioassessment Protocol in 2008 (USEPA, 2009). The assessment documented an abundance of the coral species *Cladocora arbuscula*, but no other coral species were documented. The coral colonies of *Cladocora arbuscula* were more plentiful at the Briar Patch

compared to the natural bottom sites surveyed, but the natural bottom sites contained a more diverse group of coral species. Additionally, no sponges, octocorals, or gorgonians were documented at the Briar Patch sites (USEPA, 2009).

### **3.8 AIR QUALITY**

The EPA National Emission Inventory (NEI) data indicate that the total amount of annual air pollutant emissions have continuously declined in Pinellas County since 2002. Pinellas Hazardous Air Pollutants emissions have continuously declined since 1999 and have decreased 59% from 1999 to 2008. Pinellas County Criteria Pollutant emissions have also decreased steadily since 2002, including steady decreases in emissions of each Criteria Pollutant and from each source category. There was a 45% decrease in these emissions from 2002 to 2008, including a 40% decrease in carbon monoxide, nitrogen oxides, VOCs and fine particulate matter, along with an 85% decrease in sulphur dioxide and a 20% decrease in particulate matter. Mobile sources have always accounted for at least 3 times more Pinellas Criteria Pollutant emissions than stationary sources. By 2008, mobile sources accounted for approximately six times more Criteria Pollutant emissions – this change was driven by a larger reduction in stationary source emissions compared to mobile source emissions. Pinellas County has not violated a National Ambient Air Quality Standard (NAAQS) for any Criteria Pollutant since the old ozone standard was violated in the 1980s. The Air Quality Index (AQI) is the EPA measure of air quality with respect to Criteria Pollutants – as AQI values increase, air quality decreases. Compared to other US metropolitan areas and counties since 1999, Pinellas has consistently had lower AQI values, many more Good AQI days, and many fewer AQI days in other AQI categories worse than Good (Pinellas County, 2011.)

Ambient air quality along coastal Pinellas County is generally good due to prevalent ocean breezes from the northeast through the southeast. Coastal development and the popularity of the beaches area all contribute to the presence of motorized vehicles and vessels in the project area at any given time. The usually present sea breezes along the Ft. Pierce shore readily disperse airborne pollutants. This project, regardless of the alternative implemented, would not require air quality permits.

### **3.9 WATER QUALITY**

The waters in the project area are used for commercial and recreational activities. A primary concern regarding water quality of Tampa Bay is the introduction of nutrients, particularly nitrogen. Algal blooms resulting from elevated nutrient concentrations decrease the availability of light for the ecologically important seagrass beds. The TBEP (2011) has estimated that approximately 21 percent of the nitrogen entering the bay is from atmospheric deposition, much of which originates locally from power plants and mobile sources; an additional 63 percent is from stormwater runoff. Chlorophyll-a concentrations, which correlate the amount of phytoplankton (including algae) are generally highest in Hillsborough Bay and Old Tampa Bay and lower toward the Gulf. Since 1980, concentrations of chlorophyll-a have decreased markedly (Sherwood 2010), and water clarity has approached the benchmark 1950s period.

Primary contact recreation, which may involve swimming, wading, or otherwise direct contact with water, is an important recreational activity for both residents and tourists. Tourism, an important part of the local economy, depends to a great extent on Tampa Bay meeting and

maintaining high water quality standards. Swimming area closures may occur when large discharges of stormwater enter the bay during and following heavy rainfall events or when wastewater spills or overflows occur.

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

- CLASS I, Potable Water Supplies
- CLASS II, Shellfish Propagation or Harvesting
- CLASS III, Recreation, Propagation and Maintenance of a Healthy, Well-Balanced Population of Fish and Wildlife
- CLASS IV, Agricultural Water Supplies
- CLASS V, Navigation, Utility and Industrial Use

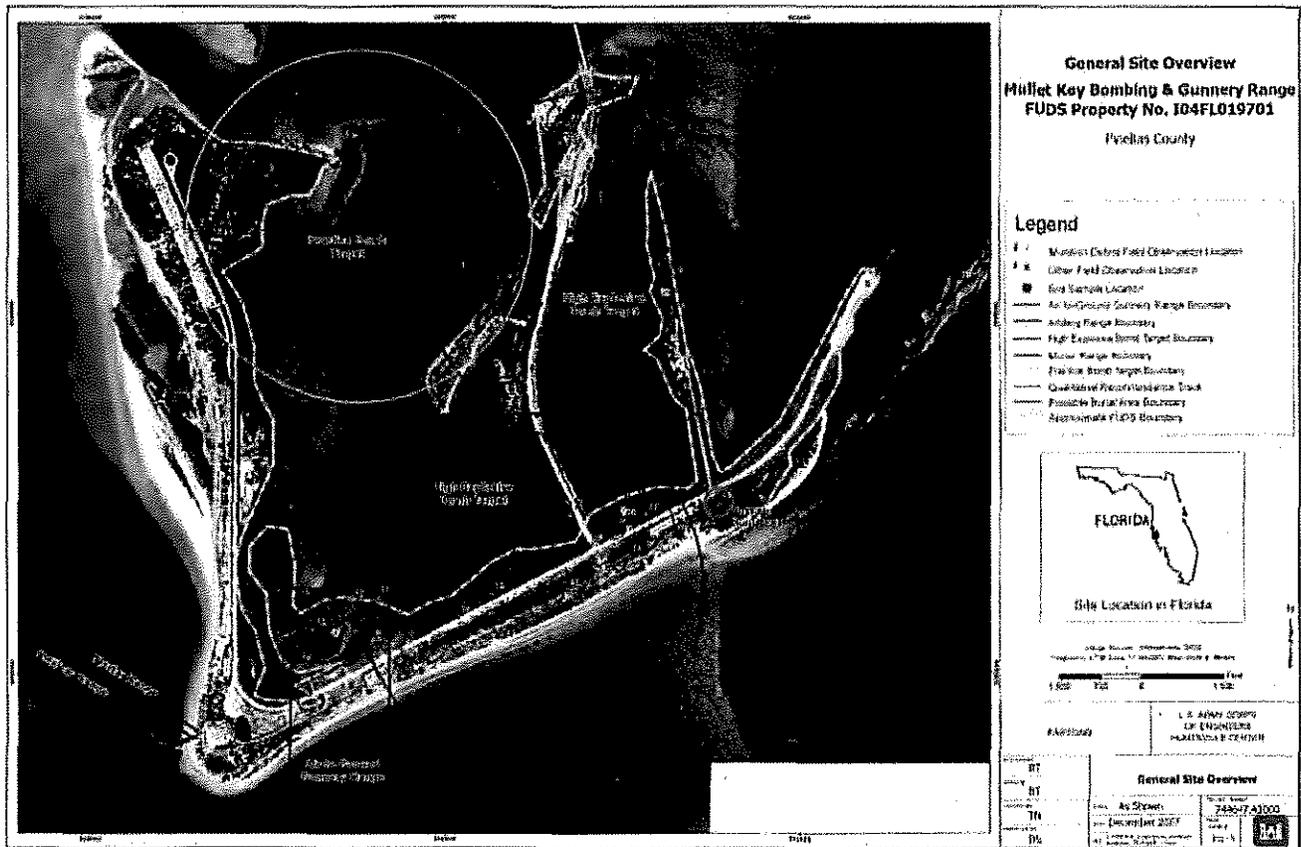
Class I has the most stringent requirements, while Class V has the least stringent. A majority of the Tampa Bay system has been designated as Class II. There is a recent proposal to reclassify portions of the Alafia River and Tampa Bypass Canal to Class I Waters.

The FDEP, through F.A.C Section 62-302.700, *Special Protection, Outstanding Florida Waters, Outstanding National Resource Waters*, has designated several areas in or near the project area as Outstanding Florida Waters (OFW): the Egmont Key, Passage Key, and Pinellas wildlife management areas; the Bower and Howard Frankland/Gateway tracts; and Cockroach and Pinellas County aquatic preserves. These waters are worthy of special protection because of natural attributes. This designation is applied to only certain waters and is intended to protect existing good water quality.

### **3.10 HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE**

Fort De Soto on Mullet Key was the site of a World War II bombing and gunnery range. To assess if HTRW was present, the USACE performed an investigation as part of the Defense Environmental Restoration Program-Formerly Used Sites (USACE 1992). This investigation concluded: *There are two areas on the site that have been identified as former DOD target areas. Remnants of ordnance have been found at both areas. Both live ordnance and practice bombs have been recovered.* Areas of concern are shown in Figure 15. No remediation of the site has taken place.

Figure 15. Mullet Key HTRW Areas of Concern



### 3.11 NOISE

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

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

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

and a 40-dBA sound level can be very quiet and is the lowest limit of urban ambient sound.

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

Ambient noise in the area is generated by a broad range of sources, both natural and anthropogenic. Natural noise sources include climatic sources, such as wind and precipitation. Potential sources of anthropogenic sound include commercial shipping, dredging and construction activities, industrial activities, and commercial and residential waterborne traffic. No ambient noise monitoring appears to have been conducted in the project area; consequently, no quantitative data on noise levels within the project area are available for analysis.

Ambient noise levels offshore are generally low. Vessels passing through the area may temporarily raise noise levels.

### **3.12 AESTHETIC RESOURCES**

Tampa Bay contains visually pleasing areas such as fringing mangrove, mudflats, and sandy beaches. The area offshore of Hillsborough and Pinellas counties possesses visually pleasing attributes (such as the coastal views into the waters of the Gulf of Mexico) that supports a strong tourist industry.

### **3.13 RECREATIONAL RESOURCES**

Hillsborough and Pinellas counties are heavily populated and are major tourist destinations. Both counties are in the Southwest Beach Region of Florida. In 2003, the Southwest Beach Region was visited by 14.2 million tourists who spent \$6.4 billion. Beach tourism created 177,000 jobs in the Southwest Beach Region (Murley *et al.* 2003). Beaches that can be accessed by the general public are heavily used year-round. Beaches adjacent to condominiums, apartments, and hotels may have more limited use due to restricted access. The waters of Hillsborough and Pinellas counties are used for swimming, fishing, scuba diving, and boating.

### **3.14 SOCIOECONOMICS**

The Port of St. Petersburg provides marina services to yachts and other recreation vessels (City of St. Petersburg, 2016). According to Waterborne Commerce (2015), the Port recorded 2,000 short tons of distillate fuel oil in 2014. In addition to commerce, the area is also used for commercial and recreational fishing and boating, and brings in many tourism dollars for the state.

### **3.15 NAVIGATION AND PUBLIC SAFETY**

Hillsborough and Pinellas county waters support considerable recreational and commercial navigation. Numerous marinas and boat launches are on Hillsborough Bay and Tampa Bay. Boats that use the channels include watercraft used for commercial enterprises (e.g., deep-sea fishing

and other charters) and recreational activities (fishing, sailing, jet skiing, pleasure boating, etc.).

Fort De Soto on Mullet Key was the site of a World War II bombing and gunnery range. As discussed in Section 3.10, live ordnance and practice bombs were recovered as part of a 1992 investigation (see Figure 9). No remediation of the site has taken place.

### 3.16 NATIVE AMERICANS

The St. Petersburg Harbor Federal Navigation Channel, DMMA 2-D and 3-D, the Tampa ODMDs, or the majority of the beneficial use sites are not located within or adjacent to known Native American-owned lands, reservation lands, or Traditional Cultural Properties. However, prior consultation on the project has indicated that Egmont Key holds historical significance for Native American tribes with ancestral ties to this region, including the Seminole Tribe of Florida, the Seminole Nation of Oklahoma, and the Miccosukee Tribe of Indians of Florida.

### 3.17 CULTURAL RESOURCES

There are no previously identified cultural resources within the St. Petersburg Harbor Federal Navigation Channel, DMMA 2-D and 3-D, or the Tampa ODMDs; however, prehistoric and historic sites have been identified within the vicinity of Tampa Bay. This region has both a maritime tradition dating back to a Spanish expedition in 1528 and even earlier traditions of Native American habitation (Espey, Huston & Associates 1988; Lydecker 2005). Typical Native American habitation sites include coastal shell middens and mounds. While no specific archaeological sites have yet to be found within the water of the Bay, 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 identified thick layers of shell midden containing diagnostic artifacts dating from the Paleoindian through the Late Archaic Periods (Goodyear et al. 1983).

In addition to the prehistoric resources, a number of historic shipwrecks have been documented within the Tampa Bay vicinity during the historic period, with a large portion of these wrecks occurring in the late-nineteenth and early-twentieth centuries. A review of the Life Saving Service Reports, the National Oceanic and Atmospheric Administration (NOAA) Automated Wreck and Obstruction Information System (AWOIS) lists, and the Northern Shipwrecks Database, as well as other studies of ship losses, show that many vessels have been lost in the Tampa Bay area since the early seventeenth century. Approximately 110 vessels are reported to have been wrecked within the project area, dating from 1535 to 2006. Vessels range from the Confederate sloop *Carolina* and the Confederate schooner *Spitfire*, both sunk by Union vessel *Ethan Allen* in 1862; to the sternwheel steamer *City of Athens*, lost in Tampa Bay in 1885; to the oiler *Gemini*, stranded at Egmont Key in 1973.

A submerged cultural resources survey of the St. Petersburg Harbor Federal Navigation Channel was complete by Panamerican Consultants, Inc (PCI) in 2005 and is documented in the report; *Submerged Cultural Resources Remote Sensing Survey, Historic Assessment, and Diver Evaluation of 31 Targets in Tampa Bay, Hillsborough and Pinellas Counties, Florida* (Lydecker 2005). No historic properties were identified as a result of this survey. Coordination with the Florida State Historic Preservation Office (SHPO) in 2005 (DHR Project File No. 2005-3976) has indicated that dredging of the Federal Channel

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with have no effect on cultural resources listed or eligible for listing in the National Register of Historic Places (NRHP) (Appendix C).

DMMA 2D and 3D were created between 1978 and 1982 using dredged material from the federal government's deepening of Tampa Harbor (USACE 2011). DMMA 3D is an approximately 400 acre island and DMMA 2D is an approximately 530 acre island that have been previously utilized for placement of excavated material. Due to the nature of DMMA 2D and 3D as man-made islands, the utilization of these locations has been previously determined to have no effect to historic properties. The Florida SHPO concurred with this determination in 1999 and 2012 and the Seminole Tribe of Florida's Tribal Historic Preservation Officer (THPO) concurred with this determination in 2012 (Appendix C).

Additional cultural resources assessments of the Tampa Harbor region were complete by PCI in 2006 and 2011 and include Egmont Key, the Tampa ODMDS, and a majority of the proposed beneficial use dredge placement areas. These surveys are documented in the reports; *Historic Assessment, Remote Sensing Survey, and Diver Evaluations at Egmont Key, Hillsborough County, Florida* (James et al. 2006) and *Update of Tampa Harbor Dredged Material Management Plan (DMMP) and Preparation of an Environmental Assessment (EA) and Cultural Resources Assessment Survey (CRAS) with Fish and Wildlife Coordination Act Report (CAR)* (Lydecker et al. 2011). No cultural resources or anomalies were identified within the Federal Channel or Tampa ODMDS area; however, the study identified anomalies of interest within some of the beneficial sites and re-identified various features known to exist offshore of Egmont Key. Based on the results of these surveys, all anomalies will either be avoided or buffered during maintenance operations unless further investigated. If maintenance operations are required in the area of any of the anomalies, additional cultural resources studies will be performed. Furthermore, if any of the proposed beneficial use areas not included in these studies were to be considered for dredge material placement, additional cultural resources studies will be performed.

The western shoreline and the areas around Egmont Key contain three resources that are listed on the NRHP: Egmont Key (8HI117), the Egmont Lighthouse (8HI117A), and the Egmont Key Cemetery (a.k.a., Fort Dade Cemetery, 8HI117B). In addition, the Ford Dade Southern Gun Bastions (8HI11473), which is listed as potentially eligible for inclusion on the NRHP, is located just offshore of the southwestern end of Egmont Key. The island and all of the features listed on the NRHP are potentially eligible as a National Landmark (James et al. 2006). Egmont Key was listed on the National Register on December 11, 1979. The island has long been used by the U.S. Government for both national defense and as an aid to navigation. A small garrison was placed on the island in 1821, and a lighthouse was later constructed in 1846. From 1856 to 1858, the island served as a holding depot for captured Seminoles (James et al. 2006). The island continued its military function after the third Seminole War through the Civil, Spanish American, First, and Second World Wars. Today, many of island's resources are slowly eroding into the waters of Tampa Bay. When the island was first used by the U.S. Government, it was almost twice as wide as it is today.

The Fort DeSoto Batteries (8PI0048) is a NRHP listed resource located on the southern end of Mullet Key. Fort DeSoto was constructed in 1900 and was officially a subpost of Fort Dade. The batteries

consisted of eight 12-inch M 1890-MI mortars mounted in 1902, and two 15-pound, 3-inch Driggs-Seabury rapid-fire guns placed in 1903. Post buildings were constructed between early 1900 and 1906. There were 29 buildings including a 100-foot-long barrack, hospital, stable, guardhouse, a shop for blacksmiths and carpenters, an administration office, a mess hall and kitchen, a bake house, and a storehouse. Fort DeSoto was abandoned in 1932, and from 1941 to Mullet Key became a bombing range as a subpost of MacDill Field.

In 2004, the SHPO noted that the "cultural resources of Egmont Key are being adversely affected by erosive storm surges and high tides" (DHR No: 2004-7106, Appendix C). Features associated with various forts on the island, such as batteries, target ranges, and a small section of railway, have eroded into the water. While outside the boundaries of the National Register property, these features are directly associated with the property. Therefore, the Corps determined that the placement of sediment would be beneficial for maintaining and protection cultural resources in the nearshore environment along Egmont Key and Mullet Key. The Florida SHPO and Seminole THPO concurred with this determination, with the caveat that a professional cultural resources monitor be present at Egmont Key to ensure that actions would not adversely affect historic properties (Appendix C). If the Egmont Key or Mullet Key beneficial use areas were to be considered for dredge material placement, additional consultation with the SHPO and appropriate federally-recognized tribes will be performed prior to any action.

## 4 ENVIRONMENTAL EFFECTS

This section is the analytic basis for the comparisons of the alternatives. See Table 1 in section 2.0 Alternatives, for summary of impacts. The following includes anticipated changes to the existing environment including direct, indirect, and cumulative effects. Previous EAs have assessed the effects of placing material dredged from the channel into beneficial use sites identified in Section 1.1. All of these previous EAs, which are incorporated by reference (Section 1.4, *Related Environmental Studies*), had a corresponding Finding of No Significant Impact (FONSI). Those effects are summarized here.

### 4.1 SEDIMENT QUALITY

**No Action Alternative.** No adverse effects on native sediment characteristics would occur.

**Proposed Action, Dredging and Upland Placement.** No adverse effects on native sediment characteristics would occur within the navigation channels.

**Dredging and ODMDS Placement.** No adverse effects on native sediment characteristics would occur within the navigation channels. Minor changes to sediment characteristics would occur at the ODMDS. Placement would be performed in accordance with the Tampa Ocean Dredged Material Disposal Site, Site Management and Monitoring Plan.

**Dredging and Beneficial Site Placement.** No adverse effects on native sediment characteristics would occur within the navigation channels. Minor changes to sediment characteristics would occur within the beneficial use sites. Placement would be performed in accordance with the State permit.

### 4.2 BIOLOGICAL COMMUNITIES AND LAND USE

#### 4.2.1 LAND USE

**No Action Alternative.** No direct adverse effects on land use would occur. However, erosion is expected to continue at Cypress Point (beneficial use site).

**Proposed Action, Dredging and Upland Placement.** No adverse effects on land use would occur.

**Dredging and ODMDS Placement.** No adverse effects on land use would occur.

**Dredging and Beneficial Site Placement.** No adverse effects on land use would occur. Filling the dredge holes at Cypress Point will reduce erosion.

#### 4.2.2 PLANT COMMUNITIES

**No Action Alternative.** No adverse effects on terrestrial, salt prairie, marsh, or mangrove communities are expected.

**Proposed Action, Dredging and Upland Placement.** No adverse effects on terrestrial, salt prairie, marsh, or mangrove communities will occur.

**Dredging and ODMDS Placement.** No adverse effects on terrestrial, salt prairie, marsh, or mangrove communities will occur.

**Dredging and Beneficial Site Placement.** The filling of some Beneficial Use sites (e.g., Big Island Hole) may increase adjacent marsh and mangrove communities.

#### **4.2.3 OPEN WATER HABITATS**

**No Action Alternative.** No adverse effects on open water communities would occur.

**Proposed Action, Dredging and Upland Placement.** Minor and short term effects on open water communities would occur.

**Dredging and ODMDS Placement.** Minor and short term effects on open water communities would occur including temporary turbidity or suspension of sediment in the water column.

**Dredging and Beneficial Site Placement.** Minor and short term effects on open water communities would occur including temporary turbidity or suspension of sediment in the water column.

No loss of shallow water habitat will occur along the channel from the maintenance of the existing channel. The same amount of edge effect as the no action alternative will remain. Increased productivity of this aquatic site will occur by creating a wetland area and habitat for a wide variety of aquatic life (USACE 2000c, 2000d [Rev. 2005]). There may be a temporary loss of silt habitat acreage and habitat raised to the photic zone with Whiskey Stump seagrass restoration (USACE 2000a).

### **4.3 FISH AND WILDLIFE**

#### **4.3.1 MIGRATORY BIRDS**

**No Action Alternative.** No short term adverse effects on migratory birds will occur. In considering the long term, the flooding of DMMA's during dredged material disposal operations provides foraging for nesting birds. Discontinuing the use of the DMMA's could lead to a long term decline in foraging habitat for certain migratory bird species.

**Proposed Action, Dredging and Upland Placement.** To ensure that migratory birds are not adversely affected by construction activities, protective measures would be implemented for DMMA sites that are utilized during bird nesting season. With the implementation of these measures and the conditions of the FDEP Permit, the USACE concludes that no adverse effect on migratory birds would occur. Nesting habitat at DMMA's 2-D and 3-D benefits from routine placement of dredged materials at these sites through the drowning of undesirable vegetation in areas used by shorebird nesting species.

**Dredging and ODMDS Placement.** No effects to migratory birds would occur with the use of the

ODMDS as a placement area.

**Dredging and Beneficial Site Placement.** No effects to migratory birds would occur if any of the nearshore or dredged holes listed in Section 1.1 were used. To ensure that migratory birds are not adversely affected by construction activities, protective measures would be implemented if Egmont Key Beach, Fort De Soton/Mullet Key Beach, or Sunken/Bird Island are used.

#### **4.3.2 BALD EAGLE**

**No Action Alternative.** No adverse effects to the bald eagle will occur.

**Proposed Action, Dredging and Upland Placement.** No adverse effects to the bald eagle would occur.

**Dredging and ODMDS Placement.** No adverse effects to the bald eagle would occur.

**Dredging and Beneficial Site Placement.** No adverse effects to the bald eagle would occur.

#### **4.3.3 MARINE MAMMALS**

**No Action Alternative.** No adverse effects on non-listed marine mammals will occur.

**Proposed Action, Dredging and Upland Placement.** No adverse effects on non-listed marine mammals would occur. In the April 25, 2005 notice in the Federal Register (70FR 21174) for the issuance of an IHA for Small Takes of Marine Mammals Incidental to Specified Activities; Port of Miami Construction Project (Phase II), NMFS stated: *According to the Corps, bottlenose dolphins and other marine mammals have not been documented as being directly affected by dredging activities and therefore the Corps does not anticipate any incidental harassment of bottlenose dolphins by dredging.*

**Dredging and ODMDS Placement.** No adverse effects on non-listed marine mammals would occur.

**Dredging and Beneficial Site Placement.** No adverse effects on non-listed marine mammals would occur.

#### **4.3.4 BENTHOS**

**No Action Alternative.** No adverse effects on benthic habitats will occur.

**Proposed Action, Dredging and Upland Placement.** Minor and short term reduction of benthos at dredging site.

**Dredging and ODMDS Placement.** Placement of dredged material into the ODMDS will result in a temporary loss of the benthic organisms that have colonized the site, followed by re-colonization.

**Dredging and Beneficial Site Placement.** Benthic communities will be covered with dredged material at beneficial use sites. However, this is likely to be a short-term effect, and benthic communities will recover at the site. Because depths will be altered by the placement of dredged material, and because of the potential for restored beneficial use sites to support aquatic

vegetation, it is possible that the structure of the benthic community could be altered. No hardbottom areas would be affected.

#### 4.3.5 FISHERY RESOURCES

**No Action Alternative.** No adverse effects on fishery resources would occur.

**Proposed Action, Dredging and Upland Placement.** No adverse effects on fishery resources are anticipated.

**Dredging and ODMDS Placement.** No adverse effects on fishery resources are anticipated by dredging the channel. As stated earlier, the use of the ODMDS will result in a temporary loss of the benthic organisms that have colonized the site, followed by re-colonization. This may have a corresponding temporary effect on fishery resources.

**Dredging and Beneficial Site Placement.** There will be a long-term loss of recreational fishing by filling some of the dredged holes. The TBEP recommended not filling the following dredged holes because of the potential loss of important recreational fisheries:

- Bay Point Hole
- Cypress Point Hole
- Gandy Channel North Hole
- MacDill AFB Runway Extension Hole
- Shore Acres Hole
- St. Petersburg/Clearwater Airport Hole
- Whiskey Stump Key Holes 1 and 2

However, long-term benefit will be realized to bay fisheries from the establishment of natural bay bottom by filling dredged holes and the potential for creating more productive life-cycle habitat (USACE 2006b). Other effects noted in previous EAs include an incremental loss of cold-water refugia and edge effect and long-term benefit by creating shallow-water habitat for juvenile fish at the MacDill Hole (USACE 2001), and a short-term loss of fish that will occur during placement within Harbor Isle Lake (USACE 2001).

#### 4.4 THREATENED AND ENDANGERED SPECIES

**No Action Alternative.** No adverse effects on threatened and endangered species would occur. Long-term decline in piping plover critical habitat and sea turtle nesting habitat at Egmont Key due to continued erosion (USACE 2010).

**Proposed Action, Dredging and Upland Placement.** The proposed action has been fully coordinated with the USFWS. By letter dated 12 May 2017, the USFWS concurred with the USACE determination that the proposed action may affect, but is not likely to adversely affect the manatee. Upland placement is not likely to adversely affect the wood stork. The work would also be performed in compliance with the NMFS Gulf Regional Biological Opinion (GRBO; 2003). With the implementation of the terms and conditions within the GRBO to protect sea turtles, whales, and sturgeon the work may affect, but is not likely to adversely affect these species. However, if a hopper dredge is

used, then the project may affect sea turtles and sturgeon. The GRBO states the following:

*Of the above-listed threatened and endangered species of sea turtles, whales, and sturgeon potentially present in the action area, NOAA Fisheries believes that only loggerhead, green, hawksbill, and Kemp's ridley sea turtles, and Gulf sturgeon, are vulnerable to being taken as a result of the use of hopper dredges to maintain, or deepen and widen navigation channels and harbors, or to dredge sand mining areas for beach nourishment in the U.S. Gulf of Mexico. Hopper dredging activities also have the potential to destroy or adversely affect Gulf sturgeon critical habitat.*

There is no Gulf sturgeon critical habitat in the project area. The 2003 GRBO also states that:

*Sperm whales (*Physeter macrocephalus*) occur in the Gulf of Mexico but are rare in inshore waters. Other endangered whales, including North Atlantic right whales (*Eubalaena glacialis*) and humpback whales (*Megaptera novaeangliae*); have been observed occasionally in the Gulf of Mexico. The individuals observed have likely been inexperienced juveniles straying from the normal range of these stocks. NOAA Fisheries believes there are no resident stocks of these species in the Gulf of Mexico, and these species are not likely to be adversely affected by projects in the Gulf. NOAA Fisheries believes that blue, fin, or sei whales will not be adversely affected by hopper dredging operations; the possibility of dredge collisions is remote since these are deepwater species unlikely to be found near hopper dredging sites. There has never been a report of a whale taken by a hopper dredge. Based on the unlikelihood of their presence, feeding habits, and very low likelihood of hopper dredge interaction, the above-mentioned cetaceans are not considered further in this Opinion.*

According to the 2003 GRBO, smalltooth sawfish are not likely to be affected by dredging activities due to their affinity for shallow, estuarine systems.

