

AUGUST 2020

---

**ENVIRONMENTAL ASSESSMENT**

**BAL HARBOUR BEACH RENOURISHMENT**

**DADE COUNTY BEACH EROSION**

**CONTROL AND HURRICANE PROTECTION**

**PROJECT**

**MIAMI-DADE COUNTY, FLORIDA**



U.S. Army Corps of Engineers  
JACKSONVILLE DISTRICT

---



U.S. Army Corps of Engineers  
JACKSONVILLE DISTRICT

---

**FINDING OF NO SIGNIFICANT IMPACT**  
**ENVIRONMENTAL ASSESSMENT FOR**  
**BAL HARBOUR BEACH RENOURISHMENT**  
**DADE COUNTY BEACH EROSION CONTROL AND HURRICAN PROTECTION PROJECT**  
**MIAMI-DADE COUNTY, FLORIDA**

The U.S. Army Corps of Engineers, Jacksonville District (USACE) has prepared an environmental assessment (EA) in accordance with the National Environmental Policy Act of 1969, as amended (NEPA), dated August 2020, for renourishment of Bal Harbour Beach, Miami-Dade County, Florida, under the Dade County Beach Erosion Control and Hurricane Protection Project (BEC&HPP). This proposed FONSI and the accompanying EA evaluate the use of additional sand sources for renourishment of Bal Harbour Beach: dredged material from the Bakers Haulover Inlet (BHI) Channel, the BHI Flood Shoal, upland sand mine Garcia Family Farm, LLC in Hendry County (Garcia), and upland sand mine Cemex Construction Material Florida, LLC in Polk County (Cemex). Potential borrow area alternatives for the Bal Harbour Beach renourishment evaluated in other EAs/FONSIs, identified as “existing sources,” include Cut DA-9 of the Intracoastal Waterway (IWW), BHI ebb shoal, and upland mines in Glades, Polk, and Hendry Counties.

Bal Harbour Beach is included in the 10.5-mile Main Segment of the BEC&HPP for Dade County, Florida, authorized by Section 203 of the Flood Control Act of 1968 (Public Law 90-483) and as modified by Section 69 of the Water Resources Development Act of 1974 (Public Law 93-251). The Main Segment of the BEC&HPP extends from Government Cut in the south to Haulover Beach Park, just north of BHI. The BHI Channel was authorized by Section 101 of the Flood Control Act of 1960 (Public Law 86-645).

The USACE evaluated in detail the No Action Alternative and Preferred Alternative. The No Action Alternative consists of renourishment of Bal Harbour Beach using sand from existing sources. The Preferred Alternative consists of renourishment of Bal Harbour using sand from existing sources in addition to sand dredged from the BHI Channel and Flood Shoal as well as two additional upland sand mines, Garcia and Cemex.

Details on the final recommendation are contained in the EA and are incorporated herein by reference. The USACE took all practicable means to avoid and minimize adverse environmental effects to the maximum extent practicable into the Preferred Alternative and will implement the environmental commitments as detailed in the EA. The USACE remains committed to reviewing

new information as it becomes available, as well as considering the application of new information and applying lessons learned to future projects.

The Preferred Alternative is in compliance with Section 7 of the Endangered Species Act of 1973, as amended (ESA). To address potential effects from dredging to federally listed threatened and endangered species under the National Marine Fisheries Service (NMFS) jurisdiction, the project adheres to the NMFS' South Atlantic Regional Biological Opinion dated March 27, 2020 (SARBO). Additionally, the project also adheres to the Project Design Criteria (PDCs) under the SARBO. The SARBO covers this project's dredging, transportation of dredged material, and dredged material placement as well as activities such as relocation trawling and ESA-listed species handling and aerial surveys. The following types of dredges and dredging methods are covered by the SARBO: mechanical (e.g. clamshell and backhoe), hydraulic (e.g. cutterhead suction/pipeline dredging and hopper), side-cast/split hull, and agitation (e.g. bed leveling, water injection dredging) as well as dredging pipelines and support vessels. The use of equipment and/or methods not covered by the SARBO may require additional coordination and/or consultation with NMFS. The project will comply with all terms and conditions of the SARBO. For potential effects to federally listed threatened and endangered species under the U.S. Fish and Wildlife Service (USFWS) jurisdiction, the USACE requested concurrence from the USFWS on the USACE's "may affect, but not likely to adversely affect" (MANLAA) determinations. Consultation with USFWS was concluded on February 7, 2017, with USFWS noting the Corps' determination, proposed work, and protection and avoidance measures are consistent with the SPBO and Programmatic Piping Plover Biological Opinion (P<sup>3</sup>BO).

Pursuant to Section 401 of the Clean Water Act of 1972, as amended, (CWA), a water quality certification (WQC) is required for the beach placement of dredged material. Authorization for dredging and its associated placement will be coordinated and obtained from the state of Florida prior to construction.

Pursuant to Section 404 of the CWA, all discharges of dredged or fill material associated with the Preferred Alternative have been found to be compliant with the section 404(b)(1) Guidelines (40 C.F.R. 230). An updated CWA Section 404(b)(1) Guidelines Evaluation is included in Appendix B.

Pursuant to the Coastal Zone Management Act, the USACE prepared and submitted an updated Federal Consistency Determination (FCD) to the State of Florida for review and concurrence during the EA review and comment period. The USACE determined that the maintenance dredging and associated placement of dredged material is consistent with the enforceable polices of the Florida Coastal Management Program. The State of Florida concurred with the determination on June 2, 2020. Conditions imposed by the WQC will be implemented in order to minimize adverse effects to water quality. An updated FCD is included in Appendix C.

Pursuant to the Magnuson-Stevens Fishery Conservation and Management Act of 1976, as amended, the USACE prepared an Essential Fish Habitat (EFH) assessment in accordance with the January 22, 2019 guidance from the USACE and the October 2, 2018 EFH Finding between the

Southeast Regional Office of NMFS and the USACE, South Atlantic Division. The EFH Assessment for the project is integrated within this draft EA. The USACE initiated EFH consultation concurrent with the noticing of the draft EA. NMFS responded with a recommendation letter on May 3, 2020. The Corps coordinated a response letter with NMFS and provided the Corps' response, via email, on August 12, 2020. NMFS provided a final response on August 17, 2020 and concluded consultation.

Pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended, the USACE has determined that dredging of the BHI Flood Shoal and the BHI Channel and its associated dredged material placement on Bal Harbour Beach, poses no effect to historic properties eligible or potentially eligible for listing in the National Register of Historic places. Consultation with the Florida State Historic Preservation Office (SHPO) and appropriate federally recognized tribes was initiated on July 30, 2020. The SHPO responded on August 20, 2020, and concurred with the Corps' determination.

The USACE released the proposed Finding of No Significant Impact (FONSI), draft EA, and associated appendices for a 30-day public and agency review. A copy of the comments received, as well as a summary matrix of the comments and USACE' responses, will be included in Appendix F. All pertinent correspondence with Federal and state agencies is included in Appendix A.

The USACE considered all applicable laws, executive orders, and regulations in the evaluation of the alternatives. Based on this EA, previous 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 Preferred Alternative would not significantly affect the quality of the human environment and is not contrary to the public interest; therefore, preparation of an Environmental Impact Statement is not required.

---

Date

KELLY.ANDREW.D  
ONALD.JR.102551  
0875

Digitally signed by  
KELLY.ANDREW.DONALD.JR.1  
025510875  
Date: 2020.08.27 11:20:00 -04'00'

---

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

# TABLE OF CONTENTS

<b>1</b>	<b>PROJECT PURPOSE AND NEED .....</b>	<b>1-1</b>
1.1	PROJECT DESCRIPTION.....	1-1
1.2	PROJECT AUTHORITY.....	1-2
1.3	PROJECT LOCATION.....	1-3
1.4	PROJECT PURPOSE AND NEED.....	1-3
1.5	RELATED DOCUMENTS.....	1-4
1.5.1	DOCUMENTS THAT AFFECT THE ANALYSIS INCLUDED IN THIS EA.....	1-4
1.5.2	OTHER RELATED DOCUMENTS.....	1-6
1.6	DECISIONS TO BE MADE.....	1-6
1.7	SCOPING AND ISSUES .....	1-6
1.7.1	ISSUES EVALUATED IN DETAIL.....	1-6
1.8	WATER QUALITY CERTIFICATION AND COASTAL ZONE MANAGEMENT ACT (CZMA) FEDERAL CONSISTENCY DETERMINATION (FCD) CONCURRENCE .....	1-7
1.8.1	PUBLIC INTEREST FACTORS .....	1-7
<b>2</b>	<b>ALTERNATIVES .....</b>	<b>2-1</b>
2.1	DESCRIPTION OF ALTERNATIVES.....	2-1
2.1.1	NO ACTION ALTERNATIVE (STATUS QUO).....	2-1
2.1.2	ALTERNATIVE 1 (PREFERRED ALTERNATIVE): RENOURISHMENT OF BAL HARBOUR BEACH USING A COMBINATION OF EXISTING SAND SOURCES (IWW, BHI EBB SHOAL, AND ORTONA AND WITHERSPOON MINES) AND NEW SAND SOURCES (BHI CHANNEL, BHI FLOOD SHOAL, AND CEMEX AND GARCIA MINES).....	2-2
2.2	ISSUES AND BASIS FOR CHOICE .....	2-4
2.3	ALTERNATIVES ELIMINATED FROM DETAILED ANALYSIS .....	2-5
2.4	COMPARISON OF ALTERNATIVES.....	2-5
<b>3</b>	<b>AFFECTED ENVIRONMENT .....</b>	<b>3-1</b>
3.1	SOILS/SEDIMENT CHARACTERISTICS .....	3-1
3.1.1	DREDGED MATERIAL CHARACTERISTICS .....	3-1
3.2	THREATENED AND ENDANGERED SPECIES.....	3-1
3.2.1	SEA TURTLES.....	3-2
3.2.2	MARINE MAMMALS.....	3-5
3.2.3	SMALLTOOTH SAWFISH .....	3-8
3.2.4	PIPING PLOVER .....	3-9

3.2.5	RUFA RED KNOT .....	3-9
3.2.6	JOHNSON'S SEAGRASS.....	3-9
3.2.7	LISTED CORALS .....	3-11
<b>3.3</b>	<b>FISH AND WILDLIFE RESOURCES .....</b>	<b>3-12</b>
3.3.1	MARINE MAMMALS .....	3-12
3.3.2	FISH .....	3-12
3.3.3	SEAGRASS AND OTHER BENTHIC RESOURCES .....	3-13
3.3.4	BIRDS .....	3-20
<b>3.4</b>	<b>ESSENTIAL FISH HABITAT .....</b>	<b>3-20</b>
3.4.1	HABITAT TYPES .....	3-22
<b>3.5</b>	<b>COASTAL BARRIER RESOURCES .....</b>	<b>3-23</b>
<b>3.6</b>	<b>WATER QUALITY .....</b>	<b>3-24</b>
<b>3.7</b>	<b>HAZARDOUS, TOXIC AND RADIOACTIVE WASTE .....</b>	<b>3-25</b>
<b>3.8</b>	<b>AIR QUALITY .....</b>	<b>3-27</b>
<b>3.9</b>	<b>NOISE.....</b>	<b>3-27</b>
<b>3.10</b>	<b>AESTHETICS.....</b>	<b>3-28</b>
<b>3.11</b>	<b>RECREATION .....</b>	<b>3-29</b>
<b>3.12</b>	<b>SOCIOECONOMICS .....</b>	<b>3-29</b>
<b>3.13</b>	<b>NAVIGATION.....</b>	<b>3-29</b>
<b>3.14</b>	<b>CULTURAL RESOURCES.....</b>	<b>3-29</b>
3.14.1	PREVIOUS CULTURAL RESOURCE INVESTIGATIONS .....	3-33
<b>3.15</b>	<b>NATIVE AMERICANS.....</b>	<b>3-33</b>
<b>3.16</b>	<b>VEGETATION .....</b>	<b>3-33</b>
<b>3.17</b>	<b>INVASIVE SPECIES.....</b>	<b>3-34</b>
<b>4</b>	<b>ENVIRONMENTAL EFFECTS .....</b>	<b>4-1</b>
<b>4.1</b>	<b>SOILS/SEDIMENT CHARACTERISTICS .....</b>	<b>4-2</b>
4.1.1	NO ACTION ALTERNATIVE (STATUS QUO).....	4-2
4.1.2	PREFERRED ALTERNATIVE .....	4-2
<b>4.2</b>	<b>THREATENED AND ENDANGERED SPECIES.....</b>	<b>4-2</b>
4.2.1	NO ACTION ALTERNATIVE (STATUS QUO).....	4-2
4.2.2	PREFERRED ALTERNATIVE .....	4-3
<b>4.3</b>	<b>FISH AND WILDLIFE RESOURCES .....</b>	<b>4-5</b>
4.3.1	NO ACTION ALTERNATIVE (STATUS QUO).....	4-5
4.3.2	PREFERRED ALTERNATIVE .....	4-5

<b>4.4</b>	<b>ESSENTIAL FISH HABITAT ASSESSMENT .....</b>	<b>4-6</b>
4.4.1	NO ACTION ALTERNATIVE (STATUS QUO).....	4-7
4.4.2	PREFERRED ALTERNATIVE .....	4-7
<b>4.5</b>	<b>COASTAL BARRIER RESOURCES .....</b>	<b>4-7</b>
4.5.1	NO ACTION ALTERNATIVE (STATUS QUO).....	4-8
4.5.2	PREFERRED ALTERNATIVE .....	4-8
<b>4.6</b>	<b>WATER QUALITY .....</b>	<b>4-8</b>
4.6.1	NO ACTION ALTERNATIVE (STATUS QUO).....	4-8
4.6.2	PREFERRED ALTERNATIVE .....	4-8
<b>4.7</b>	<b>HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE .....</b>	<b>4-8</b>
4.7.1	NO ACTION ALTERNATIVE (STATUS QUO).....	4-8
4.7.2	PREFERRED ALTERNATIVE .....	4-9
<b>4.8</b>	<b>AIR QUALITY .....</b>	<b>4-9</b>
4.8.1	NO ACTION ALTERNATIVE (STATUS QUO).....	4-9
4.8.2	PREFERRED ALTERNATIVE .....	4-9
<b>4.9</b>	<b>NOISE.....</b>	<b>4-10</b>
4.9.1	NO ACTION ALTERNATIVE (STATUS QUO).....	4-10
4.9.2	PREFERRED ALTERNATIVE .....	4-10
<b>4.10</b>	<b>AESTHETICS.....</b>	<b>4-11</b>
4.10.1	NO ACTION ALTERNATIVE (STATUS QUO).....	4-11
4.10.2	PREFERRED ALTERNATIVE .....	4-12
<b>4.11</b>	<b>RECREATION .....</b>	<b>4-12</b>
4.11.1	NO ACTION ALTERNATIVE (STATUS QUO).....	4-12
4.11.2	PREFERRED ALTERNATIVE .....	4-12
<b>4.12</b>	<b>SOCIOECONOMICS .....</b>	<b>4-12</b>
4.12.1	NO ACTION ALTERNATIVE (STATUS QUO).....	4-13
4.12.2	PREFERRED ALTERNATIVE .....	4-13
<b>4.13</b>	<b>NAVIGATION.....</b>	<b>4-13</b>
4.13.1	NO ACTION ALTERNATIVE (STATUS QUO).....	4-13
4.13.2	PREFERRED ALTERNATIVE .....	4-13
<b>4.14</b>	<b>CULTURAL RESOURCES.....</b>	<b>4-14</b>
4.14.1	NO ACTION ALTERNATIVE (STATUS QUO).....	4-14
4.14.2	PREFERRED ALTERNATIVE .....	4-14
<b>4.15</b>	<b>NATIVE AMERICANS.....</b>	<b>4-14</b>
4.15.1	NO ACTION ALTERNATIVE (STATUS QUO).....	4-15
4.15.2	PREFERRED ALTERNATIVE .....	4-15
<b>4.16</b>	<b>VEGETATION .....</b>	<b>4-15</b>
4.16.1	NO ACTION ALTERNATIVE (STATUS QUO).....	4-15
4.16.2	PREFERRED ALTERNATIVE .....	4-15
<b>4.17</b>	<b>INVASIVE SPECIES.....</b>	<b>4-15</b>
4.17.1	NO ACTION ALTERNATIVE (STATUS QUO).....	4-15
4.17.2	PREFERRED ALTERNATIVE .....	4-15
<b>4.18</b>	<b>CUMULATIVE IMPACTS.....</b>	<b>4-15</b>

<b>4.19</b>	<b>IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES</b> .....	<b>4-22</b>
4.19.1	IRREVERSIBLE.....	4-22
4.19.2	IRRETRIEVABLE.....	4-22
<b>5</b>	<b>PUBLIC AND AGENCY COORDINATION</b> .....	<b>5-1</b>
<b>5.1</b>	<b>SCOPING PERIOD</b> .....	<b>5-1</b>
5.1.1	SCOPING COMMENTS.....	5-1
<b>5.2</b>	<b>DRAFT ENVIRONMENTAL ASSESSMENT NEPA REVIEW PERIOD</b> .....	<b>5-1</b>
5.2.1	DRAFT ENVIRONMENTAL ASSESSMENT REVIEW: COMMENTS RECEIVED AND USACE RESPONSES .....	5-1
<b>6</b>	<b>ENVIRONMENTAL COMMITMENTS AND COMPLIANCE</b> .....	<b>6-1</b>
<b>6.1</b>	<b>ENVIRONMENTAL COMMITMENTS</b> .....	<b>6-1</b>
<b>6.2</b>	<b>COASTAL ZONE MANAGEMENT ACT OF 1972 (16 UNITED STATES CODE (U.S.C.) §1451 ET SEQ)</b> .....	<b>6-3</b>
<b>6.3</b>	<b>NATIONAL ENVIRONMENTAL POLICY ACT OF 1969 (42 U.S.C. §4321 ET SEQ)</b> .....	<b>6-4</b>
<b>6.4</b>	<b>COASTAL BARRIER RESOURCES ACT AND COASTAL BARRIER IMPROVEMENT ACT OF 1990 (16 U.S.C. §3501 ET SEQ)</b> .....	<b>6-4</b>
<b>6.5</b>	<b>CLEAN AIR ACT OF 1970, AS AMENDED (42 U.S.C. §7401 ET SEQ)</b> .....	<b>6-5</b>
<b>6.6</b>	<b>CLEAN WATER ACT OF 1972, AS AMENDED (33 U.S.C. §1251 <i>ET SEQ.</i>)</b> .....	<b>6-5</b>
<b>6.7</b>	<b>RIVERS AND HARBORS APPROPRIATION ACT OF 1899, AS AMENDED (43 U.S.C. §401 ET SEQ)</b> .....	<b>6-6</b>
<b>6.8</b>	<b>SUBMERGED LANDS ACT OF 1953 (43 U.S.C. §1301 ET SEQ)</b> .....	<b>6-6</b>
<b>6.9</b>	<b>FEDERAL WATER PROJECT RECREATION ACT OF 1965, AS AMENDED (16 U.S.C. §460L <i>ET SEQ.</i>)</b> .....	<b>6-6</b>
<b>6.10</b>	<b>MAGNUSON-STEVENSON FISHERY CONSERVATION AND MANAGEMENT ACT OF 1976 (16 U.S.C. §1801 ET SEQ)</b> .....	<b>6-6</b>
<b>6.11</b>	<b>ENDANGERED SPECIES ACT OF 1973 (16 U.S.C. §1531 TO §1544)</b> .....	<b>6-7</b>
<b>6.12</b>	<b>MARINE MAMMAL PROTECTION ACT OF 1972 (16 U.S.C. §1361 ET SEQ)</b> .....	<b>6-9</b>
<b>6.13</b>	<b>FARMLAND PROTECTION POLICY ACT OF 1981 (7 U.S.C. 4201, <i>ET SEQ.</i>)</b> .....	<b>6-10</b>
<b>6.14</b>	<b>FISH AND WILDLIFE COORDINATION ACT OF 1958, AS AMENDED (16 U.S.C. §661 ET SEQ)</b>	<b>6-10</b>
<b>6.15</b>	<b>NATIONAL HISTORIC PRESERVATION ACT OF 1966 (16 U.S.C. §461 ET SEQ)</b> .....	<b>6-10</b>
<b>6.16</b>	<b>ESTUARY PROTECTION ACT OF 1968 (16 U.S.C. §1221 ET SEQ)</b> .....	<b>6-11</b>

6.17	WILD AND SCENIC RIVER ACT OF 1968 (16 U.S.C. §1271 ET SEQ) .....	6-11
6.18	ANADROMOUS FISH CONSERVATION ACT OF 1965, AS AMENDED (16 U.S.C. §757A ET SEQ) 6-11	
6.19	MARINE PROTECTION, RESEARCH, AND SANCTUARIES ACT OF 1972 (16 U.S.C. §1361 ET SEQ AND 33 U.S.C. §1401 ET SEQ) .....	6-12
6.20	MIGRATORY BIRD TREATY ACT OF 1918 AND MIGRATORY BIRD CONSERVATION ACT OF 1929 (16 U.S.C. §703 ET SEQ) .....	6-12
6.21	BALD AND GOLDEN EAGLE PROTECTION ACT OF 1940, AS AMENDED (16 U.S.C. §668 ET SEQ) .....	6-12
6.22	UNIFORM RELOCATION ASSISTANCE AND REAL PROPERTY ACQUISITION POLICIES ACT OF 1970 (42 U.S.C. §4601 ET SEQ) .....	6-13
6.23	E.O. 11988, FLOOD PLAIN MANAGEMENT .....	6-13
6.24	E.O. 11990, PROTECTION OF WETLANDS .....	6-14
6.25	E.O. 12898, ENVIRONMENTAL JUSTICE .....	6-14
6.26	E.O. 13045, PROTECTION OF CHILDREN FROM ENVIRONMENTAL HEALTH RISKS AND SAFETY RISKS .....	6-17
6.27	E.O. 13089, CORAL REEF PROTECTION .....	6-17
6.28	E.O. 13112, INVASIVE SPECIES .....	6-18
6.29	E.O. 13186, RESPONSIBILITIES OF FEDERAL AGENCIES TO PROTECT MIGRATORY BIRDS 6-18	
<b>7</b>	<b>LIST OF PREPARERS .....</b>	<b>7-19</b>
7.1	PREPARERS .....	7-19
7.2	REVIEWERS .....	7-19
<b>8</b>	<b>ACRONYM LIST .....</b>	<b>8-1</b>
<b>9</b>	<b>REFERENCES .....</b>	<b>9-1</b>

**Applicability of the Coastal Zone Management Act. The following table summarizes the process and procedures under the Coastal Zone Management Act for federal actions and for non-federal applicants\* .....** 1

## APPENDICES

### APPENDIX A – PERTINENT CORRESPONDENCE

### APPENDIX B – CLEAN WATER ACT (CWA) SECTION 404(b)(1) GUIDELINES EVALUATION

### APPENDIX C – COASTAL ZONE MANAGEMENT ACT (CZMA) FEDERAL CONSISTENCY DETERMINATION (FCD)

### APPENDIX D – NATURAL RESOURCE REPORTS

### APPENDIX E – STATE OF FLORIDA QUITCLAIM DEED TO DADE COUNTY FOR FLOOD SHOAL IN 1998

### APPENDIX F – PUBLIC AND AGENCY PROJECT COMMENTS AND USACE RESPONSES

## LIST OF FIGURES

Figure 1-1: Bal Harbour Beach and Potential Renourishment Sources, in Addition to Upland Mines.....	1-2
Figure 3-1: Loggerhead Turtle Critical Habitat for Breeding.....	3-3
Figure 3-2: Manatee Critical Habitat .....	3-6
Figure 3-3: Manatee Carcass Recovery near the Project Area .....	3-8
Figure 3-4: Johnson’s Seagrass Critical Habitat .....	3-10
Figure 3-5: Acropora (Elkhorn and Staghorn Coral) Critical Habitat.....	3-12
Figure 3-6: Benthic Survey Area October 2019 .....	3-13
Figure 3-7: Benthic Habitat Map of the 2019 Project Survey Area.....	3-15
Figure 3-8: Seagrass and Other Benthic Resources near Flood Shoal, 2018 .....	3-16
Figure 3-9: Seagrass Density and Locations of Observed <i>H. johnsonii</i> , 2019 .....	3-18
Figure 3-10: CBRA Unit FL-21P – Haulover County Park and Surrounding Area.....	3-23
Figure 3-11: Biscayne Bay Aquatic Preserve, an Outstanding Florida Water .....	3-25
Figure 3-12: FDEP Cleanup Sites .....	3-26
Figure 3-13: Portion of Oleta River State Park near Project Area.....	3-29
Figure 6-1: User-Defined Project Area Used for Environmental Justice Analysis .....	6-16

## LIST OF TABLES

Table 1-1: History of Bal Harbour Nourishments, Dade County BEC&HPP .....	1-4
Table 2-1: Summary of Direct and Indirect Impacts .....	2-6
Table 3-1: Protected Species Potentially Found in the Project Area .....	3-1
Table 3-2: Miami-Dade County Turtle Nest Counts 2014-2018.....	3-5

Table 3-3: Total Number of Sampling Sites by 2019 Survey Zone .....3-14

Table 3-4: Percentage of Total Ground Truth Points by Habitat Type within Each Zone in 2019 .....3-14

Table 3-5: Percentage of Habitat Type Comprising the 2019 Survey Area as Determined from GIS .....3-15

Table 3-6: Average Percent Cover by Substrate (non-living) and Major Functional Group in Hardbottom Habitat 3-19

Table 3-7: Representative Categories of EFH and EFH-HAPC within the Range of the Proposed Project Area .....3-21

Table 4-1: Summary of Past, Present, and Reasonably Foreseeable Actions and Plans Affecting the Project Area 4-18

Table 4-2: Summary of Cumulative Impacts.....4-19

Table 6-1: USEPA EJSCEEN Environmental Justice Criteria Percentages .....6-16

**DRAFT ENVIRONMENTAL ASSESSMENT  
BAL HARBOUR BEACH RENOURISHMENT  
MIAMI-DADE COUNTY, FLORIDA**

**1 PROJECT PURPOSE AND NEED**

**1.1 PROJECT DESCRIPTION**

The Federal action evaluated in this document is the Bal Harbour Project (“Project”), within the Congressionally authorized project, consistent with the Council on Environmental Quality (CEQ) regulations that define Federal actions to include those actions “subject to Federal control and responsibility” (40 CFR 1508.18). The U.S. Army Corps of Engineers, Jacksonville District (USACE) proposes to continue to periodically conduct beach renourishment of the Bal Harbour Beach segment of the Miami-Dade County Beach Erosion Control and Hurricane Protection Project (BEC&HPP) by placing approximately 250,000 cubic yards of beach quality sand along Bal Harbour Beach shoreline. The non-federal sponsor (NFS) for this project is Miami-Dade County. Potential borrow area alternatives considered in this Environmental Assessment (EA) include Cut DA-9 of the Intracoastal Waterway (IWW), Bakers Haulover Inlet (BHI) Channel, BHI ebb shoal, BHI Flood Shoal, and upland mines in Glades, Polk, and Hendry Counties (Figure 1-1).



Figure 1-1. Bal Harbour Beach and Potential Renourishment Sources, in Addition to Upland Mines.

## 1.2 PROJECT AUTHORITY

Bal Harbour Beach is included in the 10.5-mile Main Segment of the BEC&HPP for Dade County, Florida, authorized by Section 203 of the Flood Control Act of 1968 (Public Law 90-483) and as modified by Section 69 of the Water Resources Development Act of 1974 (Public Law 93-251). The Main Segment of the BEC&HPP extends from Government Cut in the south to Haulover Beach Park, just north of BHI.

USACE is the Federal agency responsible for maintaining the authorized project width and depth for the IWW. The IWW from Jacksonville to Miami was originally authorized to a depth of 8 feet (ft) “mean low water” and a typical width of 75 ft, by the Flood Control Act of 1927. Cut DA-9

currently has a typical width of 125 ft with an authorized depth of 10 ft mean lower low water (MLLW) (USACE 2019b). The BHI Channel was authorized by Section 101 of the Flood Control Act of 1960 (Public Law 86-645). The BHI Channel, comprised of four cuts, is highly variable in width, with a minimum width of 100 ft, and an authorized depth of 8 ft MLLW (USACE 2019b). Both channels have an allowable 2 ft overdepth for maintenance dredging (USACE 2019c).

### **1.3 PROJECT LOCATION**

The USACE is proposing to place sand on Bal Harbour Beach from the Florida Department of Environmental Protection (FDEP) State monuments R-27 to R-31+500 (Figure 1-1). In-water sand source options considered by the USACE include sand from the BHI Flood and ebb shoals, and sand from maintenance dredging of the IWW and the BHI Channel in the vicinity of Bal Harbour Beach (area in Figure 1-1). Upland borrow sites may include Ortona (Glades County), Witherspoon (Glades County), Cemex Construction Material Florida, LLC (Cemex) (Polk County), and Garcia Family Farm, LLC (Garcia) (Hendry County) sand mines. All of these options will be considered for the Project.

As shown in Figure 1-1, the BHI Flood Shoal encroaches on the IWW and the BHI Channel. Dredging of the flood shoal may result in decreased frequency of channel maintenance dredging.

### **1.4 PROJECT PURPOSE AND NEED**

Purposes of beach renourishment at Bal Harbour Beach include:

- Coastal storm risk management
- Beach erosion control
- Hurricane surge protection

Beach renourishment benefits include:

- Protection of infrastructure
- Preservation of the environment for wildlife
- Economic support
- Recreational value
- Coastal resiliency

The need for beach renourishment is driven by the loss of sand on the beach. As shown in Table 1-1, Bal Harbour Beach, like many Florida beaches, undergoes on-going erosion from natural beach processes and requires continued nourishment.

**Table 1-1: History of Bal Harbour Nourishments, Dade County BEC&HPP**

Year	Volume, 1,000 cubic yards	Navigational Beneficial Re-use	Sand Source
1975	1,600	No	Offshore
1990	225	No	Offshore
1998	238	Yes	BHI Channel, Flood Shoal, IWW
2003	188	Indirectly	BHI ebb shoal
2007	30	Yes	IWW
2009	15	No	Upland source (Ortona mine)
2010	33	Yes	IWW
2014	236	Indirectly	BHI ebb shoal
2017	30	Yes	IWW

In addition, maintenance dredging (a partial source for the beach sand) is needed in portions of the IWW and BHI Channel. The need for the channel dredging is driven by the accumulation of sediment, commonly referred to as shoaling, which has restricted the width of portions of the channel and results in reduced depth. Shoaling occurs from the natural, relatively slow processes of sediment transport associated with tidal action, gravity, and wind. Shoaling can also occur unpredictably and suddenly as a result of storms, especially hurricanes. The accumulation of sediment hinders safe and efficient vessel navigation. Thus, periodic maintenance dredging is required to remove the accumulated sediments and maintain the IWW and BHI at their Federally authorized depths and widths.

## **1.5 RELATED DOCUMENTS**

### **1.5.1 Documents That Affect the Analysis Included in This EA**

The environmental effects of most of the activities included in the proposed action have been evaluated in recent NEPA documents (within the past four years) as summarized below. Beach placement and the use of IWW Cut DA-9, BHI ebb shoal, and Ortona and Witherspoon upland sand mines have been previously evaluated and all of which have resulted in Findings of No Significant Impact (FONSIs).

The following documents included the evaluation of beach renourishment for the entire Miami-Dade County BEC&HPP. These documents also evaluated Bakers Haulover Inlet ebb shoal and the Glades County upland mines Ortona and Witherspoon as alternative sand sources.

- Dade County, Florida Beach Erosion Control and Hurricane Protection Project, Limited Reevaluation Report (LRR), U.S. Army Corps of Engineers Jacksonville District, March 2016.\*

- Environmental Assessment, Identification of Alternative Sand Sources for the Remaining Period of Federal Participation, Dade County Beach Erosion Control and Hurricane Protection Project, Miami-Dade County, Florida, U.S. Army Corps of Engineers Jacksonville District and Bureau of Ocean Energy Management. March 2016.\*
- Finding of No Significant Impact, Beach Erosion Control and Hurricane Protection Project, Contract J, Miami-Dade County, Florida. U.S. Army Corps of Engineers Jacksonville District, March 2016.\*

The following documents included the evaluation of environmental effects of maintenance dredging of IWW Cut DA-9, with use of the dredged material as a sand source for Bal Harbour Beach renourishment:

- Environmental Assessment, Continued Operations and Maintenance Dredging, Placement of Dredged Material on Dade County Beach Erosion Control Project, Intracoastal Waterway, Cut DA-9 at Bakers Haulover Inlet, Miami-Dade County, Florida. U.S. Army Corps of Engineers Jacksonville District, August 2017.\*
- Finding of No Significant Impact, Operations and Maintenance Dredging, Placement of Dredge Material on Dade County Beach Erosion Control Project, Bakers Haulover Inlet, Miami-Dade County, Florida. U.S. Army Corps of Engineers Jacksonville District, August 2017.\*

The Corps' Regulatory Division completed EAs for the Garcia and Cemex upland sand mines in response to an application by Garcia Family Farm, LLC in 2019 and in response to a modification application by Cemex in 2011. The RD NEPA documents referenced for the mines include:

- Garcia Mine - Department of Army Permit SAJ 2018-00396-SP-MGH (12 August 2019)
- Cemex Mine - Department of Army Permit - SAJ-1995-5082 (MOD-MGH) (4 February 2009) and Department of Army Permit - SAJ-1995-5082 (MOD-MGH) (23 February 2011)

Additionally, the following water quality certifications (WQCs) were issued for the Garcia and Cemex mines. The WQCs were coordinated with the Florida Department of Environmental Protection and South Florida Water Management District:

- Garcia Mine in Hendry County: 0365067-001 (13 August 2019) and ERP 0148849-006 (2009)
- Cemex Mine in Polk County: ERP 0148849-008 (28 September 2011) and ERP 0148849-012 (17 February 2016).

All the above documents are incorporated by reference into this EA. Where applicable, updated information relevant to these incorporated EAs has been added. Only the areas of the proposed action not previously analyzed and covered by previous FONSIs are analyzed in this EA.

\*Documents denoted with an asterisk are available on the USACE’s environmental website, under Dade County, at the following link:

<http://www.saj.usace.army.mil/About/Divisions-Offices/Planning/Environmental-Branch/Environmental-Documents/>

(On that page, click on the “+” next to “Dade” and scroll down to the project name.) Other documents listed here are available by request.

### **1.5.2 Other Related Documents**

The USACE March 2016 EA for identification of alternative sand sources (listed above) includes a comprehensive listing of documents related to the Miami-Dade County BEC&HPP.

## **1.6 DECISIONS TO BE MADE**

The primary purpose of this EA is to evaluate alternatives for sand sources that have not been evaluated in recent assessments for the Miami-Dade County BEC&HPP, specifically the BHI Channel, BHI Flood Shoal, and upland mines: Cemex and Garcia. The decision to be made upon completion of this EA is whether the environmental effects from the activities not included in recent EAs and FONSIs related to the proposed Bal Harbour Project would result in significant environmental effects on the natural and human environment. The need for mitigation measures or best management practices (BMPs) to reduce any potentially adverse effects, particularly in regard to associated activities of the Preferred Alternative, is also a decision to be made by the USACE based upon the analysis contained within this EA.

## **1.7 SCOPING AND ISSUES**

The USACE held two scoping meetings to present information about and solicit public and agency comments on the Bal Harbour Project. Both scoping meetings were held on November 20<sup>th</sup>, 2019 in Aventura, Florida at the Northeast Dade Aventura Library at 2939 Northeast 199<sup>th</sup> Street. Input received by the public and agencies during the scoping process helped inform the USACE on the various issues to be evaluated in this EA. Please refer to Section 5, Public and Agency Coordination, for additional information on public outreach and involvement efforts.

### **1.7.1 Issues Evaluated in Detail**

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

- Soils/Sediment Characteristics
- Threatened and Endangered Species

- Fish and Wildlife Resources
- Essential Fish Habitat (EFH)
- Coastal Barrier Resources
- Water Quality
- Hazardous, Toxic and Radioactive Waste (HTRW)
- Air Quality
- Noise
- Aesthetics
- Recreation
- Navigation
- Cultural Resources
- Native Americans
- Invasive Species

No issues were identified for elimination from further analysis.

## **1.8 WATER QUALITY CERTIFICATION AND COASTAL ZONE MANAGEMENT ACT (CZMA) FEDERAL CONSISTENCY DETERMINATION (FCD) CONCURRENCE**

Pursuant to Section 401 of the Clean Water Act of 1972, as amended, (CWA), a water quality certification (WQC) is required for the beach placement of dredged material. Authorization for dredging and its associated placement would be coordinated and obtained from the state of Florida prior to construction.

Pursuant to Section 404 of the CWA, all discharges of dredged or fill material associated with the Preferred Alternative have been found to be compliant with the section 404(b)(1) Guidelines (40 Code of Federal Regulations [CFR] 230). The project’s CWA Section 404(b)(1) Guidelines Evaluation is included in Appendix B.

Pursuant to the Coastal Zone Management Act (CZMA), the USACE prepared and submitted a Federal Consistency Determination (FCD) to the state of Florida for review and concurrence during this EA’s review and comment period (Appendix C). The USACE determined that the proposed project is consistent with the enforceable policies of the Florida Coastal Management Program. The State concurred with USACE’s CZMA determination on June 2, 2020. The project’s FCD and pertinent correspondence is included in Appendix C.

### **1.8.1 Public Interest Factors**

While USACE does not process and issue permits for its own activities, pursuant to 33 CFR § 320.4, USACE meets all applicable substantive legal requirements, including public notice and opportunity for public hearing, where its activities result in regulated discharges. As part of its review, the USACE evaluates the probable effects, including cumulative impacts, of the proposed

activity and its intended use on the public interest. All factors that may be relevant to the proposed action must be considered, including the cumulative effects thereof. These factors may include:

- Economics
- Aesthetics
- General Environmental Concerns
- Historic Properties
- Fish and Wildlife Values
- Shore Erosion and Accretion
- Recreation
- Water Quality
- Energy Needs
- Safety
- Mineral Needs
- Consideration of Property Ownership
- Needs and Welfare of the People

The major public interest factor relevant to this EA is shore erosion, specifically, the need to maintain the shoreline at Bal Harbour Beach. A second major public interest factor is navigation, specifically, the need to maintain the Federally authorized depth and width of the IWW and Bakers Haulover Inlet channel.

The following factors were considered but were determined to be not applicable to this project:

- Conservation
- Wetlands
- Flood Hazards
- Flood Plain Values
- Land Use
- Water Supply and Conservation
- Food and Fiber Production.

The proposed action will result in short-term adverse effects to aesthetics, recreation, and water quality. These short-term effects will cease with the completion of construction. Long-term (greater than a year) beneficial effects associated with the action are expected to occur to economics, aesthetics, shore erosion, and recreation. These long-term benefits would be expected to remain for years following construction.

Based on the analysis provided in Section 4 of this EA, the USACE concludes that the proposed activity is in the public interest.

## 2 ALTERNATIVES

This section describes in detail the No Action Alternative, the proposed action, and other alternatives considered. Based on the information and analysis presented in sections on the Affected Environment (Section 3) and Environmental Effects (Section 4), this alternatives section presents the beneficial and adverse environmental effects of the No Action Alternative and the proposed action, providing a clear basis for choice for the decision-maker and the public.

### 2.1 DESCRIPTION OF ALTERNATIVES

All sand sources used for past renourishment of Bal Harbour Beach (Table 1-1) are considered potential alternatives. The additional upland sources of Witherspoon, Garcia and Cemex have become available and are also potential alternatives. No other potential sources suitable for Bal Harbour Beach were identified in the 2016 LRR (discussed in Section 1.5) that evaluated sand sources for the Miami-Dade County BEC&HPP (USACE 2016a). The 2016 LRR concluded that offshore sources (used for the 1975 and 1990 Bal Harbour Beach nourishment projects) are depleted. Therefore, these offshore sources have been eliminated from further consideration in this EA.

The 2016 LRR eliminated the BHI Flood Shoal from consideration as a sand source at that time for the Miami-Dade County BEC&HPP based on an expected small and undependable sand volume (“thin veneer of sand over limestone”) and concerns regarding “seagrass and other benthic resources in close proximity” (USACE 2016a). The USACE has since found through Vibracore sampling that approximately 150,000 cubic yards of beach-compatible sand is present in the flood shoal. In addition, a 2018 evaluation of benthic resources near the flood shoal suggests that the sand may be recoverable without adverse effects.

#### 2.1.1 No Action Alternative (Status Quo)

NEPA regulations refer to the No Action Alternative as the continuation of existing conditions of the affected environment without implementation of, or in the absence of, the Preferred Alternative. The No Action Alternative provides a benchmark to allow for a comparison of the environmental effects of the proposed action and any reasonable action alternatives. Under the No Action Alternative, beach quality sand located in the BHI Channel or BHI Flood Shoal would not be available as a beneficial re-use source for nourishment of Bal Harbour Beach. The USACE would not dredge these locations; therefore, sand sources available for use during renourishment of the Bal Harbour Beach would be limited to those sources included in existing FONSI (described in Section 1.5). The BHI Channel would likely continue to experience shoaling rates and result in continued reduction of operational depths. The channel would eventually reach hydrodynamic equilibrium, eliminating the benefits of the project, as it would be expected that shoaling would create a hazard to safe navigation. The BHI Flood Shoal is at hydrodynamic

equilibrium; therefore, it is likely that increased shoaling will continue to occur in the channels immediately adjacent to the flood shoal, which will likely result in an increased need for dredging to ensure safe navigation.

**2.1.2 ALTERNATIVE 1 (PREFERRED ALTERNATIVE): Renourishment of Bal Harbour Beach using a combination of existing sand sources (IWW, BHI ebb shoal, and Ortona and Witherspoon Mines) and new sand sources (BHI Channel, BHI Flood Shoal, and Cemex and Garcia Mines)**

Under the Preferred Alternative, renourishment of Bal Harbour Beach would occur on a periodic cycle or as-needed basis using any combination of existing sand sources (IWW, BHI ebb shoal, Witherspoon and/or Ortona upland sand mines) and/or the BHI Flood Shoal and/or BHI Channel and/or Cemex and/or Garcia upland sand mines. The analysis of this alternative covers the potential effects of dredging the BHI Flood Shoal and BHI Channel, the use of Cemex and Garcia upland sand mines, and the associated placement of the dredged sand and sand from the upland mines on Bal Harbour Beach.

Renourishment may only be needed in certain portions of the project, which would be less than the full project footprint. Similarly, there are a variety of different combinations of in-water sand sources that could be dredged depending on need/shoaling. All of these alternative scenarios would have similar effects on the quality of the human environment. As such, the analysis in this EA supports the use of a variety of sand sources for placement on portions of or the full project template at Bal Harbour Beach.

Sand from upland mines would be hauled by dump truck, entering the project area and accessing the beach area from 96<sup>th</sup> Street. At the beach, the sand would be transferred through temporary stockpiling and reloading from road trucks to beach transport vehicles, where it would be taken to the location on the beach where it is needed. For in-water sand sources, dredged material would be pumped as a sand-slurry through a pipeline to the beach. Water quality would be controlled to ensure compliance with the Clean Water Act. Heavy equipment would be used to place and grade the sand at the USACE-specified design grades.

It is anticipated that for the upcoming renourishment event that dredging would include the flood shoal plus maintenance dredging at shoaled locations in the BHI Channel, and IWW. If necessary, additional quantities could be supplied by truck from upland mines.

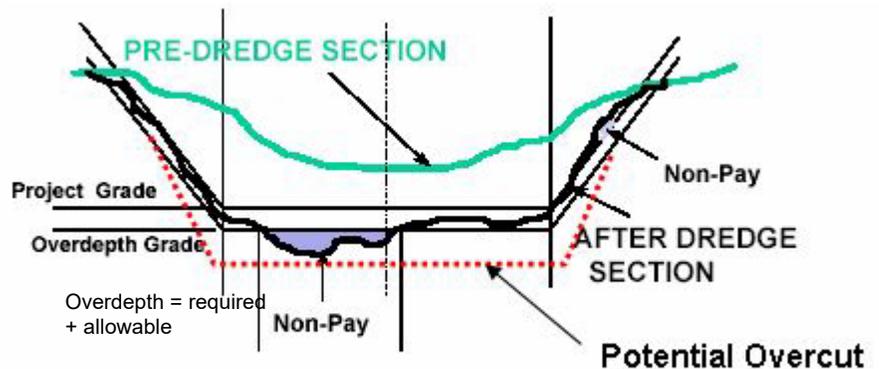
**2.1.2.1 Type of Dredging Equipment**

The USACE does not normally specify the type of dredging equipment to be used for its dredging projects. This decision is generally left to dredging industry vendors to offer the most appropriate and competitive equipment available at the time. Nevertheless, certain types of dredging equipment are normally considered more appropriate depending on the type of material, the

depth of the channel, the depth of access to the disposal or placement site, the amount of material, the distance to the disposal or placement site, environmental considerations, and the wave-energy environment. A more detailed description of types of dredging equipment and their characteristics can be found in Engineer Manual, EM 1110-2-5025, *Engineering and Design - Dredging and Dredged Material Management*, which is available at the following link: [https://www.publications.usace.army.mil/portals/76/publications/engineermanuals/em\\_1110-2-5025.pdf](https://www.publications.usace.army.mil/portals/76/publications/engineermanuals/em_1110-2-5025.pdf).

**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 is a cost effective tool that reduces the need for additional dredging to remove any high spots that may have been

missed by the dredging equipment and possibly less hazardous to sea turtles than additional dredging.

### **Transport of Dredged Material**

Dredged material is typically transferred to placement areas by barge and/or through hydraulic pumping, depending on the distance and location of the placement areas in relation to the dredging site. For this project, dredged material would be transported by pumping a sand slurry through a pipeline from the dredge location to the beach.

## **2.2 ISSUES AND BASIS FOR CHOICE**

To provide the flexibility that allows for cost-effective decisions, the USACE needs to have as many reasonable alternatives for the Bal Harbour Beach renourishment available as practical that meet the purpose and need for the project. For the upcoming renourishment event, the beneficial re-use of material from maintenance dredging of the BHI Channel and IWW, dredging sand from the BHI Flood Shoal, and truck haul of sand from upland mines, is likely the most cost-effective solution. Maintenance of Federal channels is a USACE responsibility, and beneficial re-use of dredged material is a USACE goal. Shoaling has occurred in the IWW and BHI Channel, which has reduced the width and depth of the channels, thus hindering safe and efficient navigation. As a result, periodic dredging is necessary to maintain the authorized dimensions. Compared to the type of dredge that would be used in the open water of the BHI ebb shoal, a smaller and less expensive dredge would be used for the maintenance work in IWW Cut DA-9 and the BHI Channel. This smaller equipment would be suitable to dredge the adjacent flood shoal. In addition, since the flood shoal is a source of the federal channel shoaling, dredging the flood shoal would likely postpone the need for future dredging of the adjacent channels.

In consideration of the limited availability of project funds, the selection of the sand source must maximize the expenditure of these funds for the maximum amount of sand used for renourishment. Consideration was given to the use of the ebb shoal and upland sand mines for the upcoming renourishment event. However, dredging of the ebb shoal would require the mobilization of a second, larger dredge capable of working in the open ocean conditions and less suitable for the inner inlet dredging locations. When compared to the cost of trucking sand from upland mines (approximately \$55/cubic yard), the use of sand from the nearby in-water sand sources is much less expensive (approximately \$15 to \$20/cubic yard). If there are insufficient sand volumes from the in-water sand locations, using trucked sand from upland sources can be an optional source to supplement the in-water sand stock. Maintenance dredging the BHI Channel and using the flood shoal as a sand source could result in significant cost savings when compared to using only upland sand mines.

### **2.3 ALTERNATIVES ELIMINATED FROM DETAILED ANALYSIS**

As noted above, offshore sources previously used for nourishment of Bal Harbour Beach have been depleted and have been eliminated from detailed analysis.

### **2.4 COMPARISON OF ALTERNATIVES**

Table 2-1 summarizes the major features and consequences of the No Action Alternative and the Preferred Alternative (see Section 4, Environmental Effects for a more detailed discussion of effects of alternatives). Refer to the introductory discussion in Section 4 for a description of types of effects, duration, and intensity of effects.

**Table 2-1: Summary of Direct and Indirect Effects**

<b>Resource</b>	<b><i>Preferred Alternative (Alternative 1) Renourishment of Bal Harbour Beach using a combination of existing and/or new sand sources</i></b>	<b><i>No Action Alternative Status Quo: Renourishment of Bal Harbour Beach using a combination of existing sand sources only (May Include Renourishment from Dredging the IWW and/or BHI ebb shoal and/or Truck Haul Upland Sand)</i></b>
<b>Soils/Sediment Characteristics</b>	No adverse effects are anticipated.	No adverse effects are anticipated.
<b>Threatened and Endangered Species</b>	Potential for temporary, localized adverse effect to sea turtles in the water column if a hopper dredge is used during project construction. Potential for temporary, minor, localized effect to Florida manatee due to in-water activities. Potential for temporary, minor, localized effects to Johnson’s seagrass during dredging of IWW, BHI Flood Shoal and BHI Channel. Potential for temporary, minor, localized effects to staghorn coral during dredging of BHI ebb shoal. Placement of dredged material on Bal Harbour Beach would enhance or restore habitat in the short-term.	Potential for temporary, localized adverse effect to sea turtles in the water column if a hopper dredge is used during project construction. Potential for temporary, minor, localized effect to Florida manatee due to in-water activities. Potential for temporary, minor, localized effects to Johnson’s seagrass during dredging of IWW. Potential for temporary, minor, localized effects to staghorn coral during dredging of BHI ebb shoal. Placement of dredged material on Bal Harbour Beach would enhance or restore habitat in the short-term.
<b>Fish and Wildlife Resources</b>	Potential for direct, minor adverse impact to fishery resources due to injury or entrainment from dredging operations. Potential for temporary, minor, localized, and indirect adverse effect to fish species due to decreased water quality (turbidity). Potential for temporary, minor, localized, and indirect adverse effects to seagrasses from dredging operations at the IWW, flood shoal and BHI Channel.	Similar to the Preferred Alternative, except that there would not be seagrass impact associated with the BHI Flood Shoal and BHI Channel.
<b>Essential Fish Habitat</b>	Temporary, minor, localized, and direct adverse effect to non-vegetated bottoms and benthic habitat from dredging operations. Temporary, minor, localized, and indirect effect (decreased water quality - turbidity) on managed species, and water column associated in the vicinity of dredging operations.	Similar to the Preferred Alternative.
<b>Coastal Barrier Resources</b>	No adverse effects are anticipated.	No adverse effects are anticipated.
<b>Water Quality</b>	Temporary, minor, and localized adverse effect to water quality due to turbidity from dredging and staging operations.	Similar to the Preferred Alternative.
<b>Hazardous, Toxic and Radioactive Waste</b>	No adverse effects are anticipated.	No adverse effects are anticipated.
<b>Air Quality</b>	Temporary, minor, and localized adverse effect on air quality, including the potential for unpleasant odor associated with exhaust emissions.	Similar to Preferred Alternative.

**Table 2-1: Summary of Direct and Indirect Effects**

<b>Resource</b>	<b><i>Preferred Alternative (Alternative 1) Renourishment of Bal Harbour Beach using a combination of existing and/or new sand sources</i></b>	<b><i>No Action Alternative Status Quo: Renourishment of Bal Harbour Beach using a combination of existing sand sources only (May Include Renourishment from Dredging the IWW and/or BHI ebb shoal and/or Truck Haul Upland Sand)</i></b>
<b>Noise</b>	Temporary, minor, and localized adverse effect to residents and tourists in the vicinity of work areas from dredging and construction equipment.	Similar to Preferred Alternative.
<b>Aesthetics</b>	Temporary, minor, and localized adverse effect to aesthetics due to the presence of noise generated by construction equipment located within the waterways, along the pipeline corridors, and on the beach.	Similar to Preferred Alternative.
<b>Recreation</b>	Localized short-term adverse effect to recreation from pipeline placement and construction, and operation of dredging and beach placement equipment. Long-term (more than one year) adverse effects as a result of the loss of recreational use of flood shoal until the shoal restores itself. Long-term, localized beneficial effect to recreation with and provision of safe and efficient navigation.	Similar to the Preferred Alternative except that the recreational use of the flood shoal would not be affected.
<b>Socioeconomics</b>	Maintenance dredging and placement of dredged material will result in long-term benefits to socioeconomic resources. Adverse effects on tourism associated with placement activities will be temporary and minor. No long-term adverse effects are expected.	Similar to Preferred Alternative.
<b>Navigation</b>	Temporary, minor, and localized adverse effect to navigation in the IWW and BHI Channel during dredging operations; however, periodic maintenance dredging would result in a long-term, major beneficial effect with provision of safe and efficient navigation.	Similar to Preferred Alternative except that the BHI Channel would not be affected. Potential for adverse effects to navigation from shoaling, in the BHI Channel.
<b>Cultural Resources</b>	No adverse effect anticipated.	No adverse effect anticipated.
<b>Native Americans</b>	No adverse effect anticipated.	No adverse effect anticipated.
<b>Vegetation</b>	No adverse effects anticipated; dune and upland vegetation will not be affected by beach sand placement.	No adverse effects anticipated; dune and upland vegetation will not be affected by beach sand placement.
<b>Invasive Species</b>	No adverse effect anticipated.	No adverse effect anticipated.

