

**Brunswick Harbor Modification Project
Jekyll Island Fishing Pier Shoreline Nourishment
Glynn County, Georgia
Final Supplemental Environmental Assessment and Finding of No Significant
Impact**

Appendix B

**Endangered Species Act
Biological Assessment
National Marine Fisheries Service**

**U.S. ARMY CORPS OF ENGINEERS
SAVANNAH DISTRICT
100 WEST OGLETHORPE AVENUE
SAVANNAH, GEORGIA 31401
March 2024**



This page intentionally left blank.

Appendix B Table of Contents

B.1. Correspondence

B.2. NMFS Section 7 ESA Consultation

**Brunswick Harbor Modification Project
Jekyll Island Fishing Pier Shoreline Nourishment
Glynn County, Georgia
Final Supplemental Environmental Assessment and FONSI**

B.1

Correspondence

**U.S. ARMY CORPS OF ENGINEERS
SAVANNAH DISTRICT
100 WEST OGLETHORPE AVENUE
SAVANNAH, GEORGIA 31401
February 2024**



Wright, Summer G CIV USARMY CESAS (USA)

From: Wright, Summer G CIV USARMY CESAS (USA)
Sent: Friday, October 6, 2023 5:08 PM
To: nmfs.ser.esa.consultations@noaa.gov
Subject: Request for Endangered Species Section 7 Consultation
Attachments: BHMP Jekyll BU NMFS Expedited Consultation_2023.pdf; Jekyll Shoreline Nourishment.kmz

Good afternoon,

USACE Savannah District requests NMFS written concurrence with the effect determinations. We have attached the expedited informal consultation format. Also attached is a KMZ file of the action area.

Pursuant to USACE's request for expedited informal consultation, we are providing, enclosing, or otherwise identifying the following information:

- A description of the action to be considered;
- A description of the action area;
- A description of any listed species that may be affected by the action; and
- An analysis of the potential routes of effect on any listed species.

Thank you,

Summer Wright
Biologist, Planning Branch
Savannah District
M: (912)-222-8945

Wright, Summer G CIV USARMY CESAS (USA)

From: Sarah Garvin - NOAA Federal <sarah.garvin@noaa.gov>
Sent: Monday, November 27, 2023 10:37 AM
To: Wright, Summer G CIV USARMY CESAS (USA)
Subject: [Non-DoD Source] Sec 7 TRANSMITTAL: SERO-2023-02504 Jekyll Island Nourishment
Attachments: SERO-2023-02504 Jekyll Island Nourishment EXP LOC_BCCleared.pdf

Hello Summer --

Thank you so much for your patience. Please find attached your completed Section 7 consultation for the subject project.

The project has been assigned a tracking number in our NMFS Environmental Consultation Organizer (ECO), SERO-2023-02504. Please contact me and refer to the ECO tracking number if you should have any future inquiries regarding this project.

Thank you!
Sarah

On Thu, Nov 2, 2023 at 12:38 PM Wright, Summer G CIV USARMY CESAS (USA) <Summer.G.Wright@usace.army.mil> wrote:

Good afternoon Sarah,

Thank you very much for the update!

Summer

Summer Wright

Biologist, Planning Branch

Savannah District, USACE

M: (912)-222-8945

From: Sarah Garvin - NOAA Federal <sarah.garvin@noaa.gov>
Sent: Thursday, November 2, 2023 11:57 AM
To: Wright, Summer G CIV USARMY CESAS (USA) <Summer.G.Wright@usace.army.mil>
Subject: [Non-DoD Source] Assigned: SERO-2023-02504 Jekyll Island Nourishment

Hi Summer --

I am the biologist to whom the subject consultation request has been assigned. Thank you for the very thorough request letter. I have submitted a draft LOC into our internal review chain today, 11/02/2023. Please reference our ECO tracking database for this project, SERO-2023-02504, on any inquiries.

Thank you!
Sarah

--

Sarah Garvin (*she/her*)
Section 7 Biologist | Interagency Cooperation Branch
Protected Resources Division | Southeast Regional Office
National Marine Fisheries Service
phone: (727) 342-0249
email: sarah.garvin@noaa.gov

The ESA at 50: 50 Years of Conserving Species

[Section 7 Guidance Webpage](#)

This is a U.S. government email account. Your emails to this address may be reviewed or archived. Please do not send inappropriate material. Thank you.

"A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise." +Aldo Leopold

--

Sarah Garvin (*she/her*)
Section 7 Biologist | Interagency Cooperation Branch
Protected Resources Division | Southeast Regional Office
National Marine Fisheries Service
phone: (727) 342-0249
email: sarah.garvin@noaa.gov

[The ESA at 50: 50 Years of Conserving Species](#)

[Section 7 Guidance Webpage](#)



This is a U.S. government email account. Your emails to this address may be reviewed or archived. Please do not send inappropriate material. Thank you.

"A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise." +Aldo Leopold



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>

F/SER31:SG
SERO-2023-02504

Suzanne Hill
Environmental Team Lead, Planning Branch
Savannah District Corps of Engineers
Department of the Army
100 W Oglethorpe Avenue
Savannah, Georgia 31401-3604

Ref.: Jekyll Island Authority, Jekyll Island Nourishment, Jekyll Island, Glynn County, Georgia –
EXPEDITED TRACK

Dear Suzanne Hill,

This letter responds to your October 6, 2023, request pursuant to Section 7 of the Endangered Species Act (ESA) for consultation with the National Marine Fisheries Service (NMFS) on the subject action.

We reviewed the action agency's consultation request document and related materials. Based on our knowledge, expertise, and the action agency's materials, we concur with the action agency's conclusions that the proposed action is not likely to adversely affect the NMFS ESA-listed species and/or designated critical habitat.

We would like to offer the following clarifications to complement your incoming request for Consultation. Please include this information as applicable in future consultation requests. Your incoming request did not specify the Distinct Population Segments (DPS) of sea turtles and sturgeon that may be affected by the proposed action. We believe the proposed action is not likely to adversely affect the North Atlantic DPS of green sea turtle, the Northwest Atlantic DPS of loggerhead sea turtle, and the South Atlantic DPS and Carolina DPS of Atlantic sturgeon. We also believe the proposed action will have No Effect on the South Atlantic DPS of green sea turtles. Limited information previously indicated that benthic juveniles from both the North Atlantic and South Atlantic DPSs may be found in waters off the mainland United States. However, additional research has determined that juveniles from the South Atlantic DPS are not likely to occur in these waters, including the action area for this project.

