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

05/22/2020

F/SER31: MDA
SERO-2019-01166

Chief, Miami Section
Jacksonville District Corps of Engineers
Department of the Army
9900 Southwest 107 Avenue, Suite 203
Miami, Florida 33176

Ref.: SAJ-2019-01205, The Shore Condo Inc., Installation of Rip Rap, Miami Shores, Miami-Dade County, Florida

Dear Sir or Madam:

Enclosed is the National Marine Fisheries Service's (NMFS) Biological Opinion on the U.S. Army Corps of Engineers, Jacksonville District's (USACE) proposed action to issue a regulatory permit to The Shore Condo for the installation of 296 linear feet of riprap at the toe of the existing seawall. This project is located at 1700 NE 105th Street, Miami Shores in Miami-Dade County, Florida. NMFS concludes that the proposed action may affect, but is not likely to adversely 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), Nassau grouper and smalltooth sawfish (U.S. DPS). NMFS concludes that the proposed action is likely to adversely affect, but will not destroy or adversely modify, Johnson's seagrass critical habitat.

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. If you have any questions regarding this consultation, please contact Melissa Alvarez, Consultation Biologist, at (954) 734-0716, or by email at melissa.alvarez@noaa.gov.

Sincerely,

CRABTREE.ROY.E.DR.1365849559 Digitally signed by CRABTREE.ROY.E.DR.1365849559 Date: 2020.05.22 10:37:20 -04'00'

Roy E. Crabtree, Ph.D.
Regional Administrator

Enc.: Biological Opinion

File: 1514-22.F.4

Endangered Species Act - Section 7 Consultation
Biological Opinion

Agency:	United States Army Corps of Engineers (USACE), Jacksonville District
Applicant:	The Shore Condo Inc. Permit Number SAJ-2019-01205
Activity:	Installation of rip rap along seawall in Miami-Dade County, Florida
Consulting Agency:	National Oceanic and Atmospheric Administration, National Marine Fisheries Service (NMFS), Southeast Regional Office, Protected Resources Division, St. Petersburg, Florida Consultation Number SERO-2019-01166
Approved By:	CRABTREE.ROY.E.DR.1365849559 Digitally signed by CRABTREE.ROY.E.DR.1365849559 Date: 2020.05.22 10:38:18 -04'00' Roy E. Crabtree, Ph.D., Regional Administrator NMFS, Southeast Regional Office St. Petersburg, Florida
Date Issued:	05/22/2020

Table of Contents

List of Figures

List of Tables

Acronyms and Abbreviations

CFR	Code of Federal Regulations
DPS	Distinct Population Segment
ESA	Endangered Species Act
MLW	Mean Low Water
NMFS	National Marine Fisheries Service
NOAA	National Ocean and Atmospheric Administration
Opinion	Biological Opinion
PCTS	Public Consultation Tracking System
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
lin ft	linear foot/feet

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 U.S. 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 action within Miami-Dade County, Florida. This Opinion analyzes the project'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 the Jacksonville District of the U.S. Army Corps of Engineers (USACE) and other sources of information, including the published literature cited herein.

Updates to the regulations governing interagency consultation (50 CFR part 402) were effective on October 28, 2019 [84 FR 44976]. This consultation was pending at that time, and we are applying the updated regulations to the consultation. As the preamble to the final rule adopting the regulations noted, "[t]his final rule does not lower or raise the bar on Section 7 consultations, and it does not alter what is required or analyzed during a consultation. Instead, it improves clarity and consistency, streamlines consultations, and codifies existing practice." We have reviewed the information and analyses relied upon to complete this biological opinion in light of the updated regulations and conclude the opinion is fully consistent with the updated regulations.

1 CONSULTATION HISTORY

NMFS received a request for formal consultation under Section 7 of the ESA from the USACE on June 6, 2019. NMFS requested additional information on December 5, 2019, to which the USACE responded on December 6, 2019. We initiated consultation the same day.