### 3 AFFECTED ENVIRONMENT

The Affected Environment section succinctly describes the existing environmental resources of the areas that would be affected if any of the alternatives were implemented. This section does not describe the entire existing environment but rather only those environmental resources that are relevant to the decision to be made. This section, in conjunction with the description of the "No Action" alternative, forms the base line conditions for determining the environmental effects of the proposed action.

#### 3.1 SOILS/SEDIMENT CHARACTERISTICS

##### 3.1.1 Dredged Material Characteristics

A composite sample of sand from the flood shoal was classified as poorly graded, fine to medium-grained sand composed of quartz and shell fragments with a mean grain size of 0.33 mm or 1.7 phi, and a standard deviation of 0.91 phi. The average carbonate percent is 78.9% and the average percent of fines passing the #230 sieve is 0.84%. No material was retained on the #4 sieve (i.e., no gravel-sized particles). The average visual shell percent is 5%. The typical moist Munsell color is 5Y 7/3. Previous material dredged from the IWW near BHI and from BHI Channel have been beach compatible, as has the sand from upland mines.

#### 3.2 THREATENED AND ENDANGERED SPECIES

There are several species listed under the Endangered Species Act (ESA) as threatened or endangered that can potentially be found in the project area (Table 3-1). USACE compiled Table 3-1 from the National Marine Fisheries Service (NMFS) South Atlantic Regional Biological Opinion (SARBO); the U.S. Fish and Wildlife Service (USFWS) Statewide Programmatic Biological Opinion (SPBO) for Shore Protection Activities along the Coast of Florida, and Programmatic Piping Plover Biological Opinion (P3BO); and on-line resources of applicable listing agencies (USFWS and NMFS).

**Table 3-1: Protected Species Potentially Found in the Project Area**

Common Name	Scientific Name	Federal Status
Blue whale	<i>Balaenoptera musculus</i>	Endangered
Fin whale	<i>Balaenoptera physalus</i>	Endangered
Sei whale	<i>Balaenoptera borealis</i>	Endangered
Sperm whale	<i>Physeter macrocephalus</i>	Endangered
Hawksbill turtle	<i>Eretmochelys imbricata</i>	Endangered
Kemp's ridley turtle	<i>Lepidochelys kempii</i>	Endangered
Green turtle	<i>Chelonia mydas</i>	Threatened
Leatherback turtle	<i>Dermochelys coriacea</i>	Endangered
Loggerhead turtle	<i>Caretta caretta</i>	Threatened

Common Name	Scientific Name	Federal Status
Florida manatee	<i>Trichechus manatus latirostris</i>	Threatened
Smalltooth sawfish	<i>Pristis pectinata</i>	Endangered
Piping plover (wintering)	<i>Charadrius melodus</i>	Threatened
Rufa red knot (wintering)	<i>Calidris canutus rufa</i>	Threatened
Johnson's seagrass	<i>Halophila johnsonii</i>	Threatened
Elkhorn coral	<i>Acropora palmata</i>	Threatened
Staghorn coral	<i>Acropora cervicornis</i>	Threatened
Pillar coral	<i>Dendrogyra cylindrus</i>	Threatened
Lobed star coral	<i>Orbicella annularis</i>	Threatened
Mountainous star coral	<i>Orbicella faveolata</i>	Threatened
Boulder star coral	<i>Orbicella franksi</i>	Threatened
Rough cactus coral	<i>Mycetophyllia ferox</i>	Threatened

### 3.2.1 Sea Turtles

Miami-Dade County is within the normal nesting range of four species of sea turtles: the loggerhead, the North Atlantic distinct population segment (DPS) of green sea turtle (80 Fed. Reg. 15272 (23 March 2015)), hawksbill, and the leatherback. Additionally, the waters offshore of Miami-Dade County are also used for foraging and shelter for the four species listed above, as well as the Kemp's Ridley sea turtle.

#### Loggerhead Turtles

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. 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. NMFS has designated two units of critical habitat for the loggerhead sea turtle in the waters offshore of Miami-Dade County (79 Fed. Reg. 39855, 2014) Figure 3-1 shows the designated critical habitat for breeding, which is nearshore. Roughly paralleling the nearshore habitat, and about 4 miles offshore, is the Sargassum Seaweed Critical Habitat. Loggerheads forage, migrate and seek shelter in Sargassum.

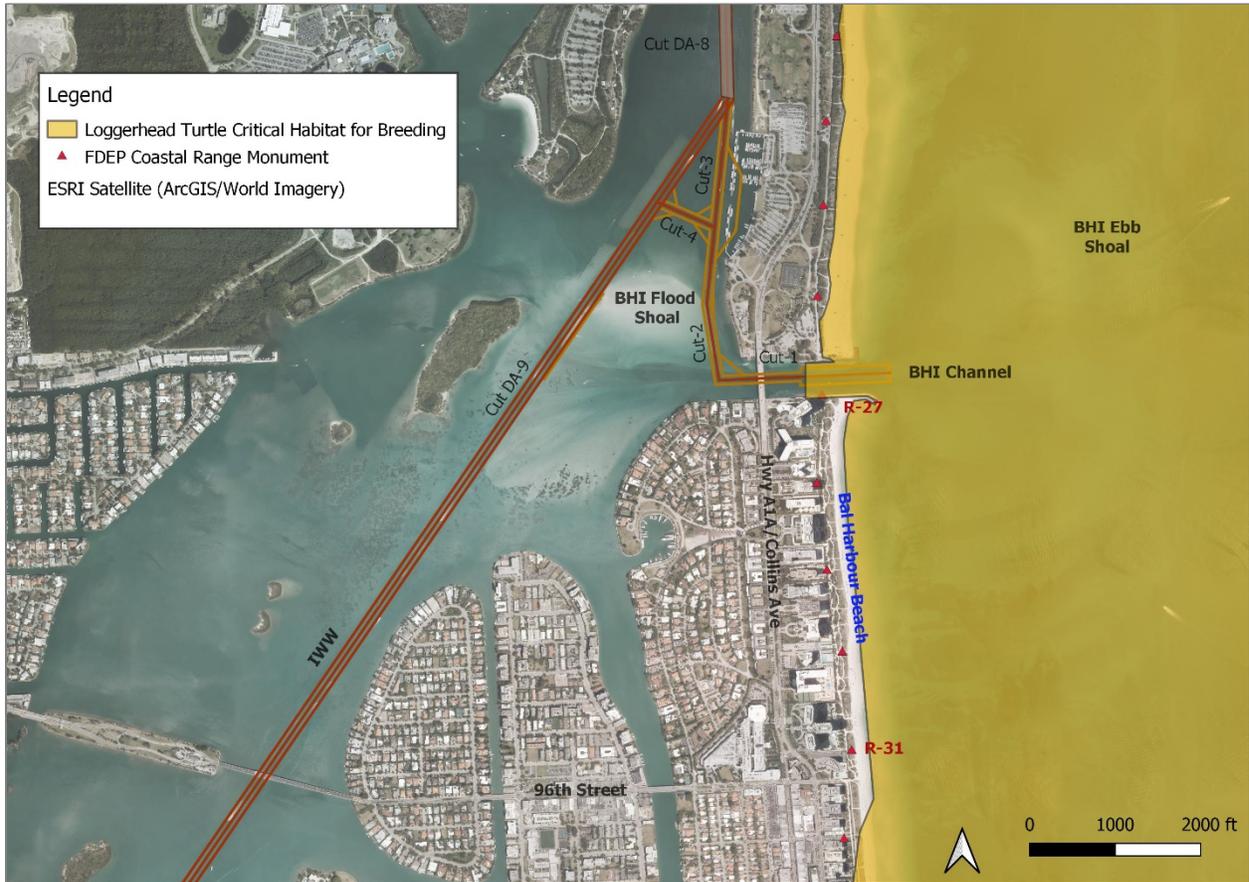


Figure 3-1. Loggerhead Turtle Critical Habitat for Breeding.

Source: National Oceanic and Atmospheric Administration (NOAA) Fisheries 2019a

### Green Sea Turtles

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, oyster beds, and coral reefs during the evening (Florida Fish and Wildlife Conservation Commission (FWC) 2010). In the U.S. Atlantic waters, green turtles are found from Texas to Massachusetts, the U.S. Virgin Islands, and Puerto Rico. Green turtles are generally found over shallow flats, seagrasses, and algae areas inside bays and inlets. Resting areas include rocky bottoms, oyster, worm, and coral reefs. Post-hatchling pelagic-stage turtles may be omnivorous. Adult turtles are herbivores and consume algae and seagrasses. Critical habitat consists of waters surrounding Culebra Island, Puerto Rico. No critical habitat is present within the project area (50 CFR § 226.208).

### Leatherback Sea Turtles

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 degrees Fahrenheit (F). Leatherbacks primarily feed on jellyfish, but also consume sea urchins, squid, crustaceans, tunicates, fish, blue-green algae, and floating seaweed. The distribution and food habits of post-hatchling and juvenile leatherbacks are unknown, although they may be pelagic and associate with Sargassum weed. The nearest location to the project area of designated critical habitat is in the U.S. Virgin Islands (NMFS and USFWS 2013a).

#### Kemps Ridley Sea Turtles

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

#### Hawksbill Turtles

Hawksbill turtles occur in tropical and subtropical seas of the Atlantic, Pacific, and Indian oceans. In the continental U.S., hawksbills have been found along the Gulf of Mexico and along the eastern seaboard as far north as Massachusetts, though are rare north of Florida. Hawksbill turtles are frequently found along rocky areas, coral reefs, shallow coastal areas, lagoons or oceanic islands, and narrow creeks and passes. Seagrass beds sustain hawksbill foraging aggregations comparable to reef habitat and may become more important as coral reefs decline (Bjorndal and Bolten 2010, as cited in NMFS and USFWS 2013b). Post-hatchlings are pelagic and occupy convergence zones, floating among Sargassum and debris and may eat fish eggs, Sargassum, and debris (NMFS and USFWS 1993). Hawksbill sea turtles feed primarily on sponges once they transition to a benthic existence. Critical habitat has been designated at Isla Mona, Culebra Island, Cayo Norte, and Island Culebrita, as well as the waters surrounding the islands of

Mona and Monita, all in Puerto Rico (NMFS and USFWS 2013b). No critical habitat is present within the project area.

### 3.2.1.1 Nesting Habitat

Nest counts for loggerhead, green, and leatherback turtles for Miami-Dade County are summarized in Table 3-2. For comparison, 2018 statewide nest counts were 91,451, 4,545 and 949 for loggerhead, green and leatherback turtles, respectively.

**Table 3-2: Miami-Dade County Turtle Nest Counts 2014-2018**

<b>Turtle</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>
Loggerhead	485	529	811	673	655
Green	1	44	0	35	10
Leatherback	4	5	6	0	3

*Source: FWC 2019a, 2019b, 2019c.*

### 3.2.2 Marine Mammals

Three baleen whales (blue, fin, and sei) and one toothed whale (the sperm whale) occur in the Atlantic Ocean offshore of Bal Harbour Beach. All of the whales are typically found offshore in deeper waters and are not expected to be encountered close to shore.

The Florida manatee can also be found throughout the southeastern United States, including the project area. Manatees can be found in the inshore waters of the project channels and in the coastal waters of the Atlantic Ocean primarily during migration. The USFWS designated critical habitat for the manatee in 1976; it is codified at 50 CFR § 17.95(a). All of Biscayne Bay is designated as critical habitat. Part of the project area is within designated critical habitat for this species (Figure 3-2).



Figure 3-2. Manatee Critical Habitat.

Source: USFWS 2019a. Note that the map is based on general designation intended to include Biscayne Bay; land areas should be excluded.

In Florida, as a cold-intolerant species, manatees prefer warm-water sites during the winter, only leaving to feed during warming trends. When temperatures drop, manatees congregate near warm water sites, such as natural springs, power plants, and deep canals. Florida manatees are found in freshwater, brackish, and marine environments, including coastal tidal rivers and streams, mangrove swamps, salt marshes, freshwater springs, and vegetated bottoms. Manatees are herbivores and feed on aquatic vegetation. Preferred feeding areas in coastal and riverine habitats appear to be shallow seagrass beds near deep channels. Primary threats include watercraft-related strikes, entanglement in fishing lines and crab pot lines, exposure to cold, and red tide (USFWS 2007). The FWC has established Manatee Protection Zones which are zones with restrictions on the speed and operation of motorboats. Manatee Protection Zones for Miami-Dade County are included in the Florida Administrative Code (F.A.C.) Section 68C-22.025. There are Manatee Protection zones in the project area, associated with Biscayne Bay and Oleta State Park (shown in Figure 3-13). Important Manatees Areas (IMAs), developed by the USACE and FDEP, provide an indication of manatee presence. IMAs are “areas within certain counties where

increased densities of manatees occur due to the proximity of warm water discharges, freshwater discharges, natural springs and other habitat features that are attractive to manatees” (USACE and FDEP 2013). For dredging and other in-water operations within manatee accessible waters, the standard manatee construction conditions require all on-site personnel to watch for manatees. In IMAs, heightened observation is needed and may require Dedicated Observers (having prior experience and dedicated only for this task) or Approved Observers (Dedicated Observers who are approved by the USFWS and/or the FWC). IMAs may have state designated seasonal no-entry zones (Seasonal Restriction Areas). While there are IMAs in other parts of Biscayne Bay, there are none in or near the project area (USACE 2018a).

Manatee counts from winter aerial surveys conducted by the FWC along the east coast of Florida ranged from 2,817 to 6,620 from 2007 to 2019, with the low count in 2007 and the high in 2017 (FWC 2019d).

Within Miami-Dade County, manatees are frequently found in Biscayne Bay, canals, the Miami River, and the IWW. They are less often seen in the Atlantic Ocean. Mortality data based on carcass recovery for the Florida manatee is available from 1974-2018 (FWC 2019e) (Figure 3-3). Of the seven recovered carcasses found near the project area, two were from unknown causes (2008 and 2015), three were determined to be human-related: one “flood gate/canal lock” (1998) and two watercraft collisions (1997 and 2016), and two were from natural cold stress (2011 and 2018).

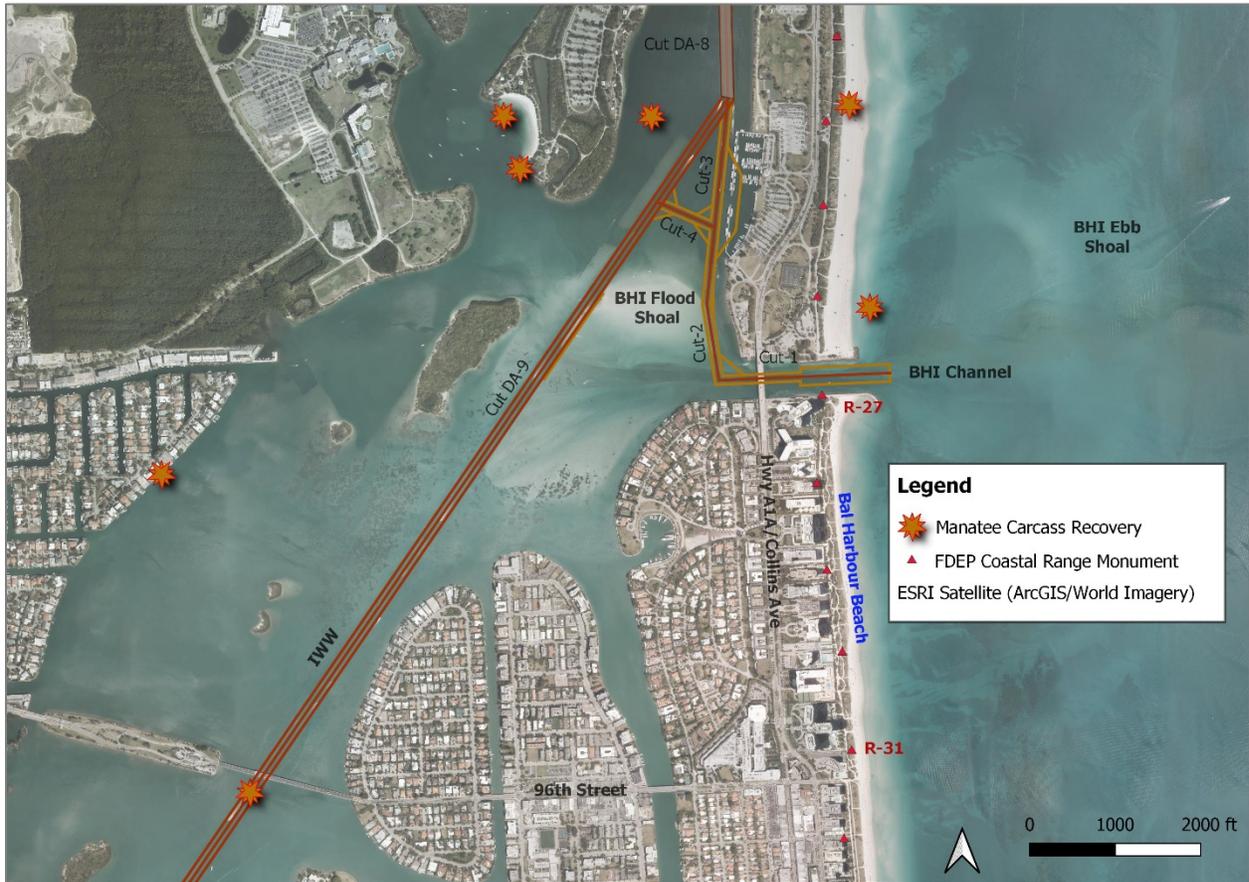


Figure 3-3. Manatee Carcass Recovery near the Project Area.

Source: FWC 2019e.

### 3.2.3 Smalltooth Sawfish

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

In 2009, NMFS designated several areas of critical habitat for the smalltooth sawfish in Florida with the nearest designated area to the proposed action area in the Florida Keys.

#### 3.2.4 Piping Plover

The piping plover (*Charadrius melodus*), an approximately seven-inch long shorebird, is listed as a Federally threatened species. The plover spends up to 10 months of its annual cycle on migration and wintering grounds, typically from mid-July to mid-May, and overwinters along Florida's Gulf Coast and, to a lesser extent, Atlantic beaches (USFWS 2015a). Preferred coastal habitat includes sand spits, small islands, tidal flats, shoals, and sandbars that are often associated with inlets. Sandy mud flat, ephemeral pools, seasonally emergent seagrass beds, mud/sand flats with scattered oysters, and overwash fans are considered primary foraging habitat (USFWS 2015a). Several studies have identified wrack as an important component of roosting habitat for non-breeding piping plovers (USFWS 2015a). In southwest Florida, Lott et al. (2009) found approximately 75% of foraging piping plovers on intertidal substrates with bay beaches (bay shorelines as opposed to ocean-facing beaches) as the most common landform used by foraging piping plovers (USFWS 2015a). The designated unit of piping plover critical habitat on the Atlantic coast nearest the project area is at St. Lucie Inlet (Unit FL-33), approximately 100 miles north of the project area (USFWS 2013).

#### 3.2.5 Rufa Red Knot

The rufa subspecies of the red knot, a small shorebird, was listed as a threatened species in 2014. The red knot nests in the summers in Canada and the Great Lakes region, and winters in South America. Some individuals overwinter along Florida coasts, and others use them as a stopover location to build their energy stores for the remainder their migration. Florida is home to the largest concentration of wintering rufa in the United States (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 in Delaware Bay, along the knot's migratory route (USFWS 2015b). Their numbers appear to have stabilized in the past few years, but they remain at low levels relative to earlier decades (USFWS 2015b). eBird sighting reports for red knot don't distinguish among subspecies. Locations of eBird-reported red knot sightings near the study include Miami Beach, Virginia Key and Key Biscayne, all south of the project area (eBird 2019).

Although critical habitat has not yet been designated for the species, the project area contains suitable habitat for the red knot.

#### 3.2.6 Johnson's Seagrass

Johnson's seagrass was listed as a threatened species by NMFS in 1998 (63 FR 49035) and the final rule for critical habitat designation was published in 2000 (65 FR 17786). Johnson's seagrass has the most limited geographic ranges of all seagrass species. It is known to occur only from

21.5 km north of Sebastian Inlet (i.e. near Palm Bay in Brevard County) south to northern Biscayne Bay (i.e. near North Miami) on the east coast of Florida (Kenworthy 1997; Virnstein and Hall 2009). Johnson’s seagrass is a perennial species showing no consistent seasonal or year-to-year pattern. While it typically shows some winter decline during exceptionally mild winters, it can maintain or even increase in abundance. Depth of occurrence from surveys ranged from 0.03 to 2.5 meters (0.1 to 8 ft). Distribution is patchy, both spatially and temporally (NMFS 2017). NMFS has designated several areas of coastal southeast Florida as critical habitat, including that part of Biscayne Bay which includes the project area (Figure 3-4). General physical and biological features of the critical habitat areas include adequate water quality, salinity levels, water transparency, and stable, unconsolidated sediments that are free from physical disturbance (NMFS 2017).



Figure 3-4. Johnson’s Seagrass Critical Habitat.

Source: NOAA Fisheries 2019b. Note that the map is based on general designation intended to include Biscayne Bay; IWW and land areas should be excluded.

NMFS has identified at-risk activities that may require special management: 1) vessel traffic and the resulting propeller dredging and anchor mooring; 2) dredging; 3) dock, marina, and bridge

construction and shading from these structures; 4) water pollution and 4) land use practices including shoreline development, agriculture and aquaculture. The IWW itself is exempt from the critical habitat area (NMFS 2000).

### 3.2.7 Listed Corals

NMFS listed elkhorn and staghorn coral as threatened under the ESA in 2006 and designated critical habitat for both species in 2008 (73 FR 72210). Elkhorn and staghorn coral were once the most abundant and important reef-builders in the Caribbean, building coral reefs over the last 5,000 years. The dense thickets that elkhorn and staghorn coral can form in very shallow water provide important habitat for other reef animals, especially fish. Elkhorn and staghorn coral require relatively clear, well-circulated water and are almost entirely dependent upon sunlight for nourishment through the photosynthetic products of their symbiotic zooxanthellae. In the early 1980s a severe event of white band disease reduced elkhorn and staghorn coral populations by 97 percent. Current populations consist of isolated colonies or small groups of colonies. Successful reproduction is rare.

NMFS has determined that the feature essential to the conservation of these species is substrate of suitable quality and availability, in water depths from the mean high water (MHW) line to 30 meters (approximately 100 feet) to support successful larval settlement, recruitment and reattachment of fragments (NMFS 2008, NMFS undated). "Substrate of suitable quality and availability" is defined as natural consolidated hard substrate or dead coral skeleton that is free from fleshy or turf macroalgae cover and sediment cover (NMFS 2008, NMFS 2017). NMFS has designated four areas of critical habitat that contain this feature, including the Florida area, which covers approximately 3,301 square miles from the Florida Keys to Boynton Beach in Palm Beach County. Waters off Bal Harbour Beach, outside the project footprint, are included in the designation (Figure 3-5).

Five additional hard coral species (see table 3-1 above) have been listed as threatened by NMFS under the ESA and have similar habitat requirements as those for Acroporids. NMFS has not designated critical habitat for these additional coral species. Details on the presence and biology of these species can be found in the SARBO (NMFS 2020).



Figure 3-5. *Acropora* (Elkhorn and Staghorn Coral) Critical Habitat.

Source: NOAA Fisheries 2019c.

### 3.3 FISH AND WILDLIFE RESOURCES

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

#### 3.3.1 Marine Mammals

The Marine Mammals Protection Act (MMPA) of 1972 (16 USC §1361 *et seq*) protects all marine mammals from harvesting within the borders of the United States. The inner shelf and estuaries of southeast Florida support seasonal and permanent populations of marine mammals. Bottlenose dolphins (*Tursiops truncatus*) are year-round residents, while the North Atlantic right whales and humpback whales may pass through the area during migration. There is also a population of bottlenose dolphins (*Tursiops truncatus*) in Biscayne Bay (NMFS 2019a).

#### 3.3.2 Fish

The project area estuarine and nearshore waters support a variety of fish species, including important game and/or commercial species such as bonefish (*Albula vulpes*), tarpon (*Megalops*

*atlanticus*), permit (*Trachinotus falcatus*), snapper (*Lutjanus* species), and mackerel (*Scomberomorus* species) (Florida Museum of Natural History 2018). Coastal pelagic fish are discussed in detail in the BEC&HPP sand search EA (USACE and Bureau of Ocean Energy Management (BOEM) 2016).

### 3.3.3 Seagrass and Other Benthic Resources

Sedimentary habitats, such as sand shoals, support seagrass and a variety of invertebrates and demersal fishes. Results of pre- and post-construction surveys conducted by the Miami-Dade County Department of Environmental Resources Management (DERM) in the area of IWW Cut DA-9 in 2006, 2008, and 2013 are detailed in the 2017 EA for maintenance dredging for IWW Cut DA-9 (USACE 2017), which is incorporated by reference.

In October 2019, a seagrass and benthic resources survey was conducted by the USACE (Figure 3-6). The detailed report is included in Appendix D.

From October 21–25, 2019, and October 28-31, 2019, the USACE contracted marine biologists and scientific divers to conduct in-water submerged habitat edge mapping and to collect quantitative benthic habitat data at 159 *in situ* ground-truthing (GT) points within 1,200 ft of the proposed in water borrow areas. The overall objective of the survey was to delineate natural resource habitat boundaries and characterize and assess the condition of submerged aquatic vegetation (SAV) and other benthic habitats, including hardbottom communities. Results of the survey included the identification of five primary community types: seagrass, hardbottom, macroalgae-dominated, emergent rock/rubble, and unconsolidated sediment/sand. Several species of seagrass, corals, macroalgae, sponges, and octocorals were observed within the survey area but no federally listed coral species were observed. Johnson’s seagrass (discussed in Section 3.2.6) was the only threatened or endangered marine plant species observed during the 2019 survey. Seagrass was the dominant habitat (excluding sediment/sand), observed at 34% of the GT sites. Emergent rock rubble habitat constituted 10.7% of the sites, followed by macroalgae-dominated habitat constituting 9.4% and hardbottom at 5.7% of the sites.



Figure 3-6. Benthic Survey Area October 2019.

As presented in Table 3-3, the greatest number of sites were in sediment/sand (64), followed by seagrass (54) habitat. Seagrass comprised 34% of the total sites, inclusive of the sediment habitats, (Table 3-4) with the majority of seagrass located within the SFS and SICW zones. Macroalgae-dominated, hardbottom, and emergent rock/rubble habitats composed between 5.7% and 10.7% of the total sites surveyed. Tables 3-3 and 3-4 show the number of sites evaluated within each zone by habitat type, and percent of habitat type by zone, with and without sediment habitat included. Figure 3-7 shows results of the mapping and the locations and spatial extent of the benthic habitats.

Table 3-3. Total Number of Sampling Sites by 2019 Survey Zone.

Habitat Type	NFS	NICW	SFS	SICW	BHC	Total
Seagrass	7	8	22	17	0	54
Macroalgae - Dominated	14	0	1	0	2**	15
Hardbottom	0	2	0	6	1	9
Emergent Rock/Rubble	0	1	15	1	0	17
Sediment/Sand	20	18	18	7	1	64
<b>Total</b>	<b>41</b>	<b>29</b>	<b>56</b>	<b>31</b>	<b>2</b>	<b>159*</b>

A total of 159 points were initially selected; 24 points were not surveyed due to strong currents or other factors. An additional 24 quadrats were sampled at the terminus of the 30 m line-transect, bringing the total number of sampled points to 159.

\*\*These points were not quantitatively sampled and were viewed during drift dives; as such they were not counted in the total.

Table 3-4. Percentage of Total Ground Truth Points by Habitat Type within Each Zone in 2019.

Habitat Type	NFS	NICW	SFS	SICW	BHC	Percentage of GT Points	
						Including Sediment	Excluding Sediment
Seagrass	17.1	27.6	39.3	54.8	0	34	56.8
Macroalgae-Dominated	34.1	0	1.8	0	**	9.4	15.8
Hardbottom	0	6.9	0.0	19.4	50	5.7	9.5
Emergent Rock/Rubble	0	3.4	26.8	3.2	0	10.7	17.9
Sediment/Sand	48.8	62.1	32.1	22.6	50	40.2	--
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

Following the completion of the habitat map in Geographic Information Systems (GIS), total area (in acres) was calculated for each habitat type, as shown in Table 3-5. Percentages were comparable to the GT point results, with seagrass the dominant community (roughly half the surveyed habitat), followed by emergent rock/rubble and macroalgae-dominated habitats, and hardbottom with the lowest coverage.

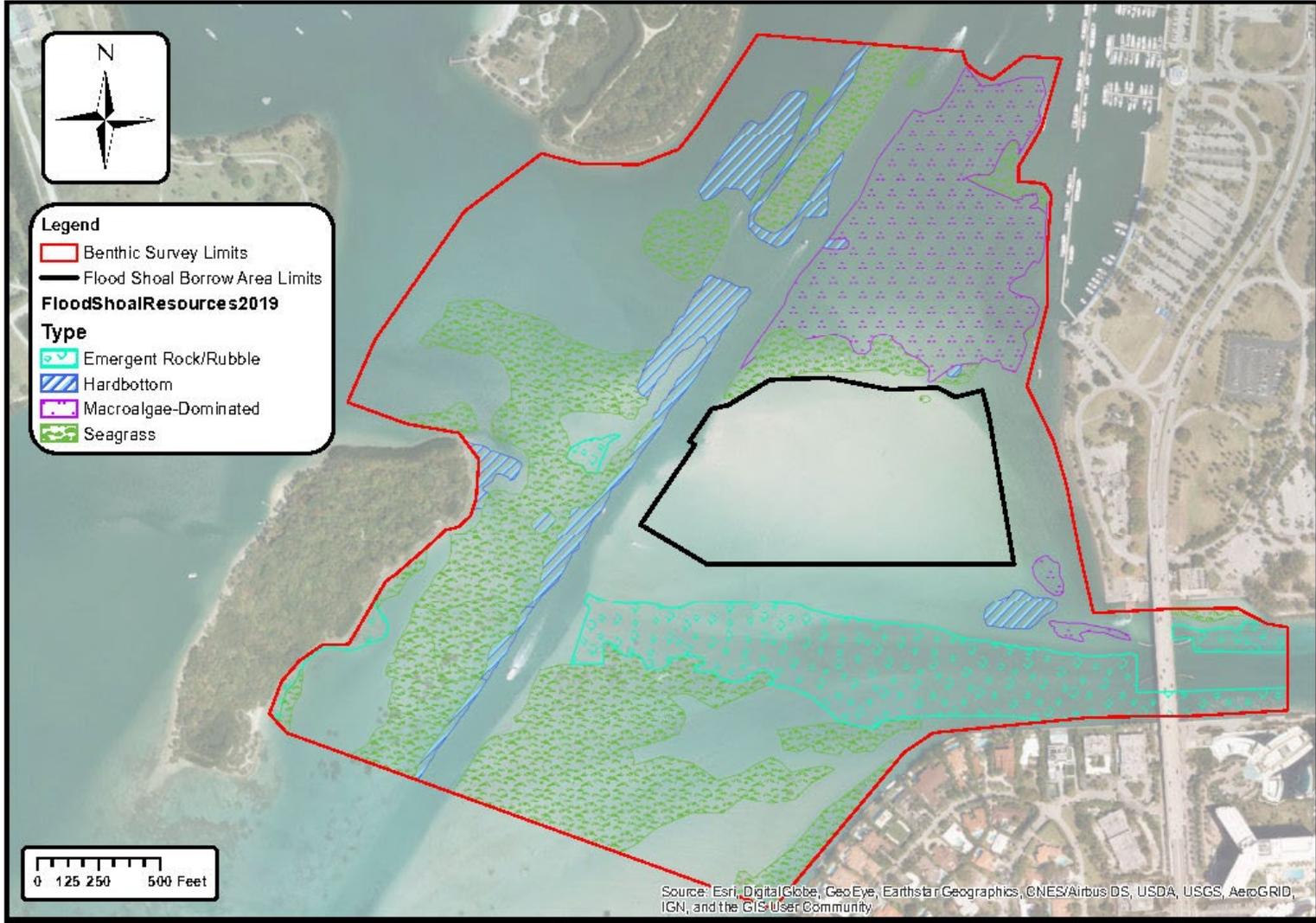


Figure 3-7. Benthic Habitat Map of the 2019 Project Survey Area.

Table 3-5. Percentage of Habitat Type Comprising the 2019 Survey Area as Determined from GIS.

Habitat Type	Acres	Percent (%)
Emergent Rock/Rubble	20.4	22.3
Hardbottom	8.2	9.0
Macroalgae-Dominated	19.1	20.9
Seagrass	43.9	47.9
Total	91.7	100

### 3.3.3.1 Seagrass

Five species of seagrasses have been documented in the 2019 and previous surveys conducted in the project area: Cuban shoal grass (*Halodule wrightii*), paddle grass (*Halophila decipiens*), Johnson’s seagrass (discussed in Section 3.2.6), manatee grass (*Syringodium filiforme*), and turtlegrass (*Thalassia testudinum*). Seagrass beds are important to estuarine productivity as they provide nursery habitat for juvenile fish and crustaceans, provide a food source for manatees and turtles, and provide a substrate for growth of algal epiphytes that serve as food for fish and crustaceans. Seagrass areas from the 2018 survey are shown in Figure 3-8.

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



Figure 3-8. Seagrass and Other Benthic Resources near Flood Shoal, 2018.

Source: DERM 2018.

In the October 2019 survey, mean coverage of all seagrass sites was 11.3 % with the greatest overall coverage occurring in the southernmost part of the IWW project area (13.8%) and the southern portion of the flood shoal (13.8%) zones (Table 3-6). Of the seagrass species, *H. decipiens* had the greatest cover with an overall mean percent cover score for all the sites/zones of 0.8 (2.0%); *T. testudinum* was the least abundant with a mean percent cover score of 0.2 (<1.0%) within those sites identified as seagrass habitat. *Halophila johnsonii* was observed in four of the five zones with the greatest coverage observed in the southernmost part of the IWW project area zone with an interpolated percent coverage of 1.5%. *Halophila johnsonii* was not observed in the Bal Harbour Inlet. Table 3-7 presents average percent cover scores and interpolated seagrass coverage by seagrass species and by zone. Figure 3-9 illustrates surveyed seagrass density and the locations of observed *H. johnsonii*. The majority of seagrass areas were classified as sparse or low density using the modified Braun-Blanquet cover scoring method. The Braun-Blanquet (BB) cover-abundance scale is a commonly used classification system for seagrass habitat characterization and monitoring that assigns a score based on a scale of 0 (no seagrass) to 5 (> 75% seagrass). The ‘sparse’ designation corresponded with areas that supported primarily BB scores of 1 or below; ‘low’ corresponded with areas that supported BB scores of 1s and 2s; ‘moderate’ corresponded with areas with BB scores of 3; and ‘moderate-dense’ corresponded to areas that had at least some BB scores of 4 recorded or otherwise noted as “dense” by divers. Divers noted epiphytic coverage of most seagrass species was minimal, with the exception of *T. testudinum*, where epiphytic coverage was observed in areas of lower energy. In the supplemental areas on the flood shoal and central of the survey area, some seagrass, primarily sparse *H. wrightii*, was observed along northwest edge of the shoal.

### 3.3.3.2 Other Benthic Resources

DERM studies have found benthic communities without seagrass in both the 2018 survey (Figure 3-8) and previous surveys. In the 2018 survey, DERM found these areas to be a mix of benthic invertebrates and algae among a carbonate rock and rubble or hardbottom substrate in the western and southern areas and a mix of invertebrates and algae on a sandy bottom in the northeastern area. Scleractinians, gorgonians, sponges and macro algae were observed on the west all of the IWW channel extending approximately 10 to 30 ft to the west (Figure 3-8). West of the IWW channel, shell rubble with macro algae, hydroids, and occasional gorgonians were observed. In the far northwestern portion of the survey area, sponges, small scleractinians, hydroids. South of the flood shoal, shell and rubble with moderate cover of macro algae and hydroids was observed (DERM 2018).

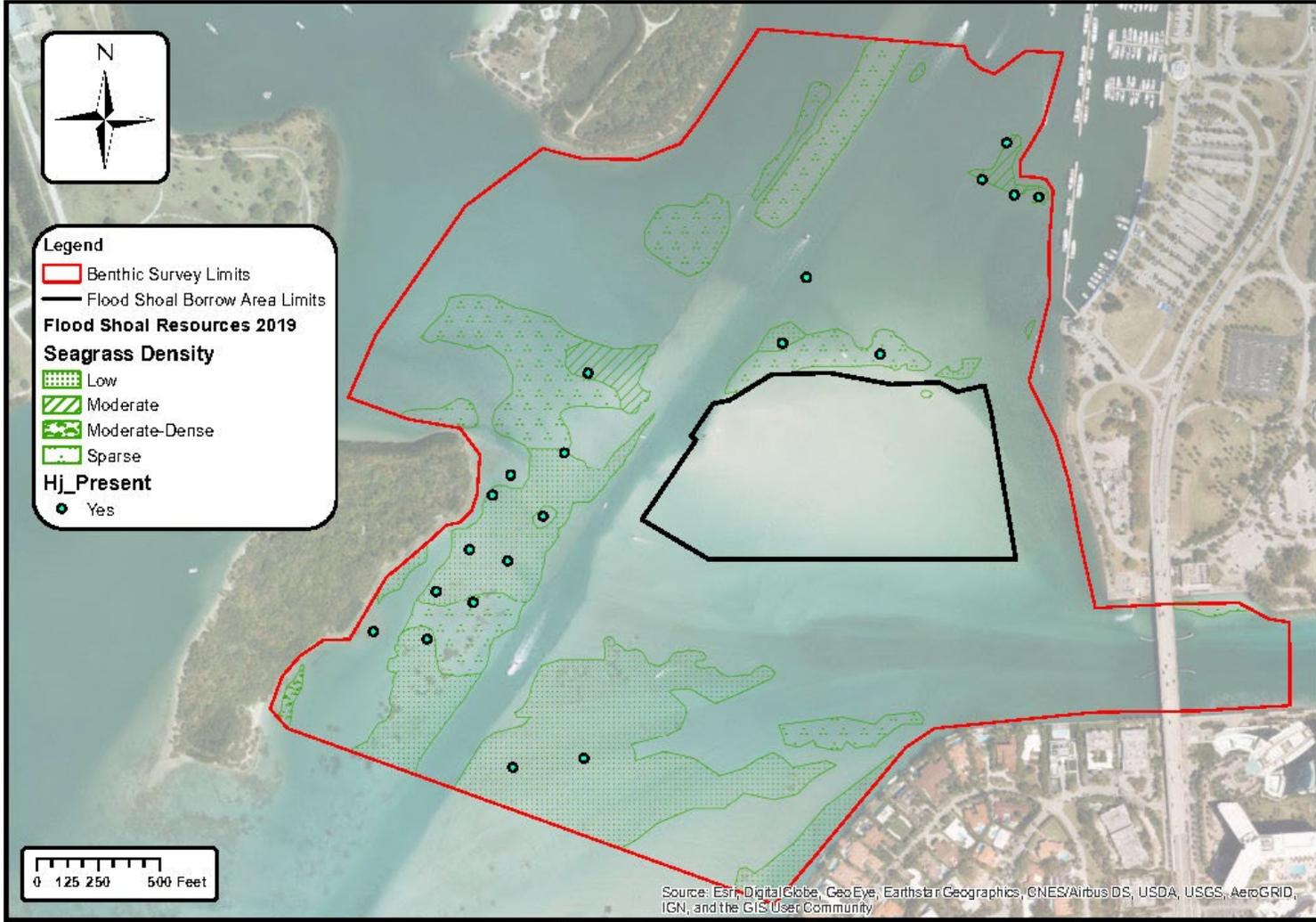


Figure 3-9. Seagrass Density and Locations of Observed *H. johnsonii*, 2019.

Of the 159 sites assessed via quadrat sampling in October 2019, only nine were characterized as hardbottom habitat (5.7% of the sites) with the majority (7 sites) occurring in the SICW zone (refer to Table 3-6). Percent cover by non-living substrate types and the major functional group was analyzed by averaging all quadrats in hardbottom habitat. The functional groups include sediment, macroalgae, turf algae, encrusting red, sponges, hydroids, octocorals, stony corals, tunicates, bare substrate and “other” (e.g. polychaetae tube worms, zoanthids). Data was entered into Excel spreadsheets and data was averaged for each group and by site. Table 3-6 shows the functional groups by average coverage across the nine sites with sediment and macroalgae/turf algae having the greatest coverage.

**Table 3-6.** Average Percent Cover by Substrate (non-living) and Major Functional Group in Hardbottom Habitat

Group	Average Percent Coverage	Group	Average Percent Coverage
Sediment	63	Octocoral	1.4
Macroalgae	8	Stony Coral	1.2
Turf Algae	13	Encrusting Red	0.3
Sponge	5.7	Tunicate	0.1
Hydroid	6.2	Bare Substrate	0
Other	1.6		

### 3.3.4 Birds

All native migratory birds are protected under the Migratory Bird Treaty Act of 1918 (MBTA) (16 U.S.C. §703-712).

Wading birds especially frequent the shallow waters around Oleta River State Park (shown in Figure 3-13). Most feed on fish. Wading birds frequently sighted include the cattle egret (*Bubulcus ibis*), black-crowned night heron (*Nycticorax nycticorax*), great blue heron (*Ardia herodias*), great egret (*Ardia alba*), green heron (*Butorides virescens*), little blue heron (*Egretta caerulea*), snowy egret (*Egretta thula*), tricolored heron (*Egretta tricolor*), white ibis (*Eudocimus albus*), and yellow-crowned night heron (*Nyctanassa violacea*) (Ebird 2019).

Shorebirds often sighted in the project area include the sanderling (*Calidris alba*), ruddy turnstone (*Arenaria interpres*), and spotted sandpiper (*Actitis macularia*) (eBird 2019). Most of these species breed at locations north of the project area (from northern Florida to the Arctic). On beaches, most shorebirds feed on marine worms, insects, mollusks and crustaceans in tidal sand and mud flats (Sibley 2000; Ehrlich et al. 1988; Audubon, undated).

Pelican and related fish-eating water birds frequently sighted include the northern gannet (*Morus bassanus*), anhinga (anhinga anhinga), double-crested cormorant (*Phalacrocorax auritus*), brown pelican (*Pelicanus occidentalis*) and magnificent frigatebird (*Fregata magnificens*).

The Florida Atlantic coast also serves as a route of the Atlantic Flyway for more than 50 migratory landbird species. (Lincoln et al. 1998).

## 3.4 ESSENTIAL FISH HABITAT

The Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA; 16 U.S.C. §1801 *et seq*) outlines the Secretary of Commerce and Fishery Management Council authority and

responsibilities for the protection of essential fish habitat (EFH). The MSFCMA specifies that each Federal agency shall consult with the Secretary with respect to any action authorized, funded, or undertaken, or proposed to be authorized, funded, or undertaken, by such agency that may adversely affect any essential fish habitat identified under the MSFCMA. EFH is defined in the MSFCMA as “those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity.” 50 CFR Part 600, Subpart J establishes guidelines to assist the Regional Fishery Management Councils and the Secretary in the description and identification of EFH in fishery management plans (FMPs), including identification of adverse effects from both fishing and non-fishing activities on EFH, and identification of actions required to conserve and enhance EFH. The regulation promotes the protection, conservation, and enhancement of EFH. The definition of EFH may include habitat for individual species or an assemblage of species; whichever is appropriate within each FMP. The FMPs define overall spatial boundaries (maps) for each species or species group, habitat type, and sometimes for a specific life stage. Within these maps, the FMPs identify EFH. Other species and species groups have their own set of EFH for various life stages and habitat, within their own particular map. For purposes of consultation and effects analysis, it is necessary only to identify the collective EFH for a potential area of impact.

Crucial to achieving the goal of sustainable fisheries is identifying and conserving marine and anadromous fish species, and the maintenance of suitable marine fishery habitat quality and quantity. This is achieved through classifying and describing EFH, identifying fishing and non-fishing threats, and proposing measures to protect and enhance EFH. As a supplement to the overall habitat protection policies of the South Atlantic Fisheries Management Council (SAFMC), additional policies were established (SAFMC 2015) regarding the protection of EFH and Habitat of Particular Concern (HAPC) impacted by dredging and fill activities, and related large-scale coastal engineering projects (e.g., beach scraping). The policy document was developed to provide guidance on means to avoid, minimize, and offset damage caused by these activities. SAFMC found that certain nearshore habitats were particularly vulnerable to dredge and fill projects. For the purposes of this assessment, potentially affected habitats within the project area, their EFH designation as either EFH only or EFH-HAPC, and the associated Fisheries Management Plan are those listed in Table 3-7. HAPC areas include coral habitats, hardbottom, seagrass, coastal inlets, and State-designated nursery areas.

Table 3-7. Representative categories of EFH and EFH-HAPC within the Range of the Proposed Project Area (SAFMC 2014, 2016 (revised August 2017); USACE 2015)

Habitat	Category of EFH	Fisheries Management Plan
Corals, coral reef and live bottom	EFH-HAPC EFH-HAPC EFH-HAPC	Snapper-Grouper Spiny Lobster Coral and Coral Reef
Nearshore hardbottom	EFH-HAPC EFH EFH-HAPC	Snapper-Grouper Coastal Migratory Pelagics Coral and Coral Reef
SAV (Seagrass, Macroalgae mixed)	EFH-HAPC EFH EFH	Snapper-Grouper Spiny Lobster Penaeid Shrimp
Coastal Inlets	EFH-HAPC EFH-HAPC EFH-HAPC	Penaeid Shrimp Snapper-Grouper Coastal Migratory Pelagics
Biscayne Bay Aquatic Preserve	EFH EFH-HAPC EFH-HAPC	Coastal Migratory Pelagics Penaeid Shrimp Snapper-Grouper
Unconsolidated Bottom	EFH EFH	Snapper-Grouper Spiny Lobster

### 3.4.1 Habitat Types

Pursuant to the MSFCMA, as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-297), the SAFMC (1998) has designated corals, coral reefs, hardbottom, and unconsolidated sediments as EFH. Hardbottoms are EFH for coral, red grouper (*Epinephelus moria*), gag grouper (*Mycterperca microlepis*), gray snapper (*Lutjanus gruseus*), mutton snapper (*L. analis*), white grunt (*Haemulon plumieri*), and spiny lobster (*Panulirus argus*). Unconsolidated habitats are EFH for corbina (*Rachycentron canadum*), black seabass (*Centropristis striata*), king mackerel (*Scomberomorus*), Spanish mackerel (*S. maculatus*), spiny lobster, and pink shrimp (*Farfantepenaeus duorarum*). All demersal fish species under SAFMC management that associate with coral habitats are contained within the fishery management plan for snapper-grouper species and include some of the more commercially and recreationally valuable fish of the region. All of these species show an association with coral or hardbottom habitat during their life history. In groupers, the demersal life history of almost all *Epinephelus* species, several *Mycterperca* species, and all *Centropristis* species, takes place in association with coral habitat (SAFMC 2009). Coral, coral reef, and hardbottom habitats benefit fishery resources by providing food or shelter

(SAFMC 1983). SAFMC also designates corals, coral reefs, and hardbottoms as a HAPC, which is a subset of EFH that is either rare, particularly susceptible to human degradation, especially important ecologically, or located in an environmentally stress area. In light of their designation as EFH-HAPCs and Executive Order (E.O.) 13089, NMFS applies greater scrutiny to projects affecting corals, coral reefs, and hardbottom to ensure practicable measures to avoid and minimize adverse effects to these habitats are fully explored (USACE 2017).

With respect to HAPCs, there are three types of HAPCs for corals, coral reefs, and hard/live bottom habitats in central east Florida and they include the following: 1) worm reefs in nearshore waters; 2) nearshore hardbottom in water depths 0 to 4 meters; 3) offshore hardbottom habitats in water depths of 5 to 30 meters; and 4) *Oculina* banks from Fort Pierce to Cape Canaveral in water depths greater than 30 meters. The only HAPC found near the project area are hardbottoms offshore of Bakers Haulover Inlet but not within the inlet or IWW portion of the project area.

### **3.5 COASTAL BARRIER RESOURCES**

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

The CBIA provides development goals for undeveloped coastal property held in public ownership (e.g., OPAs), including wildlife refuges, parks, and other lands set aside for conservation. These public lands are excluded from most of the CBRA restrictions, although they are prohibited from receiving federal flood insurance for new structures. CBRA unit "Otherwise Protected Area" FL-21P includes Haulover Park and adjacent areas (Figure 3-10). A portion of the BHI Channel is located inside the most southwest boundary of FL-21P.



Figure 3-10. CBRA Unit FL-21P – Haulover County Park and Surrounding Area.

Source: DERM 2018.

### 3.6 WATER QUALITY

F.A.C. Section 62-302.400, Classification of Surface Waters, Usage, Reclassification, designates five classes for state surface waters according to 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. The State of Florida lists the project areas waters as Class III, which is suitable for recreation and the propagation and management of fish and wildlife.

The FDEP, through F.A.C. Section 62-302.700, Special Protection, Outstanding Florida Waters, Outstanding National Resource Waters, has identified numerous state surface waters as Outstanding Florida Waters (OFW). These waters are worthy of special protection because of natural attributes, and their designation is also intended to protect existing good water quality. As shown in Figure 3-11, most of the project area is included in the Biscayne Bay Aquatic Preserve, which is a designated OFW.

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

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

*Except for dredged material and sediments beneath navigable waters proposed for dredging, for purposes of this guidance, HTRW includes any material listed as a "hazardous substance" under the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. 9601 et seq (CERCLA). (See 42 U.S.C. 9601(14).) Hazardous substances regulated under CERCLA include "hazardous wastes" under Sec. 3001 of the Resource Conservation and Recovery Act, 42 U.S.C. 6921 et seq (RCRA); "hazardous substances" identified under Section 311 of the Clean Air Act, 33 U.S.C. 1321, "toxic pollutants" designated under Section 307 of the Clean Water Act, 33 U.S.C. 1317, "hazardous air pollutants" designated under Section 112 of the Clean Air Act, 42 U.S.C. 7412; and "imminently hazardous chemical substances or mixtures" on which EPA has taken action under Section 7 of the Toxic Substance Control Act, 15 U.S.C. 2606; these do not include petroleum or natural gas unless already included in the above categories. (See 42 U.S.C. 9601(14).)*



Figure 3-11. Biscayne Bay Aquatic Preserve, an Outstanding Florida Water.

Source: FDEP 2019b.

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

To evaluate the potential for HTRW in the project area, FDEP’s Cleanup Sites GIS database of nearly 12,000 records, updated through December 31, 2019, was reviewed (FDEP 2019a). The Cleanup Sites layer provides locations and document links for sites currently in the cleanup process and sites awaiting cleanup funding. Cleanup programs include: Brownfields, Petroleum, U.S. Environmental Protection Agency (EPA) “Superfund” (Comprehensive Environmental Response, Compensation and Liability Act, CERCLA), Dry cleaning, Responsible Party Cleanup, State Funded Cleanup, State Owned Lands Cleanup and Hazardous Waste Cleanup.

There are a few small sites near the project area, all related to petroleum tanks (Figure 3-12).

