

**Brunswick Harbor Modifications Study, Glynn County, GA
Draft Integrated Feasibility Report and Environmental Assessment**

**USFWS FWCA Report
DRAFT Appendix I**

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



June 2020



United States Department of the Interior

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May 20, 2020

Colonel Daniel Hibner
U. S. Army Corps of Engineers
Savannah District - Planning Division
100 West Oglethorpe Avenue
Savannah, Georgia 31401-3640
Attention: Ms. Mary Richards

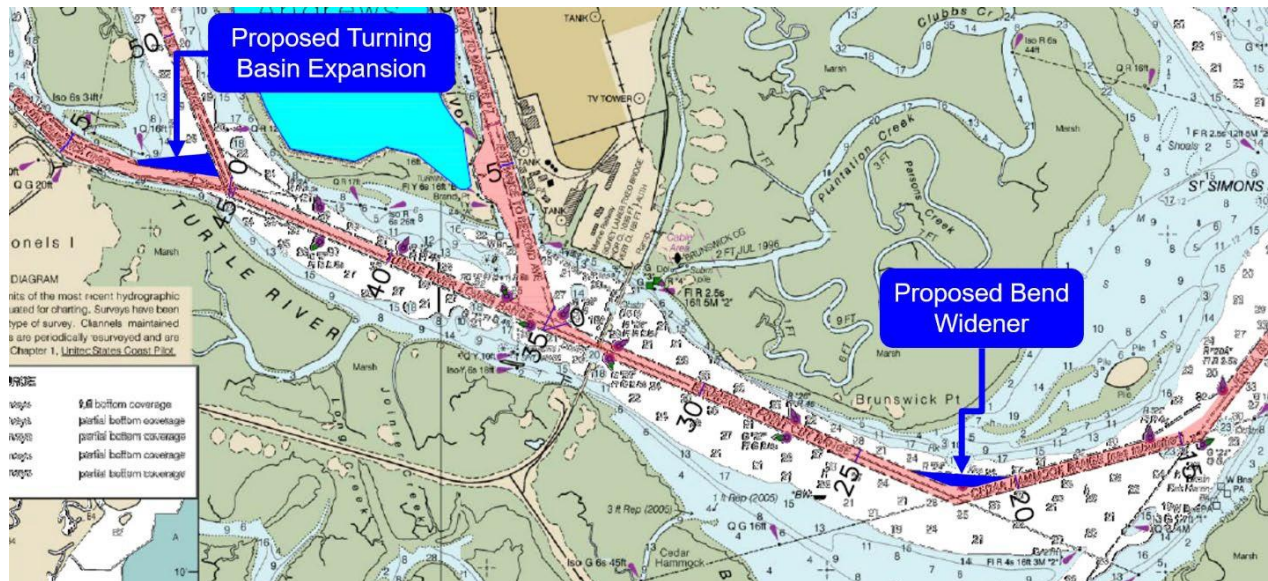
Re: USFWS File Number 2020-1966 & 2019-0526

Dear Colonel Hibner:

The U.S. Fish and Wildlife Service (Service) has completed a preliminary evaluation of the proposed alternative plans and impact assessment for the Brunswick Harbor Modification Study (BHMS) adjacent to the City of Brunswick in Glynn County, Georgia. The U.S. Army Corps of Engineers Savannah District (USACE) requested aid in identifying problems and opportunities related to potential impacts to fish and wildlife resources of alternative plans and to identification and development of beneficial use opportunities, if practical. Information and planning assistance are provided in accordance with provisions of, and under the authority of the Fish and Wildlife Coordination Act (FWCA) (48 Stat. 401, as amended; 16 U.S.C. 661 *et seq.*) and the Endangered Species Act (ESA) of 1973, as amended; (16 U.S.C. 1531 *et seq.*).

Project Background and Description

The Georgia Ports Authority (GPA), the non-federal sponsor of the proposed project, expressed Brunswick Harbor navigational concerns to the USACE. The GPA stated that the harbor pilots had concerns navigating portions of the inner harbor with the largest Roll-on/Roll-off (RO/RO) cargo vessels. Initially GPA requested a study to ease navigation concerns (Figure 1): (1) a bend widener between inner harbor Stations 20+250 and 23+250, and (2) Colonels Island turning basin expansion at the confluence of the South Brunswick and Turtle Rivers (Station 45+000).



