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Ref.: SAJ-2020-04038 (LP-LOB), David Deshe, Dock Replacement and Shoreline Stabilization, Miami Beach, Miami-Dade County, Florida

Dear Ingrid Gilbert:

The enclosed Biological Opinion (Opinion) responds to your request for consultation with us, the National Marine Fisheries Service (NMFS), pursuant to Section 7 of the Endangered Species Act (ESA) for the action referenced above.

The Opinion considers the effects of the proposed action by the applicant on the following listed species and/or critical habitat: 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 Sarah Garvin, Consultation Biologist, by email at Sarah.Garvin@noaa.gov.

Sincerely,

Andrew J. Strelcheck
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: David Deshe

SAJ-2020-04038 (LP-LOB)

Activities: Dock Replacement and Shoreline Stabilization, 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

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Approved By:

Andrew J. Strelcheck, 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.....	7
4	ENVIRONMENTAL BASELINE.....	13
5	EFFECTS OF THE ACTION ON CRITICAL HABITAT	15
6	CUMULATIVE EFFECTS	20
7	DESTRUCTION/ADVERSE MODIFICATION ANALYSIS	21
8	CONCLUSION.....	22
9	INCIDENTAL TAKE STATEMENT	23
10	CONSERVATION RECOMMENDATIONS.....	23
11	REINITIATION OF CONSULTATION.....	24
12	LITERATURE CITED	24

LIST OF FIGURES

Figure 1. Image showing the proposed project site at 4350 North Bay Road on Biscayne Bay in Miami Beach, Miami-Dade County, Florida (©2021 Google).....	6
Figure 2. Johnson’s seagrass critical habitat Unit J (©2015 Google, Data SIO, NOAA, U.S. Navy, NGA, GEBCO)	12

LIST OF TABLES

Table 1. Effects Determinations for Species the Action Agency and/or NMFS Believes May Be Affected by the Proposed Actions	7
Table 2. Effects Determinations for Designated Critical Habitat the Action Agency and/or NMFS Believe May Be Affected by the Proposed Actions	8
Table 3. Designated Critical Habitat Units for Johnson’s Seagrass	10

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 ²	square foot/feet
in	inch(es)
km	kilometer(s)
mi	mile(s)

INTRODUCTION

Section 7(a)(2) of the 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 those species. Section 7(a)(2) requires federal agencies to consult with the appropriate Secretary in carrying out these responsibilities. NOAA 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 with NMFS (hereafter referred to as “we” or “us”) is concluded after we determine that the action is not likely to adversely affect listed species or critical habitat. Formal consultation is concluded after we issue a Biological Opinion (hereafter referred to as “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 our Opinion based on our review of impacts associated with USACE’s proposed action to issue a permit within Miami-Dade County, Florida. This Opinion analyzes the proposed action’s 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 USACE and other sources of information, including the published literature cited herein.

1 CONSULTATION HISTORY

The following is the consultation history for NMFS Environmental Consultation Organizer (ECO) identifier number SERO-2021-01329, Deshe N Bay Rd Dock Seawall Mooring Dolphin. On April 23, 2021, NMFS received a request for formal consultation under Section 7 of the ESA from the USACE for construction permit application SAJ-2020-04038 (LP-LOB). Additional information was requested on June 17, 2021, and on June 29, 2021. A final response was received on July 1, 2021, and we initiated formal consultation that day.

2 DESCRIPTION OF THE PROPOSED ACTION AND ACTION AREA

2.1 Proposed Action

The USACE proposes to permit the applicant to:

1. Remove an existing 516.69 square foot (ft²) irregular T-shaped dock and associated support piles;
2. Remove an existing 300 ft² boatlift and associated concrete piles;
3. Remove the existing seawall cap;
4. Remove an existing 12-in diameter mooring pile;
5. Install a new 439 ft² T-shaped dock supported by 13 new 12-inch (in) diameter wood piles;
6. Install 2 new 3-pile mooring dolphins using 12-in diameter wood piles;
7. Install a new 423.5 ft² seawall cap; and,
8. Install 13 new 12-in square concrete piles to support the existing seawall.