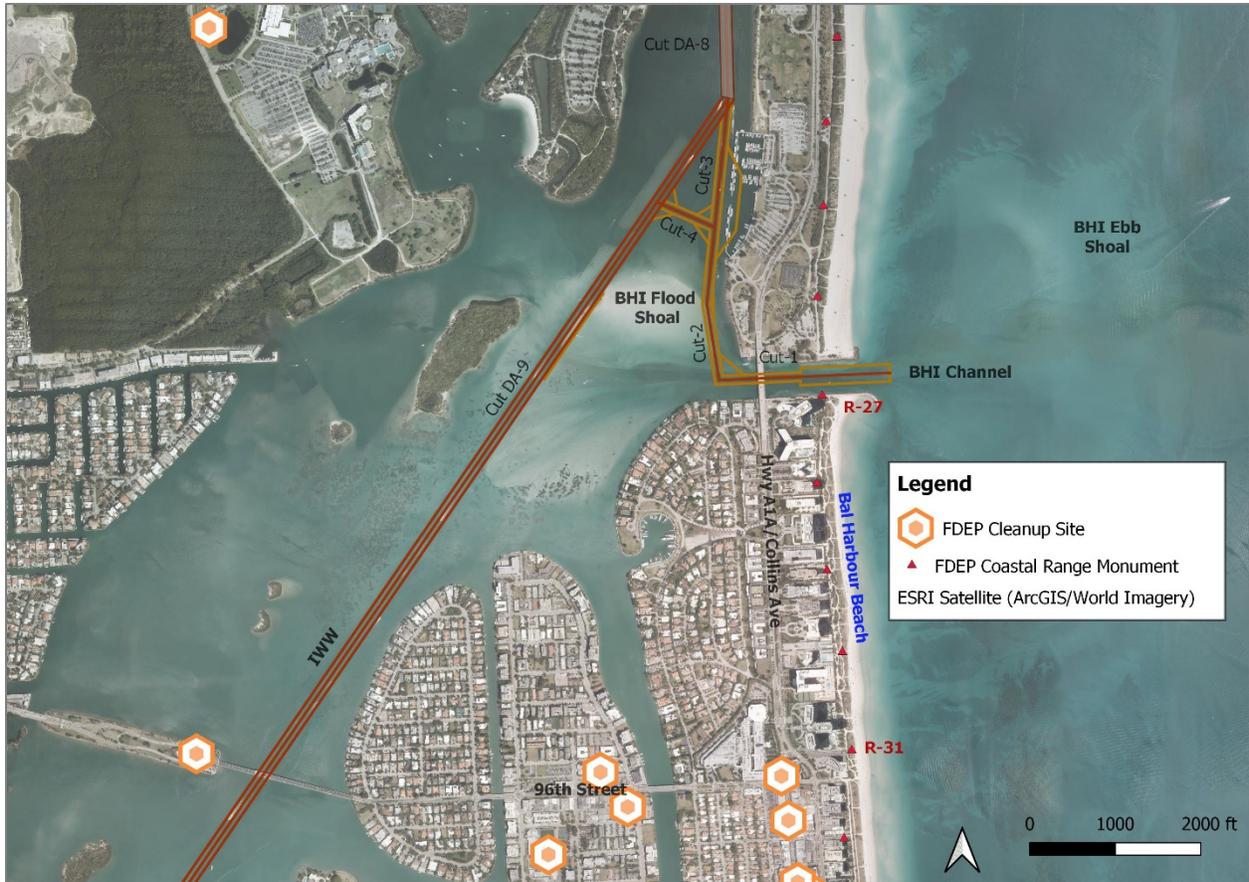


Figure 3-12. FDEP Cleanup Sites.

Source: FDEP 2019a.

### 3.8 AIR QUALITY

Ambient air quality along the Atlantic Coast of Florida is generally good due to prevalent ocean breezes from the northeast to the southeast. Coastal development and the popularity of the beaches area contribute to the presence of motorized vehicles and vessels in the project area at any given time. A review of EPA data indicates that the project area is in attainment status for all of the criteria pollutants associated with National Ambient Air Quality Standards under the Clean Air Act (USEPA 2019).

### 3.9 NOISE

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

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

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

Noise is administered under the Noise Control Act of 1972, as amended (42 U.S.C. §4901-4918). The 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 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 project area is generated by a broad range of sources, both anthropogenic and natural. Potential sources of anthropogenic sound include commercial and recreational waterborne traffic, construction activities, and land-based vehicular traffic. Natural sound sources include breaking surf, wind, and precipitation. Noise levels are typical of the marine and beach environments, and ambient noise levels in the project area are low to moderate. No ambient noise monitoring appears to have been conducted in the project area; consequently, no quantitative data on noise levels within the project area are available for analysis.

### **3.10 AESTHETICS**

The project area possesses visually pleasing attributes, including the waters and beaches of the Atlantic Ocean and Biscayne Bay. The majority of the land in the area is developed with single and multi-story commercial and residential buildings; however, green space and county parks/beaches are located along stretches of the waterfronts. The IWW is heavily used by recreational and commercial vessels. The light beige beaches contrast with the deep blue of the Atlantic Ocean. Dunes, dune vegetation and tropical plantings separate Bal Harbour Beach from condominiums and hotels along the shore.

### **3.11 RECREATION**

Miami-Dade County is heavily populated, with a tremendous volume of tourists, especially in winter. Beaches are heavily used. Other water-related activities within the project area include onshore and offshore fishing, snorkeling, self-contained underwater breathing apparatus (SCUBA) diving, windsurfing and recreational boating. The flood shoal, known as Haulover Sandbar, is heavily used by recreational boaters, especially on summer weekends. Most of the flood shoal, including Haulover Sandbar, is included in a tract of land that was transferred by quit claim deed from the State of Florida to Miami-Dade County in 1998, “solely and perpetually for public purposes.” A copy of the deed and an attachment showing the boundary of the transferred land is included as Appendix E.

There are two parks near the project area, Oleta River State Park, and Haulover County Park. Those parts of Oleta River State Park located near the project area are shown in Figure 3-13. Haulover Park is shown in Figure 3-10.

### **3.12 SOCIOECONOMICS**

The median household income in Miami-Dade County (2014 to 2018, in 2018 dollars) was \$48,982, compared to the U.S. median of \$60,293 (U.S. Census Bureau 2019). Tourism is an important part of the Miami-Dade County economy, with the largest industries being healthcare and social assistance, retail trade, along with lodging accommodations and food service (Data USA 2019). Amenities such as restaurants, fishing, nightclubs, golf courses, casinos, and malls provide a large benefit through tourism, taxes, and jobs.

### **3.13 NAVIGATION**

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

### **3.14 CULTURAL RESOURCES**

The earliest widely accepted date of occupation by aboriginal inhabitants of Florida dates from around 12,500 years ago, and new evidence suggests that people were present in the region even earlier. This earliest cultural period, called the Paleo-Indian period, lasted until about 7500 B.C. Few Paleo-Indian archeological sites are recorded in south Florida. During this period, the continental shelves were exposed, and the Florida peninsula encompassed an area approximately twice the current size of the state Florida. Gradual sea level rise which occurred between about 10,000 years ago to 6,000 years ago resulted in the submergence of many terrestrial archaeological sites along the Gulf Coast.

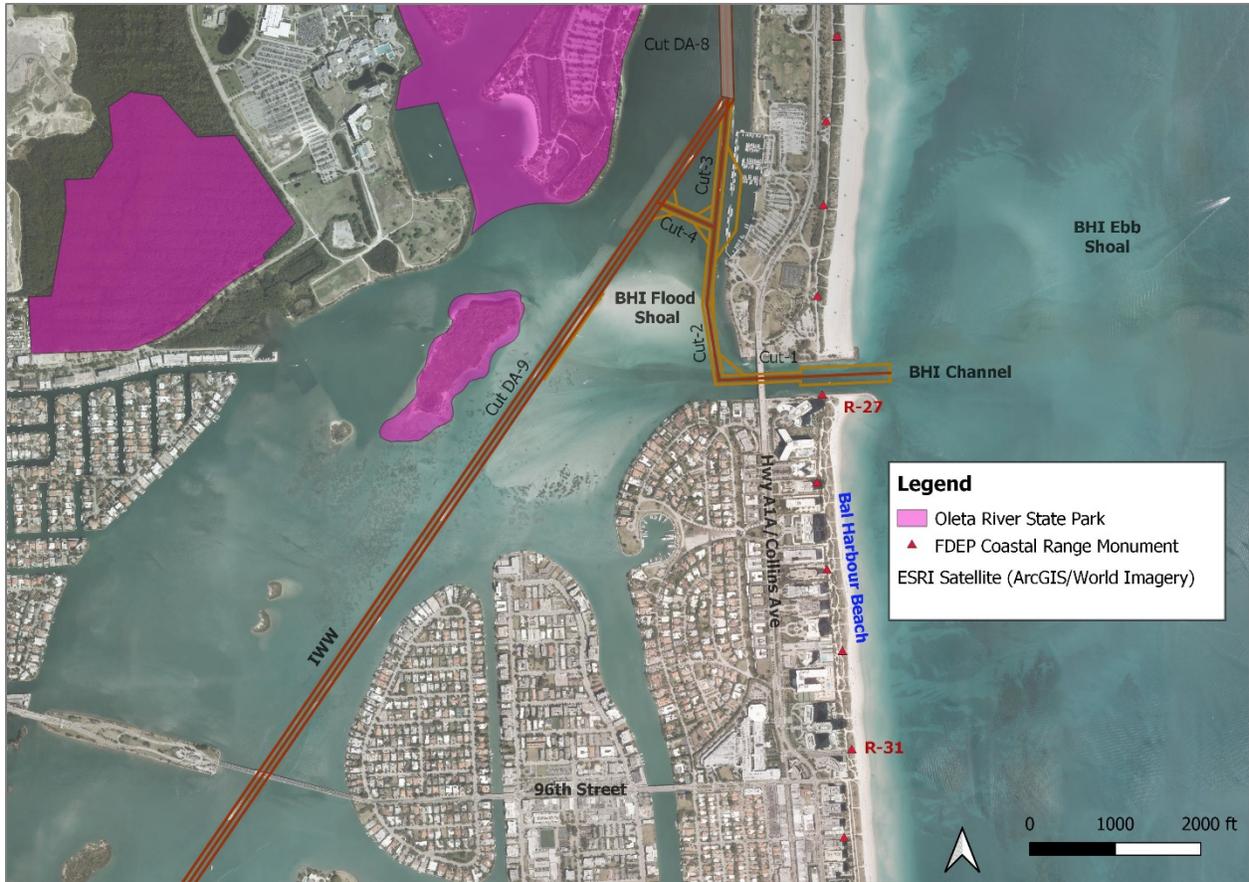


Figure 3-13. Portion of Oleta River State Park near Project Area.

Source: FDEP 2019b.

During the Archaic period (ca. 7500 B.C.-ca. 500 B.C.), prehistoric people exploited a wider range of resources and may have led a more sedentary existence than earlier periods. Most Archaic period archeological sites recorded in the Florida Master Site File (FMSF) are clustered along the Atlantic and Gulf coasts, near rivers and along old remnant lake shorelines. Sea levels continued to rise until reaching approximate modern levels during this period. The stabilization of sea levels resulted in the formation of estuaries where Archaic period populations heavily exploited coastal resources. Large prehistoric Archaic period shell rings have been identified on coastal sites including St. Lucie and Martin Counties in southeast Florida (Russo 2006).

Two Late Archaic cultures are generally archaeologically recognized in South Florida; the Orange culture and the Glades cultures. The Orange culture is recognized for using a distinctive type of pottery manufactured using fiber temper. While most widely known from northeast Florida, Orange culture sites are recognized along the southeast coast. Site types generally consist of middens composed of oyster and coquina shell along the coasts and freshwater pond snail along the inland rivers and streams. Settlement in the Glades region primary centered along the coastal

marshes where rivers and creeks drain interior wetlands and along the coastal estuaries themselves. Here large shell middens with a variety of estuarine and marine resources are a testimony to the productivity of the coastal zone and the success of human adaptations to the coastal environment. It is productivity of the estuarine environment and the successful adaptations to that environment that facilitated social complexity without the need for agriculture.

Many sites along the coast are considerably large and represent village sites spanning generations of use. Some are low linear shell deposits that parallel the coast or follow the banks of estuarine creeks for several hundred meters. Other sites on the coast and the interior are small, short-term special-use camp sites, utilized for the procurement of seasonally available resources.

European exploration of the southwest Florida began in the sixteenth century. The earliest recorded historic maritime activity in the project area dates to 1513, when Ponce de Leon led the first “authorized discovery” of Florida. Before that documented voyage, it is virtually certain that Spaniards were using Florida as a staging ground to capture slaves and possibly provision their ships, as had been practiced extensively in the Bahamas for some time. After Ponce de Leon’s initial landfall, near present day St. Augustine, he then explored south along the coast, around the Florida Keys and north up the west coast of the peninsula, before returning to Puerto Rico. Later, other explorers including Panfilo de Narvaez, and Hernando de Soto landed near present day Tampa Bay, and the Tristan de Luna expedition arrived in Pensacola Bay.

After founding St. Augustine, Don Pedro Menéndez de Avilés also explored the coast of the Florida peninsula, guided by Hernando de Escalante Fontaneda. Menéndez with Fontaneda made his way around coast of Florida in the 1560s made contact with the Tequesta Indians who had lived in southeast Florida for thousands of years. “Menendez and his men visited the Tequesta settlement in 1566. Spanish settlers built a mission at the mouth of the Miami River by 1567. They built a fort in 1743. Many Spanish colonists, along with residents of other lands, established homes and farms along the Miami River and Biscayne Bay” (Florida Center for Instructional Technology 2002).

During the 16<sup>th</sup>, 17<sup>th</sup>, and 18<sup>th</sup> centuries, the Miami area sustained American Indian camps and Spanish missions and forts. Jesuit missionary Brother Francisco de Villareal established a mission for the native Tequesta Indians near the mouth of the Miami River in 1567 (Carson 1962). In the two and one-half centuries after the first Spanish visit to the area, however, most of the aboriginal Indians had disappeared (Patricos 1994). During the 1600s and 1700s, the Spanish, French and English continued to fight over territory and religion in Florida. In 1763, the Spanish relinquished control of Florida to the British in a settlement following the Seven Years War. The British made relatively little impact at the southern end of the peninsula and little economic activity was accomplished, so the Miami area remained relatively unsettled by Europeans.

By 1784, Florida was once again under Spanish control. Following the War of 1812 between the United States and Britain, and the related Creek War (1813-1814) between the U.S. and Creek Indians in Alabama, armed parties of American slave owners began to cross the border into Spanish Florida in search of their runaway/marooned African American slaves. These maroons often joined with Creek or Seminole tribes in Spanish Florida, many of whom had fought against the U.S. during the Creek War and became known as Black Seminoles. With the widespread burning of Creek towns and the capture and occupation of forts, it became increasingly obvious to Spanish authorities that they could not effectively defend their territories against American incursion. To make the best out of an inevitable outcome Spain entered into negotiations with the U.S. and by 1819 had tentatively agreed to transfer Florida to the United States under the terms of the Adams-Onís Treaty. The treaty was ratified in 1821 and Florida was surrendered to the jurisdiction of the United States.

In 1836, Dade County was carved from Monroe County. William English expanded his area holding and rebuilt his uncle's, Richard Fitzpatrick's, plantation around the abandoned Fort Dallas. English platted the area as the "Town of Miami" in 1842 and it was designed the seat of Dade County in 1844 (Carson 1962). English attempted to attract settlers to his property, but without much success. Many settlers including English left the country during the period of increased Indian activity in 1849. During the 1850's, the United States government attempted to solve the Indian problem with deportation. Members of the Miccosukee tribe resisted relocated by escaping into the Everglades. Descendants of these escapees are still found in the Miami-Dade today as members of the Miccosukee and Seminole Tribes. After the Third Seminole War, a 16-foot-wide road was built from Miami to Fort Lauderdale to allow exportation of goods. Another source of income was from "wrecking," which is the legal and illegal act of salvaging from ships that wrecked on the dangerous Florida reefs.

At the outbreak of the Civil War, Miami was little more than untamed wilderness with a few hardy pioneers around the Miami River. Limited transportation methods isolated the town from the rest of the state, partly because of the poor agriculture there due to the poor soils. Key West was the most important connection that Miami had to the outside world and a ship sailed between the settlements on a monthly basis (Staubach 1993). The blockade of Key West is what damaged Miami the most during the Civil War (Staubach 1993). The progress of the war enticed many refugees to escape to the Miami region. The isolated nature of the town brought Yankees, rebels, deserters, neutralists, and Seminoles to the area.

With the end of the Civil War, Miami was once again left to its own devices and could focus on increasing the profitability of the little settlement. Julia D. Tuttle purchased a 640-acre Biscayne Bay company tract on what would become the city of Miami, and pressured Mr. Flagler to extend his railroad to Miami. After the rail reached Miami, the town exploded with new buildings and new people (Dorn 1949). Three months after the rail was introduced, Miami was officially

incorporated as a city on July 28, 1896 (Wilson 1954). Since WWII, the Miami metropolitan area has been a dynamic and changing region.

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

The Bakers Haulover channel, authorized by the River and Harbor Act of 1960, was first cut in 1925 with the USACE creating a more formal inlet channel around 1962. Due to the relatively modern creation of this inlet, the probability for the inlet region to contain historic shipwrecks is considerably lower than those areas where natural inlets attracted more intensive, historic maritime activity. However, the inland waters still provided navigable maritime corridors for local commerce and recreation, and the potential for historic sites associated with these activities exists.

The National Park Service on-line database of National Historic Register Sites currently does not include any sites in the project area (NPS 2019).

#### **3.14.1 Previous Cultural Resource Investigations**

In a 1997 cultural resource survey, the USACE found eight magnetic anomalies in a survey of the area between Bakers Haulover Inlet and the Intracoastal Waterway. Based on further investigation, all but one magnetic anomaly target, BH-4, located in the north central area, appear to be from single ferrous objects. Target BH-4 was a multi-component magnetic signature but determined to likely be modern debris associated with the Intracoastal Waterway channel navigation piling/signage. As such, there is no evidence of historic shipwrecks in the project area, and the target most likely represents modern debris. No additional investigations were recommended in conjunction with that proposed dredging project (Watts and Tubby 1997).

### **3.15 NATIVE AMERICANS**

No portion of the proposed action is located within or adjacent to known Native American-owned lands, reservation lands, or TCPs relevant to Native Americans; however, Native American groups have lived throughout the region as evidenced by the presence of prehistoric archaeological sites in the project area, and their descendants continue to live within the State of Florida and throughout the United States.

### **3.16 VEGETATION**

Submerged aquatic vegetation is discussed in Sections 3.2 and 3.4. This section addresses vegetation in the dune system along Bal Harbour Beach. The dune system in Miami-Dade County between Government Cut and Bakers Haulover Inlet, which includes Bal Harbour Beach, is largely artificial and was built as part of the Dade County BEC&HPP. Dominant plant species in the dune

communities include sea grapes, *Coccoloba uvifera*; the beach morning glory, *Ipomoea pescaprea*; beach bean, *Canavalia rosea*; sea oats, *Uniola paniculata*; dune panic grass, *Panicum amarulum*; bay bean, *Canavalia maritima*. The beachberry or inkberry, *Scaevola plumieri*; sea lavender, *Malotonia gnaphalodes*; spider lily, *Hymenocallis latifolia*; beach star, *Remirea maritima*; and coconut palm, *Coco nucifera* are also present (USACE and BOEM 2016).

### **3.17 INVASIVE SPECIES**

Many invasive plant species have been recorded in the Biscayne Bay area. The Florida Exotic Pest Plant Council designates as Category I those species that are altering native communities by displacing native species, changing community structures or ecological functions, or hybridizing with natives. Category I species found in the Biscayne Bay area include Australian-pine or horsetail casuarina (*Casuarina equisetifolia*), Beach napuka (*Scaevola sercea*), Brazilian pepper (*Schinus terebinthifolius*), Burmared or silkreed (*Neyraudia reynaudiana*), dayflowering jessamine (*Cestrum diurnum*), guava (*Psidium guajava*), Latherleaf or Asian nakedwood (*Colubrina asiatica*), napier grass or elephantgrass (*Pennisetum purpureum*), paragrass (*Urochloa mutica*), portiatree (*Thespesia populnea*), rose natalgrass (*Rhynchelytrum repens*), Sapodilla (*Manilkara zapota*), shrubverbena (*Lantana camara*), Sprenger's asparagus fern (*Asparagus densiflorus*), Surinam cherry (*Eugenia uniflora*), torpedo grass (*Panicum repens*), Tuberous sword fern (*Nephrolepis cordifolia*), and valamuerto (*Senna pendual var. glabrata*).

## 4 ENVIRONMENTAL EFFECTS

This chapter is the scientific and analytic basis for the comparisons of the alternatives (see Table 2-1: Summary of Direct and Indirect Effects). As described in Section 2, there are two alternatives under consideration for renourishment of Bal Harbour Beach: The No Action Alternative and the Preferred Alternative. The No Action Alternative includes all potential sand source evaluated under previous NEPA documents (existing sand sources). The Preferred Alternative includes all existing sand sources plus the BHI Channel, BHI Flood Shoal, and Cemex and Garcia upland sand mines.

The effects of sand placement on Bal Harbour Beach has been evaluated in a previous NEPA document (see this EA's section 1.5). The effects at both Cemex and Garcia mine have been evaluated through the Corps' Regulatory NEPA. The effects of transporting beach quality sand from Garcia and Cemex are similar in nature to effects of other upland mines previously evaluated by this project's NEPA (see this EA's section 1.5) and are hereby incorporated by reference. Therefore, the effects analysis for the Preferred Alternative addresses effects associated with dredging sand for beach placement from the BHI Channel and the BHI Flood Shoal.

The following analysis includes anticipated changes to the existing environment including direct, indirect, and cumulative effects:

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

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

- **Context** (limited, local, or regional)

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

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

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

#### **4.1 SOILS/SEDIMENT CHARACTERISTICS**

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

##### **4.1.1 No Action Alternative (Status Quo)**

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

##### **4.1.2 Preferred Alternative**

There would be no adverse effect on native sediment characteristics within the navigation channels or the flood shoal as a result of dredging activities. A review of sediment quality from previous dredging events shows that the sediment dredged from each event was very similar in nature, and is likely due to the deposition of beach quality sand being brought in from the ebb shoal on incoming tides and settling out onto the flood shoal and BHI Channel.

#### **4.2 THREATENED AND ENDANGERED SPECIES**

Coordination has been completed with USFWS and NMFS regarding effects of the preferred alternative to threatened and endangered species. The Corps has determined the application of the SARBO for species under NMFS jurisdiction and the Statewide Programmatic Biological Opinion for Shore Protection Activities (SPBO) for species under USFWS jurisdiction is appropriate for the project.

##### **4.2.1 No Action Alternative (Status Quo)**

Under the No Action Alternative, there is potential for temporary, localized adverse effect to sea turtles in the water column if a hopper dredge is used during project construction. There is potential for temporary, minor, localized effect to Florida manatee due to in-water activities. There is potential for temporary, minor, localized effects to Johnson's seagrass during dredging

of IWW. There is potential for temporary, minor, localized effects to staghorn coral during dredging of BHI ebb shoal. Placement of dredged material on Bal Harbour Beach would enhance or restore habitat in the short-term.

#### **4.2.2 Preferred Alternative**

##### **4.2.2.1 Sea Turtles**

USACE has determined that dredging activities conducted with a hopper dredge may affect, and are likely to adversely affect, swimming sea turtles. All other dredging activities are not likely to adversely affect swimming sea turtles. The USACE determined that the project activities (both maintenance dredging and dredging for borrow) fall within the scope of the SARBO (NMFS 2020). The work within BHI Channel and BHI Flood Shoal is included within the 2020 SARBO and specifically referenced in Section 2.8.1.4 on page 64. Only loggerhead, green, hawksbill, and Kemp's ridley sea turtles are vulnerable to being taken by the use of hopper dredges to maintain navigation channels and for borrow purposes (NMFS 1997). To minimize the risk to these sea turtles, if a hopper dredge is used, standard sea turtle protection conditions will be implemented such as draghead deflectors, inflow screens, and monitoring of the operation by qualified personnel. The project will also implement the NMFS Sea Turtle and Smalltooth Sawfish Construction Conditions during project construction. The USACE plans and specifications for the proposed action will include the Terms and Conditions (T&C) and Project Design Criteria (PDCs) contained within the biological opinions to minimize adverse effects to listed species and comply with incidental take authorizations where adverse effects cannot be avoided.

##### **4.2.2.2 Marine Mammals**

Primarily because of concerns about sea turtle mortality with the use of hopper dredges, NMFS issued a programmatic biological opinion specifically for hopper dredging of channels and borrow areas (NMFS 1997). The SARBO also addresses ESA-listed whales. In the SARBO, NMFS notes that while several ESA-listed whale species are known to occur along the Atlantic coast (fin, humpback, and sei), it is unlikely that they would be adversely affected by hopper dredging activities (NMFS 1997). The SARBO does not address other types of dredges; however, as clamshell and cutterhead dredges are static, they are also unlikely to affect the species. Work crews will monitor for whales during all waterborne work. USACE has determined that based on NMFS' conclusions, the proposed dredging and placement operations may affect, but are not likely to adversely affect, ESA-listed whales.

Manatees typically use nearshore waters for migration, and their movements may be affected by the presence of in-water construction equipment. The USACE and its contractors will abide by the 2011 Standard Manatee Conditions for In-Water Work to ensure no adverse effects occur to any manatees that may venture into the project area during construction activities. For example, siltation or turbidity barriers (if used) shall be made of material in which manatees

cannot become entangled, shall be properly secured, and shall be regularly monitored to avoid manatee entanglement or entrapment. With adherence to the manatee protocols identified in Section 6.1, the USACE determines that the proposed project may affect, but is not likely to adversely affect, the Florida manatee.

#### 4.2.2.3 Smalltooth Sawfish

Smalltooth have an affinity for shallow, estuarine waters, though primarily in far south Florida, along the Gulf Coast and Everglades. They are addressed in the NMFS Gulf counterpart to the SARBO (the Gulf Regional Biological Opinion, GRBO, NMFS 2003). In the GRBO, NMFS concludes that because of the rarity of the smalltooth, even in the action area, the likelihood of entrainment is very low, and the chances of hopper dredging for maintenance or borrow affecting the smalltooth are discountable (NMFS 2003). In light of the even greater rarity of the species in the project area and the USACE's implementation of the NMFS Sea Turtle and Smalltooth Sawfish Construction Conditions during project construction, the USACE has determined that the proposed project would have no effect on the smalltooth sawfish as any potential effects to this species are anticipated to be so insignificant as to be discountable.

#### 4.2.2.4 Piping Plover

Dredging activities would not be expected to affect the piping plover. Regarding beach placement activities, coordination with the USFWS occurred under the BEC&HPP (which includes Bal Harbour). All beach placement work will comply with the Reasonable and Prudent Measures, Terms and Conditions and minimization measures as outlined in the revised May 22, 2013 P3BO or any subsequent P3BO (USACE and BOEM 2016).

#### 4.2.2.5 Rufa Red Knot

Dredging activities would not be expected to affect the red knot. In coordination with the USFWS for beach placement activities under the BEC&HPP (which includes Bal Harbour), the USACE and BOEM concluded that the project area includes habitat that could be suitable but is not optimal for the rufa red knot. The USACE concluded that beach placement activities are not likely to adversely affect the rufa red knot with implementation of the following measures (USACE and BOEM 2016):

1. Adhere to appropriate seasonal windows to the maximum extent possible;
2. Modify pipeline alignment and associated construction activities to reduce impacts to foraging, sheltering, and roosting;
3. Install predator-proof trash receptacles and maintain them during construction at all beach access points used for the project construction. Workers shall be briefed on the importance of not littering and keeping the project area trash and debris free.

#### 4.2.2.6 Johnson's Seagrass

Dredging activities may affect seagrasses by direct removal, light limitation due to turbidity, and burial from sedimentation (NMFS 2017). The USACE has determined that maintenance dredging of the BHI Channel may affect Johnson's seagrass without appropriate minimization measures and protections; however, the environmental commitments, as described in Section 6 and as required by the SARBO's PDCs, will provide appropriate minimization measures and protections to this resource. Therefore, the USACE has determined the project may affect, but is not likely to adversely affect (MANLAA) Johnson's seagrass. The inclusion of BHI Channel and BHI Flood Shoal as additional sand sources is covered by the SARBO (NMFS 2020).

#### 4.2.2.7 Listed Corals

Potential effects to listed corals were addressed in the EA evaluating sand source alternatives (USACE and BOEM 2016), which is incorporated by reference. None of these corals were found in the flood shoal area during the 2019 survey.

### 4.3 FISH AND WILDLIFE RESOURCES

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

#### 4.3.1 No Action Alternative (Status Quo)

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

#### 4.3.2 Preferred Alternative

##### 4.3.2.1 Marine Mammals

Dredging is not likely to have a direct, adverse effect on the majority of non-listed marine mammal species as these species are highly mobile and can vacate areas at the commencement of construction activities. Moreover, vessels associated with dredging and placement activities are slow moving and are not likely to strike marine mammals such as bottlenose dolphin. In the April 25, 2005 notice in the Federal Register (70 Federal Register (FR) 21174) for the issuance of an Incidental Harassment Authorization (IHA) for Small Takes of Marine Mammals Incidental to Specified Activities; Port of Miami Construction Project (Phase II), NMFS stated: "*According to the Corps, bottlenose dolphins and other marine mammals have not been documented as being directly affected by dredging activities and therefore the Corps does not anticipate any incidental harassment of bottlenose dolphins by dredging.* Potential effects to, and measures to protect, the Florida manatee are outlined in Section 6.1.

##### 4.3.2.2 Fish

The potential for injury or entrainment due to dredging would most likely affect demersal species (those living close to the sea floor). Moreover, dredging and placement of dredged material on

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

#### 4.3.2.3 Seagrass and Other Benthic Resources

Seagrass growing in the dredging footprint will be removed. Seagrass that occur in the side slopes may also be lost as a result of the dredging activities. Loss of some seagrass may occur as a result of anchor placement when the dredge operations are ongoing. Past NEPA analyses have documented that the limited loss of seagrass within the federal project area is negligible when compared to the extensive seagrass resources in undisturbed areas. Furthermore, past studies have shown that seagrass within the federal channels naturally restore themselves in between dredging events. (DERM 2014, 2010, and 2006). The effects to seagrasses are expected to be short term with no long-term significant effects to these resources.

#### 4.3.2.4 Birds

Vision has been shown to be an important component in the foraging activity of a number of seabird species (Essink 1999; Garthe et al. 2000; Gaston 2004; Thaxter et al. 2010). As a result, water clarity may play an important role in the foraging success of these, and other, species. Therefore, it is likely that the changes to water clarity resulting from the suspension of sediments during dredging operations have an indirect, temporary, and localized adverse effect on the foraging capabilities of some species; however, mobility of the seabirds and the availability of abundant foraging areas adjacent to the project area would minimize any potential adverse effect.

### 4.4 ESSENTIAL FISH HABITAT ASSESSMENT

Effects to EFH were evaluated through literature search and best professional judgment. The proposed project description is in Section 2.1.2, while a description of “existing conditions” of EFH, federally managed fisheries, and associate species such as major prey species is in Section 3.4, Essential Fish Habitat.

As defined in 50 CFR § 600.810, an adverse effect means “any impact that reduces quality and/or quantity of EFH.” They can be direct or indirect, affecting not only the habitat itself but other

components including the benthic organisms that reside there, the water column above the habitat, or any modification that diminishes the quality or quantity of the overall system.

EFH that may be directly and indirectly impacted by the proposed project are likely to include the coastal inlet, unconsolidated sediments, hardbottom, and seagrass habitats.

Per the September 3, 2019 and October 2, 2019 EFH Finding between NMFS' Southeast Regional Office and U.S. Army Corps of Engineers, South Atlantic Division (SAD), the EFH Assessment for the project is integrated within the EA. Consultation was initiated with NMFS Habitat Conservation Division (HCD) for effects related to EFH concurrent with the noticing of the draft EA. NMFS-HCD provided a recommendation letter to the Corps on May 3, 2020. The Corps and NMFS-HCD prepared a collaborative response addressing all of NMFS-HCD's recommendations. The Corps response was provided to NMFS on August 12, 2020. NMFS responded with concurrence to the Corps' recommendation responses and incorporation into the Preferred Alternative on August 17, 2020.

#### **4.4.1 No Action Alternative (Status Quo)**

Temporary, minor, localized, and direct adverse effect to non-vegetated bottoms and benthic habitat are likely to result from dredging operations. Temporary, minor, localized, and indirect effects (decreased water quality - turbidity) on managed species and the water column are likely in the vicinity of dredging operations.

#### **4.4.2 Preferred Alternative**

The proposed removal of sand from the in-water locations under the proposed action are expected to have minor, temporary adverse effects to the water column and EFH.

Direct, adverse effects to seagrasses are not anticipated because all occurrences of seagrasses are located outside of the dredging footprint. In addition, the dredging contractor will be prohibited from anchoring in, placing pipe on, or otherwise directly impacting seagrass (see Section 4.21). There is the potential for indirect, temporary and localized adverse effect to seagrasses from increased turbidity levels within the mixing zone; however, the USACE contractor will monitor turbidity levels during dredging and placement activities to ensure compliance with State water quality standards. Because of the proximity of seagrasses to proposed dredging areas of the BHI Channel and Flood Shoal, USACE will conduct post-construction surveys to assess any potential impact.

### **4.5 COASTAL BARRIER RESOURCES**

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

#### **4.5.1 No Action Alternative (Status Quo)**

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

#### **4.5.2 Preferred Alternative**

CBRA Unit FL-21P overlaps a portion of the BHI Channel (Figure 3-10). The proposed project does not include the construction of structures that would require Federal Flood Insurance; therefore, Federal expenditures for the proposed project are not restricted in Unit FL-21P.

### **4.6 WATER QUALITY**

Effects to water quality were evaluated using literature search and best professional judgment.

#### **4.6.1 No Action Alternative (Status Quo)**

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

#### **4.6.2 Preferred Alternative**

Dredging activities would likely produce a temporary, minor, and localized adverse effect to water quality. Specifically, turbidity levels within the mixing zone would likely elevate above established background levels during periodic maintenance dredge operations. Visible plumes at the water surface would also be expected in the immediate vicinity of the operation. The use of turbidity curtains as described in Section 6 will limit turbidity effects. Elevated turbidity levels are expected to dissipate rapidly, returning to background levels in a short time period. In order to ensure that turbidity levels do not exceed the compliance standards, turbidity monitoring will be undertaken at the dredge sites. If turbidity levels exceed compliance standards, the USACE and/or its contractor will alter construction techniques or shut down the dredging or dredged material placement operations until such time that compliance with turbidity standards are met. Any return water from the pipeline will meet applicable water quality standards. Water quality certification will be obtained prior to the commencement of any periodic maintenance dredging activities associated with this EA.

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

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

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

#### **4.7.1 No Action Alternative (Status Quo)**

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

#### **4.7.2 Preferred Alternative**

The small-scale petroleum tank and dry-cleaning sites found in FDEP's extensive database are highly unlikely to have any impact on the project. No effects are expected.

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

### **4.8 AIR QUALITY**

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

#### **4.8.1 No Action Alternative (Status Quo)**

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

#### **4.8.2 Preferred Alternative**

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

The proposed project is exempt from the Clean Air Act (CAA) conformity requirements because it is not located in a Federal nonattainment area or maintenance area (F.A.C. 62-204.340 (1-4)). Emissions from off-road equipment and marine vessels are controlled at the federal level, through standards for engine and motor manufacturers (40 CFR Parts 1037 to 1074). The proposed project does not require air quality permits.

## 4.9 NOISE

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

### 4.9.1 No Action Alternative (Status Quo)

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

### 4.9.2 Preferred Alternative

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

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

Field investigations have been undertaken to characterize underwater sounds typical of bucket, hydraulic cutterhead, and hopper dredging operations (Dickerson *et al.* 2001). Preliminary findings indicate that cutterhead dredging operations are relatively quiet as compared to other dredging operations in aquatic environments. Hopper dredges produce somewhat more intense sounds similar to those generated by vessels of comparable size. Bucket dredges create a more

complex spectrum of sounds, very different than either cutterhead or hopper dredges. Hopper dredge noises consist of a combination of sounds emitted from two relatively continuous sources: engine and propeller noise similar to that of large commercial vessels, and sounds of dragheads moving in contact with the substrate. The intensity, periodicity, and spectra of emitted sounds differ greatly among dredge types. Components of underwater sounds produced by each type are influenced by a host of factors including substrate type, geomorphology of the waterway, site-specific hydrodynamic conditions, equipment maintenance status, and skill of the dredge plant operator (Dickerson *et al.* 2001).

Noise generated by construction activities may result in a temporary, minor, and localized adverse effect to residents and tourists in the areas of dredging. However, noise generated from these activities is not expected to be too noticeable over ambient noise levels within the project area in light of existing boat and vehicular traffic, as well as residential and commercial activities.

Additionally, construction activities and noise generated from pipelines and/or booster pumps that transport dredged material to the placement areas, may result in a temporary, minor, and localized adverse effect to residents and/or tourists; however, the increase in noise generated from project activities would likely not be too noticeable over ambient noise from wind and wave action. Once periodic maintenance dredging and placement have concluded, noise levels will return to background levels within the project area. There is no expectation of adverse effects to the natural environment as a result of construction-related noise.

Best management practices that may be used to reduce noise produced by equipment include:

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

#### **4.10 AESTHETICS**

Effects to aesthetics were evaluated using best professional judgment.

##### **4.10.1 No Action Alternative (Status Quo)**

There would be a temporary, minor, and localized adverse effect to aesthetics in the project area due to the presence of construction equipment located within the waterways and along the

pipeline corridors where dredged material is pumped from in-water dredging operations to the beach placement area.

#### **4.10.2 Preferred Alternative**

Effects would be similar to the No Action Alternative, though some of the locations of effects would be different (e.g., BHI Channel rather than flood shoal). The Haulover Sandbar is currently exposed during low tide events. Dredging of the flood shoal would alter the viewshed by making the sandbar fully submerged until the flood shoal recharges.

### **4.11 RECREATION**

Effects to recreation were evaluated using best professional judgment.

#### **4.11.1 No Action Alternative (Status Quo)**

Recreational watercraft would experience a temporary, minor adverse effect as a result of the presence of dredging equipment within the IWW and the BHI ebb shoal; however, there would be a long-term, localized beneficial effect to watercraft recreation after the periodic maintenance dredging of the Federal channel to its authorized width and depth. There would be a temporary, minor, and localized adverse effect to recreational fishing along the IWW during dredging operations as fishing opportunities would likely be curtailed by localized loss of access and/or disrupted by the displacement of target fish species by underwater dredging activities.

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

#### **4.11.2 Preferred Alternative**

Adverse impacts to recreational watercraft and recreational fishing would be similar to those of the No Action Alternative, with the addition of the BHI Channel and Flood Shoal as potential dredging sites.

The effect on recreational use of the Haulover Sandbar at the BHI Flood Shoal will be long-term (i.e., greater than one year). The long-term effect would impact recreational boaters, who would need to temporarily find other places to recreate. Food vendors who service boaters at the flood shoal would also be impacted by the dredging and recovery of the shoal. Dredging of the flood shoal would be a short-term construction activity and would not affect the long-term public use of the shoal. In addition, the dredged material would be used for public purposes.

### **4.12 SOCIOECONOMICS**

Socioeconomic effects were evaluated using best professional judgment.

#### **4.12.1 No Action Alternative (Status Quo)**

Maintenance and other dredging and associated placement of dredged material will ensure continued use of the navigation channels and beaches, which provides benefits to the socioeconomic resources in this area. Adverse effects on tourism associated with placement activities will be temporary and minor. No long-term adverse effects are expected.

#### **4.12.2 Preferred Alternative**

The socioeconomic effects of the Preferred Alternative are expected to be the same as for the No Action Alternative, as both will result in maintained navigation channels and the renourishment of Bal Harbour Beach.

### **4.13 NAVIGATION**

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

#### **4.13.1 No Action Alternative (Status Quo)**

Under the No Action Alternative, shoaling would continue and likely result in continued shallowing of the BHI Channel. The shallowing of the channel would in turn restrict the navigability for recreational and commercial watercraft using the waterways resulting in a potential long-term, major, and localized adverse effect to navigation. Because vessels would tend to use the center of the channel, shoaling at the sides could also result in a narrowing of the channels, which would affect public safety by increasing the potential for collisions. The BHI Flood Shoal is at hydrodynamic equilibrium; therefore, it is likely that increased shoaling will continue to occur in the channels adjacent to the flood shoal, which will likely result in an increased need for dredging to ensure safe navigation.

#### **4.13.2 Preferred Alternative**

Although there could be a temporary, minor, and localized adverse effect to navigation during dredging operations from the presence of in-water construction equipment, periodic maintenance dredging of sediment within the Federally-maintained BHI Channel would result in a long-term, major beneficial effect to safe and efficient navigation. Since the BHI Flood Shoal is a source of the federal channel shoaling, dredging the flood shoal would likely postpone the need for future dredging of the adjacent channels.

In addition, there are existing aids to navigation that will be affected by routine maintenance dredging of the channels. Temporary relocation of the U.S. Coast Guard (USCG) aids to navigation (ATONs) that mark the channel will be required to complete maintenance dredging of these waterways.

#### **4.14 CULTURAL RESOURCES**

In 1997, USACE issued a contract to complete a submerged cultural resource survey of the area between Bakers Haulover Inlet and the IWW. This investigation identified no historic or prehistoric cultural resources within the dredge area of potential effects (APE). The work is documented in the Tidewater Atlantic Research report titled *Submerged Historic Properties Survey, IWW Bakers Haulover, Dade County Florida* (Watts and Tubby 1997).

##### **4.14.1 No Action Alternative (Status Quo)**

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

##### **4.14.2 Preferred Alternative**

Based on this cultural resource survey, USACE determined that the proposed periodic dredging in the BHI Channel and BHI Flood Shoal will have no effect on historic properties eligible for inclusion in the National Register of Historic Places (NHRP).

The Preferred Alternative poses no adverse effect to cultural resources listed or eligible for listing in the NRHP. Pursuant to Section 106 of the NHPA, the Corp determined there would be no adverse effect to historic properties for the Preferred Alternative and provided the consultation request to the Florida SHPO on July 30, 2020. The Florida SHPO provided concurrence with the Corps' determination on August 20, 2020. Pertinent correspondence can be found in Appendix A.

#### **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 related to Native Americans. However, Native American groups have lived throughout the region as evidenced by the presence of prehistoric archaeological sites near the project area, and their descendants continue to live within the State of Florida and throughout the United States. Pursuant to Section 106 of the National Historic Preservation Act (NHPA) (54 U.S.C. §306101 *et seq.*), obligations regarding the USACE's Trust Responsibilities to federally-recognized Native American Tribes, and in consideration of the Burial Resources Agreement between the USACE and the Seminole Tribe of Florida, the USACE consulted with the appropriate federally-recognized tribes. The Corps provided consultation request letters to the Seminole Nation of Oklahoma, Miccosukee Tribe of Indians of Florida, Muscogee (Creek) Nation, Seminole Tribe of Indians of Florida, and Thlopthlocco Tribal Town by letter on July 30, 2020. The Muscogee (Creek) Nation deferred comment to the other tribes via email on July 30, 2002. The Seminole Tribe of Florida stated no objection to the project on August 18, 2020. The other contacted tribes declined to comment. Pertinent correspondence can be found in Appendix A.

#### **4.15.1 No Action Alternative (Status Quo)**

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

#### **4.15.2 Preferred Alternative**

The Preferred Alternative is not likely to affect Native Americans.

### **4.16 VEGETATION**

Beach placement activities are the same under both the No Action and Preferred Alternatives. No work would be performed on vegetated upland or dune areas. Construction specifications will set limits on how close the construction activities may come to plants on the beach. No adverse impacts to terrestrial vegetation are expected.

#### **4.16.1 No Action Alternative (Status Quo)**

The No Action Alternative would have no effect on upland or dune vegetation.

#### **4.16.2 Preferred Alternative**

The Preferred Alternative would have no effect on upland or dune vegetation.

### **4.17 INVASIVE SPECIES**

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

#### **4.17.1 No Action Alternative (Status Quo)**

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

#### **4.17.2 Preferred Alternative**

In-water maintenance dredging activities would have no adverse effect on the presence and/or distribution of terrestrial invasive and noxious species within the project area. Best management practices to thoroughly clean construction equipment and vehicles would prevent the transportation of both marine and terrestrial invasive and noxious species to and from the project area.

### **4.18 CUMULATIVE IMPACTS**

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

*“...the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or*

*nonfederal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.”*

Cumulative environmental effects for the proposed action were assessed in accordance with guidance provided by the President’s Council on Environmental Quality (CEQ). A six-step process was followed to assess cumulative effects on resources affected by the maintenance dredging and associated placement of dredged material from the BHI Channel and the BHI Flood Shoal.

The first step was to identify which resources to consider in the analysis. All impacts on affected resources can be called cumulative; however, according to CEQ guidance, *“the role of the analysis is to narrow the focus of the cumulative effects analysis to important issues of national, regional, or local significance.”* In addition to this relevancy criterion, only those resources expected to be directly or indirectly affected by the project as well as by other actions within the same geographic scope and time frame were chosen for the analysis. Based on these criteria, the following resources were identified as target resources for the cumulative effects analysis: threatened and endangered species, fish and wildlife resources, EFH, water quality, and cultural resources.

The next steps of the cumulative effects analysis included:

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

The geographic scope of this analysis includes the general area of the project area (Figure 1-1). Past, present, and reasonably foreseeable actions and plans are summarized below in Table 4-1. In addition, it is expected that the public, State of Florida, and local governments could have other permitted activities in or around the project area. Federal activities are evaluated under NEPA directly for each project. Other projects that take place in-water or would affect wetlands are evaluated under a permit issued by the USACE’s Regulatory Division. Preparation of a separate NEPA document, which would contain detailed analysis of potential effects, would be required during the development of proposed future Federal actions.

The cumulative effects analysis for this action considers the potential effects of the Preferred Alternative in conjunction with past, current, and reasonably foreseeable future actions in the area. Table 4-2 summarizes the impact of cumulative actions by identifying the past, present, and reasonably foreseeable future condition of the various resources which are directly or indirectly impacted by the with-project and without-project condition (the difference being the incremental impact of the project). The Preferred Alternative, when considered with past, present, and reasonably foreseeable future actions and plans actions in the project area, is not expected to have additional significant cumulative effect on the environmental conditions of the project area.

Table 4-1. Summary of Past, Present, and Reasonably Foreseeable Actions and Plans Affecting the Project Area.

<b>Past Actions/Authorized Plans</b>	<b>Current Actions and Operating Plans</b>	<b>Reasonably Foreseeable Actions and Plans</b>
<ul style="list-style-type: none"> <li>- Construction of beach nourishment projects and past renourishments;</li> <li>- Construction of the IWW and BHI Channel and past maintenance;</li> <li>- General urbanization such as the construction of recreational and commercial infrastructure, dredging activities within the IWW and BHI Channel, and recreational and commercial waterborne traffic within the waterways and nearshore environment.</li> </ul>	<ul style="list-style-type: none"> <li>- Continued, general recreational and commercial waterborne traffic;</li> </ul>	<ul style="list-style-type: none"> <li>- Future periodic maintenance dredging and associated placement of dredged material;</li> <li>- Permitted dredging activities and beneficial use of dredged material;</li> <li>- Construction of new infrastructure;</li> <li>- Continued recreational and commercial waterborne traffic.</li> </ul>

**Table 4-2: Summary of Cumulative Impacts**

	<b>Past (baseline condition)</b>	<b>Present (existing condition)</b>	<b>Future Without Project</b>	<b>Future with Proposed Action</b>	<b>Cumulative Effect</b>
<b><i>Threatened and Endangered Species</i></b>	Populations were significantly greater prior to urban development in the area. Declines are primarily attributed to loss or degradation of habitat as well as other human related factors.	Education and enforcement of relevant laws have resulted in some population increases (i.e., nesting sea turtles, manatees). Habitat quality has improved in some cases due to land conservation, pollution abatement, and regulatory practices. Individuals of some species becoming increasingly rare and geographic ranges have decreased as coastal and upland habitat continues to shrink in size; coastal and upland species adversely impacted by anthropogenic activities.	Because the only difference between the Preferred Alternative and the No Action Alternative is the source of sand, and potential impacts to threatened and endangered species are similar with both, the future without the project is expected to be similar to the future with the project.	Similar to future without project.	Future projects will be required to follow regulations to maintain and protect threatened and endangered species and their habitats within the area. No adverse cumulative effects to threatened and endangered species are anticipated.
<b><i>Fish and Wildlife Resources</i></b>	Populations were significantly greater prior to urban development and associated hunting/fishing in the area. Declines are primarily attributed to loss or degradation of habitat as well as other human related factors such as decreased water quality over the past 30 years. There has been beneficial impact to species that are able to coexist with increased development and urban environment.	Habitat quality has improved in some cases due to land conservation, pollution abatement, and regulatory practices (e.g., air quality and water quality); however coastal and upland habitat continues to shrink in size; coastal and upland species adversely impacted by anthropogenic activities; fisheries stocks and habitat are impacted by anthropogenic activities.	Because the only difference between the Preferred Alternative and the No Action Alternative is the source of sand, and potential impacts to fish and wildlife species are similar with both, the future without the project is expected to be similar to the future with the project.	Similar to future without project.	Implementation of minimization measures and protections for threatened and endangered species may also extend protections to other fish and wildlife resources in the area. No adverse cumulative effects to fish and wildlife resources are anticipated.

**Table 4-2: Summary of Cumulative Impacts**

	<b>Past (baseline condition)</b>	<b>Present (existing condition)</b>	<b>Future Without Project</b>	<b>Future with Proposed Action</b>	<b>Cumulative Effect</b>
<b><i>Essential Fish Habitat</i></b>	Quality and extent of EFH were significantly greater prior to urban development in coastal and upland areas. Declines in both quality and acreage of EFH are a result of direct and indirect adverse impacts from anthropogenic activities, including previous dredging activities.	EFH habitat quality and acreage has improved in some cases due to land conservation, pollution abatement, and regulatory practices; however, EFH, fisheries stocks and habitat continue to be impacted by anthropogenic activities, including dredging activities.	Because the only difference between the Preferred Alternative and the No Action Alternative is the source of sand, and potential impacts to EFH are similar with both, the future without the project is expected to be similar to the future with the project.	Similar to future without project.	Implementation of minimization measures and protections for threatened and endangered species may also extend protections to EFH species and habitats in the area. No adverse cumulative effects to EFH are anticipated.
<b><i>Water Quality</i></b>	Pristine prior to urban development; significant declines in water quality due to human related factors (i.e., turbidity caused by upland runoff, septic tank leachate, industrial effluent, etc.) prior to Federal and State laws being enacted and enforced.	Some degradation due to anthropogenic actions; however, present day water quality has significantly improved due to local, State, and Federal pollution abatement programs.	Because the only difference between the Preferred Alternative and the No Action Alternative is the source of sand, and potential impacts to water quality are similar with both, the future without the project is expected to be similar to the future with the project.	Similar to future without project.	Ongoing channel shoaling, seasonal weather, and storm event effects on water quality are unlikely to be eliminated; however, implementation of the Preferred Alternative will maintain safe operational depths and navigation. The USACE is committed to ensuring that projects will not result in violations of water quality standards. No cumulative effects to the water quality are expected.

**Table 4-2: Summary of Cumulative Impacts**

	<b>Past (baseline condition)</b>	<b>Present (existing condition)</b>	<b>Future Without Project</b>	<b>Future with Proposed Action</b>	<b>Cumulative Effect</b>
<b><i>Cultural Resources</i></b>	Cultural resources have been degraded or lost due to development, private collecting, erosion, and other factors such as dredging activities.	Education and enforcement of relevant laws have helped identify and conserve cultural resources.	Urban development, sea level change, and coastal erosion may adversely affect some cultural resources.	Urban development, sea level change, and coastal erosion may adversely affect some cultural resources.	No cumulative effects are expected. The Florida SHPO provided concurrence with the Corps' determination on August 20, 2020.

#### **4.19 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES**

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

##### **4.19.1 Irreversible**

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

##### **4.19.2 Irretrievable**

As natural processes restore the sand volumes in the shoals near the IWW and the BHI Channel over time, the Preferred Alternative would not result in an irretrievable commitment of resources related to shoals. While sand eroded from the sand from Bal Harbour Beach is not irretrievably lost, there are practical issues associated with retrieving it for future use.

## **5 PUBLIC AND AGENCY COORDINATION**

### **5.1 SCOPING PERIOD**

As described in Section 1.7, a scoping letter dated November 14, 2019 was issued for this action and included a public scoping period that ended on December 24, 2019. The USACE held two scoping meetings to present information about and solicit public and agency comments on the proposed project. Both scoping meetings were held on November 20<sup>th</sup>, 2019 in Aventura, Florida at the Northeast Dade Aventura Library at 2939 Northeast 199<sup>th</sup> Street. The first scoping meeting was held from 12:00 PM to 2:00 PM. The second meeting was held from 6:00 PM to 8:00 PM.

#### **5.1.1 SCOPING COMMENTS**

USACE received written comments from members of the public during the project's scoping period. Comments were provided to the USACE team for consideration during the analysis and engineering of the project. The majority of the comments expressed concern about the loss of recreational related impacts from the proposed dredging of flood shoal. Original copies of the scoping comments are provided in Appendix F-1.