The scope of the study increased and will investigate existing and future conditions in Brunswick Harbor and analyze modifications with the purpose of contributing to national economic development while protecting the nation’s environment and maintaining safety for navigating vessels. The focus of the study will be the two initially identified areas mentioned above and potentially widening the channel between the two locations and/or at the mouth of the entrance channel.

The objectives of the study are to design a project that maintains safety while improving the efficiency of the Brunswick Harbor deep-draft navigation system by minimizing the cost of existing cargo volumes and anticipated future increases in cargo volumes to and from Brunswick Harbor in an environmentally acceptable and sustainable manner during the period of analysis from 2024-2075.

Alternatives

During the drafting of this report, alternatives were still being considered. What follows is the latest alternatives described by the USACE as the Final Array of Alternatives. While the Service considers that the alternatives may possibly change slightly in the future, we do not expect any changes to alter the substance of our comments.

Alternatives were formulated to address the objectives through the combinations of screened management measures. The formulation strategy focused on the information provided by the harbor pilots who are responsible for maneuvering the RO/RO fleet into and out of Brunswick Harbor.



Alternative 1: No Action Alternative (NAA) - The NAA is analyzed as the future without-project conditions for comparison with the action alternatives. Taking no action would mean continuing standard operations at Brunswick Harbor with no improvements to the Federal navigation channel. All physical conditions at the time of this analysis are assumed to remain. The new berth at Colonel's Island and terminal expansion are included in the NAA. The NAA assumes one way RO/RO traffic within Brunswick Harbor; however, vessels do occasionally meet in two locations – the St. Simons Sound and the Colonels Island Turning Basin. Vessels rarely meet in the turning basin as conditions must be ideal for the maneuver to take place and both pilots must agree to it. Meetings in the St. Simons Sound occur outside of the federal channel. The NAA also assumes Operations and Maintenance (O&M) dredging would occur within the Federal navigation channel at authorized depths (-36 MLLW + 2' Allowable Over Depth).



Alternative 2: Bend Widener - Alternative 2 would expand the Cedar Hammock Range bend widener located between stations 20+300 to 23+300. The bend widener would be expanded by a maximum of 321 feet on the north side and at a length of approximately 2,700 feet. Approximately 205,000 cubic yards of material would need to be dredged to expand the bend widener. Dredged material from this location will be considered for beneficial use. Otherwise, the material would be placed in the Andrews Island Dredged Material Containment Area (DMCA).



Alternative 3: Turning Basin Expansion - Alternative 3 would include expanding the existing turning basin at the Colonel's Island facility along approximately 3,200 feet increasing the width by a maximum of 395 feet along South Brunswick River from stations 0+900 to 5+300. The turning basin expansion would require approximately 346,000 cubic yards of dredged material to be removed. All of the dredged material would be placed in the Andrews Island DMCA.



Alternative 4: Meeting Area West of Sidney Lanier Bridge - Alternative 4 would create a RO/RO vessel meeting area upstream of the Sidney Lanier Bridge to the turning basin at the Colonel's Island facility (a distance of approximately 8,700 feet). This part of the Federal Navigation Channel is currently 400 feet wide. The Federal channel would be expanded by approximately 200 feet on both the north and south side of the channel to create a new channel width of 800 feet from stations 34+200 to 43+200. The meeting area would require dredging of approximately 800,000 cubic yards of material. All of the dredged material would be placed in the Andrews Island DMCA.



Alternative 5: Meeting Area at St. Simons Sound - Alternative 5 would create a RO/RO vessel meeting area located at St. Simons Sound near the entrance channel to Brunswick Harbor. Since this area is naturally deep water, no dredging would be required. Creating a meeting area at St. Simons Sound would re-locate the north toe of the existing channel approximately 800 feet to the north along a length of approximately 10,000 feet from stations -6+800 to 4+300. The existing channel centerline would not change.



Alternative 6: Bend Widener and Turning Basin Expansion - Alternative 6 is a combination of the bend widener and the turning basin expansion. Alternative 6 includes the 205,000 cubic yards of material at the bend widener and the 346,000 cubic yards of material at the turning basin expansion for a total of approximately 551,000 cubic yards of material. Disposal options are the same as Alternatives 2 and 3.

