



**UNITED STATES DEPARTMENT OF COMMERCE**  
**National Oceanic and Atmospheric Administration**  
**NATIONAL MARINE FISHERIES SERVICE**  
 Southeast Regional Office  
 263 13<sup>th</sup> Avenue South  
 St. Petersburg, Florida 33701-5505  
<https://www.fisheries.noaa.gov/region/southeast>

F/SER31:KBD  
 SERO-2020-02197  
 SERO-2020-02201

Ingrid Gilbert, Chief  
 Miami Permits Section  
 Jacksonville District Corps of Engineers  
 Department of the Army  
 9900 Southwest 107<sup>th</sup> Avenue, Suite 203  
 Miami, Florida 33176

Dear Ingrid Gilbert:

The enclosed Biological Opinion (Opinion) was prepared by the National Marine Fisheries Service (NMFS) pursuant to Section 7(a)(2) of the Endangered Species Act (ESA) for the following actions:

Permit Number	Applicant	SERO Number (ECO)	Project Types
SAJ-2020-02144	Olivier Francois	SERO-2020-02197	Dock, Lift & Riprap
SAJ-2020-01424	Murray Design & Construction LLC	SERO-2020-02201	Dock, Lift & Seawall Cap

We are responding to your consultation request in a batched format. We have batched these projects based on the location, type of project, construction methods, and species and critical habitat that may be affected. This Opinion analyzes the potential for the projects to affect green sea turtle (North and South Atlantic distinct population segments [DPSs]), hawksbill sea turtle, Kemp’s ridley sea turtle, loggerhead sea turtle (Northwest Atlantic DPS), giant manta ray, smalltooth sawfish (United States DPS), and designated critical habitat for Johnson’s seagrass. This analysis is based on project-specific information provided by the U.S. Army Corps of Engineers (USACE), the consultant, and NMFS’s review of published literature. We conclude that the proposed actions are likely to adversely affect, but are not likely to destroy or adversely modify Johnson’s seagrass critical habitat. The Opinion includes conservation recommendations for your consideration.

We look forward to further cooperation with you on other USACE projects to ensure the conservation and recovery of our threatened and endangered marine species. Please refer to the ECO number in all future inquiries regarding this consultation. Please direct questions regarding this Opinion to Kay Davy, Consultation Biologist, by phone at (727) 415-9271, or by email at [Kay.Davy@noaa.gov](mailto:Kay.Davy@noaa.gov).

Sincerely,

Andrew J. Strelcheck  
 Acting Regional Administrator

Enclosure: Biological Opinion  
 File: 1514-22.f.4



**Endangered Species Act - Section 7 Consultation  
Biological Opinion**

**Action Agency:** U.S. Army Corps of Engineers, Jacksonville District

**Applicants:**

<b>Permit Numbers</b>	<b>Applicants</b>
SAJ-2020-02144	Olivier Francois
SAJ-2020-01424	Murray Design & Construction LLC

**Activities:** Dock and Seawall Construction and Boat Lift Installation, Miami Beach, Miami-Dade County, Florida

**Consulting Agency:** National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Southeast Regional Office, Protected Resources Division, St. Petersburg, Florida

<b>Applicants</b>	<b>SERO Numbers</b>
Olivier Francois	SERO-2020-02197
Murray Design & Construction LLC	SERO-2020-02201

**Approved By:**

---

Andrew J. Strelcheck, Acting Regional Administrator  
NMFS, Southeast Regional Office  
St. Petersburg, Florida

**Date Issued:**

---

## TABLE OF CONTENTS

---

1	CONSULTATION HISTORY .....	5
2	DESCRIPTION OF THE PROPOSED ACTION AND ACTION AREA.....	5
3	STATUS OF LISTED SPECIES AND CRITICAL HABITAT.....	8
4	ENVIRONMENTAL BASELINE.....	15
5	EFFECTS OF THE ACTION ON CRITICAL HABITAT .....	17
6	CUMULATIVE EFFECTS .....	19
7	DESTRUCTION/ADVERSE MODIFICATION ANALYSIS .....	20
8	CONCLUSION.....	22
9	INCIDENTAL TAKE STATEMENT .....	22
10	CONSERVATION RECOMMENDATIONS .....	22
11	REINITIATION OF CONSULTATION.....	23
12	LITERATURE CITED .....	24

## LIST OF FIGURES

---

Figure 1. Image showing the Francois project site on Biscayne Bay at 316 W DiLido.....	7
Figure 2. Image showing the Murray project site on Biscayne Bay at 720 W DiLido.....	8
Figure 3. Johnson’s seagrass critical habitat Unit J (©2015 Google, Data SIO, NOAA, U.S. Navy, NGA, GEBCO) .....	14

## LIST OF TABLES

---

Table 1. Effects Determinations for Species the Action Agency and/or NMFS Believes May Be Affected by the Proposed Actions .....	9
Table 2. Effects Determinations for Designated Critical Habitat the Action Agency and/or NMFS Believe May Be Affected by the Proposed Actions .....	9
Table 3. Designated Critical Habitat Units for Johnson’s Seagrass .....	13

## ACRONYMS AND ABBREVIATIONS

---

CFR	Code of Federal Regulations
DPS	Distinct Population Segment
ECO	NMFS Environmental Consultation Organizer
ESA	Endangered Species Act
MHWL	Mean High Water Line
MLW	Mean Low Water
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
Opinion	Biological Opinion
PRD	NMFS Southeast Regional Office Protected Resources Division
U.S.	United States
USACE	U.S. Army Corps of Engineers

## UNITS OF MEASUREMENT

---

ac	acre(s)
ft	foot/feet
ft <sup>2</sup>	square foot/feet
in	inch(es)
km	kilometer(s)
mi	mile(s)

## INTRODUCTION

---

Section 7(a)(2) of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. § 1531 et seq.), requires that each federal agency ensure that any action authorized, funded, or carried out by such agency is not likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of critical habitat of such species. Section 7(a)(2) requires federal agencies to consult with the appropriate Secretary in carrying out these responsibilities. The National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS) and the United States Fish and Wildlife Service share responsibilities for administering the ESA.

Consultation is required when a federal action agency determines that a proposed action “may affect” listed species or designated critical habitat. Informal consultation is concluded after NMFS determines that the action is not likely to adversely affect listed species or critical habitat. Formal consultation is concluded after NMFS issues a Biological Opinion (“Opinion”) that identifies whether a proposed action is likely to jeopardize the continued existence of a listed species, or destroy or adversely modify critical habitat, in which case reasonable and prudent alternatives to the action as proposed must be identified to avoid these outcomes. The Opinion states the amount or extent of incidental take of the listed species that may occur, develops measures (i.e., reasonable and prudent measures) to reduce the effect of take, and recommends conservation measures to further the recovery of the species.

This document represents NMFS’s Opinion based on our review of impacts associated with the proposed actions within Miami-Dade County, Florida. This Opinion analyzes the projects’ effects on threatened and endangered species and designated critical habitat, in accordance with Section 7 of the ESA. We based our Opinion on project information provided by the Jacksonville District of the U.S. Army Corps of Engineers (USACE) and other sources of information, including the published literature cited herein.

## 1 CONSULTATION HISTORY

---

The following are consultation histories for the two projects evaluated in this batched biological opinion (Opinion). NMFS batched these consultations into one Opinion due to the similarities in project location, scope, and scale, and effects to ESA-listed species and designated critical habitat.