**Dredging and ODMDS Placement.** Same as above.

**Dredging and Beneficial Site Placement.** Same as above. However, some of the beneficial use sites would include placement of dredged material onto a beach location, which may affect nesting sea turtles, and may affect, but is not likely to adversely affect piping plover and rufa red knot. The terms and conditions within the SPBO as well as the USFWS Programmatic Piping Plover Biological Opinion (2013) would be implemented to protect these species.

Additional analysis, by species group or species is provided below.

#### **4.4.1 SEA TURTLES**

Dredging and the use of the various placement locations (DMMA, ODMDS, and beneficial use sites) could potentially directly and indirectly affect sea turtles in the following ways:

- Dredging activities that utilize a hopper dredge may affect sea turtles; preventative measures will be taken, such as use of draghead deflectors and monitoring to reduce the potential for impacts (USACE 2004). Placement activities on nesting beaches may affect sea turtles. Mitigation measures are provided in Section 5.0;

- Both stockpiled pipe on the beach and the pipeline route running parallel to the shoreline may impede nesting sea turtles from accessing more suitable nesting sites;
- The operation of heavy equipment on the beach may impact nesting females and incubating nests;
- Associated lighting impacts from the nighttime operations and the increased beach profile elevation may deter nesting females from coming ashore and disorient emerging hatchlings;
- Burial of existing nests may occur if nests are missed by monitoring efforts;
- Escarpment formations and resulting impediments to nesting females as well as potential losses to the beach equilibration process;
- Reduced nest success as a result of authorized relocation efforts;
- Sediment density (compaction), shear resistance (hardness), sediment moisture content, beach slope, sediment color, sediment grain size, sediment grain shape, and sediment grain mineral content can be altered potentially affecting the nesting and incubating environment;
- Hard sediment can prevent a female turtle from digging a nest or result in a poorly constructed nest cavity;
- Changes in sediment properties and color could alter the temperature of the beach and incubating nests, thus influencing sex ratios; and
- Hard structures (groins, breakwaters, etc.) may prevent access to suitable nesting sites, directly and indirectly interfere with the nesting process, impede and/or trap nesting females and hatchlings resulting in increased energy expenditure, concentrate predators, and alter longshore sediment transport and down-drift erosion.

With respect to effects of hopper dredging on sea turtles, the GRBO states:

*. . .it is NOAA Fisheries' biological opinion that the COE's hopper dredging activities, as proposed and described in the Proposed Action section of this Opinion, are not likely to jeopardize the continued existence of any listed species. . .*

The 1991 South Atlantic Regional Biological Opinion (SARBO; amended in 1995 and 1997; NMFS 1991) states:

*Clamshell dredges are the least likely to adversely affect sea turtles because they are stationary and impact very small areas at a given time. Any sea turtle injured or killed by a clamshell dredge would have to be directly beneath the bucket. The chances of such an occurrence are extremely low, although the take of a live turtle by a clamshell dredge has been documented at Canaveral. On the basis of the best available information, NMFS has determined that dredging with a clamshell dredge is unlikely to result in the take of sea turtles. . . . Pipeline dredges are relatively stationary and only influence small areas at a given time. For a turtle to be taken with a pipeline dredge, it would have to approach the cutterhead and be caught in the suction. This type of behavior would appear unlikely, but may be possible. Presently, NMFS has determined that pipeline dredges are unlikely to adversely affect sea turtles. . . . the special purpose split-hull hopper dredge and*

*sidecast dredges are used in a limited basis in the southeast. These dredges are not believed harmful to sea turtles because of the small size of dragheads (roughly 2' by 2'). For the present consultation, NMFS has determined that these dredges are unlikely to adversely affect sea turtles.*

*Of the three major dredge types, only the hopper dredge has been implicated in the mortality of endangered and threatened species. Thus, this biological opinion concentrates on the adverse impacts of hopper dredging in the southeastern United States.*

The St. Petersburg Harbor Federal Navigation Project is covered by the GRBO (revised 2007) which states that:

*Leatherback sea turtles will not be considered further in this Opinion based on the unlikelihood of their presence nearshore and their non-benthic feeding habits which combine to produce a very low likelihood of hopper dredge entrainment.*

While temporary adverse impacts may occur to nesting sea turtles at Egmont and Mullet Keys, the USACE plans to minimize impacts to nesting sea turtles in the project area by implementing steps that are now common practice including, but not limited to:

- design modifications;
- contingency plans;
- risk assessments;
- sediment quality monitoring;
- compaction tests;
- tilling;
- leveling escarpments in the fill; and
- monitoring for nests, etc.

Reviews of 2016 sea turtle nesting data from the Florida Fish and Wildlife Conservation Commission indicate that the pace and extent of erosion at Egmont Key resulted in nests laid outside of the 2014 placement area being washed out due to tropical storms passing through the region. While there was an increase in false crawls in the placement area, the nests laid in the placement area were more likely to hatch successfully than those outside of the placement area.

#### **4.4.2 FLORIDA MANATEE**

Most manatees observed in the Tampa Bay area are found at locations where water temperatures are more stable year round (USFWS 2001). Manatees are especially known to congregate around areas of seagrasses. During winter, they congregate in warm water outfalls associated with manufacturing and power generation.

To ensure the protection of manatees, the standard state and Federal manatee protection conditions would be implemented during construction. In addition, the project will comply with the Protected Species conditions outlined in the FDEP Permit. With implementation of these

conditions, the USACE has determined that the project is not likely to adversely affect the manatee. In areas known to be important manatee congregation areas, clamshell dredges would require special monitoring requirements and be limited to warm weather operations.

#### **4.4.3 WHALES**

Whales are infrequently encountered when work vessels are in transit to the ODMS. Therefore, whales are not likely to be struck by vessels. Work crews will monitor for whales during all waterborne work. The USACE has determined that the proposed dredging and placement operations may affect, but are not likely to adversely affect whales.

#### **4.4.4 GULF STURGEON**

Gulf sturgeon are infrequently encountered within Tampa Bay. Therefore, this species is not likely to be taken by hopper dredge activities if a hopper dredge is used. Use of draghead deflectors and monitoring will also be performed to reduce the potential for impacts. The USACE has determined that the proposed dredging and placement operations may affect, but are not likely to adversely affect Gulf sturgeon.

#### **4.4.5 SMALLTOOTH SAWFISH**

Smalltooth sawfish are rarely encountered in Tampa Bay. According to the 2003 GRBO, smalltooth sawfish are not likely to be affected by dredging activities due to their affinity for shallow, estuarine systems. Therefore, the USACE has determined that the proposed work is not likely to adversely affect the smalltooth sawfish.

#### **4.4.6 WOOD STORK**

Wood stork may occasionally forage at DMMA 3-D and 2-D. Protective measures would be implemented for all listed and non-listed migratory birds for the life of the project. The USACE has determined that the proposed placement operations are not likely to adversely affect the wood stork.

#### **4.4.7 RUFA RED KNOT**

The Tampa Bay area provides important wintering grounds for the rufa red knot. Habitats used by red knots during the winter include beaches; mud, sand, and algal flats; and washover passes. If dredged material is placed at Egmont Key or Mullet Key (Ft. DeSoto), a possibility for affecting the red knot exists. The USACE consulted with the USFWS on the red knot if placement at these locations is proposed. Protection measures, similar to the provisions of the USFWS Programmatic Piping Plover Biological Opinion would be implemented. Therefore, the USACE has determined that the placement of material at Egmont Key or Mullet Key may affect, but is not likely to adversely affect the red knot. For placement at other sites, the project would not affect the rufa red knot.

#### **4.4.8 PIPING PLOVER**

The piping plover uses the Tampa Bay area for wintering grounds. Like the red knot, habitats used by piping plover during the winter include beaches; mud, sand, and algal flats; and washover passes. If dredged material is placed at Egmont Key or Mullet Key (Ft. DeSoto), a possibility for affecting the piping plover exists. However, the USACE requires contractors to adhere

to the provisions of the USFWS Programmatic Piping Plover Biological Opinion. Therefore, the USACE has determined that the placement of material at Egmont Key or Mullet Key may affect, but is not likely to adversely affect the piping plover. Of the areas considered for the placement of dredged material, only Egmont Key and a portion of Mullet Key are designated as critical habitat for piping plovers. Placement of material at these two sites may affect, but is not likely to adversely affect, piping plover critical habitat. For placement at other sites, the project would not affect the piping plover.

#### **4.5 WILDLIFE REFUGES, SANCTUARIES, AND MANAGEMENT AREAS**

**No Action Alternative.** Continued erosion at Egmont Key would result in the loss of national wildlife refuge and state park lands.

**Proposed Action, Dredging and Upland Placement.** No adverse effects to refuges, sanctuaries, and management areas would occur.

**Dredging and ODMDS Placement.** No adverse effects to refuges, sanctuaries, and management areas would occur.

**Dredging and Beneficial Site Placement.** No adverse effects on wildlife refuges, sanctuaries, and management areas will occur. Placement of sand at Egmont Key and Fort De Soto Beach would have beneficial effects by protecting resources by offsetting coastal erosion.

#### **4.6 ESSENTIAL FISH HABITAT**

Section 3.6 describes the *existing conditions* of the Essential Fish Habitat (EFH). This section describes the individual and cumulative impacts of the No Action Alternative and the Tentatively Selected Plan. This NEPA document will satisfy the coordination requirement for EFH under the Magnuson-Stevens Fisheries Conservation and Management Act (Section 6.13).

**No Action Alternative.** No adverse effects on essential fish habitat would occur.

**Proposed Action, Dredging and Upland Placement.** The work would temporarily impact nearshore benthic habitat, fishes, and invertebrates in the dredge areas, as well as result in temporary reductions of water quality due to turbidity. After dredging and placement, the water quality would quickly return to pre-dredging conditions, benthic communities would repopulate, and fishes and motile invertebrates would return to the area. These effects are considered to be minor and would not result in an overall adverse impact to essential fish habitat.

**Dredging and ODMDS Placement.** The work would temporarily impact benthic habitat, fishes, and invertebrates in the dredge areas and the ODMDS, as well as result in temporary reductions of water quality due to turbidity. Though the site was designated for purposes of dredged sediment placement, the Corps would avoid any area with existing benthic or hardbottom resources. Otherwise, effects would be the same as those listed above.

**Dredging and Beneficial Site Placement.** The work would temporarily impact nearshore benthic

habitat, fishes, and invertebrates in the dredge areas, as well as result in temporary reductions of water quality due to turbidity. Long-term benefit will be realized to EFH from the establishment of natural bay bottom by filling dredged holes and the potential for creating more productive life-cycle habitat (USACE 2006b). Partially filling some of the dredge holes listed in Section 1.1 should result in seagrass creation/restoration (Table 10).

Table 10. Seagrass Communities Resulting from Filling Dredge Holes

Beneficial Use Site	Acres
Big Island Cut	46.3
Cypress Point	63.6
Gandy North	41.5
MacDill Runway	59.3
NE St. Petersburg	9.5
Northshore Beach	30.0
Skyway Causeway	13.7
St. Petersburg/Clearwater Airport East	21.0
Venetian Isles	3.2
Whiskey Stump 1	21.6
Whiskey Stump 2	27.3

The filling of some Beneficial Use sites (e.g., Big Island Hole, Northeast St. Petersburg) may increase adjacent marsh and mangrove communities. Oyster beds near or adjacent to the dredge holes at Gandy North, and Whiskey Point 1 and 2 could expand if the dredge holes are filled. The extent of the increase in oyster beds and marsh and mangrove communities is dependent on the amount of dredged material placed in the holes (i.e., the depth of the water column following placement).

#### 4.7 AIR QUALITY

**No Action Alternative.** No adverse effects on air quality would occur.

**Proposed Action, Dredging and Upland Placement.** The short-term impacts from emissions by dredges and other construction equipment associated with the project are not anticipated to affect onshore or offshore air quality significantly. Exhaust emissions from vehicles, vessels, and construction equipment associated with the project would have a temporary and localized effect on air quality. There may be temporary and minor unpleasant odors associated with exhaust emissions. Offshore sea breezes are anticipated to disperse pollutants. This project requires no air quality permits.

The work may result in small, localized, and temporary increases in concentrations of NO<sub>x</sub> (nitrogen

oxides), SO<sub>2</sub>, CO, VOCs, and PM. Because the project is located in an air quality attainment area, the EPA requires no preliminary air quality conformity assessment.

Emissions associated with the dredge plant would provide the largest contribution to the inventory. However, the total project emissions represent a minor percentage of the existing point and nonpoint and mobile source emissions in Pinellas County. Prevailing winds would quickly disperse any pollutant released into the atmosphere from the project area. Green House Gas emissions would minimally effect global emissions or total United States emissions.

**Dredging and ODMDS Placement.** Same as above.

**Dredging and Beneficial Site Placement.** Same as above.

## 4.8 WATER QUALITY

**No Action Alternative.** No adverse effects on water quality would occur.

**Proposed Action, Dredging and Upland Placement.** No long term adverse impact on water quality is expected to occur as a result of the work. Dredging operations will create minor, temporary reduction of water quality in the vicinity of the construction by increased turbidities. Elevated turbidity levels would occur within the mixing zone in dredging areas and in the return water from the disposal site. Turbidities directly due to dredging are expected to return to ambient levels within a short time period. Water quality certification will be obtained prior to the commencement of any activities associated with this EA.

**Dredging and ODMDS Placement.** No long term adverse impact on water quality is expected to occur as a result of the work. Dredging and placement operations within the ODMDS will create minor, temporary reduction of water quality in the vicinity of the construction by increased turbidities. Otherwise same as above.

**Dredging and Beneficial Site Placement.** Placement of material in man-made dredged holes in the bay bottom would result in a long-term improvement in water quality from reduction of oxygen-poor stratified water. Moderate long-term benefit to water quality from the elimination of oxygen-poor water quality in MacDill Hole (USACE 2001) should occur. Improved water quality in channel for aquatic life (USACE 2000b). Short-term increases in turbidity levels at the Sunken Island, Whiskey Stump Key sites (USACE 1996, 2000d [Rev. 2005]); will require turbidity screens to minimize impacts (USACE 1996).

## 4.9 HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE

**No Action Alternative.** No HTRW issues would occur.

**Proposed Action, Dredging and Upland Placement.** There are no identified HTRW issues associated with this dredging project. If an HTRW issue were to be discovered during operation, the USACE would comply with all applicable state and federal regulations and guidance to ensure the issue would be addressed and resolved.

**Dredging and ODMS Placement.** Same as above.

**Dredging and Beneficial Site Placement.** Same as above.

#### **4.10 NOISE**

**No Action Alternative.** No additional noise would result.

**Proposed Action, Dredging and Upland Placement.** Temporary minor increases in noise would occur during the dredging and dredged material placement in the vicinity of the construction. Harbors and waterways where dredging could occur currently experience elevated background noise associated with navigation activities. Dredging and disposal operations near populated or other noise-sensitive locations may result in increased levels of noise. Some of the dredging and disposal sites are located in remote locations and the noise would attenuate. Local noise ordinances would be implemented to reduce equipment noise. Best management practices that may be used to reduce noise produced by equipment include:

- Conducting work during daytime hours;
- Using standard equipment with noise control devices (e.g., mufflers) that meet manufacturers' specifications;
- Using *quiet* equipment (i.e., equipment designed with noise control elements);
- Installing portable barriers to shield compressors and other small stationary equipment where necessary;
- Installing sound barriers for pile-driving activity, where practicable, by using an acoustic curtain or blanket around the point of impact;
- Directing equipment exhaust stacks and vents away from buildings, when feasible;
- Identify any noise-sensitive receptors, such as residential areas, churches, schools, recreation areas, etc., that might be disturbed by construction noise and notify them in advance of upcoming work; and
- Respond immediately to complaints raised by nearby residents.

Following dredging and placement operations, noise levels would revert to existing levels.

**Dredging and ODMS Placement.** No impact at ODMS due to lack of human habitation. Otherwise same as above.

**Dredging and Beneficial Site Placement.** Minor short-term impact at dredged holes (USACE 2006b), and recreational area at Mullet Key (USACE 2006a). Otherwise same as above.

#### **4.11 AESTHETIC RESOURCES**

**No Action Alternative.** No adverse impacts to the aesthetic value of the region would occur with the No Action Alternative.

**Proposed Action, Dredging and Upland Placement.** Temporary air emissions, water turbidity, and increased noise can be expected during project construction. During construction, equipment used for dredging would be visible, resulting in a temporary reduction in the aesthetic value offshore during construction. Impacts to aesthetics depend on the locations of the dredging and disposal areas. Aesthetic values are less likely to be impacted in remote or highly industrialized dredging and disposal areas. Temporary construction conditions would not adversely affect the existing aesthetics of the Tampa Bay area.

**Dredging and ODMDS Placement.** Due to its remote location, the presence of work vessels is not expected to affect aesthetics. Otherwise the same as above.

**Dredging and Beneficial Site Placement.** Major short-term impact from presence and operation of equipment at the dredging and disposal site at Mullet Key (USACE 2006a). Minor short-term turbidity plume in the surf zone at Mullet Key (USACE 2006a). Minor short-term decrease in aesthetics to recreational fishing and boating near Whiskey Key (USACE 2000a) and the MacKay Bay hole (USACE 2000c). Otherwise same as above.

#### **4.12 RECREATIONAL RESOURCES**

**No Action Alternative.** No short term adverse effects to recreational resources would occur with the No Action Alternative.

**Proposed Action, Dredging and Upland Placement.** No significant adverse effect on recreation is expected. Boating and fishing in areas in proximity to dredging operations may be affected, but sufficient alternative sites in Tampa Bay are available for these activities. Recreational activities at the disposal areas (DMMA 2-D and 3-D) are limited to bird watching. The project would have a short-term impact on this use. Upon completion of the project, levels of utilization would return to normal. Access to DMMA 2-D and 3-D is restricted to authorized personnel; however, bird watching activities would have to be done from personal watercraft.

**Dredging and ODMDS Placement.** No impact, or possible disruption of fishing and boating traffic due to the presence of dredging equipment at ODMDS disposal site. Otherwise dredging operation effects would be the same as above.

**Dredging and Beneficial Site Placement.** Placement of material in dredged holes may cause a temporary, minor impact on recreational resources. However, use of the MacDill Air Force Base Runway Dredge Hole will not affect recreation because this is a safety/restricted area (USACE 2006b). Effects reported in previous EAs: Long-term minor loss of fishing habitat with use of holes except McKay Bay and use of the MacDill Air Force Base Runway Dredge Hole would not affect recreation because this is a safety/restricted area (USACE 2006b). Minor adverse impact on recreation along the Mullet Key project area during placement activities (USACE 2006a). Increased recreational opportunities along the newly created beach on Egmont Key (USACE 2004) and Mullet Key (USACE 2006a). Possible disruption of or minimal temporary adverse impacts to fishing and boating traffic due to the presence of dredging equipment (USACE 1996, 2000a, 2000c, 2000d

[Rev. 2005], 2001) and Bird/Sunken Island expansion (USACE 2000c).

#### **4.13 SOCIOECONOMICS**

**No Action Alternative.** Based on the continued use of St. Petersburg Harbor by recreational and commercial vessels, it is evident that if maintenance dredging of the channel does not continue, there would be a deleterious effect on the local and regional.

**Proposed Action, Dredging and Upland Placement.** The regional social and economic benefits that are based on navigation associated with the Federal project would continue. Use of the existing DMMA 2-D and 3-D disposal areas eliminates additional cost that would be incurred from site preparation and new construction.

**Dredging and ODMDS Placement.** No effect if the ODMDS is used for material placement.

**Dredging and Beneficial Site Placement.** No effect if dredged holes are used for material placement (USACE 2006b).

#### **4.14 NAVIGATION AND PUBLIC SAFETY**

**No Action Alternative.** The No Action Alternative would result in shoaling and shallowing of the channel. As shoaling continues, the navigability of the channel would decrease. Because vessels would tend to use the center of the channel, shoaling at the sides would result in a narrowing of the channel, which would affect public safety by increasing the potential for collisions.

**Proposed Action, Dredging and Upland Placement.** The work would result in some temporary disruption of normal vessel traffic in the ship channel due to the presence and operation of the dredged material transport and disposal equipment. This temporary effect is considered only a minor inconvenience to navigation.

**Dredging and ODMDS Placement.** Use of the ODMDS disposal area would result in a short-term increased traffic flow during transit to and from the site. Otherwise same as above.

**Dredging and Beneficial Site Placement.** If dredged material is placed in the holes adjacent to navigation channels (Venetian Isles), a short-term disruption to boating activities and fishing would likely occur. Effects reported by previous EAs: No benefit to safety on dredge hole disposal areas except minor benefit to swimmers with use of Northshore Beach and to waders with use of Whiskey Stump Key dredged hole (USACE 2006b). No impact to navigation from Whiskey Stump Key seagrass restoration or DMMA 2-D wetland creation (USACE 2000a).

#### **4.15 NATIVE AMERICANS**

No portion of the proposed action is located within or adjacent to known Native American-owned lands, reservation lands, or Traditional Cultural Properties. However, prior consultation on the project has indicated that Egmont Key holds historical significance for Native American tribes with ancestral ties to this region, including the Seminole Tribe of Florida, the Seminole Nation of Oklahoma, and the Miccosukee Tribe of Indians of Florida. Pursuant to Section 106 of the National

Historic Preservation Act (NHPA) (16 USC 470), obligations regarding the USACE's Trust Responsibilities to federally-recognized Native American Tribes, and in consideration of the Burial Resources Agreement between the Corps and the Seminole Tribe of Florida, consultation with the appropriate federally-recognized tribes on the Proposed Action was initiated by letter on April 20, 2017 (Appendix C). No formal comments have been received from the tribes; however, consultation will be reinitiated should any beneficial placement site be utilized.

**No Action Alternative.** There would be no effect to Native Americans with the No Action Alternative. However, without the placement of dredged material along Egmont Key, an area of historic Native American significance may be subject to continued erosional effects.

**Proposed Action, Dredging and Upland Placement.** There would be no effect to Native Americans from maintenance dredging the Federal channels and placing material in the DMMA 3-D and 2-D. However, without the placement of dredged material along Egmont Key, an area of historic Native American significance may be subject to continued erosional effects.

**Dredging and ODMDS Placement.** There would be no effect to Native Americans from maintenance dredging the Federal channels and placing material in the ODMDS. However, without the placement of dredged material along Egmont Key, an area of historic Native American significance may be subject to continued erosional effects.

**Dredging and Beneficial Site Placement.** There would be no effect to Native Americans from maintenance dredging of the Federal channels and placing material in the majority of the beneficial site placement locations; however, prior consultation on the project has indicated that Egmont Key holds historical significance for Native American tribes with ancestral ties to this region. Use of beneficial site placement areas may require additional cultural resources surveys and consultation with Native American Tribes.

#### **4.16 CULTURAL RESOURCES**

As discussed in the Section 3: Affected Environment portion of this document, substantial cultural resources work and investigations have been conducted throughout various portions of the project area. Previous consultation with the Florida SHPO and the appropriate federally-recognized tribes on recurrent maintenance dredging of the St. Petersburg Harbor Federal Navigation Project and placement of dredge material in DMMA 2-D and 3-D and the Tampa ODMDS has indicated that the Proposed Action will have no effect on cultural resources listed or eligible for listing in the NRHP, in accordance with Section 106 of the NHPA, as amended (16 USC 470) and its implementing regulations (36 CFR 800), consultation on the current action was initiated by letter on April 20, 2017 (Appendix C). The Florida SHPO concurred with the USACE's determination of no historic properties affected by letter dated May 25, 2017 (Appendix C).

**No Action Alternative.** The No Action Alternative would have no effect to cultural resources listed or eligible for listing in the NRHP. Without the placement of dredged material along Egmont and Mullet Keys, historic properties may be subject to continued erosional effects.

**Proposed Action, Dredging and Upland Placement.** The Proposed Action would have no effect to cultural resources listed or eligible for listing in the NRHP. Without the placement of dredged material along Egmont and Mullet Keys, historic properties may be subject to continued erosional effects.

**Dredging and ODMDS Placement.** Maintenance dredging of the Federal channels and placing material in the ODMDS would have no effect to cultural resources listed or eligible for listing in the NRHP. Without the placement of dredged material along Egmont and Mullet Keys, historic properties may be subject to continued erosional effects.

**Dredging and Beneficial Site Placement.** Maintenance dredging of the Federal channels would have no effect to cultural resources listed or eligible for listing in the NRHP; however, use of beneficial site placement areas may require additional cultural resources surveys, a professional cultural resources monitor, and additional consultation with the SHPO and appropriate federally-recognized tribes prior to any action to ensure historic properties are not adversely affected. Anomolies of interest at some beneficial use sites would be avoided or buffered, and additional surveys may be required.

#### **4.17 ENERGY REQUIREMENTS AND CONSERVATION**

**No Action Alternative.** The No Action Alternative would have no energy requirements.

**Proposed Action, Dredging and Upland Placement.** The work will involve the use of fuel to power dredges, pumps, and associated machinery in conjunction with the maintenance of the Federal channel and placement of dredged material.

**Dredging and ODMDS Placement.** More fuel would be utilized in placing material into the ODMDS than the upland placement locations due to the greater distance. Otherwise same as above.

**Dredging and Beneficial Site Placement.** The work would involve the use of fuel to power dredges, pumps, and associated machinery in conjunction with the maintenance of the Federal channel and placement of dredged material.

#### **4.18 NATURAL OR DEPLETABLE RESOURCES**

**No Action Alternative.** The No Action Alternative would not result in the loss of any natural or depletable resources.

**Proposed Action, Dredging and Upland Placement.** No direct effects caused by the work on natural/depletable resources would occur. However, indirect effects include the use of fuel for construction and operations (petroleum depletion), machinery wear and tear (metal ore depletion), and similar effects. However, these effects are considered to be of minor consequence.

**Dredging and ODMDS Placement.** Same as above. However, more fuel would be utilized in

placing material into the ODMDS than other placement options due to the greater distance.

**Dredging and Beneficial Site Placement.** No direct effects of the work on natural/depletable resources would occur. However, indirect effects include the use of fuel for construction and operations (petroleum depletion), machinery wear and tear (metal ore depletion), and similar effects. However, these effects are considered to be of minor consequence.

#### **4.19 CUMULATIVE EFFECTS**

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

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

Cumulative environmental effects for the proposed project were assessed in accordance with guidance provided by the President's Council on Environmental Quality (CEQ). Cumulative environmental effects were also evaluated in the NEPA documents listed in Section 1.4.

##### **4.19.1 METHODOLOGY**

A six-step process was followed to assess cumulative effects on resources affected by the St. Petersburg Harbor Federal Navigation Project. The first step was to identify which resources to consider in the analysis. All impacts on affected resources can be called cumulative. However, according to CEQ guidance, *"the role of the analyst is to narrow the focus of the cumulative effects analysis to important issues of national, regional, or local significance"* (CEQ 1997, p. 12). In addition to this *relevancy* criterion, only those resources expected to be directly or indirectly affected by the project as well as by other actions within the same geographic scope and time frame were chosen for the analysis. Based on these criteria, the following resources were identified as target resources for the cumulative effects analysis: threatened/endangered species, marine habitats, and cultural resources.

The next steps of the cumulative effects analysis included:

Defining the study area for each resource as well as describing the historical context and existing condition of each resource. Descriptions are summarized from more detailed descriptions in Section 3.0 of this report.

Summarizing the direct and indirect effects of each alternative on each identified resource. Environmental effects of each alternative are presented in more detail in Chapter 4.0 of this EA. Identifying the accumulated effects on each resource from the proposed action and other actions. Summarizing the magnitude of the cumulative effects of the projects and actions on the affected resources.