On July 5, 2022, the U.S. District Court for the Northern District of California issued an order vacating the 2019 regulations that were revised or added to 50 CFR part 402 in 2019 ("2019 Regulations," see 84 FR 44976, August 27, 2019) without making a finding on the merits. On September 21, 2022, the U.S. Court of Appeals for the Ninth Circuit granted a temporary stay of the district court's July 5 order. On November 14, 2022, the Northern District of California issued an order granting the government's request for voluntary remand without vacating the 2019 regulations. The District Court issued a slightly amended order two days later on November 16, 2022. As a result, the 2019 regulations remain in effect, and we are applying the 2019 regulations here. For purposes of this consultation and in an abundance of caution, we considered whether the substantive analysis and conclusions articulated in the letter of



concurrence would be any different under the pre-2019 regulations. We have determined that our analysis and conclusions would not be any different.

This concludes your consultation responsibilities under the ESA for species and/or designated critical habitat under NMFS's purview. Reinitiation of consultation is required and shall be requested by the action agency or by NMFS where discretionary Federal involvement or control over the action has been retained or is authorized by law and: (a) take occurs; (b) 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 in this consultation; (c) the action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not previously considered in this consultation; or (d) if a new species is listed or critical habitat designated that may be affected by the action.

We look forward to further cooperation with you on other projects to ensure the conservation of our threatened and endangered marine species and designated critical habitat. If you have any questions on this consultation, please contact Sarah Garvin, Consultation Biologist, at (727) 342-0249 or by email at Sarah.Garvin@noaa.gov.

Sincerely,

David Bernhart
Assistant Regional Administrator
for Protected Resources

File: 1514-22.f.3

**Brunswick Harbor Modification Project
Jekyll Island Fishing Pier Shoreline Nourishment
Glynn County, Georgia
Final Supplemental Environmental Assessment and FONSI**

B.2

NMFS Section 7 ESA Consultation

**U.S. ARMY CORPS OF ENGINEERS
SAVANNAH DISTRICT
100 WEST OGLETHORPE AVENUE
SAVANNAH, GEORGIA 31401
February 2024**





DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, SAVANNAH DISTRICT
100 W. OGLETHORPE AVENUE
SAVANNAH, GEORGIA 31401-3604

October 6, 2023

Mr. David Bernhart
Assistant Regional Administrator for Protected Resources
National Marine Fisheries Service
Southeast Regional Office
St. Petersburg, Florida 33701

Re: Request for Initiation of Expedited Informal Consultation under Section 7(a)(2) of the Endangered Species Act for Beneficial Use Action for the Brunswick Harbor Modification Project (SERO-2020-03193.)

Dear Mr. Bernhart:

We are carrying out the proposed actions as described below. This letter is to request Endangered Species Act (ESA) concurrence from your office for amendment to the Brunswick Harbor Modification Project (BHMP). Previous consultation for the BHMP was concluded on May 24, 2021 (SERO-2020-03193). We are amending that consultation to include beneficial use of dredged material placement at an eroding shoreline at Jekyll Island. We have made the determination that the proposed activity may affect, but is not likely to adversely affect, any species listed as threatened or endangered by NMFS under the ESA of 1973, as amended. Our supporting analysis is provided below.

U.S. Army Corps of Engineers, Savannah District (Corps) requests NMFS written concurrence with the effect determinations.

Pursuant to USACE's request for expedited informal consultation, we are providing, enclosing, or otherwise identifying the following information:

- A description of the actions to be considered;
- A description of the action areas;
- A description of any listed species may be affected by the actions; and
- An analysis of the potential routes of effect on any listed species.

Purpose of Project

The purpose of the proposed action is to increase beneficial use (BU) opportunities for the Savannah District dredging operations, optimize capacity for the dredged material containment areas (DMCAs), provide environmental benefits, and support USACE's national effort to have 70% of dredged material be used for BU purposes by the year 2030. The Savannah District is planning for the placement of dredged material from the

new work dredged material of the Brunswick Harbor Modification Project (BHMP) as well as the future Operations and Maintenance (O&M) of the Brunswick Harbor Navigation Project (BHNP) that incorporates BU principles. Beneficial use of dredged material (BUDM) can restore and enhance habitat for a variety of aquatic and terrestrial species, improve eroded riverine and ocean facing shorelines, and increase recreational opportunities. Using dredged sediment beneficially is an important component of USACE's dredged material management strategy, which aims to environmentally and economically utilize sediment to create and preserve environmental habitat, benefit local communities, provide coastal storm risk management benefits, and reduce the input of dredged material into DMCA's, which brings value to the nation. Section 125 of the Water Resources Development Act (WRDA) of 2020 requires the Assistant Secretary of the Army, Civil Works (ASA(CW)) to maximize the beneficial use of dredged material obtained from construction or operation and maintenance (O&M) of the Corps of Engineers (Corps) water resource development projects.

On May 25, 2022, the Finding of No Significant Impact (FONSI) was signed for the Brunswick Harbor Modification Study (BHMS) Integrated Feasibility Report/Environmental Assessment IFR/EA. The 2022 IFR/EA and FONSI addressed the expansion of the Cedar Hammock Range bend widener and the expansion of the turning basin at Colonel's Island Terminal, and the creation of a vessel meeting area located at St. Simons Sound. The two expansions require removal of new work dredged material, and continued maintenance. The 2022 FONSI/EA addressed impacts to placement of the new work and O&M material into the existing Andrews Island Dredged Material Containment Area (DMCA). After completion of the 2022 IFR/EA, the Corps issued new guidance related to section 125 of 2020 WRDA. Consistent with that guidance, the Corps posted a 30-day public notice requesting proposals for beneficial use sites using the BHMP dredged material. In response to the public notice, Jekyll Island Authority (JIA) submitted a site for shoreline nourishment along the northwest end of Jekyll Island. Corps in its preliminary analysis of the JIA proposal has determined that the site is feasible and is therefore pursuing environmental compliance for the site. Environmental compliance will be achieved through a supplemental environmental assessment, and by amending the previous section 7 ESA consultation with NMFS (SERO-2020-03193).

The Brunswick Harbor Navigation Project (BHNP) includes the inner harbor and entrance channel operations and maintenance (O&M) of the dredged material. Dredging of the inner harbor and entrance channel typically occurs annually. O&M material from the inner harbor is placed into the Andrews Island DMCA, and O&M material from the entrance channel is placed into the Brunswick ocean dredged material disposal site (ODMDS) located offshore.

Proposed Action

The Corps proposes to establish the BU placement, shoreline nourishment, as described below. We request initiation of expedited informal consultation for the placement of new work material from the BHMP and future O&M maintenance material for the purpose of shoreline nourishment along the shoreline southwest of the Jekyll

Island Pier. The purpose of the shoreline nourishment is to restore historically existing shoreline, and stabilize and prevent further erosion from coastal impacts, including storm events, tidal extremes, wind-driven wave energy, and sea level rise. The need for the proposed action is due to the erosion of the shoreline that has been observed and quantified using historical aerial imagery, which has been identified as an area of concern by the JIA. This erosion is causing loss of saltmarsh, and the wake and tidal action is threatening the Clam Creek Road and recreational areas located on the northern portion of Jekyll Island.