1. The first consultation history is for NMFS Environmental Consultation Organizer (ECO) identifier number SERO-2020-02197 Francois Dock & Boat Lift. On July 24, 2020, NMFS received a request for formal consultation under Section 7 of the ESA from the USACE for construction permit application SAJ-2020-02144 and initiated consultation the same day.
2. The second is the consultation history for ECO identifier number SERO-2020-02201, Murray Design & Construction LLC Dock & Lift. On July 28, 2020, NMFS received a request for formal consultation under Section 7 of the ESA from the USACE for construction permit application SAJ-2020-01424 and initiated consultation the same day.

## 2 DESCRIPTION OF THE PROPOSED ACTIONS AND ACTION AREAS

---

### 2.1 Proposed Actions

#### 1. *Francois Dock & Boat Lift*

The USACE proposes to permit the applicant to install a new 260 square foot (ft<sup>2</sup>) marginal dock and 80 ft<sup>2</sup> finger pier with 0.5 in spacing supported by 6 new 12-inch (in) diameter wood piles and 4 new 12-in concrete piles, install 3 new 12-in wood fender piles and a double jet ski lift, and place limestone riprap boulders up to 8 ft waterward along the shoreline for a distance of 60 ft on top of existing riprap. The majority of the dock will be 5.8 ft above the mean high water line (MHWL), but there is a small (40 ft<sup>2</sup>) portion of the dock that is proposed at 3.9 ft above the MHWL. The proposed work will result in a total of 3 new vessel slips, which includes the double jet ski lift. Piles will be installed via impact hammer, and no more than 10 piles will be installed per day. Total construction time is expected to be 5 weeks, during daylight hours only. The applicant will use turbidity curtains and comply with NMFS's *Sea Turtle and Smalltooth Sawfish Construction Conditions*.<sup>1</sup> Work will be completed from the uplands and a barge.

#### 2. *Murray Design & Construction LLC Dock & Boat Lift*

The USACE proposes to permit the applicant to install a new 185.5 ft<sup>2</sup> wood dock with 0.5 in spacing supported by 8 new 12-in diameter wood piles, a boat lift supported by 4 new 12-in diameter wood piles, and a new seawall cap with 13 new 12-in diameter concrete king piles. The upper portion of the dock will be positioned 6.5 ft above the MHWL and a lower portion of the dock will be positioned 4.3 ft above the MHWL. The proposed work will result in 1 new vessel slip. Piles will be installed via impact hammer, and no more than 5 piles will be installed per day. Total construction time is expected to be 5 weeks, during daylight hours only. The applicant will

---

<sup>1</sup> NMFS. 2006. Sea Turtle and Smalltooth Sawfish Construction Conditions revised March 23, 2006. National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Southeast Regional Office, Protected Resources Division, Saint Petersburg, Florida. ([Sea Turtle and Smalltooth Sawfish Construction Conditions](#)).

use turbidity curtains and comply with NMFS's *Sea Turtle and Smalltooth Sawfish Construction Conditions*.<sup>2</sup> Work will be completed from the uplands and a barge.

## 2.2 Action Areas

The action area is defined by regulation as “all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action” (50 CFR 402.02). For the purposes of the Federal actions, the action area includes the shoreline and submerged habitat within the immediate vicinity of the project sites that will be affected by the proposed actions, including the submerged habitat within the boundary of the turbidity curtain.

Both project sites fall within the boundaries of Johnson’s seagrass designated critical habitat Unit J, which encompasses the northern portion of Biscayne Bay from Northeast 163<sup>rd</sup> Street south to Central Key Biscayne at 25°45’N and are located on the same street.

### 1. Francois Dock & Boat Lift

The proposed project site is located at 316 West DiLido Drive, Miami Beach, Miami-Dade County, Florida (25.789587°N, 80.159722°W [North American Datum 1983] (Figure 1). The project site is a residential property on Biscayne Bay with an existing seawall and riprap at the base of the seawall. The project site is located approximately 2.6 miles from Government Cut, the nearest inlet to the Atlantic Ocean.

Based on our noise analysis, the action area is equivalent to the radius of behavioral noise effects to ESA-listed fishes based on the Francois project’s installation of 12-in by 12-in concrete piles and 12-in diameter wood piles using an impact hammer (i.e., 705-ft behavioral noise radius).

A benthic assessment was performed by Miami-Dade County on February 4, 2020. The existing substrate in the project area was described as “sandy/silty” in the benthic report with water depths ranging between -3.0 to -6.0 ft at mean low water (MLW). Sparse paddle grass was found approximately 11.3 ft waterward of the existing seawall. In addition, there is one species of non-ESA listed coral present (i.e., *Siderastrea siderea*). There are no mangroves, Johnson’s seagrass, or ESA-listed corals in the project area.

---

<sup>2</sup> NMFS. 2006. Sea Turtle and Smalltooth Sawfish Construction Conditions revised March 23, 2006. National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Southeast Regional Office, Protected Resources Division, Saint Petersburg, Florida. ([Sea Turtle and Smalltooth Sawfish Construction Conditions](#)).



**Figure 1. Image showing the Francois project site on Biscayne Bay at 316 W DiLido Drive, Miami Beach, Miami-Dade County, Florida (©2021 Google)**

## 2. Murray Design & Construction LLC Dock & Boat Lift

The proposed project site is located at 720 West DiLido Drive, Miami Beach, Miami-Dade County, Florida (25.793963°N, 80.160262°W [North American Datum 1983] (Figure 2). The project site is a residential property on Biscayne Bay with an existing seawall and T-piles. The project site is located approximately 2.9 miles from Government Cut, the nearest inlet to the Atlantic Ocean, and approximately 0.3 miles north of the Francois Dock & Boat Lift project site.

Based on our noise analysis, the action area is equivalent to the radius of behavioral noise effects to ESA-listed fishes based on the Murray project's installation of 12-in by 12-in concrete piles and 12-in diameter wood piles using an impact hammer (i.e., 705-ft behavioral noise radius).

A benthic assessment was performed by Miami-Dade County on January 13, 2020. The existing substrate in the project area was described as "sandy/silty" in the benthic report with water depths ranging between -1.0 to -5.0 ft at MLW. Macroalgae are present in the project area, but no seagrasses were found. In addition, there are species of non-ESA listed corals present (i.e., *Siderastrea spp*) located on the existing seawall. There are no mangroves, Johnson's seagrass, or ESA-listed corals in the project area.



**Figure 2. Image showing the Murray project site on Biscayne Bay at 720 W DiLido Drive, Miami Beach, Miami-Dade County, Florida (©2021 Google)**

### **3 STATUS OF LISTED SPECIES AND CRITICAL HABITAT**

---

We believe the species listed in Table 1 may be present within the action areas.



**Table 1. Effects Determinations for Species the Action Agency and/or NMFS Believes May Be Affected by the Proposed Actions<sup>3</sup>**

Species	ESA Listing Status	Action Agency Effect Determination	NMFS Effect Determination
<b>Sea Turtles</b>			
Green (North Atlantic [NA] distinct population segment [DPS])	T	NLAA	NLAA
Green (South Atlantic [SA] DPS)	T	NLAA	NLAA
Kemp's ridley	E	NLAA	NLAA
Leatherback	E	NLAA	NE
Loggerhead (Northwest Atlantic [NWA] DPS)	T	NLAA	NLAA
Hawksbill	E	NLAA	NLAA
<b>Fish</b>			
Smalltooth sawfish (U.S. DPS)	E	NLAA	NLAA
Giant manta ray	T	NE	NLAA

We believe the projects will have no effect on the leatherback sea turtle due to the species' very specific life history strategy, which is not supported at the project sites. Leatherback sea turtles have a pelagic, deepwater life history, where they forage primarily on jellyfish.