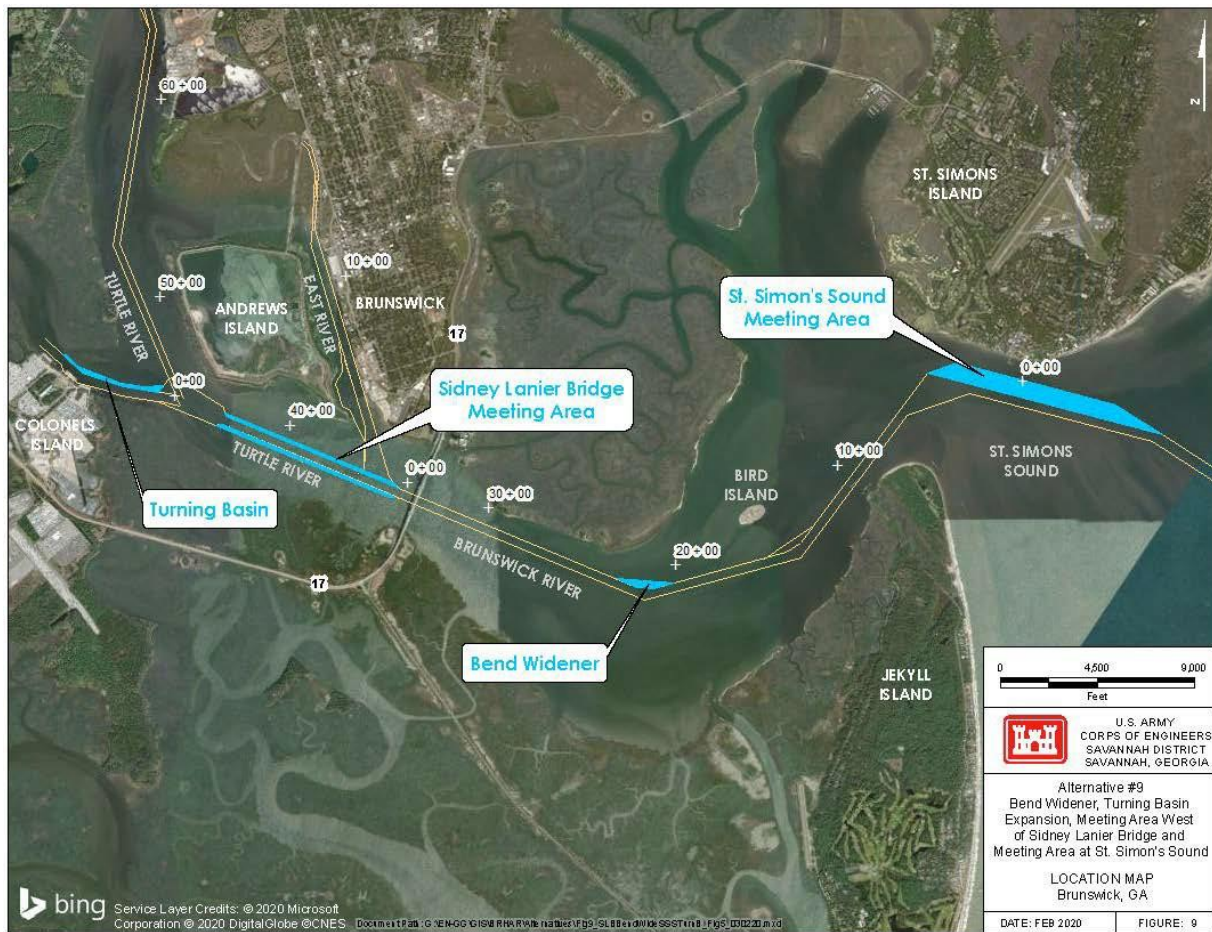


Alternative 7: Bend Widener, Turning Basin Expansion, and Meeting Area West of Sidney Lanier Bridge - Alternative 7 is a combination of the bend widener, turning basin expansion, and meeting area west of the Sidney Lanier Bridge. Alternative 7 includes the 205,000 cubic yards of material at the bend widener, 346,000 cubic yards at the turning basin expansion, and 800,000 cubic yards at the meeting area west of the Sidney Lanier Bridge for a total of approximately 1,351,695 cubic yards of dredged material. Disposal options are the same as Alternatives 2, 3 and 4.