The proposed action alternative is to directly place approximately 205,000 cy of primarily sandy dredged material from the Cedar Hammock Bend Widener expansion onto the degraded shoreline southwest of the Jekyll Island Fishing Pier. This location is on the landward, Brunswick River side of northern Jekyll Island. Initial placement will occur during construction of the bend widener under the BHMP. This site will not receive any hardened structure after sediment placement completion; therefore, material is expected to erode over time from natural forces. Future maintenance of this site will be required to restore lost sediment within the original design template. Future maintenance will utilize O&M material from the BHNP. For initial placement, hydraulic cutterhead will be the means of placing the dredged sediment into the proposed shoreline nourishment site. Pipeline will be moved around to achieve design elevation, with the use of heavy machinery to create even grade and design contours if needed. Future O&M placement may be done with either cutterhead pipeline or hopper dredge. Material will be primarily placed above the mean highwater mark (MHW) within the placement template. Adjacent to the inflow/outflow points of a tidal creek within the placement template, two buffer areas will be set at lower elevations to ensure continued tidal fluxes. The material will be placed in shallow areas that were historically intertidal and sandy mudflat habitat that has been extirpated or degraded due to loss of elevation from tidal and wave-driven erosional forces (Figures 2 and 3). Returning sediment along actively degrading subtidal to intertidal zones in this area will restore the historic shoreline footprint. Placement of sediment in this area will provide valuable protection and attenuate wave energy along the adjacent shoreline. This will provide additional foraging/nesting habitat for shorebirds. The additional substrate may also encourage natural recruitment of vegetation from the adjacent marsh, allowing for further stabilization of the existing topographic landscape.

This placement is associated with the Brunswick Harbor Modifications Project (BHMP). Informal consultation for the BHMP was completed on May 24, 2021, under consultation number SERO-2020-03193. The proposed action will use new work dredged material from the BHMP for initial placement. Future placements to restore lost material from the template, O&M dredged material from the BHNP will be used. The anticipated start date for this action is expected to occur in late 2024 to early 2025, depending on contract award for the BHMP. Shoreline nourishment will require future maintenance placements due to no hardened structure. At a minimum, USACE will implement placement of the O&M material at the site every 3-5 years, depending on suitable material available and the rate of erosion.

Impacts to ESA-listed species are evaluated below for shoreline nourishment using the new work material and future O&M material. The Corps has determined that the proposed action “May Affect, not likely to adversely affect” ESA-listed species in the action area. No critical habitat is in the placement area.



Figure 1. Proposed Beneficial Use Location.



Figure 2. 1988 aerial imagery of the proposed placement location. The proposed placement polygon is in red. The blue line is historical shoreline from 1855, and the yellow is historical shoreline from 1933 (GADNR).

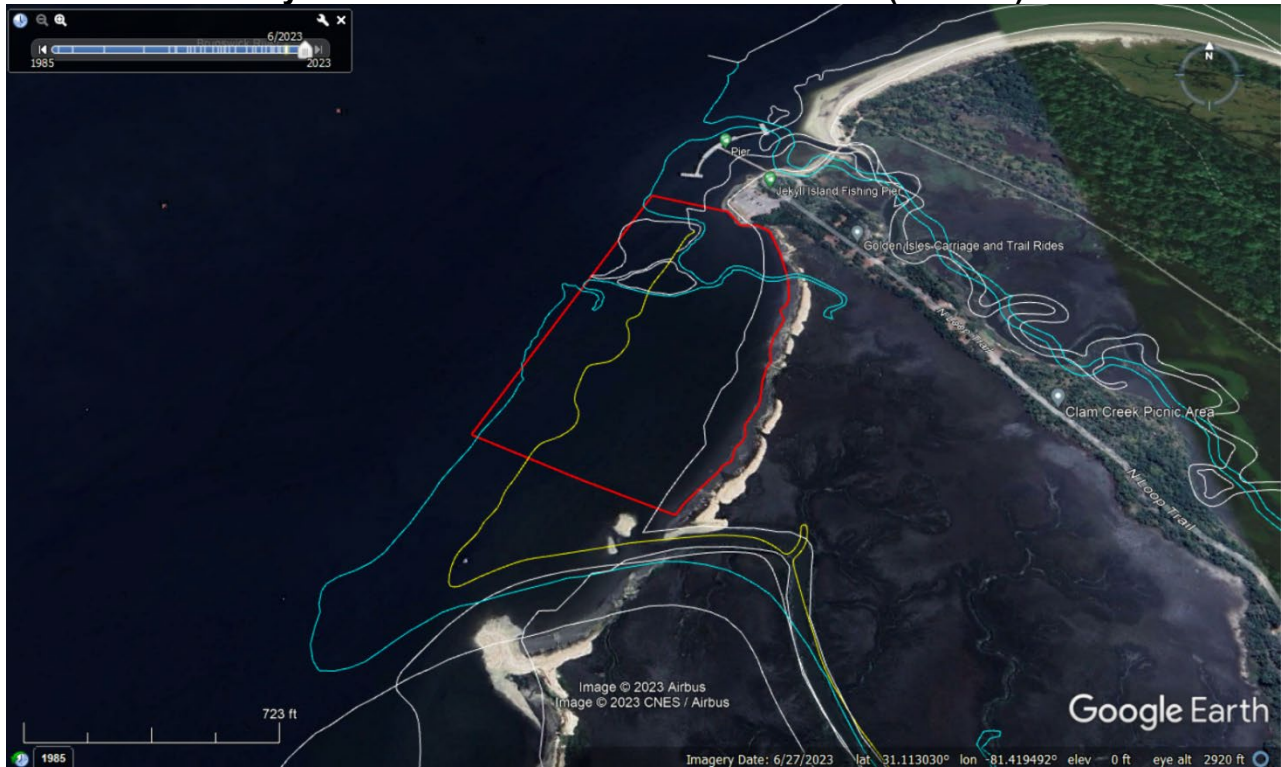


Figure 3. June 2023 aerial imagery of the current shoreline with comparisons to the proposed placement and the historical shorelines (blue-1855, yellow-1933).

Table 1. Proposed Action Location.

Name	Location (lat/long)	Dimensions/Size (area)	Reach Source	Construction Method
Shore Nourishment southwest of the Jekyll Island Fishing Pier Along the Brunswick River Side of Jekyll Island	31.112471°N, -81.419019°W	30 acres	<p>Initial Placement: Cedar Hammock Bend Widener expansion</p> <p>Subsequent O&M Placements:</p>	Dredged material will be pumped to the site via cutterhead pipeline dredge. Pipe will be moved around to achieve design elevation. Heavy machinery may be required to achieve even grade and design contours.