### **5.2 DRAFT ENVIRONMENTAL ASSESSMENT NEPA REVIEW PERIOD**

A Notice of Availability (NOA) for the proposed FONSI, draft EA, and associated appendices has been coordinated with pertinent agencies and interested stakeholders for 30 calendar days to allow for review and comment. The project is in compliance with the NEPA of 1969, as amended, §42 U.S.C. 4321, *et seq.* Public Law 91-190.

#### **5.2.1 DRAFT ENVIRONMENTAL ASSESSMENT REVIEW: Comments received and USACE responses**

The NOA for the proposed FONSI, draft EA, and associated appendices was sent to Federal, state, and local agencies and elected representatives, Tribal Nations, non-governmental organizations, and other concerned stakeholders and members of the public. A complete list of all addresses of parties to whom the draft EA was sent is on file at the USACE and will be made available upon request.

A copy of all comments received during the draft documents' review and comment period, as well as a summary matrix of the comments received and USACE responses, is included in the final NEPA document as Appendix F-2.

## **6 ENVIRONMENTAL COMMITMENTS AND COMPLIANCE**

### **6.1 ENVIRONMENTAL COMMITMENTS**

The USACE will comply with all applicable conditions of the 401 WQC, FCD concurrence, and biological opinions (e.g. SARBO, SPBO, and the Piping Plover Programmatic Biological Opinion (P3BO)) for the Preferred Alternative. The USACE and its contractors commit to avoiding, minimizing, or mitigating for adverse effects during activities associated with beach renourishment, dredging of the BHI Flood Shoal and maintenance dredging of the BHI Channel by including the commitments in Table 7 in the contract specifications.

**Table 6-1. USACE Environmental Commitments.**

Environmental Resource	USACE Environmental Commitment
Endangered and Threatened Species	<p>Adverse effects to protected species will be avoided and/or minimized. Prior to the start of construction, the Contractor will submit their Environmental Protection Plan (EPP) that will include protective measures for species that require specific attention.</p> <p>Incidental take of sea turtles may occur if a hopper dredge and/or capture trawling is used; however, implementation of standard protection conditions and BMPs will ensure that the potential adverse effects to these species are reduced to the maximum extent practicable. The USACE will include applicable T&amp;Cs and PDCs of the SARBO, SPBO, and P3BO in the project plans and specifications. Additionally, NMFS' sea turtle and smalltooth sawfish construction conditions as well as the USFWS standard manatee conditions for in-water work will be implemented. T&amp;E species protection criteria will be included in the Contractor's EPP.</p> <p>All construction personnel will be informed of the potential presence of protected species in the project area, their threatened status, the need for precautionary measures, their responsibility for observing water-related activities for the presence of protected species and the ESA and MMPA prohibitions on taking. All construction personnel will be advised that there are civil and criminal penalties for harming, harassing, or killing manatees or marine turtles, which are protected under the Endangered Species Act. Any collisions with and/or injury to any sea turtle, sawfish or whale occurring during construction will be immediately reported.</p>
Seagrasses	<p>Seagrass is present near the proposed dredging area. USACE will incorporate the PDCs of the SARBO to provide protection to listed and non-listed seagrasses and will conduct a post-construction survey.</p> <p>All construction personnel will be advised that there are civil and criminal penalties for harming or destroying seagrasses. The Contractor will instruct all personnel associated with the project of the presence of seagrasses and the need to avoid contact with seagrasses. The Contractor will be advised not to anchor, place pipeline, or stage equipment in a manner that will cause damage to seagrasses. Anchoring, placing pipeline, or staging equipment will avoid these sensitive areas.</p>

Environmental Resource	USACE Environmental Commitment
Fish and Wildlife Resources	Construction activities will be managed to minimize interference with, disturbance of, and damage to fish and wildlife. Prior to the start of construction, the Contractor will submit their EPP that will include protective measures for other fish and wildlife resources.
Migratory Birds	Standard migratory bird protection protocols will be incorporated into the project plans and specifications. The Contractor will be required to abide by those protocols and all monitoring timeframes as specified by all applicable licenses and permits.
Water Quality	Implementation of design and procedural controls will prevent oil, fuel, or other hazardous substances from entering the air or water. All wastes and refuse generated by project construction will be removed and properly disposed. Contractors will implement a spill contingency plan for hazardous, toxic, or petroleum material. Conditions imposed by WQCs will be implemented in order to minimize adverse effects to water quality.
Cultural Resources	An unexpected cultural resources finds clause will be included in the project specifications. In the event that any archaeological resources are uncovered during construction activities, all activities will be halted immediately within the area. Once reported, the USACE staff will initiate coordination with the appropriate Federal and state agencies to determine if archaeological investigation is required. Additional work in the area of the discovery will be suspended at the site until compliance with all Federal and state regulations is successfully completed and USACE staff members provide further directive.

**6.2 COASTAL ZONE MANAGEMENT ACT OF 1972 (16 United States Code (U.S.C.) §1451 ET SEQ)**

The Coastal Zone Management Act (CZMA) was established as a National policy to preserve, protect, develop, and where possible, restore or enhance, the resources of the Nation's coastal zone for current and future generations. The CZMA created two national programs: the National Coastal Zone Management Program (CZMP) and the National Estuarine Research Reserve System.

A Federal Consistency Determination (FCD) in accordance with 15 CFR Part 930, Subpart C is included in this report as Appendix C. The USACE has determined that the project is consistent to the maximum extent practicable with the enforceable policies of the Florida Coastal

Management Plan (FCMP). The EA was submitted to the state during the public comment period for FCD review. The State of Florida concurred with the determination on June 2, 2020. Conditions imposed by the WQC will be implemented in order to minimize adverse effects to water quality. Pertinent correspondence is included in Appendix C. The proposed project is in compliance with the CZMA.

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

As described in Section 5, this NEPA document was prepared pursuant to NEPA and its implementing regulations and was subject to public review and comment for a 30-calendar day period. This public coordination and the final NEPA document complies with the intent of NEPA.

### **6.4 COASTAL BARRIER RESOURCES ACT AND COASTAL BARRIER IMPROVEMENT ACT OF 1990 (16 U.S.C. §3501 ET SEQ)**

The CBRA and CBIA limit Federally subsidized development within the CBRA units to limit the loss of human life by discouraging development in high risk areas, to reduce wasteful expenditures of Federal resources, and to protect the natural resources associated with coastal barriers. CBIA provides development goals for undeveloped coastal property held in public ownership, including wildlife refuges, parks, and other lands set aside for conservation (“otherwise protected areas,” or OPAs). These public lands are excluded from most of the CBRA restrictions, although they are prohibited from receiving Federal Flood Insurance for new structures.

Federal monies can be spent within the CBRA units 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 publicly owned or publicly 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.

CBRA unit “Otherwise Protected Area” FL-21P includes Haulover Park and adjacent areas (Figure 3-10). A portion of the BHI Channel is located inside the most southwest boundary of FL-21P. The proposed project does not include the construction of structures that would require Federal Flood Insurance in the area designated as an “otherwise protected area” pursuant to the CBIA;

therefore, Federal expenditures for the proposed project are not restricted in this area. The project complies with the Act.

#### **6.5 CLEAN AIR ACT OF 1970, AS AMENDED (42 U.S.C. §7401 ET SEQ)**

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

Miami-Dade County is not designated as nonattainment or as a maintenance area for any criteria pollutant and therefore USEPA’s General Conformity Rule to implement Section 176(c) of the CAA (42 U.S.C. §7506(c)) does not apply. The short-term effects from construction equipment associated with the project would not significantly affect air quality in the project area. Air quality permits would not be required for this project. The project complies with the Act.

#### **6.6 CLEAN WATER ACT OF 1972, AS AMENDED (33 U.S.C. §1251 ET SEQ.)**

The CWA establishes the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters. Section 404(b)(1) of the CWA (33 U.S.C. §1344(b)) requires the USEPA, in conjunction with the USACE, to promulgate Guidelines for the discharge of dredged or fill material to ensure that such proposed discharge will not result in unacceptable adverse environmental impacts to waters of the United States. Section 404(b)(1) assigns to the USACE the responsibility for authorizing all such proposed discharges and requires application of the Guidelines in assessing the environmental acceptability of the proposed action. Under the Guidelines, the USACE is also required to examine practicable alternatives to the proposed discharge, including alternatives to placement in waters of the United States and alternatives with potentially less damaging consequences. In addition, Section 401 of the CWA (33 U.S.C. §1344) provides the State a certification role as to project compliance with applicable State water quality standards.

An evaluation under Section 404(b)(1) of the CWA has been completed for the discharge of dredged material and is included as Appendix B. Any applicable authorizations for dredging and its associated placement will be coordinated and obtained from the state of Florida prior to construction. USACE will meet all state water quality requirements. The proposed project will be in compliance with the Act upon receipt of required authorizations and/or concurrences.

#### **6.7 RIVERS AND HARBORS APPROPRIATION ACT OF 1899, AS AMENDED (43 U.S.C. §401 ET SEQ)**

The Rivers and Harbors Appropriation Act of 1899 regulates the construction, excavation, or deposition of materials in, over, or under “navigable waters of the U.S.,” or any work which would affect the course, location, condition, or capacity of those waters.

While the proposed project would temporarily obstruct navigable waters of the United States, the project has been subject to the public notice, public hearing, and other evaluations normally conducted for activities subject to the Act. In consideration of applicable factors listed in 33 CFR § 320.4, USACE has determined the project is not contrary to public interest. As a result, the project complies with the Act.

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

The Submerged Lands Act of 1953 granted coastal states title to submerged navigable lands and the natural resources located within their coastal submerged lands out to three miles from their coastlines (three marine leagues for Texas and Florida’s Gulf of Mexico coastlines).

Dredging of the BHI Channel and BHI flood shoal would occur on submerged lands of the State of Florida. The project will occur within the navigation servitude for BHI Channel. USACE will coordinate the project with the State of Florida through the issuance of a WQC, FCD review, and/or the review process of this NEPA document. The project complies with the Act.

#### **6.9 FEDERAL WATER PROJECT RECREATION ACT OF 1965, AS AMENDED (16 U.S.C. §460L ET SEQ)**

This law applies to recreational lands that may be affected by a project and that have received funds from the Land and Water Conservation Fund. It does not apply to the proposed action; therefore, the Act is not applicable to this project.

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

This Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA) requires preparation of an Essential Fish Habitat (EFH) Assessment and coordination with NMFS. The EFH Assessment for the project is integrated within this draft NEPA document and was prepared per the September 3, 2019 and the October 2, 2019 EFH Findings between NMFS’ Southeast Regional Office and SAD and USACE, respectively. The USACE determined that the Preferred Alternative would not result in significant adverse effects to EFH. The USACE sent the EFH consultation letter, along with the draft NEPA document, to NMFS. NMFS responded with a recommendation letter on May 3, 2020. The Corps coordinated a response letter with NMFS and provided the Corps’ response, via email, on August 12, 2020. NMFS provided a final response on August 17, 2020 and

concluded consultation. Pertinent correspondence is included in Appendix A. The proposed project is in compliance with the Act.

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

The proposed project is in compliance with the Endangered Species Act (ESA) of 1973, as amended, 16 U.S.C. §1531, *et seq.* (Public Law 93-205), which was designed to protect critically imperiled species from extinction as a "consequence of economic growth and development untempered by adequate concern and conservation."

Pursuant to Section 7 of the ESA, USACE consulted with the USFWS and NMFS to include BHI Channel and BHI Flood Shoal as sand sources for the renourishment of Bal Harbour Beach. Detailed analysis of USACE's effect determinations with regards to the dredging of BHI Channel and BHI Flood Shoal and the associated placement of dredged material on the Bal Harbour Beach are included in Section 4 of this EA. A summary of the effect determinations for listed species are as follows:

##### Effect determinations for listed species under NMFS jurisdiction:

###### *MANLAA:*

Swimming sea turtles (green sea turtle, hawksbill sea turtle, leatherback sea turtle, loggerhead sea turtle, Kemp's ridley sea turtle), Johnson's seagrass, smalltooth sawfish, and elkhorn, staghorn, pillar, rough cactus, mountainous star, boulder star, and lobed star corals

###### *No Effect:*

Blue whale, sei whale, fin whale and sperm whale

For potential effects to federally listed threatened and endangered (T&E) species under the NMFS jurisdiction, the project adheres to the SARBO. The SARBO covers dredging (e.g. maintenance, advance maintenance, minor channel modifications, borrow area dredging, and muck dredging), transportation of dredged material, dredged material placement, geotechnical and geophysical (G&G) surveys, and species handling in the southeast U.S., specifically from North Carolina/Virginia border through and including Key West, Florida and the islands of Puerto Rico and the U.S. Virgin Islands. The following types of dredges and dredging methods are covered by the SARBO: mechanical (e.g. clamshell and backhoe), hydraulic (e.g. cutterhead suction/pipeline dredging and hopper), side-cast/split hull, and agitation (e.g. bed leveling, water injection dredging) as well as dredging pipelines and support vessels. The SARBO also covers relocation trawling, ESA-listed species handling, and aerial surveys. The use of equipment and/or methods not covered by the SARBO may require additional coordination and/or consultation with NMFS.

The following listed species under NMFS jurisdiction may be in the project's vicinity. USACE determined that the Preferred Alternative's potential effects to these species and their designated critical habitat (DCH) (denoted with an asterisk, if established and applicable) are covered by the SARBO:

- Swimming sea turtles (Green, Kemp's ridley, leatherback, loggerhead\*, hawksbill);
- Fish (Smalltooth sawfish);
- Corals (Elkhorn, staghorn)\*;
- Johnson's seagrass\*;
- Whales (North Atlantic right whale, blue whale, fin whale, sei whale and sperm whale).

The project adheres to the Project Design Criteria (PDCs) under the SARBO. PDCs are the specific criteria, including the technical and engineering specifications, indicating how an individual project must be sited, constructed, or otherwise carried out to avoid or minimize adverse effects to ESA-listed species or DCH. PDCs help protect species and critical habitat and ensure that the actions covered by the SARBO are sufficiently similar so that their effects can be analyzed together. In designing the PDCs, conditions are established that avoid adverse effects on listed species or DCH or, where the adverse effect cannot be avoided, to limit effects to predictable levels that will not jeopardize the continued existence of listed species or destroy or adversely modify critical habitat either at the individual project level or in aggregate. The project will comply with all terms and conditions of the SARBO. Additionally, NMFS' sea turtle and smalltooth sawfish construction conditions would be implemented.

Effect determinations for species under USFWS jurisdiction:

*MANLAA:*

Nesting sea turtles (green sea turtle, hawksbill sea turtle, leatherback sea turtle, loggerhead sea turtle), Florida manatee, piping plover, and rufa red knot.

The following listed species under USFWS jurisdiction may be in the project's vicinity. USACE determined that the Preferred Alternative's potential effects to these species and their DCH (denoted with an asterisk, if established and applicable) are covered by the SPBO, P3BO, or individual consultation:

- SPBO: Nesting sea turtles (Green, Kemp's ridley, leatherback, loggerhead, hawksbill)
- P3BO: piping plover
- Individual Consultation: Florida manatee\*, rufa red knot

USACE requested concurrence from USFWS on the USACE's may affect, but not likely to adversely affect (MANLAA) determinations and will implement the USFWS 2011 standard manatee

conditions for in-water work. By letter dated February 7, 2017, the USFWS concurred with the Corps' determinations for the effects to manatees and rufa red knot, noting the protection measures listed within the Corps' plan adhere to the SPBO and P<sup>3</sup>BO.

The SPBO covers civil works and regulatory sand placement activities in Florida and their effects on the following nesting sea turtles and their DCH: loggerhead, green, leatherback, hawksbill, and Kemp's ridley.

The P3BO covers the following civil works and regulatory shore protection activities on the non-breeding piping plover and its DCH:

- Operation and maintenance dredging of navigation channels, sand placement on the sandy beach and dune (including up to or over hardened structures), the swash zone, and the nearshore regions association with both shore protection projects and maintenance dredging;
- Sand placement as an associated authorization of sand extraction from the outer continental shelf by the Bureau of Ocean Energy Management (BOEM);
- Sand by-passing/back-passing;
- Groins and jetty repair or replacement.

The P3BO action area includes sandy beaches; emergent bayside and Ocean/Gulf-side shoals and sand bars; bayside mudflats, sand flats, and algal flats; bayside shorelines of bays and lagoons; and emergent nearshore sand bars of the Atlantic Coast (Nassau County to Miami-Dade County) and the Gulf Coast (Monroe County to Taylor County) of Florida.

The project will comply with all applicable minimization measures, Reasonable and Prudent Measures and T&Cs of the SPBO and P3BO, and PDCs of the SARBO. The proposed project is in compliance with the Act.

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

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

The USACE does not anticipate the take of any marine mammal during any activities associated with the proposed project. Should a hopper dredge be utilized, a trained, government-certified sea turtle and marine mammal observer will be stationed on the dredge during all water-related construction activities. To ensure the protection of any manatees or dolphins present in the project area, incorporation of safeguards used to avoid and/or protect these species will be implemented during dredging and staging operations. Therefore, the project complies with the Act.

#### **6.13 FARMLAND PROTECTION POLICY ACT OF 1981 (7 U.S.C. 4201, ET SEQ)**

The Farmland Protection Policy Act (FPPA) is intended to minimize the impact Federal programs have on the unnecessary and irreversible conversion of farmland to nonagricultural uses. For the purpose of FPPA, farmland includes prime farmland, unique farmland, and land of statewide or local importance. To the extent possible, the FPPA ensures that federal programs are administered to be compatible with state, local units of government, and private programs and policies to protect farmland.

No prime or unique farmland would be affected by implementation of the proposed project; therefore, the FPPA is not applicable to this project.

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

The Fish and Wildlife Coordination Act (FWCA), as amended, provides the basic authority for the involvement of the U.S. Fish and Wildlife Service (USFWS) in evaluating impacts to fish and wildlife from proposed water resource development projects. The FWCA requires Federal agencies involved with such projects to first consult with the USFWS and the respective state fish and wildlife agencies regarding the potential impacts of the project on fish and wildlife resources. While the results of the consultation are not binding, the Federal agency must strongly consider input received during consultation to prevent loss or damage to wildlife resources and provide for any measures taken to mitigate such impacts.

The Corps has consulted with USFWS for the project and proposed impacts to fish and wildlife in the area. A consultation request was sent to USFWS requesting concurrence with the determinations made using the SPBO and P<sup>3</sup>BO. The consultation was completed on February 7, 2017 and satisfies the Corps requirements and responsibilities under the FWCA. The project is in compliance with the Act.

#### **6.15 NATIONAL HISTORIC PRESERVATION ACT OF 1966 (16 U.S.C. §461 ET SEQ)**

The National Historic Preservation Act (NHPA) was enacted to preserve historical and archaeological sites in the United States, and it created the National Register of Historic Places, the list of National Historic Landmarks, and the State Historic Preservation Offices.

As part of the requirements and consultation process contained within the NHPA implementing regulations of 36 CFR Part 800, the proposed project is in compliance with the Archaeological and Historic Preservation Act, as amended (16 U.S.C. §§469-469c) (Public Law 93-291), Archaeological and Resources Protection Act (16 U.S.C. §§470aa-470mm) (Public Law 96-95), American Indian Religious Freedom Act (Public Law 95-341), Native American Graves Protection and Repatriation Act (NAGPRA) (25 U.S.C. §3001 et. seq.) and its implementing regulations, E.O.s 11593, 13007, and 13175, the Presidential Memorandum: Government to Government Relations with Native American Tribal Governments (1994), appropriate Florida Statutes, and the Abandoned Shipwrecks Act (43 U.S.C. §§2101-2106). Consultation with the Florida SHPO and Tribal Nations has been initiated and concluded, as described in Sections 4.14 and 4.15. The proposed project is in compliance and with the NHPA.

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

In the Estuary Protection Act of 1968, Congress declared that “many estuaries in the United States are rich in a variety of natural, commercial, and other resources, including environmental natural beauty, and are of immediate and potential value to the present and future generations of Americans.” This Act is intended to protect, conserve, and restore estuaries in balance with developing them to further the growth and development of the Nation.

This project is consistent with the purposes of this Act. By implementing the T&Cs and PDCs of the respective biological opinions and meeting state water quality standards, the project complies with the Act.

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

The Wild and Scenic River Act of 1968, among other things, declared that “certain selected rivers of the Nation which, with their immediate environments, possess outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values, shall be preserved in free-flowing condition, and that they and their immediate environments shall be protected for the benefit and enjoyment of present and future generations.”

No designated Wild and Scenic river reaches would be affected by the proposed project; therefore, the Act is not applicable to this project.

#### **6.18 ANADROMOUS FISH CONSERVATION ACT OF 1965, AS AMENDED (16 U.S.C. §757A ET SEQ)**

The Anadromous Fish Conservation Act authorizes the Secretaries of the Interior and Commerce to enter into cooperative agreements with the States and other non-Federal interests for conservation, development, and enhancement of anadromous fish and to contribute up to 50 percent as the Federal share of the cost of carrying out such agreements.

As the proposed project is not receiving funding for these purposes, and because anadromous fish species would not be affected, this Act does not apply to this project.

#### **6.19 MARINE PROTECTION, RESEARCH, AND SANCTUARIES ACT OF 1972 (16 U.S.C. §1361 ET SEQ AND 33 U.S.C. §1401 ET SEQ)**

The Marine Protection, Research, and Sanctuaries Act (MPRSA), also referred to as the Ocean Dumping Act, generally prohibits transportation activities by U.S. agencies or U.S.-flagged vessels for the purpose of ocean dumping and dumping of material transported from outside the United States into the U.S. territorial sea.

Ocean disposal is not a component of the proposed project; therefore, the Act is not applicable to this project.

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

The Migratory Bird Treaty Act (MBTA) makes it illegal for anyone to take, possess, import, export, transport, sell, purchase, barter, or offer for sale, purchase, or barter, any migratory bird, or the parts, nests, or eggs of such a bird except under the terms of a valid permit issued pursuant to Federal regulations. The Migratory Bird Conservation Act (MBCA) provides financial support and fosters international cooperation for initiatives that will help conserve populations and habitats of neotropical migratory birds in the Western Hemisphere.

Migratory birds would be minimally affected by dredging activities at the BHI Channel and Flood Shoal. The USACE will include its standard migratory bird protection measures in the project plans and specifications and will require the Contractor to abide by those requirements. The project complies with these Acts.

#### **6.21 BALD AND GOLDEN EAGLE PROTECTION ACT OF 1940, AS AMENDED (16 U.S.C. §668 ET SEQ)**

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

Foraging habitat for the bald eagle (*Haliaeetus leucocephalus*) is present within the project area; however, there is only one documented nest within 10 miles and it is inland and 6 miles from the project area (FWC 2019f). As no nests would be affected by the project, the project will be in compliance with the Act.

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

The purpose of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 is to ensure that owners of real property to be acquired for federal and federally assisted projects are treated fairly and consistently and that persons displaced as a direct result of such acquisition will not suffer disproportionate injuries as a result of projects designed for the benefit of the public as a whole.

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

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

To comply with E.O. 11988, the policy of the 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.

Per guidance provided in E.O. 11988, the following factors were evaluated:

1. *Determine if a proposed action is in the base floodplain (area with a one percent or greater chance of flooding in any given year).*  
Most of the land area near the project is within the 100-year flood zone as mapped by the Federal Emergency Management Agency (FEMA) (FEMA 2019).
2. *Conduct early public review, including public notice.*  
Public and agency coordination (including scoping efforts and NEPA reviews) is described in Section 5.
3. *Identify and evaluate practicable alternatives to locating in the base floodplain, including alternative sites outside of the floodplain.*  
There is no practicable alternative to locating the project outside of the floodplain due to the nature of the project's purpose and need, which is described in Section 1.
4. *Identify impacts of the proposed action.*  
Impacts of the proposed action are described in Section 4.

5. *Minimize threats to life and property and to natural and beneficial floodplain values. Restore and preserve natural and beneficial floodplain values.*

Renourishment of Bal Harbour Beach will continue to provide protection to coastal infrastructure thereby minimizing threats to life and property while restoring and preserving natural and beneficial floodplain values. More details on the project's purpose and need are included in Section 1. Details on the environmental commitments are included in Section 6.1.

6. *Reevaluate alternatives.*

Alternatives are described in Section 2. The Preferred Alternative that is selected best meets the purpose and need, which is described in Section 1.

7. *Issue findings and a public explanation.*

This NEPA document provides a proposed FONSI and describes the Preferred Alternative in Section 2. Public and agency coordination is described in Section 5.

8. *Implement the action.*

Construction will occur after all appropriate documentation (e.g. agreements, permitting, etc.) is completed and funds are received.

The project shoreline (VE flood zone) is significantly developed, and further development is unlikely. USACE concludes that the proposed project will not result in harm to people, property, and floodplain values; will not induce development in the floodplain; and the project is in the public interest. For the reasons stated above, the project complies with this E.O.

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

This E.O. requires, among other things, that Federal agencies avoid to the extent possible the long- and short-term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative. As the project does not impact wetlands, it complies with this E.O.

#### **6.25 E.O. 12898, FEDERAL ACTIONS TO ADDRESS ENVIRONMENTAL JUSTICE IN MINORITY POPULATIONS AND LOW-INCOME POPULATIONS**

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

alternatives would result in significant effects related to EJ if the proposed action or an alternative would disproportionately adversely affect an EJ community through its effects on:

- Environmental conditions such as quality of air, water, and other environmental media; degradation of aesthetics, loss of open space, and nuisance concerns such as odor, noise, and dust;
- Human health such as exposure of EJ populations to pathogens;
- Public welfare in terms of social conditions such as reduced access to certain amenities like hospitals, safe drinking water, public transportation, etc.; and
- Public welfare in terms of economic conditions such as changes in employment, income, and the cost of housing, etc.

The Corps conducted an evaluation of EJ impacts using a two-step process: as a first step, the study area was evaluated to determine whether it contains a concentration of minority and/or low-income populations. The second step includes evaluation to determine whether the proposed action would result in a disproportionately, high adverse effect on these populations. As defined in E.O. 12898 and the CEQ guidance, a minority population occurs where one or both of the following conditions are met within a given geographic area:

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

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

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

#### Step 1: Study Area's Minority and Low-Income Population Average Percentages

Using the USEPA EJSCREEN (2019) Tool, the project area was user-defined (see Figure 6-1) and a 0.25-mile buffer (yellow area) was added to calculate the average percentages for the EJ criteria. Table 6-2 compares the average percentages for the project area, state of Florida, and U.S.

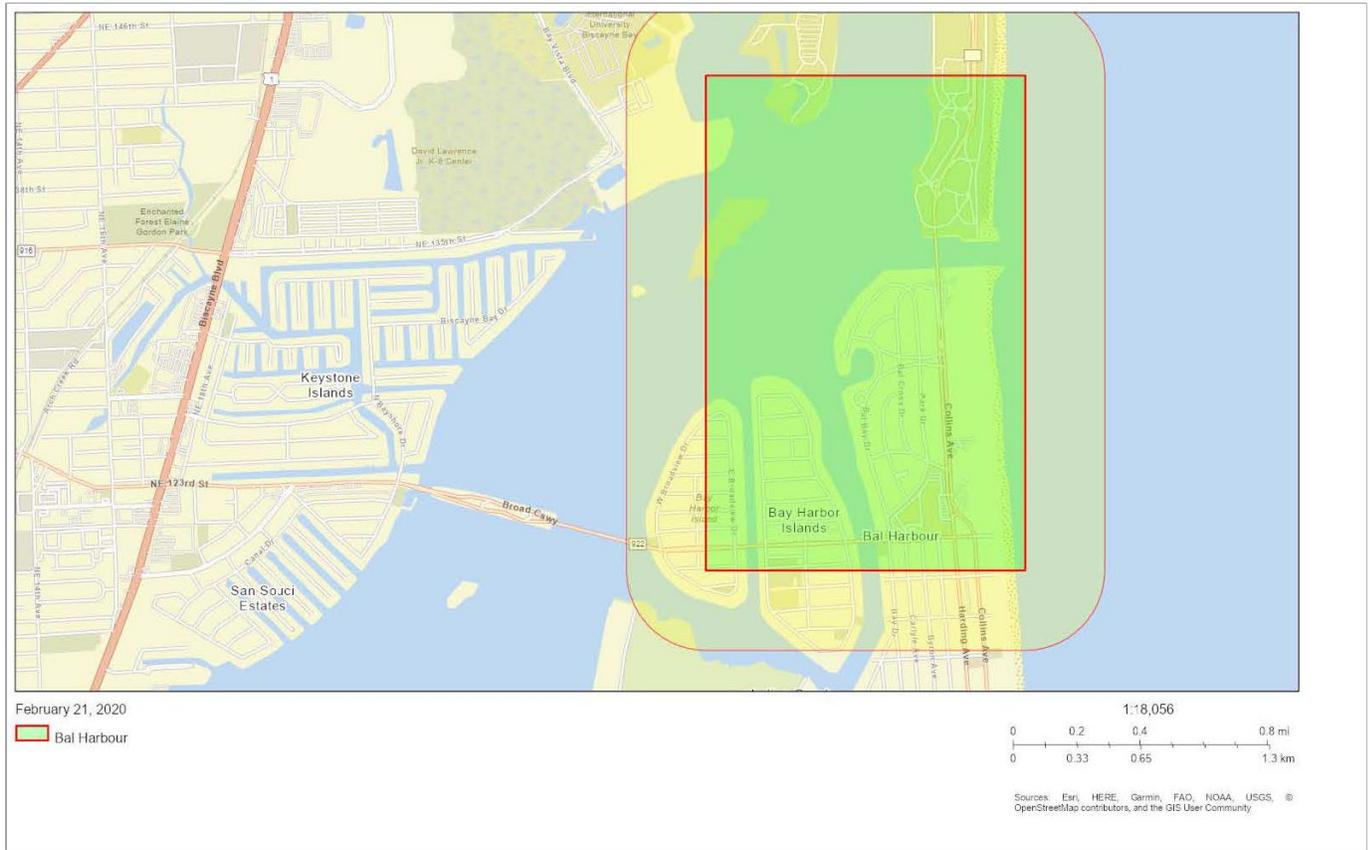


Figure 6-1. User-Defined Project Area Used for Environmental Justice Analysis.

Source: USEPA EJSCREEN 2019

Table 6-1. USEPA EJSCREEN Environmental Justice Criteria Percentages.

	User-Defined Project Area %	Florida Average %	U.S. Average %
Minority Population	49%	45%	38%
Low Income Population	31%	36%	37%

Based on the information provided by the USEPA EJSCREEN, the average minority population is approximately 49% of the total population and approximately 31% of the individuals in the project area are considered below the poverty level. Therefore, the study area which comprises

the project does not constitute an EJ community because the study area does not contain a high concentration of minority populations or low-income populations.

#### Step 2: Recommended Plan's Effect on EJ Community

The study area is not comprised of an EJ community.

### **6.26 E.O. 13045, PROTECTION OF CHILDREN FROM ENVIRONMENTAL HEALTH RISKS AND SAFETY RISKS**

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.

The proposed action does not affect children disproportionately from other members of the population and would not increase any environmental health or safety risks to children. The project complies with this Executive Order.

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

This Executive Order recognizes the significant ecological, social, and economic values provided by the Nation's coral reefs and the critical need to ensure that Federal agencies are implementing their authorities to protect these valuable ecosystems. Per the Executive Order, *“(a) All Federal agencies whose actions may affect U.S. coral reef ecosystems shall identify their actions that may affect U.S. coral reef ecosystems; (b) utilize their programs and authorities to protect and enhance the conditions of such ecosystems; and (c) to the extent permitted by law, ensure that any actions they authorize, fund, or carry out will not degrade the conditions of such ecosystems.”*

There are hardbottom habitats that support some coral species approximately 1,000 feet east of the beach placement area (Walker 2009, Walker and Klug 2014). Due to the distance from the placement area and the classification of the material to be placed as clean sand, it is unlikely that adverse effects to these hardbottom habitats will occur. Coordination with pertinent agencies and the implementation of protective measures during construction will avoid and/or minimize effects to these ecosystems. The USACE will include applicable PDCs of the SARBO in the project plans and specifications. Implementation of standard protection conditions and BMPs will ensure that the potential adverse effects to protected coral reefs are reduced to the maximum extent practicable. Coral reef protection criteria will be included in the Contractor's EPP. The project complies with this Executive Order.

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

This Executive Order requires, among other things, that Federal agencies take steps to prevent the introduction and spread of invasive species, and to support efforts to eradicate and control invasive species that are established.

The proposed action will require the mobilization of dredge equipment, possibly from other geographical regions, which has the potential to transport species from one region to another. Such introduction of species to new habitats can result in their out-competing native species. The project's plans and specifications will include conditions to avoid the introduction and/or promotion of non-native species to the region. USACE will require the Contractor to abide by those requirements. The project complies with this Executive Order.

#### **6.29 E.O. 13186, RESPONSIBILITIES OF FEDERAL AGENCIES TO PROTECT MIGRATORY BIRDS**

This Executive Order requires, among other things, a Memorandum of Understanding (MOU) between USACE and the USFWS concerning migratory birds. Neither the Department of Defense MOU nor the USACE's Draft MOU clearly address migratory birds on lands not owned or controlled by the USACE. For many USACE 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. USACE will include its standard migratory bird protection measures in the project plans and specifications and will require the contractor to abide by those requirements. The project complies with this Executive Order.

## 7 LIST OF PREPARERS

### 7.1 PREPARERS

This Environmental Assessment was prepared by the following personnel:

<b>Name</b>	<b>Specialty</b>	<b>Organization</b>
Mary Hagerty	NEPA	Sustainment and Restoration Services (SRS)
Stephen Berry	NEPA	LG2 Environmental Solutions, Inc. (LG2)
Wendy Puckett	Cultural Resources	LG2 Environmental Solutions, Inc. (LG2)
Mark Howell	Biological Resources	LG2 Environmental Solutions, Inc. (LG2)
Jessica Craft Ward	Senior Marine Biologist/Marine Resources	Cummins Cederberg, Inc.

### 7.2 REVIEWERS

This Environmental Assessment was reviewed by the following personnel:

<b>Name</b>	<b>Specialty</b>	<b>Organization</b>
Kristen Donofrio	Senior Biologist	USACE
Paul DeMarco	Senior Biologist	USACE
Laurel P. Reichold	Project Manager	USACE
Michael Neves	Lead Engineer	USACE
Marc Tiemann	Archeologist	USACE
Piper Austin	Engineer	USACE
Troy Mayhew	Geologist	USACE
Hansler Bealyer	Real Estate	USACE

## 8 ACRONYM LIST

APE	Area of Potential Effects
BB	Braun-Blanquet
BEC&HPP	Beach Erosion Control and Hurricane Protection Project
BHI	Bakers Haulover Inlet
BMP	Best Management Practices
BOEM	Bureau of Ocean Energy Management
CAA	Clean Air Act
CBIA	Coastal Barrier Improvement Act
CBRA	Coastal Barrier Resources Act
CBRS	Coastal Barrier Resources System
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFR	Code of Federal Regulations
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
CZMP	Coastal Zone Management Plan
dB	Decibel
dBA	A-weighted decibel scale
DCH	Designated Critical Habitat
DERM	Miami-Dade County Department of Environmental Resource Management
DPS	Distinct Population Segment
EA	Environmental Assessment
EFH	Essential Fish Habitat
EIS	Environmental Impact Statement
E.O.	Executive Order
EPP	Environmental Protection Plan
ESA	Endangered Species Act
ETOF	Estimated Toe of Fill
F	Fahrenheit
F.A.C.	Florida Administrative Code
FCMP	Florida Coastal Management Plan
FCD	Federal Consistency Determination
FDEP	Florida Department of Environmental Protection
FEMA	Federal Emergency Management Agency
FMP	Fishery Management Plan
FMSF	Florida Master Site File
FONSI	Finding of No Significant Impact
FPPA	Farmland Protection Policy Act
FR	Federal Register
ft	Feet

FWC	Florida Fish and Wildlife Conservation Commission
FWCA	Fish and Wildlife Coordination Act
GIS	Geographic Information Systems
GRBO	Gulf Regional Biological Opinion
GT	Ground-truthing
HAPC	Habitat of Particular Concern
HTRW	Hazardous, Toxic and Radioactive Waste
IHA	Incidental Harassment Authorization
IMA	Important Manatee Area
IWW	Intracoastal Waterway
EJ	Environmental Justice
FAO	Food and Agriculture Organization of the United Nations
FDEP	Florida Department of Environmental Protection
FPPA	Farmland Protection Policy Act
FWC	Florida Fish and Wildlife Conservation Commission
FWCA	Fish and Wildlife Coordination Act
FWRI	Florida Fish and Wildlife Research Institute
MALSF	Marine Aggregate Levy Sustainability Fund
MANLAA	May affect, not likely to adversely affect
MBCA	Migratory Bird Conservation Act
MBTA	Migratory Bird Treaty Act
MFR	Memorandum for the Record
MLLW	Mean Lower Low Water Level
MMPA	Marine Mammals Protection Act
MOU	Memorandum of Understanding
MPRSA	Marine Protection, Research, and Sanctuaries Act
MSFCMA	Magnuson-Stevens Fishery Conservation and Management Act
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection and Repatriation Act
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NHRP	National Register of Historic Places
NICW	Northwest of Intracoastal Waterway
NFS	Non-Federal Sponsor
NFS	North of Flood Shoal
NMFS	National Marine Fisheries Service
NOA	Notice of Availability
NOAA	National Oceanic and Atmospheric Administration
NOI	Notice of Intent
NPS	National Park Service
OPA	Otherwise Protected Area
P3BO	Piping Plover Programmatic Biological Opinion
PDC	Project Design Criteria

SAD	U.S. Army Corps of Engineers, South Atlantic Division
SAFMC	South Atlantic Fisheries Management Council
SARBO	South Atlantic Regional Biological Opinion
SAV	Submerged Aquatic Vegetation
SCUBA	Self-Contained Underwater Breathing Apparatus
SFS	South of Flood Shoal
SHPO	State Historic Preservation Office
SICW	Southwest of Intracoastal Waterway
SPBO	Statewide Programmatic Biological Opinion
T&C	Terms and Conditions
T&E	Threatened and Endangered
USACE	U.S. Army Corps of Engineers, Jacksonville District
U.S.C.	United States Code
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
UST	Underground Storage Tank
WQC	Water Quality Certification

## 9 REFERENCES

- Carson, Ruby Leach. 1962. Dade County. In *The East Coast of Florida: A History, 1500-1961, Volume I*. edited by Ellwood C. Nance, pp. 175-202. The Southern Publishing Company, Delray Beach, Fl.
- Conant, T.A., P.H. Dutton, T. Eguchi, S.P. Epperly, C.C. Fahy, M.H. Godfrey, MacPherson, E.E. Possardt, B.A. Schroeder, J.A. Seminoff, M.L. Snover, C.M. Upite, and B.E. Witherington. 2009. Loggerhead sea turtle (*Caretta caretta*) 2009 status review under the U.S. Endangered Species Act. Report of the Loggerhead Biological Review Team to the National Marine Fisheries Service. 222 pp.
- Data USA. 2019. Accessed on February 23, 2020 at: <https://datausa.io/profile/geo/miami-dade-county-fl#about>
- Dawes, C.J., R.C. Phillips, and G. Morrison. 2004. Seagrass Communities of the Gulf Coast of Florida: Status and Ecology. Florida Fish and Wildlife Conservation Commission Fish and Wildlife Research Institute and the Tampa Bay Estuary Program. St. Petersburg, FL. iv + 74 pp.
- Dickerson, C., Reine, K.J., and Clarke, D.G. 2001. Characterization of underwater sounds produced by bucket dredging operations, DOER Technical Notes Collection (ERDC TN-DOER-E14), U.S. Army Engineer Research and Development Center, Vicksburg, MS. [www.wes.army.mil/el/dots/doer](http://www.wes.army.mil/el/dots/doer)
- Dorn, J.K. 1949. Recollections of Early Miami. In *Tequesta: The Journal of the Historical Association of Southern Florida*, edited by Charlton W. Tebeau, 9:43-60.
- Duane, D.B., and E.P. Meisburger. 1969. Duane and Meisburger 1969. Geomorphology and Sediments of the Nearshore Continental Shelf, Miami to Palm Beach, Florida. USACE Coastal Engineering Center, Technical Memorandum No. 29.
- eBird. 2019. \_eBird Basic Dataset. Cornell Lab of Ornithology, Ithaca, New York. Accessed December 30, 2019 at: <https://ebird.org/map/redkno?neg=true&env.minX=&env.minY=&env.maxX=&env.maxY=&zh=false&gp=false&ev=Z&mr=1-12&bmo=1&emo=12&yr=all&byr=1900&eyr=2019>
- Ehrlich, P.R., D.S. Dobkin, and D. Wheye. 1988. *The Birder's Handbook*. Simon and Schuster. New York, NY.

- Essink, K. 1999. Ecological Effects of Dumping of Dredged Sediments; Options for Management. *Journal of Coastal Conservation*, 5, 69-80.
- FEMA. 2019. Federal Emergency Management Agency. FEMA's National Flood Hazard Layer (NFHL) Viewer. Retrieved on December 28, 2019 at: <https://hazards-fema.maps.arcgis.com/apps/webappviewer/index.html?id=8b0adb51996444d4879338b5529aa9cd>
- FDEP. 2019a. Florida Department of Environmental Protection Geospatial Open Data, Cleanup Sites. Updated 12-31-2019. Retrieved January 1, 2020 at: [https://geodata.dep.state.fl.us/datasets/4ddeb19ee7743689bdef343584c695d\\_0?geometry=-89.450%2C27.703%2C-76.838%2C31.053](https://geodata.dep.state.fl.us/datasets/4ddeb19ee7743689bdef343584c695d_0?geometry=-89.450%2C27.703%2C-76.838%2C31.053)
- FDEP. 2019b. Florida Department of Environmental Protection, Geospatial Open Data. Retrieved November 2019 at: <https://geodata.dep.state.fl.us/>
- Florida Center for Instructional Technology. 2002 Florida's Historic Places: Miami. In *Exploring Florida: A Social Studies Resource for Students and Teachers*. Florida Center for Instructional Technology, College of Education, University of South Florida. Electronic document, <http://fcit.usf.edu/florida/lessons/miami/miami.htm>
- FWC. 2010. Florida Fish and Wildlife Conservation Commission. Species of Sea Turtles Found in Florida. [http://research.myfwc.com/features/view\\_article.asp?id=5182](http://research.myfwc.com/features/view_article.asp?id=5182)
- FWC. 2019a. Florida Fish and Wildlife Conservation Commission. Florida Fish and Wildlife Research Institute (FWRI) Statewide Nesting Beach Survey Program, Loggerhead Nesting Data, 2014-2019. FWC/FWRI Statewide Nesting Beach Survey Program Database as of 6 February 2019. Retrieved December 20, 2019 at: <https://myfwc.com/media/19128/loggerheadnestingdata14-18.pdf>
- FWC. 2019b. Florida Fish and Wildlife Conservation Commission. Statewide Nesting Beach Survey Program, Green Turtle Nesting Data, 2013-2017. FWC Fish and Wildlife Research Institute Statewide Nesting Beach Survey Program Database as of 6 February 2019. Retrieved December 20, 2019 at: <https://myfwc.com/media/19129/greenturtlenestingdata14-18.pdf>
- FWC. 2019c. Florida Fish and Wildlife Conservation Commission. FWC Fish and Wildlife Research Institute (FWRI) Statewide Nesting Beach Survey Program, Leatherback Nesting Data, 2014-2019. FWC/FWRI Statewide Nesting Beach Survey Program Database as of 6 February 2019. Retrieved December 20, 2019 at: <https://myfwc.com/media/19127/leatherbacknestingdata14-18.pdf>

- FWC. 2019d. Florida Fish and Wildlife Conservation Commission. Manatee Synoptic Surveys. Retrieved December 27, 2019 at: <https://myfwc.com/research/manatee/research/population-monitoring/synoptic-surveys/>
- FWC. 2019e. Florida Fish and Wildlife Conservation Commission. GIS & Mapping Data Download. Manatee Carcass Recovery Locations In Florida. Retrieved December 27, 2019 at: <http://geodata.myfwc.com/datasets/manatee-carcass-recovery-locations-in-florida>
- FWC. 2019f. Florida Fish and Wildlife Conservation Commission. FWC Bald Eagle Nest Locator. Retrieved December 28, 2019 at: <https://www.arcgis.com/apps/webappviewer/index.html?id=253604118279431984e8bc3ebf1cc8e9>
- Florida Museum of Natural History. 2018. Discover Fish: Fish Species Profiles. Accessed on January 2, 2020 at: <https://www.floridamuseum.ufl.edu/discover-fish/species-profiles/>
- Garthe, S., Benvenuti S., and Montevecchi, W.A. 2000. Pursuit Diving In Northern Gannets Feeding On Capelin. *Proceedings of the Royal Society of London: Series B*, 267, 1717-1722.
- Gaston, A. J. 2004. *Seabirds A Natural History*. Helm, London.
- Goldberg, W.M. 1970. Goldberg 1970. Some Aspects of The Ecology of the Reefs Off Palm Beach County, Florida, With Emphasis on the Gorgonacea and Their Bathymetric Distribution. M.S. Thesis, Florida Atlantic University.
- Goldberg, W. 1973. "The Ecology of the Coral-Octocoral Communities Off the Southeast Florida Coast: Geomorphology, Species Composition, And Zonation." *Bulletin of Marine Science* 23:465-488.
- Hildebrand, J. 2004. Sources of Anthropogenic Sound in The Marine Environment. In E. Vos and R.R. Reeves (eds.) *Report of an International Workshop: Policy on Sound and Marine Mammals, 28–30 September 2004, London, England 23 December 2005*. U.S. Marine Mammal Commission, London, England.
- Jefferson, T.A., S. Leatherwood, and M.A. Webber. 1993. *Food and Agriculture Organization of the United Nations (FAO) Species Identification Guide: Marine Mammals of the World*. Rome: Food and Agriculture Organization.

- Kaufman, K., 1996. Lives of North American Birds. Boston/New York: Houghton Mifflin Co. pp 176-228.
- Kenworthy, J.W. 1997. An Updated Biological Status Review and Summary of the Proceedings of a Workshop to Review the Biological Status of the Seagrass, *Halophila johnsonii*. Report to the Office of Protected Resources. National Marine Fisheries Service.
- Leatherwood, S., and R.R. Reeves. 1983. The Sierra Club Handbook of Whales and Dolphins. San Francisco, CA: Sierra Club Books. 302 p.
- Lighty, R.G., I.G. Macintyre, and R. Stuckenrath. 1978. Lighty et al 1978. "Submerged Early Holocene Barrier Reef Southeast Florida Shelf." Nature (London) 276 (5683).
- Lincoln, F.C., S.R. Peterson, and J.L. Zimmerman. 1998. Migration of Birds. U.S. Dept. of Interior, U.S. Fish and Wildlife Service, Washington D.C. Circular 16 Retrieved on January 2, 2020 at:  
<https://www.csu.edu/cerc/researchreports/documents/MigrationofBirdsCircular.pdf>
- Marine Aggregate Levy Sustainability Fund (MALSF). 2009. A Generic Investigation into Noise Profiles of Marine Dredging in Relation to the Acoustic Sensitivity of the Marine Fauna in UK Waters with Particular Emphasis on Aggregate Dredging: Phase I Scoping And Review Of Key Issues. MEPF Ref No: MEPF 08/P21. Cefas contract report C3312. Accessed online at:  
<http://www.cefas.co.uk/media/462318/mepf-08-p21%20final%20report%20published.pdf>
- Marszalek, D.S. 1978. Professional Engineering Services for Surveying and Monitoring of Marine Hardbottom Communities in Dade County, Florida. Final report for the USACE, Jacksonville District. Contract No. DACW17-77-C-0036.
- Marszalek, D.S. and D.L. Taylor. 1977 Professional Engineering Services for Surveying and Monitoring Of Marine Hardbottom Communities In Dade County, Florida. Initial report for the USACE, Jacksonville District. Contract No. DACW17-77-C-0036.
- Miami-Dade County Department of Environmental Resources Management (DERM). 2018. 2018 Benthic Resources Surveys, Flood Shoal and Intracoastal Waterway in the Vicinity of Bakers Haulover Inlet Channel. Submitted by Miami-Dade County Department of Economic and Regulatory Resources – Environmental Management Resources.
- NPS. 2017. National Park Service. Biscayne National Park, Florida. Invasive Plants. Retrieved on January 6, 2020 from: <https://www.nps.gov/bisc/learn/nature/invasive-plants.htm>

- NPS 2019. National Park Service GIS Data Services Directory. Retrieved on January 1, 2020 at: [https://mapservices.nps.gov/arcgis/rest/services/cultural\\_resources/nrhp\\_locations/MapServer](https://mapservices.nps.gov/arcgis/rest/services/cultural_resources/nrhp_locations/MapServer)
- NMFS. 2000. National Marine Fisheries Service. Designated Critical Habitat: Critical Habitat for Johnson's Seagrass. 65FR17786. April 5.
- NMFS. 2008. National Marine Fisheries Service. 50 CFR Parts 223 and 226, Endangered and Threatened Species: Critical Habitat for Threatened Elkhorn and Staghorn Coral. Federal Register, Volume 73, No. 229, November 26, 2008, pp. 72210-72240.
- NMFS. 2019a. National Marine Fisheries Service. U.S. Atlantic and Gulf of Mexico Marine Mammal Stock Assessments – 2018. NOAA Technical Memorandum NMFS-NE-258. June.
- NMFS. Undated. National Marine Fisheries Service. Species directory. Accessed December 19, 2019 at: <https://www.fisheries.noaa.gov/species-directory>
- NMFS. 2003. National Marine Fisheries Service (NOAA Fisheries) Gulf Regional Biological Opinion: Endangered Species Act – Section 7 Consultation. November 19, 2003; Revision No. 1, June 24, 2005; Revision No. 2, January 9, 2007. <http://el.erdc.usace.army.mil/tessp/pdfs/2007GulfBO.pdf>
- NMFS. 2009. National Marine Fisheries Service (NOAA Fisheries), Southeast Regional Office. Smalltooth Sawfish Critical Habitat. Accessed March 2018 at: [http://sero.nmfs.noaa.gov/maps\\_gis\\_data/protected\\_resources/critical\\_habitat/index.html](http://sero.nmfs.noaa.gov/maps_gis_data/protected_resources/critical_habitat/index.html)
- National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (USFWS). 1992. Recovery Plan for U.S. Population for the Kemp's Ridley Sea Turtle (*Lepidochelys kempii*). National Marine Fisheries Service, St. Petersburg, Florida.
- NMFS and USFWS. 1993. Recovery Plan for Hawksbill Turtles in the U.S. Caribbean Sea, Atlantic Ocean, and Gulf of Mexico, (*Eretmochelys imbricata*), National Marine Fisheries Service, St. Petersburg, Florida.
- NMFS and USFWS. 2013a. National Marine Fisheries Service and US Fish and Wildlife Service. Leatherback Sea Turtle (*Dermochelys coriacea*) – 5-Year Review: Summary and Evaluation. November. Retrieved December 16, 2019 at: <https://repository.library.noaa.gov/view/noaa/17029>
- NMFS and USFWS. 2013b. National Marine Fisheries Service and US Fish and Wildlife Service. Hawksbill Sea Turtle (*Eretmochelys Imbricata*) – 5-Year Review: Summary and

- Evaluation. Retrieved December 16, 2019 at:  
<https://www.fisheries.noaa.gov/resource/document/hawksbill-sea-turtle-eretmochelys-imbricata-5-year-review-summary-and-evaluation>
- NMFS and USFWS. 2015. National Marine Fisheries Service and US Fish and Wildlife Service. Kemp's Ridley Sea Turtle (*Lepidochelys kempii*) – 5-Year Review: Summary and Evaluation. Retrieved December 16, 2019 at:  
<https://www.fisheries.noaa.gov/action/kemps-ridley-sea-turtle-5-year-reviews>
- NMFS. 2018. National Marine Fisheries Service, National Oceanic and Atmospheric Administration. GIS data for Essential Fish Habitat (EFH) and for Habitats of Particular Concern (HAPC) and for ERH Areas Protected from Fishing– South Atlantic. Retrieved on January 4, 2020 at: <https://www.habitat.noaa.gov/application/efhinventory/>
- NOAA Fisheries 2019a. National Oceanic and Atmospheric Administration Fisheries. Loggerhead Turtle – Northwest Atlantic Ocean DPS Critical Habitat Map. Retrieved on November 12, 2019 at:  
<https://www.fisheries.noaa.gov/resource/map/loggerhead-turtle-northwest-atlantic-ocean-dps-critical-habitat-map>
- NOAA Fisheries. 2019b. National Oceanic and Atmospheric Administration Fisheries. Johnson's Seagrass Critical Habitat Map and GIS Data. Retrieved on January 6, 2020 from:  
<https://www.fisheries.noaa.gov/resource/map/acropora-elkhorn-and-staghorn-coral-critical-habitat-map-and-gis-data>
- NOAA Fisheries. 2019c. Acropora: Elkhorn and Staghorn Critical Habitat Map and GIS Data. Retrieved on January 6, 2020 from:
- Particios, Nicholas, N. 1994. Building Marvelous Miami. The University Press of Florida, Gainesville, FL.
- Poulakis, G.R. and J.C. Seitz. 2004. Recent Occurrence of the Smalltooth Sawfish, *Pristis pectinata* (*Elasmobranchiomorphi: Pristidae*), in Florida Bay and the Florida Keys, with comments on sawfish ecology. Florida Scientist 67:27–35.
- Russo, M. 2006. Archaic Shell Rings of the Southeast U.S., National Historic Landmarks Historic Centers, National Park Service, Southeast Archeological Center, Tallahassee, Florida.
- Schwarzer, A.C., J.A. Collazo, L.j. Niles, J.M. Brush, N.J. Douglas, and H.F. Percival. 2012. Annual Survival of Red Knots (*Calidris canutus rufa*) Wintering in Florida. Auk 129(4):725-733.
- Sibley, David Allen. 2000. National Audubon Society: The Sibley Guide to Birds. Alfred A. Knopf, New York.