The geographic scope of this analysis includes Tampa Bay, Florida and the immediately adjacent Gulf of Mexico environment. Other similar projects within the bay and all the other reasonably foreseeable actions, together with the proposed project, result in cumulative impacts. In addition to the bay, the area includes the ODMDs. Cumulatively, the project and other similar projects could impact the bay and dredged material placement areas (Table 11).

**Table 11: Summary of Cumulative Impacts**

	Past	Present (existing condition)	Future With-Project	No-Action Alternative
<b>General Environmental Setting</b>	The Tampa Bay area has been significantly altered due to human development.	Education and enforcement of relevant laws have resulted in improvements to the general environmental setting.	Proposed dredging and placement would be performed in compliance with applicable laws. Therefore, no significant impact would occur. Other factors (i.e. sea level rise) would continue to occur and affect Tampa Bay.	Other factors (i.e. sea level rise) would continue to occur and affect Tampa Bay.
<b>Protected Species and Habitats</b>  Threatened and Endangered Species (nesting sea turtles, manatee, whales, smalltooth sawfish, wood stork, piping plover, red knot); Essential Fish Habitat (i.e., water column); Migratory Birds; Other Wildlife Resources	Populations were significantly greater prior to human development. Declines are attributed to loss or degradation of habitat as well as other human related factors.	Education and enforcement of relevant laws have resulted in some population increases (i.e., nesting sea turtles, manatees). Habitat has also improved in some cases due to land conservation, pollution abatement, and regulatory practices.	Habitat alteration due to climate change effects (i.e., sea level rise), continued loss or degradation of habitat due to development, and other human related factors will pose significant future challenges in protecting these species and their habitats. The proposed work would be performed in compliance with all applicable laws, and may help provide habitat for coastal species.	Habitat alteration due to climate change effects (i.e., sea level rise), continued loss or degradation of habitat due to development, and other human related factors will pose future significant challenges in protecting these species. The Federally authorized project would no longer be constructed. Loss of beach habitat may adversely impact species that utilize this area (i.e., nesting sea turtles)

<p><b>Cultural, Historic, and Archaeological Resources</b></p>	<p>Cultural resources have been degraded or lost due to development, private collecting, and other factors.</p>	<p>Education and enforcement of relevant laws have helped conserve cultural resources.</p>	<p>Dredging and upland placement (proposed action) would have no effect on cultural resources. Anomalies of interest at some beneficial use sites would be avoided or buffered, and additional surveys and consultation with the Florida SHPO and appropriate federally-recognized tribes may be required. Other factors, such as sea level rise, may increase erosion and impact some cultural resources.</p>	<p>Some beneficial use sites may continue to erode and adversely affect cultural resources. Other factors, such as sea level rise, may increase erosion and impact some cultural resources.</p>
<p><b>Water Quality</b></p>	<p>Prior to Federal and State laws being enacted and enforced, water quality had significantly declined due to human related factors (i.e., turbidity caused by upland runoff, septic tank leachate, industrial effluent, etc.).</p>	<p>Present day water quality has significantly improved due to local, State, and Federal pollution abatement programs.</p>	<p>Proposed dredging and placement may result in some temporary turbidity. However, this should not exceed background levels and would not result or contribute to long-term water quality impacts. All work would be performed in compliance with State Water Quality Certification/permit. Sea level rise may increase salinity levels in certain areas.</p>	<p>The no-action alternative would not affect water quality. Sea level rise may increase salinity levels in certain areas.</p>
<p><b>Aesthetics</b></p>	<p>Urban development along the shoreline has affected the aesthetics of the area.</p>	<p>The shoreline is primarily built out.</p>	<p>Dredging would temporarily affect aesthetics. Shoreline Infrastructure may be altered due to other factors, i.e. sea level rise.</p>	<p>The no-action alternative would reduce aesthetics due to loss of beach and natural habitat at some beneficial use sites. Shoreline Infrastructure may be altered due to other factors, i.e. sea level rise.</p>
<p><b>Recreation</b></p>	<p>Opportunities for recreation have been affected by shoreline development.</p>	<p>Numerous access routes to the bay and area beaches have been established.</p>	<p>Dredging would temporarily affect recreation. Placement within beneficial use sites may increase recreational opportunities. Other factors, such as sea level rise, may affect recreational opportunities.</p>	<p>The no-action alternative would reduce aesthetics due to loss of beach and natural habitat at some beneficial use sites. Other factors, such as sea level rise, may affect recreational opportunities.</p>

<b>Hazardous, Toxic, and Radioactive Waste (HTRW)</b>	There are no known HTRW locations in the project area.	There are no known HTRW locations in the project area.	There should be no risk of encountering HTRW during construction.	The no-action alternative would not result in any sources of pollutants occurring in the project area.
<b>Air Quality</b>	Prior to Federal and State laws being enacted and enforced, air quality had declined.	Present day air quality has improved due to local, State, and Federal pollution abatement programs. The area remains in attainment with air quality criteria.	Dredging and placement operations may result in additional temporary and minor impacts to air quality but these would not be permanent. Increased population growth and increased use of fossil fuels may affect future air quality.	The no-action alternative would not affect air quality in the project area. Increased population growth and increased use of fossil fuels may affect future air quality.
<b>Noise</b>	Noise levels have likely remained unchanged for some time due to the urbanized environment.	Noise levels continue to be typical for this urbanized project area.	Dredging and placement operations would result in additional temporary and minor noise. Increased population growth may affect future noise levels.	The no-action alternative would not affect the noise levels in the project area. Increased population growth may affect future noise levels.
<b>Energy Requirements and Conservation</b>	Past dredging operations in the project area requires insignificant uses of energy.	Dredging operations continues to require insignificant uses of energy.	Dredging operations would result in an insignificant increase in the use of energy (fuel).	The no-action alternative would not significantly affect energy consumption.
<b>Natural or Depletable Resources</b>	Past dredging operations in the project area requires the use of fossil fuels, which are depletable natural resources.	Present day dredging operations in the project area requires the use of fossil fuels, which are depletable natural resources.	The continued use of fossil fuels would have an insignificant impact on these natural resources.	The no-action alternative would not affect natural or depletable resources.
<b>Native Americans</b>	There are no Native American lands in the project area. Egmont Key hold historical significant for Native American tribes with ancestral ties to the region.	Consultation with the appropriate federally-recognized tribes indicates that Egmont Key is subject to continual erosional effects.	There would be no effect to Native Americans from maintenance dredging the Federal channels and placing material in the DMMAs 3-D and 2-D. However, without the placement of dredged material along Egmont Key, an area of historic Native American significance may be subject to continued erosional effects.	The no-action alternative would have no effect on Native Americans. However, without the placement of dredged material along Egmont Key, an area of historic Native American significance may be subject to continued erosional effects.

## **4.20 UNAVOIDABLE ADVERSE ENVIRONMENTAL EFFECTS**

**No Action Alternative.** The No Action Alternative will result in the continued erosion at some beneficial use sites such as Egmont Key and Fort De Soto Beach.

**Proposed Action, Dredging and Upland Placement.** Dredging operations would have minor and temporary adverse effects on benthos. Since maintenance dredging is expected to occur every 10-15 years, this community should recover in one to two years and restabilize. Upland placement is likely to disturb migratory birds that utilize 3-D and 2-D. Measures shall be implemented to protect nesting birds.

**Dredging and ODMDS Placement.** Dredging and placement operations would have minor and temporary adverse effects on benthos. Since maintenance dredging is expected to occur every 10-15 years, this community should recover in one to two years and restabilize.

**Dredging and Beneficial Site Placement.** Dredging and placement operations would have minor and temporary adverse effects on benthos. However, placement within these locations would also benefit marine life.

## 5 ENVIRONMENTAL COMMITMENTS

USACE shall comply with all terms and conditions of the USFWS letter dated 12 May 2017, revised Statewide Programmatic Biological Opinion (SPBO; 2015), the Conservation Measures of the Programmatic Piping Plover Biological Opinion (PB3O; 2013), and the Gulf Regional Biological Opinion (GRBO; 2003), and the State's Joint Coastal Permit (JCP). The PB3O conservation measures will also minimize effects to red knots. The USACE also commits to avoiding, minimizing, or mitigating for adverse effects during construction activities by including the following commitments in the contract specifications.

### 5.1 PROTECTION OF FISH AND WILDLIFE RESOURCES

The Contractor shall keep construction activities under surveillance, management, and control to minimize interference with, disturbance to, and damage of fish and wildlife. Species that require specific attention along with measures for their protection shall be listed in the Contractor's Environmental Protection Plan prior to the beginning of construction operation.

### 5.2 ENDANGERED SPECIES PROTECTION

According to the 2003 GRBO, only loggerhead, green, hawksbill, and Kemp's ridley sea turtles, and Gulf sturgeon are vulnerable to being taken by the use of hopper dredges to maintain, or deepen and widen, navigation channels and harbors. NOAA Fisheries determined in the 2003 GRBO that smalltooth sawfish and whales are not likely to be affected by the activities assessed in this EA. The USACE has determined that the use of a hopper dredge and any sand placement on beaches for the proposed project may affect nesting sea turtles. Disposal of dredged material in all other areas may affect, but is not likely to adversely affect nesting sea turtles. For O&M activities that are not included in the SPBO, the USACE consulted with the USFWS and will implement the conditions stated in their letter dated 12 May 2017.

The USACE plans to minimize impacts to nesting sea turtles in the project area by implementing steps that are now common practice including, but not limited to (USACE 2015):

- design modifications;
- contingency plans;
- risk assessments;
- sediment quality monitoring;
- compaction tests;
- tilling;
- leveling escarpments in the fill; and
- monitoring for nests, etc.

The USACE has also determined that the proposed project may affect, but is not likely to adversely affect the Florida manatee. The following protection measures shall be implemented:

- All personnel associated with the project shall be instructed about the presence of manatees and manatee speed zones, and the need to avoid collisions with and injury to manatees. The

permittee shall advise all construction personnel that there are civil and criminal penalties for harming, harassing, or killing manatees, which are protected under the Marine Mammal Protection Act, the Endangered Species Act, and the Florida Manatee Sanctuary Act.

- All on-site project personnel are responsible for observing water-related activities for the presence of manatee(s).
- The dredge operator will gravity-release the clamshell bucket beginning at the water's surface, and only after confirmation that there are no manatees within the 50-foot safety distance.
- At least two persons will be designated as protected marine animal observers. Designated observers will have appropriate qualifications and observation experience, demonstrated by a minimum of 100 hours of documented experience as an observer that has monitored marine animals during in-water dredging projects. The protected marine animal observers will be on site during all in-water construction activities and will advise personnel to cease operation upon sighting a manatee within 50 feet of any in-water construction. Animals must not be herded away or harassed into leaving.
- To better observe manatees and marine turtles during nighttime clamshell operations, the contractor will use shielded lights to illuminate the water surface for 75 feet around the hoist line (cable attached to bucket). The light intensity will be a minimum of 54 lux (5 foot candles) at the water surface throughout this illuminated area including the edge. The contractor will have a hand held spotlight with a minimum of 10,000,000 candle power available to assist when appropriate in the detection of manatees and marine turtles immediately outside of this illuminated area. The contractor will measure the size of the illuminated area and intensity of the specified illumination prior to commencement of the project. No nighttime operations will commence or continue if one or more of these lighting parameters does not comply with the required specifications.
- If the dedicated observers determine that detection of manatees during certain weather conditions (i.e., fog, rain, wind, etc.) is not possible, then dredging operations will cease until weather conditions improve and detection is again possible.
- All observers will maintain a daily log that details sightings, collisions, or injuries to protected marine animals.
- All vessels associated with the construction project shall operate at "Idle Speed/No Wake" at all times while in the immediate area and while in water where the draft of the vessel provides less than a 4-foot clearance from the bottom. All vessels will follow routes of deep water whenever possible.
- Siltation or turbidity barriers shall be made of material in which manatees cannot become entangled, shall be properly secured, and shall be regularly monitored to avoid manatee

entanglement or entrapment. Barriers must not impede manatee movement.

- Any collision with or injury to a manatee shall be reported immediately to the FWC Hotline at 1-888-404-FWCC. Collision and/or injury should also be reported to the U.S. Fish and Wildlife Service in Jacksonville (1-904-7313336) for north Florida or Vero Beach (1-772-562-3909) for south Florida.
- Temporary signs concerning manatees shall be posted prior to and during all in-water project activities. All signs are to be removed by the permittee upon completion of the project. Awareness signs that have already been approved for this use by the Florida Fish and Wildlife Conservation Commission (FWC) must be used (see MyFWC.com). One sign, which reads *Caution: Boaters* must be posted. A second sign measuring at least 8"/2" by 11" explaining the requirements for "Idle Speed/No Wake" and the shutdown of in-water operations must be posted in a location prominently visible to all personnel engaged in water-related activities.

### **5.3 MIGRATORY BIRDS**

Migratory birds (adult birds, eggs and chicks) shall be protected during placement operations at 3-D, 2-D, or beach placement locations. This primarily entails monitoring the sites for nesting activities and establishing appropriate sized buffers around active nests.

### **5.4 WATER QUALITY**

The USACE Contractor will prevent oil, fuel, or other hazardous substances from entering the air or water. This will be accomplished by design and procedural controls. All wastes and refuse generated by project construction would be removed and properly disposed. The USACE contractor will implement a spill contingency plan for hazardous, toxic, or petroleum material for the borrow area. The USACE will secure a Section 401 Water Quality Certification/State permit prior to construction. The Contractor shall monitor water quality (turbidity) at the dredging and beach placement sites, as required by the State permit.

### **5.5 CULTURAL RESOURCES**

An unexpected cultural resources finds clause would be implemented. An archeological monitor will be required to be present during placement operations at Egmont Key to ensure the protection of significant resources on the island. Anomolies of interest at some beneficial use sites would be avoided or buffered, and additional surveys may be required. Coordination will continue with the Florida SHPO and the appropriate federally recognized tribes and will be completed prior to the commencement of any activities associated with this EA.

#### **5.5.1 OFFSHORE CHANCE FINDS CLAUSE**

In the event that the dredge operators discover any archaeological resource while conducting dredging operations, dredge operations will be halted immediately within the area. If investigations determine that the resource is significant, state and Federal agencies would determine how best to protect it.

## **6 COMPLIANCE WITH ENVIRONMENTAL REQUIREMENTS**

### **6.1 NATIONAL ENVIRONMENTAL POLICY ACT OF 1969**

Environmental information on the project has been compiled, and this EA has been prepared. The Draft EA shall be made available for public. Comments received from this process shall be summarized in Section 7.0. The project shall be in compliance with the National Environmental Policy Act.

### **6.2 ENDANGERED SPECIES ACT OF 1973**

This project has been coordinated with the NMFS through the Gulf Regional Biological Opinion dated November 19, 2003, as amended on June 24, 2005 and January 9, 2007. For species under the jurisdiction of the USFWS, the USACE will use the Statewide Programmatic Biological Opinion (2015, SPBO) for placement activities at Egmont Key or Mullet Key (Fort De Soto). The USACE completed consultation with the USFWS, by letter dated 12 May 2017, for activities or species not covered under the SPBO. This project has been fully coordinated under the Endangered Species Act and is in full compliance with the Act.

### **6.3 FISH AND WILDLIFE COORDINATION ACT OF 1958**

Activities described in this NEPA document have been coordinated with the U.S. Fish and Wildlife Service in accordance with the Fish and Wildlife Coordination Act (FWCA) as well as other federal and state agencies. This project is in full compliance with this Act.

### **6.4 NATIONAL HISTORIC PRESERVATION ACT OF 1966 (INTER ALIA)**

The Proposed Action is in compliance with Section 106 of the National Historic Preservation Act, as amended (PL89-665). As part of the requirements and consultation process contained within the National Historic Preservation Act implementing regulations of 36 CFR 800, this project is also in compliance through ongoing consultation with the Archaeological and Historic Preservation Act, as amended (PL93-29), Archeological Resources Protection Act (PL96-95), American Indian Religious Freedom Act (PL 95-341), Native American Graves Protection and Repatriation Act (NAGPRA), Executive Order 11593, 13007, and 13175, the Presidential Memo of 1994 on Government to Government Relations and appropriate Florida Statutes. Consultation with the Florida SHPO, the Miccosukee Tribe of Indians of Florida, and the Seminole Tribe of Florida was initiated by letter on April 20, 2017 (Appendix C). The Florida SHPO concurred with the USACE's determination of no historic properties affected by letter dated May 25, 2017. No formal comments have been received from the tribes; however, consultation with all agencies will be reinitiated should any beneficial placement site be utilized. The proposed action is in compliance with the goals of this Act.

### **6.5 CLEAN WATER ACT OF 1972**

Water quality certification has been waived by the Florida Department of Environmental Protection through the permit exemption verification process (refer to letter dated 4 May 2017, Appendix C).

However, water quality certification (State permit) in accordance with Section 401 would be required if dredged material is placed into any of the beneficial use sites. All state water quality requirements would be met. A Section 404(b) evaluation is included in this report as Appendix B. The project is in full compliance with this Act.

## **6.6 CLEAN AIR ACT OF 1972**

The short-term impacts from construction equipment associated with the project would not significantly impact air quality. No air quality permits would be required for this project. Pinellas County is designated as an attainment area for Federal air quality standards under the Clean Air Act. Because the project is located within an attainment area, USEPA's General Conformity Rule to implement Section 176(c) of the Clean Air Act does not apply and a conformity determination is not required.

## **6.7 COASTAL ZONE MANAGEMENT ACT OF 1972**

A Federal consistency determination in accordance with 15 C.F.R. 930 Subpart C is included in this report as Appendix A. State consistency review was performed during the coordination of the draft EA, and the state's final consistency determination under the Coastal Zone Management Act has been waived through the permit exemption verification process by letter dated 4 May 2017 (Appendix C).

## **6.8 FARMLAND PROTECTION POLICY ACT OF 1981**

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

## **6.9 WILD AND SCENIC RIVER ACT OF 1968**

No designated wild and scenic river reaches will be affected by project related activities. This act is not applicable.

## **6.10 MARINE MAMMAL PROTECTION ACT OF 1972**

To ensure the protection of any manatees, whales, or dolphins present in the project area, incorporation of safeguards used to protect these species will be implemented during dredging and placement operations. In addition, a dedicated manatee monitor will be assigned to watch for manatee conflicts if dredging is conducted with a clamshell dredge. Therefore, this project is in compliance with the Act.

## **6.11 ESTUARY PROTECTION ACT OF 1968**

Tampa Bay is a designated "Estuary of National Importance" under this act. The project is in compliance with the Act.

## **6.12 FEDERAL WATER PROJECT RECREATION ACT**

The principles of the Federal Water Project Recreation Act, as amended, 16 U.S.C. 460-1 (12), *et seq.* P.L. 89-72, do not apply to this project.

### **6.13 MAGNUSON-STEVENS FISHERY CONSERVATION AND MANAGEMENT ACT OF 1976, AS AMENDED**

Pursuant to the 1999 Finding between USACE and NMFS, the USACE consulted with the NMFS as required under the Magnuson-Stevens Fishery Conservation and Management Act. The NMFS informally provided comments on the project (refer to Section 7 of this report). Therefore, this project is in compliance with this Act.

### **6.14 SUBMERGED LANDS ACT OF 1953**

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

### **6.15 COASTAL BARRIER RESOURCES ACT AND COASTAL BARRIER IMPROVEMENT ACT OF 1990**

The Coastal Barrier Resources Act (CBRA) and the Coastal Barrier Improvement Act of 1990 (CBRIA) limit federally subsidized development within the CBRA Units to limit the loss of human life by discouraging development in high risk areas, to reduce wasteful expenditures of Federal resources, and to protect the natural resources associated with coastal barriers. CBRIA provides development goals for undeveloped coastal property held in public ownership, including wildlife refuges, parks, and other lands set aside for conservation (OPAs). These public lands are excluded from most of the CBRA restrictions, although they are prohibited from receiving Federal Flood Insurance for new structures.

Federal monies can be spent within the CBRS for certain activities, including (1) projects for the study, management, protection, and enhancement of fish and wildlife resources and habitats; (2) establishment of navigation aids; (3) projects funded under the Land and Water Conservation Fund Act of 1965; (4) scientific research; (5) assistance for emergency actions essential to saving lives and the protection of property and the public health and safety, if preferred pursuant to the Disaster Relief Emergency Assistance Act and the National Flood Insurance Act and are necessary to alleviate the emergency; (6) maintenance, repair, or reconstruction, but not expansion, of publically owned or publically operated roads, structures, or facilities; (7) nonstructural projects for shoreline stabilization that are designed to mimic, enhance, or restore a natural stabilization system; (8) any use or facility necessary for the exploration, extraction, or transportation of energy resources; (9) maintenance or construction of improvements of existing federal navigation channels, including the disposal of dredge materials related to such projects; and (10) military activities essential to national security.

There are a number of CBRA and CBRIA units in the project area (see Table 12). The proposed project does not include the construction of structures that would require Federal Flood Insurance in any areas designated as "otherwise protected areas" pursuant to the CBRIA; therefore, Federal expenditures for the proposed project should not be restricted in these areas. The activities proposed in the remainder of the CBRA units in the project area are

consistent with the intent of these Acts. The project is in compliance with these Acts.  
 Table 12. CBRA and CBRIA Units in Project Area.

Unit ID	Name	Unit Type	Acreage
P23	Longboat	Otherwise Protected Area	606.8
P	Key	CBRS Unit	2,459.8
P23	Longboat	Otherwise Protected Area	191.8
FL-80P	Passage Key	Otherwise Protected Area	1,130.3
FL-78	Rattlesnake	CBRS Unit	5,093.4
FL-81	Key Egmont	CBRS Unit	903.1
FL-	Key Egmont	Otherwise Protected Area	1,181.6
81P	Key Bishop	CBRS Unit	4,405.9
FL-82	Harbor The	Otherwise Protected Area	8,963.9
P24	The Reefs	CBRS Unit	3,019.7
FL-83	Cockroach Bay	CBRS Unit	4,667.1

**6.16 RIVERS AND HARBORS ACT OF 1899**

The proposed work will not obstruct navigable waters of the United States... The Corps does not permit itself for civil works projects. As such, the activity discussed in this EA is in compliance from the intent of the Act.

**6.17 ANADROMOUS FISH CONSERVATION ACT**

Anadromous fish species are not likely to be affected. The project has been coordinated with both NMFS and the USFWS, and is in compliance with this Act.

**6.18 MIGRATORY BIRD TREATY ACT AND MIGRATORY BIRD CONSERVATION ACT**

USACE will include migratory bird protection measures in the project plans and specifications for operations within upland and some beneficial use placement sites. If nesting activities occur within the construction area, appropriate buffers will be placed around nests to ensure their protection. The project shall be in compliance with these Acts.

**6.19 MARINE PROTECTION, RESEARCH, AND SANCTUARIES ACT**

The term *dumping* as defined in the Act [33 U.S.C. 1402(f)] does not apply to the disposal of material for beach nourishment or to the placement of material for a purpose other than disposal (i.e., placement of rock material as an artificial reef or the construction of artificial reefs as mitigation). Material placed in the ODMDs would not unreasonably degrade or endanger human health or the marine environment. Therefore, the project is in compliance with this Act.

**6.20 UNIFORM RELOCATION ASSISTANCE AND REAL PROPERTY ACQUISITION POLICIES ACT OF 1970**

The purpose of PL 91-646 is to ensure that owners of real property to be acquired for federal and federally assisted projects are treated fairly and consistently and that persons displaced as a direct result of such acquisition will not suffer disproportionate injuries as a result of projects designed

for the benefit of the public as a whole. This project shall not acquire property. Therefore, this Act is not applicable.

#### **6.21 E.O. 11990, PROTECTION OF WETLANDS**

No wetlands will be affected by project activities. This project is in compliance with the goals of this Executive Order.

#### **6.22 E.O. 11988, FLOOD PLAIN MANAGEMENT**

To comply with Executive Order 11988, the policy of USACE is to formulate projects that, to the extent possible, avoid or minimize adverse effects associated with the use of the floodplain and avoid inducing development in the floodplain unless there is no practicable alternative. No activities associated with this project are located within a floodplain, which is defined by EO 11988 as an "area which has a one percent or greater chance of flooding in any given year." The project shall be in compliance with the Executive Order.

#### **6.23 E.O. 12898, ENVIRONMENTAL JUSTICE**

On February 11, 1994, the President of the United States issued Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations. The Executive Order mandates that each Federal agency make environmental justice part of the agency mission and to address, as appropriate, disproportionately high and adverse human health or environmental effects of the programs and policies on minority and low-income populations. There are no disproportionate adverse impacts to minority or low income populations resulting from the implementation of the project. The project is in compliance.

#### **6.24 E.O. 13045, DISPARATE RISKS INVOLVING CHILDREN**

On April 21, 1997, the President of the United States issued Executive Order 13045, Protection of Children from Environmental Health Risks and Safety Risks. The Executive Order mandates that each Federal agency make it a high priority to identify and assess environmental health risks and safety risks that may disproportionately affect children and ensure that its policies, programs, activities, and standards address disproportionate risks to children that result from environmental health risks or safety risks.

As the proposed action does not affect children disproportionately from other members of the population, the proposed action would not increase any environmental health or safety risks to children.

#### **6.25 E.O. 13089, CORAL REEF PROTECTION**

There are no coral reefs within the project area; therefore this E.O. does not apply.

#### **6.26 E.O. 13112, INVASIVE SPECIES**

The proposed action will require the mobilization of dredge equipment from other geographical regions. Dredge equipment has the potential to transport species from one region to another,

introducing them to new habitats where they are able to out-compete native species. The benefits of the proposed project outweigh the risks associated with the very slight potential for introducing non-native species to this region.

#### **6.27 E.O. 13186, MIGRATORY BIRDS**

This Executive Order requires, among other things, a Memorandum of Understanding (MOU) between the Federal Agency and the USFWS concerning migratory birds. Neither the Department of Defense MOU nor the Corps' Draft MOU clearly address migratory birds on lands not owned or controlled by the Corps. For many Corps civil works projects, the real estate interests are provided by the non-Federal sponsor. Control and ownership of the project lands remain with a non-Federal interest. Measures to avoid the destruction of migratory birds and their eggs or hatchlings are described in a section above on the Migratory Bird Treaty Act. The Corps will include its standard migratory bird protection requirements in the project plans and specifications and will require the contractor to abide by those requirements.

## **7 PUBLIC/AGENCY COORDINATION**

### **7.1 SCOPING AND DRAFT EA**

Pursuant to the National Environmental Policy Act and USACE regulation, a Notice of Availability (NOA) dated 3 May 2017 of the draft EA and draft Finding of No Significant Impact (FONSI) was provided to stakeholders (see Appendix C). A 21-day review and comment period for the draft FONSI and EA was provided.

### **7.2 AGENCY COORDINATION**

Coordination has been conducted with appropriate agencies and is described in this document. Agency coordination letters and documents can be found in Appendix C.

### **7.3 COMMENTS RECEIVED AND RESPONSE**

Comments received in response to the NOA are summarized below. All comment letters or emails received can be found in Appendices C.

#### **NMFS Comment**

The NMFS expressed concerns regarding secondary effects to seagrass caused by the proposed maintenance dredging.

**RESPONSE:** Surveys indicate that patchy seagrass does occur adjacent to portions of the entrance channel turning basin. Therefore, the following measures shall be implemented in order to avoid potential secondary effects:

- a. The Contractor shall instruct all personnel associated with the project of the presence of seagrasses, and the need to avoid contact with seagrasses.
- b. All construction personnel shall be advised that there are civil and criminal penalties for harming or destroying seagrasses. The Contractor may be held responsible for any seagrasses harmed or destroyed due to construction activities.
- c. The Contractor shall not anchor, place pipeline, or stage equipment in a manner that will cause any damage to seagrasses or hardbottoms. Anchoring, placing pipeline, or staging equipment shall avoid these sensitive areas. If such activities cannot be done without affecting these sensitive areas, the activities shall cease and the Contracting Officer and Chief, Environmental Branch (904-232-1665) shall be immediately notified (no later than the morning following the next working day if the incident occurs after normal working hours). Any actual or potential incident involving damage to, or disturbance of, seagrasses or hardbottoms shall be reported.
- d. Hourly turbidity monitoring shall occur when visual observation indicates a turbidity plume extends into areas containing seagrasses. If overflow occurs from filling a hopper dredge, disposal barge or scow barge, then monitoring frequency shall be increased to every 30 minutes during

loading and up to 30 minutes after overflow has ceased. Since the proposed dredging would occur within an Outstanding Florida Waterbody (Tampa Bay), turbidity shall not exceed 0 NTUs above background outside the federal navigation channel.