Table 2. Estimated initial and maintenance placement volumes and approximate placement reoccurrence rate.

Initial Placement Volume (CY)	Maintenance Placement Minimum (CY)	Maintenance Placement Maximum (CY)	Approx. Minimum Reoccurrence Rate (Yrs)
205,000	Dependent upon shoreline erosion extent and amount of material available.	100,000 cy	2-5

Description of the Action Area

The *action area* is all areas to be affected by the Federal action and not merely the immediate area involved in the action (50 CFR 402.02). *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. The action area is distinct from and can be larger than the project footprint because some elements of the project may affect listed species or critical habitat some distance from the project footprint. The action area, therefore, extends out to a point where no effects from the project are expected to occur.

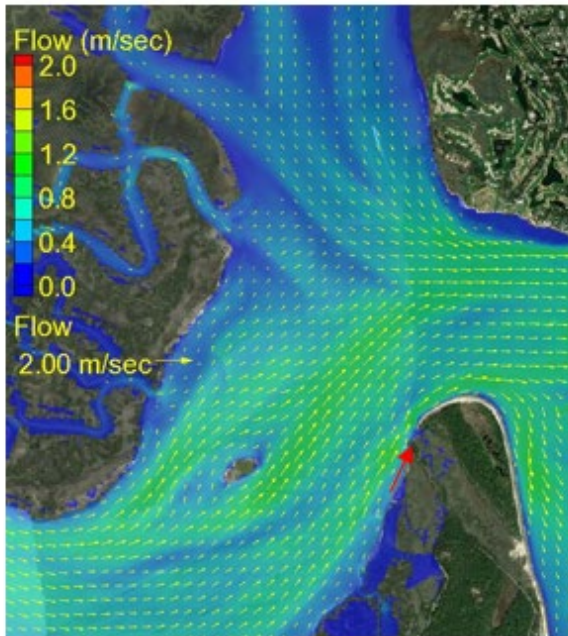
The proposed action area is located on the northern Brunswick River side of Jekyll Island, GA. The tidal range in this area is 0.00 ft (MLLW) and 7.39 ft (MHHW) (Table 3). The area experiences semi-diurnal tides. A mixture of freshwater from the Brunswick River and saltwater from the Atlantic Ocean causes varying amounts of salinity levels. Most of the project area is open water that receives semidiurnal tidal flushing from St. Simons Sound. As a result, the salinity levels tend to be approximately 25 parts per thousand (ppt), depending on tide stage. The average St. Simons Sound tide range is approximately 6.5 feet, and the water in the harbor is well-mixed with a relatively

uniform salinity. The proposed action area is adjacent to smooth cordgrass-dominated salt marsh with two tidal creek inflow/outflow points. The daily average median turbidity (NTU) reaches peaks during the rainy season (late winter, spring), most likely due to downstream flows influenced by rain events carrying more sediment down the river.

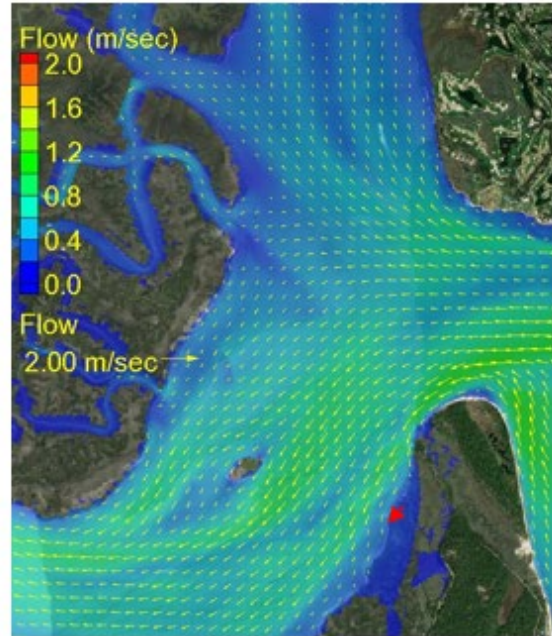
Table 3. Water Levels and Tide Ranges for the Two Nearby NOAA Stations.

Station ID	Station Name	Mean Higher High Water (feet)	Mean High Water (feet)	Mean Tide Level (feet)	Mean Sea Level (feet)	Mean Low Water (feet)	Mean Lower Low Water (feet)
8677832	Jekyll Island Marina, Jekyll Creek, GA	7.39	7.04	3.63	3.75	0.22	0.00
8677406	Howe Street Pier, Brunswick, GA	7.72	7.35	3.79	4.01	0.22	0.00

Material placement-generated turbidity plumes are limited to an area only a few hundred feet to a few thousand feet and most turbidity settles out quickly once material placement is complete (2020 SARBO, Section 3.1.1.2). Turbidity plume directions have been estimated for the placement activity (Figures 4 and 5). Turbidity plume estimations were generated based on GENCADE modeling completed by the USACE Engineering Research Development Center (ERDC). GenCade is a numerical model that calculates shoreline change, wave-induced longshore sediment transport, and morphology. Ebb-tidal flows and flood tidal flows were simulated using the Coastal Modeling System (CMS-Flow) numerical model. Based on this modeling effort, the general pattern of flow in the proposed action area is north to south along the shoreline. The flow along the area appears to be up to 0.4 m/sec during the ebb and tidal flow simulations. The general sediment transport is shown with red arrows. It is expected that most of the material placed will remain in the template, but there may be some minor turbidity plumes generated during placement. The direction will be dependent on the tidal flows at time of construction. According to the modeling, the longshore transport south of the Jekyll Island Pier, which is primarily affected by daily tidal currents (both flood and ebb currents), is directed more southward. The cross-shore transport is also significant to cause shoreline erosion and deposit sediment away from the shoreline. Therefore, turbidity plumes are expected to primarily move southward with some moving cross-shore, but this is also dependent upon tidal flows (flood and ebb conditions). It is expected that the material placed will erode slowly over time.



(1) An ebb tidal flow simulated by CMS-flow



(2) A flood tidal flow simulated by CMS-flow

Figure 4. (1) Red arrow is estimated turbidity plume direction during ebb tide. (2) Red arrow is estimated turbidity plume direction during flood tide. Further detail of flow is depicted by the yellow arrows from the GenCade modeling results.



Figure 5. General turbidity plume directions at placement location during ebb and flood tides.

Sediment Testing and Determination

Sediment testing was completed between November 3 to November 8, 2020, by Tetrattech Ardaman & Associates, Inc. for the BHMS (Tetrattech, 2021). Five geotechnical borings were collected from the Cedar Hammock bend widener expansion area and evaluated for sediment and chemical characteristics (Figure 6). The dredge material at the bend widener consists of poorly graded sands, silty sands, and highly weathered limestone (Table 4).