Removal of the existing dock and piles will be done via a crane on a barge and disposal of all the existing structures will be at an approved Miami-Dade Facility in the uplands. All piles will be installed via impact hammer from a barge. No more than 10 piles will be driven per day.

The proposed overwater structure will not be built to the revised *Construction Guidelines for Docks or Other Minor Structures in Florida* outlined in the JAXBO (Project Design Criteria A2.17 in U.S. Army Corps of Engineers Jacksonville District's Programmatic Biological Opinion issued by NMFS on November 20, 2017 [SER-2015-17616]) or the two sets of dock design criteria developed by NMFS and the USACE Jacksonville District (*Dock Construction Guidelines in Florida for Docks or Other Minor Structures Constructed in or over Submerged Aquatic Vegetation (SAV), Marsh or Mangrove Habitat*, dated August 2001, and the *Key for Construction Conditions for Docks or Other Minor Structures Constructed in or Over Johnson's Seagrass (Halophila johnsonii)*, dated October 2002); it will have an overwater area of 439 ft².

The new replacement dock will accommodate the same number of vessels as the existing dock (i.e., no new vessel slips will be created by the proposed project).

The proposed project is expected to take 5 weeks to complete. The applicant will use turbidity curtains and comply with NMFS's *Protected Species Construction Conditions* (NMFS 2021). Work will be completed from the uplands and a barge.

2.2 Action Area

The proposed project site is located at 4350 N Bay Road, Miami Beach, Miami-Dade County, Florida (25.817172°N, 80.138442°W [North American Datum 1983] (Figure 1). The project site is a residential property on Biscayne Bay with an existing seawall, irregular T-shaped 516.69 ft² wood dock, and wood mooring piles. The project site is located approximately 3.48 miles north of Government Cut, the nearest inlet to the Atlantic Ocean by boat.

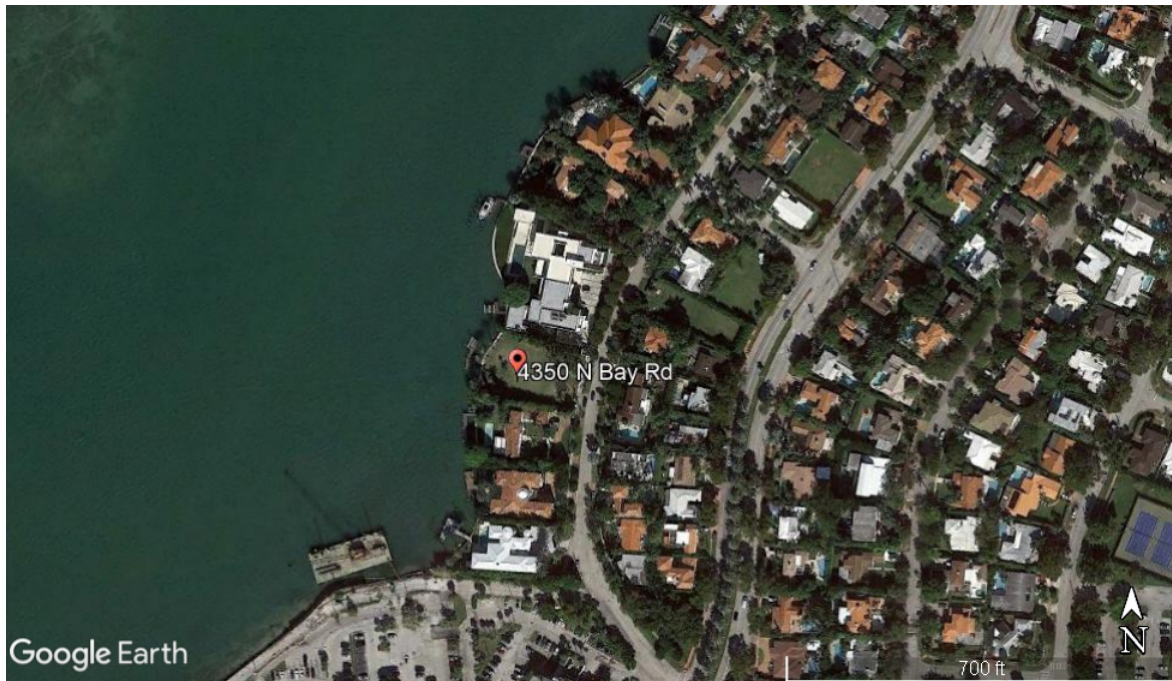


Figure 1. Image showing the proposed project site at 4350 North Bay Road on Biscayne Bay in Miami Beach, Miami-Dade County, Florida (©2021 Google).