Alternative 8: Bend Widener, Turning Basin Expansion, and Meeting Area at St. Simons Sound -

Alternative 8 is a combination of the bend widener, turning basin expansion, and meeting area at St. Simons Sound. Alternative 8 includes the 205,000 cubic yards of material at the bend widener, 346,000 cubic yards at the turning basin expansion, and 0 cubic yards at the meeting area at St. Simons Sound for a total of approximately 551,000 cubic yards of dredged material. Disposal options are the same as Alternatives 2 and 3.



Alternative 9: Bend Widener, Turning Basin Expansion, Meeting Area West of Sidney Lanier Bridge and Meeting Area at St. Simon's Sound - Alternative 9 includes the 551,000 cubic yards of dredging to occur at the bend widener and turning basin plus creation of a RO/RO vessel meeting area upstream of the Sidney Lanier Bridge to the turning basin at the Colonel's Island facility and creation of a meeting area at St. Simon's Sound, as described in the previous alternatives. The total dredging amount for Alternative 5 is approximately 1,351,695 cubic yards. Disposal options are the same as Alternatives 2, 3 and 4.

The USACE scope of work (SOW) requesting FWCA comments on the project includes the following statements:

Each alternative would include an evaluation of beneficial use disposal options including, but not limited to, placement off or onshore at Jekyll Island and creation of new bird habitats within the Harbor. Any sediment found to be unsuitable for beneficial re-use will be placed on Andrews Island, the existing DMCA.

The expansion width for the bend widener, turning basin, and channel would be optimized through the feasibility process based on guidelines from Engineering Manual 1110-2-1613

Hydraulic Design Guidance for Deep Draft Navigation Projects. In addition, the harbor pilots have suggested minimum width increases for both the turning basin and bend widener which will be examined during the feasibility process as well. Final proposed changes to channel dimensions for each alternative will be determined after ship simulation modeling has been completed.

As part of all proposed plans, the USACE states:

- The project restricts work to the three areas of concern listed above and, potentially, not-yet-defined target areas for beneficial use of dredged sediments.
- There are no anticipated significant impacts to ESA-listed species due to the project's construction.
- There is no designated critical habitat for ESA-listed species in the project footprint.
- Cutterhead dredges, historically known to have less ESA impacts than other dredge types, are proposed to construct this project. Neither hopper dredges nor clamshell/bucket dredges will be used.
- All dredging operational procedures required in the current National Oceanic and Atmospheric Administration Fisheries (NOAA Fisheries), also known as the National Marine Fisheries Service (NMFS), South Atlantic Regional Biological Opinion (SARBO) for the protection of ESA-listed species will be followed. If a new SARBO is released prior to construction, then conditions set forth in that document will be followed. As warranted, formal or informal consultation with the NMFS will be conducted.
- All dredging operational procedures currently required to minimize impacts to species protected by the Marine Mammal Protection Act and the Migratory Bird Treaty Act will be followed.
- New work sediments tested in the previous deepening were found suitable for ocean dumping, placement in the nearby DMCA, and for construction of the bird island in St. Simons Sound. No additional chemical or biological testing is planned.
- Some impacts to Essential Fish Habitat (EFH) are expected and that those impacts will be coordinated with the NMFS Habitat Conservation Division.

Fish and Wildlife Resources of Concern in the Study Area

The Service's project action area(s) are those sub-tidal areas adjacent to the existing Brunswick Harbor ship channel that may be dredged or designated to become part of the channel, any places proposed for placement of dredge material (including beneficial use), the material transport routes that connect them, and the places that the sediments may travel suspended as turbidity in the water due to the dredging work and tidal river currents. Most of these areas may be of concern to the NMFS as EFH. While this report includes some of the NMFS's comments on the project, the Service recommends that the USACE discuss the project with them directly to be sure all their concerns are made known, including NOAA Fisheries Office of Protected Resources.

The Service's Information for Planning and Consultation (IPaC) website indicates several ESA listed species that are under the responsibility of the Service in the area of influence (AOI) of the project to be considered. IPaC shows no critical habitat (CH) for species under the Service's responsibility in the project action area.

The West Indian manatee (*Trichechus manatus*) is common in Georgia tidal waters during the warm months both as a seasonal resident and passing through traveling further north for the summer. It forages on saltmarsh cordgrass (*Spartina alterniflora*) along the marsh edges of tidal river channels. Manatee may pass through the action area during movements around the local area or as part of seasonal travels up or down the coast. Clay George of the Georgia Department of Natural Resources (GADNR) reports that manatees can be found in all tidal waters throughout coastal Georgia when the water is warmer than 17 degrees Celsius. This is generally from mid-March to late November.