There were no levels of concern in the bend widener expansion areas for dioxins and furans, RCRA-8 metals, PCBs, and PAHs. The March 2021 report with the full results is available upon request.

Table 4. Percent fines of the bend widener geotechnical borings.

Boring	Percent Fines
BW-01	82
BW-02	71
BW-03	8
BW-04	6
BW-05	8

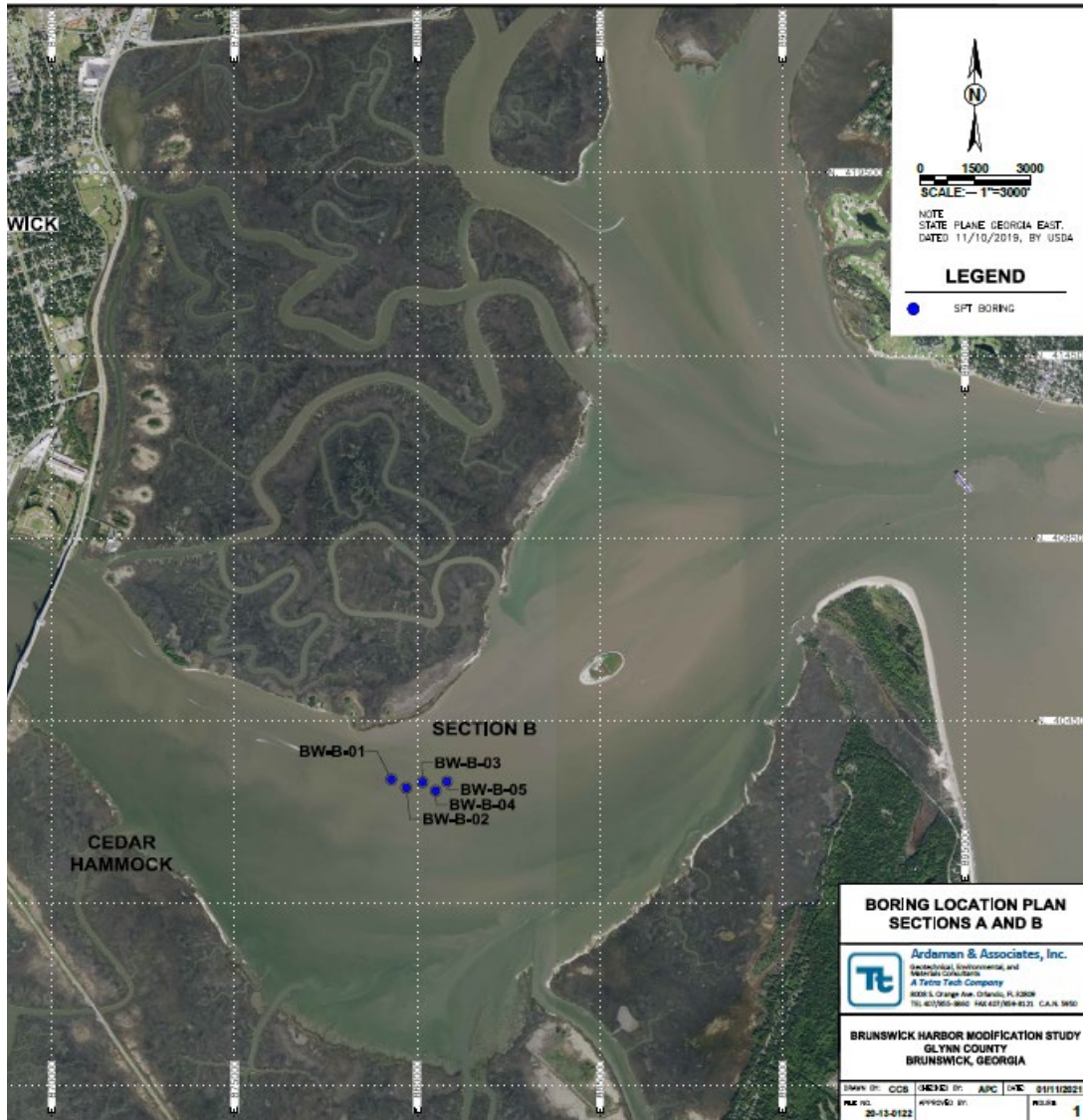


Figure 6. Location of the 2021 BHMP geotechnical borings in the Cedar Hammock bend widener expansion.

Potentially Affected NMFS ESA-Listed Species

The Corps has assessed the listed species that may be present in the action area and our determination of the project’s potential effects to them as shown in Table 5 below.

Table 5. ESA- Listed Species in the Action Areas and Effect Determination(s).

Species	ESA Listing Status	Listing Rule/Date	Most Recent Recovery Plan/Outline Date	Effect Determination (Species)*
Loggerhead Sea Turtle	T	76 FR 58868/ September 11, 2001	NA	NLAA
Kemp's Ridley Sea Turtle	E	35 FR 18319/ December 2, 1970	March 6, 2010	NLAA
Green Sea Turtle	T	81 Fr 20057/ May 6, 2016	May 22, 1998	NLAA
Hawksbill Sea Turtle	E	35 FR 8491/June 2, 1970	December 1993	NE
Leatherback Sea Turtle	E	35 FR/June 2, 1970	April 1992	NE
Shortnose Sturgeon	E	32 FR 4001/March 11, 1967	December 1998	NLAA
Atlantic Sturgeon	E	77 FR 5914/February 6, 2012	March 1, 2018	NLAA

Species	ESA Listing Status	Listing Rule/Date	Most Recent Recovery Plan/Outline Date	Effect Determination (Species)*
Giant Manta Ray	T	83 FR 2916/January 22, 2018	December 4, 2019	NLAA

Please note abbreviations used in Table 4: E = endangered; T = threatened; NLAA = may affect, not likely to adversely affect; NE = no effect; N/A = not applicable

*Effects determination is for overall impacts and is not reflective for each individual location. For example, placement on Bird-long Island has a no effect impact on Sturgeon.

Species Information

Further species information is provided below for sturgeon and sea turtles (Tables 6-8). Leatherback and Hawksbill sea turtles are very unlikely to utilize the placement area and have not been known to frequent Jekyll Island; therefore, we have made a determination of no effect to these species from the placement activity.

Table 6. Sturgeon Species Information.

	Atlantic Sturgeon	Shortnose Sturgeon
Life Stages Present	Juvenile and adult.	Juvenile and adult.
Seasonality of Presence	Adults typically present in the fall and winter months.	Sub-adult to adult stages may be observed from late winter to early spring (Post, 2020).
Typical Behavior	Utilize Brunswick River for foraging.	Utilize Brunswick River for foraging.
Duration of Species Presence	Potentially year around.	Potentially year around.
Potential Effects in Area	Action area may experience temporary and localized turbidity, but it is expected that sturgeon will be able to swim around the turbidity and will not likely be affected.	Action area may experience temporary and localized turbidity, but it is expected that sturgeon will be able to swim around the turbidity and will not likely be affected.
Habitat Used in Action Area	Soft substrate	Soft substrate

Table 7. Sea Turtles Species Information.