2 DESCRIPTION OF THE PROPOSED ACTION AND ACTION AREA

2.1 **Proposed Action**

The USACE proposes to permit the installation of 296 linear feet (lin ft) of rip-rap at the toe of the existing seawall with a maximum seaward distance of 8 feet (ft) from shore to overlay an area of 2,368 square feet (ft^2) of sea bed. The rip-rap will consist of 1 ft to 3 ft diameter coral boulders. All work will be completed from the water via barge. The proposed action will result in no additional motorized vessel storage.

In-water work is expected to take 5 days to complete during daylight hours only. The applicant will comply with NMFS's Sea Turtle and Smalltooth Sawfish Construction Conditions[1] and will use turbidity curtains.

2.2 **Action Area**

The proposed project site is located at 1700 NE 105th Street, Miami Shores, Miami-Dade County, Florida (25.872247°N, -80.165544°W [North American Datum 1983 (NAD83)]) (Figure 1) in Biscayne Bay approximately 9.4miles (mi) northwest of mouth of Government Cut, the nearest opening to the Atlantic Ocean.

[1] 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, accessed June 2, 2017.

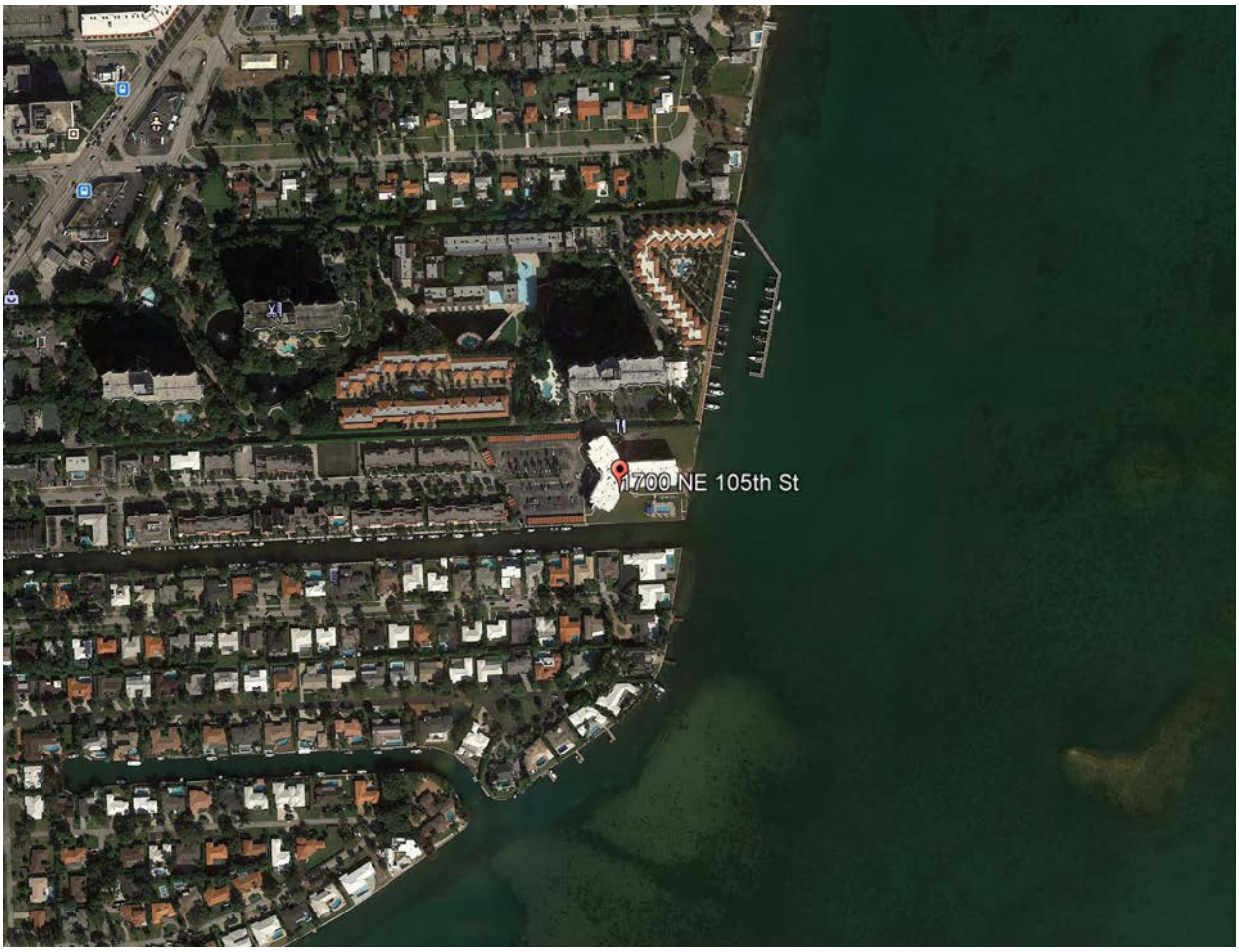

Figure 1. Image showing the project site (red pin) in Biscayne Bay at 1700 NE 105th Street, Miami Shores, Miami-Dade County, Florida (©2019 Google).

A benthic survey was performed on January 16, 2019. There were no mangroves or seagrasses within the survey area. There are non-listed corals and sponges present within the study area. Depths adjacent to the seawall were 4.6 to 6.0 ft mean low water (MLW). The upland lot is multi-family residential property with an existing seawall adjacent to other residential properties with existing seawalls, docks, and boat slips. The project area has a sandy substrate, except for a 100 lin ft area in the center where upland fill (rubble) from a seawall blowout overlays the sea floor.

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 Code of Federal Regulations [CFR] 402.02). For the purposes of this Federal action, the action area includes the 296-lin ft of armored shoreline and submerged habitat within the immediate vicinity of the project site that will be affected by the proposed action, including the submerged habitat within the boundary of the turbidity curtain.

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 Determination(s) for Species the Action Agency and/or NMFS Believe May Be Affected by the Proposed Action

Species	ESA Listing Status[2]	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