An in-water benthic assessment was performed by Miami-Dade County on September 18, 2020. The existing substrate in the project area was described as “sandy” by Miami-Dade County and the benthic assessment reported water depths ranging between -1.3 to -3.9 ft at mean low water (MLW). Sparse coverage (<5%) of patchy turtle grass was observed throughout the entire project site. Several species of macroalgae, invertebrates, and sponges were observed in the project area. Additionally, there is one species of non-ESA listed coral present (i.e., *Siderastrea siderea*) at several locations close to the existing seawall (i.e., between 2 and 5 ft waterward) and under the seawall cap. There are no mangroves, Johnson’s seagrass, or ESA-listed corals in the project area.

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. The action area for the proposed project is equivalent to the largest

radius of noise-related effects on ESA-listed species based on the proposed installation of 12-in wood and 12-in concrete piles using an impact hammer, which is 705 ft from the piles being driven.

The project site falls within the boundaries of Johnson’s seagrass designated critical habitat Unit J, which encompasses the northern portion of Biscayne Bay from Northeast 163rd Street south to Central Key Biscayne at 25°45’N.

3 STATUS OF LISTED SPECIES AND CRITICAL HABITAT

Table 1 provides the effect determinations for species the USACE and/or NMFS believe may be affected by the proposed action.

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

Species	ESA Listing Status ¹	Action Agency Effect Determination	NMFS Effect Determination
Sea Turtles			
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
Fish			
Smalltooth sawfish (U.S. DPS)	E	NLAA	NLAA
Giant manta ray	T	No determination	NLAA

We believe the proposed project 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 site. 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 area that the USACE and/or NMFS believe may be affected by the proposed action.

¹ E = endangered; T = threatened; NLAA = may affect, not likely to adversely affect; NE = no effect.

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 and ESA-listed fish species include the potential for injury from construction equipment or materials. We believe this route of effect is extremely unlikely to occur. Because these species are highly mobile, we expect them to move away from the project site and into nearby suitable habitat, if disturbed. The applicants have also agreed to adhere to NMFS’s *Protected Species Construction Conditions*, which will further reduce the risk by requiring all construction personnel to watch for protected species. 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.

The action area contains shallow water habitat that may be used by sea turtle species and ESA-listed fish species for foraging and refuge. These species may be affected by their inability to access the action area due to their avoidance of construction activities and due to their physical exclusion from the project area by 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 in-water work will take 5 weeks, and construction will occur during daylight hours only). 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.

Sea turtles, giant manta rays, and smalltooth sawfish may be affected by the permanent loss of non-ESA-listed seagrass, corals, and sponges, which can serve as habitat for foraging, due to pile and dock placement at the project site where there is sparse seagrasses present. Green sea turtles feed on seagrasses, and some of the prey species on which Kemp’s ridley sea turtles, loggerhead sea turtles, hawksbill sea turtles, giant manta ray, and smalltooth sawfish feed can be found in seagrass beds. Sponges provide foraging opportunities for hawksbill sea turtles. However, the loss of foraging habitat for listed species will have an insignificant effect on the species. This is a relatively small area, sparse coverage (<5%) of patchy turtle grass was observed at the project site, and there are undisturbed areas of similar foraging habitat available nearby in Biscayne Bay.

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 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-82.² 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 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. Construction personnel will cease construction activities if a protected species is observed within 150 ft of operations, per NMFS's Protected Species Construction Conditions (NMFS 2021). 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 72 ft (22 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 radius of that area is within the 150-ft radius that will be visually monitored for listed species. Construction personnel will cease construction activities if an animal is sighted per NMFS's *Protected Species Construction Conditions*. Thus, we believe any injurious cSEL effects is extremely 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, impact hammer pile installation of the wood and concrete piles 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 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.

² NMFS. Biological Opinion on Regional General Permit SAJ-82 (SAJ-2007-01590), Florida Keys, Monroe County, Florida. June 10, 2014.