	Loggerhead, Kemp's Ridley, and Green Sea Turtle
Life Stages Present	Mainly adult within riverine habitat; rarely may have eggs and adults on beach (Seaturtle.org).
Seasonality of Presence	May 1 through October 31.
Typical	Utilize Jekyll Island for nesting and utilize the Brunswick River for

Behavior	foraging and seeking refuge.
Duration of Species Presence	Seasonal.
Potential Effects in Area	Per coordination with GADNR, there is no known nesting in the placement area (M.Dodd, 2023). Therefore, there would be no potential effects to nesting.
Habitat Used in Action Area	Habitats they may use in the action area includes any shallow areas near the placement area.

Table 8. Giant Manta Ray Species Information.

	Giant Manta Ray
Life Stages Present	Juvenile and adult.
Seasonality of Presence	Observed at the surface from April to June and deeper waters from August to September. Seasonal pattern of occurrences along the east in the spring and summer months.
Typical Behavior	Typically, migratory over long distances, with some degree of residency in some regions (Stewart et al., 2016a; Stewart et al. 2016b). Aggregates at cleaning sites and to feed and mate. Prefers areas where upwelling occurs, over the continental shelf, and in productive coastal areas (NOAA, 2022b). Giant manta rays may be found aggregating in shallow waters less than 10m to feed (NOAA, 2020).
Duration of Species Presence	Seasonal.
Potential Effects in Area	Potential effects may be from turbidity at time of placement, but species are expected to be able to move from any plumes and utilize other nearby shallow habitat.
Habitat Used in Action Area	Habitats they may use in the action area includes any shallow areas near the placement area if they are feeding.

Routes of Effect of Proposed Actions to ESA-Listed Species

Effects to ESA-listed species include the risk of direct physical impact from placement activities. We believe the risk of physical injury is extremely unlikely to occur due to the species' ability to move away from the placement site and into adjacent suitable habitat, if disturbed. It is expected that construction efforts associated with the proposed action will have no effect on Hawks Bill and Leatherback sea turtles, and may affect, not likely to adversely affect sea turtles, shortnose and Atlantic sturgeon, and giant manta ray. Tables 9-11 below discuss the various routes of effects from construction efforts associated with the proposed shoreline nourishment.

Routes of Effect from Jekyll Island Shoreline Nourishment

Table 9. Routes of Effect of Shoreline Nourishment (Shoreline Stabilization measures) on Loggerhead, Kemp’s Ridley, and Green Sea Turtles.

Stressor	Determination	Discussion
Sound	NLAA	Noise effects on listed sea turtles from direct placement will be discountable. Sea turtles are not known to audibly communicate and thus their ability to communicate would not be affected by continuous sound from direct placement activities. Sea turtles are also able to avoid sound generated, if disturbed, and return once completed (SARBO, 2020). Sound generated by the placement of material has no effect on sea turtles because either the sound intensity (dB) is < ambient noise or frequency (hertz [Hz]) outside hearing range (source is > 1000 Hz). The hearing range of sea turtles is 30 Hz to 2 KHz (2020 SARBO, Section 3.1.8.1).
Habitat Structure and Disturbance	NLAA	Shoreline nourishment will be shaped by natural processes and may affect but are not likely to adversely affect any sea turtle species. The proposed area for direct placement on the proposed shoreline is not known to be used by sea turtles for nesting and foraging (M. Dodd, 2023).
Entanglement		Interactions with equipment use for placement are unlikely to occur due to species mobility. Manatee conditions provided by USFWS will also support the protection of sea turtles. Vessels associated with dredging projects shall operate at “no wake/idle” speed while in the immediate project area and while in water where the draft of the vessel provides less than four feet of clearance from the bottom. All in-water lines (e.g., mooring lines, rope, chain, and cable, including the lines must be stiff, taut, properly secured, and non-looping to minimize excess line and the risk of entanglement. Any sightings or injuries will be reported accordingly.
Water Quality	NLAA	No information is available on the effects of TSS on juvenile and adult sea turtles. While the increase in suspended sediments may cause sea turtles to alter their normal movements, these minor movements will be too small to be meaningfully measured or detected. In the Brunswick River, the currents also act to compress the turbidity plume as it moves downstream and settles, reducing the overall area/volume affected

		by it (2020 SARBO, Section 3.1.1.2). Sea turtles breathe air and would be able to swim away from the turbidity plume and would not be adversely affected by passing through the temporary increase in TSS. TSS is most likely to affect sea turtles if a plume causes a barrier to normal behaviors. However, we expect sea turtles to swim through the plume to avoid the area with no adverse effect (NOAA, 2022). Additionally, NMFS has never received a report of an injury to a sea turtle or sturgeon resulting from burial in, or impacts from, dredged material disposal, neither from inshore nor offshore disposal sites, anywhere the USACE conducts dredged material disposal operations (NMFS, 2015).
Lighting	NLAA	Lighting associated with shoreline nourishment construction activities will be minimized through reduction, shielding, lowering, and/or use of turtle friendly lights, to the extent practicable without compromising safety, to reduce potential disorientation effects on female sea turtles approaching nearby nesting beaches (2020 SARBO, Appendix B, Section 2.2).

Table 10. Routes of Effects of Shoreline Nourishment (Shoreline Stabilization measures) on Shortnose and Atlantic Sturgeon.

Stressor	Determination	Discussion
Sound	NLAA	Atlantic and shortnose sturgeon may be temporarily displaced from using the area due to avoidance of construction activities and related construction noise. We believe the effects to these species from temporary exclusion from the project area due to construction activities, will be insignificant. Sound generated by the placement of material has no effect on fish passage because either the sound intensity (dB) is < ambient noise or frequency (hertz [Hz]) outside hearing range (source is > 1000 Hz) (2020 SARBO, Section 3.1.8.3). Additionally, similar habitat is available in nearby areas.
Habitat Structure & Disturbance	NLAA	Atlantic and shortnose sturgeon may be physically injured if struck by vessel during the placement of dredged material on proposed placement areas. This effect is extremely unlikely to occur because of the ability of the species to move away from the project site if disturbed. Sturgeon species are mobile and are able to avoid construction noise, moving equipment, and placement or removal of materials during construction.