Table 2 provides the effects determinations for designated critical habitat occurring in the action areas that the USACE and/or NMFS believe may be affected by the proposed actions.

**Table 2. Effects Determinations for Designated Critical Habitat the Action Agency and/or NMFS Believe May Be Affected by the Proposed Actions**

Species	Unit	USACE Effect Determination	NMFS Effect Determination
Johnson's seagrass	Unit J	Likely to adversely affect	Likely to adversely affect, will not destroy or adversely modify

### 3.1 Potential Routes of Effect Not Likely to Adversely Affect Listed Species

Effects to sea turtles, smalltooth sawfish, and giant manta ray include the potential for injury from construction equipment or materials. We believe this effect is extremely unlikely to occur. Because these species are highly mobile, we expect them to move away from the project sites and into nearby suitable habitat, if disturbed. The applicants have also agreed to adhere to NMFS's *Sea Turtle and Smalltooth Sawfish Construction Conditions*, which will further reduce the risk of injury by requiring all construction personnel to watch for sea turtles and smalltooth sawfish. Operation of any mechanical construction equipment will cease immediately if a sea turtle or smalltooth sawfish is seen within a 50-ft radius of the equipment. Activities will not resume until the protected species has departed the project area of its own volition.

<sup>3</sup> E = endangered; T = threatened; NLAA = may affect, not likely to adversely affect; NE = no effect.

The action areas contain habitat that may be used by sea turtles, smalltooth sawfish, and giant manta ray. These species may be affected by their inability to access the habitat within the action areas due to their avoidance of construction activities and the use of turbidity curtains. We believe temporary loss of habitat access for these species will be insignificant given the proposed actions will be temporary and intermittent (i.e., proposed work will be 5 weeks, and construction will occur during daylight hours only) and will only occur within small areas adjacent to otherwise open water. In addition, because these species are mobile, we expect that they will move away from construction activities and to adjacent areas in Biscayne Bay with similar habitat. The action areas does not contain mangroves, which are used as refuge habitat by smalltooth sawfish; therefore, the proposed actions will not affect the sheltering behavior of the smalltooth sawfish.

An increase in vessel traffic in the area may result from the addition of 4 new vessel slips, which includes a double jet ski lift and 1 boat lift for the Francois project, and a single boat lift for the Murray project. Sea turtles and giant manta rays could be adversely affected by increased vessel traffic in the areas, as it may increase the risk of collision with these species. We believe the potential effect on sea turtles and giant manta rays resulting from increased vessel traffic associated with the proposed actions is extremely unlikely to occur. Based on a recent NMFS analysis,<sup>4</sup> it would take an introduction of at least 200 new vessels to an area to result in a take of 1 sea turtle in any single year. While there is limited available information on the giant manta ray, we expect the circumstances and factors resulting in vessel strike injury are similar between sea turtles and the giant manta ray because sea turtles and giant manta rays are both found in nearshore waters (including in the vicinity of inlets where vessel traffic may also be concentrated) and may spend significant time at or near the surface, making them particularly vulnerable to vessel strikes. Stranding returns for sea turtles with vessel strike injuries, as well as numerous observations of giant manta rays with scarring on their dorsal surface that is likely a result of previous boat propeller injury, supports this conclusion. Therefore, we will rely on the more robust available data on sea turtle vessel strike injury to serve as a proxy for the giant manta ray. Because these projects will result in far fewer than 200 new vessels, we believe it is extremely unlikely that sea turtles or giant manta rays will be killed or injured by new or increased vessel traffic. We believe there would be no effect on smalltooth sawfish associated with vessel traffic because smalltooth sawfish is primarily a demersal (i.e., bottom-dwelling) species.

Effects to listed species as a result of noise created by construction activities can physically injure animals in the affected areas or change animal behavior in the affected areas. Injurious effects can occur in 2 ways. First, immediate adverse effects can occur to listed species if a single noise event exceeds the threshold for direct physical injury. Second, effects can result from prolonged exposure to noise levels that exceed the daily cumulative exposure threshold for the animals, and these can constitute adverse effects if animals are exposed to the noise levels for sufficient periods. Behavioral effects can be adverse if such effects interfere with animals

---

<sup>4</sup> Barnette, M. 2018. Threats and Effects Analysis for Protected Resources on Vessel Traffic Associated with Dock and Marina Construction. NMFS Southeast Regional Office Protected Resources Division Memorandum. October 31, 2018.

migrating, feeding, resting, or reproducing, for example. Our evaluation of effects to listed species as a result of noise created by construction activities is based on the analysis prepared in support of the Opinion for SAJ-82.<sup>5</sup> The noise analysis in this consultation evaluates effects to ESA-listed fish species (smalltooth sawfish and giant manta rays) and sea turtles identified by NMFS as potentially affected in the table above. While we have no information regarding noise effects specific to giant manta rays, we believe that effects to giant manta rays from pile driving noise would be very similar to effects on smalltooth sawfish (which are considered in the Opinion for SAJ-82), because both species are elasmobranchs and lack swim bladders.

Based on our noise calculations, the installation of 12-inch wood piles by impact hammer will not cause single-strike or peak-pressure injury to sea turtles or ESA-listed fish species. However, the cumulative sound exposure level (cSEL) of multiple pile strikes over the course of a day may cause injury to ESA-listed fishes and sea turtles up to 30 ft (9 m) away from the pile. Due to the mobility of sea turtles and ESA-listed fish species, we expect them to move away from noise disturbances. Because we anticipate the animal will move away, we believe that an animal's suffering physical injury from noise is extremely unlikely to occur. Even in the unlikely event an animal does not vacate the daily cumulative injurious impact zone, the 30-ft radius of potential noise effects from the installation of wood piles by impact hammer is smaller than the 50-ft radius that must be visually monitored for smalltooth sawfish and sea turtles in accordance with NMFS's *Sea Turtle and Smalltooth Sawfish Construction Conditions*. Construction personnel must cease construction activities if a sea turtle or smalltooth sawfish is sighted per NMFS's *Sea Turtle and Smalltooth Sawfish Construction Conditions*. Thus, we believe the likelihood of any injurious cSEL effects is unlikely to occur. An animal's movement away from the injurious impact zone is a behavioral response, with the same effects discussed below.

Based on our noise calculations, the installation of 12-inch concrete piles by impact hammer will not cause single-strike or peak-pressure injury to sea turtles or ESA-listed fish. The cumulative sound exposure level (cSEL) of multiple pile strikes over the course of a day may cause injury to ESA-listed fishes and sea turtles at a radius of up to 50 ft (14 meters (m)). Due to the mobility of sea turtles and ESA-listed fish species, we expect them to move away from noise disturbances. Because we anticipate the animal will move away, we believe that an animal's suffering physical injury from noise is extremely unlikely to occur. Even in the unlikely event an animal does not vacate the daily cumulative injurious impact zone, the 50-ft radius of potential noise effects from the installation of concrete piles by impact hammer is the same as the 50-ft radius that will be visually monitored for listed species. Construction personnel will cease construction activities if an animal is sighted per NMFS's *Sea Turtle and Smalltooth Sawfish Construction Conditions*. Thus, we believe the likelihood of any injurious cSEL effects is unlikely to occur. An animal's movement away from the injurious impact zone is a behavioral response, with the same effects discussed below.