Georgia has five species of sea turtles occurring in its estuarine waters and potentially in the AOI. Sea turtle nesting on Georgia beaches is primarily limited to the loggerhead sea turtle (*Caretta caretta*) (loggerhead) with 99.5% of the recorded nests based on a 10-year average from seaturtle.org data. The other species nesting in Georgia, 0.5% of nests, are the green sea turtle (*Chelonia mydas*), Kemp's Ridley sea turtle (*Lepidochelys kempii*), and the leatherback sea turtle (*Dermochelys coriacea*). Nesting can occur on the front of barrier islands and on the sandy beach areas on the ends of the islands that wrap around into the sounds. Sea turtle nesting season in the state is May 1- August 31, and hatching extends to October 31.

The hawksbill sea turtle (*Eretmochelys imbricata*) occurs in Georgia waters but has not been documented as nesting or crawling on the beach in the state. The NMFS has federal jurisdiction for all sea turtle species in the water. The Service has jurisdiction when sea turtles are out of the water on beaches. For an expert opinion on all sea turtles in the water and their aquatic environment in the project action area consult with NMFS.

The NMFS has sole responsibility for the Atlantic sturgeon (*Acipenser oxyrinchus*) and shortnose sturgeon (*Acipenser brevirostrum*). These two species of sturgeon may be found in the action area. Atlantic sturgeon have CH designated but not in the action area. Shortnose sturgeon have no CH designated.

The entire Georgia coast, including the project action area has been designated a landscape of hemispherical importance for shorebirds by the Western Hemisphere Shorebird Reserve Network (WHSRN) and Manomet, a nonprofit organization that uses science to solve problems. This is more significant than regional or international importance designations, indicating that 500,000 or more individual shorebirds or 30% of a population use the area. The Georgia Barrier Islands WHSRN Landscape was designated due to its supporting more than 30% of the population of both rufa red knot and the Great Lakes breeding population of piping plover. The Great Lakes population is considered ESA endangered when on the breeding grounds. The area also holds more than 10% of the biogeographic populations of American oystercatcher (*Haematopus palliatus*) (120 nesting pairs, 1200 wintering individuals), short-billed dowitcher (*Limnodromus griseus*) (maximum count of 14,608 individuals) and black-bellied plover (*Pluvialis squatarola*)

(midwinter high count of 10,364). Other noteworthy attributes include one of the largest spring gatherings of whimbrel (*Numenius phaeopus*) in North America, and impressive numbers of wintering shorebirds of many other species including the gull-billed tern (*Gelochelidon nilotica*), and least tern (*Sternula antillarum*).

Across a wide range of bird species, over the past half century there have been wide-spread population declines of birds resulting in the cumulative loss of billions of breeding individuals (Rosenberg K., et.al., 2019). As the Georgia coast is recognized as an important landscape for birds, it should be preserved and enhanced. “For shorebirds dependent on the U.S. Atlantic Coast, Georgia supports a complex mosaic of important habitat that provides food and resting places 12 months of each year,” says Brad Winn of Manomet and former GADNR shorebird biologist.

Sea and shorebirds utilize the existing bird island in St. Simons Sound, beaches, and intertidal zones in the project action area. At times these bird species include the migrating and/or wintering ESA listed rufa red knot (*Calidris canutus rufa*)(red knot) and piping plover (*Charadrius melodus*). Wintering red knots and piping plovers may be present in Georgia as early as late June, with most arriving in October. In spring, after wintering, most have left for breeding areas in northern North America by late April. In other words, ‘wintering’ red knots and piping plovers may be present in Georgia for 10 months during the year.

Another bird island may receive dredge spoils as a beneficial use of dredge materials alternative, the Satilla Marsh Island Natural Area in the mouth of the Satilla River at St. Andrews Sound. It has been a brown pelican (*Pelecanus occidentalis*) rookery or nesting colony for over 20 years and has up to 400 nesting pairs per year. It is the only consistent brown pelican rookery in the state.

Additionally, the ESA listed wood stork (*Mycteria americana*) may forage in tidal pools and/or loaf in the AOI. There are no known wood stork rookeries that would be affected by the project.