Entanglement		Interactions with equipment used for placement are extremely unlikely to occur due to sturgeon's mobility. Manatee conditions provided by USFWS will also support the protection of sturgeon. Vessels associated with dredging projects shall operate at "no wake/idle" speed while in the immediate project area and while in water where the draft of the vessel provides less than four feet of clearance from the bottom. All in-water lines (e.g., mooring lines, rope, chain, and cable, including the lines must be stiff, taut, properly secured, and non-looping to minimize excess line and the risk of entanglement. Any sightings or injuries will be reported accordingly.
Water Quality	NLAA	Atlantic and shortnose sturgeon movement could be obstructed via turbidity plumes created during placement of sediment associated with direct beach placement; however, it is anticipated that the effect will be insignificant as the Brunswick River is generally turbid and the additional turbidity generated by the sediment placement will be minimal and temporary relative to the background levels. Once these activities are completed, any turbidity will quickly dissipate given the tidal currents. It is not expected that short-term increases in turbidity will have a measurable effect on the water temperature or dissolved oxygen concentrations.
Prey quantity/quality	NLAA	No permanent impacts or changes in the abundance, availability, accessibility, or quality of prey (2020 SARBO, Section 3.1.7.1.2, Section 3.3.2.2)

Table 11. Routes of Effects of Shoreline Nourishment (Shoreline Stabilization measures) on Giant Manta Ray.

Stressor	Determination	Discussion
Turbidity	NLAA	Placement of dredged material will be short-term. Turbidity plumes are expected to dissipate quickly with riverine and tidal flows. Giant manta rays are able to swim through or avoid any increase in turbidity without harm (NOAA, 2022b).

Habitat Structure & Disturbance	NLAA	Minimal effects are expected to habitat. The proposed action area is shallow with low productivity; therefore, there is not expected to be giant manta ray activity in the action area. There is also similar habitat nearby that the giant manta ray will be able to access.
Entanglement	NLAA	Interactions with equipment used for placement are extremely unlikely to occur due to giant manta ray's mobility. Manatee conditions provided by USFWS will also support the protection of giant manta rays. Vessels associated with dredging projects shall operate at "no wake/idle" speed while in the immediate project area and while in water where the draft of the vessel provides less than four feet of clearance from the bottom. All in-water lines (e.g., mooring lines, rope, chain, and cable, including the lines must be stiff, taut, properly secured, and non-looping to minimize excess line and the risk of entanglement. Any sightings or injuries will be reported accordingly.
Movement/Access to Foraging Habitat	NLAA	The placement of dredged material will not create an obstruction for this species to move around and find other foraging and refuge habitat due to giant manta ray being able to move quickly from equipment and placement activities. Other nearby shallow habitat is available for foraging.

Critical Habitat

The project is not located in critical habitat, and there are no potential routes of effect to any critical habitat.

Protected Species Construction Conditions

The following NOAA SERO construction conditions will be implemented for the proposed actions:

1. Equipment–Turbidity curtains will not be used due to U.S. Fish and Wildlife Manatee Conditions. All in-water equipment shall be properly secured with materials that reduce the risk of protected species entanglement and entrapment.
 - a. In-water lines (rope, chain, and cable, including the lines to secure turbidity curtains) shall be stiff, taut, and non-looping. Examples of such lines are heavy metal chains or heavy cables that do not readily loop and tangle. Flexible in-water lines, such as nylon rope or any lines that could loop or tangle, shall be enclosed in a plastic or rubber sleeve/tube to add rigidity and prevent the line from looping and tangling. In all instances, no

excess line shall be allowed in the water.

- b. In-water equipment, if used, shall be placed in a manner that does not entrap protected species within the project area and minimizes the extent and duration of their exclusion from the project area.
2. Operations—For construction work that is generally stationary:
 - a. Operations of moving equipment shall cease if a protected species is observed within 150 feet of operations.
 - b. Activities shall not resume until the protected species has departed the project area of its own volition (e.g., species was observed departing or 20 minutes have passed since the animal was last seen in the area).
 3. Vessels—For projects requiring vessels, the action agency shall ensure conditions in the Vessel Strike Avoidance Measures are implemented as part of the project/permit issuance (<https://www.fisheries.noaa.gov/southeast/consultations/regulations-policies-andguidance>).
 4. Consultation Reporting Requirements—Any interaction with a protected species shall be reported immediately to NOAA Fisheries SERO PRD and the local authorized stranding/rescue organization. Apparent cold-stunned sea turtles and/or distressed marine mammals will be immediately reported to the Georgia Sea Turtle Stranding and Salvage Network (1-800-2-SAVE Me or 912-280-6892) or the Georgia Marine Mammal Stranding Hotline (912-269-7587), respectively. All personnel shall report giant manta ray sightings to the giant manta ray recovery coordinator at NMFS Southeast Region Protected Resources Division (manta.ray@noaa.gov). Giant manta ray's observations should be photographed and include the latitude/longitude, date, and environmental conditions at the time of the sighting.

Other Protection Measures

- Initial BU construction activities are anticipated to be completed using a cutterhead dredge. Subsequent maintenance placements may use other forms of dredging and placement methods. If hopper dredges are used or if any construction activities occur in open water, the NMFS' Vessel Strike Avoidance Measures will be implemented if applicable.

Best Management Practices

- To prevent a crushing hazard to protected species, pipelines used to transport dredged material shall be secured to the river bottom or to a fixed object along their length to prevent movement with tides or wave action.
- Vessels associated with placement construction shall operate at “no wake/idle” speed while in the immediate project area and while in water where the draft of the vessel provides less than four feet of clearance from the bottom. Vessels shall follow routes of deep water when possible.

- Collisions with Federally listed species shall be immediately reported to the Corps of Engineers, Savannah District (912-652-6086 or 912-652-5020). The above offices shall be notified upon locating a dead, injured, or sick endangered or threatened species specimen. Care shall be taken in handling dead specimens to preserve biological materials for later analysis of cause of death. In the event of injury or mortality of any protected species, aquatic activity in the project area shall cease, pending Section 7 consultation under the Endangered Species Act between the NMFS and the Corps.
- Apparent cold-stunned sea turtles and/or distressed marine mammals will be immediately reported to the Georgia Sea Turtle Stranding and Salvage Network (1-800-2-SAVE Me or 912-280-6892) or the Georgia Marine Mammal Stranding Hotline (912-269-7587).
- All personnel shall report giant manta ray sightings to the giant manta ray recovery coordinator at NMFS Southeast Region Protected Resources Division (manta.ray@noaa.gov). Giant manta ray's observations should be photographed and include the latitude/longitude, date, and environmental conditions at the time of sighting.
- The Corps will comply with the 2020 SARBO and any relevant PDCs for the proposed actions.