Based on our noise calculations, the installation of wood and concrete piles by impact hammer could cause behavioral effects at radii of 151 ft (46 m) for sea turtles and 705 ft (215 m) for ESA-listed fish species. Given the mobility of these species, we expect them to move away from noise disturbances. Because there is similar habitat nearby, we believe behavioral effects will be

---

<sup>5</sup> NMFS. Biological Opinion on Regional General Permit SAJ-82 (SAJ-2007-01590), Florida Keys, Monroe County, Florida. June 10, 2014.

insignificant. If an individual chooses to remain within the behavioral response zone, it could be exposed to behavioral noise impacts during pile installation. Since installation would only occur during the day, these species will be able to resume normal activities between pile installations and at night. Therefore, we anticipate any behavioral effects to them will be insignificant.

### **3.2 Status of Johnson’s Seagrass Designated Critical Habitat Likely to be Adversely Affected**

The term “critical habitat” is defined in Section 3(5)(A) of the ESA as (i) the specific areas within the geographic area occupied by a species, at the time it is listed in accordance with the Act, on which are found those physical or biological features (1) essential to the conservation of the species and (2) that may require special management considerations or protection; and (ii) specific areas outside the geographic area occupied by a species at the time it is listed, upon a determination that such areas are essential for the conservation of the species. “Conservation” is defined in Section 3(3) of the ESA as the use of all methods and procedures that are necessary to bring any endangered or threatened species to the point at which listing under the ESA is no longer necessary.

#### *Johnson’s Seagrass Critical Habitat*

##### Description

NMFS designated Johnson’s seagrass critical habitat on April 5, 2000 (65 FR 17786; see also, 50 CFR 226.213). The specific areas occupied by Johnson’s seagrass and designated by NMFS as critical habitat are those with 1 or more of the following criteria:

1. Locations with populations that have persisted for 10 years
2. Locations with persistent flowering populations
3. Locations at the northern and southern range limits of the species
4. Locations with unique genetic diversity
5. Locations with a documented high abundance of Johnson’s seagrass compared to other areas in the species’ range

Ten areas (Units) within the range of Johnson’s seagrass (approximately 200 kilometers of coastline from Sebastian Inlet to northern Biscayne Bay, Florida) are designated as Johnson’s seagrass critical habitat (Table 3). The total range-wide acreage of critical habitat for Johnson’s seagrass is roughly 22,574 acres (ac) (NMFS 2002).

Table 3. Designated Critical Habitat Units for Johnson’s Seagrass

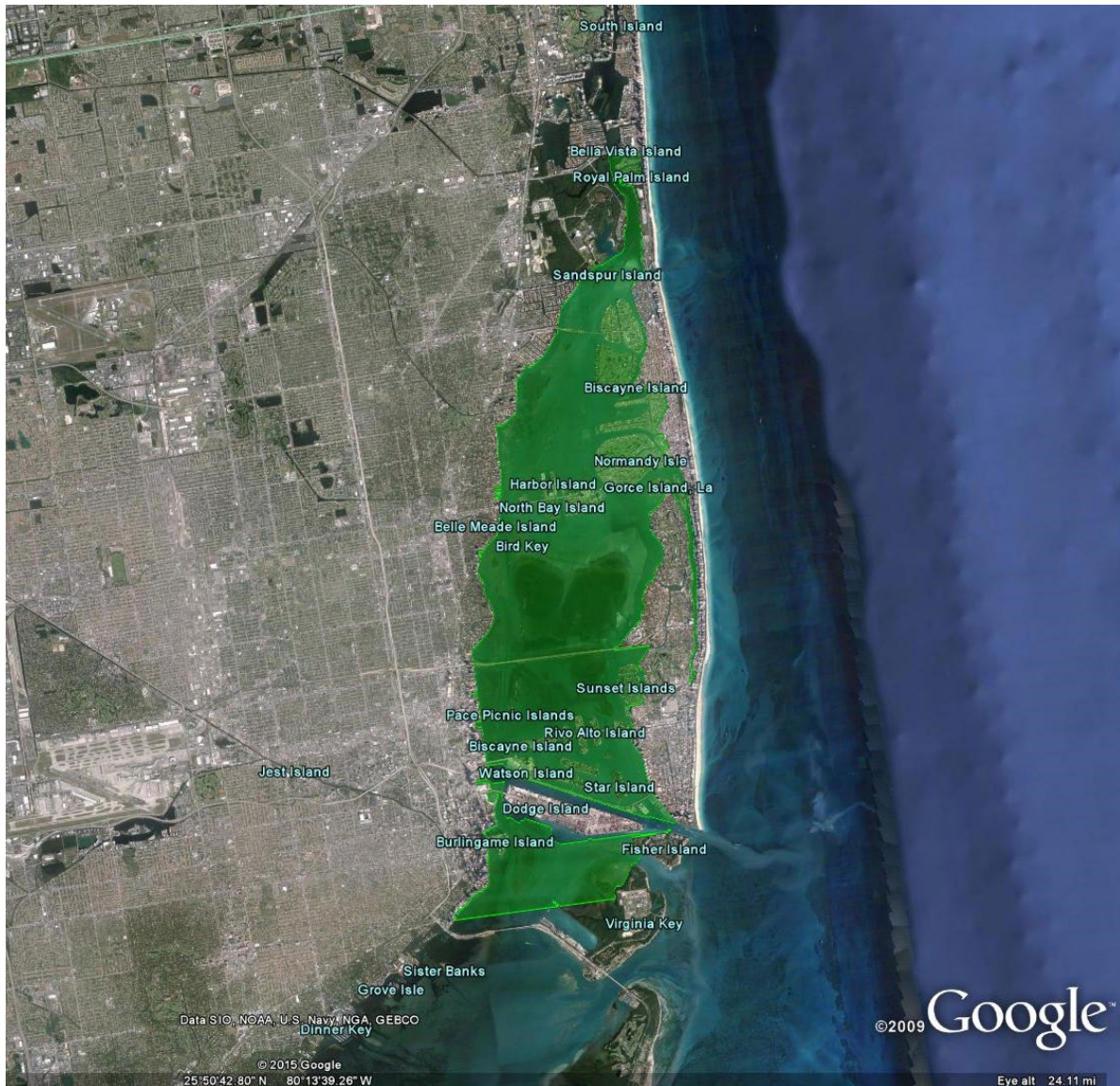
Unit	Location/Area
A	A portion of the Indian River, Florida, north of the Sebastian Inlet Channel
B	A portion of the Indian River, Florida, south of the Sebastian Inlet Channel
C	A portion of the Indian River Lagoon, Florida, in the vicinity of the Fort Pierce Inlet
D	A portion of the Indian River Lagoon, Florida, north of the St. Lucie Inlet
E	A portion of Hobe Sound, Florida, excluding the federally marked navigation channel of the Intracoastal Waterway
F	A portion of the south side of Jupiter Inlet, Florida
G	A portion of Lake Worth, Florida, north of Bingham Island
H	A portion of Lake Worth Lagoon, Florida, located just north of the Boynton Inlet
I	A portion of northeast Lake Wyman, Boca Raton, Florida, excluding the federally marked navigation channel of the Intracoastal Waterway
J	A portion of northern Biscayne Bay, Florida, including all parts of the Biscayne Bay Aquatic Preserve excluding the Oleta River, Miami River, and Little River beyond their mouths, the federally marked navigation channel of the Intracoastal Waterway, and all existing federally authorized navigation channels, basins, and berths at the Port of Miami to the currently documented southernmost range of Johnson’s seagrass, Central Key Biscayne

**Essential Features of Critical Habitat**

NMFS identified 4 habitat features essential for the conservation of Johnson’s seagrass: (1) adequate water quality, defined as being free from nutrient over-enrichment by inorganic and organic nitrogen and phosphorous or other inputs that create low oxygen conditions; (2) adequate salinity levels, indicating a lack of very frequent or constant discharges of fresh or low-salinity waters; (3) adequate water transparency, which would allow sunlight necessary for photosynthesis; and (4) stable, unconsolidated sediments that are free from physical disturbance. All 4 essential features must be present in an area for it to function as critical habitat for Johnson’s seagrass.