## 8 LIST OF PREPARERS

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**APPENDIX A**

**COASTAL ZONE MANAGEMENT CONSISTENCY**

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

**OPERATIONS AND MAINTENANCE DREDGING  
ST. PETERSBURG HARBOR FEDERAL NAVIGATION PROJECT  
PINELLAS AND HILLSBOROUGH COUNTIES, FLORIDA**

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

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

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

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

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

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

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

Response: The proposed project complies with state regulations pertaining to the above resources. The proposed project would comply with the intent of this chapter.

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

Response: Since the affected property already is in public ownership, this chapter does not apply.

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

Response: The proposed project would not adversely affect any state parks or aquatic preserves; it would increase lands in Egmont State Park. The project is consistent with this chapter.

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

Response: The proposed actions have been coordinated with the State Historic Preservation Officer (SHPO) and will be consistent with this chapter.

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

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

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

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

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

Response: The proposed maintenance dredging and placement operations would not have a substantial adverse effect on saltwater living resources. Benthic organisms may be adversely

affected by the work. However, these organisms are highly fecund and are expected to return to pre-construction levels within 6 months to one year after construction. Based on the overall impacts of the project, the proposed work is consistent with the goals of this chapter.

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

Response: The project would not have a substantial adverse effect on living land and freshwater resources. Placement operations may temporarily adversely affect wildlife, but these areas should be recolonized between uses.

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

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

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

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

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

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

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

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

16. Chapters 381 (selected subsections on on-site sewage treatment and disposal systems) and 388 (Mosquito/Arthropod Control). Chapter 388 provides for a comprehensive

approach for abatement or suppression of mosquitoes and other pest arthropods within the state.

Response: The proposed maintenance dredging will not further the propagation of mosquitoes or other pest arthropods. The project will be consistent with the goals of this chapter.

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

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

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

Response: The proposed project is not located near or on agricultural lands; therefore, this chapter does not apply.

**APPENDIX B**

**SECTION 404(B) EVALUATION**

## SECTION 404(b) EVALUATION

### OPERATIONS AND MAINTENANCE DREDGING ST. PETERSBURG HARBOR FEDERAL NAVIGATION PROJECT HILLSBOROUGH AND PINELLAS COUNTIES, FLORIDA

#### I. Project Description

a. Location. St. Petersburg Harbor is located in Pinellas and Hillsborough Counties on the west coast of Florida, near the central portion of the Florida peninsula.

b. General Description. In summary, the proposed maintenance dredging includes the following: An entrance channel 23 feet deep by 300 feet wide from Tampa Bay southwesterly and thence westerly along south side of Port of St. Petersburg basin to Bayboro Harbor; a 24-foot depth in the port basin and in the area between the entrance channel and the Maritime Service south bulkhead; a channel 15 feet deep by 100 feet wide in Bayboro Harbor along southwesterly 300 feet of the Maritime Service bulkhead; a basin 12 feet deep by 700 - 800 feet wide by 1,400 feet long in Bayboro Harbor; a channel 12 feet deep by 75 - 300 feet wide in the mouth of Salt Creek; an entrance channel 20 feet deep by 200 feet wide extending northerly about 5.5 miles from deep water in lower Tampa Bay, and thence a channel 19 feet deep by 250 feet wide leading westward to the 23-foot depth entrance channel.

Berthing area costs associated with Federal harbor projects, whether construction costs or maintenance costs, are generally paid in total by others, not the Federal government. However construction or maintenance dredging at berthing areas, and placement of that material, sometimes occurs simultaneously with dredging of a Federal channel.

Dredging is expected to occur every 10-15 years; however, dredging frequency may vary due to storm induced shoaling. Excavated material would be placed within dredged material management areas (DMMA) 2-D and 3-D, or within the Tampa Ocean Dredged Material Disposal Site (ODMDS). However, if economically feasible, dredged material may also be placed within a number of beneficial use sites listed in Section 1.1.

c. Authority and Purpose. The authorization for maintenance of the Federal channel was authorized by the Rivers and Harbors Act of 1950, P.L. 516, and House Document No. 70, 81st Congress, First Session.

#### d. General Description of Dredged or Fill Material

(1) General Characteristics of Material. The material is comprised mainly of and with some silt. Mullet Key and Egmont, beneficial use sites, are consist of primarily sandy material.

(2) Quantity of Material. Approximately 300,000 cubic yards may be dredged every 10-15 years. However, dredging frequency may vary due to storm induced shoaling.

(3) Source of Material. A navigation channel's sediment-carrying capacity decreases when the velocity of its water slows. Sediment drops out and settles on the channel bottom. In addition, as waves generated by wind or by vessel passage reach the shoreline, the shoreline material erodes and falls to the channel bottom, or is suspended within the water and deposited downstream. Other factors such as heavy rainstorms or hurricanes may cause additional sediment to enter the channel. Periodic dredging is required to remove accumulated sediments and thus maintain the channel at its authorized depth for navigation purposes.

e. Description of the Proposed Discharge Sites

(1) Location. Fill material would be placed in both Hillsborough and Pinellas Counties, FL. Most of these locations have been previously placed upon, including the DMMAAs 2-D and 3-D, the ODMDS, and Egmont Key. Some of the beneficial use dredge holes have previously received fill as well.

(2) Size. The size of the operations area will vary by location (Table 1).

(3) Type of Site. The placement sites include offshore and upland disposal as well as beneficial use into dredge holes (Table 1).

(4) Type of Habitat. The disposal area habitats vary by location (Table 1).

Table 1. Description of Proposed Discharge Sites

Placement/ Disposal Site	Size of Site	Type of Site	Habitat Type
ODMDS	N/A	Offshore	Deep water environment
Egmont Key	1,432,000 cy	Beach	Sandy beach
Mullet Key (Ft. De Soto)	Unknown	Beach	Sandy beach
DMMA 2-D	9,300,000 cy	Upland	Primarily scrub-shrub
DMMA 3-D	1,569,000 cy	Upland	Primarily scrub-shrub
Longshore Bar	950 feet long	Bay Bottom	Subtidal
Bird/Sunken Island	Unknown	Eroded Island	Eroded beach
Gandy Channel North	842,000 cy	Dredge Hole	Subtidal borrow area
MacDill AFB Runway	426,000 cy	Dredge Hole	Subtidal borrow area
McKay Bay	891,000 cy	Dredge Hole	Subtidal borrow area
North Shore Beach	441,000 cy	Dredge Hole	Subtidal borrow area
Whiskey Stump Key 1	207,000 cy	Dredge Hole	Subtidal borrow area
Whiskey Stump Key 2	245,000 cy	Dredge Hole	Subtidal borrow area
Big Island Cut	46.3 ac	Dredge Hole	Subtidal borrow area
Cypress Point	63.6 ac	Dredge Hole	Subtidal borrow area
Gadsden Point (2 holes)	10.6 ac total	Dredge Hole	Subtidal borrow area
Howard Frankland W	104.7 ac	Dredge Hole	Subtidal borrow area
NE St. Petersburg Pit 1	9.5 ac	Dredge Hole	Subtidal borrow area
Rocky Point	15.8 ac	Dredge Hole	Subtidal borrow area
Shore Acres	5.1 ac	Dredge Hole	Subtidal borrow area
Skyway Causeway S	13.7 ac	Dredge Hole	Subtidal borrow area
Snug Harbor (2 holes)	4.4 ac	Dredge Hole	Subtidal borrow area
St. Pete- Clearwater	21 ac	Dredge Hole	Subtidal borrow area
Venetian Isles South	3.2 ac	Dredge Hole	Subtidal borrow area

(5) Timing and Duration of Discharge. Dredging and disposal duration is expected to be between 10 and 14 months, depending on the size and need of scheduled projects within Hillsborough and Pinellas Counties.

f. Description of Disposal Method. Material would be excavated from the borrow area with a hopper, bucket, or clamshell dredge. Once the material is pumped to the disposal area, grading would be performed using land moving equipment to achieve the desired design profile.

## II. Factual Determination

### a. Physical Substrate Determination

(1) Substrate Elevation and Slope. Top elevations of the constructed areas would be consistent with past projects.

(2) Sediment Type. The sediments are predominantly fine quartz sand with varying amounts of shell fragments to silt.

(3) Dredged/Fill Material Movement. The fill material would be subject to movement by waves in the ODMDS, Egmont Key beach placement, and at the dredge holes. Movement of material in each area would vary with local wave regimes.

(4) Physical Effects on Benthos. The fill material would bury some benthic organisms. Most organisms in this high wave energy environment are adapted for existence in areas of considerable substrate movement. Re-colonization would occur in most cases within one year following operations.

### b. Water Circulation, Fluctuation, and Salinity Determinations

(1) Water Column. Fill placement would not have any long-term effect on water column characteristics.

(2) Current Patterns, Flow, and Water Circulation. Currents in the project area are both tidal and longshore. Net movement of water along the shoreline can be either northerly or southerly, depending on location. Placement of fill along beneficial use sites, beach sites, would have no impact on the currents.

(3) Normal Water Level Fluctuations. Tides in the project area are mixed semi-diurnal. The mean range of tides is 2.6 ft (0.8 m) and the spring range is 3.0 ft (0.9 m). Wind set-up (piling up of water on the shoreline) has significantly more effect on seasonal and long-term water fluctuations than astronomical tides. The project would have no impact.

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

c. Suspended Particulate/Turbidity Determinations

(1) Expected Changes in Suspended Particulates and Turbidity Levels in Vicinity of Disposal Site. Turbidity levels during dredging and placement operations would vary depending on location (Table 2).

**Table 2. Expected Changes in Turbidity**

<b>Disposal Site Type</b>	<b>Suspended Particulate/Turbidity Determinations</b>
<b>Offshore (ODMDS)</b>	There would be a temporary increase in turbidity levels during placement operations. This elevated turbidity level would be temporary.
<b>Beach (Egmont Key, Mullet Key, Bird/Sunken Island)</b>	There would be a temporary increase in turbidity levels during dredged material placement operations. Because the immediate nearshore area is already a high energy area and subject to naturally occurring elevated turbidity, increases due to the project would not exceed state standards.
<b>Upland (DMMA 2-D &amp; 3-D)</b>	There may be a temporary slight increase in turbidity levels in receiving waters as the material dewater and drains through the weirs. State standards for turbidity would not be exceeded.
<b>Dredge Holes</b>	There would be a temporary increase in turbidity levels during placement operations. State standards for turbidity would not be exceeded.

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

(a) Light Penetration. The placement of fill material would reduce light transmissions in the littoral zone due to elevated levels of suspended particulates. This adverse impact is expected to be temporary and short-term in nature because of the density of the fill material.

(b) Dissolved Oxygen. No anoxic layers of sediment would be exposed by dredging due to the low level of organic material in the dredged material.

(c) Toxic Metals and Organics. Toxic materials would not be introduced into the water column due to the clean nature of the dredged material.

(d) Pathogens. No pathogenic material is expected to be involved with the project.

(e) Aesthetics. Effects to aesthetic values would vary depending on location (Table 3).

**Table 3. Aesthetics**

Disposal Site Type	Aesthetics
Offshore (ODMDS)	Aesthetics would not be affected.
Beach (Egmont Key, Mullet Key, Bird/Sunken Island)	Aesthetic quality would be temporarily reduced during the beach restoration period, but there would be a long-term increase in the aesthetic quality of the project area once the eroded beach is restored.
Upland (DMMA 2D & 3D)	Aesthetics would not be affected as these disposal sites are in highly industrial areas; an additional ship would be present in the channel.
Dredge Holes	Aesthetic quality would be temporarily reduced during the filling activities, but there would be a long-term increase in the aesthetic quality of the project area once the area is restored.

(3) Effects on Biota.

(a) Primary Production, Photosynthesis. Elevated turbidity levels and shading from resuspended fill may have some minor adverse impact on photosynthesis and primary production in the immediate project areas. It is anticipated that this would be a temporary and short-term phenomenon.

(b) Suspension/Filter Feeders. Fill material resuspended into the water column may contribute to the clogging of feeding mechanisms of filter-feeders. This is expected to be a short-term condition. Rapid repopulation by these organisms is expected because of their high fecundity and turnover rates.

(c) Sight Feeders. Elevated turbidity levels could have short-term adverse impacts on these organisms. However, these organisms are highly motile and are able to relocate into more favorable areas.

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

e. Aquatic Ecosystem and Organism Determinations.

(1) Effects on Plankton. Decreased light transmission caused by suspended dredged material may have a temporary adverse effect on plankton. However, this is expected to be short-term and insignificant.

(2) Effects on Benthos. Benthic species not able to migrate from the project area would be covered by the fill material. Repopulation of benthic communities should occur within a

year once operations have ceased because of their high fecundity and turnover rate.

(3) Effects on Nekton. Direct impacts to motile organisms would be insignificant because of their ability to avoid adverse conditions.

(4) Effects on Aquatic Food Web. Beach nourishment activities are anticipated to have a temporary and likely insignificant impact on structures and associated organisms seaward of the project area. Non-motile organisms are quickly able to repopulate affected intertidal zones; no long-term adverse impacts to higher trophic level organisms are expected. No overall effect on the food web is anticipated.

(5) Effects on Special Aquatic Sites

(a) Sanctuaries and Refuges. The Egmont Key placement area is within the Egmont Key National Wildlife Refuge/ Egmont Key State Park. The project will not adversely affect the state park; it will have temporary effects during operations, but will enhance and expand the park in the long term. In addition, the two Whiskey Stump Key dredge holes (1 and 2) are in the Whiskey Stump Key Sanctuary, but no adverse effects on the Sanctuary are anticipated.

(b) Wetlands. There are no wetlands in or adjacent to the project area.

(c) Mud Flats. There are no mud flats in or adjacent to the project area.

(d) Vegetated Shallows. No submerged aquatic vegetation exists in the project area. Seagrass beds are adjacent to the dredge hole project areas, and measures will be taken to meet turbidity standards and avoid adversely affecting the seagrasses.

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

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

(6) Threatened and Endangered Species. In accordance with Section 7 of the Endangered Species Act, the USACE is coordinating with the U.S. Fish and Wildlife Service (FWS). The project would be implemented in compliance with the GRBO issued by the National Marine Fisheries Service (NMFS). Standard safeguards would be implemented during operations to assure no adverse impacts from the project.

(7) Other Wildlife. Placement of dredged material is not expected to have a long-term adverse impact on wading birds or terrestrial foraging animals. These organisms are highly motile and actively seek favorable environmental conditions for foraging and resting. In addition, the Audubon Society monitors nesting birds of interest on DMMA 2-D and 3-D during nesting seasons, restricting access and placement of material when eggs and hatchlings are present.

(8) Actions to Minimize Impacts. All practical safeguards would be taken during operations to preserve and enhance aesthetic, recreational, and economic values in the project area. Any needed compensatory mitigation would be included in the project.

f. Proposed Disposal Site Determinations

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

(2) Determination of Compliance with Applicable Water Quality Standards. Class III state water quality standards would not be violated outside the established mixing zone.

(3) Potential Effects on Human Use Characteristic

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

(b) Recreational and Commercial Fisheries. Finfish are highly motile animals and are well equipped to seek favorable environmental conditions elsewhere. Fish around the operations areas would relocate to more favorable habitat. As long as the offshore hardbottom structures are not permanently buried, no adverse impact to pelagic organisms is expected.

(c) Water Related Recreation. At both Egmont Key and the dredge holes, the placement of fill would generate a temporary inconvenience for people using the beaches and fishing holes for recreational purposes. Once operations are complete in an area, water related recreation would be preserved as well as enhanced by the creation of additional beach area and fish habitat.

(d) Aesthetics. A temporary decrease in aesthetics would occur with the presence of equipment needed for carrying out the operations. However, the aesthetics would have considerably improved with the completion of the project.

(e.) Parks, National and Historical Monuments, National Seashores, Wilderness Areas, Research Sites, and Similar Preserves. The Egmont Key placement area is within Egmont Key National Wildlife Refuge/ Egmont Key State Park. The project will not adversely affect the state park; it will have temporary effects during operations, but will enhance and expand the park in the long run.

g. Determination of Cumulative Effects on the Aquatic Ecosystem. The proposed discharge of material would have no adverse impacts that would result in degradation of the natural,

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

h. Determination of Secondary Effects on the Aquatic Ecosystem. No secondary effects are anticipated.

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

a. No significant adaptation of the Section 404(b) (1) Guidelines were made relative to this Evaluation.

b. No practicable alternatives to the proposed discharge sites exist which would have less adverse impact on the aquatic ecosystem.

c. The discharge of dredged material to be dispersed will not cause or contribute to violation of any applicable State water quality standards for Class III waters.

d. The project is in compliance with applicable toxic effluent standard or prohibition under Section 307 of the Clean Water Act.

e. The project is in compliance with Endangered Species Act of 1973.

f. Several designated sanctuaries exist within the boundaries of the project area; the project is in compliance with specified protection measures for marine sanctuaries designated by the Marine Protection, Research, and Sanctuaries Act of 1972.

g. The project will not degrade the Waters of the United States. The placement of fill material will not result in any significant adverse effects on: human health and welfare, municipal and private water supplies, recreation and commercial fisheries, plankton, fish, shellfish, wildlife, special aquatic sites; life stages of aquatic life and other wildlife dependent on aquatic ecosystems; aquatic ecosystem diversity, productivity and stability; or recreational, aesthetic, and economic values.

h. The composition of the dredged material would not contribute organics or pollutants to the aquatic environment. The earthmoving equipment is not expected to operate in the water (below mean low water) to minimize the potential adverse impact of hydrocarbon release into the water. All responsible precautions will be taken to prevent hazardous materials discharge from any and all activity or equipment.

i. On the basis of the guidelines, the proposed disposal sites for the discharge of dredged material is specified as complying with the requirements of these guidelines, with the inclusion of appropriate and practical conditions to minimize pollution.

**APPENDIX C**

**PERTINENT CORRESPONDENCE**



# United States Department of the Interior

## U. S. FISH AND WILDLIFE SERVICE

7915 BAYMEADOWS WAY, SUITE 200  
JACKSONVILLE, FLORIDA 32256-7517

IN REPLY REFER TO:

FWS Log No. 04EF1000-2017-I-0368

May 12, 2017

Gina Paduano Ralph, Ph.D.  
Chief, Environmental Branch  
Jacksonville District Corps of Engineers  
701 San Marco Boulevard  
Jacksonville, Florida 32207-8175  
(Attn: Paul Stodola)

Dear Dr. Ralph:

Our office has reviewed your correspondence dated March 31, 2017, and accompanying information regarding planned maintenance dredging under the St. Petersburg Harbor Federal Navigation Project, Pinellas County, Florida, during fall and winter 2017 - 2018. Proposed dredging locations include the St. Petersburg Harbor and approach channels. Authorized depths range from 15 feet to 24 feet. The anticipated volume of approximately 250,000 cubic yards of dredged material, characterized as "silty sand," will be placed either in the Northshore Beach dredge hole or in Dredged Material Management Area 3-D. Your letter referenced coordination under the Statewide Programmatic Biological Opinion (2015.SPBO). The 2015 SPBO addresses sand placement activities and related dredging in Florida that may affect nesting sea turtles and/or beach mice. It is not designed to address project that have no effect on nesting sea turtles or beach mice and does not apply to this project. Your March 31, 2017, letter also addressed proposed maintenance dredging under the Tampa Harbor Federal Navigation Project. Since the St. Petersburg Harbor Federal Navigation Project and the Tampa Harbor Federal Navigation Project are separately authorized, we have chosen to submit our comments on the two projects in separate letters. We submit the following comments in accordance with Section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*) and the Marine Mammal Protection Act of 1972 (MMPA), as amended (16 U.S.C. 1361 *et seq.*).

The Corps reviewed this proposed project for potential impacts to federally-listed species and determined that the project occurs within the range of the West Indian (Florida) manatee (*Trichechus manatus latirostris*). No areas of proposed maintenance dredging are designated as Important Manatee Areas (IMAs) or Warm Water Aggregation Areas in the 2013 "Corps of Engineers, Jacksonville District and the State of Florida Effect Determination Key for the Manatee in Florida."

Your letter stated:

"... work in all areas will require mooring fenders or buoys to be placed on barges and other large vessels when moored together or at docking facilities. The bumpers will provide a standoff distance at or below the water line of at least four feet under maximum designed compression."

With inclusion of this cited measure and incorporation of Standard Manatee Conditions for In-water Work you determined that the proposed project "may affect, but is not likely to adversely affect" the manatee.

In an email of May 1, 2017, the Corps agreed that in order to further safeguard any manatees that might be present, conditions on clamshell dredging would be applied to all nighttime clamshell dredging in the project area. These conditions include:

- \* The dredge operator will gravity-release the clamshell bucket beginning at the water's surface, and only after confirmation that there are no manatees within the 50-foot safety distance.
- \* At least two persons will be designated as protected marine animal observers. Designated observers will have appropriate qualifications and observation experience, demonstrated by a minimum of 100 hours of documented experience as an observer that has monitored marine animals during in-water dredging projects. The protected marine animal observers will be on site during all in-water construction activities and will advise personnel to cease operation upon sighting a manatee within 50 feet of any in-water construction.
- \* To better observe manatees and marine turtles during nighttime clamshell operations, the contractor will use shielded lights to illuminate the water surface for 75 feet around the hoist line (cable attached to bucket). The light intensity will be a minimum of 54 lux (5 foot candles) at the water surface throughout this illuminated area including the edge. The contractor will have a hand held spotlight with a minimum of 10,000,000 candle power available to assist when appropriate in the detection of manatees and marine turtles immediately outside of this illuminated area. The contractor will measure the size of the illuminated area and intensity of the specified illumination prior to commencement of the project. No nighttime operations will commence or continue if one or more of these lighting parameters does not comply with the required specifications.
- \* If the dedicated observers determine that detection of manatees during certain weather conditions (i.e., fog, rain, wind, etc.) is not possible, then dredging operations will cease until weather conditions improve and detection is again possible.
- \* All observers will maintain a daily log that details sightings, collisions, or injuries to protected marine animals.

The following additional details regard the daily log and reporting:

- \* The log will also record information such as work itinerary, weather, work shutdowns, observer shift changes, etc.
- \* In regard to manatee behavior, the observers will also log time of observation, estimated distance of manatees from the dredge, type of behavior (such as passing through, pausing in the vicinity of the project, interacting with the dredge, scows, tugs, etc., attraction to running or dripping water), and whether the dredge is operating at the time of observation.
- \* A final report will be written, summarizing all activities noted in the daily observer logs, the location and name of project, and the dates and times of work. The logs and the report shall be submitted within 30 days following project completion to the Service at: [JAXREGS@fws.gov](mailto:JAXREGS@fws.gov) and to the Florida Fish and Wildlife Conservation Commission at: [ImperiledSpecies@myfwc.com](mailto:ImperiledSpecies@myfwc.com).

Provided that fendering as described above is required for work in all areas, that Standard Manatee Conditions for In-water Work are followed, and that clamshell dredging conditions above are employed for all nighttime dredging, it is our position that the likelihood of take of a manatee or its habitat from the proposed work will be insignificant or discountable. The Corps has agreed to include these measures in the project plans and specifications. As a result, we concur with the Corps' determination that the proposed project "may affect, but is not likely to adversely affect" the manatee. In addition, because no incidental take of manatees is anticipated, no such authorizations under the MMPA will be needed.

If modifications are made to the project that may affect the manatee or its habitat; if the contractor does not comply to permit conditions; if additional information involving potential effects to the manatee or other listed species not previously considered becomes available; or if take of a manatee occurs during the project, consultation will be reinitiated.

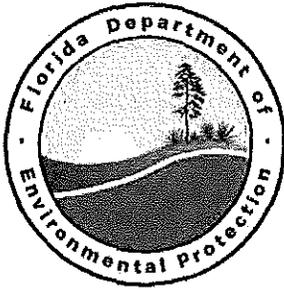
We also note that the Corps will develop appropriate specifications to ensure the protection of migratory birds at Dredged Material Management Area 3-D should material from the St. Petersburg Harbor Federal Navigation Project be placed there. If so, we look forward to reviewing those measures in coordination with the Corps, Florida Fish and Wildlife Conservation Commission, Audubon Florida, and Port Tampa Bay.

If you have any questions regarding this letter please contact Peter Plage of my staff at (904) 731-3085 or [peter\\_plage@fws.gov](mailto:peter_plage@fws.gov).

Sincerely,

  
Jay B. Herrington  
Field Supervisor

cc: FWC (K. Hendricks)  
FWC (M. Duncan)  
FWS (T. Calleson)



## Florida Department of Environmental Protection

Bob Martinez Center  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

Rick Scott  
Governor

Carlos Lopez-Cantera  
Lt. Governor

Ryan E. Matthews  
Interim Secretary

May 4, 2017

U.S. Army Corps of Engineers  
Attn: Gina P. Ralph  
701 San Marco Blvd  
Jacksonville, FL 32207  
[Gina.P.Ralph@usace.army.mil](mailto:Gina.P.Ralph@usace.army.mil)

Re: File No. 0353318-001-BE  
St. Petersburg Harbor Maintenance Dredging

Dear Ms. Ralph:

We are in receipt of your April 18, 2017, notice to use the Port Maintenance Dredging Exemption in Section 403.813(3), Florida Statutes. The Department acknowledges your intention to use the exemption and your certification that you meet the requirements of the statute (see attachment).

This letter does not relieve you from the responsibility of obtaining other permits (Federal, State, or local) that may be required for the project.

Sincerely,

*Ivana Kenny Carmola*

Ivana Kenny Carmola  
Environmental Specialist III  
Beaches, Inlets and Ports Program  
Division of Water Resource Management

Enclosures: Section 403.813(3), F.S.  
Project Drawings (16 pages)



## FLORIDA DEPARTMENT OF STATE

**RICK SCOTT**  
Governor

**KEN DETZNER**  
Secretary of State

Dr. Gina Ralph.  
U.S. Army Corps of Engineers  
Jacksonville Office  
701 San Marco Boulevard  
Jacksonville, Florida 32399-0250

May 25, 2017

RE: DHR Project File No.: 2017-2181, Received by DHR: April 27, 2017  
Project: *Proposed Periodic Maintenance Dredging within the St. Petersburg Harbor Federal Navigation Channel, Dredged Material Management Areas (DMMA)s 2-D and 3-D or within Tampa Ocean Dredged Material Disposal Site (ODMDS)*

Dr. Ralph:

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

After reviewing the material present, our office concurs with the USACE's determination of no effect to historic properties. However, the permit, if issued, should include the following special condition regarding unexpected discoveries:

- If prehistoric or historic artifacts, such as pottery or ceramics, projectile points, dugout canoes, metal implements, historic building materials, or any other physical remains that could be associated with Native American, early European, or American settlement are encountered at any time within the project site area, the permitted project shall cease all activities involving subsurface disturbance in the vicinity of the discovery. The applicant shall contact the Florida Department of State, Division of Historical Resources, Compliance Review Section at (850)-245-6333. Project activities shall not resume without verbal and/or written authorization. In the event that unmarked human remains are encountered during permitted activities, all work shall stop immediately and the proper authorities notified in accordance with Section 872.05, *Florida Statutes*.

If you have any questions, please contact Christopher Hunt, RPA, Historic Preservationist, by email at [Christopher.Hunt@dos.myflorida.com](mailto:Christopher.Hunt@dos.myflorida.com), or by telephone at 850.245.6333 or 800.847.7278.