- Simpfendorfer, C.A. and T.R. Wiley. 2005. Determination of the Distribution of Florida's Remnant Sawfish Population and Identification of Areas Critical to their Conservation. Final Report. Florida Fish and Wildlife Conservation Commission, Tallahassee, Florida.
- SAFMC. 1983. South Atlantic Fisheries Management Council. Fishery Management Plan, Regulatory Impact Review and Final Environmental Impact Statement for the Snapper Grouper Fishery of the South Atlantic Region.
- SAFMC. 2003. South Atlantic Fishery Management Council. 2003. Fishery Management Plan for the Dolphin and Wahoo Fishery of the Atlantic.
- SAFMC. 2009. South Atlantic Fisheries Management Council. Fishery Ecosystem Plan of the South Atlantic Region, Volume II: South Atlantic habitats and species.
- SAFMC. 2014. Policy for Protection and Enhancement of Estuarine and Marine Submerged Aquatic Vegetation (SAV) Habitat.
- SAFMC. 2015. Policies for The Protection and Restoration of Essential Fish Habitats from Beach Dredging and Filling, Beach Renourishment and Large-Scale Coastal Engineering.
- SAFMC. 2016, revised August 2017. Users Guide to Essential Fish Habitat Designations by the South Atlantic Fishery Management Council Final.
- Staubach, Col. James C. 1993. Miami During the Civil War, 1861-65. In Tequesta: The Journal of the Historical Association of Southern Florida, edited by Arva Moore Parks, 53:31-62.
- Thaxter, C.B., Wanless, S., Daunt, F., Harris, M.P., Benvenuti, S., Watanuki, Y., Gremillet, D. & Hamer, K. C. 2010. Influence of Wing Loading on the Trade-Off Between Pursuit-Diving and Flight in Common Guillemots and Razorbills. *Journal of Experimental Biology*, 213, 10181025.
- USACE 2015. U.S. Army Corps of Engineers. The Corps of Engineers, Jacksonville District. Programmatic Essential Fish Habitat Assessment for Regional General Permit SAJ-93 for Florida Inland Navigation District Maintenance Dredging of The Federal Navigation Channel.
- USACE 2016a. U.S. Army Corps of Engineers. The Corps of Engineers, Jacksonville District. Dade County, Florida Beach Erosion Control and Hurricane Projection Project, Limited Reevaluation Report. March.
- USACE. 2017. U.S. Army Corps of Engineers, Jacksonville District. Environmental Assessment, Continued Operations and Maintenance Dredging, Placement of Dredged Material on

Dade County Beach Erosion Control Project, Intracoastal Waterway, Cut DA-9 at Bakers Haulover Inlet, Miami-Dade County, Florida. August.

USACE. 2018a. U.S. Army Corps of Engineers, Jacksonville District. GIS files of Important Manatee Areas provided by email on January 18.

USACE. 2019a. U.S. Army Corps of Engineers, Jacksonville District. Sediment Compatibility Analysis, Beach Erosion Control and Hurricane Protection Project, Bal Harbour Segment, Miami-Dade County, Florida, For Placement on Bal Harbour Beach Using the Bakers Haulover Inlet Flood Shoal. July.

USACE. 2019b. U.S. Army Corps of Engineers, Jacksonville District. IWW – Jacksonville to Miami, IWW Cut DA-9 and Bakers Haulover Inlet Waterway Realignment, Dade County, Florida, Hydro Exam Survey FY19. Survey 19-184.

USACE. 2019c. U.S. Army Corps of Engineers, Jacksonville District. Beach Erosion Control and Hurricane Protection Project, Miami-Dade County, Florida, Bal Harbour. Bakers Haulover Inlet Flood Shoal and IWW. 7 Plates. July.

USACE and FDEP 2013. U.S. Army Corps of Engineers and Florida Department of Environmental Protection. The Corps of Engineers, Jacksonville District, and the State of Florida Effects Determination Key for the Manatee in Florida. April. Accessed on December 31, 2019 at: [https://www.saj.usace.army.mil/Portals/44/docs/regulatory/sourcebook/endangered\\_species/Manatee/2013\\_FINAL\\_ManateeKey.pdf](https://www.saj.usace.army.mil/Portals/44/docs/regulatory/sourcebook/endangered_species/Manatee/2013_FINAL_ManateeKey.pdf)

USACE and BOEM. 2016. U.S. Army Corps of Engineers and Bureau of Ocean Energy Management. Environmental Assessment, Identification of Alternative Sand Sources for the Remaining Period of Federal Participation, Dade County Beach Erosion Control and Hurricane Protection Project, Miami-Dade County, Florida. March.

U.S. Census Bureau. 2019. QuickFacts, Miami-Dade County, Florida. Accessed on February 21, 2020 at: <https://www.census.gov/quickfacts/fact/table/miamidadecountyflorida,US/PST045219>.

USEPA. 2019. U.S. Environmental Protection Agency. Florida Nonattainment/Maintenance Status for Each County by Year for All Criteria Pollutants. Data current as of December 31, 2019. Retrieved on January 1, 2020 at: [https://www3.epa.gov/airquality/greenbook/anayo\\_fl.html](https://www3.epa.gov/airquality/greenbook/anayo_fl.html)

USFWS. 2007. U.S. Fish and Wildlife Service. West Indian Manatee (*Trichechus manatus*) 5-Year Review: Summary and Evaluation. U.S. Fish and Wildlife Service, Jacksonville, Florida.

- USFWS. 2013. U.S. Fish and Wildlife Service. Shore Protection Activities in the Geographical Region of the North and South Florida Ecological Services Field Offices: Programmatic Piping Plover Biological Opinion. May 22.
- USFWS. 2015a. U.S. Fish and Wildlife Service. Draft Revised Recovery Plan for the Wintering Range of the Northern Great Plains Piping Plover and Comprehensive Conservation Strategy for the Piping Plover in its Coastal Migration and Wintering Range in the Continental United States.
- USFWS. 2015b. U.S. Fish and Wildlife Service. Statewide Programmatic Biological Opinion. South Florida Ecological Services Office, Vero Beach, Florida. May 13, 2015. Service Log No: 41910-2011-F-0170.
- USFWS. 2018b. U.S. Fish and Wildlife Service. Retrieved February 15, 2018 from: <https://www.fws.gov/cbra/Maps/index.html>.
- USFWS 2019a. U.S. Fish and Wildlife Service. West Indian manatee (*Trichechus manatus*). Retrieved on December 17 from: <https://www.fws.gov/southeast/wildlife/mammals/manatee/>
- USFWS 2019b. U.S. Fish and Wildlife Service. Coastal Barrier Resources System. CBRS Boundaries. Retrieved on November 9 from: <https://www.fws.gov/cbra/maps/Boundaries.html>
- Virnstein, R.W. and L.M. Hall. 2009. Northern Range Extension Of The Seagrasses *Halophila johnsonii* and *Halophila decipiens* Along The East Coast Of Florida, USA. *Aquatic Biology* 90, pp. 89-92.
- Walker, B.K. 2009. Benthic Habitat Mapping of Miami-Dade County: Visual Interpretation of LADS Bathymetry and Aerial Photography. FDEP report #RM069. Miami Beach, FL. Pp 47.
- Walker, B.K. and K. Klug. 2014. Southeast Florida Shallow-Water Habitat Mapping & Coral Reef Community Characterization. Florida Department of Environmental Protection Coral Reef Conservation Program. Final Report, June 30.
- Watts, Gordon P., Jr., and Raymond Tubby. 1997. Submerged Historic Properties Survey, IWW Bakers Haulover, Dade County Florida. Tidewater Atlantic Research, Inc., Washington, North Carolina. Submitted to U.S. Army Corps of Engineers, Jacksonville District, Contract No. DACW17-97-M-0201. Manuscript on file, Florida Master Site File, Tallahassee, Florida.

Wilson, F. Page. 1954. Miami: From Frontier to Metropolis: An Appraisal. In *Tequesta: The Journal of the Historical Association of Southern Florida*, edited by Charlton W. Tebeau, pp. 25-50. Number XIV.

Wood, D.A. 1991. Official Lists of Endangered and Potentially Endangered Fauna And Flora in Florida. Florida Game and Fresh Water Fish Commission, Tallahassee.

THIS PAGE INTENTIONALLY LEFT BLANK FOR DUPLEX PRINTING

## **APPENDIX A – PERTINENT CORRESPONDENCE**

THIS PAGE INTENTIONALLY LEFT BLANK FOR DUPLEX PRINTING



## United States Department of the Interior



FISH AND WILDLIFE SERVICE  
South Florida Ecological Services Office  
1339 20<sup>th</sup> Street  
Vero Beach, Florida 32960

February 7, 2017

Jason A. Kirk  
U.S. Army Corps of Engineers  
Post Office Box 4970  
Jacksonville, Florida 32232-0019

Service CPA Code: 04EF2000-2015-CPA-0394  
Service Consultation Code: 04EF2000-2015-F-0286  
Date Received: August 3, 2015  
Consultation Initiation Date: December 7, 2016  
Project: Dade County Beach Erosion  
Control and Hurricane Protection  
Project  
County: Miami-Dade

Dear Colonel Kirk:

This document transmits the U.S. Fish and Wildlife Service's (Service) decision document to the U.S. Army Corps of Engineers (Corps) for the placement of sand along approximately 3.7 miles (mi) of shoreline along Miami-Dade County, Florida (Project). The Corps determined that the Project may affect, and is likely to adversely affect the endangered green sea turtle (*Chelonia mydas*), the endangered hawksbill sea turtle (*Eretmochelys imbricata*), the endangered Kemp's ridley sea turtle (*Lepidochelys kempii*), the endangered leatherback sea turtle (*Dermochelys coriacea*), and the threatened Northwest Atlantic Ocean Distinct Population Segment of the loggerhead sea turtle (*Caretta caretta*); and may affect, but is not likely to adversely affect the threatened piping plover (*Charadrius melodus*), the threatened red knot (*Calidris canutus rufa*), and the endangered West Indian manatee (*Trichechus manatus*; manatee). For the purposes of this document, the five identified sea turtles will be referred to collectively as sea turtles. This document is provided in accordance with section 7 of the Endangered Species Act of 1973, as amended (Act) (87 Stat. 884; 16 U.S.C. 1531 *et seq.*).

The Service and the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries) share Federal jurisdiction for sea turtles under the Act. The Service has responsibility for sea turtles on the nesting beach and the NOAA Fisheries has jurisdiction for sea turtles in the marine environment.

Our analysis in this document will only address activities that may impact nesting sea turtles, their nests and eggs, and hatchlings as they emerge from the nest and crawl to the sea. Please note the provisions of this consultation do not apply to sea turtles in the marine environment,

such as swimming juvenile and adult sea turtles or loggerhead critical habitat in the marine environment. If applicable, you are required to consult with the NOAA Fisheries on this Project. For further information on Act compliance with the NOAA Fisheries, please contact Rachel Sweeney, Chief of the Interagency Cooperation Branch, by e-mail at [rachel.sweeney@noaa.gov](mailto:rachel.sweeney@noaa.gov) or by phone at 727-209-5953.

This analysis is based on information provided in the Corps' July 31, 2015, letter and March 2016 Environmental Assessment. A complete record of this consultation is on file at the South Florida Ecological Services Office, Vero Beach, Florida.

### **Consultation History**

On August 3, 2015, the Service received a copy of the Corps' letter dated July 31, 2015.

On December 7, 2016, the Service emailed the Corps a request for additional information and later in the day received an email from the Corps in response to our request for additional information. Consequently, the Service had sufficient information to initiate formal consultation with the Corps concerning the potential effects of the Project on sea turtles, manatees, piping plovers, and red knots.

### **DESCRIPTION OF THE PROPOSED ACTION**

The Corps proposes to place beach compatible sand on approximately 3.7 mi of shoreline along Miami-Dade County, Florida (Figure 1). The proposed Project involves placement of approximately 3,600,000 cubic yards of sand within portions of a fill template extending between the Florida Department of Environmental Protection (DEP) reference monuments R-7 and R-74 (Figure 1) over the next 20 years (2016 and 2036). The federally authorized limits of the Main Segment extend from Baker's Haulover Inlet to Government Cut, and 1.2 mi north of Baker's Haulover Inlet through Haulover Beach Park which encompasses DEP reference monuments R-19 to R-74 (Figure 1). The federally authorized limits of the Sunny Isles Segment extend 2.5 mi north of Haulover Beach Park which encompasses DEP reference monuments R-7 to R-19.3 (Figure 1). The Bureau of Ocean Energy Management is a cooperating agency for this Project due to the proposed use of two sand sources located within Outer Continental Shelf waters offshore of Martin and St. Lucie counties. Additional proposed inshore sand sources located in Miami-Dade County include one at Baker's Haulover Inlet and Lummus Park, respectively; and three upland sand mines (ACI [Miami-Dade County], and Ortona and Witherspoon [both in Glades County]) (Figure 2). For in-and-offshore sand sources, the sand will be dredged hydraulically and placed in the fill template through a series of discharge pipes. Once the dredged material has been deposited within the fill template, bulldozers will move and grade the material to produce the authorized design fill profile.

If upland sands mine sources are utilized, the material will be dredged and the water slurry pumped to a sorting machine that will sort the varying grain sizes, etc. to fulfill all requirements as outlined in the Florida Administrative Code subsection 62B-41.007. Afterwards, the sand will be placed in a large pile where it will dry out before being loaded into dump trucks for transport.

The contractor will likely employ a 'mixed fleet' of long-haul road trucks including two-axel and six-axel dump trucks to transfer the sand to the staging sites where it will be stockpiled. Smaller all-terrain dump trucks will be used to transfer the sand from the staging sites to the beach for placement within the fill templates, and bulldozers used to grade the sand to the permitted design fill profile.

All beach corridors, staging areas, stock piles, and pipeline corridors will be selected to avoid effects to upland habitat. Construction vehicles and equipment must traverse or be stored within these designated areas, corridors, and/or within the pipeline corridor. In addition, all construction pipes will be placed parallel to the shoreline and positioned as far landward as possible up to the vegetated dune line. Existing vegetated habitat at these sites and corridors shall be protected to the maximum extent possible to minimize disturbance; therefore, impacts associated with the beach access corridors, pipeline corridors, stock piles, staging areas, and beach fill template are not anticipated. If impacts occur, all impacted areas and vegetation will be restored to preconstruction condition and elevation. In addition, all impacts to nearshore hardbottom habitat and seagrasses will be avoided. All loose debris will be removed and properly disposed of prior to sand placement. The intent of the Project is to renourish the shoreline in order to protect infrastructure and property, improve the shoreline for recreational use, and to provide shoreline stabilization.

#### Minimization measures

The Corps will follow and implement the Reasonable and Prudent Measures (RPMs) and the Terms and Conditions identified in the revised Statewide Programmatic Biological Opinion (2015-SPBO; Service 2015), and the Conservation Measures of the Programmatic Piping Plover Biological Opinion (P<sup>3</sup>BO; Service 2013) that apply to the Project concerning nesting sea turtles and piping plovers, respectively. The P<sup>3</sup>BO conservation measures will also minimize effects to red knots.

To minimize impacts to manatees from the proposed Project, the Corps has agreed to follow and implement the Florida Fish and Wildlife Conservation Commission's (FWC) Standard Manatee Conditions for In-Water Work (FWC 2011), and the minimization measures outlined for manatees in the 2015-SPBO.

#### **Action Area**

The action area is defined as all areas to be affected directly or indirectly by the action and not merely the immediate area involved in the action. The Service identifies the action area to include the sand fill template, staging areas, beach access and pipeline corridors, two offshore borrow areas, three upland sand mines and corresponding transport corridors, and Baker's Haulover Inlet and Lummus Park ebb shoals. The Project is located along the Atlantic Ocean, Miami-Dade County, Florida, at latitude 25.942417 and longitude -80.119128.

## THREATENED AND ENDANGERED SPECIES

### Piping plover

The Service has determined the Project's impact to non-optimal piping plover habitat is consistent with the analysis in the P<sup>3</sup>BO. As previously stated, the Corps has agreed to follow and implement the Conservation Measures outlined in the P<sup>3</sup>BO that apply to the Project. As it relates to survey guidelines defined in P<sup>3</sup>BO Conservation Measure #2, the Service approves a reduction in the survey effort, and the following revised survey guidelines can be implemented by the Corps:

1. One preconstruction winter shorebird survey will be conducted within a 10-day timeframe beginning the first Friday in February, as outlined in the Florida Shorebird Alliance's Winter Shorebird Survey (<http://flshorebirdalliance.org>). If the February preconstruction survey is not possible, two preconstruction winter shorebird surveys will be conducted as close as possible to the February dates and at least 15 days apart, and reported to the FWC (<https://public.myfwc.com/crossdoi/shorebirds/loginform.aspx>). Preconstruction surveys will not be conducted between May 16 and July 14. If piping plovers are documented during the preconstruction survey, the Service will be contacted for potential implementation of additional conservation measures prior to construction commencement. In addition, a February winter shorebird survey will be conducted as outlined above, for 2 years post-construction. All shorebird survey data will be forwarded to the Service annually upon completion.
2. The person(s) conducting the surveys must demonstrate the qualifications and ability to identify shorebird species and be able to provide the information outlined in the Winter Shorebird Survey.

Because the Project, as proposed, is consistent with the analysis for non-optimal piping plover habitat in the P<sup>3</sup>BO, the Corps has concurrence for the piping plover for this Project through the concurrence contained within P<sup>3</sup>BO. A report must be submitted by July 31 of each year in which monitoring is completed, as described in Term and Condition 9 of the P<sup>3</sup>BO.

### Red knot

Red knots may use the Project area during winter and migration periods. In Florida, red knots are commonly found along sandy, gravel, or cobble beaches, tidal mudflats, salt marshes, shallow coastal impoundments, and mangrove and brackish lagoons. Red knots forage along sandy beaches during spring and fall migration throughout Florida. To date, critical habitat has not been proposed or designated for the red knot. According to our Geographic Information System database and eBird (eBird 2016), no red knots have been documented in the action area. Because suitable habitat for the red knot and piping plover is similar, minimization measures for potential effects to red knots in non-optimal habitat will be incorporated into the Project through the Corps' implementation of the Conservation Measures to reduce impacts on piping plovers for projects located in non-optimal piping plover habitat as outlined in the P<sup>3</sup>BO.

Based on the implementation of P<sup>3</sup>BO's Conservation Measures, the fact that red knots have not been documented in the area, and the Project area being located in non-optimal red knot habitat, the Service concurs that the Project, as proposed, may affect but is not likely to adversely affect this species.

#### Sea turtles

The Project is located adjacent to sea turtle nesting habitat, and therefore could adversely affect nesting sea turtles, their nests, and hatchlings. The purpose of the proposed Project is to protect the shoreline from ongoing erosion. Without the restorative activities, erosion is expected to continue, potentially impacting sea turtle nesting. Consequently, the proposed Project could have beneficial effects to nesting sea turtles.

The Service has determined the Project's effects concerning sand placement activities are consistent with those analyzed in the 2015-SPBO. Therefore, it is appropriate to apply the 2015-SPBO to the Project. Based on the Corps' commitment to implement the minimization measures, RPMs, and the Terms and Conditions identified in the 2015-SPBO that apply to the Project, the Project's take coverage for listed sea turtles is henceforth covered under the 2015-SPBO.

#### West Indian manatee

The Project occurs within the geographic range of the manatee and is located in the manatee consultation area. The Corps has agreed to implement the FWC *Standard Manatee Construction Conditions for In-water Work* (FWC 2011), the minimization measures outlined in the 2015-SPBO, and the minimization measures outlined in the Corps' SPBO biological assessment (Corps 2011), to avoid potential impacts on manatees. Based on the proposed protection measures, the Service concurs that the Project, as proposed, may affect, but is not likely to adversely affect this species. The Project is not located within designated critical habitat for the manatee.

### **REINITIATION NOTICE**

This concludes consultation on the action outlined in the request. As provided in 50 CFR §402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if:

1. The amount or extent of incidental take outlined in the 2015-SPBO is exceeded. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation;
2. New information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this analysis;
3. The agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this analysis; or
4. A new species is listed or critical habitat designated that may be affected by the action.

Thank you for your cooperation in the effort to conserve fish and wildlife resources. Should you have additional questions or require clarification regarding this letter, please contact Jeff Howe at 772-469-4283.

Sincerely yours,



Roxanna Hinzman  
Field Supervisor

South Florida Ecological Services Office

cc: electronic only

Corps, Jacksonville, Florida (Terri Jordan-Sellers)

DEP, Tallahassee, Florida (Lanie Edwards)

EPA, West Palm Beach, Florida (Ron Miedema)

FWC, Tallahassee, Florida (FWC-CPS, Robbin Trindell)

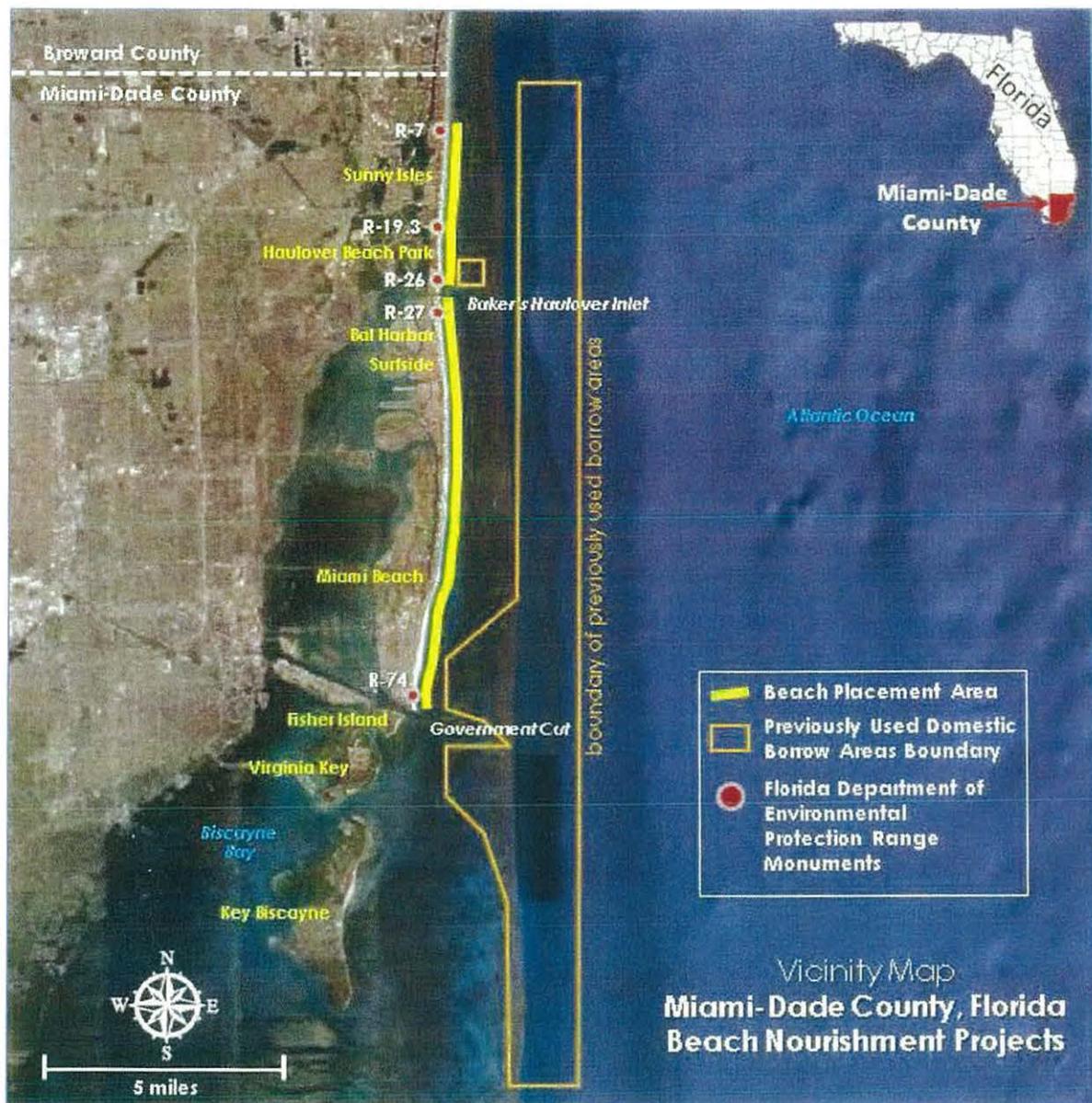
NOAA Fisheries, Fort Lauderdale, Florida (Audra Livergood)

NOAA Fisheries, West Palm Beach, Florida (Jocelyn Karazsia)

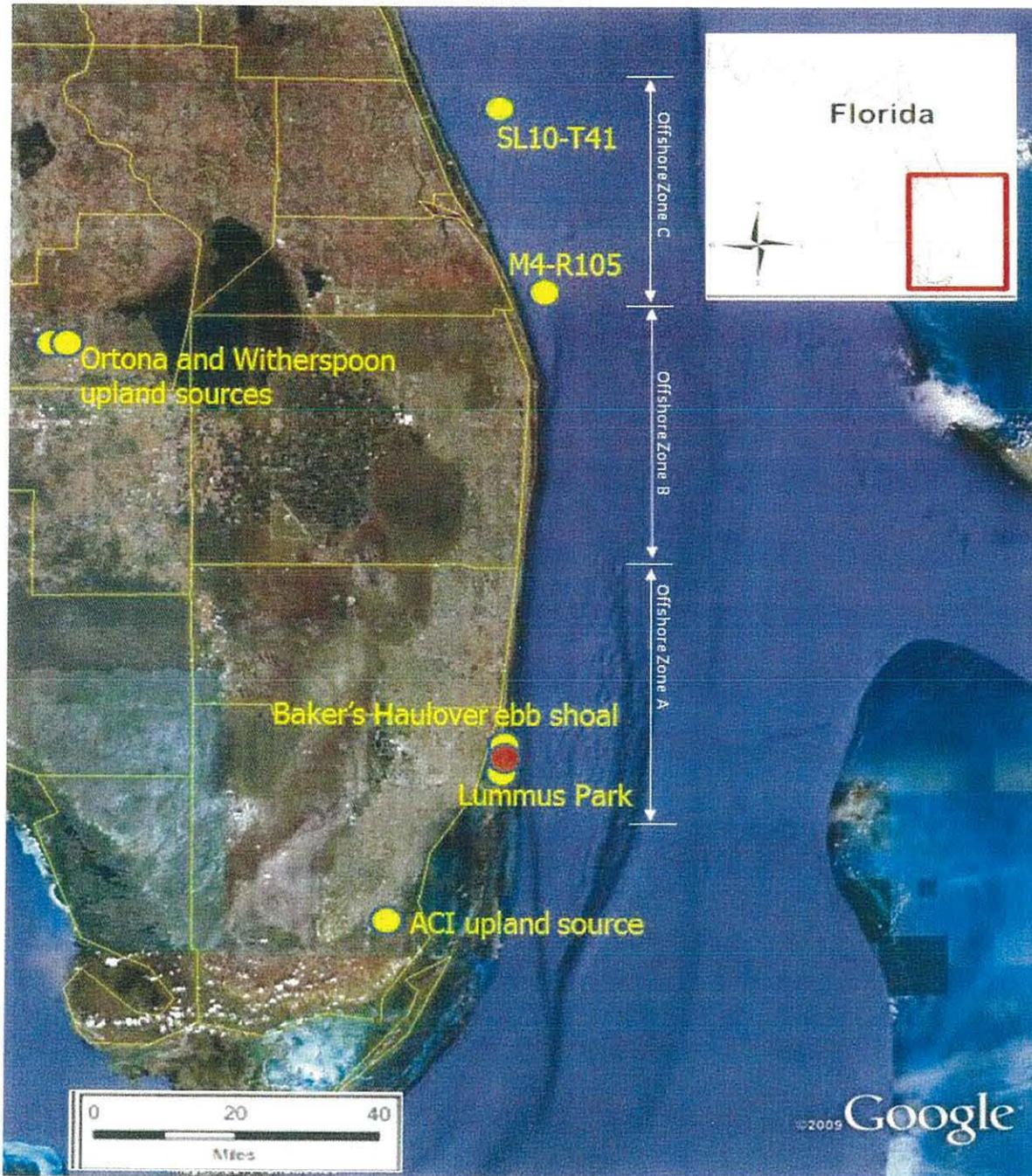
Service, St. Petersburg, Florida (Anne Marie Lauritsen, Peter Plage)

## LITERATURE CITED

- eBird.org. 2016. An online database of bird distribution and abundance [Internet]. Cornell Lab of Ornithology; Ithaca, New York [cited November 9, 2016]. Available from: <http://www.ebird.org>.
- Florida Fish and Wildlife Conservation Commission (FWC). 2011. Standard Manatee Conditions for In-Water Work 2011. Tallahassee, Florida [Internet]. [cited November 10, 2016]. Available from: [http://myfwc.com/media/415448/Manatee\\_StdCondln\\_waterWork.pdf](http://myfwc.com/media/415448/Manatee_StdCondln_waterWork.pdf)
- U.S. Army Corps of Engineers (Corps). 2011. Statewide Programmatic Biological Assessment. Beach Placement and Shore Protection, Coast of Florida. U.S. Army Corps of Engineers; Jacksonville, Florida.
- U.S. Fish and Wildlife Service (Service). 2013. Programmatic piping plover biological opinion to the U.S. Army Corps of Engineers (Service Log No. 04EF1000-2013-F-0124) for shore protection activities in the geographical region of the north and south Florida Ecological Services Field Offices (May 22, 2013). Jacksonville and Vero Beach Field Offices, Florida.
- U.S. Fish and Wildlife Service (Service). 2015. Statewide programmatic biological opinion to the U.S. Army Corps of Engineers (Service Log No. 41910-2011-F-0170) for shore protection activities along the coast of Florida (March 13, 2015). Jacksonville, Panama City, and Vero Beach Field Offices, Florida.



**Figure 1.** Location of the Dade County Beach Erosion Control and Hurricane Protection project in Miami-Dade County, Florida.



**Figure 2.** Location of the proposed sand sources for the Dade County Beach Erosion Control and Hurricane Protection project in Miami-Dade County, Florida.



May 3, 2020

F/SER47:JK/pw

(Sent via Electronic Mail)

Colonel Andrew Kelly, Commander  
U.S. Army Corps of Engineers, Jacksonville District  
701 San Marco Boulevard  
Jacksonville, Florida 32207-8175

Attention: Kristen Donofrio

Dear Colonel Kelly:

NOAA's National Marine Fisheries Service (NMFS) reviewed the *Draft Environmental Assessment for the Bal Harbour Beach Renourishment, Dade County Erosion Control and Hurricane Protection Project, Florida*, dated March 2020 (Draft EA). The Draft EA evaluates the use of new sand sources for nourishing certain portions of the 10.5 miles of Bal Harbour Beach. Approximately 250,000 cubic yards of material would be dredged from the Bakers Haulover Inlet (BHI) channel and the BHI flood shoal. In addition, the Jacksonville District may obtain sand from upland sand mines referred to as Garcia and Cemex in Henry and Polk Counties, respectively. For the Preferred Alternative, the Jacksonville District's initial determination is the proposed indirect impacts to an unspecified amount of seagrass and coral habitats, which the South Atlantic Fishery Management Council (SAFMC) designates Habitat Areas of Particular Concern (HAPCs), would be temporary or minimal. As the nation's federal trustee for the conservation and management of marine, estuarine, and anadromous fishery resources, the NMFS provides the following comments and recommendations pursuant to authorities of the Fish and Wildlife Coordination Act and the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act).

*Alternatives Evaluated in the Draft EA*

The Draft EA presents two alternatives, the No Action Alternative (Status Quo) and Alternative 1, which the District designated the Preferred Alternative. Under the No Action Alternative, the Jacksonville District would use sand sources described in previous environmental compliance documents (listed in Section 1.5 of the Draft EA), including dredge material from the BHI ebb shoal and upland mines in Glades County, to nourish Bal Harbour Beach. The Preferred Alternative includes dredging material from the BHI channel or flood shoal and pumping that material as a sand-slurry through a pipeline to the beach. Sands from upland mines would be hauled by dump truck to the beach. The NMFS does not object to the use of the upland mines as described in the Draft EA.



### *Essential Fish Habitat within the Project Area*

A biologist from the NMFS visited the BHI flood shoal and surrounding area on August 6, 2015, with representatives of the Jacksonville District and Florida Inland Navigation District. In addition, the Draft EA contains a benthic survey report from the project area based on data collected October 24 to 31, 2019. Miami-Dade County also conducted pre- and post-construction surveys in the project area in 2006 (pre- and post), 2010 (pre-), 2011 (post), and 2013 (pre- and post) for dredging portions of the Intracoastal Waterway near the BHI flood shoal.

The seabottom surrounding the BHI channel and flood shoal supports seagrass and coral habitat. The area is characterized as supporting a mix of shoal grass (*Halodule wrightii*), paddle grass (*Halophila decipiens*), Johnson's seagrass (*Halophila johnsonii*), manatee grass (*Syringodium filiforme*), and turtle grass (*Thalassia testudinum*) adjacent to areas to be dredged (DERM 2006, DERM 2011, DERM 2014, and LG2 Environmental Solutions 2020). Numerous species of stony corals are present within coral habitats located near the BHI flood shoal, including corals not typically observed in inshore areas, such as *Meandrina meandrinites*, *Colpophyllia natans*, *Pseudodiploria strigosa*, and *Pseudodiploria clivosa*, in addition to octocorals and sponges (DERM 2011 and LG2 Environmental Solutions 2020).

EFH adjacent to the planned dredging includes estuarine bottom, the coastal inlet, seagrass, and coral habitats. The SAFMC identifies estuarine bottom, coral, and seagrass habitats as EFH for several species, including adult white grunt (*Haemulon plumieri*), juvenile and adult gray snapper (*Lutjanus griseus*), juvenile mutton snapper (*Lutjanus analis*), and larval and juvenile pink shrimp (*Farfantepenaeus duorarum*). The SAFMC also designates the Biscayne Bay Aquatic Preserve and/or all coastal inlets as HAPCs for spiny lobsters, penaeid shrimp and several species within the snapper/grouper complex. HAPCs are subsets of EFH that are rare, particularly susceptible to human-induced degradation, especially important ecologically, or located in an environmentally stressed area. Seagrass and coral directly benefit fishery resources of the Florida Reef Tract by providing water quality benefits, foraging opportunities, and nursery habitat. Further, unconsolidated sediments, coral, and seagrass are part of a habitat complex that includes mangroves and hardbottom. This habitat complex supports a diverse community of fish and invertebrates within the Florida Reef Tract. The SAFMC provides additional information on EFH and HAPCs and their support of federally managed fishery species in *Fishery Ecosystem Plan of the South Atlantic Region* (available at [safmc.net/habitat-and-ecosystems/fishery-ecosystem-plan/](http://safmc.net/habitat-and-ecosystems/fishery-ecosystem-plan/)).

### *Impacts to Essential Fish Habitat*

A mandatory component of an EFH assessment is an analysis of the effects, including cumulative effects, of the action on EFH, the managed species, and associated species by life stage (50 CFR 600.920(e)(3)). While the Draft EA states the EFH assessment for the project is integrated within the document (page ii, 4-7, and 6-6), detail is missing on the effects of the action on coral habitats and coastal inlets.

Seagrass: While the Draft EA does not quantify the amount of seagrass that would be indirectly affected, the District notes indirect impacts to seagrass from sedimentation or turbidity should be short term. The Jacksonville District refers to monitoring reports (DERM 2009, 2011, and 2014) to support this conclusion and by email dated April 21, 2020, District staff supplied the

monitoring reports underlying this determination. If pipeline placement intersects with mapped seagrass habitats, the evaluation of those impacts should be added to the Draft EA. In the section below under the heading *Recommended Changes to the Draft EA*, the NMFS offers edits to the sections describing seagrass impacts.

Coral habitat: While the coral habitat community is described in the Draft EA and benthic survey provided as appendix D, the document does not provide an evaluation of impacts to the community other than stating “EFH that may be directly and indirectly impacted by the proposed project are likely to include the coastal inlet, unconsolidated sediments, hardbottom, and seagrass habitats” (page 4-7). If pipeline placement intersects with mapped seagrass habitats, the Jacksonville District should add an evaluation of those impacts associated to the Draft EA.

The BHI channel as a coastal inlet: While the coastal inlet is identified as EFH and HAPC in the Draft EA, the document does not provide an evaluation of impacts to the inlet or fishery resources that utilize the inlet. The evaluation of impacts to the coastal inlet is limited to “EFH that may be directly and indirectly impacted by the proposed project are likely to include the coastal inlet, unconsolidated sediments, hardbottom, and seagrass habitats” (page 4-7).

#### *Minimization and Monitoring*

The Draft EA states that measures will be implemented to reduce turbidity (Section 4.3.2.2) and if turbidity levels exceed compliance standards, the Jacksonville District and/or its contractor will alter construction techniques or cease dredging or disposing the dredged material until conditions allow compliance with turbidity standards (Section 4.6.2). However, the Draft EA does not describe the measures to reduce turbidity, how the construction techniques would be altered, how long the dredge would be shut down, or what information would be used to determine when dredging can resume.

In addition, the Draft EA states “the use of turbidity curtains as described in Section 6 will limit turbidity effects,” (Section 4.6.2) however there is no mention of turbidity curtains in Section 6. Instead, the Draft EA states the Jacksonville District will include applicable terms and conditions and Project Design Criteria (PDC) of the South Atlantic Regional Biological Opinion (SARBO) as an environmental commitment (Table 6-1). It is our understanding the following PDCs that speak to the use of turbidity curtains and turbidity monitoring would be triggered:

- Overflow of scows, hopper dredges, and barges will be minimized to the maximum extent practicable. If scows, barges, or hopper dredges are located within 500 feet of Johnson’s seagrass (based on pre-construction visual seagrass surveys conducted according to the survey and reporting requirements provided in Johnson’s Seagrass PDC Section 3 below), turbidity curtains will be installed around the seagrass beds to protect them from turbidity or along the outer edge of the channel if Johnson’s or other non-listed seagrasses extend to the channel’s edge. Turbidity curtains will not be removed until turbidity subsides to background levels (SARBO PDC JSG.7, second bullet).
- Mechanical dredging: If mechanical dredging (e.g., clamshell or bucket dredge) and bed-leveling is used within the range of Johnson’s seagrass, turbidity curtains will be used to protect all seagrasses within 500 feet of the channel edge (based on pre-construction visual seagrass surveys conducted according to the survey and reporting requirements provided in Johnson’s Seagrass PDC Section 3 below). The turbidity curtains will be placed either

around the seagrass bed to protect it from turbidity or along the outer edge of the channel if seagrasses are identified immediately adjacent to the channels edge (SARBO PDC JSG.7, third bullet).

- Within the range of Johnson’s seagrass, turbidity will be monitored along the edge of the dredge footprint and at locations 100 feet and 500 feet outside of the footprint. Results from this monitoring will be reported according to the requirements in the 2020 SARBO Section 2.9. (SARBO JSG.9)

As mentioned above, an evaluation of impacts that would result from pipeline activities is not provided in the Draft EA. Minimization measures associated with pipeline placement or use are not described; however, it is our understanding the following SARBO PDCs would be triggered:

- Placement of equipment and materials will avoid areas with any seagrasses including turbidity curtain anchors, barge spudding or anchoring, pipelines, or other materials. In cases where pipeline placement cannot avoid seagrass, floating pipelines will be used instead of anchored pipelines (SARBO PDC JSG.4).
- Additionally, there may be requirements to survey pipeline corridors (see SARBO C-PIPE.1-7)

The Draft EA states due to the proximity of seagrass to proposed dredging areas of the BHI channel and flood shoal, the District will conduct post-construction surveys to assess any potential impact (Section 4.4.2). The Draft EA does not describe plans to monitor the coral habitat community.

#### *Recommended Changes to the Draft EA*

- The Jacksonville District should update the portions of the Draft EA intended to provide the EFH assessment to describe effects of the dredging on coastal inlets and coral habitat in the project area.
- The Jacksonville District should update Section 6 to provide a list of specific minimization measures that would be required for the project. Please include all measures planned to reduce turbidity, including the alteration of dredging and disposal methods. Referring to unspecified parts of other documents (e.g., reference to SARBO versus the PDC’s triggered within SARBO) does not provide sufficient detail for the NMFS to evaluate the sufficiency of the minimization measure.
- Section 3 of the Draft EA contains a characterization of the affected environment. The description of coral habitats in the project area are described in Section 3.3.3.2 Other Benthic Resources. The Jacksonville District should update this section to include a description of the Stony Coral Tissue Loss Disease (SCTLD). The NMFS provided the District with recommended text on July 29, 2019, for inclusion in the environmental assessment for the Port of Miami Operations and Maintenance Dredging.
- Section 4 of the Draft EA provides an evaluation of environmental effects. The Jacksonville District should update the Draft EA to include an analysis of the effects, including cumulative effects, of the action on coral habitats and coastal inlets. In the assessment of impacts to coral habitat please also include an evaluation of how the dredging may provide enabling conditions for SCTLD. As noted above, the NMFS

provided the District with recommended text on July 29, 2019, for inclusion in the environmental assessment for the Port of Miami Operations and Maintenance Dredging.

- In addition, NMFS recommends updates to the following two sections:

From Section 4.4.2 Preferred Alternative.

*“Direct, adverse effects to seagrasses are not anticipated because all occurrences of seagrasses are located outside of the dredging footprint. In addition, the dredging contractor will be prohibited from anchoring in, placing pipe on, or otherwise directly impacting seagrass (see Section 4.21). There is the potential for indirect, temporary and localized adverse effect to seagrasses from increased turbidity levels within the mixing zone; however, the USACE contractor will monitor turbidity levels during dredging and placement activities to ensure compliance with State water quality standards. Because of the proximity of seagrasses to proposed dredging areas of the BHI Channel and Flood Shoal, USACE will conduct post-construction surveys to assess any potential impact.”*

From Section 4.3.2.3 Seagrass and Other Benthic Resources

*“Seagrass growing in the dredging footprint will be removed. Seagrass that occur in the side slopes may also be lost as a result of the dredging activities. Loss of some seagrass may occur as a result of anchor placement when the dredge operations are ongoing. Past NEPA analyses have documented that the limited loss of seagrass within the federal project area is negligible when compared to the extensive seagrass resources in undisturbed areas. Furthermore, past studies have shown that seagrass within the federal channels naturally restore themselves in between dredging events (DERM 2014, 2010, and 2006). The effects to seagrasses are expected to be short term with no long-term significant effects to these resources.”*

Specifically, Sections 4.4.2 and 4.3.2.3 provide conflicting information on anchor impacts, the references to direct impacts are confusing, and there is no Section 4.21 in the Draft EA. In addition, please include the appropriate citations for the “NEPA analyses” mentioned or remove the sentence from the document. Furthermore, the sentence that references the DERM reports should be revised to say the reports provide information that could be used to describe portions of the seagrass beds in this area are persistent, despite the maintenance dredging that has occurred in the ICW. Please note seagrass cover in the area was reduced after the 2010 dredge event (DERM 2011) and seagrass density was reduced in after the 2014 dredge event (DERM 2014). These changes were attributed to seasonal variation because the pre-construction surveys were conducted during times of year with peak biomass and the post-construction surveys were conducted during the winter months. Additionally, a sediment deposition event is described in DERM 2006 and associated coral habitat burial was attributed to natural sand movement (versus the dredging). Different approaches for the analysis of the data collected by DERM (and potentially additional data) would be needed to suggest the DERM reports conclude seagrass beds mapped in post-construction surveys were actually restored prior to the next dredging event.

### **EFH Conservation Recommendations**

Section 305(b)(4)(A) of the Magnuson-Stevens Act requires NMFS to provide EFH Conservation Recommendations for any federal action or permit which may result in adverse impacts to EFH. Therefore, NMFS recommends the following to ensure the conservation of EFH and associated fishery resources:

1. The Jacksonville District should avoid dredging coral and seagrass habitats and limit dredging to areas mapped and characterized as unvegetated soft bottom.
2. The Jacksonville District should develop a monitoring plan to assess water quality and sedimentation impacts to seagrass and coral habitats from the dredging activities where project-related sedimentation impacts are likely to occur, in addition to pipeline placement areas. The water quality component of the plan should include turbidity measurements at the bottom of the water column, in addition to near surface and mid-depth sampling. The seagrass component of the plan should describe reference sites and a pre-dredge survey conducted during the seagrass growing season (June 1 to September 30). A post-construction survey should be completed during the growing season immediately following the dredging. If project-related impacts are identified in the post-dredge survey, the monitoring should be continued for at least two years. Each monitoring event should include an in-situ delineation to document the edge of each seagrass bed and coral habitat and signs of sedimentation impacts. Quantitative cover-abundance data should also be collected using an adequate number of one-square-meter quadrats for individual seagrass beds or transect lines and one-square-meter quadrats for continuous habitat. The coral habitat component of the monitoring should include visual assessments for signs of sedimentation including (no visible sedimentation, dusting, accumulation, partial or complete burial, and recent partial mortality from sediment deposition). The NMFS requests an opportunity to review the draft monitoring plan prior to its finalization.
3. The Jacksonville District should note it will provide compensatory mitigation for seagrass and coral habitat impacts likely caused by the dredging or pipeline placement. The mitigation type, location, and amount should be determined using a functional assessment. The mitigation plan should be provided to the NMFS for review prior to finalizing.
4. The Jacksonville District should identify the key components of the Environmental Protection Plan that will be developed by the dredge contractor and the related contract specifications the District will develop. In-lieu of generically referring to documents that contain minimization measures (e.g., SARBO), please identify the specific minimization measures that will be required with sufficient detail in order for NMFS to evaluate their effectiveness.

Section 305(b)(4)(B) of the Magnuson-Stevens Act and the implementing regulation at 50 CFR Section 600.920(k) require the Jacksonville District to provide a written response to this letter within 30 days of its receipt. If it is not possible to provide a substantive response within 30 days, in accordance with the “findings” with the Jacksonville District, an interim response should be provided to the NMFS. A detailed response then must be provided prior to final approval of the action. The detailed response must include a description of measures proposed by the Jacksonville District to avoid, mitigate, or offset the adverse impacts of the activity. If the response is inconsistent with the EFH conservation recommendations, the Jacksonville District

must provide a substantive discussion justifying the reasons for not following the recommendations.

Please note these comments do not satisfy consultation responsibilities under section 7 of the Endangered Species Act of 1973, as amended. If an activity “may effect” listed species or critical habitat under the purview of the NMFS, please initiate consultation with the Protected Resources Division at the letterhead address.

The NMFS appreciates the opportunity to provide these comments. Please direct related correspondence to the attention of Ms. Jocelyn Karazsia at our West Palm Beach Office, 400 North Congress Ave, Suite 270, West Palm Beach, Florida 33401, at 561-440-1333, or at [Jocelyn.Karazsia@noaa.gov](mailto:Jocelyn.Karazsia@noaa.gov).

Sincerely,

/for

Virginia M. Fay  
Assistant Regional Administrator  
Habitat Conservation Division

cc: COE, [Jason.J.Spinning@usace.army.mil](mailto:Jason.J.Spinning@usace.army.mil), [Kristen.L.Donofrio@usace.army.mil](mailto:Kristen.L.Donofrio@usace.army.mil),  
FWS, [Ashleigh\\_Blackford@fws.gov](mailto:Ashleigh_Blackford@fws.gov)  
EPA, [Powell.Duncan@epa.gov](mailto:Powell.Duncan@epa.gov)  
FWCC, [Lisa.Gregg@MyFWC.com](mailto:Lisa.Gregg@MyFWC.com)  
FDEP BIP, [Jennifer.M.Peterson@floridadep.gov](mailto:Jennifer.M.Peterson@floridadep.gov), [Gregory.Garis@dep.state.fl.us](mailto:Gregory.Garis@dep.state.fl.us)  
SAFMC, [Roger.Pugliese@safmc.net](mailto:Roger.Pugliese@safmc.net)  
F/SER31, [Mark.Lamb@noaa.gov](mailto:Mark.Lamb@noaa.gov), [Kelly.Logan@noaa.gov](mailto:Kelly.Logan@noaa.gov)  
F/SER47, [Jocelyn.Karazsia@noaa.gov](mailto:Jocelyn.Karazsia@noaa.gov)

## Works Cited

Miami-Dade County Department of Environmental Resources Management (DERM). 2006. Post-construction Surveys for Maintenance Dredging of the Intracoastal Waterway in the Vicinity of Bakers Haulover Inlet, 13pp.

DERM. 2011. Post-construction Surveys for Maintenance Dredging of the Intracoastal Waterway in the Vicinity of Bakers Haulover Inlet, 18pp.

DERM. 2014. Post-construction Benthic Resource Surveys for Maintenance Dredging of the Intracoastal Waterway in the Vicinity of Bakers Haulover Inlet, 9pp.

LG2 Environmental Solutions. 2020. Final Submerged Aquatic Vegetation/Benthic Delineation Survey Report for the Bal Harbour Project, 20pp.



**DEPARTMENT OF THE ARMY**  
**CORPS OF ENGINEERS, JACKSONVILLE DISTRICT**  
**701 SAN MARCO BOULEVARD**  
**JACKSONVILLE, FLORIDA 32207-8175**

Planning and Policy Division  
Environmental Branch

August 11, 2020

Virginia Fay  
Assistant Regional Administrator  
NMFS-SERO-HCD  
263 13th Avenue South  
St. Petersburg, Florida 33701

Dear Ms. Fay:

This letter is provided by the U.S. Army Corps of Engineers, Jacksonville District (Corps) in response to your May 3, 2020 letter regarding the Essential Fish Habitat (EFH) consultation for the Bal Harbour Beach Renourishment Project in Miami-Dade County, Florida.

In a phone call on August 7, 2020, staff from the Corps and National Marine Fisheries Service (NMFS) Southeastern Regional Office (SERO) Habitat Conservation Division (HCD) have reviewed the concerns and EFH Conservation Recommendations presented by NMFS. The Corps has prepared the enclosed responses (Attachment 1) in accordance with the intentions of 50 CFR 600.920(k) under the Magnuson-Stevens Fisheries Conservation and Management Act (MSFCMA) to meet the conservation recommendations provided by NMFS in their May 3, 2020 letter. Pursuant to NEPA, Corps' responses to NMFS' comments on the draft EA and submitted during the draft EA's public and agency comment period will be included in Appendix B of the Final EA.

The Corps appreciates the collaboration and input provided by NMFS on this project. The submission of the enclosed responses completes the Corps' requirements for EFH consultation under the MSFCMA's EFH provisions. Per the 2019 Finding and 50 CFR 600.920(k)(2), if NMFS does not agree that the consultation requirements are complete, NMFS has 10 days from the date of this letter to elevate any remaining concerns.

Questions regarding this project and its consultation should be directed to Ms. Kristen Donofrio, via electronic mail at [Kristen.L.Donofrio@usace.army.mil](mailto:Kristen.L.Donofrio@usace.army.mil) or by telephone at 904-232-2918.