Critical Habitat Unit Impacted by this Action

This consultation focuses on an activity that occurs in Unit J, which encompasses the northern portion of Biscayne Bay from Northeast 163<sup>rd</sup> Street south to Central Key Biscayne at 25°45’N (Figure 2). This portion of Biscayne Bay is bound by heavy residential and commercial development, though a few areas of mangrove shoreline remain. Dredge and fill projects have resulted in a number of spoil islands and channels too deep for seagrass growth. Biscayne Bay supports a diversity of biological communities including intertidal wetlands, seagrasses, hard bottom, assemblages, and open water. Unit J is wholly within the Biscayne Bay Aquatic Preserve.



**Figure 3. Johnson's seagrass critical habitat Unit J (©2015 Google, Data SIO, NOAA, U.S. Navy, NGA, GEBCO)**

### Status and Threats

A wide range of activities, many funded authorized or carried out by federal agencies, have and will continue to affect the essential habitat requirements of Johnson's seagrass. These are generally the same activities that may affect the species itself, and include: (1) vessel traffic and the resulting propeller dredging; (2) dredge and fill projects; (3) dock, marina, and bridge construction; (4) water pollution; and (5) land use practices (shoreline development, agriculture, and aquaculture).

Vessel traffic has the potential to affect Johnson's seagrass critical habitat by reducing water transparency. Operation of vessels in shallow water environments often leads to the suspension of sediments due to the spinning of propellers on or close to the bottom. Suspended sediments

reduce water transparency and the depth to which sunlight penetrates the water column. Populations of Johnson's seagrass that inhabit shallow water and water close to inlets where vessel traffic is concentrated, are likely to be most affected. This effect is expected to worsen with increases in boating activity.

The dredging of bottom sediments to maintain, or in some cases create, inlets, canals, and navigation channels can directly affect essential features of Johnson's seagrass critical habitat. Dredging results in turbidity through the suspension of sediments. As discussed previously, the suspension of sediments reduces water transparency and the depth to which sunlight can penetrate the water column. The suspension of sediments from dredging can also resuspend nutrients, which could result in over-enrichment and/or reduce dissolved oxygen levels. Further, dredging can destabilize sediments and alter both the shape and depth of the bottom within the dredged footprint. This may affect the ability of the critical habitat to function through the removal or modification of essential features.

Dock, marina, and bridge construction leads to loss of habitat via construction impacts (e.g., pile installation) and shading. Similar to dredging, installation of piles for docks or bridges can result in increased turbidity that can negatively impact water transparency over short durations. Additionally, installed piles also replace the stable, unconsolidated bottom sediments essential for the species. Completed structures can have long-term effects on critical habitat in the surrounding area because of the shade they produce. While shading does not affect water transparency directly, it does affect the amount and/or duration of sunlight that can reach the bottom. The threat posed by dock, marina, and bridge construction is especially apparent in coastal areas where Johnson's seagrass is found.

Other threats include inputs from adjacent land use. Johnson's seagrass critical habitat located in proximity to rivers, canal mouths, or other discharge structures is affected by land use within the watershed. Waters with low salinity that are highly colored and often polluted are discharged to the estuarine environment. This can impact salinity, water quality, and water transparency, all essential features of Johnson's seagrass critical habitat. Frequent pulses of freshwater discharge to an estuarine area may decrease salinity of the habitat and provoke physiological stress to the species. Nutrient over-enrichment, caused by inorganic and organic nitrogen and phosphorous loading via urban and agricultural land run-off, stimulates increased algal growth, decreased water transparency, and diminished oxygen content within the water. Low oxygen conditions have a demonstrated negative impact on seagrasses and associated communities. Discharges can also contain colored waters stained by upland vegetation or pollutants. Colored waters released into these areas reduce the amount of sunlight available for photosynthesis by rapidly reducing the amount of shorter wavelength light that reaches the bottom. In general, threats from adjacent land use will be ongoing, randomly occurring events that follow storm events.

#### **4 ENVIRONMENTAL BASELINE**

---

By regulation, the environmental baseline for an Opinion refers to the condition of the designated critical habitat in the action area, without the consequences to the designated critical habitat caused by the proposed action. The environmental baseline includes the past and present impacts of all Federal, State, or private actions and other human activities in the action area, the

anticipated impacts of all proposed Federal projects in the action areas that have already undergone formal or early section 7 consultation, and the impact of State or private actions which are contemporaneous with the consultation in process. The consequences to the designated critical habitat from ongoing agency activities or existing agency facilities that are not within the agency's discretion to modify are part of the environmental baseline (50 CFR 402.02).

#### **4.1 Status of Designated Critical Habitat within the Action Area**

As discussed above, this Opinion focuses on two activities occurring in Unit J of Johnson's seagrass designated critical habitat, which encompasses the northern portion of Biscayne Bay from North East 163<sup>rd</sup> Street south to Central Key Biscayne at 25°45'N. The project sites are residential properties with existing seawalls. Biological assessments were performed on January 13, 2020 at the Murray project site and on February 4, 2020 at the Francois project site. Johnson's seagrass was not present within either survey area. Water depth within the action areas ranges from 1.0 to 6 ft at MLW.

#### **4.2 Factors Affecting Johnson's Seagrass Designated Critical Habitat Within the Action Area**

##### *Federal Actions*

A wide range of activities funded, authorized, or carried out by federal agencies may affect the essential features of designated critical habitat for Johnson's seagrass. These include actions permitted or implemented by the USACE such as dredging, dock and marina construction, bridge and highway construction, residential construction, shoreline stabilization, breakwaters, and the installation of subaqueous lines or pipelines. Other federal activities that may affect Johnson's seagrass critical habitat include actions by the Environmental Protection Agency and the USACE to manage freshwater discharges into waterways, management of Biscayne Bay Aquatic Preserve, regulation of vessel traffic to minimize propeller dredging and turbidity, and/or other activities by the U.S. Coast Guard and U.S. Navy. Although these actions have probably affected Johnson's seagrass critical habitat, none of these past actions have destroyed or adversely modified Johnson's seagrass critical habitat.

There are two previous ESA Section 7 consultations located within the action areas of the DiLido Drive project sites, which had the potential to adversely affect Johnson's seagrass critical habitat. On November 17, 2015, NMFS completed ESA Section 7 consultation (SER-2014-13935) with the USACE on a new dock installation at the project site that adversely affected 740 ft<sup>2</sup> of Johnson's seagrass critical habitat. On April 26, 2016, NMFS completed an additional ESA Section 7 consultation (SER-2015-16558) with the USACE on a new dock installation that adversely affected 416 ft<sup>2</sup>. Together, these projects adversely affected 1,156 ft<sup>2</sup> of Johnson's seagrass critical habitat.

##### *Private Recreational Vessel Traffic*

Marina and dock construction increases recreational vessel traffic within areas of Johnson's seagrass critical habitat, which increases suspended sediments from propellers and could result in propeller dredging. As mentioned above, suspended sediments are known to adversely affect



Johnson's seagrass critical habitat by reducing the water transparency essential feature. Shading from dock structures and vessel mooring also affects the water transparency essential feature of the designated critical habitat. Propeller dredging and installation of piles and dock support structures permanently removes the unconsolidated sediments essential feature of the critical habitat.