Nassau grouper	T	NLAA	NLAA

We believe the project will have no effect on leatherback sea turtle due to the species' very specific life history strategy, which is not supported at the site. Leatherback sea turtles have 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 actions.

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

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 Species Not Likely to be Adversely Affected

The action area contains shallow water habitat that may be used by sea turtles species, Nassau grouper and smalltooth sawfish for foraging and refuge. Sea turtles, Nassau grouper and smalltooth sawfish may be affected by their inability to access the action area due to their avoidance of construction activities and physical exclusion from the project area due to blockage by turbidity curtains. We believe habitat displacement effects to sea turtles, Nassau grouper and smalltooth sawfish will be insignificant given the relatively small area of impact and abundance of habitat outside of the action area, especially outside of the canal system, and the temporary

[2] E = endangered; T = threatened; NLAA = may affect, not likely to adversely affect; NE = no effect

and intermittent nature of the project (i.e., in-water work will last up to 2 days 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 forage in adjacent areas in Biscayne Bay with similar habitat.

Sea turtles and ESA-listed fish may be affected by the permanent loss of 1,568 ft^2 of habitat due to the installation of riprap boulders along the toe of the existing seawall. The amount of undisturbed sea bed habitat being impacted by the footprint of the rip-rap is 1,568 square feet (ft^2) (296 total lin ft minus 100-lin ft of upland fill is 196 lin ft x 8 ft depth of rip rap = 1,568 ft^2). We believe the permanent loss of habitat will be insignificant to sea turtles and ESA-listed fish given the proposed project's small area of impact, and the similar surrounding habitat available in Biscayne Bay.

It is reasonable to expect encrusting marine organisms such as sponges, tunicates, corals, sea-whips, gorgonians, and algae will accumulate and grow on the proposed riprap. Therefore, the establishment of riprap boulders may provide an indirect benefit to sea turtles by providing higher quality forage habitat for these species in the future than the existing sandy/silty bottom.

3.2 **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."