Sincerely,

Angela E. Dunn  
Chief, Environmental Branch

Encls

**Corps' Responses to NMFS EFH Conservation Recommendations**

**Bal Harbour Beach Renourishment, Dade County Beach Erosion Control and Hurricane  
Protection Project  
Miami-Dade County, Florida**

The U.S. Army Corps of Engineers, Jacksonville District (Corps) and National Marine Fisheries Service (NMFS) Southeast Regional Office (SERO) Habitat Conservation Division (HCD) staff coordinated to provide responses to NMFS Essential Fish Habitat (EFH) Conservation Recommendations provided in their letter dated May 3, 2020. The Corps' responses to the EFH Conservation Recommendations are listed below:

NMFS Conservation Recommendation #1:

The Jacksonville District should avoid dredging coral and seagrass habitats and limit dredging to areas mapped and characterized as unvegetated soft bottom.

Corps Response #1:

In accordance with SARBO PDC JSG.4, the dredging contractor will be prohibited from anchoring in, placing pipe on, or otherwise directly impacting seagrass or hardbottom resources.

NMFS Conservation Recommendation #2:

The Jacksonville District should develop a monitoring plan to assess water quality and sedimentation impacts to seagrass and coral habitats from the dredging activities where project-related sedimentation impacts are likely to occur, in addition to pipeline placement areas. The water quality component of the plan should include turbidity measurements at the bottom of the water column, in addition to near surface and mid-depth sampling. The seagrass component of the plan should describe reference sites and a pre-dredge survey conducted during the seagrass growing season (June 1 to September 30). A post-construction survey should be completed during the growing season immediately following the dredging. If project-related impacts are identified in the post-dredge survey, the monitoring should be continued for at least two years. Each monitoring event should include an in-situ delineation to document the edge of each seagrass bed and coral habitat and signs of sedimentation impacts. Quantitative cover-abundance data should also be collected using an adequate number of one-square-meter quadrats for individual seagrass beds or transect lines and one-square-meter quadrats for continuous habitat. The coral habitat component of the monitoring should include visual assessments for signs of sedimentation including (no visible sedimentation, dusting, accumulation, partial or complete burial, and recent partial mortality from sediment deposition). The NMFS requests an opportunity to review the draft monitoring plan prior to its finalization.

Corps Response #2:

The Corps' non-federal sponsor is developing a monitoring plan, which will be coordinated with NMFS. The monitoring will provide information on physical status of resources within the surveyed area. This includes estimation of percent cover of abiotic and biotic functional groups, measuring sediment depths, and representative photographs. The determined quadrats will be sampled during the pre- and post-construction monitoring events. The NMFS will have the opportunity to review the draft monitoring plan prior to its finalization.

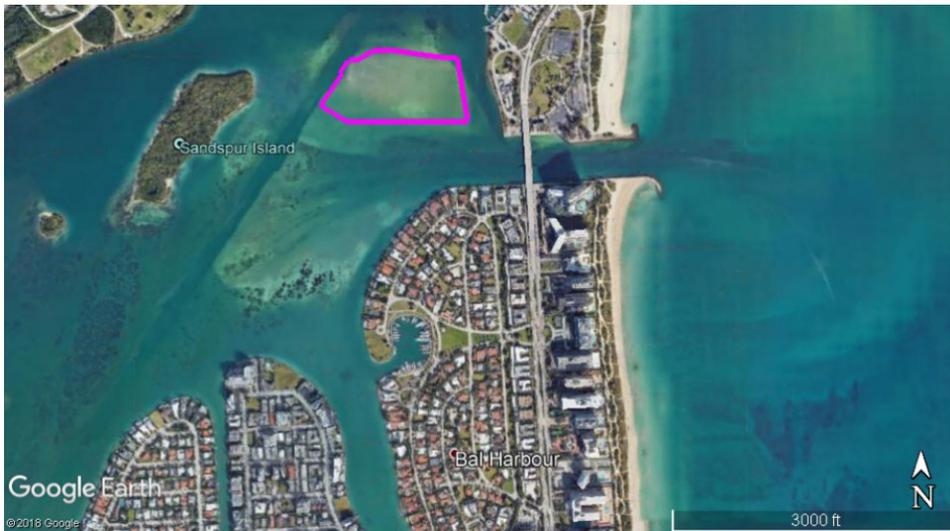
NMFS Conservation Recommendation #3:

The Jacksonville District should note it will provide compensatory mitigation for seagrass and coral habitat impacts likely caused by the dredging or pipeline placement.

The mitigation type, location, and amount should be determined using a functional assessment. The mitigation plan should be provided to the NMFS for review prior to finalizing.

Corps Response #3:

The project will adhere to the project design criteria (PDC) in the 2020 South Atlantic Regional Biological Opinion for Dredging and Material Placement Activities in the Southeast United States (SARBO). The Corps did not identify the need for mitigation during the project evaluation within the Environmental Assessment (EA). Although the Baker's Haulover borrow site is located in Johnson's seagrass range and contains the habitat features necessary to support a variety of seagrasses, this site was SARBO PDC JSG.2 states that "Borrow areas within the defined range of Johnson's seagrass in areas less than 13 ft deep are not included in 2020 SARBO, with the exception of the approved Baker's Haulover borrow site shown in Figure 54 with the approximate center of the borrow site located at 25.7478°N, -80.128°W (North American Datum 1983)." (See **Figure 1**.)



**Figure 1. Image of Baker's Haulover borrow site location as provided in Figure 54 of the 2020 SARBO.**

**SOURCE: 2020 SARBO.**

In accordance with SARBO PDCs provided in Appendix D, which are specific to Johnson's seagrass, the Corps will conduct pre-construction and post-construction seagrass surveys. In October 2019, the Corps conducted a seagrass and benthic resources survey to delineate natural resource habitat boundaries and to characterize and assess the condition of submerged aquatic vegetation (SAV) and other benthic habitats, including hardbottom communities. Several species of seagrass, corals, macroalgae, sponges, and octocorals were observed within the survey area but no federally listed coral species were observed. Johnson's seagrass was observed during the 2019 survey; however, direct adverse effects to seagrasses are not anticipated because all occurrences of seagrass are located outside of the dredging footprint.

Additionally, in accordance with SARBO PDC JSG.4, the dredging contractor will be prohibited from anchoring in, placing pipe on, or otherwise directly impacting seagrasses or hardbottom resources.

The Corps is committed to providing compensatory mitigation if differences in the pre-construction and post-construction surveys indicate that the project resulted in unanticipated impacts to seagrasses. The Corps will coordinate appropriate mitigation requirements with the U.S. Army Corps of Engineers, South Atlantic Division (SAD) and NMFS.

NMFS Conservation Recommendation #4:

The Jacksonville District should identify the key components of the Environmental Protection Plan that will be developed by the dredge contractor and the related contract specifications the District will develop. In-lieu of generically referring to documents that contain minimization measures (e.g., SARBO), please identify the specific minimization measures that will be required with sufficient detail in order for NMFS to evaluate their effectiveness.

Corps Response #4:

The following minimization and/or protection measures will be included in the project's plans and specifications:

- The Contractor and all personnel associated with the project will be informed of the presence of resources protected by the Endangered Species Act of 1973, including listed corals and Johnson's seagrass, and the need to avoid contact with these resources. All construction personnel will be advised that there are civil and criminal penalties for harming or destroying federally listed species which are protected under the Endangered Species Act of 1973, as amended. The Contractor may be held responsible for any federally listed species harmed or destroyed due to construction activities. (SARBO PDCs: EDUCATE.1 and EDUCATE.3)
- If any construction activities cannot be done without affecting seagrasses or coral areas, or if any actual or potential incident involving damage to, or disturbance of, seagrasses or corals should occur, the Contractor must immediately cease work in these areas and notify the Corps.
- Existing seagrass and coral areas will be designated on the contract drawings for awareness.
- Anchoring, spudding, placing pipeline, and/or staging equipment will avoid seagrasses and corals and will be conducted in a manner that will not cause damage to these resources. (SARBO PDCs INWATER.2, CORAL.1, C-PIPE.1, and JSG.4).
- All pipelines (anchored or floating) will be placed in a 25-foot-wide pipeline corridor that is selected to minimize and avoid placing pipeline on coral to the maximum extent practicable. In cases where pipeline placement cannot avoid seagrass, floating pipeline will be used instead of anchored pipelines. All pipelines will be of sufficient size or weight to

prevent movement outside of the corridor. Additional anchoring may be needed to achieve this requirement. (SARBO PDC C-PIPE.1, C-PIPE.2, and C-PIPE.4).

- Vessels will be operated in a way to minimize the turbidity plume from overflow by minimizing air bubbles through adjustment of the "green valve" in hopper dredges, limiting overflow to times when the vessel and currents are moving in the same direction, limiting overflow by not requiring complete filling of the vessel holding area, or other new methods or technologies developed to minimize turbidity. (SARBO PDC CORAL.7).
- Overflow of scows, hopper dredges, and barges will be minimized to the maximum extent practicable. If scows, barges, or hopper dredges are located within 500 feet of seagrass, turbidity curtains will be installed around the seagrass beds or along the outer edge of the channel (if seagrasses extend to the channel's edge) to protect seagrasses from overflow and/or dredging activities. Turbidity curtains will not be removed until turbidity subsides to background levels. (SARBO PDC JSG.7).
- If water-injection dredging is used on this project, it will not occur within 1,000 feet of seagrasses. (SARBO PDC JSG.7).
- The Contractor must implement Table 54 from the 2020 SARBO (see below), which describes the type of dredging allowed based on the equipment, sediment type that will be dredged, dredging durations, and proximity of work to coral hardbottom. (SARBO PDC CORAL.5).

**Table 54. Channel and Borrow Area Dredging Scenarios Covered under the 2020 SARBO within the Range of ESA-Listed Corals.**

Authorization is based on the distance between the dredging activity and adjacent hardbottom relative to percent fines.

Dredge Type	Presence of Hardbottom Percent Fines	No Hardbottom 0-1000 ft				Hardbottom • 0-500 ft from Channels • 0-400 ft from Borrow Areas				Hardbottom • 500-1000 ft from Channels • 400-1000 ft from Borrow Areas  No Hardbottom • 0-500 ft from Channels • 0-400 ft from Borrow Areas			
		0-5%	Time Limit	5-10%	Time Limit	0-5%	Time Limit	5-10%	Time Limit	0-5%	Time Limit	5-10%	Time Limit
Mechanical		•	None	•	None	X	NA	X	NA	X	NA	X	NA
Cutterhead		•	None	•	None	•	< 18 days	•	< 18 days	•	None	•	< 18 days
Hopper w/ no overflow		•	None	•	None	•	< 18 days	X	NA	•	< 18 days	•	< 18 days
Hopper w/ overflow		•	None	•	None	X	NA	X	NA	•	< 18 days	X	NA
Bed Leveling		•	None	•	None	•	< 18 days	X	NA	•	< 18 days	•	< 18 days
Water Injection		X	NA	X	NA	X	NA	X	NA	X	NA	X	NA
Support vessel w/ overflow		•	None	•	None	X	NA	X	NA	X	NA	X	NA

• = Dredge type allowed  
X = Dredge Type Not Allowed  
NA = Time limit not applicable

Additionally, the Corps will conduct both pre-construction and post-construction seagrass surveys to identify potential impacts (SARBO PDCs JSG.5, JSG.6, JSG.10). Turbidity curtains will be deployed to protect seagrass beds adjacent to dredging areas where practicable (JSG.7). The turbidity curtains will remain in place until water clarity within the curtain has returned to ambient (non-dredging) conditions. The Corps has also developed a monitoring plan, which will be coordinated with NMFS. The monitoring will provide information on physical status of resources within the surveyed area. This includes estimation of percent cover of abiotic and biotic functional groups, measuring sediment depths, and representative photographs. The determined quadrats will be sampled during the pre- and post-construction monitoring events. The results from the monitoring plan will be reported according to the requirements in the 2020 SARBO (PDC JSG.9).

The Corps requires contractors to submit an Environmental Protection Plan (EPP) which is developed by the Contractor based on the project's plans and specifications. Key components of the EPP include descriptions of how the Contractor will implement the protective measures for species that require specific attention, methods for protection of features (e.g. vegetation, animals, water) to be preserved within authorized work areas, and procedures to be implemented that will provide the required environmental protection to comply with applicable laws and regulations. The Corps reviews and approves the EPP to ensure all minimization measures and environmental protections are considered and will be appropriately implemented.



August 17, 2020

F/SER47:JK/pw

(Sent via Electronic Mail)

Colonel Andrew Kelly, Commander  
U.S. Army Corps of Engineers, Jacksonville District  
701 San Marco Boulevard  
Jacksonville, Florida 32207-8175

Attention: Kristen Donofrio

Dear Colonel Kelly:

NOAA's National Marine Fisheries Service (NMFS) reviewed the letter from the Jacksonville District dated August 11, 2020, responding to the four essential fish habitat (EFH) conservation recommendations the NMFS provided by letter dated May 3, 2020, for the work described in the *Draft Environmental Assessment for the Bal Harbour Beach Renourishment, Dade County Erosion Control and Hurricane Protection Project*, Florida, dated March 2020 (Draft EA). The Draft EA evaluates the use of new sand sources for nourishing certain portions of the 10.5 miles of Bal Harbour Beach. This letter provides detail on how EFH recommendations would be implemented by the Jacksonville District. The EFH recommendations were:

1. The Jacksonville District should avoid dredging coral and seagrass habitats and limit dredging to areas mapped and characterized as unvegetated soft bottom.
2. The Jacksonville District should develop a monitoring plan to assess water quality and sedimentation impacts to seagrass and coral habitats from the dredging activities where project-related sedimentation impacts are likely to occur, in addition to pipeline placement areas. The water quality component of the plan should include turbidity measurements at the bottom of the water column, in addition to near surface and mid-depth sampling. The seagrass component of the plan should describe reference sites and a pre-dredge survey conducted during the seagrass growing season (June 1 to September 30). A post-construction survey should be completed during the growing season immediately following the dredging. If project-related impacts are identified in the post-dredge survey, the monitoring should be continued for at least two years. Each monitoring event should include an in-situ delineation to document the edge of each seagrass bed and coral habitat and signs of sedimentation impacts. Quantitative cover-abundance data should also be collected using an adequate number of one-square-meter quadrats for individual seagrass beds or transect lines and one-square-meter quadrats for continuous habitat. The coral habitat component of the monitoring should include visual assessments for signs of sedimentation including (no visible sedimentation, dusting, accumulation, partial or complete burial, and recent partial mortality from sediment deposition). The NMFS requests an opportunity to review the draft monitoring plan prior to its finalization.



3. The Jacksonville District should note it will provide compensatory mitigation for seagrass and coral habitat impacts likely caused by the dredging or pipeline placement. The mitigation type, location, and amount should be determined using a functional assessment. The mitigation plan should be provided to the NMFS for review prior to finalizing.
4. The Jacksonville District should identify the key components of the Environmental Protection Plan that will be developed by the dredge contractor and the related contract specifications the District will develop. In-lieu of generically referring to documents that contain minimization measures (e.g., SARBO), please identify the specific minimization measures that will be required with sufficient detail in order for NMFS to evaluate their effectiveness.

The Jacksonville District's letter indicates the recommendations would be implemented fully. In response to recommendation 1, the District clarified dredging would be limited to unvegetated, soft bottom areas. In response to recommendation 2, the District describes components of the pre- and post-construction survey plans and commits to providing a draft monitoring plan to NMFS for review prior to finalization. Of note, representatives from the NMFS, Miami-Dade County, and Florida Department of Environmental Protection met on June 4, 2020, to discuss the monitoring plan, including the difficulty in locating an appropriate reference site within the project area. During this call, an agreement was reached that the final monitoring plan would not include reference sites and instead focus on before-after comparisons. If the post-construction survey indicates a reduction of seagrass within direct or indirect impacts areas, the District will coordinate mitigation requirements with NMFS, thereby fully addressing recommendation 3. The District's letter also more clearly identifies the Project Design Criteria within the South Atlantic Regional Biological Opinion pertaining to the measures the District will implement for minimizing impacts to seagrass and for monitoring during this dredging event. In response to recommendation 4, the District identified specific environmental protection measures its contractor must include in the Environmental Protection Plan the contractor will develop.

While additional coordination is expected to occur on the development of the seagrass monitoring plan and post-construction seagrass and coral impact evaluation, the NMFS views the EFH consultation as complete for this maintenance dredging event.

Please note these comments do not satisfy consultation responsibilities under section 7 of the Endangered Species Act of 1973, as amended. This letter is not a determination that the work described in the Draft EA is covered under the SARBO, nor does this letter provide a comprehensive list of all the SARBO PDCs germane to this project. Please contact our Protected Resources Division to discuss further the application of SARBO to this project.

The NMFS greatly appreciates the collaboration with the Jacksonville District in completing this EFH consultation. Of note, the NMFS met with the District on August 7, 2020, to discuss the District's response to our recommendations, contributing to an efficient resolution of this consultation. Please direct related correspondence to the attention of Ms. Jocelyn Karazsia at our

West Palm Beach Office, 400 North Congress Ave, Suite 270, West Palm Beach, Florida 33401,  
at 561-440-1333, or at [Jocelyn.Karazsia@noaa.gov](mailto:Jocelyn.Karazsia@noaa.gov).

Sincerely,

/for

Virginia M. Fay  
Assistant Regional Administrator  
Habitat Conservation Division

cc: COE, [Kristen.L.Donofrio@usace.army.mil](mailto:Kristen.L.Donofrio@usace.army.mil), [Michael.Ornella@usace.army.mil](mailto:Michael.Ornella@usace.army.mil)  
FWS, [Ashleigh\\_Blackford@fws.gov](mailto:Ashleigh_Blackford@fws.gov)  
EPA, [Sable.Kacy@epa.gov](mailto:Sable.Kacy@epa.gov)  
FWCC, [Lisa.Gregg@MyFWC.com](mailto:Lisa.Gregg@MyFWC.com),  
Miami-Dade County, [Sara.Thanner@miamidade.gov](mailto:Sara.Thanner@miamidade.gov)  
FDEP BIP, [Jennifer.M.Hinton@floridadep.gov](mailto:Jennifer.M.Hinton@floridadep.gov)  
SAFMC, [Roger.Pugliese@safmc.net](mailto:Roger.Pugliese@safmc.net)  
F/SER31, [Mark.Lamb@noaa.gov](mailto:Mark.Lamb@noaa.gov), [Kelly.Logan@noaa.gov](mailto:Kelly.Logan@noaa.gov)  
F/SER4, [Jocelyn.Karazsia@noaa.gov](mailto:Jocelyn.Karazsia@noaa.gov)



**DEPARTMENT OF THE ARMY**  
**CORPS OF ENGINEERS, JACKSONVILLE DISTRICT**  
**701 SAN MARCO BOULEVARD**  
**JACKSONVILLE, FLORIDA 32207-8175**

Planning and Policy Division  
Environmental Branch

July 30, 2020

Corain Lowe-Zepeda  
Tribal Historic Preservation Officer  
Muscogee (Creek) Nation  
P.O. Box 580  
Okmulgee, OK 74447

Re: The Miami-Dade Beach Erosion Control and Hurricane Protection Project, Bal Harbour Beach Renourishment, Miami-Dade County, Florida.

Dear Ms. Lowe-Zepeda:

The U.S. Army Corps of Engineers, Jacksonville District (Corps) has prepared an Environmental Assessment (EA) for the Bal Harbour segment of the Miami-Dade County Beach Erosion Control and Hurricane Protection Project (BEC & HPP). The project area is located in central Miami-Dade County, Florida in the vicinity of several historic districts and resources (Figure 1). This project will nourish eroded shoreline within the Village of Bal Harbour by placing 250,000 cubic yards of beach quality sand along Bal Harbour shoreline from Florida Department of Environmental Protection (FDEP) coastal range monuments R-27 to R-31.5 (Figure 2). The area of potential effects (APE) for this project includes the shoreline between R-27 and R-31.5 and the sand sources. The proposed sand sources for the project will be in-water sources supplemented by an upland source from which material will be truck hauled to the project location. In-water sand sources include sand from the Bal Harbour Inlet (BHI) flood and ebb shoals, and sand from maintenance dredging of the Intracoastal Waterway and the BHI Channel in the vicinity of Bal Harbour Beach. Upland borrow sites may include Ortona (Glades County), Witherspoon (Glades County), Cemex (Polk County) and Garcia (Henry County) sand mines. All of these sources are potential options for the Project.

Based on archival research of the Florida Master Site File (FMSF) no prehistoric archaeological sites are recorded within the beach placement area; however, several historic resources including Bay Harbor Historic District, Bal Harbour Residential Medians (8DA11786), Bal Harbour Yacht Basin (8DA11799), Keystone Islands Historic District (8DA11549), and Surfside Residential Historic District (8DA11609) are located within one mile southward of the Miami-Dade County BEC & HPP Bal Harbour segment, and will not be adversely impacted.

These properties are located outside of the APE and beach placement of sand will have a beneficial effect of preventing future erosion.

In 1997 Tidewater Atlantic Research (TAR), Inc. conducted a submerged cultural resource survey, identifying eight magnetic anomalies in a survey of the area between Bakers Haulover Inlet and the Intracoastal Waterway (Division of Historic Resources [DHR] Survey #4838). The Corps determined all targets to be modern and ineligible for inclusion in the NRHP. In a letter dated March 17, 1997 (DHR No. 9706311), the Florida State Historic Preservation Office (SHPO) concurred with this determination. In addition, according to the 2017 EA entitled: *Continued Operations and Maintenance Dredging Placement of Dredged Material on Dade County Beach Erosion Control Project*, the federal channel in the vicinity of Bal Harbour has been dredged and maintained at least five times since 1997. The most recent determination of no adverse effects and consultation by the Corps regarding the Miami-Dade County BEC & HPP Bal Harbour Segment was in 2017 (DHR Project File No.: 2017-3251-B). The Florida State Historic Preservation Office (SHPO) concurred that the continued Operations and Maintenance (O&M) dredging of IWW DA-9 with placement on the beach will have no effect on historic properties eligible for inclusion in the National Register of Historic Places (NRHP).

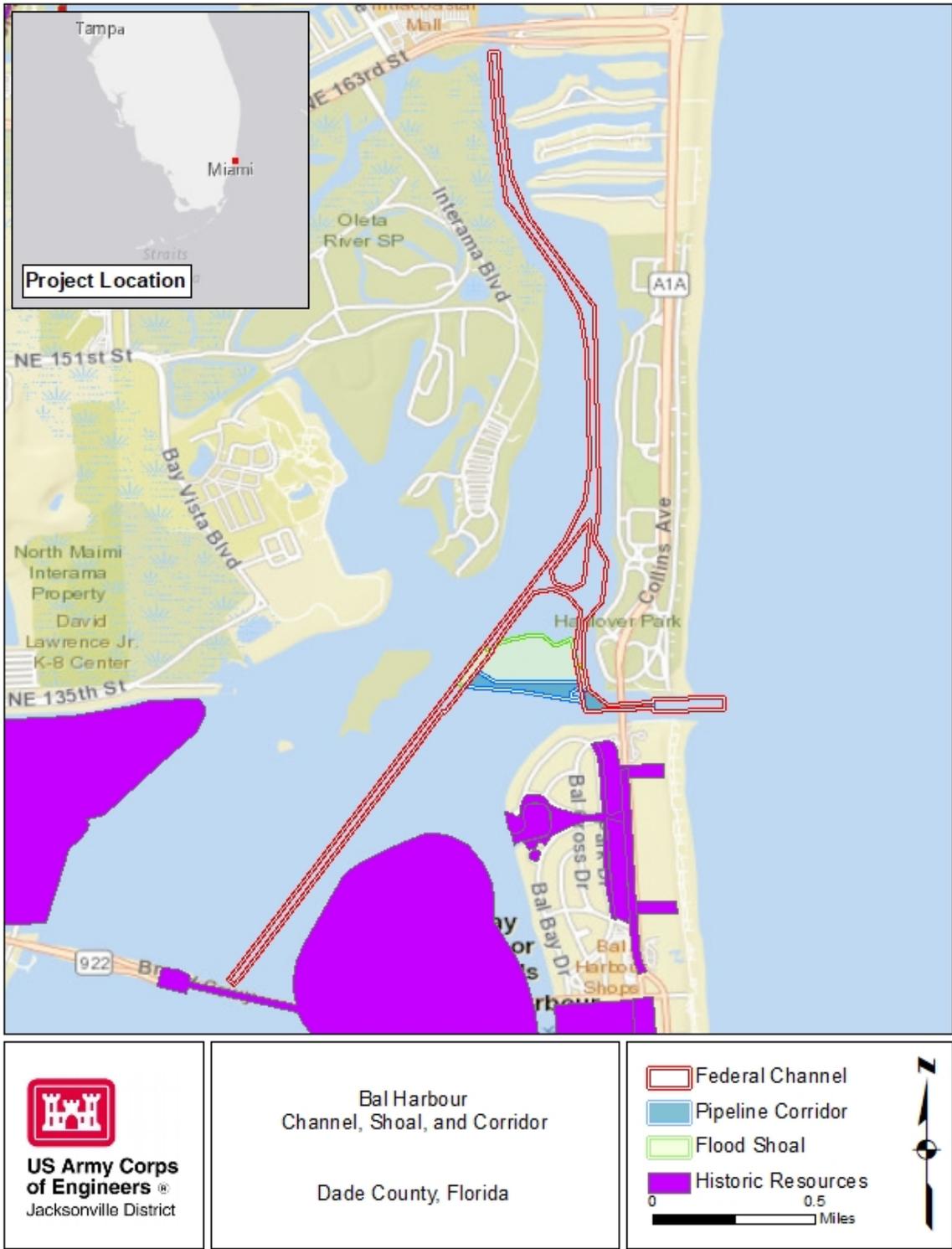
The commercial upland sand sources identified for the Bal Harbour Segment of the BEC & HPP Project include the Ortona Sand Mine and the Witherspoon Sand Mine. Over the years, a number of cultural resource surveys have been conducted for the Ortona Sand Mine (DHR Survey Nos. 6689, 4847, 3021, 17005, and 16862). Several prehistoric archaeological sites associated with the Ortona Mound complex have been identified and recorded within the mine property including Ortona Canal East (8GL4a), Quarry Mound (8GL81), Lance's Mound (8GL419), Sawpalmetto Haven Mound (8GL420), and Tallant Mound (8GL00083). FMSF records indicate that the Ortona Canal East (8GL4a) and Quarry Mound (8GL81) have been mitigated. Cultural resources investigations for the adjacent Witherspoon sand mine have been completed (DHR Survey No. 4602). Two archaeological sites (8GL378 and 8GL379) were identified as eligible for inclusion in the National Register of Historic Places (NRHP). These sites will not be impacted by the sand mining activities. Any upland sand mines (including CEMEX and Garcia Land Mines) employed for this project are subject to the requirement of proving compliance with the State of Florida's statutory requirements in Chapter 267 for protection of historical resources in the sand source footprints before the Corps will approve utilizing the source.

Based on this information, the Corps has determined that the in-water sourcing of sand from the BHI flood and ebb shoals, and sand from maintenance dredging of the IWW and the BHI Channel in the vicinity of Bal Harbour Beach poses no effect to historic properties. In addition, the Corps has determined that truck haul of sand from upland commercial sand mines and placement of materials on the beach between R-27 to R-31.5 poses no adverse effect to historic properties. 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 adverse effect within 30 days from receipt of this letter. If there are any questions, please contact Mr. Marc Tiemann at 904-232-1557 or email at [Marc.A.Tiemann@usace.army.mil](mailto:Marc.A.Tiemann@usace.army.mil).

Sincerely,

Angela E. Dunn  
Chief, Environmental Branch

Encl



1. General Project Location Showing Federal Navigation Channel in relation to Historic Resources.



Figure 2. Bal Harbour Segment of the Miami-Dade BEC & HPP Showing Project Features and Beach Placement Area.



**DEPARTMENT OF THE ARMY**  
**CORPS OF ENGINEERS, JACKSONVILLE DISTRICT**  
**701 SAN MARCO BOULEVARD**  
**JACKSONVILLE, FLORIDA 32207-8175**

Planning and Policy Division  
Environmental Branch

July 30, 2020

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

Re: The Miami-Dade Beach Erosion Control and Hurricane Protection Project, Bal Harbour Beach Renourishment, Miami-Dade County, Florida.

Dear Dr. Backhouse:

The U.S. Army Corps of Engineers, Jacksonville District (Corps) has prepared an Environmental Assessment (EA) for the Bal Harbour segment of the Miami-Dade County Beach Erosion Control and Hurricane Protection Project (BEC & HPP). The project area is located in central Miami-Dade County, Florida in the vicinity of several historic districts and resources (Figure 1). This project will nourish eroded shoreline within the Village of Bal Harbour by placing 250,000 cubic yards of beach quality sand along Bal Harbour shoreline from Florida Department of Environmental Protection (FDEP) coastal range monuments R-27 to R-31.5 (Figure 2). The area of potential effects (APE) for this project includes the shoreline between R-27 and R-31.5 and the sand sources. The proposed sand sources for the project will be in-water sources supplemented by an upland source from which material will be truck hauled to the project location. In-water sand sources include sand from the Bal Harbour Inlet (BHI) flood and ebb shoals, and sand from maintenance dredging of the Intracoastal Waterway and the BHI Channel in the vicinity of Bal Harbour Beach. Upland borrow sites may include Ortona (Glades County), Witherspoon (Glades County), Cemex (Polk County) and Garcia (Henry County) sand mines. All of these sources are potential options for the Project.

Based on archival research of the Florida Master Site File (FMSF) no prehistoric archaeological sites are recorded within the beach placement area; however, several historic resources including Bay Harbor Historic District, Bal Harbour Residential Medians (8DA11786), Bal Harbour Yacht Basin (8DA11799), Keystone Islands Historic District (8DA11549), and Surfside Residential Historic District (8DA11609) are located within one mile southward of the Miami-Dade County BEC & HPP Bal Harbour

segment, and will not be adversely impacted. These properties are located outside of the APE and beach placement of sand will have a beneficial effect of preventing future erosion.

In 1997 Tidewater Atlantic Research (TAR), Inc. conducted a submerged cultural resource survey, identifying eight magnetic anomalies in a survey of the area between Bakers Haulover Inlet and the Intracoastal Waterway (Division of Historic Resources [DHR] Survey #4838). The Corps determined all targets to be modern and ineligible for inclusion in the NRHP. In a letter dated March 17, 1997 (DHR No. 9706311), the Florida State Historic Preservation Office (SHPO) concurred with this determination. In addition, according to the 2017 EA entitled: *Continued Operations and Maintenance Dredging Placement of Dredged Material on Dade County Beach Erosion Control Project*, the federal channel in the vicinity of Bal Harbour has been dredged and maintained at least five times since 1997. The most recent determination of no adverse effects and consultation by the Corps regarding the Miami-Dade County BEC & HPP Bal Harbour Segment was in 2017 (DHR Project File No.: 2017-3251-B). The Florida State Historic Preservation Office (SHPO) concurred that the continued Operations and Maintenance (O&M) dredging of IWW DA-9 with placement on the beach will have no effect on historic properties eligible for inclusion in the National Register of Historic Places (NRHP).

The commercial upland sand sources identified for the Bal Harbour Segment of the BEC & HPP Project include the Ortona Sand Mine and the Witherspoon Sand Mine. Over the years, a number of cultural resource surveys have been conducted for the Ortona Sand Mine (DHR Survey Nos. 6689, 4847, 3021, 17005, and 16862). Several prehistoric archaeological sites associated with the Ortona Mound complex have been identified and recorded within the mine property including Ortona Canal East (8GL4a), Quarry Mound (8GL81), Lance's Mound (8GL419), Sawpalmetto Haven Mound (8GL420), and Tallant Mound (8GL00083). FMSF records indicate that the Ortona Canal East (8GL4a) and Quarry Mound (8GL81) have been mitigated. Cultural resources investigations for the adjacent Witherspoon sand mine have been completed (DHR Survey No. 4602). Two archaeological sites (8GL378 and 8GL379) were identified as eligible for inclusion in the National Register of Historic Places (NRHP). These sites will not be impacted by the sand mining activities. Any upland sand mines (including CEMEX and Garcia Land Mines) employed for this project are subject to the requirement of proving compliance with the State of Florida's statutory requirements in Chapter 267 for protection of historical resources in the sand source footprints before the Corps will approve utilizing the source.

Based on this information, the Corps has determined that the in-water sourcing of sand from the BHI flood and ebb shoals, and sand from maintenance dredging of the IWW and the BHI Channel in the vicinity of Bal Harbour Beach poses no effect to historic properties. In addition, the Corps has determined that truck haul of sand from upland commercial sand mines and placement of materials on the beach between R-27 to R-31.5 poses no adverse effect to historic properties. 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 adverse effect within 30 days from receipt of this letter. If there are any questions, please contact Mr. Marc Tiemann at 904-232-1557 or email at [Marc.A.Tiemann@usace.army.mil](mailto:Marc.A.Tiemann@usace.army.mil).

Sincerely,

Angela E. Dunn  
Chief, Environmental Branch

Encl

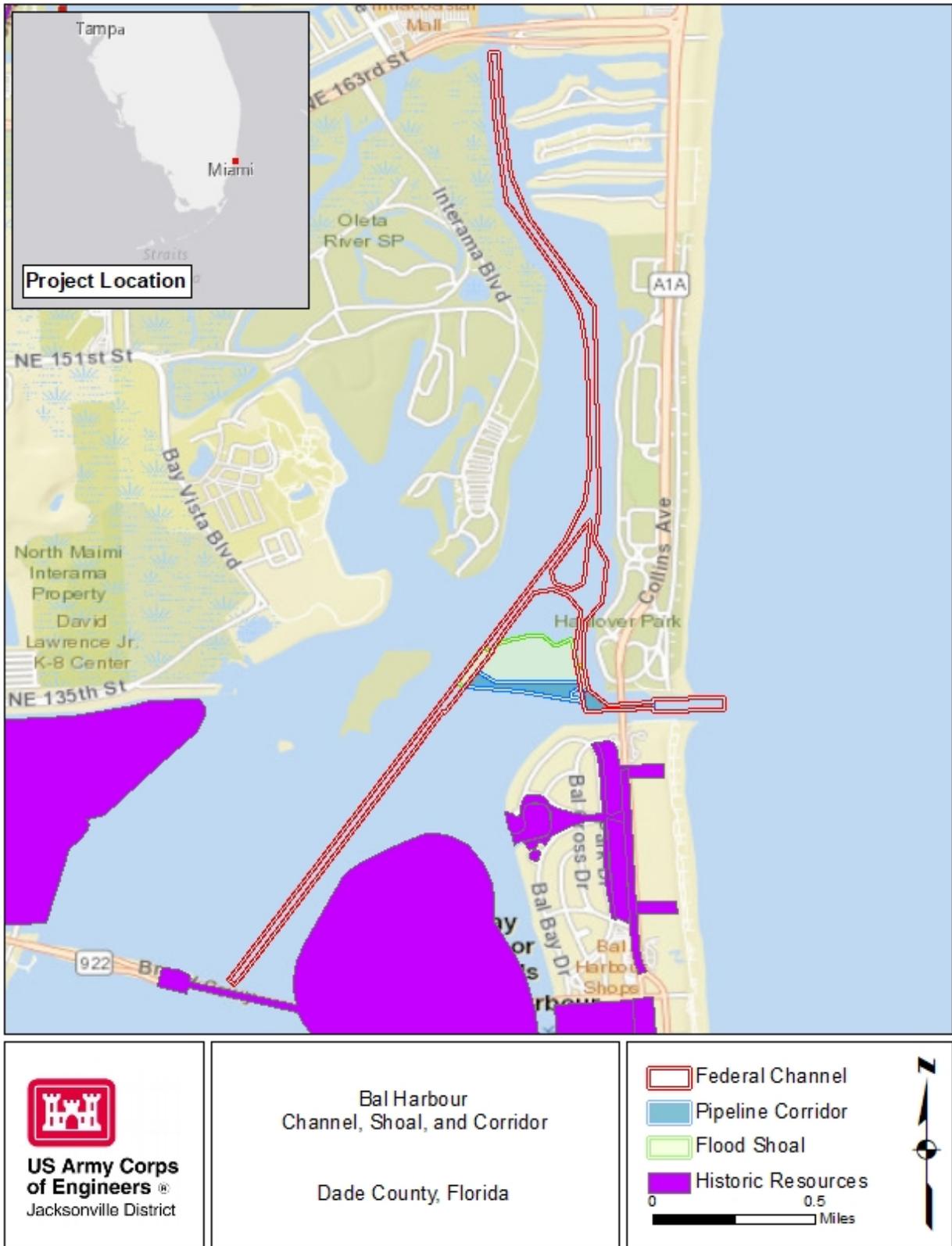


Figure 1. General Project Location Showing Federal Navigation Channel in relation to Historic Resources.



Figure 2. Bal Harbour Segment of the Miami-Dade BEC & HPP Showing Project Features and Beach Placement Area.



**DEPARTMENT OF THE ARMY**  
**CORPS OF ENGINEERS, JACKSONVILLE DISTRICT**  
**701 SAN MARCO BOULEVARD**  
**JACKSONVILLE, FLORIDA 32207-8175**

Planning and Policy Division  
Environmental Branch

July 30, 2020

Mr. David Frank  
Historic Preservation Officer  
Seminole Nation of Oklahoma  
PO Box 1498  
Wewoka, Ok 74884

Re: The Miami-Dade Beach Erosion Control and Hurricane Protection Project, Bal Harbour Beach Renourishment, Miami-Dade County, Florida.

Dear Mr. Frank:

The U.S. Army Corps of Engineers, Jacksonville District (Corps) has prepared an Environmental Assessment (EA) for the Bal Harbour segment of the Miami-Dade County Beach Erosion Control and Hurricane Protection Project (BEC & HPP). The project area is located in central Miami-Dade County, Florida in the vicinity of several historic districts and resources (Figure 1). This project will nourish eroded shoreline within the Village of Bal Harbour by placing 250,000 cubic yards of beach quality sand along Bal Harbour shoreline from Florida Department of Environmental Protection (FDEP) coastal range monuments R-27 to R-31.5 (Figure 2). The area of potential effects (APE) for this project includes the shoreline between R-27 and R-31.5 and the sand sources. The proposed sand sources for the project will be in-water sources supplemented by an upland source from which material will be truck hauled to the project location. In-water sand sources include sand from the Bal Harbour Inlet (BHI) flood and ebb shoals, and sand from maintenance dredging of the Intracoastal Waterway and the BHI Channel in the vicinity of Bal Harbour Beach. Upland borrow sites may include Ortona (Glades County), Witherspoon (Glades County), Cemex (Polk County) and Garcia (Henry County) sand mines. All of these sources are potential options for the Project.

Based on archival research of the Florida Master Site File (FMSF) no prehistoric archaeological sites are recorded within the beach placement area; however, several historic resources including Bay Harbor Historic District, Bal Harbour Residential Medians (8DA11786), Bal Harbour Yacht Basin (8DA11799), Keystone Islands Historic District (8DA11549), and Surfside Residential Historic District (8DA11609) are located within one mile southward of the Miami-Dade County BEC & HPP Bal Harbour segment, and will not be adversely impacted.

These properties are located outside of the APE and beach placement of sand will have a beneficial effect of preventing future erosion.

In 1997 Tidewater Atlantic Research (TAR), Inc. conducted a submerged cultural resource survey, identifying eight magnetic anomalies in a survey of the area between Bakers Haulover Inlet and the Intracoastal Waterway (Division of Historic Resources [DHR] Survey #4838). The Corps determined all targets to be modern and ineligible for inclusion in the NRHP. In a letter dated March 17, 1997 (DHR No. 9706311), the Florida State Historic Preservation Office (SHPO) concurred with this determination. In addition, according to the 2017 EA entitled: *Continued Operations and Maintenance Dredging Placement of Dredged Material on Dade County Beach Erosion Control Project*, the federal channel in the vicinity of Bal Harbour has been dredged and maintained at least five times since 1997. The most recent determination of no adverse effects and consultation by the Corps regarding the Miami-Dade County BEC & HPP Bal Harbour Segment was in 2017 (DHR Project File No.: 2017-3251-B). The Florida State Historic Preservation Office (SHPO) concurred that the continued Operations and Maintenance (O&M) dredging of IWW DA-9 with placement on the beach will have no effect on historic properties eligible for inclusion in the National Register of Historic Places (NRHP).

The commercial upland sand sources identified for the Bal Harbour Segment of the BEC & HPP Project include the Ortona Sand Mine and the Witherspoon Sand Mine. Over the years, a number of cultural resource surveys have been conducted for the Ortona Sand Mine (DHR Survey Nos. 6689, 4847, 3021, 17005, and 16862). Several prehistoric archaeological sites associated with the Ortona Mound complex have been identified and recorded within the mine property including Ortona Canal East (8GL4a), Quarry Mound (8GL81), Lance's Mound (8GL419), Sawpalmetto Haven Mound (8GL420), and Tallant Mound (8GL00083). FMSF records indicate that the Ortona Canal East (8GL4a) and Quarry Mound (8GL81) have been mitigated. Cultural resources investigations for the adjacent Witherspoon sand mine have been completed (DHR Survey No. 4602). Two archaeological sites (8GL378 and 8GL379) were identified as eligible for inclusion in the National Register of Historic Places (NRHP). These sites will not be impacted by the sand mining activities. Any upland sand mines (including CEMEX and Garcia Land Mines) employed for this project are subject to the requirement of proving compliance with the State of Florida's statutory requirements in Chapter 267 for protection of historical resources in the sand source footprints before the Corps will approve utilizing the source.

Based on this information, the Corps has determined that the in-water sourcing of sand from the BHI flood and ebb shoals, and sand from maintenance dredging of the IWW and the BHI Channel in the vicinity of Bal Harbour Beach poses no effect to historic properties. In addition, the Corps has determined that truck haul of sand from upland commercial sand mines and placement of materials on the beach between R-27 to R-31.5 poses no adverse effect to historic properties. 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 adverse effect within 30 days from receipt of this letter. If there are any questions, please contact Mr. Marc Tiemann at 904-232-1557 or email at [Marc.A.Tiemann@usace.army.mil](mailto:Marc.A.Tiemann@usace.army.mil).

Sincerely,

Angela E. Dunn  
Chief, Environmental Branch

Encl

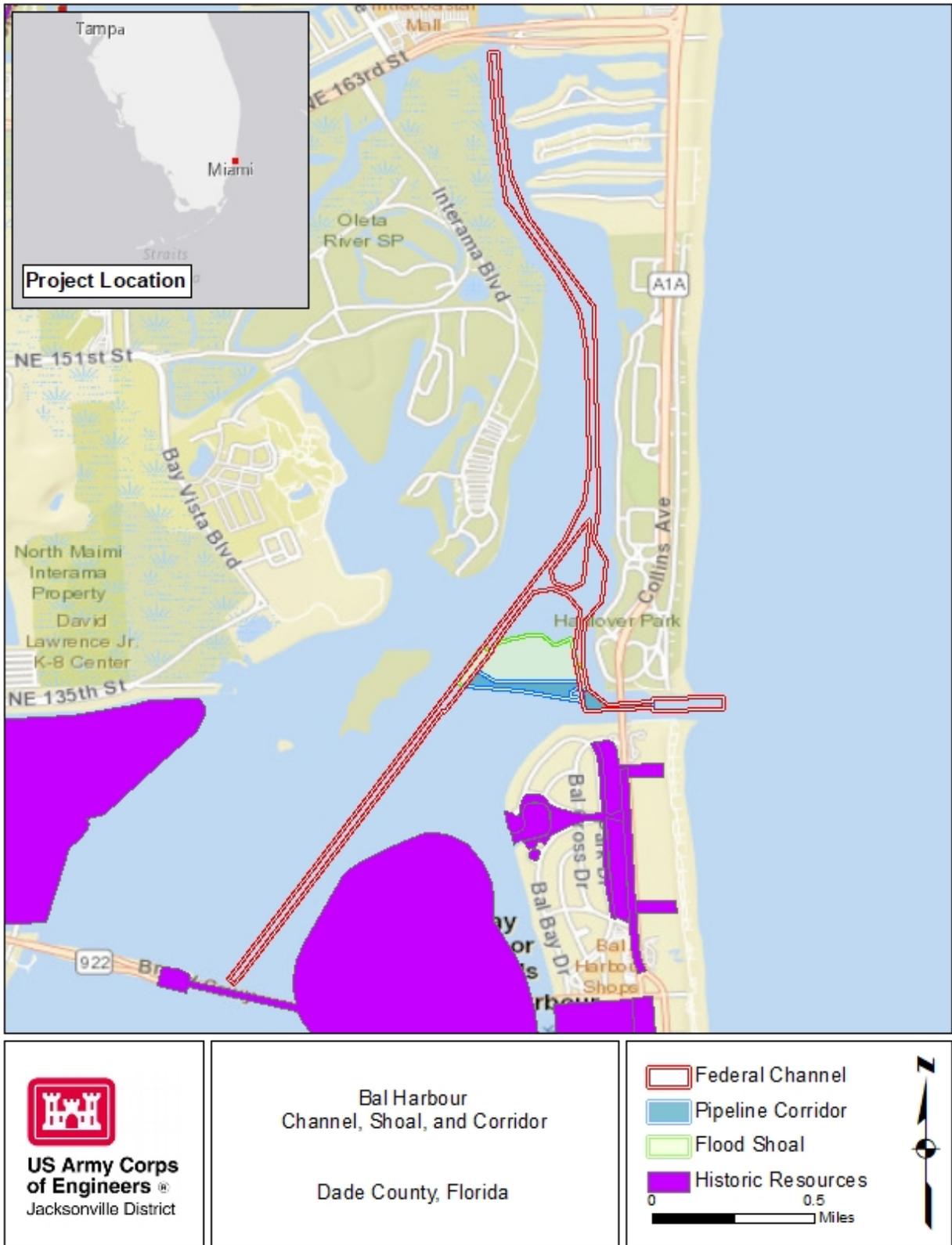


Figure 1. General Project Location Showing Federal Navigation Channel in relation to Historic Resources.



Figure 2. Bal Harbour Segment of the Miami-Dade BEC & HPP Showing Project Features and Beach Placement Area.



**DEPARTMENT OF THE ARMY**  
**CORPS OF ENGINEERS, JACKSONVILLE DISTRICT**  
**701 SAN MARCO BOULEVARD**  
**JACKSONVILLE, FLORIDA 32207-8175**

Planning and Policy Division  
Environmental Branch

July 30, 2020

Mr. Kevin Donaldson  
NAGPRA Representative  
Miccosukee Tribe of Indians of Florida  
PO Box 440021  
Tamiami Station  
Miami, FL 33144

Re: The Miami-Dade Beach Erosion Control and Hurricane Protection Project, Bal Harbour Beach Renourishment, Miami-Dade County, Florida.

Dear Mr. Donaldson:

The U.S. Army Corps of Engineers, Jacksonville District (Corps) has prepared an Environmental Assessment (EA) for the Bal Harbour segment of the Miami-Dade County Beach Erosion Control and Hurricane Protection Project (BEC & HPP). The project area is located in central Miami-Dade County, Florida in the vicinity of several historic districts and resources (Figure 1). This project will nourish eroded shoreline within the Village of Bal Harbour by placing 250,000 cubic yards of beach quality sand along Bal Harbour shoreline from Florida Department of Environmental Protection (FDEP) coastal range monuments R-27 to R-31.5 (Figure 2). The area of potential effects (APE) for this project includes the shoreline between R-27 and R-31.5 and the sand sources. The proposed sand sources for the project will be in-water sources supplemented by an upland source from which material will be truck hauled to the project location. In-water sand sources include sand from the Bal Harbour Inlet (BHI) flood and ebb shoals, and sand from maintenance dredging of the Intracoastal Waterway and the BHI Channel in the vicinity of Bal Harbour Beach. Upland borrow sites may include Ortona (Glades County), Witherspoon (Glades County), Cemex (Polk County) and Garcia (Henry County) sand mines. All of these sources are potential options for the Project.

Based on archival research of the Florida Master Site File (FMSF) no prehistoric archaeological sites are recorded within the beach placement area; however, several historic resources including Bay Harbor Historic District, Bal Harbour Residential Medians (8DA11786), Bal Harbour Yacht Basin (8DA11799), Keystone Islands Historic District (8DA11549), and Surfside Residential Historic District (8DA11609) are located within one mile southward of the Miami-Dade County BEC & HPP Bal Harbour

segment, and will not be adversely impacted. These properties are located outside of the APE and beach placement of sand will have a beneficial effect of preventing future erosion.

In 1997 Tidewater Atlantic Research (TAR), Inc. conducted a submerged cultural resource survey, identifying eight magnetic anomalies in a survey of the area between Bakers Haulover Inlet and the Intracoastal Waterway (Division of Historic Resources [DHR] Survey #4838). The Corps determined all targets to be modern and ineligible for inclusion in the NRHP. In a letter dated March 17, 1997 (DHR No. 9706311), the Florida State Historic Preservation Office (SHPO) concurred with this determination. In addition, according to the 2017 EA entitled: *Continued Operations and Maintenance Dredging Placement of Dredged Material on Dade County Beach Erosion Control Project*, the federal channel in the vicinity of Bal Harbour has been dredged and maintained at least five times since 1997. The most recent determination of no adverse effects and consultation by the Corps regarding the Miami-Dade County BEC & HPP Bal Harbour Segment was in 2017 (DHR Project File No.: 2017-3251-B). The Florida State Historic Preservation Office (SHPO) concurred that the continued Operations and Maintenance (O&M) dredging of IWW DA-9 with placement on the beach will have no effect on historic properties eligible for inclusion in the National Register of Historic Places (NRHP).

The commercial upland sand sources identified for the Bal Harbour Segment of the BEC & HPP Project include the Ortona Sand Mine and the Witherspoon Sand Mine. Over the years, a number of cultural resource surveys have been conducted for the Ortona Sand Mine (DHR Survey Nos. 6689, 4847, 3021, 17005, and 16862). Several prehistoric archaeological sites associated with the Ortona Mound complex have been identified and recorded within the mine property including Ortona Canal East (8GL4a), Quarry Mound (8GL81), Lance's Mound (8GL419), Sawpalmetto Haven Mound (8GL420), and Tallant Mound (8GL00083). FMSF records indicate that the Ortona Canal East (8GL4a) and Quarry Mound (8GL81) have been mitigated. Cultural resources investigations for the adjacent Witherspoon sand mine have been completed (DHR Survey No. 4602). Two archaeological sites (8GL378 and 8GL379) were identified as eligible for inclusion in the National Register of Historic Places (NRHP). These sites will not be impacted by the sand mining activities. Any upland sand mines (including CEMEX and Garcia Land Mines) employed for this project are subject to the requirement of proving compliance with the State of Florida's statutory requirements in Chapter 267 for protection of historical resources in the sand source footprints before the Corps will approve utilizing the source.

Based on this information, the Corps has determined that the in-water sourcing of sand from the BHI flood and ebb shoals, and sand from maintenance dredging of the IWW and the BHI Channel in the vicinity of Bal Harbour Beach poses no effect to historic properties. In addition, the Corps has determined that truck haul of sand from upland commercial sand mines and placement of materials on the beach between R-27 to R-31.5 poses no adverse effect to historic properties. 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 adverse effect within 30 days from receipt of this letter. If there are any questions, please contact Mr. Marc Tiemann at 904-232-1557 or email at [Marc.A.Tiemann@usace.army.mil](mailto:Marc.A.Tiemann@usace.army.mil).