Sincerely,

For  
Timothy A. Parsons, Ph.D., RPA

Director, Division of Historical Resources & State Historic Preservation Officer

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



cc: Paul Karch, U.S. Army Corps of Engineers, Karch, [Paul.J.Karch@usace.army.mil](mailto:Paul.J.Karch@usace.army.mil)  
Mike Hollingsworth, U.S. Army Corps of Engineers, [Michael.J.Hollingsworth@usace.army.mil](mailto:Michael.J.Hollingsworth@usace.army.mil)  
Walter Miller, City of St. Petersburg, Marina & Port Manager, [Walter.Miller@stpete.org](mailto:Walter.Miller@stpete.org)  
Bruce Laurion, P.E., Port Tampa Bay, [BLaurion@tampaport.com](mailto:BLaurion@tampaport.com)  
Lainie Edwards, DEP DWRM, [Lainie.Edwards@dep.state.fl.us](mailto:Lainie.Edwards@dep.state.fl.us)  
Marty Seeling, DEP DWRM, [Martin.Seeling@dep.state.fl.us](mailto:Martin.Seeling@dep.state.fl.us)  
Roxane Dow, DEP, DWRM, [Roxane.Dow@dep.state.fl.us](mailto:Roxane.Dow@dep.state.fl.us)  
Pamala Vazquez, DEP SW District Office, [Pamala.Vazquez@dep.state.fl.us](mailto:Pamala.Vazquez@dep.state.fl.us)  
JCP Compliance Officer, DWRM, [JCPCompliance@dep.state.fl.us](mailto:JCPCompliance@dep.state.fl.us)  
Katlin Hendricks, FWC, [Katlin.Hendricks@MyFWC.com](mailto:Katlin.Hendricks@MyFWC.com)  
[FWCconservationPlanningServices@myfwc.com](mailto:FWCconservationPlanningServices@myfwc.com)  
[FCMPmail@myfwc.com](mailto:FCMPmail@myfwc.com)



FLORIDA DEPARTMENT OF STATE

Jim Smith  
Secretary of State

DIVISION OF HISTORICAL RESOURCES

R.A. Gray Building  
500 South Bronough

Tallahassee, Florida 32399-0250

Director's Office      Telecopier Number (FAX)  
(904) 488-1480      (904) 488-3353

March 31, 1992

Mr. A.J. Salem, Chief  
Planning Division  
Environmental Resources Branch  
US Army Corps of Engineers  
Jacksonville District  
P.O. Box 4970  
Jacksonville, Florida 32232-0019

In Reply Refer To:  
Susan Hammersten  
Historic Sites  
Specialist  
(904) 487-2333  
Project File No. 920686

Re: Deepening of the St. Petersburg Harbor  
US Army Corps of Engineers  
St. Petersburg, Pinellas County, Florida

Dear Mr. Salem:

In accordance with the procedures contained in 36 C.F.R., Part 800 ("Protection of Historic Properties"), we have reviewed the above referenced project(s) for possible impact to archaeological and historical sites or properties listed, or eligible for listing, in the National Register of Historic Places. The authority for this procedure is the National Historic Preservation Act of 1966 (Public Law 89-665), as amended.

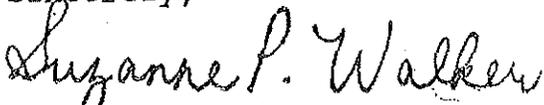
A review of the Florida Site File indicates that no significant archaeological or historical sites are recorded for or considered likely to be present within the dredging project area. Furthermore, it is the opinion of this office that the dredging of the harbor is unlikely to affect such sites. Therefore, it is the opinion of this office that the dredging portion of the proposed project will have no effect on historic properties listed, or eligible for listing in the National Register of Historic Places.

Mr. Salem  
March 31, 1992  
Page 2

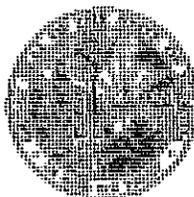
However, we request that the locations of the spoil disposal areas be submitted to this office for review and comment upon their selection. Upon receipt of the requested material we will complete the project review process.

If you have any questions concerning our comments, please do not hesitate to contact us. Your interest in protecting Florida's historic properties is appreciated.

Sincerely,

  
for George W. Percy, Director  
Division of Historical Resources  
and  
State Historic Preservation Officer

GWP/Hsh



FLORIDA DEPARTMENT OF STATE

Jim Smith  
Secretary of State

DIVISION OF HISTORICAL RESOURCES

R.A. Gray Building  
500 South Bronough

Tallahassee, Florida 32399-0250

December 22, 1994

Director's Office  
(904) 488-1480

Telecopier Number (FAX)  
(904) 488-3353

Mr. Giralmo DiChiara, Chief  
Construction-Operations Division  
Jacksonville District Corps of  
Engineers  
P.O. Box 4970  
Jacksonville, Florida 32232-0019

In Reply Refer To:  
Frank J. Keel  
Historic Sites  
Specialist  
(904) 487-2333  
Project File No. 944168

RE: Cultural Resource Assessment Request  
PN-SPH-193  
Maintenance Dredge of Port of St. Petersburg Entrance  
Channel and Turning Basin  
Pinellas County, Florida

Dear Mr. DiChiara:

In accordance with the procedures contained in 36 C.F.R., Part 800 ("Protection of Historic Properties"), we have reviewed the referenced project for possible impact to archaeological and historical sites or properties listed, or eligible for listing, in the *National Register of Historic Places*. The authority for this procedure is the National Historic Preservation Act of 1966 (Public Law 89-665), as amended.

A review of the Florida Site File indicates that no significant archaeological or historical sites are recorded for or likely to be present within the project area. Furthermore, because of the project location and/or nature it is unlikely that any such sites will be affected. Therefore, it is the opinion of this office that the proposed project will have no effect on historic properties listed, or eligible for listing, in the *National Register of Historic Places*.

If you have any questions concerning our comments, please do not hesitate to contact us. Your interest in protecting Florida's historic properties is appreciated.

Sincerely,

*for* *Laura A. Kammerer*  
George W. Percy, Director  
Division of Historical Resources

and

State Historic Preservation Officer

GWP/Kfk

DIVISIONS OF FLORIDA DEPARTMENT OF STATE

Office of the Secretary  
Office of International Relations  
Division of Elections  
Division of Corporations  
Division of Cultural Affairs  
Division of Historical Resources  
Division of Library and Information Services  
Division of Licensing  
Division of Administrative Services



MEMBER OF THE FLORIDA CABINET

State Board of Education  
Trustees of the Internal Improvement Trust Fund  
Administration Commission  
Florida Land and Water Adjudicatory Commission  
Siting Board  
Division of Bond Finance  
Department of Revenue  
Department of Law Enforcement  
Department of Highway Safety and Motor Vehicles  
Department of Veterans' Affairs

FLORIDA DEPARTMENT OF STATE

**Katherine Harris**

Secretary of State

DIVISION OF HISTORICAL RESOURCES

Mr. James C. Duck  
Planning Division, Environmental Branch  
Jacksonville District, Corps of Engineers  
P.O. Box 4970  
Jacksonville, Florida 32232-0019

July 26, 1999

RE: DHR Project File No. 994278  
Cultural Resource Assessment Request  
Draft Environmental Assessment and Finding of No Significant Impact for the  
Disposal Island 2D Dike Height Increase  
Hillsborough County, Florida

Dear Mr. Duck:

In accordance with the procedures contained in 36 C.F.R., Part 800 ("Protection of Historic Properties"), we have reviewed the referenced project for possible impact to historic properties listed, or eligible for listing, in the *National Register of Historic Places*. The authority for this procedure is the National Historic Preservation Act of 1966 (Public Law 89-665), as amended.

We have reviewed the referenced draft environmental assessment. We concur with the determination that no significant historic properties will be affected by the proposed project activities. Therefore, it is our opinion that the project will have no effect on any sites listed, or eligible for listing, in the *National Register of Historic Places*, or otherwise of historical, architectural or archaeological value.

If you have any questions concerning our comments, please contact Scott Edwards, Historic Preservation Planner, at 850-487-2333 or 800-847-7278. Your interest in protecting Florida's historic properties is appreciated.

Sincerely,

George W. Percy, Director  
Division of Historical Resources and  
State Historic Preservation Officer

GWP/Ese

R.A. Gray Building • 500 South Bronough Street • Tallahassee, Florida 32399-0250 • <http://www.flheritage.com>

- Director's Office (850) 488-1480 • FAX: 488-3355
- Archaeological Research (850) 487-2299 • FAX: 414-2207
- Historic Preservation (850) 487-2333 • FAX: 922-0496
- Historical Museums (850) 488-1484 • FAX: 921-2503
- Historic Pensacola Preservation Board (850) 595-5985 • FAX: 595-5989
- Palm Beach Regional Office (561) 279-1475 • FAX: 279-1476
- St. Augustine Regional Office (904) 825-5045 • FAX: 825-5044
- Tampa Regional Office (813) 272-3843 • FAX: 272-2340



FLORIDA DEPARTMENT OF STATE  
**Glenda E. Hood**  
 Secretary of State  
 DIVISION OF HISTORICAL RESOURCES

Mr. Tommy Birchett  
 Panamerican Consultants, Inc.  
 5910 Benjamin Center Drive, Suite 120  
 Tampa, FL 33634

May 2, 2005

Re: DHR Project File No. 2005-3976 / Received by DHR: April 13, 2005  
*Submerged Cultural Resources Remote Sensing Survey, Historic Assessment, and Diver Evaluations of 31 Targets in Tampa Bay, Hillsborough and Pinellas Counties, Florida*

Dear Mr. Birchett:

Our office received and reviewed the above referenced survey report in accordance with Section 106 of the *National Historic Preservation Act of 1966* (Public Law 89-665), as amended in 1992, and *36 C.F.R., Part 800: Protection of Historic Properties*, and Chapters 267 and 373, *Florida Statutes*, for assessment of possible adverse impact to cultural resources (any prehistoric or historic district, site, building, structure, or object) listed, or eligible for listing, in the *National Register of Historic Places (NRHP)*, or otherwise of historical, architectural or archaeological value.

From November 2003 to February 2004, Panamerican Consultants, Inc. (PCI) conducted a submerged cultural resource survey, historic assessment, and diver evaluations of thirty-one targets in Tampa Bay on behalf of the U.S. Army Corps of Engineers. No cultural resources were identified within the project area during the target investigation.

It is the opinion of PCI that the proposed development will have no effect on cultural resources listed or eligible for listing in the *NRHP*, or otherwise of historical, architectural or archaeological value. PCI recommends no further investigation of the subject parcel.

Based on the information provided, our office concurs with these determinations and finds the submitted report complete and sufficient in accordance with Chapter 1A-46, *Florida Administrative Code*.

If you have any questions concerning our comments, please contact Claire Nanfro, Historic Sites Specialist, by phone at (850) 245-6333, or by electronic mail at [cenanfro@dos.state.fl.us](mailto:cenanfro@dos.state.fl.us). Your continued interest in protecting Florida's historic properties is appreciated.

Sincerely,

*Barbara E. Mattick*  
 Acting Chief, Bureau of  
 Historic Preservation

for Frederick P. Gaske, Director, and  
 State Historic Preservation Officer

500 S. Bronough Street • Tallahassee, FL 32399-0250 • <http://www.flheritage.com>

Director's Office  
 (850) 245-6300 • FAX: 245-6436

Archaeological Research  
 (850) 245-6444 • FAX: 245-6436

Historic Preservation  
 (850) 245-6333 • FAX: 245-6437

Historical Museums  
 (850) 245-6400 • FAX: 245-6433

Southeast Regional Office  
 (954) 467-4990 • FAX: 467-4991

Northeast Regional Office  
 (904) 825-5045 • FAX: 825-5044

Central Florida Regional Office  
 (813) 272-3843 • FAX: 272-2340



DEPARTMENT OF THE ARMY  
JACKSONVILLE DISTRICT CORPS OF ENGINEERS  
P.O. BOX 4970  
JACKSONVILLE, FLORIDA 32232-0019

MAR 18 2015

Planning and Policy Division  
Environmental Branch

Robert Bendus, SHPO  
Division of Historical Resources  
State Historic Preservation Officer  
500 South Bronough Street  
Tallahassee, Florida 32399-0250

Dear Mr. Bendus:

The U.S. Army Corps of Engineers (Corps), Jacksonville District, is studying the environmental effects associated with the proposed routine operations and management dredging of the shipping channel associated with the Port of Tampa in sections of Tampa Bay (Figure 1). The project consists of maintenance dredging to remove recent accumulation of shoaled materials from portions of the Tampa Bay Channel which includes Cuts-A-F (43+2), Gadsden Point (43+2), Alafia River Channel, and Pinellas/Tampa Cuts G, J, and K. Material to be dredged will be placed in the Dredged Material Management Area D/A-3D. The dredged material consists of recent sand accretion into previously dredged areas and represents maintenance work to restore the channel to required depths.

As part of this review the Corps has taken into account various surveys conducted within these portions of the channel and disposal areas. These include the 1999 survey entitled; *A Submerged Cultural Resources Remote Sensing Survey of Alafia, Port Sutton and Ybor Channels and Historic Assessment of Tampa Harbor Hillsborough County, Florida* by Gordon Watts, the 2005 and 2011 Panamerican Consultants, Inc. (PCI) reports entitled: *Submerged Cultural Resources Remote Sensing Survey, Historic Assessment, and Diver Evaluations of 31 Targets in Tampa, Bay, Hillsborough and Pinellas Counties, Florida* (DHR Letter dated May 2, 2005), and *Update of Tampa Harbor Dredge Management Plan (DMMP) and Preparation of an Environmental Assessment (EA) and Cultural Resource Assessment Survey (CRAS) with Fish and Wildlife Coordination Act Report*. While no targets were identified in the 2011 survey within the project area, the current 2011 study has identified three targets adjacent to the federal channel. The three targets and their locations are in following table:

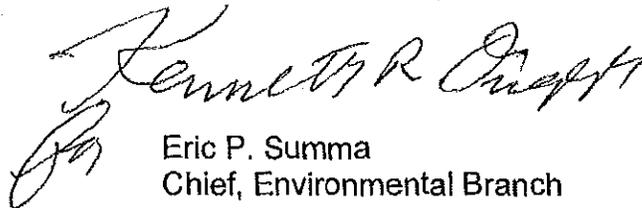
Table 1. Location of previously identified targets.

Target Number	Northing	Easting	Features	Channel
F310	514783	1277372	Possible midden	Alafia Channel
F88	512024	1276020	Possible midden	Cut C Channel
F352	512024	1276020	Possible rock outcrop	Cut C Channel

All three targets, while not in the federal channel and dredging area, will have a protective buffer outside of the federal channel to protect them from anchoring and spudding of equipment. The buffer will be a 200' by 200' square and run adjacent to the federal channel. In addition, the Corps will restrict anchoring and spudding along the sides of the Gadsden Cut which crosses the Paleo Lake Edgar. While previous dredging of this area has never encountered cultural materials, areas that have not been subject to such activities may contain ancient shorelines targeted by Paleo inhabitants.

The Corps has determined that proposed maintenance dredging portions of the Tampa Bay Channel which includes Cuts-A-F (43+2), Gadsden Point (43+2), Alafia River Channel, and Pinellas/Tampa Cuts G, J, and K with upland disposal at Dredged Material Management Area D/A-3D poses no effect to historic properties as the dredging activities consists of maintenance dredging to remove recent shoal materials from the channel. Potential resources adjacent, but not in the channel, will be protected through buffering. I request your comments on the determination of no effect. If there are any questions, please contact Dr. Dan Hughes at 904-232-3028 or e-mail at [daniel.b.hughes@usace.army.mil](mailto:daniel.b.hughes@usace.army.mil).

Sincerely,



Eric P. Summa  
Chief, Environmental Branch

Enclosure



DEPARTMENT OF THE ARMY  
JACKSONVILLE DISTRICT CORPS OF ENGINEERS  
P.O. BOX 4970  
JACKSONVILLE, FLORIDA 32232-0019

MAR 18 2015

Planning and Policy Division  
Environmental Branch

Mr. Fred Dayhoff, Tribal Representative  
NAGPRA, Section 106  
Miccosukee Tribe of Indians of Florida  
Post Office Box 440021  
Tamiami Station  
Miami, Florida 33144

Dear Mr. Dayhoff:

The U.S. Army Corps of Engineers (Corps), Jacksonville District, is studying the environmental effects associated with the proposed routine operations and management dredging of the shipping channel associated with the Port of Tampa in sections of Tampa Bay (Figure 1). The project consists of maintenance dredging to remove recent accumulation of shoaled materials from portions of the Tampa Bay Channel which includes Cuts-A-F (43+2), Gadsden Point (43+2), Alafia River Channel, and Pinellas/Tampa Cuts G, J, and K. Material to be dredged will be placed in the Dredged Material Management Area D/A-3D. The dredged material consists of recent sand accretion into previously dredged areas and represents maintenance work to restore the channel to required depths.

As part of this review the Corps has taken into account various surveys conducted within these portions of the channel and disposal areas. These include the 1999 survey entitled; *A Submerged Cultural Resources Remote Sensing Survey of Alafia, Port Sutton and Ybor Channels and Historic Assessment of Tampa Harbor Hillsborough County, Florida* by Gordon Watts, the 2005 and 2011 Panamerican Consultants, Inc. (PCI) reports entitled: *Submerged Cultural Resources Remote Sensing Survey, Historic Assessment, and Diver Evaluations of 31 Targets in Tampa, Bay, Hillsborough and Pinellas Counties, Florida* (DHR Letter dated May 2, 2005), and *Update of Tampa Harbor Dredge Management Plan (DMMP) and Preparation of an Environmental Assessment (EA) and Cultural Resource Assessment Survey (CRAS) with Fish and Wildlife Coordination Act Report*. While no targets were identified in the 2011 survey within the project area, the current 2011 study has identified three targets adjacent to the federal channel. The three targets and their locations are in following table:

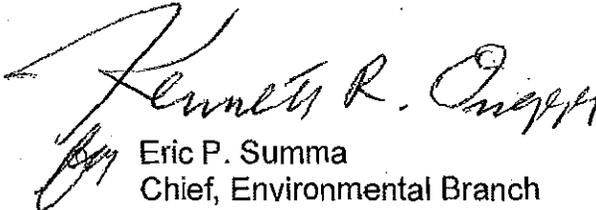
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Sincerely,



Eric P. Summa  
Chief, Environmental Branch

Enclosure



DEPARTMENT OF THE ARMY  
JACKSONVILLE DISTRICT CORPS OF ENGINEERS  
P.O. BOX 4970  
JACKSONVILLE, FLORIDA 32232-0019

MAR 10 2015

Planning and Policy Division  
Environmental Branch

Dr. Paul Backhouse, THPO  
Seminole Tribe of Florida  
Tribe Historic Preservation Office  
30290 Josie Billie Highway  
PMP 1004  
Clewiston, FL 33440

Dear Mr. Dayhoff:

The U.S. Army Corps of Engineers (Corps), Jacksonville District, is studying the environmental effects associated with the proposed routine operations and management dredging of the shipping channel associated with the Port of Tampa in sections of Tampa Bay (Figure 1). The project consists of maintenance dredging to remove recent accumulation of shoaled materials from portions of the Tampa Bay Channel which includes Cuts-A-F (43+2), Gadsden Point (43+2), Alafia River Channel, and Pinellas/Tampa Cuts G, J, and K. Material to be dredged will be placed in the Dredged Material Management Area D/A-3D. The dredged material consists of recent sand accretion into previously dredged areas and represents maintenance work to restore the channel to required depths.

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Sincerely,



 Eric P. Summa  
Chief, Environmental Branch

Enclosure

SEMINOLE TRIBE OF FLORIDA  
TRIBAL HISTORIC PRESERVATION OFFICE

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TRIBAL HISTORIC  
PRESERVATION OFFICE  
SEMINOLE TRIBE OF FLORIDA  
AH-TAH-THI-KI MUSEUM  
30290 JOSIE BILLIE HWY  
PMB 1004  
CLEWISTON, FL 33440  
PHONE: (863) 983-6549  
FAX: (863) 902-1117



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PRISCILLA D. BAYEN  
TREASURER  
MICHAEL D. TIGER

Dan Hughes  
Department of the Army  
Jacksonville District Corps of Engineers  
PO Box 4970  
Jacksonville, Florida 32232-0019

THPO#: 009613

March 13, 2012

**Subject:** Assessment of Effects for the Proposed Increase in Elevation for Dredge Material Management Island 3D, Hillsborough County, Florida

Dear Mr. Hughes,

The Seminole Tribe of Florida's Tribal Historic Preservation Office (STOF-THPO) has received the Jacksonville Corps of Engineers correspondence regarding the above mentioned project. The STOF-THPO has no objection to your proposal at this time. However, the STOF-THPO would like to be informed if cultural resources that are potentially ancestral or historically relevant to the Seminole Tribe of Florida are inadvertently discovered during the construction process.

We thank you for the opportunity to review the information that has been sent to date regarding this project. Please reference **THPO-009613** in any future documentation about this project.

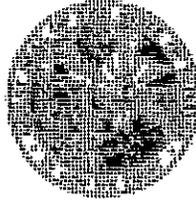
Sincerely,

Paul N. Backhouse, Ph.D.  
Acting Tribal Historic Preservation Officer  
Seminole Tribe of Florida

*Direct routine inquiries to:*

Anne Mullins  
Compliance Review Supervisor  
[annemullins@semtribe.com](mailto:annemullins@semtribe.com)

AES:am:pb



**FLORIDA DEPARTMENT OF STATE**

**RICK SCOTT**  
Governor

**KEN DETZNER**  
Secretary of State

Mr. Eric Summa  
Planning and Policy Division  
Jacksonville Corps of Engineers  
Post Office Box 4970  
Jacksonville, Florida 32232-0019

March 16, 2012

Re: DHR Project File No.: 2012-01110/ Received: February 29, 2012  
Project: Dredge Material Management Area 3-D Dike Raising  
Counties: Hillsborough

Dear Mr. Summa,

Our office received and reviewed the project in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended and 36 CFR Part 800. The State Historic Preservation Officer is to advise and assist federal agencies when identifying historic properties (archaeological, architectural, and historical resources) listed, or eligible for listing, in the National Register of Historic Places, assessing the project's effects, and considering alternatives to avoid or minimize adverse effects.

Because of the nature of the project, this office concurs that no historic properties eligible for listing in the National Register will be adversely affected.

If you have any questions concerning our comments, please contact Michael Hart, Historic Sites Specialist, by phone at 850.245.6333, or by electronic mail at [mrhart@dos.state.fl.us](mailto:mrhart@dos.state.fl.us). Your continued interest in protecting Florida's historic properties is appreciated.

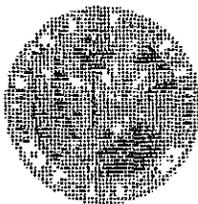
Sincerely,

Laura A. Kammerer  
Deputy State Historic Preservation Officer  
For Review and Compliance



**DIVISION OF HISTORICAL RESOURCES**  
R. A. Gray Building • 500 South Bronough Street • Tallahassee, Florida 32399-0250  
Telephone: 850.245.6300 • Facsimile: 850.245.6436 • [www.flheritage.com](http://www.flheritage.com)  
Commemorating 500 years of Florida history [www.fla500.com](http://www.fla500.com)





## FLORIDA DEPARTMENT of STATE

**RICK SCOTT**  
Governor

**KEN DETZNER**  
Secretary of State

Eric Summa  
Department of the Army  
Jacksonville District Corps of Engineers  
Planning and Policy Division  
Environmental Branch  
P.O. Box 4970  
Jacksonville, Florida 32232-0019

April 23, 2015

RE: DHR Project File No.: 2015-1398, Received by DHR: March 25, 2015  
Project: *Maintenance Dredging on Portions of the Tampa Bay Channel*  
County: Hillsborough

Dear Mr. Summa:

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

Based on the USACE's proposed avoidance plan of the three previously identifies targets and the results of the previous surveys with the project area, our office concurs with the Corps' determination of no effect to historic properties. However, our office requests that the agency includes the following plan in the case of fortuitous finds or unexpected discoveries during ground disturbing activities within the project area, as part of the standard permitting condition. This permit, if issued, should include the following special conditions regarding activities on the property:

- If prehistoric or historic artifacts, such as pottery or ceramics, projectile points, dugout canoes, metal implements, historic building materials, or any other physical remains that could be associated with Native American, early European, or American settlement are encountered at any time within the project site area, the permitted project shall cease all activities involving subsurface disturbance in the immediate vicinity of the discovery. The applicant shall contact this office and project activities shall not resume without verbal and/or written authorization.
- In the event that unmarked human remains are encountered during permitted activities, all work shall stop immediately and the proper authorities notified in accordance with Section 872.05, *Florida Statutes*.

If you have any questions, please contact Christopher Hunt, Historic Sites Specialist, by email at [Christopher.Hunt@dos.myflorida.com](mailto:Christopher.Hunt@dos.myflorida.com), or by telephone at 850.245.6333 or 800.847.7278.

Sincerely

Robert F. Berndus, Director  
Division of Historical Resources & State Historic Preservation Officer



Division of Historical Resources  
R.A. Gray Building • 500 South Bronough Street • Tallahassee, Florida 32399  
850.245.6300 • 850.245.6436 (Fax) [flheritage.com](http://flheritage.com)  
Promoting Florida's History and Culture [VivaFlorida.org](http://VivaFlorida.org)



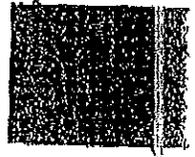
[www.flheritage.com](http://www.flheritage.com)

DIVISIONS OF FLORIDA DEPARTMENT OF STATE  
 Office of the Secretary  
 Office of International Relations  
 Division of Elections  
 Division of Corporations  
 Division of Cultural Affairs  
 Division of Historical Resources  
 Division of Library and Information Services  
 Division of Licensing  
 Division of Administrative Services



MEMBER OF THE FLORIDA CABINET  
 State Board of Education  
 Trustee of the Internal Improvement Trust Fund  
 Administration Commission  
 Florida Land and Water Adjudicatory Commission  
 State Board  
 Division of Bond Finance  
 Department of Law Enforcement  
 Department of Highway Safety and Motor Vehicles  
 Department of Veterans' Affairs

FLORIDA DEPARTMENT OF STATE  
 Katherine Harris  
 Secretary of State  
 DIVISION OF HISTORICAL RESOURCES



March 7, 2000

Ms. Lauren P. Milligan  
 Florida Department of Environmental Protection  
 Bureau of Beaches and Coastal Systems  
 3900 Commonwealth Boulevard, Mail Station 300  
 Tallahassee, Florida 32399-3000

RE: DHR Project File No. 2000-00477  
 Cultural Resource Assessment Request  
 File Number: 52-2363069  
 St. Petersburg Harbor Maintenance Dredging - Egmont Key Beach Placement Project  
 Pinellas County, Florida

Dear Ms. Milligan:

In accordance with Chapters 373 and 403, *Florida Statutes*, and implementing state regulations, we have reviewed the above referenced project for possible impact to historic properties listed, or eligible for listing, in the National Register of Historic Places, or otherwise of archaeological, historical or architectural value.

We note that Egmont Key contains the National Register property, Egmont Key (8HI117), in addition to the Egmont Key lighthouse (8HI117A) and the Fort Dade Cemetery (8HI117B). It appears that the shoreline stabilization project will help in the protection of the historic properties at Egmont Key. Therefore, based on the information provided, it is the opinion of this office that the proposed undertaking will have no adverse effect on historic properties.  
 Coastal Management Program.

If you have any questions concerning our comments, please contact Scott Edwards, Historic Preservation Planner, at 850-487-2333 or 800-847-7278. Your interest in protecting Florida's historic properties is appreciated.