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

Unit	Location/Area
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 163rd 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.

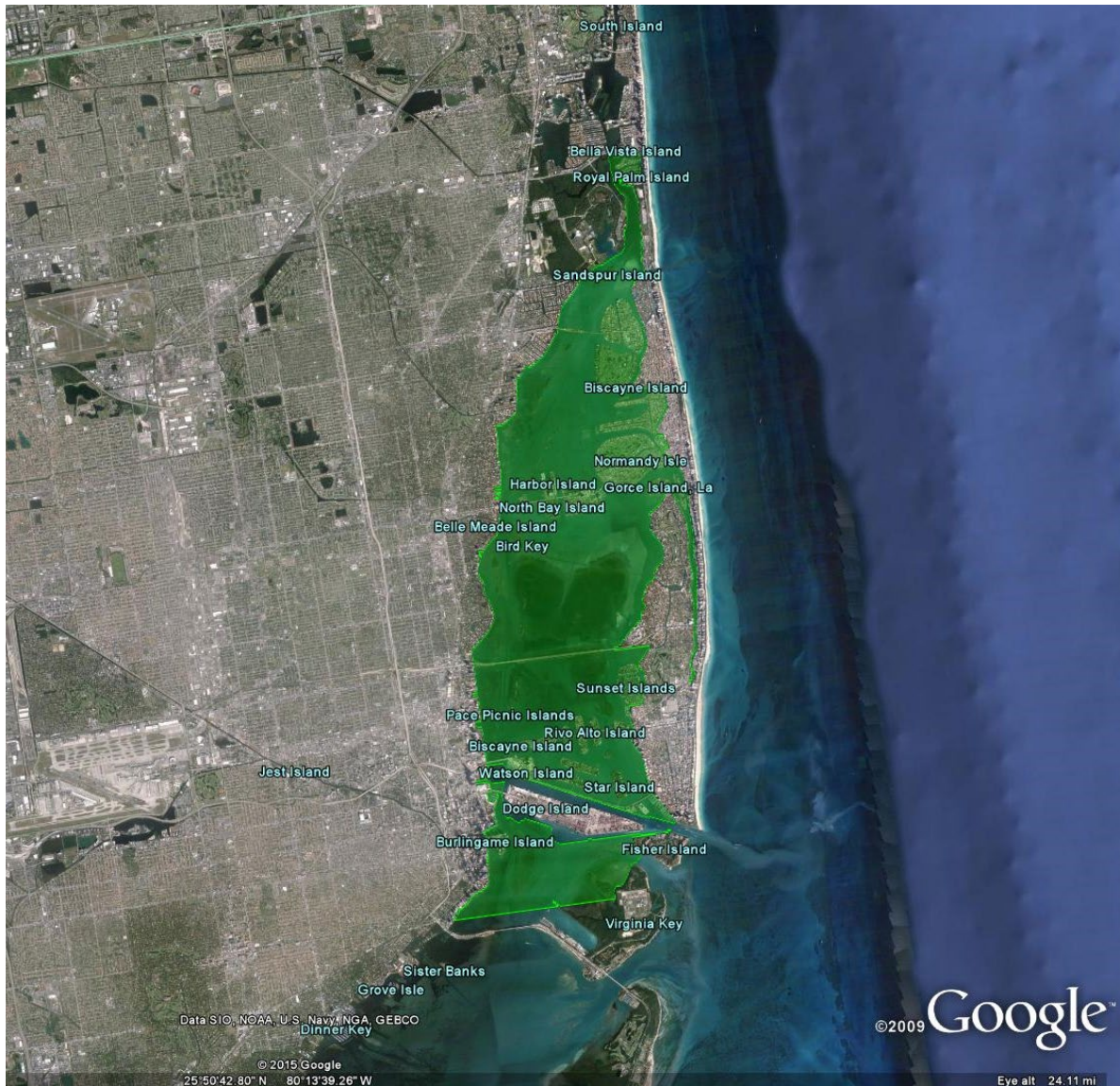


Figure 2. Johnson's seagrass critical habitat Unit J (©2015 Google, Data SIO, NOAA, U.S. Navy, NGA, GEBCO)

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

This section describes the effects of past and ongoing human and natural factors contributing to the current status of the affected critical habitat in the action area. The environmental baseline describes the critical habitat's health based on information available at the time of this consultation.