Additionally, USACE Civil Works has developed conditions in coordination with the USFWS for the protection of the Indian manatee. The following manatee conditions will be adhered for construction activities:

- Personnel associated with dredging activities shall be advised of the civil and criminal penalties for harming, harassing, or killing manatees, or other species protected under the Endangered Species Act of 1973 and the Marine Mammal Protection Act of 1972. The Contractor may be held responsible for manatees, whales, sea turtle, or sturgeon harmed, harassed, or killed as a result of project activities.
- A minimum of 2 temporary manatee awareness construction signs that are 3 feet by 4 feet will be provided and maintained at prominent locations within the construction area prior to initiation of construction/dredging and removed upon completion of the project. Signs shall be posted prior to and during construction and dredging activities to remind personnel to be observant for manatees during active construction/dredging operations and within vessel movement zones (i.e., the work area), and at least one sign shall be placed where it is visible to the vessel operator. One additional temporary sign will be installed in a location prominently visible to water-related construction crews.
- Siltation or turbidity barriers below the high tide line are not allowed in association with this project.
- To prevent a crushing hazard to manatees or other protected species, pipelines used to transport dredged material shall be secured to the river bottom or to a

fixed object along their length to prevent movement with tides or wave action.

- Clamshells buckets, and other dredging equipment (pipelines, anchors, etc.) shall be raised and lowered in the water column at the slowest possible speed. Upon retrieval, clamshell buckets shall be held just above the water's surface so excess water can drain before being raised higher. This reduces the splashing noise associated with the draining water as it contacts the water's surface, a possible manatee attractant.
- Night dredging with a clamshell should be avoided if possible. However, if it is necessary, bright lights adequate to provide illumination to aid in spotting manatees must be used.
- Vessels associated with dredging projects shall operate at "no wake/idle" speed while in the immediate project area and while in water where the draft of the vessel provides less than four feet of clearance from the bottom. Vessels shall follow routes of deep water when possible.
- If a manatee is sighted within 100 yards of the active work zone, special operating conditions shall be implemented, including: In-water operations, including vessels and moving equipment, shall be shut down if one or more manatees comes within 50 feet of the operation; vessels shall operate at no wake/idle speeds within 100 yards of the work area. In-water operations shall not resume until the manatees have moved beyond the 50-foot radius of the project operation, or until 30 minutes elapses if the manatees have not reappeared within 50 feet of the operation. Animals shall not be herded away or harassed into leaving. Once the manatee has left the 100-yard buffer zone around the work area of its own accord, special operating conditions are no longer necessary, but careful monitoring shall resume.
- Collisions with manatees or other Federally listed species shall be immediately reported to the Corps of Engineers, Savannah District (912-652-6086 or 912-652-5020) and the USFWS Coastal Suboffice (912-832-8739). The above offices shall be notified upon locating a dead, injured, or sick endangered or threatened species specimen. Care shall be taken in handling dead specimens to preserve biological materials for later analysis of cause of death. Dead manatees found in the project area shall be secured to a stable object to prevent the carcass from being moved by the current. The finder shall ensure that evidence intrinsic to the specimen is not unnecessarily disturbed. In the event of injury or mortality of any protected species, aquatic activity in the project area shall cease, pending Section 7 consultation under the Endangered Species Act between the USFWS and the Corps.
- A log shall be kept detailing sightings, collisions, and injury to manatees, sea turtles, sturgeons, and whales which have occurred during the Contract period. Within 15 days following project completion, a report shall be submitted to the

Contracting Officer or Contracting Officer Representative summarizing sightings and incidents. Reports shall be signed by the Contractor or its representative and shall include the name of the person making each sighting.

- During hopper dredging activities, the Corps will provide the USFWS (gaes_assistance@fws.gov) notification on changes to inflow/outflow screen size and configurations, and other conditions which limit the ability of the NMFS-approved Protected Species Observer (PSO) to safely monitor dredging operations. The Corps will send the same notification and information to USFWS that is sent to NMFS, in accordance with the 2020 SARBO. PSOs shall be directed to include in their inspections impacts to manatees in (entrainment) and around the dredge along with the NMFS and other protected species.
- The Corps will comply with the most current version of the SARBO and any relevant PDC for the proposed action.

Conclusion

USACE has reviewed the proposed shoreline nourishment activity for its effect to ESA-listed species. Based on the analysis above, the Corps has determined that proposed shoreline nourishment is not likely to adversely affect any listed species under NMFS jurisdiction. We have used the best scientific and commercial data available to complete this analysis. We request your concurrence with this determination. Below is summary table (Table 12) of the proposed actions and the effects determination to the ESA-listed species in the action area.

Table 12. Summary of Effect Determinations.

Effects Determination							
Sea Turtle					Sturgeon		Rays
Loggerhead	Kemp's Ridley	Green	Leatherback	Hawksbill	Shortnose	Atlantic	Giant Manta Ray
NLAA	NLAA	NLAA	NE	NE	NLAA	NLAA	NLAA

Sincerely,

Suzanne Hill
 Environmental Team Lead,
 Planning Branch

Literature Cited

Dodd, M. GADNR. 2023. Informal email coordination on sea turtle nesting presence. September 15, 2023.

Dolah, Robert F. van, Dale R. Calder, and David M. Knott. "Effects of Dredging and Open-Water Disposal on Benthic Macroinvertebrates in a South Carolina Estuary." *Estuaries* 7, no. 1 (1984): 28–37. <https://doi.org/10.2307/1351954>.

GADNR. <https://geospatial.gatech.edu/G-WRAP/>

NMFS. 2020. South Atlantic Regional Biological Opinion for Dredging and Material Placement Activities in the Southeast United States (SARBO). https://media.fisheries.noaa.gov/dam-migration/sarbo_acoustic_revision_6-2020-opinion_final.pdf. Website accessed October 26, 2021.

NMFS. 2021. Biological Opinion for the Altamaha Sound Beneficial Use Dredging Project, Altamaha River, Glynn County, Georgia (SERO-2020-01924).

NOAA. 2022a. Section 7 Effect Analysis: Turbidity in the Greater Atlantic Region. Retrieved May 31, 2022 from [Section 7 Effect Analysis: Turbidity in the Greater Atlantic Region | NOAA Fisheries](#).

NOAA. 2022b. Giant Manta Ray consultation framework. NOAA Fisheries Southeast Region. <https://media.fisheries.noaa.gov/2022-09/Giant-Manta-Ray-Framework.pdf>.

Post, Bill. SCDNR. USACE email communication-3/20/2020.

Stewart, J. D., Beale, C. S., Fernando, D., Sianipar, A. B., Burton, R. S., Semmens, B. X., et al. (2016a). Spatial ecology and conservation of manta birostris in the indo-pacific. *Biol. Conserv.* 200, 178–183. doi: 10.1016/j.biocon.2016.05.016.

Stewart, J. D., Hoyos-Padilla, E. M., Kumli, K. R., and Rubin, R. D. (2016b). Deep-water feeding and behavioral plasticity in Manta birostris revealed by archival tags and submersible observations. *Zoology* 119, 406–413. doi: 10.1016/j.zool.2016.05.010.

USACE and BOEM. 2017. South Atlantic Regional Biological Assessment (SARBA).