Sincerely,

*Laura A. Kammeyer*

Janet Snyder Matthews, Ph.D., Director  
 Division of Historical Resources  
 State Historic Preservation Officer

JSM/Ese

MARCH 7, 2000

~~June 16, 2000~~

Mr. Gordon M. Butler, Jr.  
Construction - Operations Division  
Jacksonville District, Corps of Engineers  
P.O. Box 4970  
Jacksonville, Florida 32232-0019

RE: DHR Project File No. 2000-00569  
Cultural Resource Assessment Request  
Public Notice No. PN-SP-227  
Proposed Shoreline Stabilization at Egmont Key  
Pinellas County, Florida

Dear Mr. Butler:

In accordance with the procedures contained in 36 C.F.R., Part 800 ("Protection of Historic Properties"), we have reviewed the referenced project for possible impact to historic properties listed, or eligible for listing, in the *National Register of Historic Places*. The authority for this procedure is the National Historic Preservation Act of 1966 (Public Law 89-665), as amended.

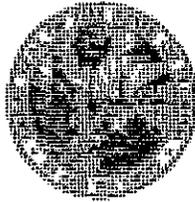
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If you have any questions concerning our comments, please contact Scott Edwards, Historic Preservation Planner, at 850-487-2333 or 800-847-7278. Your interest in protecting Florida's historic properties is appreciated.

Sincerely,

Janet Snyder Matthews, Ph.D., Director  
Division of Historical Resources  
State Historic Preservation Officer

JSM/Ese



CO-0  
TD: PD-E

FLORIDA DEPARTMENT OF STATE  
**Glenda E. Hood**  
Secretary of State  
DIVISION OF HISTORICAL RESOURCES

Mr. John F. Adams  
Construction-Operations Division  
Jacksonville District Corps of Engineers  
P.O. Box 4970  
Jacksonville, Florida 32232-0019

August 16, 2004

RE: DHR No.: 2004-7106 / Date Received by DHR: July 7, 2004  
Public Notice Number: PN-CO-TH-270 / The State of Florida  
*Placement of Tampa Maintenance Dredged Material on Egmont Key*  
Tampa, Hillsborough County

Dear Mr. Adams:

Our office received and reviewed the above referenced project in accordance with Section 106 of the *National Historic Preservation Act* of 1966, as amended, and 36 *C.F.R.*, Part 800: *Protection of Historic Properties*. The State Historic Preservation Officer is to advise and assist federal agencies when identifying historic properties (archaeological, architectural, and historical resources) listed, or eligible for listing, in the *National Register of Historic Places* (NRHP), assessing the project's effects, and considering alternatives to avoid or minimize adverse effects.

We previously researched the Florida Master Site File and our records to provide the Florida State Clearinghouse and the Jacksonville District Corps of Engineers with information to define issues and concerns to be addressed in the feasibility-level study for Egmont Key (DHR No. 2004-6137 & 2004-6820). We noted that Egmont Key contains numerous archaeological remains and historic structures. Recorded sites include the entire island, listed in the NRHP as Egmont Key, a/k/a the Fort Dade Site (8HI117); the Egmont Key Lighthouse (8HI117A); and the Egmont Key Cemetery (8HI117B). We note that the cultural resources of Egmont Key are being adversely affected by erosive storm surges and high tides. Therefore, it is the opinion of this office that the current project proposed by the Corps will have a positive effect on historic properties.

If there are any questions concerning our comments, please contact Janice Maddox, Historic Sites Specialist, by electronic mail at [jmaddox@dos.state.fl.us](mailto:jmaddox@dos.state.fl.us), or by telephone at 850/245-6333. Thank you for your interest in protecting Florida's historic properties.

Sincerely,

*Laura A. Kammerer, Deputy SHPO*

*for*

Frederick Gaske, Director, and  
State Historic Preservation Officer

500 S. Bronough Street • Tallahassee, FL 32399-0250 • <http://www.flheritage.com>

- |   |  |   |   |
|---|--|---|---|
| <input type="checkbox"/> Director's Office<br>(850) 245-6300 • FAX: 245-6435          | <input type="checkbox"/> Archaeological Research<br>(850) 245-6444 • FAX: 245-6436       | <input checked="" type="checkbox"/> Historic Preservation<br>(850) 245-6333 • FAX: 245-6437 | <input type="checkbox"/> Historical Museums<br>(850) 245-6400 • FAX: 245-6433 |
| <input type="checkbox"/> Palm Beach Regional Office<br>(561) 279-1475 • FAX: 279-1476 | <input type="checkbox"/> St. Augustine Regional Office<br>(904) 825-5045 • FAX: 825-5044 | <input type="checkbox"/> Tampa Regional Office<br>(813) 272-3843 • FAX: 272-2340            |   |



REPLY TO  
ATTENTION OF

DEPARTMENT OF THE ARMY  
JACKSONVILLE DISTRICT CORPS OF ENGINEERS  
P.O. BOX 4970  
JACKSONVILLE, FLORIDA 32232-0019

Hillsborough  
SUMMER - 1016 - 6125  
2011-03678

Planning and Policy Division  
Environmental Branch

RECORDED  
INDEXED  
AUG 17 2011  
A 9:42  
HISTORIC PRESERVATION

Ms. Laura Kammerer  
Division of Historical Resources  
State Historic Preservation Office  
500 South Bronough Street  
Tallahassee, Florida 32399-0250

Dear Ms. Kammerer:

The U.S. Army Corps of Engineers (Corps), Jacksonville District, is studying the environmental effects associated with the proposed routine operations and management dredging of the Tampa Bay channel in association with a dredge management plan. The Corps determined that a survey would be needed and the Jacksonville District contracted Panamerican Consultants, Inc.(PCI). Enclosed is their draft report, *Update of Tampa Harbor Dredge Management Plan (DMMP) and Preparation of an Environmental Assessment (EA) and Cultural Resource Assessment Survey (CRAS) with Fish and Wildlife Coordination Act Report*. This study represents a thorough analysis of the Tampa Bay channel system and its associated disposal sites. The Contractor has identified potential targets that exists adjacent to the federal channel and re-confirmed the existence of previously identified targets associated with Egmont Key. In addition, the contractor has identified areas of probability adjacent to the federal channel that should be studied should the Corps ever expand the channel in those locations.

It is the intention of the Corp that this document serve as baseline data for the Tampa Bay channel for which future determinations of affect in association with National Historic Preservation Act will be made. The Corps request your comments on the draft document. If there are any questions, please contact Mr. Dan Hughes at 904-232-3028 or e-mail at [daniel.b.hughes@usace.army.mil](mailto:daniel.b.hughes@usace.army.mil).

Sincerely,



Eric P. Summa  
Chief, Environmental Branch

Enclosure

950 sandy line mbs  
700 ft



FLORIDA DEPARTMENT OF STATE  
**Kurt S. Browning**  
Secretary of State  
DIVISION OF HISTORICAL RESOURCES

Mr. Eric Summa  
Department of the Army  
Jacksonville District Corps of Engineers  
P.O. Box 4970  
Jacksonville, Florida 32232-0019

September 23, 2011

Re: DHR Project File No.: 2011-03678 / Received by DHR: August 17, 2011  
1A-32 Permit No.: 1011.47

*Update of Tampa Harbor Dredged Material Management Plan (DMMP) and Preparation of an Environmental Assessment (EA) and Cultural Resources Assessment Survey (CRAS) with Fish and Wildlife Coordination Act Report (CAR)*

Dear Mr. Summa:

Our office received and reviewed the above referenced survey report in accordance with Section 106 of the *National Historic Preservation Act of 1966* (Public Law 89-665), as amended in 1992, and *36 C.F.R., Part 800: Protection of Historic Properties*, and Chapter 267, *Florida Statutes*, for assessment of possible adverse impact to cultural resources (any prehistoric or historic district, site, building, structure, or object) listed, or eligible for listing, in the National Register of Historic Places (NRHP).

Between January and April, 2011, Panamerican Consultants, Inc. (PCI) conducted an underwater remote sensing survey of ocean dredged material disposal sites (ODMDS), the Egmont Channel, and parts of Tampa Bay. PCI also conducted a preliminary archaeological and historical survey of two proposed upland disposal sites. The survey was completed on behalf of the US Army Corps of Engineers, Jacksonville District and G.E.C., Inc. in order to provide baseline data for the Tampa Bay channel that will inform future determinations of effects once the Corps establishes project parameters for the proposed dredging.

PCI identified nine hundred eleven (911) magnetic anomalies, four hundred thirty-six (436) side scan sonar contacts, and one thousand six hundred seventy-six (1,676) subbottom features within the surveyed area during the investigation. PCI determined that nine (9) of the magnetic anomalies have signatures indicative of potentially significant cultural resources and sixty-eight (68) are located within the Egmont Key NRHP offshore area. PCI found that two (2) acoustic contacts may represent significant cultural resources and fifty-nine (59) are located within the Egmont Key NRHP offshore area. PCI recommends that these acoustic and magnetic anomalies be avoided or subjected to further investigation to determine their exact nature and eligibility for listing in the NRHP.

PCI determined that fourteen (14) features and twelve (12) paleo margins identified in the subbottom profiler survey have the potential to yield submerged prehistoric archaeological sites. PCI recommends avoidance of these areas or further investigation.

500 S. Bronough Street • Tallahassee, FL 32399-0250 • <http://www.flheritage.com>

Director's Office  
850.245.6300 • FAX: 245.6436

Archaeological Research  
850.245.6444 • FAX: 245.6452

Historic Preservation  
850.245.6333 • FAX: 245.6437

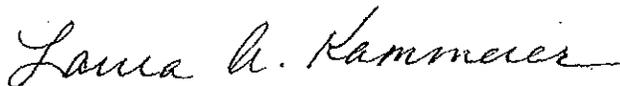
Mr. Summa  
September 23, 2011  
Page 2

PCI notes that the two potential upland disposal sites contain cultural resources listed in the NRHP, Egmont Key (8HI117), Mullet Key (8PI121), and the Fort DeSoto Batteries (8PI48). PCI recommends that survey assessments be comprehensively updated for these sites prior to use in order to assess present conditions and allow for determinations of effect.

Based on the information provided, our office concurs with these determinations and finds the submitted report complete and sufficient in accordance with Chapter 1A-46, *Florida Administrative Code*. We look forward to further consultation with the Corps once project parameters have been defined.

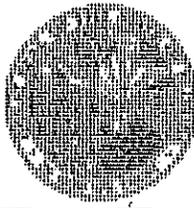
For any questions concerning our comments, please contact Rudy Westerman, Historic Preservationist, by electronic mail at [rjwesterman@dos.state.fl.us](mailto:rjwesterman@dos.state.fl.us), or by phone at 850.245.6333. We appreciate your continued interest in protecting Florida's historic properties.

Sincerely,



Laura A. Kammerer  
Deputy State Historic Preservation Officer  
For Review and Compliance

Pc: Andrew Lydecker – PCI



## FLORIDA DEPARTMENT OF STATE

**RICK SCOTT**  
Governor

**KEN DETZNER**  
Secretary of State

Colonel. Alan M. Dodd  
C/O Mr. Dan Hughes  
Jacksonville District USACE  
PO Box 4970  
Jacksonville, FL 32232-0019

September 19, 2013

Re: DHR Project File No.: 2013-3596  
*Memorandum of Agreement Among the USACE, the US Fish and Wildlife Service, and the Florida SHPO  
Regarding the Use of Historic Egmont Key for Dredge Material Disposal Purposes*

Dear Colonel Dodd:

Our office reviewed the referenced project in accordance with Section 106 of the *National Historic Preservation Act of 1966* (Public Law 89-665), as amended in 1992, and *36 C.F.R., Part 800: Protection of Historic Properties*, and Chapters 267 and 373, *Florida Statutes*, for assessment of possible adverse impact to historic properties listed, or eligible for listing, in the National Register of Historic Places (NRHP).

Please find enclosed the required signature pages for the Memorandum of Agreement. I would like to commend Mr. Hughes on an expedient and very clear consultation process. I look forward to working with the Jacksonville District again soon on upcoming projects.

If I can be of any further help, or if you have any questions about this letter, please feel free to contact me at [timothy.parsons@dos.myflorida.com](mailto:timothy.parsons@dos.myflorida.com), or at 850.245.6333 or 800.847.7278.

Sincerely,

Timothy A. Parsons, Ph.D., RPA  
Compliance Review Supervisor  
and Deputy State Historic Preservation Officer

Enclosure: Signature Pages



SEMINOLE TRIBE OF FLORIDA  
TRIBAL HISTORIC PRESERVATION OFFICE

TRIBAL HISTORIC  
PRESERVATION OFFICE  
SEMINOLE TRIBE OF FLORIDA  
AH-TAH-THI-KI MUSEUM  
HC-61, BOX 21A  
CLEWISTON, FL 33440  
PHONE: (863) 983-6549  
FAX: (863) 902-1117



TRIBAL OFFICERS  
CHAIRMAN  
MITCHELL CYPRESS  
VICE CHAIRMAN  
RICHARD BOWERS JR.  
SECRETARY  
PRISCILLA D. SAYEN  
TREASURER  
MICHAEL D. TIGER

U.S. Army Corps of Engineers  
Planning Division  
Environmental Branch  
P.O. Box 4970  
Jacksonville, FL 32232-0019  
Attn: Eric P. Summa

THPO#: 005640

June 22, 2010

**Subject:** Maintenance Dredging in Sections of Tampa Bay, Cuts A, F & G, Hillsborough County, Florida

To Whom It May Concern:

The Seminole Tribe of Florida's Tribal Historic Preservation Office (STOF-THPO) has received the **Jacksonville District Corps of Engineers'** correspondence concerning the aforementioned project. The STOF-THPO has no objection to your findings and the recommendation that an archaeological monitor to be present during the dredge disposal operations at Egmont Key. However, the STOF-THPO would like to be informed if cultural resources that are potentially ancestral or historically relevant to the Seminole Tribe of Florida are inadvertently discovered during the construction process. We thank you for the opportunity to review the information that has been sent to date regarding this project. Please reference **THPO-005640** for any related issues.

We look forward to working with you in the future.

Sincerely,

Willard Steele,  
Tribal Historic Preservation Officer  
Seminole Tribe of Florida

**Direct routine inquiries to:**

Anne Mullins  
Compliance Review Supervisor  
annemullins@semtribe.com



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

REPLY TO  
ATTENTION OF

Planning and Policy Division  
Environmental Branch

APR 21 2017

Tim Parsons, Ph.D. SHPO  
Division of Historical Resources  
State Historic Preservation Officer  
500 South Bronough Street  
Tallahassee, Florida 32399-0250

Re: St. Petersburg Harbor Federal Navigation Project in Pinellas and Hillsborough Counties, Florida

Dear Dr. Parsons:

The U.S. Army Corps of Engineers, Jacksonville District (Corps), is studying the environmental effects associated with periodic maintenance dredging of the St. Petersburg Harbor Federal Navigation Channel in Pinellas and Hillsborough Counties, Florida. Dredging is expected to occur every 10 to 15 years; however, dredging frequency may vary due to storm induced shoaling. Excavated material would be placed within dredged material management areas (DMMAs) 2-D and 3-D or within the Tampa Ocean Dredged Material Disposal Site (ODMDS) (Enclosure).

There are no previously identified cultural resources within the St. Petersburg Harbor Federal Navigation Channel, DMMAs 2-D and 3-D, or the Tampa ODMDS. A submerged cultural resources survey of the St. Petersburg Harbor Federal Navigation Channel was completed by Panamerican Consultants, Inc. (PCI) in 2005 and is documented in the report; *Submerged Cultural Resources Remote Sensing Survey, Historic Assessment, and Diver Evaluation of 31 Targets in Tampa Bay, Hillsborough and Pinellas Counties, Florida* (Lydecker 2005). No historic properties were identified as a result of this survey. Coordination with the Florida State Historic Preservation Office in 2005 (DHR Project File No. 2005-3976) has indicated that dredging of the Federal Channel will have no effect on cultural resources listed or eligible for listing in the National Register of Historic Places (NRHP).

DMMAs 2D and 3D were created between 1978 and 1982 using dredged material from the federal government's deepening of Tampa Harbor. DMMA 3D is an approximately 400 acre island and DMMA 2D is an approximately 530 acre island that have been previously utilized for placement of excavated material. Due to the nature of DMMA 2D and 3D as man-made islands, the utilization of these locations has been previously determined to have no effect to historic properties.

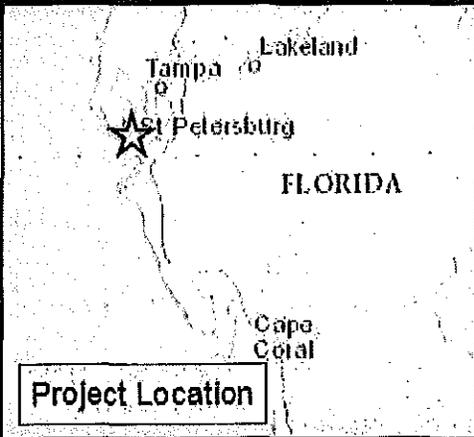
An additional cultural resources assessment of the Tampa Harbor region was completed by PCI in 2011 and included the Tampa ODMDS dredge placement area. This survey is documented in the report; *Update of Tampa Harbor Dredged Material Management Plan (DMMP) and Preparation of an Environmental Assessment (EA) and Cultural Resources Assessment Survey (CRAS) with Fish and Wildlife Coordination Act Report (CAR)* (Lydecker et al. 2011). No cultural resources or anomalies were identified within the Federal Channel or Tampa ODMDS area.

Based on the absence of cultural resources and the recurrent nature of the project, the Corps has determined that periodic maintenance dredging of the St. Petersburg Harbor Federal Navigation Channel and placement of dredged material within DMMA 2-D and 3-D, or within the Tampa ODMDS would have no effect to historic properties listed or eligible for listing on the NRHP. Pursuant to Section 106 of the National Historic Preservation Act (16 USC 470) and its implementing regulations (36 CFR 800), the Corps kindly requests your comments on the determination of no effect. If there are any questions, please contact Ms. Meredith Moreno at 904-232-1577 or e-mail at Meredith.A.Moreno@usace.army.mil.

Sincerely,

  
Gina Paduano Ralph, Ph.D.  
Chief, Environmental Branch

Enclosure



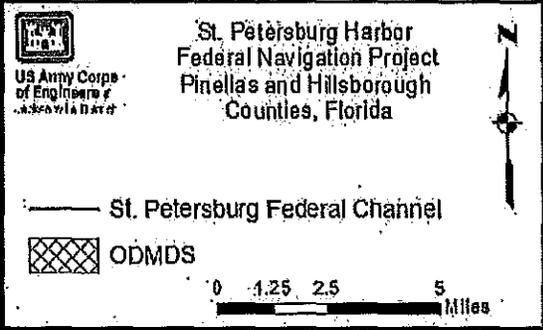
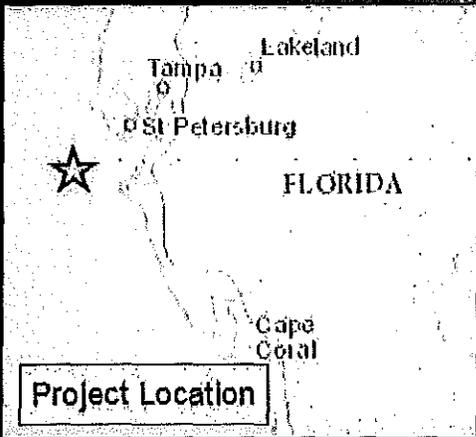
**St. Petersburg Harbor  
 Federal Navigation Project  
 Pinellas and Hillsborough  
 Counties, Florida**

— St. Petersburg Federal Channel

DMMA 3D

DMMA 2D

0 0.75 1.5 3 Miles





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

REPLY TO  
ATTENTION OF

Planning and Policy Division  
Environmental Branch

APR 21 2012

Mr. Fred Dayhoff, Tribal Representative  
NAGPRA, Section 106  
Miccosukee Tribe of Indians of Florida  
HC 61 SR 68  
Ochopee, Florida 34141

Re: St. Petersburg Harbor Federal Navigation Project in Pinellas and Hillsborough Counties, Florida

Dear Mr. Dayhoff:

The U.S. Army Corps of Engineers, Jacksonville District (Corps), is studying the environmental effects associated with periodic maintenance dredging of the St. Petersburg Harbor Federal Navigation Channel in Pinellas and Hillsborough Counties, Florida. Dredging is expected to occur every 10 to 15 years; however, dredging frequency may vary due to storm induced shoaling. Excavated material would be placed within dredged material management areas (DMMA) 2-D and 3-D or within the Tampa Ocean Dredged Material Disposal Site (ODMDS) (Enclosure).

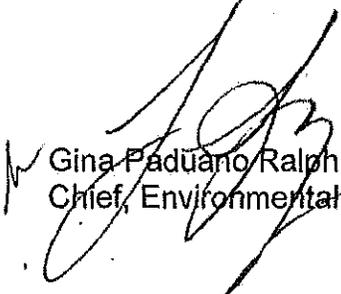
There are no previously identified cultural resources within the St. Petersburg Harbor Federal Navigation Channel, DMMA 2-D and 3-D, or the Tampa ODMDS. A submerged cultural resources survey of the St. Petersburg Harbor Federal Navigation Channel was completed by Panamerican Consultants, Inc. (PCI) in 2005 and is documented in the report; *Submerged Cultural Resources Remote Sensing Survey, Historic Assessment, and Diver Evaluation of 31 Targets in Tampa Bay, Hillsborough and Pinellas Counties, Florida* (Lydecker 2005). No historic properties were identified as a result of this survey. Coordination with the Florida State Historic Preservation Office in 2005 (DHR Project File No. 2005-3976) has indicated that dredging of the Federal Channel will have no effect on cultural resources listed or eligible for listing in the National Register of Historic Places (NRHP).

DMMA 2D and 3D were created between 1978 and 1982 using dredged material from the federal government's deepening of Tampa Harbor. DMMA 3D is an approximately 400 acre island and DMMA 2D is an approximately 530 acre island that have been previously utilized for placement of excavated material. Due to the nature of DMMA 2D and 3D as man-made islands, the utilization of these locations has been previously determined to have no effect to historic properties.

An additional cultural resources assessment of the Tampa Harbor region was completed by PCI in 2011 and included the Tampa ODMDS dredge placement area. This survey is documented in the report; *Update of Tampa Harbor Dredged Material Management Plan (DMMP) and Preparation of an Environmental Assessment (EA) and Cultural Resources Assessment Survey (CRAS) with Fish and Wildlife Coordination Act Report (CAR)* (Lydecker et al. 2011). No cultural resources or anomalies were identified within the Federal Channel or Tampa ODMDS area.

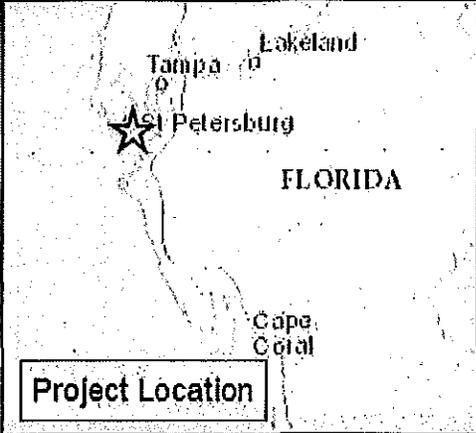
Based on the absence of cultural resources and the recurrent nature of the project, the Corps has determined that periodic maintenance dredging of the St. Petersburg Harbor Federal Navigation Channel and placement of dredged material within DMMA 2-D and 3-D, or within the Tampa ODMDS would have no effect to historic properties listed or eligible for listing on the NRHP. Pursuant to Section 106 of the National Historic Preservation Act (16 USC 470) and its implementing regulations (36 CFR 800), and in consideration of the Corps' Trust Responsibilities to the Miccosukee Tribe of Indians of Florida, the Corps kindly requests your comments on the determination of no effect. If there are any questions, please contact Ms. Meredith Moreno at 904-232-1577 or e-mail at Meredith.A.Moreno@usace.army.mil.

Sincerely,



Gina Paduano Ralph, Ph.D.  
Chief, Environmental Branch

Enclosure



  
 US Army Corps  
 of Engineers  
 "Army of the Water"

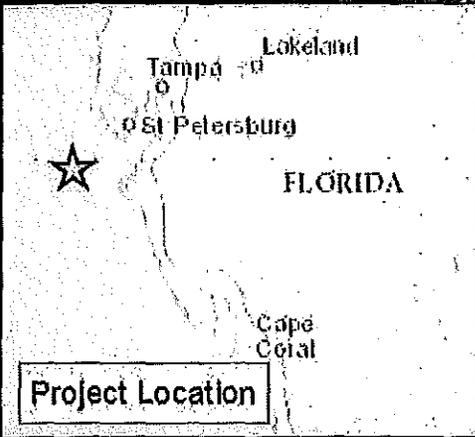
**St. Petersburg Harbor  
 Federal Navigation Project  
 Pinellas and Hillsborough  
 Counties, Florida**



 St. Petersburg Federal Channel

 DMMA 3D  
 DMMA 2D

0 0.75 1.5 3 Miles




 US Army Corps of Engineers  
 DISTRICT OF FLORIDA

**St. Petersburg Harbor  
 Federal Navigation Project  
 Pinellas and Hillsborough  
 Counties, Florida**



 St. Petersburg Federal Channel

 ODMDS

0 1.25 2.5 5 Miles



DEPARTMENT OF THE ARMY  
JACKSONVILLE DISTRICT CORPS OF ENGINEERS  
701 San Marco Boulevard  
JACKSONVILLE, FLORIDA 32207-8176

REPLY TO  
ATTENTION OF

Planning and Policy Division  
Environmental Branch

APR 21 2017

Dr. Paul Backhouse, THPO  
Seminole Tribe of Florida  
Tribe Historic Preservation Office  
30290 Josie Billie Highway  
PMP 1004  
Clewiston, FL 33440

Re: St. Petersburg Harbor Federal Navigation Project in Pinellas and Hillsborough Counties, Florida

Dear Dr. Backhouse:

The U.S. Army Corps of Engineers, Jacksonville District (Corps), is studying the environmental effects associated with periodic maintenance dredging of the St. Petersburg Harbor Federal Navigation Channel in Pinellas and Hillsborough Counties, Florida. Dredging is expected to occur every 10 to 15 years; however, dredging frequency may vary due to storm induced shoaling. Excavated material would be placed within dredged material management areas (DMMA) 2-D and 3-D or within the Tampa Ocean Dredged Material Disposal Site (ODMDS) (see Enclosure).