Project Impacts

The NAA should not result in any project impacts to the area. The NAA will also result in no beneficial use of dredge material actions from the project to occur. Beneficial use can create or enhance habitats, and minimize or mitigate for the effects of sea level rise and extreme storms.

Creating a vessel meeting area at St. Simons Sound near the entrance channel to Brunswick Harbor as described in Alternative 5 and as portions of Alternatives 8 and 9 are similarly thought to not result in any measurable impacts to the area. The area that would be designated to be part of the channel is naturally deep with swift running water during every tidal cycle. Mary Richards, biologist with Savannah USACE Planning Division reports that USACE O&M personnel state that the area has not been dredged in at least 43 years. The designated widening of the ship channel on the St. Simons Island side of the existing channel will possibly result in vessels traveling slightly closer to the armored coast of St. Simons Island. The distance from

Jekyll Island would not change. No construction dredging is planned and no O&M dredging is anticipated. No dredge material would be generated for possible beneficial use.

Sea level rise is anticipated to couple with increased density (compression and growth) of human development near the coast as available land is decreased. Current areas utilized by all species have some protections; federal, state, or private groups. These areas may be lost due to rising sea levels. Many of the areas landward of them are developed or poised for development. They are not controlled by conservation minded organizations whose goals are to provide habitat for species other than man.

Extreme storms have the capability to eliminate current offshore bars from the Georgia landscape reports Tim Keyes, wildlife biologist with the GADNR. These are important nesting areas for many of the above mentioned shore and sea bird species with the potential for high productivity in times when storms do not coincide with nesting. These species also nest on beaches, and back islands and shell rakes behind the barrier islands. However all these locations have a much higher incidence of nest predation than the offshore bars.

Beneficial use of dredge material to create or enhance; nearshore feeder berms for beaches, offshore bars, shorebird nesting islands, and possibly marsh thin layer placement have the possibility to offset some of the above mentioned habitat losses.

Alternatives 2 through 9 all involve widening some portion(s) of the federal channel of Brunswick Harbor. Except for Alternative 5 which involves no dredging, all alternatives will have similar impacts to the harbor. More of the river will be deeper than its natural state and maintained at the deeper depth. The various alternatives will involve varying amounts of dredge sediments depending on the amount of channel widening involved. Similarly more channel widening will decrease the amount of natural river bottom remaining in the area. All alternatives will generate dredge sediments that will need to be disposed of by placement somewhere.

It can be argued that strategic widening of the channel should result in a lower risk of vessels incurring problems navigating the channel. Vessel problems may include damage to the vessel, shipping delays, and impacts to the human and natural environments. This could be interpreted as a decrease in potential for adverse impacts from vessel issues as an offset to the impact of permanently decreasing the amount of natural river bottom.

Project Impacts on Fish and Wildlife Resources

Based on available information, none of the proposed action alternatives is expected to significantly impact fish and wildlife resources under the jurisdiction of the Service. All alternatives, except numbers 1 (NAA) and 5, would involve in-water work. The activities associated with this pose a variety of potential risks and hazards to fish and wildlife resources. The USACE states that these will be minimized in a variety of ways. The NMFS SARBO will be followed, as well as other procedures to protect wildlife.

Most project alternatives will generate new work dredge sediments. Contaminant testing has indicated that the sediments are suitable for beneficial use applications as well as placement in an upland DMCA or offshore disposal area. The cutterhead dredging work will mobilize a small portion of the sediments as turbidity into the river tidal currents. These mobilized sediments may impact whatever they interact with. This is expected to be considered as part of the dredging impacts to resources under the protection of the NMFS. The USACE coordinates directly with the EFH and Protected Resources Divisions.

Manatees may pass through the project area traveling between foraging sites or migrating up or down the coast. Common injuries to manatees are from boat collisions and propeller strikes. The USACE states that the project will include manatee conditions. Standard manatee conditions include surveillance for manatees, slow vessel speed, lowering objects slowly into the water, and keeping vessels in deeper waters when practical. These practices should minimize the chance of impacts to manatees from the project.

Sea turtles in the water are under the jurisdiction of the NMFS. Sea turtles may lay in the bottom of the channel near areas to be dredged. Using a cutterhead dredge as the USACE plans should minimize dredging impacts to turtles in the water. The USACE will consult or confer directly with the NMFS for ESA consultation for project effects to sea turtles in the water.