#### *Marine Pollution and Environmental Contamination*

The projects are located in highly developed coastal areas with extensive canal systems. This can lead to freshwater discharges and nutrient over-enrichment due to coastal runoff and canal discharges into the Bay. Freshwater discharge affects the salinity essential feature of the designated critical habitat while excess nutrients can lead to decreased water transparency and decreased dissolved oxygen content in the water.

#### *Activities That May Benefit Johnson's Seagrass Critical Habitat in the Action Area*

State and federal conservation measures exist to protect Johnson's seagrass and its habitat under an umbrella of management and conservation programs that address seagrasses in general (Kenworthy et al. 2006). These conservation measures must be continually monitored and assessed to determine if they will ensure the long-term protection of the species and the maintenance of environmental conditions suitable for its continued existence throughout its geographic distribution.

## **5 EFFECTS OF THE ACTION ON CRITICAL HABITAT**

---

Effects of the action are all consequences to listed species or critical habitat that are caused by the proposed actions, including the consequences of other activities that are caused by the proposed actions. A consequence is caused by the proposed actions if it would not occur but for the proposed actions and it is reasonably certain to occur. Effects of the action may occur later in time and may include consequences occurring outside the immediate area involved in the actions (50 CFR 402.02).

The proposed actions are within the boundary of Johnson's seagrass critical habitat (Unit J), and all 4 essential features are present at the site. The 4 habitat features essential to the conservation of Johnson's seagrass are: (1) adequate water quality, defined as being free from nutrient over-enrichment by inorganic and organic nitrogen and phosphorous or other inputs that create low oxygen conditions; (2) adequate salinity levels, indicating a lack of very frequent or constant discharges of fresh or low-salinity waters; (3) adequate water transparency, which would allow sunlight necessary for photosynthesis; and (4) stable, unconsolidated sediments that are free from physical disturbance. All 4 essential features must be present in an area for it to function as critical habitat for Johnson's seagrass and the loss of 1 essential feature of Johnson's seagrass critical habitat will result in a total loss in the conservation function of the critical habitat in that area.

We believe the proposed actions will have no effect on the adequate salinity levels essential feature of Johnson's seagrass designated critical habitat because the proposed actions lack any potential to affect adequate salinity levels in the action areas.

The adequate water quality and adequate water transparency essential features of Johnson's seagrass critical habitat may be affected by increased turbidity due to pile installation; however, we believe this effect will be insignificant because turbidity is expected to be temporary and contained to the immediate area by the use of turbidity curtains.

The adequate water transparency essential feature of Johnson's seagrass critical habitat may be affected by shading from the new docks and new vessels. In addition, we believe the proposed work is likely to adversely affect the stable, unconsolidated sediments essential feature of Johnson's seagrass critical habitat due to the placement of new piles. These piles will cover or displace the stable, unconsolidated sediments essential feature. However, some of these piles will be 100% subsumed under the new structures. We do not consider effects to the stable, unconsolidated sediments essential feature from piles that are completely underneath a new structure when estimating the amount of critical habitat affected because, as discussed below, the area under the new dock will be affected by the loss of the adequate water transparency essential feature of Johnson's seagrass critical habitat, and all 4 essential features must be present for the critical habitat to be functional. Once a single feature is removed, the habitat is no longer functional as critical habitat and adverse effects to a different essential feature does not constitute additional adverse effects to the critical habitat.

Per the permit drawings, it appears that all 17 concrete piles would be subsumed under new structures: 4 piles will be under the dock at the Francois project site, and the remaining 13 piles will be under the seawall cap and dock at the Murray project site. Twelve of the 21 wood piles to be installed at the two project sites would be 100% subsumed under the new docks. Two wood piles would be 50% subsumed and 7 would not be under any portion of a dock at either project site. Effects to the stable, unconsolidated sediments essential feature from these piles are estimated below. We believe these 9 piles will adversely affect 6.32 ft<sup>2</sup> by displacing the stable, unconsolidated sediments essential feature.<sup>6</sup> The addition of 60 ft of new riprap 8-ft-wide on top of the existing 1.5 ft wide bead of riprap at the Francois project site would result in 6.5-ft-wide new impacts, affecting 390 ft<sup>2</sup> (60 ft x 6.5 ft) of the stable, unconsolidated sediments essential feature. However, 260 ft<sup>2</sup> of the new riprap will be located under the new dock, so only 130 ft<sup>2</sup> will be counted as impacts to the stable, unconsolidated sediments essential feature because the area under the new dock will also affect the adequate water transparency essential feature, which we calculate below. Together, the new riprap and piles will adversely affect 136.32 ft<sup>2</sup> of the stable, unconsolidated sediments essential feature at the two project sites.

Finally, we consider effects to the adequate water transparency essential feature of Johnson's seagrass critical habitat. The adequate water transparency essential feature of Johnson's seagrass critical habitat is likely to be adversely affected by shading from the new structures, including the docks, the seawall cap, and storage of new vessels. We only expect adverse effects in the area immediately underneath these structures, as any other shading to nearby areas will be temporary

---

<sup>6</sup> A round 12-in diameter pile occupies  $0.79 \text{ ft}^2 \times 7 \text{ piles}/2 = 5.53 \text{ ft}^2$ ,  $0.79 \text{ ft}^2 \times 2 \text{ piles}/2 = 0.79 \text{ ft}^2$ .

in nature (i.e., shading and light transmission will change over the course of the day) and therefore is insignificant.

In order to calculate adverse impacts to the adequate water transparency essential feature of Johnson's seagrass critical habitat, first we consider shading from the Francois project dock (340 ft<sup>2</sup>). A 20 ft<sup>2</sup> aluminum catwalk on the boat lift will add additional shading for a total of 360 ft<sup>2</sup> of shading impacts. An additional 180 ft<sup>2</sup> of decking will be placed over the existing riprap and will not be counted as a new impact because the existing riprap prevents that area from functioning as critical habitat. At the Murray project site, the new dock will shade a 215.75 ft<sup>2</sup> area and the 60 ft x 1.5 ft seawall cap that will be installed adjacent to the existing seawall will shade a 90 ft<sup>2</sup> area. Because a portion of the dock falls within the footprint of the proposed seawall cap, we must subtract the area of overlap (30.25 ft<sup>2</sup>). Once we subtract the area of overlap, we believe the dock will shade a 185.5 ft<sup>2</sup> area.<sup>7</sup> Together, the dock and seawall cap will shade 275.5 ft<sup>2</sup>. Therefore, we believe the new structures at the two project sites will adversely affect 635.5 ft<sup>2</sup> of Johnson's seagrass critical habitat through permanent removal of the adequate water transparency essential feature.

Next, we consider the potential adverse impacts to the adequate water transparency essential feature of Johnson's seagrass critical habitat from the storage of 4 new vessels. When we do not know the size of the new vessels, we estimate each vessel to be 176 ft<sup>2</sup>, based on the average vessel size in Florida used in the analysis for the Statewide Programmatic Biological Opinion (SWPBO).<sup>8</sup> Since the proposed actions will result in 4 new vessel slips, total impact by shading from vessel storage will be 704 ft<sup>2</sup>. Thus, we believe a total of 1,339.5 ft<sup>2</sup> (635.5 ft<sup>2</sup> + 704 ft<sup>2</sup>) of Johnson's seagrass critical habitat will be adversely affected through removal of the adequate water transparency essential feature resulting from the new structures and the vessels.