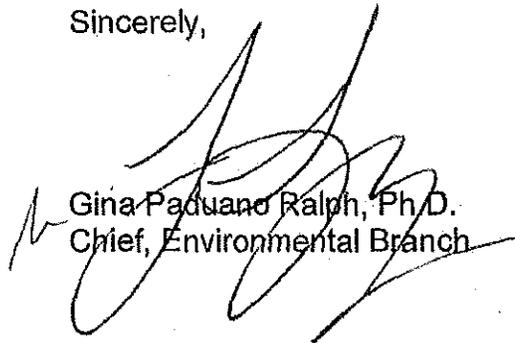
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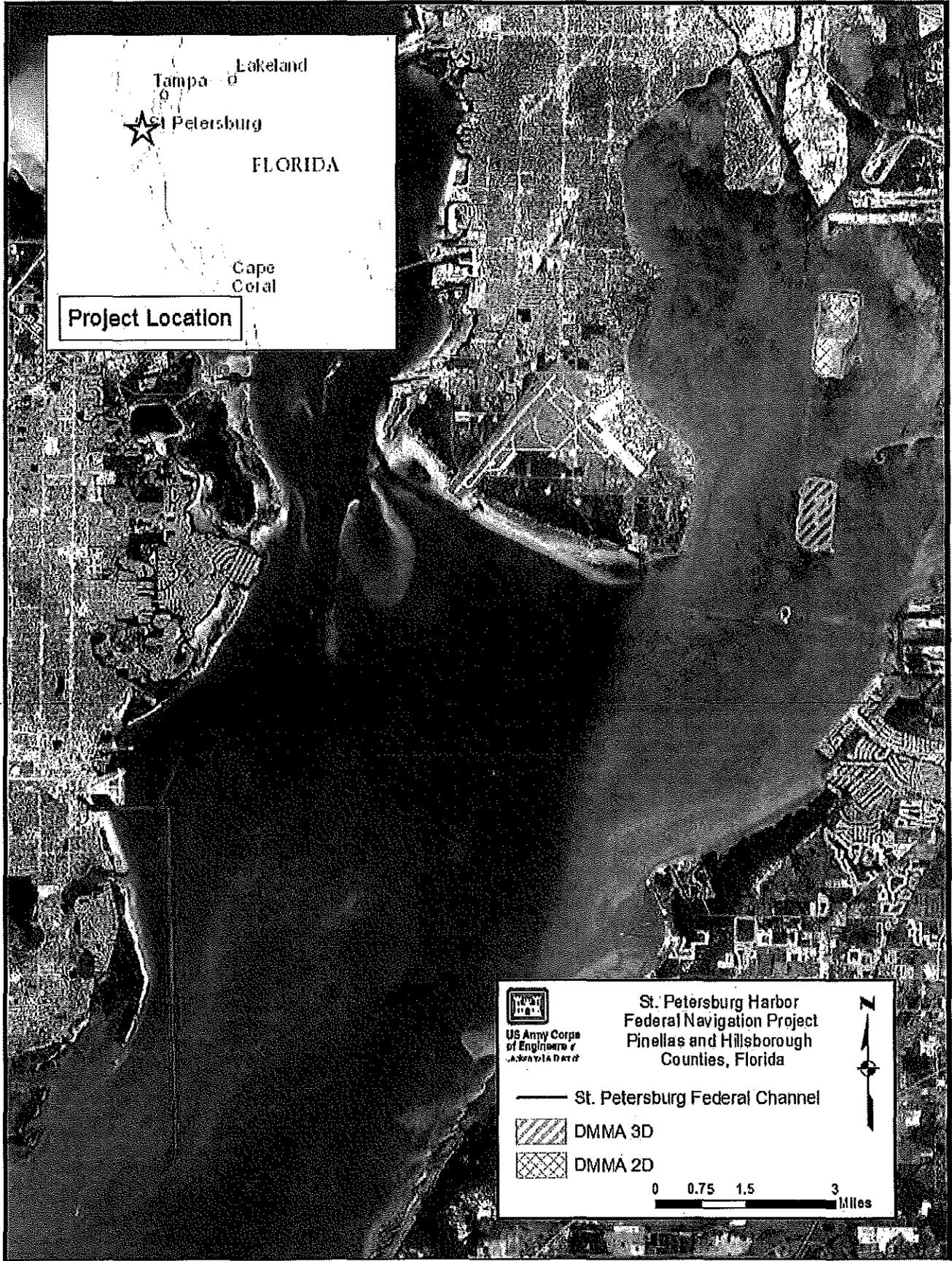
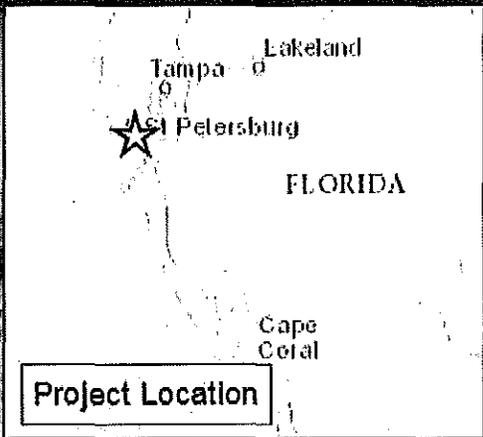
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Sincerely,



Gina Paduano Ralph, Ph.D.  
Chief, Environmental Branch

Enclosure




US Army Corps  
 of Engineers  
 U.S. Army

**St. Petersburg Harbor  
 Federal Navigation Project  
 Pinellas and Hillsborough  
 Counties, Florida**

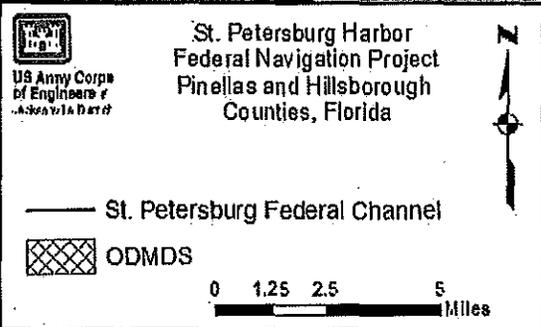
— St. Petersburg Federal Channel

 DMMA 3D

 DMMA 2D

0    0.75    1.5    3  
 Miles





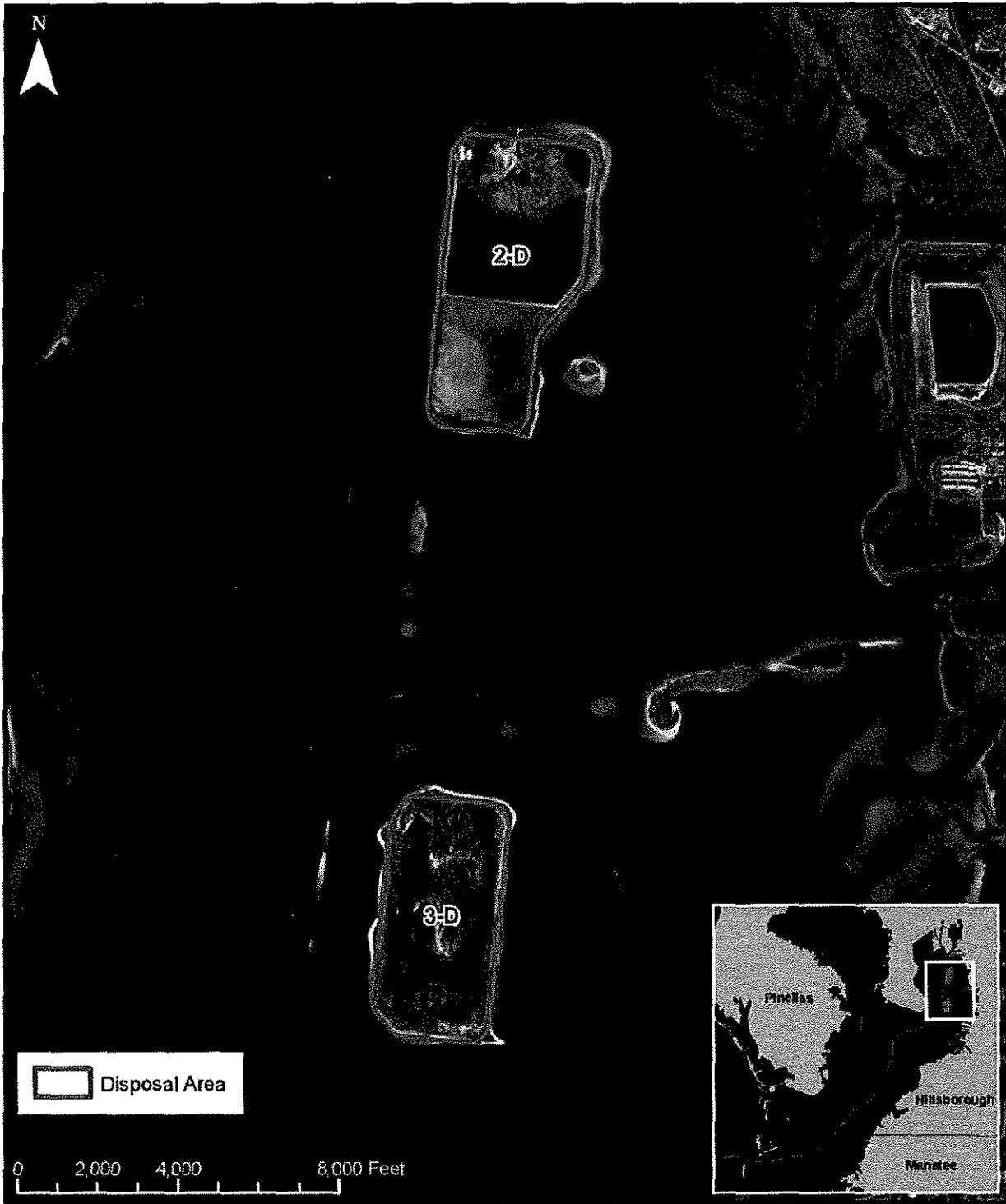


Figure 5: Dredged Material Management Areas (DMMA) 2-D & 3-D

**APPENDIX D**

**BENEFICIAL USE SITES**

### **Egmont Key**

Egmont Key is a historically significant island in Hillsborough County (Figure 1). The island is listed on the National Register of Historic Places, and was part of the Fort De Soto complex that protected the inlet to Tampa Bay. It has a 1.6-mile segment of critically eroded beach that has been maintained in the past with material dredged from the greater Tampa Bay area, including the Tampa Harbor Federal Navigation Project. The land is Federally owned (Egmont Key National Wildlife Refuge), but it is managed by the Florida Division of Recreation and Parks as Egmont Key State Park.

Egmont Key is suitable for placing sand or silty sand materials based on the guidelines in F.A.C. 62B-41.007(2) (j). The use of Egmont Key as a placement site for the beneficial use of dredged material has been previously assessed in other EAs (USACE 2004, 2010a). This project was coordinated with the U.S. Fish and Wildlife Service (USFWS) and with the National Marine Fisheries Service (NMFS) under the Endangered Species Act (ESA) through the NMFS Gulf Regional Biological Opinion (GMRBO) (November 19, 2003; Revision No. 1, June 24, 2005; Revision No. 2, January 9, 2007). Section 7 consultation was completed with the USFWS in 2000 and 2010.

### **Mullet Key (Fort De Soto)**

Fort De Soto Park is located on Mullet Key, at the southernmost tip of Pinellas County (Figure 2). The fort is a Spanish-American era mortar battery used at the turn of the century to defend the Tampa Bay area, and is on the National Register of Historic Places. Fort De Soto Beach is at the southeast corner of the island, and directly adjacent to the fort and the entrance to Tampa Bay.

The beach experiences erosion due to regular waves and currents as well as those induced by storms. Placement of dredged material for beneficial use would help to protect the historic fort, provide recreational areas, and extend the life of the upland disposal areas. In 2006, approximately 275,000 cubic yards of material from the entrance channel were placed at Fort De Soto Beach; the site requires periodic re-nourishment of suitable sand based on the guidelines in F.A.C. 62B-41.007(2)(j).

An EA was completed on the effects of shoreline placement of dredged material on Mullet Key (USACE 2006a). In accordance with Section 7 of the ESA of 1973 the NMFS was consulted; this project is covered by the NMFS GMRBO (November 19, 2003; Revision No. 1, June 24, 2005; Revision No. 2, January 9, 2007). A Biological Opinion dated July 14, 2006 was provided by the USFWS.

Figure 1. Egmont Key

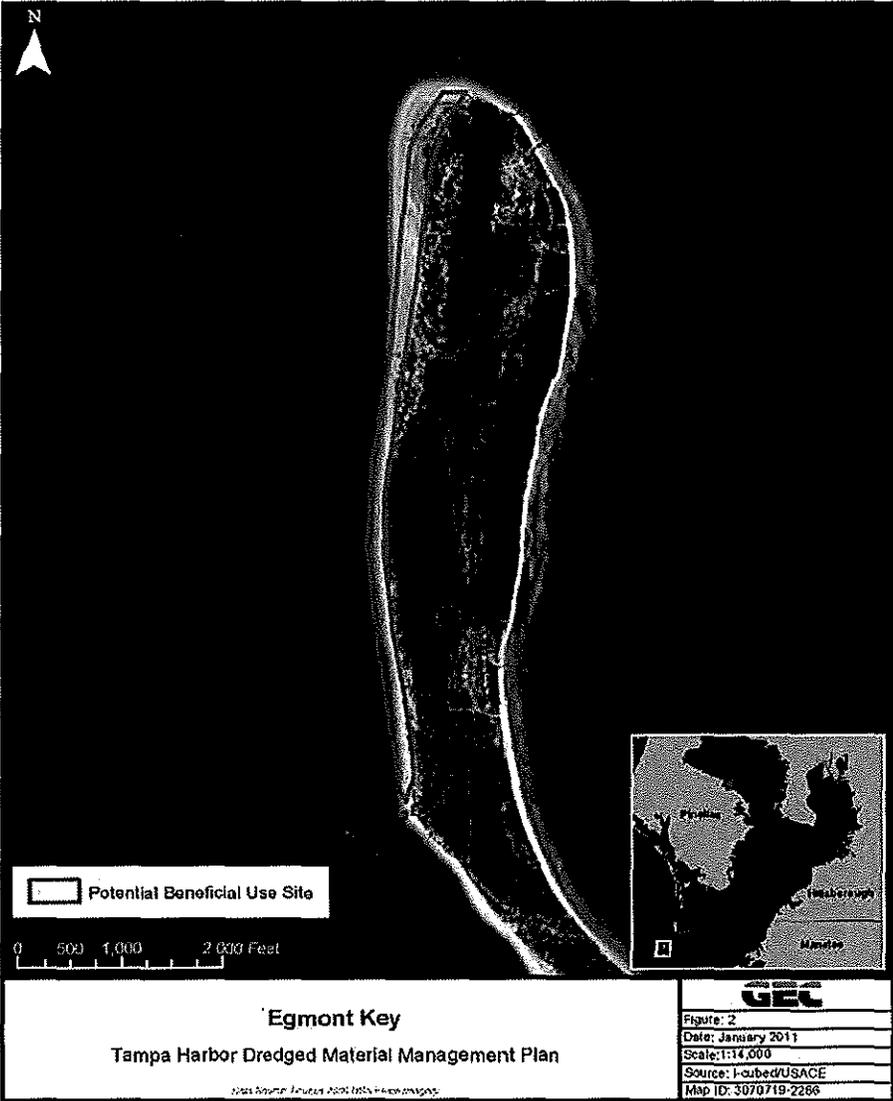


Figure 2. Mullet Key (Ft. De Soto)

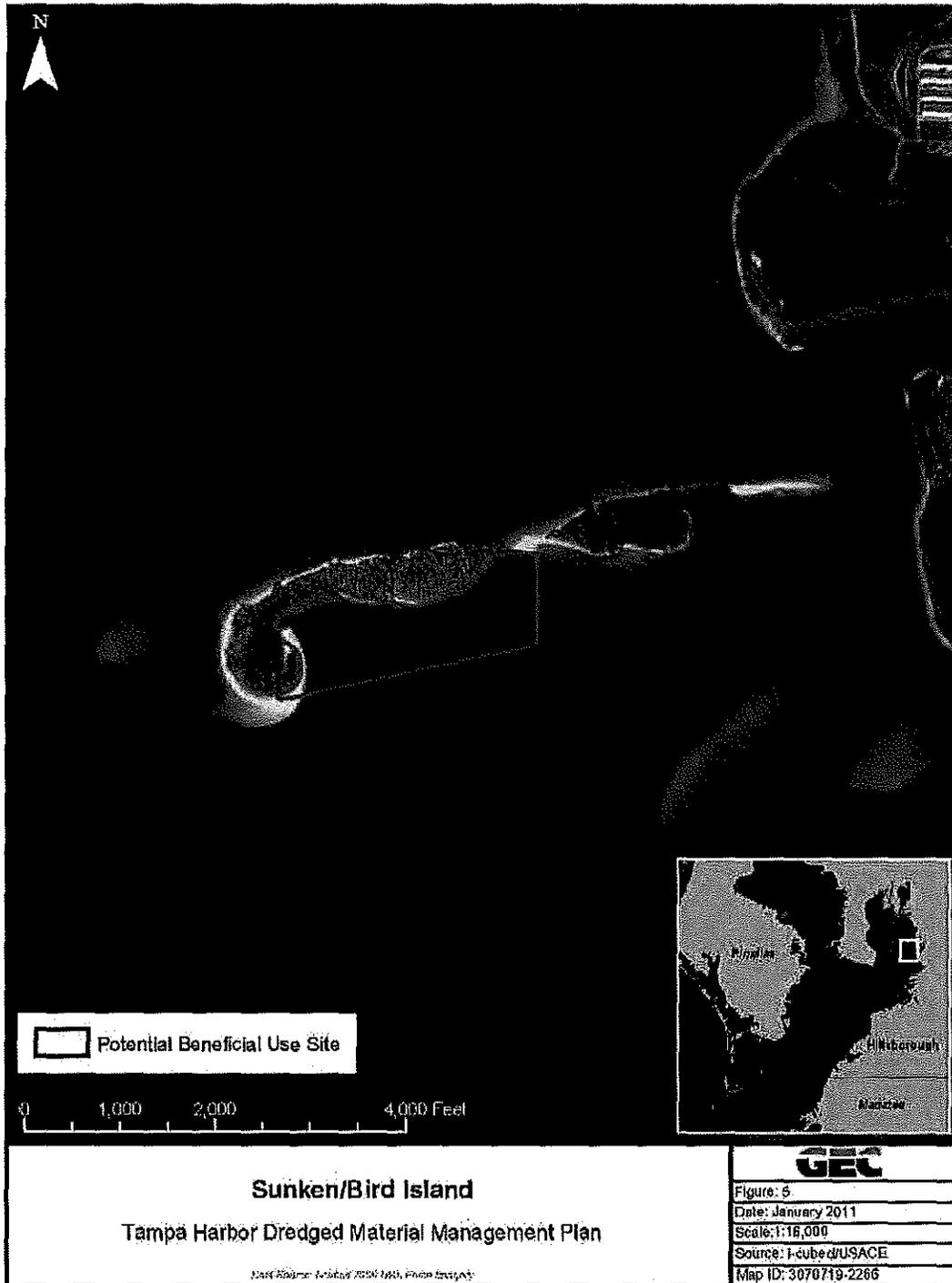


## **Bird/Sunken Island**

The USACE has proposed beneficial use of dredged material to expand Bird Island/Sunken Island to enhance bird nesting areas and wildlife habitat (Figure 3). The island has experience land loss through erosion during major storm events and routine tidal forces. Historically, material has been periodically added along the western and northwestern banks to replace those losses. The beneficial use of dredged material to expand the island will assist in protecting, restoring, and enhancing the suitability of the island as a colony site for nesting birds as well as habitat for aquatic and marsh-dwelling wildlife. *Spartina* may be planted along the southeastern and eastern shoreline, and mangrove stands will likely develop rapidly (USACE, 2000c).

Using dredged material for restoring habitat at Bird/Sunken Island has been examined in previous NEPA documents (USACE 1996, 2000a, 2000c, 2005). This site received a Consolidated Environmental Resource Permit and Sovereign Submerged Lands Authorization from FDEP dated April 7, 2006. This site would benefit most from sandy materials, but it may benefit from less suitable material as well. The extent of the restoration project would depend upon the quantity of dredged materials available at the time. Sand could be used to cap sub-optimal material.

Figure 3. Sunken/Bird Island



## Permitted Dredged Holes

The beneficial use of dredged material for filling holes created by previous dredging in Tampa Bay has been assessed under NEPA (USACE 2006b). The following dredged holes received a Consolidated Environmental Resource Permit and Sovereign Submerged Lands Authorization (Appendix D) from FDEP dated April 7, 2006. These sites will benefit most from sandy materials, but they may also benefit from less suitable materials. Sand could be used to cap sub-optimal material. To provide the best opportunity for seagrass recruitment, all holes would be filled to the surrounding depths based on the availability of sufficient quantities of dredged materials.

### Gandy Channel North Dredge Hole

The Gandy Channel dredge hole in Pinellas County is approximately 41.5 acres in area and 8.0 feet deep (Figure 4). The surrounding area is a one-foot-deep sand flat habitat with patchy seagrasses and algae cover. The hole was created during construction of the Gandy Bridge causeway, and is owned by State of Florida. Based on a report by the Tampa Bay Estuary Program (TBEP), this area was determined to have low feasibility for use as a dredged material placement site due to the difficult site accessibility (fill material would have to be transported under the Howard Frankland Bridge) and low cost effectiveness (only a small amount of material would fill the hole). The TBEP recommended this hole not be filled due to its high benthic resources; however, filling the hole would help promote seagrass growth (TBEP 2005; USACE 2006b).

### MacDill Air Force Base (AFB) Runway Dredge Hole

The MacDill dredge hole in Hillsborough County is approximately 59.3 acres in area and 9.8 feet deep (Figure 5). It is owned by the TPA. The surrounding area is a three-foot-deep sand flat habitat with patchy seagrass. The hole was created when the main runway of MacDill Air Force Base was lengthened into Tampa Bay. The USACE partially filled the hole in 2000 with material dredged from the Federal Channel during maintenance dredging operations. Based on a report by the TBEP, this area was determined to have high feasibility for use as a dredge material placement area due to its location and the possibility for easier and cheaper equipment mobilization, and its moderate cost effectiveness. However, the hole contains viable fish habitat and has become a fish refuge because the area has restricted access. Therefore, the TBEP did not recommend that this hole be filled, but did note that filling the hole would promote seagrass growth (TBEP 2005; USACE 2006b).

Figure 4. Gandy Channel North Dredge Hole



Figure 5. MacDill AFB Runway Extension

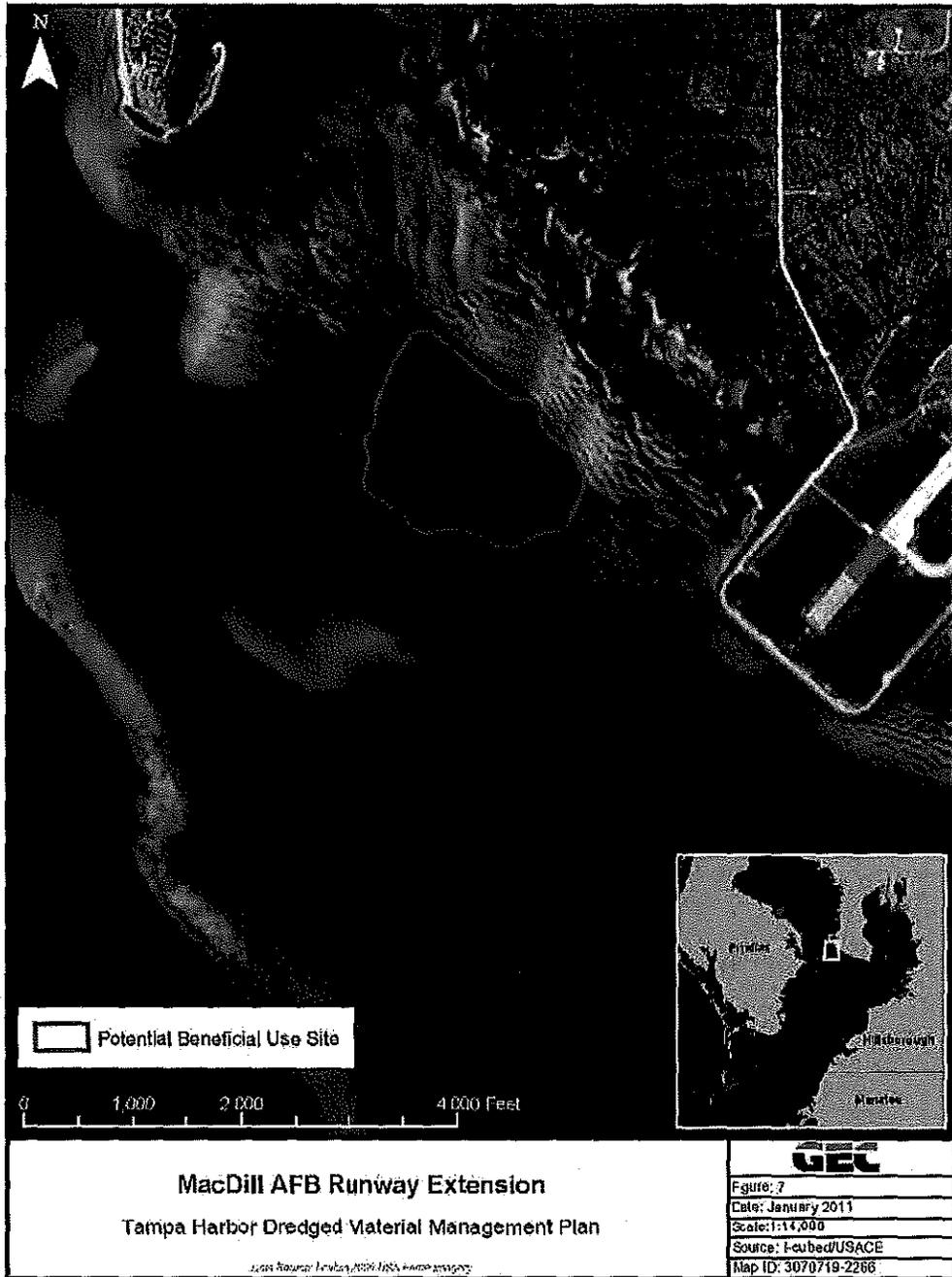
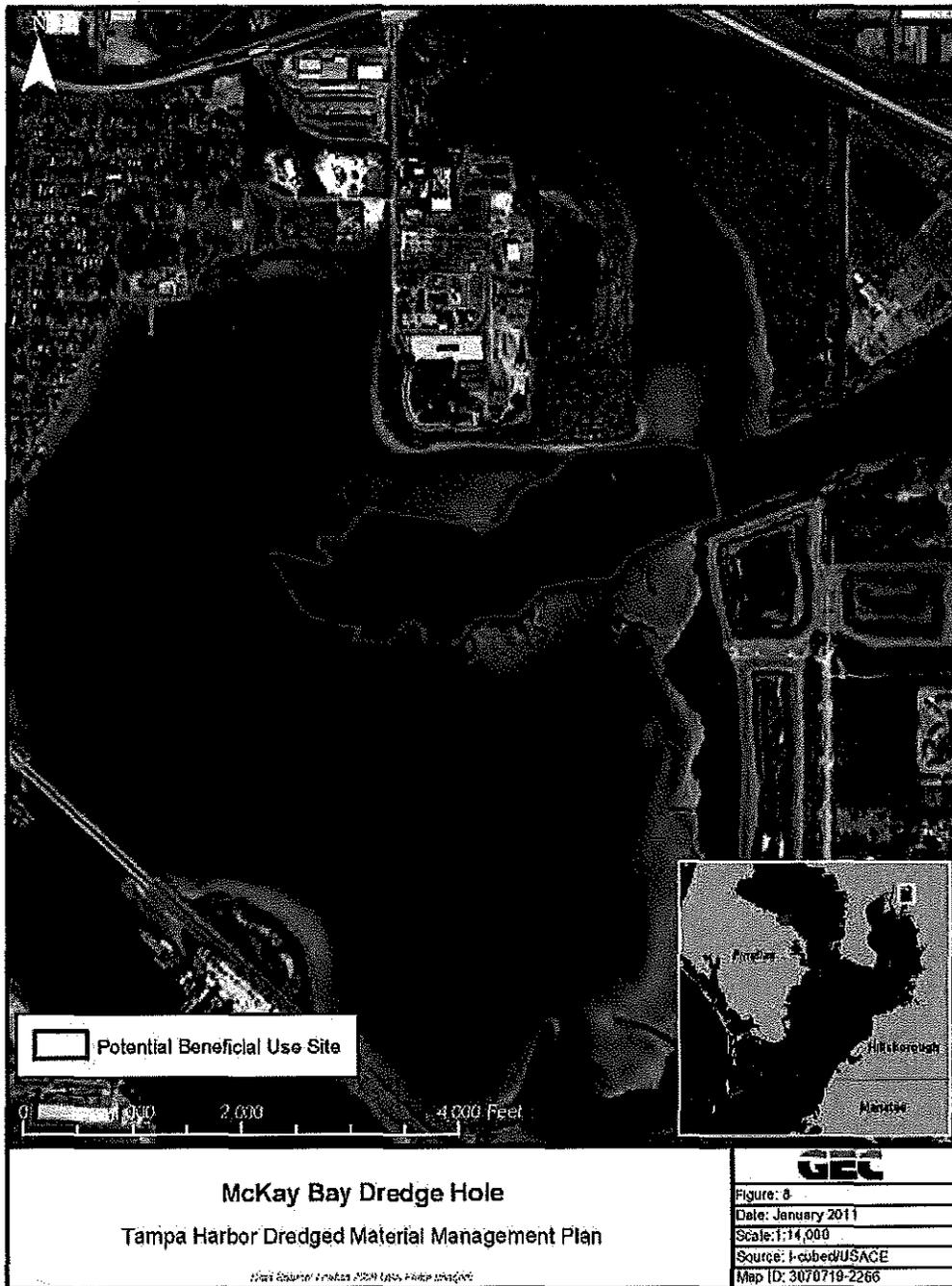


Figure 6. McKay Bay Dredge Hole



### McKay Bay Dredge Hole

The McKay Bay dredge hole in Hillsborough County is approximately 84.3 acres in area and 16.2 feet deep (Figure 6). The hole is owned by the TPA. The surrounding area is a two-foot-deep mud and sand flat habitat. The hole was created to allow equipment to pass at low tide during construction activities upstream of McKay Bay. In a 2005 report by the TBEP, this area was determined to be highly feasible for dredged material placement due to relatively easy and cheap equipment mobilization. In addition, it may be cost effective due to the large amount of fill required. However, nearby bridges may impede access to the site. The TBEP recommended that this hole be filled to the surrounding depth to promote seagrass growth and reduce hypoxia (TBEP 2005; USACE 2006b).