By regulation (50 CFR 402.02), the environmental baseline for an Opinion refers to the condition of the listed species or its designated critical habitat in the action area, without the consequences to the listed species or 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 area 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 listed species or 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.

Focusing on the current state of critical habitat is important because in some areas critical habitat features will commonly exhibit, or be more susceptible to, adverse responses to stressors than they would be in other areas, or may have been exposed to unique or disproportionate stresses. These localized stress responses or stressed baseline conditions may increase the severity of the adverse effects expected from the proposed action.

4.1 Status of Designated Critical Habitat within the Action Area

As discussed above, this Opinion focuses on an activity occurring in Unit J of Johnson's seagrass designated critical habitat, which encompasses the northern portion of Biscayne Bay from North East 163rd Street south to Central Key Biscayne at 25°45'N. The project site is a residential property on Biscayne Bay with an existing seawall, irregular T-shaped 516.69 ft² wood dock, and wood mooring piles. Depths are between -1.3 to -3.9 ft at MLW. The bottom is described as sandy. Sparse seagrasses are located within the action area; however, Johnson's seagrass is not present.

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/marina construction, bridge/highway construction, residential construction, shoreline stabilization, breakwaters, and/or 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.

Other than the proposed action, no other federally permitted projects are known to have occurred or have had effects to Johnson's seagrass designated critical habitat within the action area, as per

a review of the NMFS PRD's completed consultation database by the consulting biologist on June 29, 2021.

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 action, including the consequences of other activities that are caused by the proposed action. A consequence is caused by the proposed action if it would not occur but for the proposed action 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 action (50 CFR 402.02).

The proposed action area is within the boundary of Johnson's seagrass (Unit J). The physical and biological features essential to the conservation of Johnson seagrass are adequate: (1) 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) salinity levels, indicating a lack of very frequent or constant discharges of fresh or low-salinity waters; (3) 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.

To calculate impacts of the proposed project on each of the 4 essential features for Johnson's seagrass critical habitat present in the action area, we first look at the location and orientation of the existing structures and of the proposed new or replacement structures within the project area. In many instances, the footprints of the existing and the proposed structures overlap to some extent, and in some instances, the footprints overlap each other entirely. When there is only a partial overlap between the footprints of the existing and proposed structures, there is the potential for an essential feature to be restored once an existing structure is removed because the footprint (or a portion of the footprint) of the removed structure will not be covered by the footprint of the proposed new structure. Thus, once completed, a proposed project may benefit the designated critical habitat for a species by restoring the essential features within that portion of the action area. Where the footprint of the existing and proposed structures overlap, the effects to the essential features and critical habitat are expected to continue after completing the proposed project.

Looking at the project design plans provided by the USACE for the proposed project, it is difficult to discern the exact overlap between the existing and the proposed project elements (e.g., piles to be removed, piles to be installed, access walkway, and terminal platform). The plans for all elements of the proposed project are not drawn to scale, making a direct comparison or overlay of the existing conditions diagram and the proposed design plans inexact. Further, as these are project design plans and not documentation of the final construction, there likely will be some small discrepancies between the location of project elements in the plans provided and their actual construction. Therefore, the exact overlap of existing and new structures can only be estimated. There will be some inherent and incalculable variability in actual dimensions and placement of structures within the project site such that the precise impacts of the proposed project on the essential features will be difficult to quantify. Thus, calculating the general estimated difference in overlap between the overwater area and support piles for the existing and proposed in-water structures allows us to determine the overall effects to the essential features and functioning critical habitat within the action area once the proposed project is completed. In this instance, we assume complete overlap of the existing and proposed structures. While this assumption may result in underestimating both the beneficial and adverse impacts to critical habitat, we believe this does not affect the resulting determination concerning the total amount of functioning critical habitat available following the completion of the project. We believe this approach uses the best information available.