Combining the adverse effects to Johnson's seagrass critical habitat from the effects to the stable, unconsolidated sediments essential feature and the adequate water transparency essential feature, we believe the projects will adversely affect 1,475.82 ft<sup>2</sup> of Johnson's seagrass critical habitat.<sup>9</sup>

## 6 CUMULATIVE EFFECTS

---

Cumulative effects include the effects of future state, tribal, or local private actions that are reasonably certain to occur in the action areas considered in this Opinion. Future federal actions that are unrelated to the proposed actions are not considered in this section because they require separate consultation pursuant to Section 7 of the ESA.

No categories of effects beyond those already described are expected in the action area, and we did not identify any new future state, tribal or private actions reasonably certain to occur in the

---

<sup>7</sup> The portion of the dock that overlaps with the seawall cap is 30.25 ft<sup>2</sup>. The difference between the total area of the dock (215.75 ft<sup>2</sup>) minus the area of overlap (30.25 ft<sup>2</sup>) is 185.5 ft<sup>2</sup>.

<sup>8</sup> Florida Statewide Programmatic Biological Opinion (SWPBO) issued by NMFS on December 4, 2015 (SER-2013-12540).

<sup>9</sup> We calculated 136.32 ft<sup>2</sup> of adverse effects to Johnson's seagrass critical habitat from the loss of the stable, unconsolidated sediments essential feature plus 1,339.5 ft<sup>2</sup> of impacts to Johnson's seagrass critical habitat from the loss of the adequate water transparency essential feature equals 1,475.82 ft<sup>2</sup> of total adverse effects to Johnson's seagrass critical habitat.

action areas of the proposed actions. Dock and marina construction will likely continue at current rates, with associated loss and degradation of seagrass habitat, including Johnson's seagrass critical habitat. Because these activities are subject to USACE permitting and thus, the ESA Section 7 consultation requirement, they do not lead to cumulative non-federal effects to be discussed in this section. NMFS and the USACE have developed protocols to encourage the use of light-transmitting materials in future construction of docks constructed in or over submerged aquatic vegetation, marsh or mangrove habitat.<sup>10,11,12</sup> Even if all new docks are constructed in full compliance with the NMFS and USACE's guidance, NMFS acknowledges that shading impacts, and thus, impacts to the water transparency essential feature, to Johnson's seagrass will continue via dock construction. As NMFS and the USACE continue to encourage permit applicants to design and construct new docks in full compliance with the construction guidelines discussed above, and the recommendations in (Adam 2012), Landry et al. (2008b), and Shafer et al. (2008), NMFS believes that shading impacts to Johnson's seagrass will be reduced in the short- and long-term. Moreover, even with some shading from grated construction materials, researchers have found all 4 essential features necessary for Johnson's seagrass to persist under docks constructed of grated decking (Landry et al. 2008b).

Upland development and associated runoff will continue to degrade the water quality essential feature necessary for Johnson's seagrass critical habitat. Flood control and imprudent water management practices will continue to result in freshwater inputs into estuarine systems, thereby degrading and altering the water quality and salinity essential features of Johnson's seagrass critical habitat.

Increased recreational vessel traffic will continue to result in damage to Johnson's seagrass and its designated critical habitat by improper anchoring, propeller scarring, and accidental groundings. Nonetheless, we expect that ongoing boater education programs and posted signage about the dangers to seagrass habitat from propeller scarring and improper anchoring may reduce impacts to Johnson's seagrass designated critical habitat, including that in Unit J.

## **7 DESTRUCTION/ADVERSE MODIFICATION ANALYSIS**

---

NMFS's regulations define *destruction or adverse modification* to mean "a direct or indirect alteration that appreciably diminishes the value of critical habitat as a whole for the conservation of a listed species." (50 CFR 402.02). Alterations that may destroy or adversely modify critical habitat may include impacts to the area itself, such as those that would impede access to or use of the essential features. NMFS will generally conclude that a Federal action is likely to "destroy or adversely modify" designated critical habitat if the action results in an alteration of the quantity or quality of the essential physical or biological features of designated critical habitat, or that precludes or significantly delays the capacity of that habitat to develop those features over time,

---

<sup>10</sup> Project Design Criteria A2.17 in U.S. Army Corps of Engineers Jacksonville District's Programmatic Biological Opinion (JAXBO) issued by NMFS on November 20, 2017 (SER-2015-17616)

<sup>11</sup> Dock Construction Guidelines in Florida for Docks or Other Minor Structures Constructed in or over Submerged Aquatic Vegetation (SAV), Marsh or Mangrove Habitat U.S. Army Corps of Engineers/National Marine Fisheries Service, dated August 2001

<sup>12</sup> Key for Construction Conditions for Docks or Other Minor Structures Constructed in or Over Johnson's Seagrass (*Halophila johnsonii*) National Marine Fisheries Service/U.S. Army Corps of Engineers, dated October 2002

and if the effect of the alteration is to appreciably diminish the value of critical habitat for the conservation of the species. This analysis takes into account the geographic and temporal scope of the proposed actions, recognizing that “functionality” of critical habitat necessarily means that it must now and must continue in the future to support the conservation of the species and progress toward recovery. Destruction or adverse modification does not depend strictly on the size or proportion of the area adversely affected, but rather on the role the action area serves with regard to the function of the overall designation, and how that role is affected by the action.

Recovery for Johnson’s seagrass as set forth in the final recovery plan (NMFS 2002), will be achieved when the following recovery objectives are met:

- (1) The species’ present geographic range remains stable for at least 10 years, or increases.
- (2) Self-sustaining populations are present throughout the range at distances less than or equal to the maximum dispersal distance to allow for stable vegetative recruitment and genetic diversity.
- (3) Populations and supporting habitat in its geographic range have long-term protection (through regulatory action or purchase acquisition).

We evaluated the projects’ expected effects on critical habitat to determine whether it will be able to continue to provide its intended functions in achieving these recovery objectives and supporting the conservation of the species.

The first recovery objective for Johnson’s seagrass is for the present range of the species to remain stable for 10 years or to increase during that time. In the 5-year review (2007) of the status of the species, NMFS concluded that the first recovery objective had been achieved as of 2007. In fact, the species range had increased slightly northward at that time. We have no information indicating range stability has decreased since then. We determined the proposed action will adversely affect a total of 1,475.82 ft<sup>2</sup> (0.034 ac)<sup>13</sup> of Johnson’s seagrass designated critical habitat. However, the project sites are not at a boundary of the species’ range, the affected area is very small, and the loss of this area for potential colonization will not affect the stability of the species’ range now or in the future. Thus, we believe the proposed actions’ effects will not affect the critical habitat’s ability to contribute to range stability for Johnson’s seagrass.

The second recovery objective for Johnson’s seagrass requires that self-sustaining populations be present throughout the range at distances less than or equal to the maximum dispersal distance for the species. Due to its asexual reproductive mode, self-sustaining populations are present throughout the range of the species. As discussed above in the Status of the Critical Habitat Likely to be Adversely Affected section, there are approximately 22,574 ac of Johnson’s seagrass critical habitat. The loss of 1,475.82 ft<sup>2</sup> (0.034 ac) of designated critical habitat for Johnson’s seagrass would equate to a loss of 0.00015% of Johnson’s seagrass critical habitat ( $[0.034 \text{ ac} \times 100] \div 22,574 \text{ ac}$ ). In addition, the loss of 1,156 ft<sup>2</sup> (0.027 ac) of designated critical habitat for Johnson’s seagrass from the 2 previous projects in the action areas would equate to a loss of 0.000120% of Johnson’s seagrass critical habitat ( $[0.027 \text{ ac} \times 100] \div 22,574 \text{ ac}$ ). Together, these 4 actions would equate to a loss of 0.00027% of Johnson’s seagrass critical habitat. The loss from these projects, alone and in combination with the previous 2 projects in the

---

<sup>13</sup> Conversion:  $1,475.82 \text{ ft}^2 \div 43,560 \text{ ft}^2 \text{ per 1 acre} = 0.034 \text{ acre}$ .

action area, will not affect the conservation value of available critical habitat to an extent that it would affect Johnson's seagrass self-sustaining populations by adversely affecting the availability of suitable habitat in which the species can disperse in the future. Drifting fragments of Johnson's seagrass can remain viable in the water column for 4-8 days (Hall et al. 2006), and can travel several kilometers under the influence of wind, tides, and waves. Because of this, we believe that the permanent removal of critical habitat due to the proposed action, alone or in combination with the other project in the baseline, will not appreciably diminish the conservation value of critical habitat as a whole in supporting self-sustaining populations.