### Northshore Beach Dredge Hole

The Northshore Beach dredge hole in Pinellas County is approximately 30 acres in area and 17.7 feet deep (Figure 7). The hole is owned by the City of St. Petersburg and the State of Florida. The surrounding area is a 1.5-foot-deep sand flat with patchy seagrass and algae cover. This hole was created during the construction of the Northshore Park and recreational beach. The hole may be a public safety hazard for people wading offshore due to the rapid increase in water depth. In a 2005 report by the TBEP, this area was determined to be highly feasible for use as a dredged material placement site due to relatively easy and cheap equipment mobilization, and because it is moderately cost effective. The TBEP recommended that the hole be filled to the surrounding water depth to promote seagrass growth (TBEP 2005; USACE 2006b).

### Whiskey Stump Key 1 and 2 Dredged Hole

The Whiskey Stump Key holes are in Hillsborough County and are owned by the TPA (Figure 8). Whiskey Stump 1 dredge hole is approximately 21.6 acres in area and 11.4 feet deep. The surrounding area is a 1.5-foot-deep sand flat habitat. The Whiskey Stump 2 dredge hole is approximately 27.3 acres in area and 14.9 feet deep. The surrounding area is a two-foot-deep sand flat habitat with sparse patchy seagrass and algae coverage. These holes were created to serve as "settling areas" for excess spoil material from Port Redwing (Big Bend) dredge/fill activities that overtopped the berm in the "kitchen" area of Tampa Bay. The 2005 report by the TBEP determined that these areas had high feasibility for use as placement sites due to easier and cheaper equipment mobilization. They were also determined to be moderately cost effective. The TBEP considered filling these areas, but ultimately recommended not filling them since they are suitable fish habitat (TBEP 2005). However, filling the holes to the surrounding depth may promote seagrass growth and help to prevent hypoxia (USACE 2006b).

Figure 7. Northshore Beach Dredge Hole



Figure 8. Whiskey Stump Key 1 & 2 Dredge Holes



## Unpermitted Dredged Holes

In addition to the dredge holes previously permitted, consideration is given to the following dredged holes. These holes would require FDEP permitting prior to their use. These sites would benefit most from sandy materials, but they may also benefit from less suitable materials. Sand could be used to cap sub-optimal material. To provide the best opportunity for seagrass recruitment, all holes would be filled to the surrounding depths based on the availability of sufficient quantities of dredged materials.

### Big Island Cut Dredge Hole

The Big Island Cut hole is located in Pinellas County just north of the Howard Frankland Bridge Causeway (Figure 9). It has an area of approximately 46.3 acres and a depth of up to 20.7 feet. The surrounding area is approximately two feet deep and is a sand/mud flat with patchy seagrass and algae and a mangrove shoreline. The area is owned by the State of Florida. The hole was dredged to provide material for constructing the Howard Frankland Bridge Causeway and the 4th Street interchange. The feasibility of the USACE filling this area was considered to be low in the 2005 TBEP study due to its distance from the nearest channel, the need to transport equipment around two bridges, and the shallow water depths in the area. In addition, the TBEP recommended that the hole not be filled because of the fishery benefits the hole currently offers (TBEP 2005).

### Cypress Point Dredge Hole

The Cypress Point hole is located in Hillsborough County on the eastern shoreline of Old Tampa Bay just north of the Howard Frankland Bridge Causeway (Figure 10). It has an area of approximately 63.6 acres and a depth of up to 11.9 feet. The surrounding area includes a beach and a sand flat approximately 2.5 feet deep with patchy seagrass and algae. The area is owned by the TPA. The hole was dredged to provide material for constructing the Howard Frankland Bridge Causeway and the Westshore Mall. In the 2005 TBEP study, the feasibility of the USACE filling this area was considered to be low due to its distance from the nearest channel and the need to negotiate two bridges. However, the TBEP recommended partially filling this area to stabilize the shoreline and reduce erosion (TBEP 2005).

### Gadsden Point (2 Dredge Holes)

The Gadsden Point holes are located in Hillsborough County at the southeastern corner of the Interbay Peninsula adjacent to the MacDill AFB golf course (Figure 11). The two holes comprise 6.8 and 3.8 acres. The area around the southern hole contains patchy seagrass, while the eastern hole appears to be surrounded by sand flat. The area is managed by the U.S. Air Force. The holes were apparently dredged to provide fill for construction purposes at MacDill AFB. Jason Kirkpatrick, a contractor for the USAF, stated in an email message that the holes are at least partially responsible for much of the erosion that occurs at the southeastern corner of MacDill AFB. Due to the close proximity of the site to the Federal channel, the feasibility of the USACE filling the holes is considered to be moderate.

Figure 9. Big Island Cut Dredge Hole

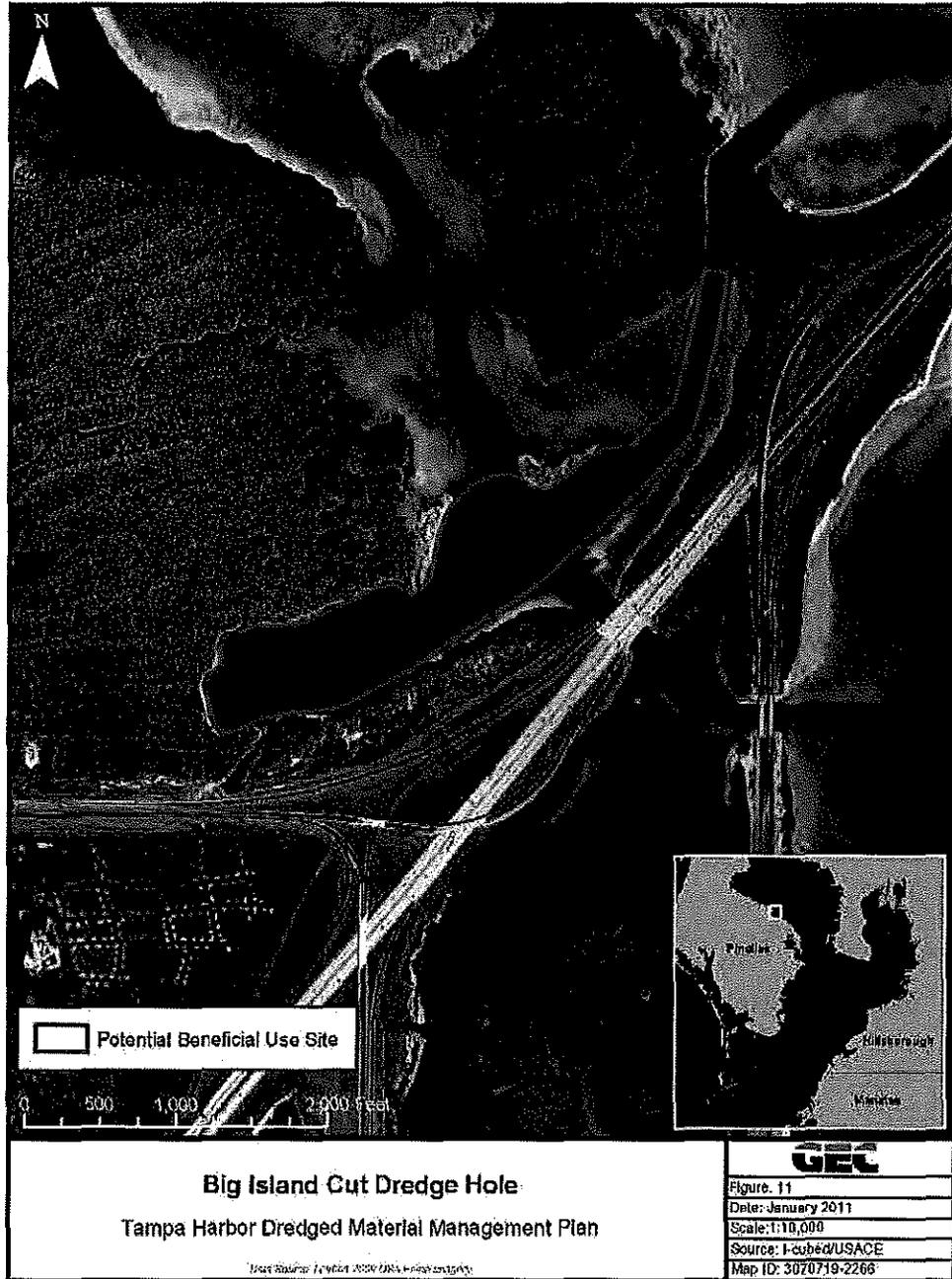


Figure 10. Cypress Point Dredge Hole

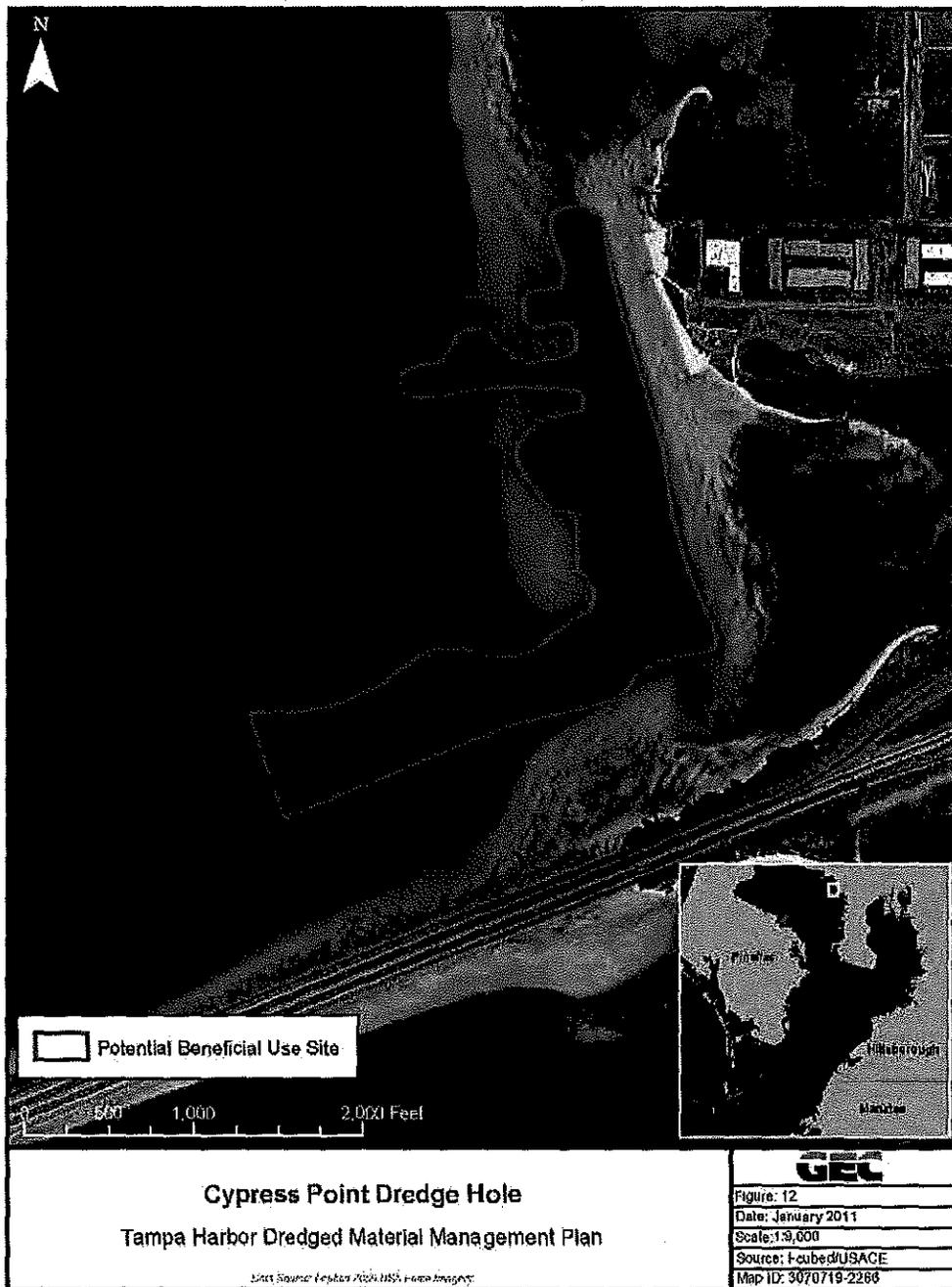
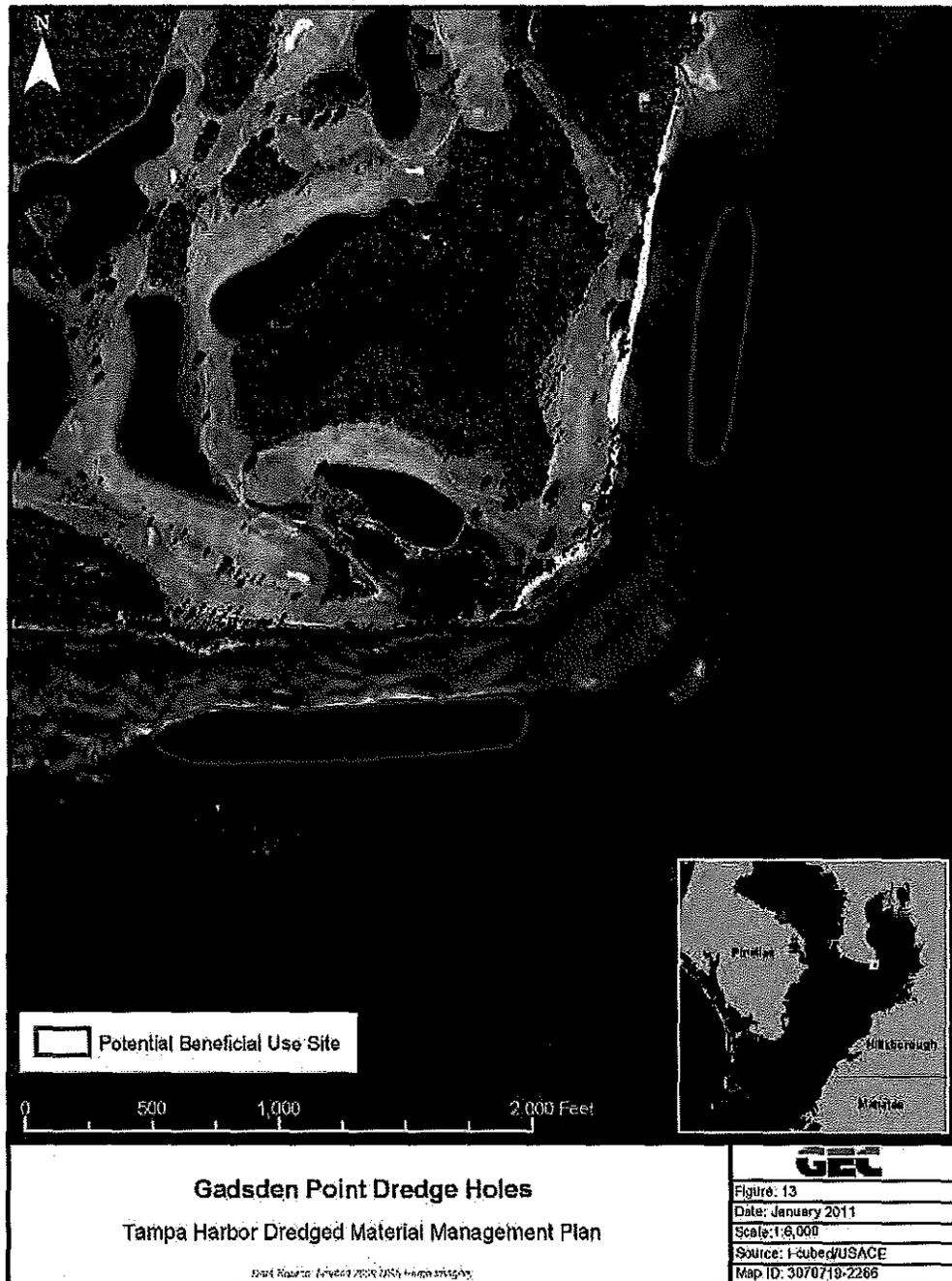


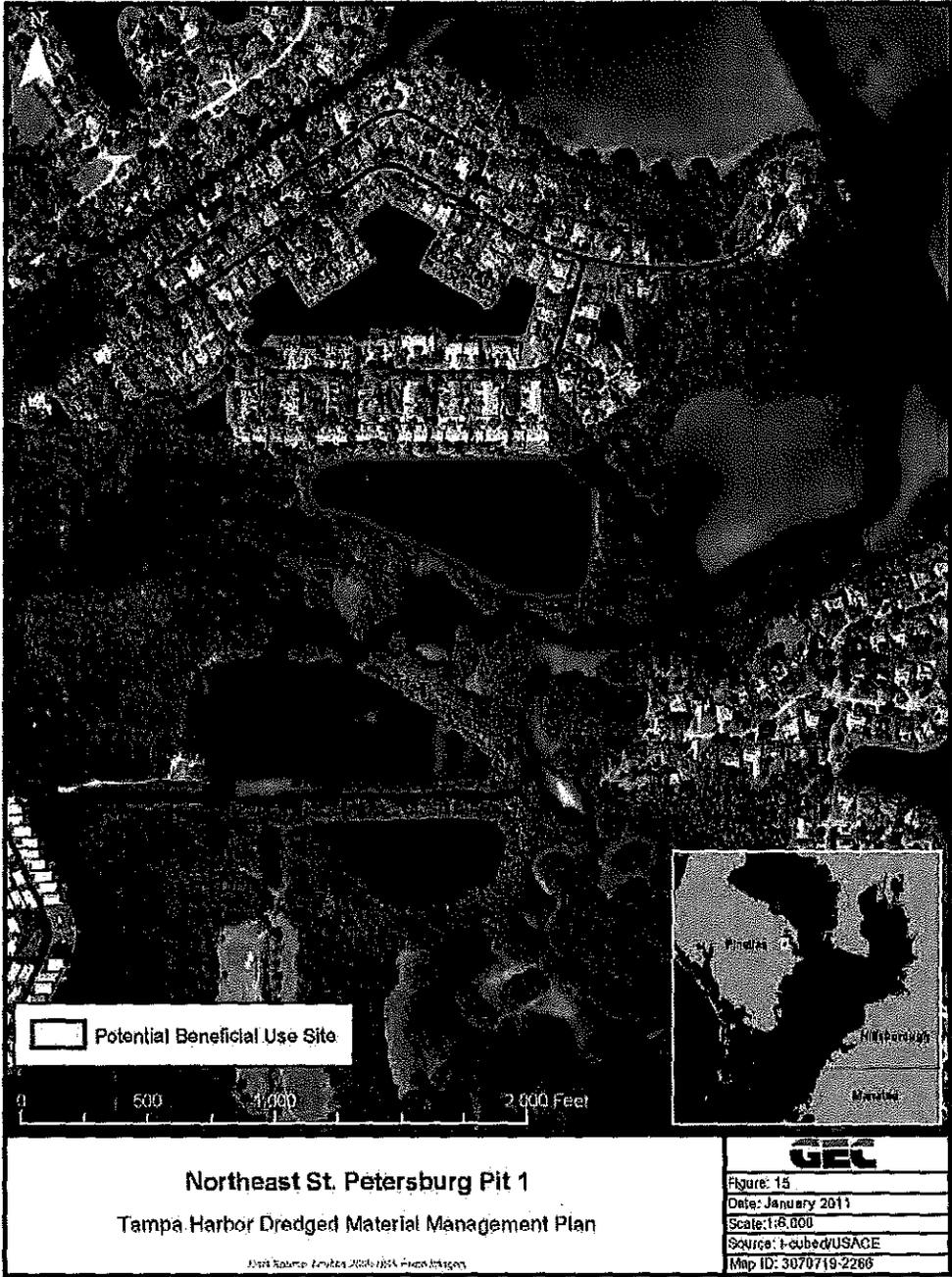
Figure 11. Gadsden Point Dredge Holes



## Northeast St. Petersburg Pit 1

The Northeast St. Petersburg Borrow Pit 1 is located in Pinellas County adjacent to the Pinellas County Aquatic Preserve in St. Petersburg (Figure 12). It has an area of approximately 9.5 acres and a depth of up to 24.4 feet. The surrounding area is approximately three feet deep. The area is owned by the City of St. Petersburg. The hole was dredged to provide fill material for constructing the Mangrove Bay Golf Course, a mobile home park, and residential areas. The feasibility of the USACE filling this area is considered high due to proximity to the nearest channel. The TBEP recommended partially filling this area to depths between -10 and +3 feet to address hypoxia problems (TBEP 2005).

Figure 12. Northeast St. Petersburg Pit 1



### Skyway Causeway South Dredge Hole

The Skyway Causeway South hole is located in Manatee County on the south side of the approach to the Bob Graham Sunshine Skyway Bridge (Figure 13). It has an area of approximately 13.7 acres. The surrounding area appears to be a sand/mud flat with continuous seagrass. The ownership of the site is unknown. The hole appears to have been dredged to construct the approach to the Skyway Causeway Bridge. Although the site is near to a channel, the likelihood of it receiving fill is likely low because the material would more likely be placed at the nearby Mullet Key and Egmont Key. Brandt Henningsen with the Southwest Florida Water Management District stated in a personal communication that the site may not be a good candidate to receive dredged material because a continuous seagrass bed is nearby and the site is apparently well flushed.

### St. Petersburg-Clearwater Airport East Dredge Hole

The St. Petersburg-Clearwater Airport East hole is located in Pinellas County in southwest Old Tampa Bay (Figure 14). It has an area of approximately 21 acres and a depth of up to 9.5 feet. The surrounding area is approximately 1.5 feet deep with a sand/mud flat and a mangrove/riprap shoreline. The area is owned by the State of Florida. The hole was dredged to provide fill material for extending the airport runway. The feasibility of the USACE filling this area is considered low due to distance from the nearest channel and the need to negotiate two bridges. The TBEP recommended not filling this area because of the fishery benefits the hole offers (TBEP 2005).

### Venetian Isles South Dredge Hole

The Venetian Isles hole is located in Pinellas County along the northwestern side of Tampa Bay (Figure 15). It has an area of approximately 3.2 acres. The surrounding area includes an adjacent navigation channel and a sand flat with patchy seagrass/algae. The site is owned by the Pinellas County Aquatic Preserve. The hole was apparently the source of fill for constructing the nearby residential area. The feasibility of the USACE filling the hole is high due to the proximity to the ship channel. Representatives of the TBEP have stated in email messages that the biological characteristics of the site are probably similar to the nearby Shore Acres Dredge Hole, and therefore it is probably not a good candidate for receiving fill. Additionally, the potential for impacts to the locally maintained channel with its aids to navigation around the site may create permitting problems.

Figure 13. Skyway Causeway South Hole



Figure 14. St. Petersburg/Clearwater Airport East

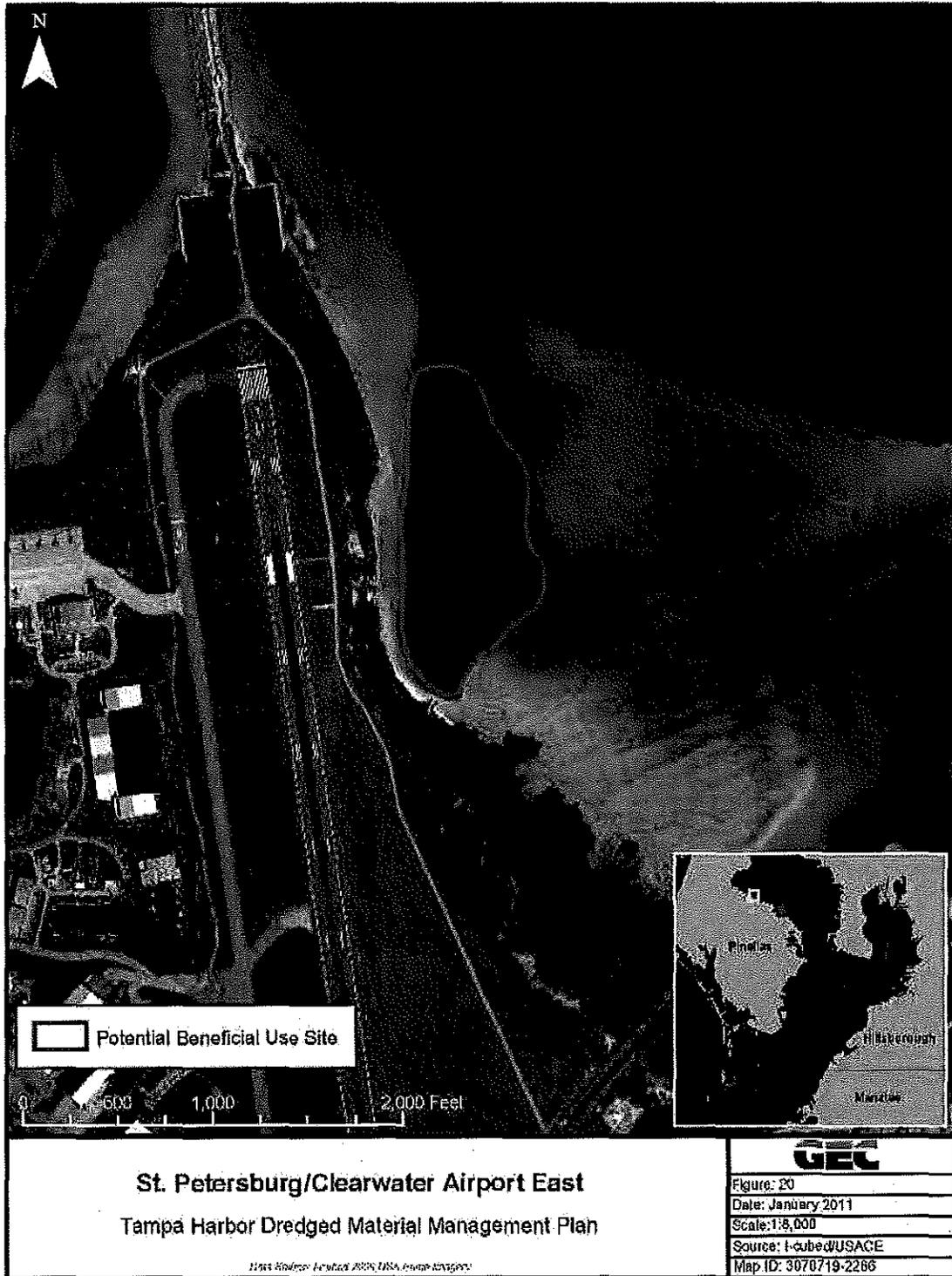


Figure 15. Venetian Isles South