Additionally, some project elements are likely to have co-extensive effects wherein two or more project elements may adversely affect more than one essential feature in the same location (e.g., when support piles are installed underneath a dock, displacement of stable unconsolidated sediments essential feature occurs simultaneously with shading and adverse effects to the water transparency essential feature). We recognize the effects to the different essential features, but do not double count these effects to critical habitat because once a single feature is removed from a location, the habitat is no longer functional as critical habitat. Adverse effects to a different essential feature in the same location do not constitute additional adverse effects to the critical habitat as a whole.

We believe the proposed action will affect the essential features of Johnson's seagrass designated critical habitat as outlined below.

Adequate Water Quality

The proposed project includes the removal of a mooring pile, an existing dock, its support piles, and the associated boatlift as well as the installation of a new dock, support piles, and mooring dolphin piles. The water quality essential feature may be affected by increased turbidity due to removal of the existing structures, installation of new piles, or shoreline stabilization; however, we believe the effect to the water quality essential feature will be insignificant. We expect turbidity to be temporary (i.e., in-water work will last up to 5 weeks) and contained to the immediate area by the use of turbidity curtains.

Adequate Salinity Levels

Because the proposed action lacks any potential to affect salinity levels in the action area, we believe the proposed action will have no effect on the salinity levels essential feature of Johnson's seagrass designated critical habitat.

Adequate Water Transparency

The proposed project includes the removal of a mooring pile, an existing dock, its support piles, and the associated boatlift as well as the installation of a new dock, support piles, and mooring dolphin piles. The water transparency essential feature may be affected by increased turbidity due to removal of the existing structures, installation of new piles, or shoreline stabilization; however, we believe this effect to the water transparency essential feature will be insignificant. We expect turbidity to be temporary (i.e., in-water work will last up to 5 weeks) and contained to the immediate area by the use of turbidity curtains.

As discussed in section 3.2, completed structures can have long-term effects on Johnson's seagrass critical habitat because of the shade they produce. Shading from docks results in the complete loss of the water transparency essential feature of Johnson's seagrass critical habitat underneath the structure. We only expect adverse effects in the area immediately underneath a dock, as any shading to nearby areas will be temporary in nature (i.e., shading and light transmission will change over the course of the day) and therefore insignificant. Currently, the water transparency essential feature is not present under the existing dock structure and the area under the existing dock structure is not functioning as critical habitat for Johnson's seagrass. To calculate the impact of the proposed project on the water transparency essential feature for Johnson's seagrass critical habitat present in the action area, we first look at how much of this feature will be restored by the proposed removal of the existing dock structure. [We note here that the existing dock support piles are located adjacent to the decking of the existing dock, and the impact of removing the piles will be considered separately and in addition to the impact of removing the dock.]

Removing the existing 516.69 ft² irregular T-shaped dock will remove the shading in the area that had been covered by the dock decking, thereby eliminating the adverse effect to the water transparency essential feature. We believe this is a benefit to the water transparency essential feature, and this benefit will restore the functionality of critical habitat in that area of the project

site. However, it appears from the project plans that a large portion of this restored area will be covered by the footprint of the proposed 439 ft² T-shaped replacement dock. The water transparency essential feature of Johnson's seagrass designated critical habitat is likely to be adversely affected by shading from the new replacement dock not built to the dock construction guidelines. Thus, any benefit from the removal of the existing dock structure would be temporary in the area where the existing and proposed structures overlap.

As mentioned previously, it is difficult to discern the exact overlap between the existing and the proposed project elements (e.g., piles to be removed, piles to be installed, access walkway, and terminal platform) based on the proposed project plans provided. The plans for all elements of the proposed project are not drawn to scale, making a direct comparison or overlay of the plans inexact. Further, as these are project plans and not documentation of the final construction, there likely will be some small discrepancies between the location of project elements in the plans provided and their actual construction. Therefore, the exact overlap of existing and new structures can only be estimated.

After reviewing the proposed project plans, we believe the footprints of the existing and proposed dock structures largely overlap, and will assume complete overlap. Because the existing dock structure to be removed is larger (516.69 ft²) than the proposed replacement dock structure (439 ft²), we believe the removal of the existing dock and installation of the replacement dock, taken together, will restore the function of 77.69 ft² of Johnson's seagrass designated critical habitat by restoring the adequate water transparency essential feature.