3.2.1 **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 A	A portion of the Indian River, Florida, north of the Sebastian Inlet Channel
Unit B	A portion of the Indian River, Florida, south of the Sebastian Inlet Channel
Unit C	A portion of the Indian River Lagoon, Florida, in the vicinity of the Fort Pierce Inlet
Unit D	A portion of the Indian River Lagoon, Florida, north of the St. Lucie Inlet
Unit E	A portion of Hobe Sound, Florida, excluding the federally marked navigation channel of the Intracoastal Waterway
Unit F	A portion of the south side of Jupiter Inlet, Florida
Unit G	A portion of Lake Worth, Florida, north of Bingham Island
Unit H	A portion of Lake Worth Lagoon, Florida, located just north of the Boynton Inlet
Unit I	A portion of northeast Lake Wyman, Boca Raton, Florida, excluding the federally marked navigation channel of the Intracoastal Waterway
Unit 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

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 25º45´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.

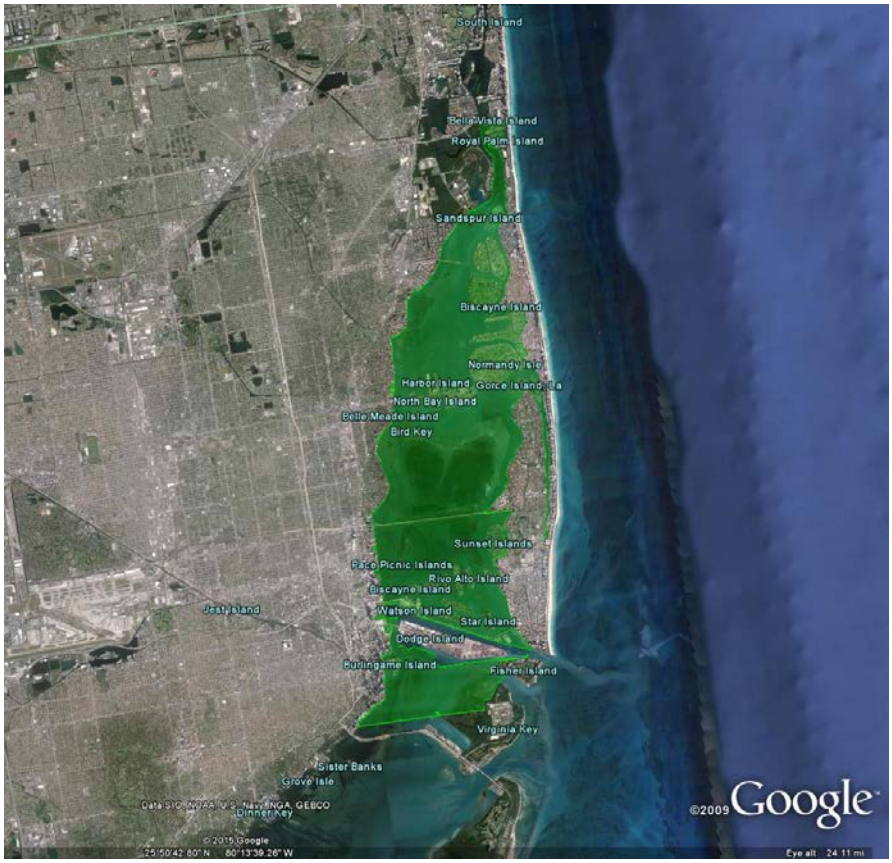

Figure 2. Johnson's seagrass critical habitat Unit J (©2015 Google, Data SIO, NOAA, U.S. Navy, NGA, GEBCO)

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.

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 is a description of the past and ongoing human and natural factors leading to the current status of the species and its designated critical habitat within the action area. The environmental baseline is a "snapshot" of the action area at a specified point in time and includes the past and present impacts of state, tribal, local, and private actions on the species and its

critical habitat, and the impacts of state, tribal, local, and private actions that will occur during the same time period as the consultation in progress. Unrelated federal actions affecting Johnson's seagrass and its designated critical habitat that have completed formal or early consultation are also part of the environmental baseline, as are federal and other actions within the action areas that may benefit the species or its critical habitat. This Opinion describes the effects of these activities in the sections below.

4.1 Status of Johnson's Seagrass Critical Habitat within the Action Areas

This consultation focuses on activities occurring in Unit J, which encompasses the northern portion of Biscayne Bay from NE 163rd Street south to Central Key Biscayne at 25º45´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 diverse biological communities including intertidal wetlands, seagrasses, hard bottom, and open water. Unit J is wholly within the Biscayne Bay Aquatic Preserve.