The third, and final, recovery objective is for populations of Johnson's seagrass and supporting habitat in the geographic range of Johnson's seagrass to have long-term protection through regulatory action or purchase acquisition. Though the affected portions of the project sites will not be available for the long-term, thousands of acres of designated critical habitat are still available for long-term protection, which would include areas surrounding the action areas.

Based on the above analysis, we conclude that the adverse effects on Johnson's seagrass critical habitat due to the proposed actions will not impede achieving the 3 recovery objectives listed above and, therefore will not appreciably diminish the value of critical habitat as a whole for the conservation of the species.

## **8 CONCLUSION**

---

After reviewing the current status of Johnson's seagrass designated critical habitat, the environmental baseline, and the cumulative effects, it is our opinion that the loss of 1,475.82 ft<sup>2</sup> (0.034 ac) from the proposed actions will not interfere with achieving the relevant habitat-based recovery objectives for Johnson's seagrass. It is our opinion that the proposed actions will not impede the critical habitat's ability to support Johnson's seagrass conservation, despite permanent adverse effects. Therefore, we conclude that the actions, as proposed, are likely to adversely affect, but are not likely to destroy or adversely modify, Johnson's seagrass designated critical habitat.

## **9 INCIDENTAL TAKE STATEMENT**

---

NMFS does not anticipate that the proposed actions will incidentally take any species and no take is authorized. Nonetheless, any take of any ESA-listed species shall be immediately reported to [takereport.nmfs@noaa.gov](mailto:takereport.nmfs@noaa.gov). Refer to the present Biological Opinion by title, issuance date, NMFS ECO tracking number, SERO-2020-02197 or SERO-2020-02201, and USACE permit number. At that time, consultation must be reinitiated.

## **10 CONSERVATION RECOMMENDATIONS**

---

Section 7(a)(1) of the ESA directs federal agencies to use their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

NMFS believes the following conservation recommendations are reasonable, necessary, and appropriate to conserve and recover Johnson's seagrass. NMFS strongly recommends that these measures be considered and adopted.

1. NMFS recommends that the USACE, in coordination with seagrass researchers and industry, support ongoing research on light requirements and transplanting techniques to preserve and restore Johnson's seagrass, and on collection of plants for genetics research, tissue culture, and tissue banking.
2. NMFS recommends that the USACE continue promoting the use of the October 2002 *Key for Construction Conditions for Docks or other Minor Structures Constructed in or over Johnson's Seagrass* as the standard construction methodology for proposed docks located in the range of Johnson's seagrass.
3. NMFS recommends that the USACE review and implement the recommendations in the July 2008 report, *The Effects of Docks on Seagrasses, With Particular Emphasis on the Threatened Seagrass, Halophila johnsonii* (Landry et al. 2008a).
4. NMFS recommends that the USACE review and implement the Conclusions and Recommendations in the October 2008 report, *Evaluation of Regulatory Guidelines to Minimize Impacts to Seagrasses from Single-family Residential Dock Structures in Florida and Puerto Rico* (Shafer et al. 2008).
5. NMFS recommends that a report of all current and proposed USACE projects in the range of Johnson's seagrass be prepared and used by the USACE to assess impacts on the species from these projects, to assess cumulative impacts, and to assist in early consultation that will avoid and/or minimize impacts to Johnson's seagrass and its critical habitat. Information in this report should include location and scope of each project and identify the federal lead agency for each project. The information should be made available to NMFS.
6. NMFS recommends that the USACE conduct and support research to assess trends in the distribution and abundance of Johnson's seagrass. Data collected should be contributed to the Florida Fish and Wildlife Conservation Commission's Florida Wildlife Research Institute to support ongoing geographic information system mapping of Johnson's seagrass and other seagrass distribution.
7. NMFS recommends that the USACE prepare an assessment of the effects of other actions under its purview on Johnson's seagrass for consideration in future consultations.

## **11 REINITIATION OF CONSULTATION**

---

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 taking specified in the proposed action is exceeded; (2) new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered; (3) the identified action is subsequently modified in a manner that causes an effect to listed species or critical habitat that

was not considered in the Biological Opinion; or (4) a new species is listed or critical habitat designated that may be affected by the identified action.

## 12 LITERATURE CITED

---

- Adam, T. 2012. Mutualistic cleaner fish initiate trait-mediated indirect interactions by influencing the behaviour of coral predators. *Journal of Animal Ecology* 81(3):692-700.
- Hall, L. M., M. D. Hanisak, and R. W. Virnstein. 2006. Fragments of the seagrasses *Halodule wrightii* and *Halophila johnsonii* as potential recruits in Indian River Lagoon, Florida. *Marine Ecology Progress Series* 310:109-117.
- Kenworthy, W. J., S. Wyllie-Echeverria, R. Coles, G. Pergent, and C. Pergent-Martini. 2006. Seagrass Conservation Biology: An Interdisciplinary Science for Protection of the Seagrass Biome. Pages 595-623 in A. W. D. Larkum, R. J. Orth, and C. M. Duarte, editors. *Seagrasses: Biology, Ecology and Conservation*. Springer Netherlands.
- Landry, J. B., W. J. Kenworthy, and G. D. Carlo. 2008a. The effects of docks on seagrasses, with particular emphasis on the threatened seagrass, *Halophila johnsonii*. Report submitted to NMFS Office of Protected Resources.
- Landry, J. B., W. J. Kenworthy, and G. Di Carlo. 2008b. The effects of docks on seagrasses, with particular emphasis on the threatened seagrass, *Halophila johnsonii*. Report submitted to NMFS Office of Protected Resources.
- NMFS. 2002. Recovery plan for Johnson's seagrass (*Halophila johnsonii*). National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Office of Protected Resources, Silver Spring, Maryland.
- NMFS. 2006. Sea Turtle and Smalltooth Sawfish Construction Conditions revised March 23, 2006. National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Southeast Regional Office, Protected Resources Division, Saint Petersburg, Florida.  
[http://sero.nmfs.noaa.gov/protected\\_resources/section\\_7/guidance\\_docs/documents/sea\\_turtle\\_and\\_smalltooth\\_sawfish\\_construction\\_conditions\\_3-23-06.pdf](http://sero.nmfs.noaa.gov/protected_resources/section_7/guidance_docs/documents/sea_turtle_and_smalltooth_sawfish_construction_conditions_3-23-06.pdf), accessed June 2, 2017.
- NMFS. 2014. Biological Opinion on Regional General Permit SAJ-82 (SAJ-2007-01590), Florida Keys, Monroe County, Florida. June 10, 2014.
- Shafer, D. J., J. Karazsia, L. Carrubba, and C. Martin. 2008. Evaluation of regulatory guidelines to minimize impacts to seagrasses from single-family residential dock structures in Florida and Puerto Rico. U.S. Army Engineer Research and Development Center, Vicksburg, Mississippi.