Adequate Stable, Unconsolidated Sediments

The proposed project includes the removal of a mooring pile, an existing dock, its support piles, and the associated boatlift as well as the installation of a new dock, support piles, and mooring dolphin piles. Installed piles displace the stable, unconsolidated bottom sediments essential for the species. Currently, the stable, unconsolidated essential feature is not present where piles are installed and these areas are not functioning as critical habitat for Johnson's seagrass. As noted above, the 14 existing dock support piles are located adjacent to the decking of the existing dock, and the 2 boatlift support piles and existing mooring pile are also outside the footprint of the existing dock. Thus, the impact of removing some of these piles could be a separate, additional benefit to the Johnson's seagrass critical habitat through the restoration of the stable, unconsolidated sediments essential feature. However, in areas where that essential feature is restored but the other 3 essential features are not present, we will not see a corresponding benefit to Johnson's seagrass critical habitat as whole. We calculate below the impact of each type of pile to be removed or installed on the stable, unconsolidated sediment essential feature. We then determine whether the impact to the essential feature results in a corresponding impact to functioning critical habitat in the action area.

Removal and Installation of Dock Support Piles

The proposed project includes the removal of 14 existing 12-diameter wood piles, which restores 11.2 ft² the stable, unconsolidated sediment essential feature in the project area ($\text{Area of a circle} = \pi r^2 = 3.14(0.5 \text{ ft})^2 = 0.8 \text{ ft}^2 \times 14 \text{ piles} = 11.2 \text{ ft}^2$). The proposed smaller replacement dock includes the installation of 13 new 12-in diameter wood dock support piles, which will adversely affect 10.4 ft² of the stable, unconsolidated essential feature. As

discussed above, the nature of the project plans make it difficult to ascertain the exact overlap of the existing and proposed structures, including the exact pile removal/installation locations in relation to the decking of both the removed and replacement structures. Removal of the existing dock support piles results in benefits to the stable, unconsolidated sediment essential feature in areas that remain physically unencumbered following pile removal (i.e., the removed pile is not replaced with a new pile), and installation of dock support piles results in an adverse effect to the stable, unconsolidated sediment essential feature in areas that were previously unencumbered. We assume the restored area will remain unencumbered, and the new piles will be placed in previously unencumbered areas, and therefore that removal provides a benefit to the unconsolidated sediment essential feature and installation results in an adverse effect to the feature. There is not necessarily a corresponding benefit or adverse effect to Johnson's seagrass critical habitat as a whole, however, because of potential impacts to the other 3 essential features that may be present. All 4 essential features must be present in an area for it to function as critical habitat for Johnson's seagrass. Taken together, the removal of the existing dock support piles and the installation of new dock support piles will restore 0.8 ft² of the stable, unconsolidated essential feature in the action area; however, this will not result in a benefit to Johnson's seagrass critical habitat due to shading from the new overwater structure in the area where the piles will be removed and installed.

Removal of Existing Mooring Pile

The removal of the existing 12-in diameter wood mooring pile will result in the restoration 0.8 ft² of the stable, unconsolidated sediment feature. This area will be covered by the new replacement dock's T-terminal, which will adversely affect another essential feature. The restoration of the stable, unconsolidated sediment essential feature will not result in a benefit to Johnson's seagrass critical habitat due to shading from the new overwater structure.

Removal of Boatlift Support Piles

As discussed above, the nature of the project plans make it difficult to ascertain the exact overlap of the existing and proposed structures; however, we believe the removal of the 2 concrete boatlift support piles will result in a benefit to the stable, unconsolidated sediments essential feature. Based on the plans provided, it appears these piles are the only existing piles that are completely outside the footprints of both the existing and proposed replacement structures. The project plans indicate that these boatlift piles are concrete, but do not provide estimates of the size of the piles. We will therefore assume that these concrete boatlift piles are the standard 12-in square dimension typical of piles made out of this material for this purpose. Thus, we believe the removal of 2 existing 12-in square concrete boatlift piles will result in a 2 ft² benefit to the stable, unconsolidated sediments essential feature. Because the essential feature will be restored in area where the other 3 essential features for Johnson's seagrass critical habitat area present, we believe this benefit will restore the functionality of Johnson's seagrass critical habitat in that portion of the action area ($Area\ of\ a\ square = L \times W = (1\ ft \times 1\ ft) \times 2\ piles = 2\ ft^2$).