Sincerely,

Angela E. Dunn  
Chief, Environmental Branch

Encl

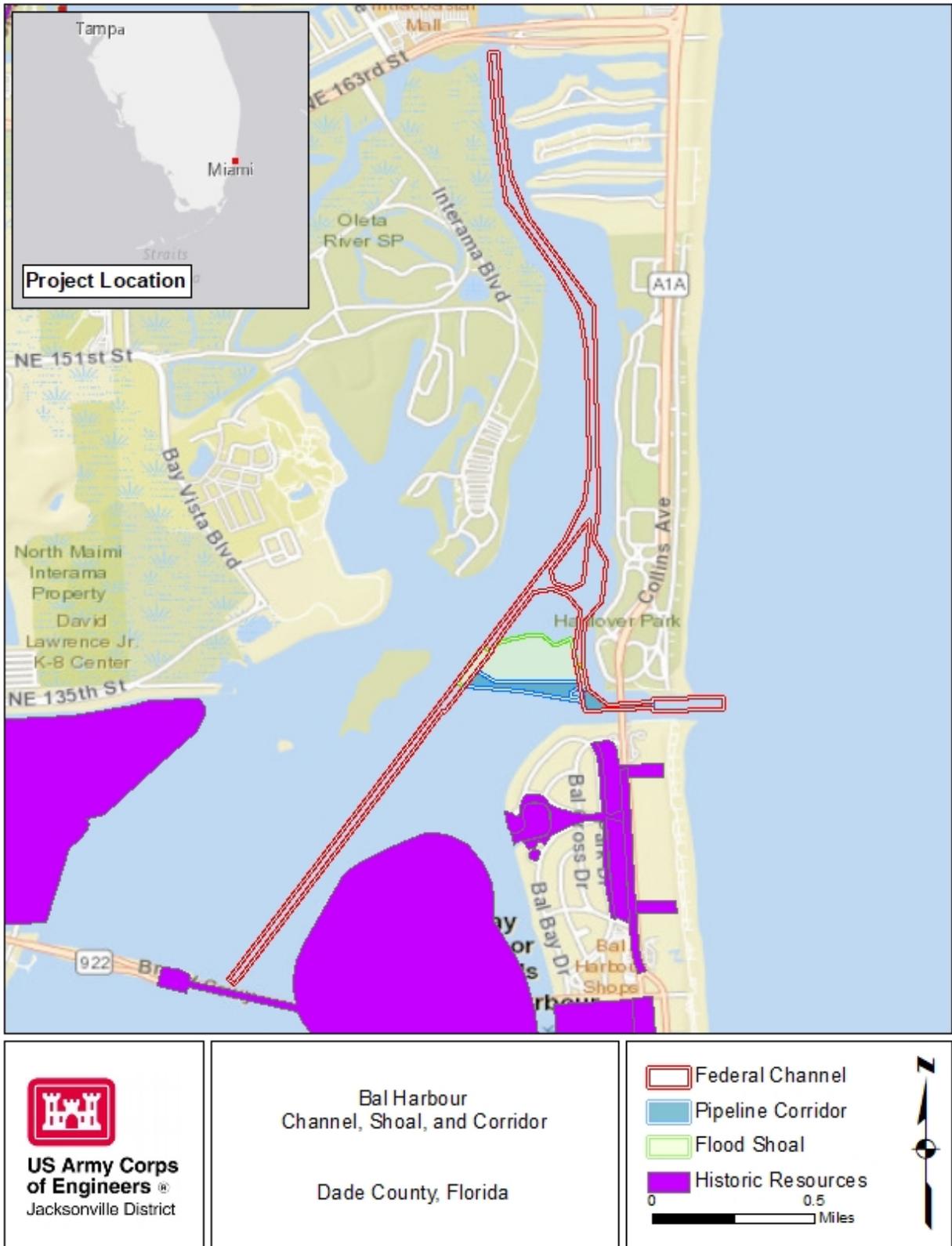


Figure 1. General Project Location Showing Federal Navigation Channel in relation to Historic Resources.



Figure 2. Bal Harbour Segment of the Miami-Dade BEC & HPP Showing Project Features and Beach Placement Area.



**DEPARTMENT OF THE ARMY**  
**CORPS OF ENGINEERS, JACKSONVILLE DISTRICT**  
**701 SAN MARCO BOULEVARD**  
**JACKSONVILLE, FLORIDA 32207-8175**

Planning and Policy Division  
Environmental Branch

July 30, 2020

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

Re: The Miami-Dade Beach Erosion Control and Hurricane Protection Project, Bal Harbour Beach Renourishment, Miami-Dade County, Florida.

Dear Dr. Parsons:

The U.S. Army Corps of Engineers, Jacksonville District (Corps) has prepared an Environmental Assessment (EA) for the Bal Harbour segment of the Miami-Dade County Beach Erosion Control and Hurricane Protection Project (BEC & HPP). The project area is located in central Miami-Dade County, Florida in the vicinity of several historic districts and resources (Figure 1). This project will nourish eroded shoreline within the Village of Bal Harbour by placing 250,000 cubic yards of beach quality sand along Bal Harbour shoreline from Florida Department of Environmental Protection (FDEP) coastal range monuments R-27 to R-31.5 (Figure 2). The area of potential effects (APE) for this project includes the shoreline between R-27 and R-31.5 and the sand sources. The proposed sand sources for the project will be in-water sources supplemented by an upland source from which material will be truck hauled to the project location. In-water sand sources include sand from the Bal Harbour Inlet (BHI) flood and ebb shoals, and sand from maintenance dredging of the Intracoastal Waterway and the BHI Channel in the vicinity of Bal Harbour Beach. Upland borrow sites may include Ortona (Glades County), Witherspoon (Glades County), Cemex (Polk County) and Garcia (Henry County) sand mines. All of these sources are potential options for the Project.

Based on archival research of the Florida Master Site File (FMSF) no prehistoric archaeological sites are recorded within the beach placement area; however, several historic resources including Bay Harbor Historic District, Bal Harbour Residential Medians (8DA11786), Bal Harbour Yacht Basin (8DA11799), Keystone Islands Historic District (8DA11549), and Surfside Residential Historic District (8DA11609) are located within one mile southward of the Miami-Dade County BEC & HPP Bal Harbour segment, and will not be adversely impacted.

These properties are located outside of the APE and beach placement of sand will have a beneficial effect of preventing future erosion.

In 1997 Tidewater Atlantic Research (TAR), Inc. conducted a submerged cultural resource survey, identifying eight magnetic anomalies in a survey of the area between Bakers Haulover Inlet and the Intracoastal Waterway (Division of Historic Resources [DHR] Survey #4838). The Corps determined all targets to be modern and ineligible for inclusion in the NRHP. In a letter dated March 17, 1997 (DHR No. 9706311), the Florida State Historic Preservation Office (SHPO) concurred with this determination. In addition, according to the 2017 EA entitled: *Continued Operations and Maintenance Dredging Placement of Dredged Material on Dade County Beach Erosion Control Project*, the federal channel in the vicinity of Bal Harbour has been dredged and maintained at least five times since 1997. The most recent determination of no adverse effects and consultation by the Corps regarding the Miami-Dade County BEC & HPP Bal Harbour Segment was in 2017 (DHR Project File No.: 2017-3251-B). The Florida State Historic Preservation Office (SHPO) concurred that the continued Operations and Maintenance (O&M) dredging of IWW DA-9 with placement on the beach will have no effect on historic properties eligible for inclusion in the National Register of Historic Places (NRHP).

The commercial upland sand sources identified for the Bal Harbour Segment of the BEC & HPP Project include the Ortona Sand Mine and the Witherspoon Sand Mine. Over the years, a number of cultural resource surveys have been conducted for the Ortona Sand Mine (DHR Survey Nos. 6689, 4847, 3021, 17005, and 16862). Several prehistoric archaeological sites associated with the Ortona Mound complex have been identified and recorded within the mine property including Ortona Canal East (8GL4a), Quarry Mound (8GL81), Lance's Mound (8GL419), Sawpalmetto Haven Mound (8GL420), and Tallant Mound (8GL00083). FMSF records indicate that the Ortona Canal East (8GL4a) and Quarry Mound (8GL81) have been mitigated. Cultural resources investigations for the adjacent Witherspoon sand mine have been completed (DHR Survey No. 4602). Two archaeological sites (8GL378 and 8GL379) were identified as eligible for inclusion in the National Register of Historic Places (NRHP). These sites will not be impacted by the sand mining activities. Any upland sand mines (including CEMEX and Garcia Land Mines) employed for this project are subject to the requirement of proving compliance with the State of Florida's statutory requirements in Chapter 267 for protection of historical resources in the sand source footprints before the Corps will approve utilizing the source.

Based on this information, the Corps has determined that the in-water sourcing of sand from the BHI flood and ebb shoals, and sand from maintenance dredging of the IWW and the BHI Channel in the vicinity of Bal Harbour Beach poses no effect to historic properties. In addition, the Corps has determined that truck haul of sand from upland commercial sand mines and placement of materials on the beach between R-27 to R-31.5 poses no adverse effect to historic properties. 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 adverse effect within 30 days from receipt of this letter. If there are any questions, please contact Mr. Marc Tiemann at 904-232-1557 or email at [Marc.A.Tiemann@usace.army.mil](mailto:Marc.A.Tiemann@usace.army.mil).

Sincerely,

Angela E. Dunn  
Chief, Environmental Branch

Encl

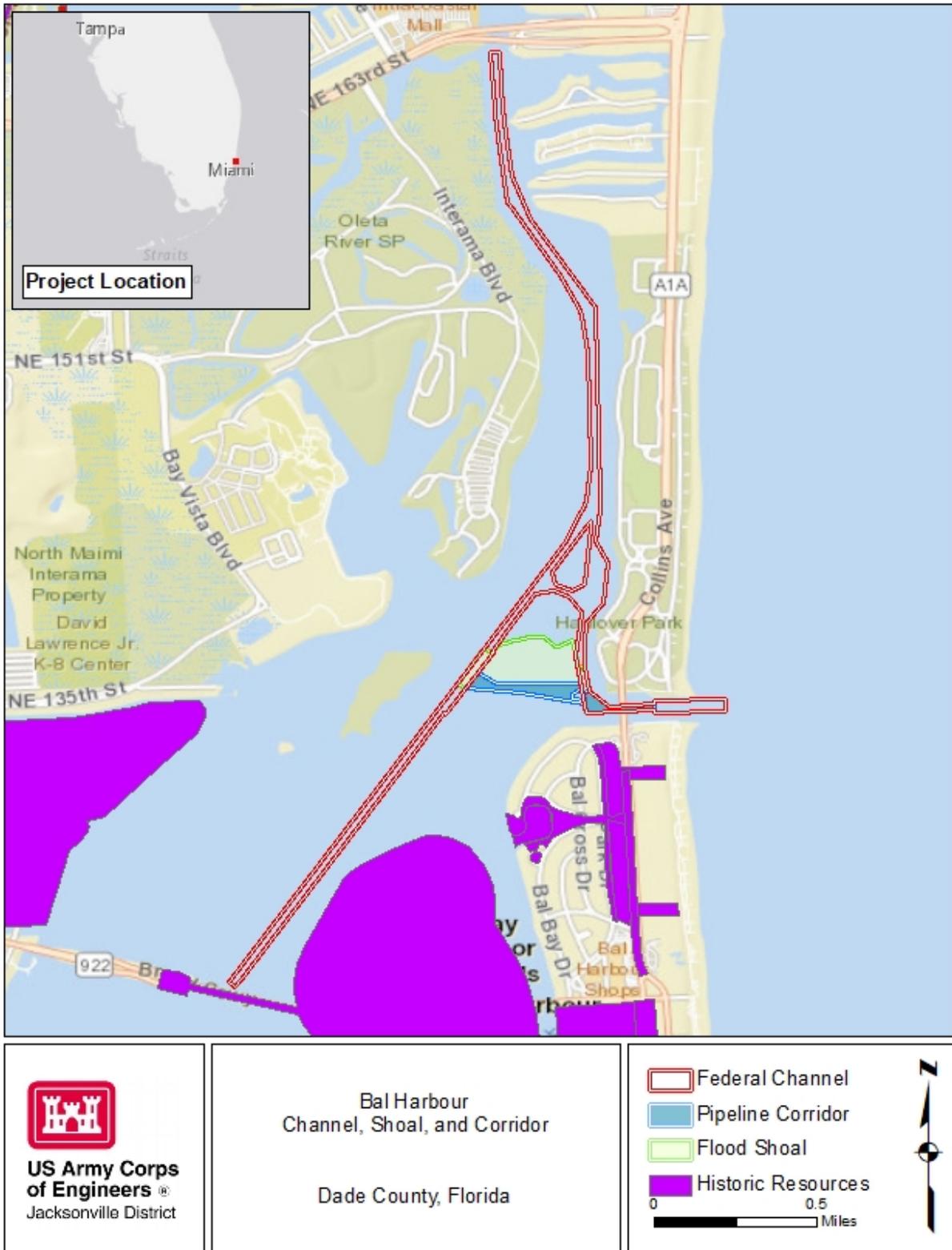


Figure 1. General Project Location Showing Federal Navigation Channel in relation to Historic Resources.



Figure 2. Bal Harbour Segment of the Miami-Dade BEC & HPP Showing Project Features and Beach Placement Area.



**DEPARTMENT OF THE ARMY**  
**CORPS OF ENGINEERS, JACKSONVILLE DISTRICT**  
**701 SAN MARCO BOULEVARD**  
**JACKSONVILLE, FLORIDA 32207-8175**

Planning and Policy Division  
Environmental Branch

July 30, 2020

Ms. Janet Maylen, THPO  
Thlopthlocco Tribal Town  
P.O. Box 188  
Okemah, OK 74859

Re: The Miami-Dade Beach Erosion Control and Hurricane Protection Project, Bal Harbour Beach Renourishment, Miami-Dade County, Florida.

Dear Ms. Janet Maylen:

The U.S. Army Corps of Engineers, Jacksonville District (Corps) has prepared an Environmental Assessment (EA) for the Bal Harbour segment of the Miami-Dade County Beach Erosion Control and Hurricane Protection Project (BEC & HPP). The project area is located in central Miami-Dade County, Florida in the vicinity of several historic districts and resources (Figure 1). This project will nourish eroded shoreline within the Village of Bal Harbour by placing 250,000 cubic yards of beach quality sand along Bal Harbour shoreline from Florida Department of Environmental Protection (FDEP) coastal range monuments R-27 to R-31.5 (Figure 2). The area of potential effects (APE) for this project includes the shoreline between R-27 and R-31.5 and the sand sources. The proposed sand source for the project will be in-water sources supplemented by an upland source from which material will be truck hauled to the project location. In-water sand sources include sand from the Bal Harbour Inlet (BHI) flood and ebb shoals, and sand from maintenance dredging of the Intracoastal Waterway and the BHI Channel in the vicinity of Bal Harbour Beach. Upland borrow sites may include Ortona (Glades County), Witherspoon (Glades County), Cemex (Polk County) and Garcia (Henry County) sand mines. All of these sources are potential options for the Project.

Based on archival research of the Florida Master Site File (FMSF) no prehistoric archaeological sites are recorded within the beach placement area; however, several historic resources including Bay Harbor Historic District, Bal Harbour Residential Medians (8DA11786), Bal Harbour Yacht Basin (8DA11799), Keystone Islands Historic District (8DA11549), and Surfside Residential Historic District (8DA11609) are located within one mile southward of the Miami-Dade County BEC & HPP Bal Harbour segment, and will not be adversely impacted.

These properties are located outside of the APE and beach placement of sand will have a beneficial effect of preventing future erosion.

In 1997 Tidewater Atlantic Research (TAR), Inc. conducted a submerged cultural resource survey, identifying eight magnetic anomalies in a survey of the area between Bakers Haulover Inlet and the Intracoastal Waterway (Division of Historic Resources [DHR] Survey #4838). The Corps determined all targets to be modern and ineligible for inclusion in the NRHP. In a letter dated March 17, 1997 (DHR No. 9706311), the Florida State Historic Preservation Office (SHPO) concurred with this determination. In addition, according to the 2017 EA entitled: *Continued Operations and Maintenance Dredging Placement of Dredged Material on Dade County Beach Erosion Control Project*, the federal channel in the vicinity of Bal Harbour has been dredged and maintained at least five times since 1997. The most recent determination of no adverse effects and consultation by the Corps regarding the Miami-Dade County BEC & HPP Bal Harbour Segment was in 2017 (DHR Project File No.: 2017-3251-B). The Florida State Historic Preservation Office (SHPO) concurred that the continued Operations and Maintenance (O&M) dredging of IWW DA-9 with placement on the beach will have no effect on historic properties eligible for inclusion in the National Register of Historic Places (NRHP).

The commercial upland sand sources identified for the Bal Harbour Segment of the BEC & HPP Project include the Ortona Sand Mine and the Witherspoon Sand Mine. Over the years, a number of cultural resource surveys have been conducted for the Ortona Sand Mine (DHR Survey Nos. 6689, 4847, 3021, 17005, and 16862). Several prehistoric archaeological sites associated with the Ortona Mound complex have been identified and recorded within the mine property including Ortona Canal East (8GL4a), Quarry Mound (8GL81), Lance's Mound (8GL419), Sawpalmetto Haven Mound (8GL420), and Tallant Mound (8GL00083). FMSF records indicate that the Ortona Canal East (8GL4a) and Quarry Mound (8GL81) have been mitigated. Cultural resources investigations for the adjacent Witherspoon sand mine have been completed (DHR Survey No. 4602). Two archaeological sites (8GL378 and 8GL379) were identified as eligible for inclusion in the National Register of Historic Places (NRHP). These sites will not be impacted by the sand mining activities. Any upland sand mines (including CEMEX and Garcia Land Mines) employed for this project are subject to the requirement of proving compliance with the State of Florida's statutory requirements in Chapter 267 for protection of historical resources in the sand source footprints before the Corps will approve utilizing the source.

Based on this information, the Corps has determined that the in-water sourcing of sand from the BHI flood and ebb shoals, and sand from maintenance dredging of the IWW and the BHI Channel in the vicinity of Bal Harbour Beach poses no effect to historic properties. In addition, the Corps has determined that truck haul of sand from upland commercial sand mines and placement of materials on the beach between R-27 to R-31.5 poses no adverse effect to historic properties. 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 adverse effect within 30 days from receipt of this letter. If there are any questions, please contact Mr. Marc Tiemann at 904-232-1557 or email at [Marc.A.Tiemann@usace.army.mil](mailto:Marc.A.Tiemann@usace.army.mil).

Sincerely,

Angela E. Dunn  
Chief, Environmental Branch

Encl

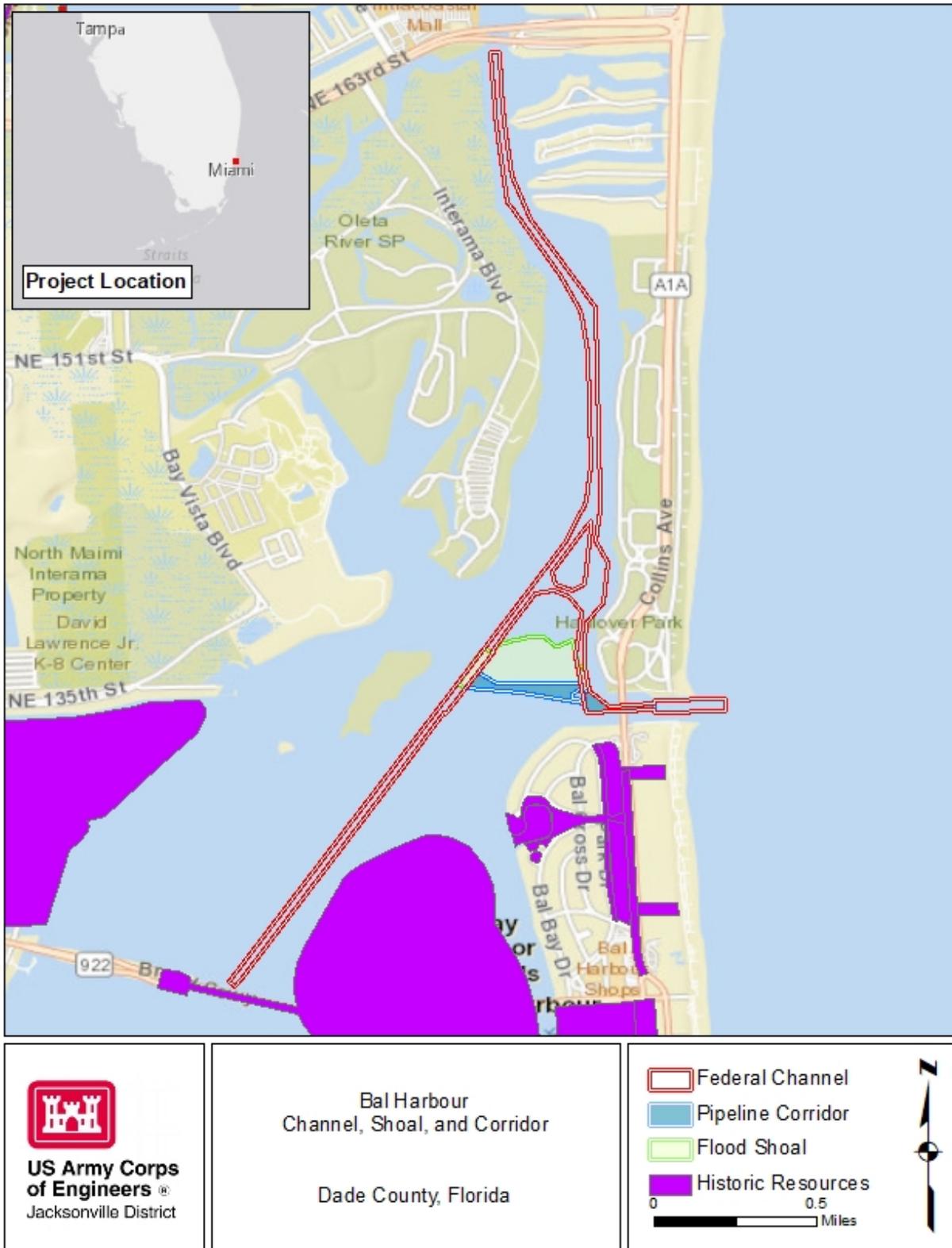


Figure 1. General Project Location Showing Federal Navigation Channel in relation to Historic Resources.



Figure 2. Bal Harbour Segment of the Miami-Dade BEC & HPP Showing Project Features and Beach Placement Area.

## **Ornella, Michael A II CIV USARMY CESAJ (USA)**

---

**From:** Tiemann, Marc Auguste CIV USARMY CESAJ (USA)  
**Sent:** Thursday, July 30, 2020 11:11 AM  
**To:** Ornella, Michael A II CIV USARMY CESAJ (USA); Reichold, Laurel P CIV USARMY CESAJ (USA); DeMarco, Paul M CIV USARMY CESAJ (USA)  
**Subject:** FW: [Non-DoD Source] Re: Determination of effects letter for Bal Harbour segment of the Miami-Dade County Beach Erosion Control and Hurricane Protection Project (BEC & HPP) (UNCLASSIFIED)  
**Classification:** UNCLASSIFIED

CLASSIFICATION: UNCLASSIFIED

All,

We have received a response today from the Muscogee (Creek) Nation today (see below).

Respectfully,  
Marc  
904-304-7092

-----Original Message-----

From: Section106 [mailto:Section106@mcn-nsn.gov]  
Sent: Thursday, July 30, 2020 11:05 AM  
To: Tiemann, Marc Auguste CIV USARMY CESAJ (USA) <Marc.A.Tiemann@usace.army.mil>  
Subject: [Non-DoD Source] Re: Determination of effects letter for Bal Harbour segment of the Miami-Dade County Beach Erosion Control and Hurricane Protection Project (BEC & HPP) (UNCLASSIFIED)

Good morning Mr. Tiemann,

Thank you for contacting the Muscogee (Creek) Nation regarding the proposed Bal Harbour segment of the Miami-Dade County Beach Erosion Control and Hurricane Protection project located in Miami-Dade County, Florida. Miami-Dade County is located outside of the Muscogee (Creek) Nation's historic area of interest so we would like to respectfully defer to the other Tribes that have been contacted. Please feel free to contact me if there are any questions or concerns.

Thank you,

Robin Soweka Jr.

Historic and Cultural Preservation Department | Cultural Resource Specialist

Muscogee (Creek) Nation

P.O. Box 580 | Okmulgee, OK 74447

T 918.732.7726

F 918.758.0649

Blocked<http://www.muscogeenation-nsn.gov/> <Blocked<http://www.muscogeenation-nsn.gov/>>

---

From: Tiemann, Marc Auguste CIV USARMY CESAJ (USA) <Marc.A.Tiemann@usace.army.mil>  
Sent: Thursday, July 30, 2020 9:09 AM  
To: Section106 <Section106@mcn-nsn.gov>  
Subject: Determination of effects letter for Bal Harbour segment of the Miami-Dade County Beach Erosion Control and Hurricane Protection Project (BEC & HPP) (UNCLASSIFIED)

CLASSIFICATION: UNCLASSIFIED

Good morning Ms. Corain Lowe-Zepeda,

Please find attached the USACE determination of effects letter for Bal Harbour segment of the Miami-Dade County Beach Erosion Control and Hurricane Protection Project (BEC & HPP) for your review and comment.

Very respectfully,  
Marc

Marc A. Tiemann, M.A., RPA  
Archaeologist  
Planning Division, Environmental Branch  
USACE, Jacksonville District  
701 San Marco Blvd.  
Jacksonville, FL 32207

Phone: 904-232-1557  
Cell Phone: 904-304-7092  
Email: [marc.a.tiemann@usace.army.mil](mailto:marc.a.tiemann@usace.army.mil) <<mailto:marc.a.tiemann@usace.army.mil>>

CLASSIFICATION: UNCLASSIFIED

CLASSIFICATION: UNCLASSIFIED

**APPENDIX B – CLEAN WATER ACT (CWA)  
SECTION 404(b)(1) GUIDELINES EVALUATION**

THIS PAGE INTENTIONALLY LEFT BLANK FOR DUPLEX PRINTING

## Final Evaluation of 404(b)(1) Guidelines

### Beach Renourishment, Bal Harbour Beach in Miami-Dade County, Florida

**August 2020**

#### 1. Technical Evaluation Factors

##### a. Physical and Chemical Characteristics of the Aquatic Ecosystem (40 CFR §§ 230.20-230.25)(Subpart C)

	N/A	Not Significant	Significant
(1) Substrate impacts	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(2) Suspended particulates/turbidity impacts	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(3) Water Quality Control	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(4) Alteration of current patterns and water circulation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(5) Alteration of normal water fluctuations/hydroperiod	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(6) Alteration of salinity gradients	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

The Preferred Alternative includes acquiring and placing sand on Bal Harbour Beach. This evaluation supplements the Section 404(b) evaluation for Identification of Alternative Sand Sources for the Remainder of the Federal Project for the Dade County Beach Erosion Control and Hurricane Protection Project (BEC&HPP, which was included as Appendix A of the EA for that project (USACE and BOEM 2016); and the evaluation included in the EA for Bal Harbour Beach placement of sand dredged from the Intracoastal Waterway (IWW), Cut DA-9 (USACE 2017). The 2016 evaluation considered sand placement for the entire BEC&HPP project, which includes Bal Harbour Beach, and potential sand sources included the Bakers Haulover Inlet (BHI) ebb shoal and three upland sand sites. Sand dredged from The Bakers Haulover Inlet Flood Shoal and sand from maintenance dredging of the BHI Channel were not included. This evaluation includes those features not already included in previous BEC&HPP Section 404(b) evaluations.

Routine maintenance dredging of the BHI Channel occurs on an as needed basis for the removal of shoals; dredging of the BHI Flood Shoal may occur to acquire sand for beach placement.

##### b. Biological Characteristics of the Aquatic Ecosystem (40 CFR §§ 230.30-230.32) (Subpart D)

	N/A	Not Significant	Significant
(1) Effect on threatened/endangered species and their habitat	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(2) Effect on the aquatic food web	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(3) Effect on other wildlife (mammals, birds, reptiles, and amphibians)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Pursuant to Section 7 of the ESA, the USACE coordinated with the National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (USFWS) for the BHI Channel and Flood Shoal dredging and the placement of dredged material along Bal Harbour Beach. Detailed analysis of the USACE’s effect determinations are in Section 4 of the 2016 and 2020 EAs. Detailed discussion of the USACE’s coordination and consultation with NMFS and USFWS, as well as descriptions of the biological opinions, are included in Section 6 of the 2016 and 2020 EAs. A summary of the USACE’s effect determinations as well as coordination and consultation with NMFS and USFWS are included below:

Effect determinations for listed species under NMFS jurisdiction:

*MANLAA:*

Swimming sea turtles (green sea turtle, hawksbill sea turtle, leatherback sea turtle, loggerhead sea turtle, Kemp’s ridley sea turtle), Johnson’s seagrass, smalltooth sawfish, elkhorn coral, staghorn coral

*No Effect:*

Blue whale, sei whale, fin whale and sperm whale

Effect determinations for species under USFWS jurisdiction:

*MANLAA:*

Nesting sea turtles (green sea turtle, hawksbill sea turtle, leatherback sea turtle, loggerhead sea turtle), Florida manatee, piping plover, rufa red knot

For potential effects to federally-listed T&E species under the NMFS jurisdiction, the project adheres to the Project Design Criteria (PDCs) under the SARBO. The use of equipment and/or methods not covered by the SARBO may require additional coordination and/or consultation with NMFS. The project will comply with all terms and conditions (T&Cs) of the SARBO. Additionally, NMFS’ sea turtle and smalltooth sawfish construction conditions would be implemented.

For potential effects to federally-listed T&E species under the USFWS jurisdiction, the USACE initiated consultation with the USFWS. The Corps determined that the

project meets the criteria to be eligible for coverage of potential effects to nesting sea turtles through the USFWS Statewide Programmatic Biological Opinion (SPBO) and potential effects to piping plover and rufa red knot through the Piping Plover Programmatic Biological Opinion (P3BO). The USACE requested concurrence from the USFWS on the USACE's may affect, but not likely to adversely affect (MANLAA) determination for the Florida manatee. The USACE will implement the USFWS 2011 standard manatee conditions for in-water work.

c. Special Aquatic Site (40 CFR §§ 230.40-230.45) (Subpart E)

	N/A	Not Significant	Significant
(1) Sanctuaries and refuges	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(2) Wetlands	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(3) Mud flats	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(4) Vegetated shallows	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(5) Coral reefs	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(6) Riffle and pool complexes	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

The proposed action would occur in areas near coral reefs. The USACE determined that the project may affect, but is not likely to adversely affect, listed coral species. The USACE remains committed to reviewing new information as it becomes available, as well as applying lessons learned to inform maintenance dredging and potential future construction to minimize potential adverse effects to corals and hardbottom habitats to the maximum extent practicable.

Increased awareness of the potential for adverse dredging effects has resulted in the development of new T&Cs for maintenance dredging projects occurring near hardbottom communities. Coordination with pertinent agencies and the implementation of protective measures during transport and placement of dredged material will avoid and/or minimize effects to these ecosystems.

Temporary increases in turbidity at during beach placement would be expected since the source of the material is beach-quality sand with a very small percentage of fines (<10%). Turbidity and sedimentation may increase in the nearshore environment during beach placement as the newly constructed beach adjusts to conditions and reaches the estimated toe of fill (ETOF).

d. Human Use Characteristics (40 CFR §§ 230.50-230.54) (Subpart F)

	N/A	Not Significant	Significant
(1) Effects on municipal and private water supplies	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

(2) Recreational and Commercial fisheries impacts	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(3) Effects on water-related recreation	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(4) Aesthetic impacts	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(5) Effects on parks, national and historical monuments, national seashores, wilderness areas, research sites, and similar preserves	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Maintenance dredging would temporarily restrict vessel access and transit, but the action results in a long-term benefit by ensuring safe navigation for commercial and recreational vessels. Placement activities may result in temporary restrictions and/or interruptions to boat traffic.

Similarly, beach placement activities would cause minor, temporary restrictions for safety purposes during placement operations, but benefits could be expected by restoring the available area of the beach that could be used for recreation purposes.

Equipment used during dredging and placement operations will be visible during construction, which may be considered unsightly by members of the public, resulting in a temporary reduction in the aesthetic value in the construction area, including areas near Oleta State Park.

Dredging activities will occur within the Biscayne Bay State Aquatic Preserve. Work will comply with turbidity levels required within the preserve.

Placement of beach quality sand on Bal Harbour Beach meets the requirements for beach renourishment under the BEC&HPP.

2. Evaluation of Dredged or Fill Material (40 CFR § 230.60) (Subpart G)

- a. The following information has been considered in evaluating the biological availability of possible contaminants in dredged or fill material. **(Check only those appropriate)**

- (1) Physical characteristics
- (2) Hydrography in relation to known or anticipated sources of contaminants
- (3) Results from previous testing of the material in the vicinity of the project
- (4) Known, significant, sources of persistent pesticides from land runoff or percolation

- (5) Spill records for petroleum products or designated (Section 311 of CWA) hazardous substances
- (6) Other public records of significant introduction of contaminants from industries, municipalities or other sources
- (7) Known existence of substantial material deposits of substances which could be released in harmful quantities to the aquatic environment by man-induced discharge/fill
- (8) Other sources (specify)

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.

- b. An evaluation of the appropriate information in 2a above indicated that there is reason to believe the proposed dredged or fill material is not a carrier of contaminants, of that levels of contaminants are substantively similar at extraction and disposal sites and not likely to exceed constraints. The material meets the testing exclusion criteria.

YES  NO

### 3. Disposal Site Delineation (40 CFR § 230.11(f))

- a. The following factors, as appropriate, have been considered in evaluating the disposal site.
  - (1) Depth of water at disposal site
  - (2) Current velocity, direction, and variability at disposal site
  - (3) Degree of turbulence
  - (4) Water volume stratification
  - (5) Discharge vessel or fill speed and direction
  - (6) Rate of discharge/fill
  - (7) Dredged material characteristics (constituents, amount, and type of material, settling velocities)
  - (8) Number of discharges/fill per unit of time
  - (9) Other factors affecting rates and patterns of mixing (specify)

Implementation of the Preferred Alternative may result in short-term increases in turbidity and/or sedimentation during placement operations in the surf zone along the beach placement area.

Temporary increases in turbidity in the surf zone during beach placement operations would be expected since the source of the material is beach-quality sand with a very small percentage of fines (<10%). Conditions would revert to background levels after the newly constructed beach adjusts to conditions and reaches the estimated toe of fill (ETOF).

Elevated turbidity levels will be temporary and are not expected to be significant. No long-term adverse effects to water quality are expected.

A Clean Water Act Section 401 water quality certification is required from the State of Florida for the beach placement of dredged material. Any applicable authorizations for dredged material placement will be coordinated and obtained prior to the start of construction.

- b. An evaluation of the appropriate factors in 4a above indicates that the disposal site and/or size of mixing zone are acceptable.

YES  NO

4. Actions to Minimize Adverse Effects (40 CFR §§ 230.70-230.77)(Subpart H)

All appropriate and practicable steps have been taken, through application of recommendation of Section 230.70-230.77 to ensure minimal adverse effects of the proposed discharge/fill.

YES  NO

5. Factual Determination (40 CFR § 230.11)

A review of appropriate information as identified in items 2-5 above indicates that there is minimal potential for short or long-term environmental effects of the proposed discharge/fill as related to:

- a. Physical substrate at the disposal site (review sections 2a, 3, 4, & 5)
- b. Water circulation, fluctuation & salinity (review sections 2a, 3, 4, & 5)
- c. Suspended particulates/turbidity (review sections 2a, 3, 4, & 5)
- d. Contaminant availability (review sections 2a, 3, & 4)
- e. Aquatic ecosystem structure and function (review sections 2b, c; 3, & 5)
- f. Disposal site (review sections 2, 4, & 5)
- g. Cumulative impact on the aquatic ecosystem
- h. Secondary impacts on the aquatic ecosystem

6. Review of Compliance (40 CFR § 230.10(a)-(d) (Subpart B)

A review of the permit application indicates that:

- a. The discharge/fill represents the least environmentally damaging practicable alternative and if in a special aquatic site, the activity associated with the discharge/fill must have direct access or proximity to, or be located in the aquatic ecosystem to fulfill its basic purpose (if no, see section 2 and information gathered for EA alternative);

YES  NO

- b. The activity does not appear to 1) violate applicable state water quality standards or effluent standards prohibited under Section 307 of the CWA; 2) jeopardize the existence of Federally designated marine sanctuary (if no, see section 2b and check responses from resource and water quality certifying agencies);

YES  NO

- c. The activity will not cause or contribute to significant degradation of waters of the U.S. including adverse effects on human health, life stages of organisms dependent on the aquatic ecosystem, ecosystem diversity, productivity and

stability, and recreational, aesthetic, and economic values (if no, see section 2);

YES  NO

d. Appropriate and practicable steps have been taken to minimize potential adverse impacts of the discharge/fill on the aquatic ecosystem (if no, see section 5);

YES  NO

## 7. Findings

- a. The proposed disposal site for discharge of dredged or fill material complies with the Section 404 (b)(1) guidelines
- b. The proposed disposal site for discharge of dredged or fill material complies with the Section 404(b)(1) guidelines with the inclusion of the following conditions:

c. The proposed disposal site for discharge of dredged or fill material does not comply with the Section 404(b)(1) guidelines for the following reason(s):

- (1) There is a less damaging practicable alternative
- (2) The proposed discharge/fill will result in significant degradation of the aquatic ecosystem
- (3) The proposed discharge/fill does not include all practicable and appropriate measures to minimize potential harm to the aquatic ecosystem

**APPENDIX C – COASTAL ZONE MANAGEMENT ACT (CZMA)  
FEDERAL CONSISTENCY DETERMINATION (FCD)**

THIS PAGE INTENTIONALLY LEFT BLANK FOR DUPLEX PRINTING

**Florida Coastal Zone Management Program Evaluation Procedures  
Federal Consistency Determination (FCD)  
Beach Renourishment, Bal Harbour Beach in  
Miami-Dade County, Florida  
March 2020**

**Enforceable Policy.** Florida Statutes considers “enforceable policy” under the Coastal Zone Management Act ([www.dep.state.fl.us/cmp/federal/24\\_statutes.htm](http://www.dep.state.fl.us/cmp/federal/24_statutes.htm) ).

Applicability of the Coastal Zone Management Act. The following table summarizes the process and procedures under the Coastal Zone Management Act for federal actions and for non-federal applicants\*.

<b>Item</b>	<b>Non-federal Applicant (15 CFR 930, subpart D)</b>	<b>Federal Action (15 CFR 930, subpart C)</b>
Enforceable Policies	Reviewed and approved by NOAA (in FL <a href="http://www.dep.state.fl.us/cmp/federal/24_statutes.htm">www.dep.state.fl.us/cmp/federal/24_statutes.htm</a> )	Same
Effects Test	Direct, Indirect (cumulative, secondary), adverse or beneficial	Same
Review Time	6 months from state receipt of Consistency Certification (30-days for completeness notice) Can be altered by written agreement between state and applicant	60 Days, extendable (or contractible) by mutual agreement
Consistency	Must be Fully Consistent	To Maximum Extent Practicable**
Procedure Initiation	Applicant provides Consistency Certification to state	Federal Agency provides “Consistency Statement” to state
Appealable	Yes, applicant can appeal to Secretary (NOAA)	No (NOAA can “mediate”)
Activities	Listed activities with their geographic location (State can request additional listing within 30 days)	Listed or Unlisted Activities in State Program
Activities in Another State	Must have approval for interstate reviews from NOAA	Interstate review approval NOT required
Activities in Federal Waters	Yes, if activity affects state waters	Same

\* There are separate requirements for activities on the Outer Continental Shelf (subpart E) and for “assistance to an applicant agency” (subpart F).

\*\* Must be fully consistent except for items prohibited by applicable law (generally does not count lack of funding as prohibited by law, 15 CFR 930.32).

## Coastal Zone Consistency Statement by Statute/Enforceable Policy

### 1. CHAPTER 161, F.S., BEACH AND SHORE PRESERVATION.

*Coastal areas are among the state's most valuable natural, aesthetic, and economic resources. The state is required to protect coastal areas from imprudent activities that could jeopardize the stability of the beach-dune system, accelerate erosion, provide inadequate protection to upland structures, endanger adjacent properties, or interfere with public beach access. Coastal areas used, or likely to be used, by sea turtles are designated for nesting, and the removal of vegetative cover that binds sand is prohibited. This statute provides policy for the regulation of construction, reconstruction, and other physical activities related to the beaches and shores of the state. Additionally, this statute requires the restoration and maintenance of critically eroding beaches.*

RESPONSE: The proposed plans and information will be submitted to the state in compliance with this chapter. The purpose of the maintenance dredging of the Bakers Haulover Inlet (BHI) Channel is to maintain safe and efficient vessel navigation. The need of the dredging is driven by the accumulation of sediment, commonly referred to as shoaling. The shoaling has reduced depths and widths, hindering safe and efficient vessel navigation. Periodic dredging is required to remove accumulated sediments and thus maintain the channel at its federally authorized dimensions. The BHI Flood Shoal will also be used as a borrow source for sand for Bal Harbour Beach, along with the BHI Channel. Placement of sand on Bal Harbour is needed to comply with the requirements of the Dade County Beach Erosion Control and Hurricane Protection Project (BEC&HPP).

The Preferred Alternative consists of renourishment of Bal Harbour Beach using material dredged from the BHI Flood Shoal and the BHI Channel. The project is consistent with the goals of this chapter.

### 2. CHAPTER 163, PART II, F.S., INTERGOVERNMENTAL PROGRAMS: GROWTH POLICY; COUNTY AND MUNICIPAL PLANNING: LAND DEVELOPMENT REGULATION

*The purpose of this statute is to provide for the implementation of comprehensive planning programs to guide and control future development in the state. The comprehensive planning process encourages units of local government to preserve, promote, protect, and improve the public health, safety, comfort, good order, appearance, convenience, law enforcement and fire prevention, and general welfare; prevent the overcrowding of land and avoid undue concentration of population; facilitate the adequate and efficient provision of public facilities and services; and conserve, develop, utilize, and protect natural resources within their jurisdictions.*

RESPONSE: Pursuant to the National Environmental Protection Act (NEPA), the proposed project will be coordinated with federal, state, federally recognized Native American tribes, local agencies, and other interested parties. The proposed project meets the goals of the State Comprehensive Plan by maintaining safe, efficient navigation and by renourishment of eroded beaches. The proposed project is consistent with the goals of this chapter.

### **3. CHAPTER 186, F.S., STATE AND REGIONAL PLANNING**

*The state comprehensive plan provides basic policy direction to all levels of government regarding the orderly social, economic, and physical growth of the state. The goals, objectives, and policies of the state comprehensive plan are statewide in scope and are consistent and compatible with each other. The statute provides direction for the delivery of governmental services, a means for defining and achieving the specific goals of the state, and a method for evaluating the accomplishment of those goals.*

RESPONSE: Pursuant to NEPA, the proposed project will be coordinated with federal, state, federally recognized Native American tribes, local agencies, and other interested parties. The proposed project meets the goals of the State Comprehensive Plan by maintaining safe, efficient navigation and by renourishment of eroded beaches. The proposed project is consistent with the goals of this chapter.

### **4. CHAPTER 252, F.S., EMERGENCY MANAGEMENT**

*The state of Florida is vulnerable to a wide range of emergencies, including natural, technological, and manmade disasters. This vulnerability is exacerbated by the tremendous growth in the state's population. This statute directs the state to reduce the vulnerability of its people and property to natural and manmade disasters; prepare for, respond to and reduce the impacts of disasters; and decrease the time and resources needed to recover from disasters.*

*Disaster mitigation is necessary to ensure the common defense of Floridians' lives and to protect the public peace, health, and safety. The policies provide the means to assist in the prevention or mitigation of emergencies that may be caused or aggravated by the inadequate planning or regulation. State agencies are directed to keep land uses and facility construction under continuing study and identify areas that are particularly susceptible to natural or manmade catastrophic occurrences.*

RESPONSE: The proposed plans and information will be submitted to the state in compliance with this chapter. The purpose of the maintenance dredging of the BHI Channel is to maintain safe and efficient vessel navigation. The need of the project is driven by the accumulation of sediment, commonly referred to as shoaling. The shoaling has reduced depths and widths, hindering safe and efficient vessel navigation. Periodic dredging is required to remove sediments that accumulate through expected average shoaling rates and storm events to maintain the channel at its federally authorized dimensions. Beach renourishment helps provide protection against coastal storms. The proposed project is consistent with the goals of this chapter.

### **5. Chapter 253, F.S., State Lands**

*The Board of Trustees of the Internal Improvement Trust Fund (Trustees) is vested and charged with the acquisition, administration, management, control, supervision, conservation, protection, and disposition of all lands owned by the state. Lands acquired for preservation, conservation and recreation serve the public interest by contributing to*

*the public health, welfare and economy. In carrying out the requirements of this statute, the Trustees are directed to take necessary action to fully: conserve and protect state lands; maintain natural conditions; protect and enhance natural areas and ecosystems; prevent damage and depredation; and preserve archaeological and historical resources.*

*All submerged lands are considered single-use lands to be maintained in natural condition for the propagation of fish and wildlife and public recreation. Where multiple uses are permitted, ecosystem integrity, recreational benefits and wildlife values are conserved and protected.*

RESPONSE: The Preferred Alternative consists of the routine maintenance dredging of the federal project (BHI Channel) and dredging of the BHI Flood Shoal. Sand from dredging would be used to renourish Bal Harbour Beach, which would restore/maintain the beach and provide habitat for nesting sea turtles.

The project will occur within the navigation servitude and on submerged lands of the State of Florida. The USACE will coordinate the project with the State of Florida through the issuance of a water quality certification (WQC), Federal Consistency Determination (FCD) review, and/or the review process of the 2020 draft Environmental Assessment (EA).

Environmental protection measures, as described in detail in the 2020 EA, will be implemented to minimize adverse effects to the maximum extent practicable to fish and other wildlife resources, threatened and endangered (T&E) species, water quality, air quality, or other environmental resources. Consultation on the Preferred Alternative is ongoing with the Florida State Historic Preservation Office (SHPO) and appropriate federally recognized tribes for compliance with Section 106 of the National Historic Preservation Act for the Federal portions of the project.

Pursuant to NEPA, the proposed project will be coordinated with federal, state, federally recognized Native American tribes, local agencies, and other interested parties. The proposed project is consistent with the goals of this chapter.

#### **6. CHAPTER 258, F.S., STATE PARKS AND PRESERVES**

*The statute addresses the state's administration of state parks, aquatic preserves, and recreation areas, which are acquired to emblemize the state's natural values and to ensure that these values are conserved for all time. Parks and preserves are managed for the non-depleting use, enjoyment, and benefit of Floridians and visitors and to contribute to the state's tourist appeal.*

*Aquatic Preserves are recognized as having exceptional biological, aesthetic, and scientific value and are set aside for the benefit of future generations. Disruptive physical activities and polluting discharges are highly restricted in aquatic preserves. State managed wild and scenic rivers possess exceptionally remarkable and unique ecological, fish and wildlife, and recreational values. These rivers are also designated for permanent preservation and enhancement for both the present and future.*

RESPONSE: Dredging activities will occur within the Biscayne Bay State Aquatic Preserve. Work will comply with turbidity levels required within the preserve. Placement of dredged material at the Park's beach would renourish the beach, maintaining opportunities for recreational use and habitat for nesting sea turtles and other wildlife. The proposed project complies with the goals of this chapter.

**7. CHAPTER 259, F.S., LAND ACQUISITION FOR CONSERVATION OR RECREATION**

*The statute addresses public ownership of natural areas for purposes of maintaining the state's unique natural resources; protecting air, land, and water quality; promoting water resource development to meet the needs of natural systems and citizens of this state; promoting restoration activities on public lands; and providing lands for natural resource based recreation. Lands are managed to protect or restore their natural resource values, and provide the greatest benefit, including public access, to the citizens of this state.*

RESPONSE: Pursuant to NEPA, the proposed project will be coordinated with federal, state, federally recognized Native American tribes, local agencies, and other interested parties. Environmental protection measures, as described in detail in the 2020 EA, will be implemented to minimize adverse effects to the maximum extent practicable to fish and other wildlife resources, T&E species, water quality, air quality, or other environmental resources. The project will occur within the navigation servitude and on submerged lands of the State of Florida. The USACE will coordinate the project with the State of Florida through the issuance of a WQC, FCD review, and/or the review process of 2020 draft EA. The proposed project complies with the goals of this chapter.

**8. CHAPTER 260, F.S., FLORIDA GREENWAYS AND TRAILS ACT**

*A statewide system of greenways and trails is established in order to conserve, develop, and use the natural resources of Florida for healthful and recreational purposes. These greenways and trails provide open space benefiting environmentally sensitive lands and wildlife and provide people with access to healthful outdoor activities. The greenways and trails serve to implement the concepts of ecosystem management while providing recreational opportunities such as horseback riding, hiking, bicycling, canoeing, jogging, and historical and archaeological interpretation. As of August 29<sup>th</sup>, 2016, Chapter 260, F.S., does not contain any enforceable policies for federal consistency purposes.*

RESPONSE: No Florida greenways or trails exist in the project area or will be affected by the project.

#### **9. CHAPTER 267, F.S., HISTORICAL RESOURCES**

*The management and preservation of the state's archaeological and historical resources are addressed by this statute. This statute recognizes the state's rich and unique heritage of historic resources and directs the state to locate, acquire, protect, preserve, operate and interpret historic and archeological resources for the benefit of current and future generations of Floridians.*

*Objects or artifacts with intrinsic historic or archeological value located on, or abandoned on, state-owned lands or state-owned submerged lands belong to the citizens of the state. The state historic preservation program operates in conjunction with the National Historic Preservation Act of 1966 to require state and federal agencies to consider the effect of their direct or indirect actions on historic and archeological resources. These resources cannot be destroyed or altered unless no prudent alternative exists. Unavoidable impacts must be mitigated.*

RESPONSE: Consultation on the Preferred Alternative with the SHPO and appropriate federally recognized tribes for compliance with Section 106 of the National Historic Preservation Act for the Federal portions of the project has been initiated and completed.

#### **10. CHAPTER 288, F.S., COMMERCIAL DEVELOPMENT AND CAPITAL IMPROVEMENTS**

*The framework to promote and develop general business, trade, and tourism components of the state economy are established in this statute. The statute includes requirements to protect and promote the natural, coastal, historical, and cultural tourism assets of the state; foster the development of nature-based tourism and recreation; and upgrade the image of Florida as a quality destination. Natural resource-based tourism and recreational activities are critical sectors of Florida's economy. The needs of the environment must be balanced with the need for growth and economic development.*

RESPONSE: Maintaining the BHI Channel and renourishment of Bal Harbour Beach will ensure the continuation of benefits to socioeconomic resources (e.g. recreation, tourism, etc.). Environmental protection measures, as described in detail in the 2020 EA, will be implemented to minimize adverse effects to the maximum extent practicable to fish and other wildlife resources, T&E species, water quality, air quality, or other environmental resources. The proposed project is consistent with the goals of this chapter.

#### **11. CHAPTER 334, F.S., TRANSPORTATION ADMINISTRATION**

*The statute addresses the state's policy concerning transportation administration. It establishes the responsibilities of the state, the counties, and the municipalities in the planning and development of the transportation systems; and the development of an integrated, balanced statewide transportation system. This is necessary for the protection of public safety and general welfare and for the preservation of all transportation facilities in the state. As of October 9<sup>th</sup>, 2017, Chapter 334, F.S., does not contain any enforceable policies for federal consistency purposes.*

RESPONSE: Public transportation systems will not be affected by the proposed project.

**12. CHAPTER 339, F.S., TRANSPORTATION FINANCE AND PLANNING**

*The statute addresses the finance and planning needs of the state's transportation system.*

RESPONSE: Public transportation systems will not be affected by the proposed project.

**13. CHAPTER 373, F.S., WATER RESOURCES**

*The waters in the state of Florida are managed and protected to conserve and preserve water resources, water quality, and environmental quality. This statute addresses sustainable water management; the conservation of surface and ground waters for full beneficial use; the preservation of natural resources, fish, and wildlife; protecting public land; and promoting the health and general welfare of Floridians. The state manages and conserves water and related natural resources by determining whether activities will unreasonably consume water; degrade water quality; or adversely affect environmental values such as protected species habitat, recreational pursuits, and marine productivity.*

*Specifically, under Part IV of Chapter 373, the Department of Environmental Protection, water management districts, and delegated local governments review and take agency action on wetland resource, environmental resource, and stormwater permit applications. These permits address the construction, alteration, operation, maintenance, abandonment, and removal of any stormwater management system, dam, impoundment, reservoir, or appurtenant work or works (including dredging, filling and construction activities in, on, and over wetlands and other surface waters).*

RESPONSE: Pursuant to NEPA, the proposed project will be coordinated with federal, state, federally recognized Native American tribes, local agencies, and other interested parties. Environmental protection measures, as described in detail in the 2020 EA, will be implemented to minimize adverse effects to the maximum extent practicable to water resources. The USACE will coordinate the project with the State of Florida through the issuance of a WQC, FCD review, and/or the review process of 2020 draft EA. The proposed project complies with the goals of this chapter.

**14. CHAPTER 375, F.S., OUTDOOR RECREATION AND CONSERVATION LANDS**

*The statute addresses the development of a comprehensive outdoor recreation plan. The purpose of the plan is to document recreational supply and demand, describe current recreational opportunities, estimate the need for additional recreational opportunities, and propose the means to meet the identified needs.*

RESPONSE: Placement of dredged material at Bal Harbour Beach would renourish the beach, maintaining opportunities for recreational use. The proposed project complies with the goals of this chapter.