4.2 Factors Affecting Johnson's Seagrass and its Designated Critical Habitat in the Action Areas

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 May 20, 2020.

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

5.1 Johnson's Seagrass Critical Habitat

The project is located within Johnson's seagrass critical habitat (Unit J) and all 4 essential features are present on all areas of the seawall, except for the area of upland fill along a 100-ft length of damaged seawall. The 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 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 critical habitat because the proposed actions lack any potential to affect adequate salinity levels in the action area.

The adequate water quality and adequate water transparency essential features of Johnson's seagrass critical habitat may be affected by increased turbidity due to riprap installation; however, we believe this effect will be insignificant. Turbidity is expected to be temporary (e.g., 5 days) and contained to the immediate area by the use of turbidity curtains.

The proposed work is likely to adversely affect 1,568 ft² (0.036 ac[3]) of Johnson's seagrass critical habitat by removing the stable, unconsolidated sediments essential feature as a result of the installation of riprap (296 lin ft [total project length] – 100 lin ft [length of eroded fill] = 196 lin ft x 8 ft waterward riprap placement = 1,568 ft[2]).

6 CUMMULATIVE 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 are not aware of any other future state, tribal or local private actions that are reasonably certain to occur within the action area.

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.[4,5,6] 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 affect the water quality and water clarity essential features of Johnson's seagrass critical habitat. Flood control and imprudent water management practices will continue to result in freshwater inputs into estuarine systems, thereby degrading water quality and altering salinity. Long-term, large-scale reduction in

[3] This conversion of 1,568 square feet to acres has been calculated by dividing 1,568ft² by 43,560 ft² per acre and the result is 0.036 acres.
[4] 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)
[5] 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
[6] 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

salinity has been identified as a potentially significant threat to Johnson's seagrass and may lead to the destruction or adverse modification 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. This analysis takes into account the geographic and temporal scope of the proposed action, 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 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.

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 the proposed action will adversely affect a total of 1,568 ft^2 (0.036 ac) of Johnson's seagrass designated critical habitat. However, the project site is 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 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 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 1,568 ft^2 (0.036 ac) of designated critical habitat for Johnson's seagrass would equate to a loss of 0.00016% of Johnson's seagrass critical habitat ([0.036 ac × 100] ÷ 22,574 ac). This minimal loss 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 actions will not appreciably diminish the conservation value of critical habitat 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 site 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 area.

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

8 CONCLUSION

We have analyzed the best available data, the current status of the species and the critical habitat, environmental baseline, effects of the proposed action, and cumulative effects, it is our opinion that the loss of 1,568 ft^2 (0.036 ac) from the proposed action, when considering the baseline and cumulative effects, 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. Therefore, we conclude that the action, as proposed, is 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 action 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, Shore Condo Inc. Riprap, issuance date, NMFS ECO identifier number SERO-2019-01166; and USACE permit number SAJ-2019-01205. 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 actions is exceeded, (2) new information reveals effects of the actions that may affect listed species or critical habitat in a manner or to an extent not previously considered, (3) the identified actions are 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 actions.

12 LITERATURE CITED

Dawes, C.J., Lobban, C.S., Tomasko, D.A., 1989. A comparison of the physiological ecology of the seagrasses *Halophila decipiens* Ostenfeld and *H. johnsonii* Eiseman from Florida. Aquatic Botany 33, 149-154.

DiCarlo, G., Badalamenti, F., Jensen, A.C., Koch, E.W., Riggio, S. 2005. Colonization process of vegetative fragments of *Posidonia oceanica* (L.) Delile on rubble mounds. Marine Biology 147, 1261-1270.

Durako, M.J., Kunzelman, J.I., Kenworthy, W.J., Hammerstrom, K.K., 2003. Depth-related variability in the photobiology of two populations of *Halophila johnsonii* and *Halophila decipiens.* Marine Biology 142, 1219-1228.

Eiseman, N. and C. McMillan. 1980. A new species of seagrass, Halophila johnsonii, from the Atlantic coast of Florida. Aquatic Botany 9: 15-19.

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, accessed June 2, 2017.

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.