Installation of Mooring Dolphin Piles

The stable, unconsolidated sediments essential feature of Johnson's seagrass designated critical habitat is likely to be adversely affected by the installation of 2 new 3-pile mooring dolphins. These piles will cover or displace the essential feature in a portion of the action area completely outside the footprints of both the existing and proposed dock structures (inclusive of dock

support piles). Installation of 2 new 3-pile mooring dolphins using 12-in diameter wood piles will result in the loss of 4.8 ft² of the stable, unconsolidated sediment essential feature in the action area ($Area\ of\ a\ circle = \pi r^2 = 3.14(0.5\ ft)^2 = 0.8\ ft^2 \times 6\ piles = 4.8\ ft^2$). Because this essential feature will be lost in an area where the other 3 essential features for Johnson's seagrass critical habitat are present, we believe this loss will result in the loss of functional critical habitat.

In summary, removal and installation of the dock structure will benefit 77.69 ft² of Johnson's seagrass critical habitat by restoring the adequate water transparency essential feature within the action area. The removal of the 2 existing concrete boatlift piles will restore 2 ft² of Johnson's seagrass critical habitat by restoring the stable, unconsolidated sediments essential feature in the action area. The installation of 2 new 3-pile mooring dolphins will result in the loss of 4.8 ft² of Johnson's seagrass critical habitat by removing the stable, unconsolidated sediments essential feature in the action area. In total, 74.89 ft² of functioning Johnson's seagrass critical habitat will be restored from the proposed project (77.69 ft² + 2 ft² - 4.8 ft²).

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 action area of the proposed action. 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.^{3,4,5} 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

³ 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)

⁴ 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

⁵ 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

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, and if the effect of the alteration is to appreciably diminish the value of critical habitat for the conservation of the species. We intend the phrase "significantly delay" in development of essential features to encompass a delay that interrupts the likely natural trajectory of the development of physical and biological features in the designated critical habitat to support the species' recovery.

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 project's 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. As discussed in Section 5, the project will adversely affect critical habitat in certain portions of the action area, but will restore critical habitat in other

portions. Taken together, the project will restore function to 74.89 ft² of Johnson's seagrass critical habitat in the area.

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 that although the project will have adverse effects on critical habitat within the action area, on the whole the proposed action will restore function to 74.89 ft² ($74.89 \text{ ft}^2 \div 43,560 \text{ ft}^2 \text{ per 1 acre} = 0.00172 \text{ ac}$) of Johnson's seagrass designated critical habitat. Thus, we believe the proposed action's 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 benefit to 74.89 ft² (0.00172 ac) of designated critical habitat for Johnson's seagrass would equate to an increase in available Johnson's seagrass critical habitat by 0.0000076% ($[0.00172 \text{ ac} \times 100] \div 22,574 \text{ ac}$). This benefit will affect the conservation value of available critical habitat to an extent that it would affect Johnson's seagrass self-sustaining populations by increasing 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 benefit to critical habitat due to the proposed action, alone or in combination with the other projects 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. Additional portions of the project site will be available for the long-term as a result of the proposed action.

Based on the above analysis, we conclude that the effects (adverse and beneficial) 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 project will adversely affect certain areas of functioning Johnson's seagrass critical habitat within the action area, and will restore function to other areas of Johnson's seagrass critical habitat. Taken together, the project will restore function to 74.89 ft² (0.00172 ac). The proposed action will not

interfere with achieving the relevant habitat-based recovery objectives for Johnson’s seagrass. It is our opinion that the proposed action will not impede the critical habitat’s ability to support Johnson’s seagrass conservation, despite permanent adverse effects. Although we expect permanent adverse effects to critical habitat in certain areas, as a result of the project more functional critical habitat will be restored. Therefore, we conclude that the action, as proposed, although likely to adversely affect Johnson’s seagrass critical habitat, is 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.nmfsser@noaa.gov. Refer to the present Biological Opinion by title, Deshe N Bay Road Dock Seawall, issuance date, NMFS ECO tracking number, SERO-2021-01329, and USACE permit number, SAJ-2020-04038 (LP-LOB). 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.

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