#### **15. CHAPTER 376, F.S., POLLUTANT DISCHARGE PREVENTION AND REMOVAL**

*egulating the transfer, storage, and transportation of pollutants, and the cleanup of pollutant discharges is essential for maintaining coastal resources (specifically the coastal waters, estuaries, tidal flats, beaches, and public lands adjoining the seacoast) in as close to a pristine condition as possible. The preservation of the seacoast as a source of public and private recreation, along with the preservation of water and certain lands are matters of the highest urgency and priority.*

*This statute provides a framework for the protection of the state's coastline from spills, discharges, and releases of pollutants. The discharge of pollutants into or upon any coastal waters, estuaries, tidal flats, beaches, and lands adjoining the seacoast of the state is prohibited. The statute provides for hazards and threats of danger and damages resulting from any pollutant discharge to be evaluated; requires the prompt containment and removal of pollution; provides penalties for violations; and ensures the prompt payment of reasonable damages from a discharge.*

*Portions of Chapter 376, F.S., serve as a complement to the national contingency plan portions of the federal Water Pollution Control Act.*

RESPONSE: The proposed project does not involve the transportation or discharge of pollutants. The contract specifications will prohibit the contractor from dumping oil, fuel, or hazardous wastes in the work area and will include conditions on how to handle inadvertent spills of pollutants, such as vehicle fuels. A spill prevention plan will be required of the contractor. The proposed project is consistent with the goals of this chapter.

#### **16. CHAPTER 377, F.S., ENERGY RESOURCES**

*The statute addresses the regulation, planning, and development of the energy resources of the state. The statute provides policy to conserve and control the oil and gas resources in the state, including products made therefrom and to safeguard the health, property and welfare of Floridians. The Department of Environmental Protection (DEP) is authorized to regulate all phases of exploration, drilling, and production of oil, gas, and other petroleum products in the state.*

*The statute describes the permitting requirements and criteria necessary to drill and develop for oil and gas. DEP rules ensure that all precautions are taken to prevent the spillage of oil or any other pollutant in all phases of extraction and transportation. The state explicitly prohibits pollution resulting from drilling and production activities. No person drilling for or producing oil, gas, or other petroleum products may pollute land or water; damage aquatic or marine life, wildlife, birds, or public or private property; or allow any extraneous matter to enter or damage any mineral or freshwater-bearing formation.*

*Penalties for violations of any provisions of this chapter are detailed.*

RESPONSE: The proposed project does not involve the development of energy resources.

#### 17. CHAPTER 379, F.S., FISH AND WILDLIFE CONSERVATION

*The framework for the management and protection of the state of Florida's wide diversity of fish and wildlife resources are established in this statute. It is the policy of the state to conserve and wisely manage these resources. Particular attention is given to those species defined as being endangered or threatened. This includes the acquisition or management of lands important to the conservation of fish and wildlife.*

*This statute contains specific provisions for the conservation and management of marine fisheries resources. These conservation and management measures permit reasonable means and quantities of annual harvest (consistent with maximum practicable sustainable stock abundance) as well as ensure the proper quality control of marine resources that enter commerce.*

*Additionally, this statute supports and promotes hunting, fishing and the taking of game opportunities in the State. Hunting, fishing, and the taking of game are considered an important part in the state's economy and in the conservation, preservation, and management of the state's natural areas and resources.*

RESPONSE: Pursuant to Section 7 of the Endangered Species Act, the USACE coordinated with the U.S. Fish and Wildlife Service and National Marine Fisheries Service for proposed dredging and the placement of dredged material along Bal Harbour Beach. Detailed analysis of the USACE's effect determinations are in Section 4 of the 2020 EA, and details of the consultations with USFWS and NMFS are included in Section 6. A summary of the effect determinations are as follows:

#### Effect determinations for species under NMFS jurisdiction:

##### *May Affect, Not Likely to Adversely Affect (MANLAA):*

Swimming sea turtles (green sea turtle, hawksbill sea turtle, leatherback sea turtle, loggerhead sea turtle, Kemp's ridley sea turtle), Johnson's seagrass, smalltooth sawfish, and elkhorn, staghorn, pillar, rough cactus, lobed star, mountainous star and boulder star corals

##### *No Effect:*

Blue whale, sei whale, fin whale and sperm whale

#### Effect determinations for species under USFWS jurisdiction:

##### *MANLAA:*

Nesting sea turtles (green sea turtle, hawksbill sea turtle, leatherback sea turtle, loggerhead sea turtle), Florida manatee, piping plover, rufa red knot

For potential effects to federally listed T&E species under the NMFS jurisdiction, the project adheres to the NMFS' South Atlantic Regional Biological Opinion (SARBO). The

project will comply with all terms and conditions of the SARBO. Additionally, NMFS' sea turtle and smalltooth sawfish construction conditions would be implemented.

For potential effects to federally listed T&E species under the USFWS jurisdiction, the USACE initiated consultation with the USFWS. The USACE requested concurrence from the USFWS on the USACE MANLAA determinations and intends to implement the USFWS 2011 standard manatee conditions for in-water work. The USACE determined that the project meets the criteria to be eligible for coverage through the USFWS Statewide Programmatic Biological Opinion (SPBO) and the Piping Plover Programmatic Biological Opinion (P3BO).

Pursuant to NEPA, the proposed project will be coordinated with federal, state, federally recognized Native American tribes, local agencies, and other interested parties. Environmental protection measures, as described in detail in the 2020 EA, will be implemented to minimize adverse effects to the maximum extent practicable to T&E species as well as fish and other wildlife resources. The project is consistent with the goals of this chapter.

#### **18. CHAPTER 380, F.S., LAND AND WATER MANAGEMENT**

*Land and water management policies are established to protect natural resources and the environment; and to guide and coordinate local decisions relating to growth and development. The statute provides that state land and water management policies be implemented by local governments through existing processes for the guidance of growth and development. The statute also provides that all the existing rights of private property be preserved in accord with constitutions of this state and of the United States.*

*The chapter establishes the Areas of Critical State Concern designation, the Florida Communities Trust as well as the Florida Coastal Management Act. The Florida Coastal Management Act provides the basis for the Florida Coastal Management Program which seeks to protect the natural, commercial, recreational, ecological, industrial, and aesthetic resources of Florida's coast.*

RESPONSE: The purpose of the maintenance dredging of the BHI Channel is to maintain safe and efficient vessel navigation. Maintaining the BHI Channel and renourishment of Bal Harbour Beach will ensure the continuation of benefits to socioeconomic resources (e.g. recreation, tourism, public safety, etc.). Pursuant to NEPA, the proposed project will be coordinated with federal, state, federally recognized Native American tribes, local agencies, and other interested parties. The project is consistent with the goals of this chapter.

#### **19. CHAPTER 381, F.S., PUBLIC HEALTH: GENERAL PROVISIONS**

*The statute establishes public policy concerning the state's public health system, which is designated to promote, protect, and improve the health of all people in the state.*

RESPONSE: The state's public health system will not be affected by the proposed project.

**20. CHAPTER 388, F.S., MOSQUITO CONTROL**

*Mosquito control efforts of the state are to achieve and maintain such levels of arthropod control as will protect human health and safety; promote the economic development of the state; and facilitate the enjoyment of its natural attractions by reducing the number of pestiferous and disease-carrying arthropods.*

*It is the policy of the state to conduct arthropod control in a manner consistent with protection of the environmental and ecological integrity of all lands and waters throughout the state.*

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

**21. CHAPTER 403, F.S., ENVIRONMENTAL CONTROL**

*Environmental control policies conserve state waters; protect and improve water quality; and maintain air quality. This statute provides wide-ranging authority to address various environmental control concerns, including air and water pollution; electrical power plant and transmission line siting; the Interstate Environmental Control Compact; resource recovery and management; solid and hazardous waste management; drinking water protection; pollution prevention; ecosystem management; and natural gas transmission pipeline siting.*

RESPONSE: Pursuant to NEPA, the proposed project will be coordinated with federal, state, federally recognized Native American tribes, local agencies, and other interested parties. Environmental protection measures, as described in detail in the 2020 EA, will be implemented to minimize adverse effects to the maximum extent practicable to fish and other wildlife resources, T&E species, water quality, air quality, or other environmental resources. The proposed project complies with the goals of this chapter.

**22. CHAPTER 553, F.S., BUILDING AND CONSTRUCTION STANDARDS**

*The statute addresses building construction standards and provides for a unified Florida Building Code.*

RESPONSE: The proposed project does not include building construction.

**23. CHAPTER 582, F.S., SOIL AND WATER CONSERVATION**

*It is the state's policy to preserve natural resources; control and prevent soil erosion, prevent floodwater and sediment damages; and to further the conservation, development and use of soil and water resources.*

*Farm, forest, and grazing lands are among the basic assets of the state; and the preservation of these lands is necessary to protect and promote the health, safety, and general welfare of its people.*

*These measures help to preserve state and private lands, control floods, maintain water quality, prevent impairment of dams and reservoirs, assist in maintaining the navigability of rivers and harbors, preserve wildlife and protect wildlife habitat, protect the tax base, protect public lands, and protect and promote the health, safety, and general welfare of the people of this state.*

RESPONSE: The project is not located on or near agricultural lands. The proposed project will include appropriate erosion control plans and measures where applicable. The proposed project is consistent with the goals of this chapter.

#### **24. CHAPTER 597, F.S., AQUACULTURE**

*The statute establishes public policy concerning the cultivation of aquatic organisms in the state. The intent is to enhance the growth of aquaculture, while protecting Florida's environment. This includes a requirement for a state aquaculture plan which provides for: the coordination and prioritization of state aquaculture efforts; the conservation and enhancement of aquatic resources; and mechanisms for increasing aquaculture production.*

RESPONSE: The proposed project does not include aquaculture production.

## **APPENDIX D – NATURAL RESOURCE REPORTS**

DRAFT 02/28/2020

THIS PAGE INTENTIONALLY LEFT BLANK FOR DUPLEX PRINTING

**APPENDIX E – STATE OF FLORIDA QUITCLAIM DEED TO DADE  
COUNTY FOR FLOOD SHOAL IN 1998**

THIS PAGE INTENTIONALLY LEFT BLANK FOR DUPLEX PRINTING

**APPENDIX F PUBLIC AND AGENCY PROJECT COMMENTS**  
**F-1: SCOPING COMMENTS**

THIS PAGE INTENTIONALLY LEFT BLANK FOR DUPLEX PRINTING

**From:** [Josh Levy](#)  
**To:** [Reichold, Laurel P CIV USARMY CESAJ \(US\)](#)  
**Cc:** [Donofrio, Kristen L CIV USARMY CESAJ \(USA\)](#)  
**Subject:** [Non-DoD Source] Re: Bal Harbour NEPA project plans  
**Date:** Thursday, November 21, 2019 10:57:51 AM

---

Hello Ms. Reichold,

Writing about the scoping study you are doing about the Bal Harbour proposal to dredge the popular sandbar by the inlet.

Would like to see the project plan boards and fact sheet and the options of dredging from the southside or northside or ocean. Links or pdf would be fine.

Could you please email that?

Also, please note that Kristen's email for public comment on the news release is incorrect, and doesn't work. Needs to add the word "army" into the email address.

Thanks very much.

Josh Levy, Mayor

City of Hollywood

2600 Hollywood Blvd.

Hollywood, FL 33020 <x-apple-data-detectors://2/0>

Tel: (954)921-3321

Email: [jlevy@hollywoodfl.org](mailto:jlevy@hollywoodfl.org)

Blocked[www.hollywoodfl.org](http://www.hollywoodfl.org)

Blocked[www.choosehollywoodfl.com](http://www.choosehollywoodfl.com)

Notice: Florida has a broad public records law. All correspondence sent to the City of Hollywood via e-mail may be subject to disclosure as a matter of public record.

Sent from my iPhone

**From:** [Roberts, Kenneth Wayne](#)  
**To:** [Donofrio, Kristen L CIV USARMY CESAJ \(USA\)](#)  
**Subject:** [Non-DoD Source] Bal Harbor NEPA Scoping Comments  
**Date:** Friday, November 22, 2019 2:45:34 PM

---

Good evening,

It has come to my attention that the Army Corp of Engineers is considering dredging the Haulover sandbar in order to replenish nearby beaches. I want to express my strong opposition to this proposal. The Haulover sandbar is as large of a recreational attraction as the beaches that you seek to replenish, and so you are proposing to in-effect destroy one recreational area in order to preserve another. This is totally unnecessary.

Not only that, but we have no shortage of beaches around Miami, and only two small sandbars. Haulover sandbar is a unique attraction that is used by hundreds or thousands of people weekly, is a draw for tourists in the area, and is a favorite recreational activity for young professionals who move to the area. We understand that you're not proposing to dredge the sandbar more than a few feet, but that is still nonsensical and unacceptable. The Army should dredge from deeper waters, even if it results in a higher expense.

Respectfully,

Ken Roberts, MD  
Resident Physician, Emergency Medicine  
Aventura Hospital and Medical Center  
(704) 609-5454

**From:** [spechler1@aol.com](mailto:spechler1@aol.com)  
**To:** [Donofrio, Kristen L CIV USARMY CESAJ \(USA\)](#)  
**Subject:** [Non-DoD Source] Bal Harbor scoping comments  
**Date:** Friday, November 22, 2019 11:02:19 AM

---

Good morning,

I read the article in the Miami Herald today and have a suggestion for getting more sand and fill for the beaches in Bal Harbor, FL.

I live on the "Northlake" of Hollywood which was not properly dug deep enough, back in the 1920's. It connects to the intracoastal waterway and is 8.0 miles north of Bal Harbor.

Most of Northlake in the keyhole is only 1 foot deep at low tide and you go further East it is 2 feet, then approximately 3 feet towards the Eastern part. I believe this would be better fill than sand, but there may be a use for it somewhere on our beaches

I know there is no sea grass issue and I would think the City of Hollywood would find it to be a win win for both communities. Less sand for Hollywood and more sand for Bal Harbor.

I would recommend you touch base with Josh Levy, Mayor and Caryl Shuham our district commissioner to see if there is an opportunity here.

Thankyou,

Brent Spechler

954 683 3888

**From:** [Jose Vega](#)  
**To:** [Donofrio, Kristen L CTV USARMY CESA1 \(USA\)](#)  
**Cc:** [aharris@miamiherald.com](mailto:aharris@miamiherald.com)  
**Subject:** [Non-DoD Source] Bal Harbour Scoping Comments  
**Date:** Friday, November 22, 2019 3:48:39 PM

---

Dear Kristen,

I only found out yesterday about the potential plans to dredge the Haulover sandbar. I am completely against those plans for the following reasons:

- 1) I am one of the SIX food vendors operating out of the Haulover sandbar. For the last five years, my family has depended on our food operation, and there is no reasonable alternative location where to operate it. We operate all year round, weather permitting.
  - 2) thousands And thousands of locals and tourists come to the sandbar all week long to enjoy it, to relax, and to have fun. They would be deprived of such enjoyment if there was no sandbar to go to.
  - 3) I am worried about the environmental impact of the dredging activity.
  - 4) the Haulover sandbar is one of the main tourists attractions nowadays, and people from all over the country and the world come to miami because of the Haulover sandbar.
- Please let me know when is the next public meeting regarding this plan.

Jose Vega  
Owner of Shawarma at Haulover  
Cel 7863071995

Sent from my iPhone

**From:** [tonysemaan](#)  
**To:** [Donofrio, Kristen L CTV USARMY CESA1 \(USA\)](#)  
**Subject:** [Non-DoD Source] Ball Harbour scouping comments  
**Date:** Saturday, November 23, 2019 12:54:57 PM

---

Hello, I keep my boat at Haulover marina. I read the article in regards to dredging the sandbar. I fully support the sandbar being dredged. The channel is too narrow and the crowd that hangs out there is no desirable. Large rental yachts currently sit in the middle of the channel to park at the sandbar. Many other boat owners feel the same way that keep their boats in the area.

Thanks Tony Semaan

**From:** [Fanny Cassab](#)  
**To:** [Donofrio, Kristen L CIV USARMY CESA1 \(USA\)](#)  
**Subject:** [Non-DoD Source] Halover  
**Date:** Sunday, November 24, 2019 12:39:24 PM

---

I don't want them to drag the Halover sandbar.

Fanny's iPhone

**From:** [JORGE](#)  
**To:** [Donofrio, Kristen L CIV USARMY CESA1 \(USA\)](#)  
**Subject:** [Non-DoD Source] plan disagreed  
**Date:** Sunday, November 24, 2019 1:18:44 PM

---

will be affect the community

Sent from my iPhone

**From:** [Simon Palacio](#)  
**To:** [Donofrio, Kristen L CIV USARMY CESAJ \(USA\)](#)  
**Subject:** [Non-DoD Source] Haulover sandbar  
**Date:** Sunday, November 24, 2019 5:04:23 PM

---

I herd there ara plans to dredge the Haulover sandbar. In my opinion it will be a big mistake. There are only a few places where boaters can get together in the intercostal between Miami and West Palm. I'm against the project 100%

Enviado desde mi iPhone

**From:** [WALTER PIPKIN](#)  
**To:** [Donofrio, Kristen L CIV USARMY CESAJ \(USA\)](#)  
**Subject:** [Non-DoD Source] Sand Bar Halouwer  
**Date:** Sunday, November 24, 2019 8:50:42 AM

---

Por favor no destruyan un lugar donde mucha gente disfruta su tiempo libre.  
Muchas gracias  
Walter Pipkin

Enviado desde mi smartphone Samsung Galaxy.

**From:** [RAFAEL ANTONIO Rodriguez](#)  
**To:** [Donofrio, Kristen L CTV USARMY CESA1 \(USA\)](#)  
**Subject:** [Non-DoD Source]  
**Date:** Sunday, November 24, 2019 2:57:57 PM

---

I don't want the work at the sandbar

**From:** [Christian Seelinger](#)  
**To:** [Donofrio, Kristen L CIV USARMY CESAJ \(USA\)](#)  
**Subject:** [Non-DoD Source] Haulover Sandbar  
**Date:** Sunday, November 24, 2019 9:42:03 AM

---

Hello!

Dear Ms. Kristen

I write regarding the plans of shutting down the sandbar.

Me and my family like to go to the sandbar, and we believe it is one nicest water attractions in Miami.

Please take consideration of the many people that enjoy this sandbar and all the services that are provided to go to this beautiful place, and how that would affect the economy of those businesses that rent boats, provide food, provide tours, rent kayaks, etc.

Wishing you a wonderful day, and hoping that you take this humble opinion in consideration.

Best regards

H. Christian Seelinger  
Director  
Sports and Prevention, LLC  
18650 NE 28th Court  
Aventura, FL 33180  
[Christian.seelinger@sportsandprevention.com](mailto:Christian.seelinger@sportsandprevention.com)  
+1 786 384.24.56

**From:** [Manager ProTech](#)  
**To:** [Donofrio, Kristen L CIV USARMY CESAJ \(USA\)](#)  
**Subject:** [Non-DoD Source] Haulover inlet sandbar  
**Date:** Sunday, November 24, 2019 10:27:37 AM

---

Hi Kristen

I head that the city of Balharbour is planning to close the sandbar? Is that correct?

If so, me and my family oppose to the desicion because we, as well as thousands of people, uses the sandbar for recreation and leisure.

Sincerely,  
Rod Sosa  
786-554-5314

**From:** [Edward Wagner](#)  
**To:** [Donofrio, Kristen L CIV USARMY CESAJ \(USA\)](#)  
**Subject:** [Non-DoD Source] Sandbar  
**Date:** Sunday, November 24, 2019 8:24:53 PM

---

I am a Florida native and spend my weekends at the Haulover sandbar. I would adamantly oppose dredging the sand bar.  
Much appreciated.  
Edward S Wagner MD

**From:** [Roberto Yturralde](#)  
**To:** [Donofrio, Kristen L\\_CIV USARMY CESAJ \(USA\)](#)  
**Subject:** [Non-DoD Source] Sandbar  
**Date:** Sunday, November 24, 2019 2:34:34 PM

---

Its a attraction that we south Floridians enjoy year round.  
Leave alone, please.

**From:** [Moises Zapan](#)  
**To:** [Donofrio, Kristen L CIV USARMY CESA1 \(USA\)](#)  
**Subject:** [Non-DoD Source] It affects me  
**Date:** Sunday, November 24, 2019 12:41:41 PM

---

Enviado desde mi iPhone

**From:** [Sean Tamami](#)  
**To:** [Donofrio, Kristen L CIV USARMY CESA1 \(USA\)](#)  
**Subject:** [Non-DoD Source] Re: army plans on Hauliver sand bar  
**Date:** Tuesday, November 26, 2019 6:22:38 PM

---

Please be informed that I'm strongly opposed to this plan. It's nonsense.

Best regards,  
Sean

**From:** [Jose Vega](#)  
**To:** [Donofrio, Kristen L CTV USARMY CESAJ \(USA\)](#)  
**Subject:** [Non-DoD Source] Re: Bal Harbour Scoping Comments  
**Date:** Sunday, December 1, 2019 6:54:53 AM

---

Dear Kristen,  
I would like to know more information about this project. Are holding another public meeting?  
I am terrified with this project as it will negatively impact my business, to the point where I may loose my business.  
I would appreciate any information you can provide.

Kind regards,

Jose Vega  
2641 NE 212 terrace , #211  
Miami FL 33180  
Cel 786 307 19 95

Sent from my iPhone

> On Nov 22, 2019, at 3:48 PM, Jose Vega <swatch3007@gmail.com> wrote:  
>  
> Dear Kristen,  
> I only found out yesterday about the potential plans to dredge the Haulover sandbar. I am completely against those plans for the following reasons:  
> 1) I am one of the SIX food vendors operating out of the Haulover sandbar. For the last five years, my family has depended on our food operation, and there is no reasonable alternative location where to operate it. We operate all year round, weather permitting.  
> 2) thousands And thousands of locals and tourists come to the sandbar all week long to enjoy it, to relax, and to have fun. They would be deprived of such enjoyment if there was no sandbar to go to.  
> 3) I am worried about the environmental impact of the dredging activity.  
> 4) the Haulover sandbar is one of the main tourists attractions nowadays, and people from all over the country and the world come to miami because of the Haulover sandbar.  
> Please let me know when is the next public meeting regarding this plan.  
>  
> Jose Vega  
> Owner of Shawarma at Haulover  
> Cel 7863071995  
>  
>  
>  
> Sent from my iPhone

**From:** [Jose Vega](#)  
**To:** [Donofrio, Kristen L CIV USARMY CESAJ \(USA\)](#)  
**Cc:** [aharris@miamiherald.com](mailto:aharris@miamiherald.com); [Gabriel Bal Harbour Major Groisman](#)  
**Subject:** Re: [Non-DoD Source] Bal Harbour Scoping Comments  
**Date:** Tuesday, December 3, 2019 2:00:01 PM

---

Dear Kristen,  
Thank you for your response.

Please add me to the Project's distribution list for mailing, as I will continue to monitor the project.

I don't mean to be litigious, or make it sound like a threat, but it is important for both the US Corps of Engineers and the Bal Harbour Village to evaluate the fact that I am evaluating legal actions and remedies available, to prevent the dredging of the sandbar, or for just compensation for damages caused to my business, and to the community of sandbar goers.

I honestly believe that it is a terrible mistake to virtually eliminate the sandbar, to replenish the Bal Harbour beach. Lastly, I invite you all to come and visit the sandbar, spend time there on a weekend, and dine with us (on the house! )

It really is a magical place!

Kind regards,

Jose Vega, esq.  
Cel 786 307 1995  
2641 NE 212 terrace, unit #211  
Miami FL 33180

Sent from my iPhone

> On Dec 3, 2019, at 12:43 PM, Donofrio, Kristen L CIV USARMY CESAJ (USA)  
<Kristen.L.Donofrio@usace.army.mil> wrote:

>

> Good afternoon.

>

> Thank you for your comments regarding the activities and potential sand sources for renourishment of the Bal Harbour beach (a segment of the Dade County, Florida Beach Erosion Control and Hurricane Protection Project (BEC-HPP)). All comments received during the scoping period (which closes on December 24, 2019) will be provided to the U.S. Army Corps of Engineers, Jacksonville District team for consideration during the analysis and development of the National Environmental Policy Act (NEPA) documentation.

>

> Additional information on the project can be found at the project's website:

Blocked<https://www.saj.usace.army.mil/BalHarbour>. If you would like to be added to the project's distribution list for mailings, please let me know.

>

> Thank you again.

>

> Kristen Donofrio  
> Biologist, Planning Division  
> U.S. Army Corps of Engineers  
> Jacksonville District (PD-EC)  
> 701 San Marco Boulevard  
> Jacksonville, FL 32207  
> (904) 232-2918 (O)  
> (904) 318-0372 (C)

> (904) 232-3442 (F)  
> Kristen.L.Donofrio@usace.army.mil  
>  
> Please consider the environment before printing this email.  
>  
> -----Original Message-----  
> From: Jose Vega [<mailto:swatch3007@gmail.com>]  
> Sent: Friday, November 22, 2019 3:48 PM  
> To: Donofrio, Kristen L CIV USARMY CESAJ (USA) <Kristen.L.Donofrio@usace.army.mil>  
> Cc: aharris@miamiherald.com  
> Subject: [Non-DoD Source] Bal Harbour Scoping Comments  
>  
> Dear Kristen,  
> I only found out yesterday about the potential plans to dredge the Haulover sandbar. I am completely against those plans for the following reasons:  
> 1) I am one of the SIX food vendors operating out of the Haulover sandbar. For the last five years, my family has depended on our food operation, and there is no reasonable alternative location where to operate it. We operate all year round, weather permitting.  
> 2) thousands And thousands of locals and tourists come to the sandbar all week long to enjoy it, to relax, and to have fun. They would be deprived of such enjoyment if there was no sandbar to go to.  
> 3) I am worried about the environmental impact of the dredging activity.  
> 4) the Haulover sandbar is one of the main tourists attractions nowadays, and people from all over the country and the world come to miami because of the Haulover sandbar.  
> Please let me know when is the next public meeting regarding this plan.  
>  
> Jose Vega  
> Owner of Shawarma at Haulover  
> Cel 7863071995  
>  
>  
>  
> Sent from my iPhone

**From:** [Jose Vega](#)  
**To:** [gmajor@balharbourfl.gov](mailto:gmajor@balharbourfl.gov)  
**Cc:** [Donofrio, Kristen L CIV USARMY CESAJ \(USA\)](#); [Alex Harris](#)  
**Subject:** [Non-DoD Source] Bal Harbour Scoping Comments  
**Date:** Tuesday, December 3, 2019 12:17:13 PM

---

Dear Gabriel,

I hope this e mail finds you well!

I am a New York attorney, and owner of the food boat called Shawarma At Haulover, operating at the Haulover sandbar since 2014. I read the news about the project to dredge the Haulover sandbar, and I am deeply concerned for the impact it will have in our community at large, and to my small business.

I have e mailed Kristen Donofrio (US Corp of Engineering) with my comments opposing to it, but I have not heard back from her yet. Dredging the sandbar will cause various negative consequences, which will end up in disappearing this landmark for locals and foreign tourists. As a result, sandbar goers will be deprived of the enjoyment of this natural resource. For instance, many families with infants and toddlers will stop coming to the sandbar as it would no longer be a safe shallow spot for their children. People on jetskies and kayaks (mostly rented from the Oletta River State Park) will stop coming to the sandbar as they wont be able to stand "comfortably" on their feet. This will drive away all the interesting people coming to the sandbar. Those who would still come by boat, will not come up to our food boat and carry their food back to their vessel due to the water level. For the most part, we do not offer delivery services, as we invite our patrons to come and visit us. We are in the business of making relationships!!!

At the end, dredging the Haulover sandbar will be fatal to my business. (Blocked<https://www.miamism.com/blog/miamism-best-food-boat-shawarma-haulover>)

I would like to discuss in person with you these and other issues related to the project, and the impact on my business.

In the mean time, I kindly ask you to please provide all pertinent information regarding the status of the project.

I appreciate in advance your prompt consideration to this sensitive topic.

Kind regards,

Jose Vega, esq.  
Shawarma at Haulover  
Cel 786 307 1995  
2641 NE 212 terrace, Unit #211  
Miami, FL 33180

**From:** [monica.jaurieta](#)  
**To:** [Donofrio, Kristen L CTV USARMY CESAJ \(USA\)](#)  
**Subject:** [Non-DoD Source] Bal Harbour Scoping Comments.  
**Date:** Wednesday, December 11, 2019 6:01:58 PM

---

We often go to Haulover sandbar with our kids of 7 y-old and a 2 y-old. For me, mom, it's a peace of mine to see them enjoy the water without the risk of sea waves.  
For me, I LOVE to spend a "beach" day without feeling sand breaded.  
For the cherry on top my brother in law has an amazing food boat with the best Shawarmas in the beach.  
It's going to be really sad to lose this weekend plan.  
I hope they come with a better plan to recover the beach for beachgoers without spoiling us the sandbargoers.

**From:** [Bruno Macdonell](#)  
**To:** [Donofrio, Kristen L CTV USARMY CESAJ \(USA\)](#)  
**Subject:** [Non-DoD Source] Bal Harbour Scoping Comments  
**Date:** Thursday, December 12, 2019 4:41:37 PM

---

Hello madam my name is bruno macdonell and I own the food boat at Haulover sandbar. I think this is a horrible idea madam the sandbar is already deep enough with this dredging I'm sure will destroy the sandbar as we know it today ! This is not gonna fix the beach erosion problem ! This is a temporary fix to the beach erosion ! This will make the sandbar unusable nobody will be able to walk on it and will destroy the destination!!! It will be to deep for people to walk ! This will destroy all the foot traffic! Plesse madam how can we prevent this from happening ?

**From:** [Jose Mauricio Bello](#)  
**To:** [Donofrio, Kristen L CIV USARMY CESAJ \(USA\)](#)  
**Subject:** [Non-DoD Source] Bal Harbour Scoping Comments  
**Date:** Friday, December 20, 2019 7:15:11 PM

---

Please reconsider the decision of the dredging of the sandbar.  
This is one of the last natural areas that we all enjoy the way it is.  
Thanks  
José Mauricio Bello

**From:** [Sammy Beracha](#)  
**To:** [Donofrio, Kristen L CTV USARMY CESA1 \(USA\)](#)  
**Subject:** [Non-DoD Source] Don't do it... it's an amazing place...  
**Date:** Friday, December 20, 2019 9:36:12 PM

---

Been going there for more than 40 years! One of the most beautiful places of earth!

SALUDOS,

SB

AVISO IMPORTANTE: Este correo electrónico y/o el material adjunto es para uso exclusivo de la persona o la entidad a la que expresamente se le ha enviado, y puede contener información confidencial o material privilegiado. Si usted no es el destinatario legítimo del mismo, por favor repórtelo inmediatamente al originador del correo o bórralo. Cualquier revisión, retransmisión, difusión o cualquier otro uso de este correo, por personas o entidades distintas a las del destinatario legítimo, queda expresamente prohibida. Este correo electrónico no pretende ni debe ser considerado como constitutivo de ninguna relación legal, contractual o de otra índole similar.

**From:** [YANI CHACIN](#)  
**To:** [Donofrio, Kristen L CTV USARMY CESA1 \(USA\)](#)  
**Subject:** [Non-DoD Source] Sandbar  
**Date:** Friday, December 20, 2019 6:58:11 PM

---

Hi Kristen,

Please do not take our Enjoyment from the sandbar. This is our pleasure family time we will be devastated by you guys removing the sand. That will make me and my family very unhappy and sad.  
Please let me know what we need to do to stop this.

Happy Holidays.

Best regards,

Thank you,

Yani Chacin  
President  
Valet Connect LLC  
<webkit-fake-url://bf4e8737-3a0d-46ae-8fba-9afd80c95d0c/imagepng>

Sent from my iPhone

**From:** [Miguel Leyva](#)  
**To:** [Donofrio, Kristen L CIV USARMY CESA1 \(USA\)](#)  
**Subject:** [Non-DoD Source] Please stop dredging Haulover  
**Date:** Friday, December 20, 2019 7:26:29 PM

---

Please stop dredging houlover Sandbar, it's a family place where hundredth of thousands people go weekly to enjoy a great day, bussiness and community will suffer this issue.

Thanks

Mike Flyr  
Sent from my iPhone

Sent from my iPhone

**From:** [Martha Gomez](#)  
**To:** [Donofrio, Kristen L CIV USARMY CESA1 \(USA\)](#)  
**Subject:** [Non-DoD Source] Stop  
**Date:** Friday, December 20, 2019 7:35:24 PM

---

Stop

Sent from my iPhone

**From:** [Yaki Hazoom](#)  
**To:** [Donofrio, Kristen L CIV USARMY CESAJ \(USA\)](#)  
**Subject:** [Non-DoD Source] Bal Harbour Scoping Comments  
**Date:** Friday, December 20, 2019 7:58:26 PM

---

My family & my friends every weekend's enjoyed the sandbar at haulover and is gonna be very bad to last this must beautiful place in Miami or in this world, every weekend's we come with a lot kids and friends play eat and all the water toys, and is gonna very bad to lose this kind beautiful place.  
Please don't make the dredging the sandbar for us and for the people come from all the world.  
I hope is gonna stay there forever please don't destroy are house.  
Thank you and have a nice weekend

Sent from my T-Mobile 4G LTE Device

**From:** [Mark Johnson](#)  
**To:** [Donofrio, Kristen L CIV USARMY CESAJ \(USA\)](#)  
**Subject:** [Non-DoD Source] Bal harbor scoping comments.  
**Date:** Friday, December 20, 2019 7:03:47 PM

---

I would like to request the corps of engineers consider the economic and environmental impacts associated with extensive dredging of the Sandbar.

The selection of this area is based solely on reducing the cost to the Hotels requesting the sand.

The sandbar represents a significant tourist attraction and many tourists visiting the area will not enjoy this special place, not to mention the small businesses.

There are other locations such as a shoal to the south of the Haulover cut. This shoal represents a hazard to navigation, especially at low tide. The dredging of this alternate area would improve the connection of the Haulover Inlet to the ICW.

Please also consider the environmental impact as removal of the northern shoal of Haulover Sandbar would have a significant impact on inflows to the Oleta wildlife areas.

Truly Yours  
Mark Johnson

**From:** [MARCO MORENO](#)  
**To:** [Donofrio, Kristen L\\_CIV USARMY CESAJ \(USA\)](#)  
**Subject:** [Non-DoD Source] Bal Harbour Sand Bar  
**Date:** Friday, December 20, 2019 7:09:28 PM

---

Please Stop the digging of the Sand bar, it is the only area we have to Relaxing

Thanks

Sent from my iPhone

**From:** [Mathieu Chayegan](#)  
**To:** [Donofrio, Kristen L CTV USARMY CESAJ \(USA\)](#)  
**Subject:** [Non-DoD Source] Haulover Sandbar  
**Date:** Saturday, December 21, 2019 4:07:08 AM

---

Hello Kristen,

My name is Mathieu Chayegan and I live in Bal Harbor.

Please note I'm fully opposed to the project to destroy sand from the Haulover sandbar.

I go there every weekend with my boat and have enjoyed it for years. Although it's unfortunate the beach is eroding, taking the sand from the sand bar is only shifting and delaying the problem.

Rather than destroy the sandbar, why don't we bring sand from somewhere else? That's what we'll ultimately have to do in the future.

There are so many shallow parts in the bay where we can take sand from without touching the Haulover sandbar.

Let's protect the sandbar for all the families who enjoy it every weekend. It's what's make Bal Harbor so unique for boaters.

Thank you for taking this into consideration.

Best regards,

Mathieu

--

Mathieu Chayegan

**From:** [Lance Matekel](#)  
**To:** [Donofrio, Kristen L CTV USARMY CESAJ \(USA\)](#)  
**Subject:** [Non-DoD Source] "Bal Harbour NEPA Scoping Comments"  
**Date:** Saturday, December 21, 2019 12:24:09 PM

---

Hello Kristen,

I'm writing to let you know the reasons why you should not take sand from the Bal Harbour sandbar. My name is Lance Matekel. I live on the south end of Sunny Isles Beach next to Haulover Park. I frequent the beach, the park and The Sandbar two to three times per week. We enjoy going to The Sandbar in our boat as well as taking kayak rides out there and lounging in the sunshine and meeting with our friends and making new ones. It's also nice that they have vendors there to enjoy food and snacks.

My family, friends and I love it so much and it's fun for everybody and there is nothing anywhere else like it.

It's my understanding that it is the sand and silt that comes from the Oleta River and the Atlantic ocean that form The Sandbar. It will take several years for this to reform. In the meantime the folks here in our community won't have this South Florida Paradise for a very long time.

There are plenty of places in Florida to get Beach Quality Sand and truck it in. It may be a bit more costly but think of the effect that the removal of the Bal Harbour Sandbar will have on the lives of the people and families who depend on this area that live and visit the sandbar, not to mention the livelihood of the vendors who work there and provide the many delicious food options available to us.

Please, I hope we can figure out other options to get sand to Bal Harbour Beach other than from The Sandbar. The removal of the Sandbar would be devastating to many thousands who visit throughout the year.

Best regards,  
Lance Matekel

**From:** [Daniel Menendez](#)  
**To:** [Donofrio, Kristen L\\_CTV USARMY CESAJ \(USA\)](#)  
**Cc:** [Luis Felipe d'Empaire Etcheberry](#); [Leo Ormo](#); [Daniel Menendez](#); [Juan Faria](#)  
**Subject:** [Non-DoD Source] We disagree with sand bar dredging.  
**Date:** Saturday, December 21, 2019 8:51:10 PM

---

Kristen:

We as boaters are disagreeing with the dredging of the haulover sand bar. We have a very large community with families in keystone point that use the sandbar with our kids weekly and sometimes daily.

We can collect many signatures to override this ridiculous dredging.

Please contact me if you have any questions.

Daniel Menendez; architect  
13200 Biscayne Bay Terrace  
Miami Fl 33181  
305 502 5877

Sent from my iPhone

**From:** [RAFAEL ANTONIO Rodriguez](#)  
**To:** [Donofrio, Kristen L CTV USARMY CESA1 \(USA\)](#)  
**Subject:** [Non-DoD Source]  
**Date:** Saturday, December 21, 2019 4:17:45 AM

---

Please stop this.

**From:** [daldrich@aol.com](mailto:daldrich@aol.com)  
**To:** [Donofrio, Kristen L CTV USARMY CESA1 \(USA\)](#)  
**Subject:** [Non-DoD Source] Bal Harbor Scoping Comments  
**Date:** Monday, December 23, 2019 3:41:55 PM  
**Attachments:** [ima 8864.png](#)  
[ima 8865.png](#)

---

Dear Ms. Donofrio,

I am writing to express my concern about the consideration of a proposal to dredge sand from the Bal Harbor Inlet (BHI) shoals. The shoals provide a unique protected area enjoyed by hundreds of people. The shallow water free from surf makes the area particularly attractive for those of us with young grandchildren. I have attached photos of my then pregnant daughter and her 18 month old daughter enjoying the sand bar.

There are miles of ocean front beach in Dade County but only one other area near Key Biscayne that is even similar to Bal Harbor Inlet.

Please reject the proposal to dredge the BHI shoals to provide sand for the beach.

Sincerely,  
David Aldrich  
7207 Bay Dr, Unit 1  
Miami Beach, FL 33141  
786-385-3757

Sent from AOL Mobile Mail  
Get the new AOL app: [mail.mobile.aol.com](http://mail.mobile.aol.com) <Blocked<http://mail.mobile.aol.com>>

**From:** [Jose Vega](#)  
**To:** [Donofrio, Kristen L CTV USARMY CESA1 \(USA\)](#); [major@balharbourfl.gov](mailto:major@balharbourfl.gov); [Alex Harris](#)  
**Subject:** [Non-DoD Source] Bal Harbour Scoping Comments  
**Date:** Tuesday, December 24, 2019 1:24:46 PM

---

Dear Kristen,

As today is the last day for receiving comments, I only wish the US Corps of Engineers makes the right decision. There are infinite sources of sand, still financially viable.

Dredging the Haulover sandbar will definitively and negatively impact this tourist destination in the heart of Miami. It will also affect my business SHAWARMA AT HAULOVER!!

As I stand in front of the sandbar as I write this last comment, I pray that your institution finds a better solution for everyone!

I will remain alert to the decision in February.

Merry Christmas and a Happy New Year.

Jose Vega, esq.

Sent from my iPhone

**From:** [Roberto Ruiz](#)  
**To:** [Donofrio, Kristen L CTV USARMY CESAJ \(USA\)](#)  
**Subject:** [Non-DoD Source] Bal Harbour Scoping comments  
**Date:** Wednesday, December 25, 2019 1:19:18 PM

---

Merry Christmas - As a frequent visitor to the Haulover sandbar I am writing to you to reconsider the dredging of the sand bar. Sand can be sourced from other places rather than eliminating a great site for boating and recreation and a source of work for several families who sell food as well as for the marinas around. Thanks for your consideration.

Roberto Ruiz  
North bay village.

**APPENDIX F PUBLIC AND AGENCY PROJECT COMMENTS  
F-2: NEPA REVIEW COMMENTS AND USACE RESPONSES**

THIS PAGE INTENTIONALLY LEFT BLANK FOR DUPLEX PRINTING

**From:** [Stahl, Chris](#)  
**To:** [DeMarco, Paul M CIV USARMY CESAJ \(USA\)](#)  
**Cc:** [State Clearinghouse](#)  
**Subject:** [Non-DoD Source] RE: State Clearance Letter for FL202004078913C - Draft Environmental Assessment (EA) and Proposed Finding of No Significant Impact (FONSI) for Beach Renourishment of Bal Harbour Beach- Miami-Dada County, Florida.  
**Date:** Tuesday, June 2, 2020 12:42:57 PM  
**Attachments:** [20200504\\_FWC\\_BalHarbor\\_DraftEA\\_ltr.pdf](#)

---

June 2, 2020

Paul M. Demarco  
U.S. Army Corps of Engineers  
Jacksonville Dist., Planning & Policy Division  
P. O. BOX 4970  
Jacksonville, Florida 32232-0019

RE: Department of the Army, Jacksonville District Corps of Engineers - Draft Environmental Assessment (EA) and Proposed Finding of No Significant Impact (FONSI) for Beach Renourishment of Bal Harbour Beach- Miami-Dada County, Florida.  
SAI # FL202004078913C

Dear Paul:

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

The Department of Environmental Protection's Southeast District has the following comments on the project: 1. It appears that submerged water and sewer mains maybe present within nearby water bodies and assurance(s) provided that pipes, if present will not be damaged. In addition, the Miami-Dade North District WWTF has an ocean outfall that transport treated wastewater to the ocean that crosses and Biscayne Bay adjacent to Haulover Beach. No dredging operation should occur within say 100 feet from the location of the large 90-inch outfall. 2. Assurance should be provided that all underground or above ground utilities identified within the project or adjacent areas of the dredging will not be damaged. 3. A joint coastal permit (JCP) through the Beaches, Inlets and Ports Program (BIPP) will be required. beach restoration/nourishment projects. 4. Areas of sources of sand for re-nourishment should be screened for contamination ([Blockedhttps://ca.dep.state.fl.us/mapdirect/?webmap=bdfa237157c7426a8f552e40a741685e](https://ca.dep.state.fl.us/mapdirect/?webmap=bdfa237157c7426a8f552e40a741685e) .

The Florida Fish and Wildlife Conservation Commission has reviewed the proposed action and submitted comments. As a courtesy, these have been attached to this letter and are incorporated hereto.

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 Mercedes Harrold, Historic Preservationist, by email at [Mercedes.Harrold@dos.myflorida.com](mailto:Mercedes.Harrold@dos.myflorida.com), or by telephone at 850.245.6342 or 800.847.7278.

Based on the information submitted and minimal project impacts, the subject project is consistent with the Florida Coastal Management Program (FCMP). The state's final concurrence of the project's consistency with the FCMP will be determined during any environmental permitting processes, in accordance with Section 373.428, Florida Statutes, if applicable.

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

Sincerely,

*Chris Stahl*

Chris Stahl, Coordinator  
Florida State Clearinghouse  
Florida Department of Environmental Protection  
3800 Commonwealth Blvd., M.S. 47  
Tallahassee, FL 32399-2400  
ph. (850) 717-9076  
[State.Clearinghouse@floridadep.gov](mailto:State.Clearinghouse@floridadep.gov)



**From:** [Bradley Mueller](#)  
**To:** [Donofrio, Kristen L CIV USARMY CESAJ \(USA\)](#)  
**Subject:** [Non-DoD Source] USACE P&P – Beach Renourishment Bal Harbour Draft EA and FONSI, Miami-Dade County, Florida  
**Date:** Friday, May 1, 2020 4:14:44 PM

---

May 1, 2020

Ms. Kristen L. Donofrio

Department of the Army

Jacksonville District Corps of Engineers

701 San Marco Boulevard

Jacksonville, FL 32207

Phone: 904-232-2918

Email: [Kristen.L.Onofrio@usace.army.mil](mailto:Kristen.L.Onofrio@usace.army.mil) <<mailto:Kristen.L.Onofrio@usace.army.mil>>

Subject: USACE P&P – Beach Renourishment Bal Harbour Draft EA and FONSI, Miami-Dade County, Florida

THPO Compliance Tracking Number: 0032401

Dear Ms. Onofrio,

Thank you for contacting the Seminole Tribe of Florida – Tribal Historic Preservation Office (STOF-THPO), Compliance Section regarding the USACE P&P – Beach Renourishment Bal Harbour Draft EA and FONSI, Miami-Dade County, Florida. The proposed undertaking does fall within the STOF Area of Interest. We have reviewed the documents you provided and would like to provide the following comments.

1. We agree with the proposed FONSI determination of no effect to historic properties within the Bakers Haulover Inlet Channel and the Bakers Haulover Inlet Shoal sand sources. Those areas appear to have been adequately surveyed for historic properties with negative results, However,

2. We did not see evidence in the EA to support the determination that the use of the two upland sand sources, Garcia Family Farm, LLC, in Henry County, and Cemex Construction Material Florida, LLC, in Polk County would not affect historic properties. We noted that page (iii) of the proposed FONSI does not make a determination of no effect for either of these two upland sources, we merely wanted to bring this to your attention since page (i) of the FONSI seems to imply that the Garcia and Cemex sources were being evaluated. If either of these upland sources will be used then we would expect NHPA Section 106 consultation with the U.S. Army Corps of Engineers.

Please feel free to contact us with any questions or concerns.

Respectfully,

Bradley M. Mueller, MA, Compliance Specialist

STOF-THPO, Compliance Review Section

30290 Josie Billie Hwy, PMB 1004

Clewiston, FL 33440

Office: 863-983-6549 ext 12245

Fax: 863-902-1117

Email: [bradleymueller@semtribe.com](mailto:bradleymueller@semtribe.com) <<mailto:bradleymueller@semtribe.com>>

Web: Blocked[www.stofthpo.com](http://www.stofthpo.com) <Blocked<http://www.stofthpo.com>>

Blocked<https://indiancountrytoday.com/news/seminole-museum-to-smithsonian-no-more-stolen-ancestors-3IEwu0-F-0Gv84kN0iQhJw> <Blocked<https://indiancountrytoday.com/news/seminole-museum-to-smithsonian-no-more-stolen-ancestors-3IEwu0-F-0Gv84kN0iQhJw>>

DOWNLOAD THE DIGITAL BOOK – EGMONT KEY: A SEMINOLE STORY

<Blocked<https://www.semtribe.com/STOF/full-events/2019/11/06/default-calendar/egmont-key---seminole-history-digital-book>>

April 6, 2020

Col. Andrew D. Kelly Jr.  
Planning and Policy Division  
Environmental Branch  
Department of the Army  
Jacksonville District Corps of Engineers  
701 San Marco Boulevard  
Jacksonville, FL 32207-8175

**RE: NOA of the EA and FONSI for Beach Renourishment of Bal Harbour Beach, Miami Dade.**

**OPPOSITION TO DREDGING THE BHI FLOOD SHOAL**

Dear Colonel Andrew D. Kelly Jr.,

It is extremely difficult for me to understand, more so amidst the COVID-19 crisis, that we the lay people, have 30 days to objectively evaluate the documents in reference, when as of this morning, the "Draft Environmental Assessment" is a 329 pages long document, and it is a "DRAFT" version allegedly dated 02/28/2020 and signed by you. Could you kindly clarify if this is a final version so that I can pass it along the experts in the topic? Until then, I reserve the right to address at a future date, any of the environmental and/or technical issues.

On the last paragraph of the "Proposed FONSI" signed by you, you indicate: "...it is my determination that the Preferred Alternative would not significantly affect the quality of the human environment and is not contrary to the public interest; therefore, preparation of an Environmental Impact Statement is not required."

I respectfully disagree with your determination. Dredging the BHI Flood Shoal will indeed "significantly affect the quality of the human environment", and is indeed, "contrary to the public interest." It will certainly affect our food boat operation **SHAWARMA AT HAULOVER** at the BHI Flood Shoal, also known as the "Haulover Sandbar" or in Spanish "*Bajito de Haulover*", which has financially sustained our family since 2015.

According to WikiPedia, the City of Bal harbor has an "estimated population of 3,039 inhabitants as of 2018" and a "total land area of 0.38 square miles."

Conversely, the BHI Flood Shoal receives thousands of boaters, kayakers, jet skiers and beachgoers all year round. It provides a "quality of life" to Miami residents and tourists, who go there to enjoy and relax 24/7/365.



In addition, the BHI Flood Shoal generates important revenues to the local economy, from parking lot, gas stations, mechanics, marinas, taxes, law enforcement fines, etc. In particular, as mentioned, it generates the main income to our family, and to 5 other food boats.

There is no other viable way to continue our business operation, as we would not be able to congregate such number of patrons, in such a good "mood", willing to pay for the quality of our products.

In sum, if you dredge the BHI Flood Shoal, you will put us out of business amidst COVID-19 financial crisis. When the "shelter in place" and other restrictions are lifted, the thousands of people who go there on a daily basis, will be deprived of the "quality of human environment", not only during the dredging process, but thereafter, until the sandbar replenishes itself in the years to come.

**Dredging the BHI Flood Shoal, to benefit such the small Jewish population of Bal Harbour, just to benefit a few landlords, is indeed, according to my standards, against Public Policy.**

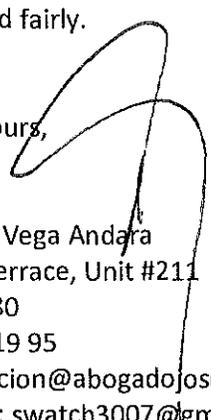
In the meantime, I will contact all of our regular patrons, including famous singer Chayanne, owner of Larkin Hospital Dr. Jack Michel, professional car racer Oswaldo Negri, Miami Herald news reporter Alex Harris, to name a few, to help stop the dredging of the BHI Flood Shoal. I will also form a coalition with remaining 5 food vendors, Haulover Gas Station and Oleta Park operators, to better direct the efforts to stop the dredging of the BHI Flood Shoal.

Ultimately, there are many other sources of sand, and the BHI Flood Shoal will not be dredged for the purposes of "improving navigation."

I am an attorney admitted to practice law in New York and Venezuela. However, I have been blessed to have found a job that I enjoy to the fullest: Working with the wonderful people that gather at the Haulover Sandbar, together with my beloved wife, and the help of our two daughters.

Lastly, but not least important, I will be seeking money damages as dredging the BHI Flood Shoal for purposes other than to improve navigation, is definitively a Government taking as to the revenues of our business operation, and as to the enjoyment of the Haulover Sandbar, unless we can settle this matter expediently and fairly.

Respectfully yours,



Jose Alejandro Vega Andara  
2641 NE 212 Terrace, Unit #211  
Miami, FL 33180  
CEL (786) 307 19 95  
Email: [informacion@abogadojosevega.com](mailto:informacion@abogadojosevega.com)  
Personal email: [swatch3007@gmail.com](mailto:swatch3007@gmail.com)

## Ornella, Michael A II CIV USARMY CESAJ (USA)

---

**From:** Donofrio, Kristen L CIV USARMY CESAJ (USA)  
**Sent:** Monday, April 27, 2020 8:07 AM  
**To:** Jose Vega  
**Subject:** Receipt of April 6, 2020 letter  
**Attachments:** scannedDoc (003).pdf

Good morning, Mr. Vega.

Thank you for your letter dated April 6, 2020. The document that is currently available for review and comment is a draft environmental assessment (EA), and it has not yet been finalized or signed. The notation "DRAFT 02/28/20" is a typo which should have been updated to reflect the release date of the draft EA in April 2020. In consideration of the resources and public interest in this project, the Corps held a scoping period in November - December 2019 along with two public meetings (on November 20, 2019) to capture initial comments on the project and inform the development of the document. The draft EA was released for agency and public review and comment on April 3, 2020. Comments submitted during the draft EA's review and comment period will be compiled and responded to in the final EA. The public and agency review and comment period on the draft EA is open through May 4, 2020.

Thank you for your comments.

Kristen Donofrio  
Senior Biologist  
Planning Division, Environmental Branch  
U.S. Army Corps of Engineers  
Jacksonville District (PD-EC)  
701 San Marco Boulevard  
Jacksonville, FL 32207-8175

 (904) 232-2918 (O)

 (904) 318-0372 (C)

 (904) 232-3442 (F)

Kristen.L.Donofrio@usace.army.mil

 Please consider the environment before printing this email.