Sea turtles may nest on the sandy beach portion of the northern tip of Jekyll Island. Nesting female turtles and emerging hatchlings can be disoriented or misoriented by artificial light especially those rich in the blue color spectrum (5000 Kelvin (K) or wavelength range less than 560 nanometer (nm)). The State of Florida requires that new coastal construction limit lighting near beaches to sources that emit wavelengths only greater than 560 nm to protect sea turtles as the turtles are sensitive to short- wavelength light (Longcore,T., et al., 2018)) (Witherington, B., et al., 2014). Work and navigational lighting on dredging equipment and associated vessels are a source of artificial light.

The cutterhead dredging will occur at the edge of the ship channel. This is a sufficient distance from bird usage areas that no disturbance should occur from this part of the action. Sea and shorebirds including the red knot and piping plover may be temporarily disturbed by dredge sediment transport and/or placement. This would be expected to cause a minor disturbance to birds in the immediate area of the action during its occurrence. Impacts to the wood stork would be expected to be similarly insignificant.

Extreme storm erosional impacts to the existing bird islands in St. Simons Sound and the Satilla Marsh Island Natural Area may be repaired with dredge spoils. The bird usage on these islands includes nesting. Sediment placement during a nesting season may impact nests and hatchlings for that season.

Due to sea level rise and extreme storms, all of the project alternatives including the NAA may have long term impacts if beneficial use of dredge material is not incorporated into the project. Sea level rise and extreme storms are expected to alter the Georgia coast along with the rest of the coastal United States. These alterations are expected to impact species and habitats as

described in the USACE reports; South Atlantic Coastal Study (SACS) currently in draft form and more generally described in the North Atlantic Coast Comprehensive Study.

Service Position and Recommendations

The Service is not opposed to any of the project alternatives. We see any widening as meeting the project objectives of maintaining shipping safety in an environmentally acceptable manner. Strategic channel widening, while being an impact to the environment may be seen as reducing the risk of a much more impactful environmental accident in the form of a vessel grounding or collision between vessels. Any accident could include a harmful release of contaminants into the environment that could be very difficult or impossible to clean-up. In example, the currently capsized RO/RO vessel in St. Simons Sound, the Golden Ray, had approximately 400,000 gallons of fuel onboard when it grounded (fortunately in this case leakage has been minimal).

We recommend the USACE condition the project as they have described for the safety of wildlife and the environment. These conditions include using only cutterhead dredges, following the SARBO, and applying manatee conditions for in-water work. Additionally we recommend minimizing lighting impacts if work occurs during sea turtle nesting season; May 1 through October 31. Filtered yellow-green and amber LEDs are predicted to have lower effects on wildlife than high pressure sodium lamps, while blue-rich lighting (e.g., $K \geq 2200$) would have greater effects. Together with control of intensity, direction, and duration, this approach can be used to minimize the adverse effects of lighting (Longcore,T., et al., 2018). (Witherington, B., et al., 2014).

We see the project as having the potential to mitigate for or minimize the effects of sea level rise and extreme storms through a variety of beneficial uses of dredge spoils. We opine that the effects from storms during the last three years have been exceptional, destroying sea and shorebird habitat as well as eroding tourist beaches along the Georgia coast. We recommend that the USACE consider including all the following beneficial use alternatives in the project to mitigate for these impacts. These beneficial use alternatives will keep sediments in the sediment or sand sharing system instead of in an upland DMCA.

Restore the existing bird island in St. Simons Sound. The bird island has experienced erosion due to extreme storms and higher tides than are historically present on the Georgia coast. Use the original construction plan or the as-built survey as a template of the size and shape to return the island to. Should the large rocks that surrounded it no longer be in place, we recommend restoring the island without replacing them. Timing restrictions on dredge sediment placement activities onto existing bird islands should be considered to avoid conflicts with bird nesting activities. Alternately, impacts to nesting shore and seabirds, and brown pelicans should be recognized and possibly mitigated for if the placement occurs during nesting season.

Restore the Satilla River Marsh Island Natural Area in the mouth of the Satilla River at the St. Andrews Sound. The island is a brown pelican rookery or nesting colony that has experienced similar erosion from sea level rise and extreme storms as the bird island in St. Simons Sound.

Placing material on it would mitigate for the effects of these forces. We recommend timing restrictions to avoid nesting season or recognize and possibly mitigate if placement occurs during nesting season.

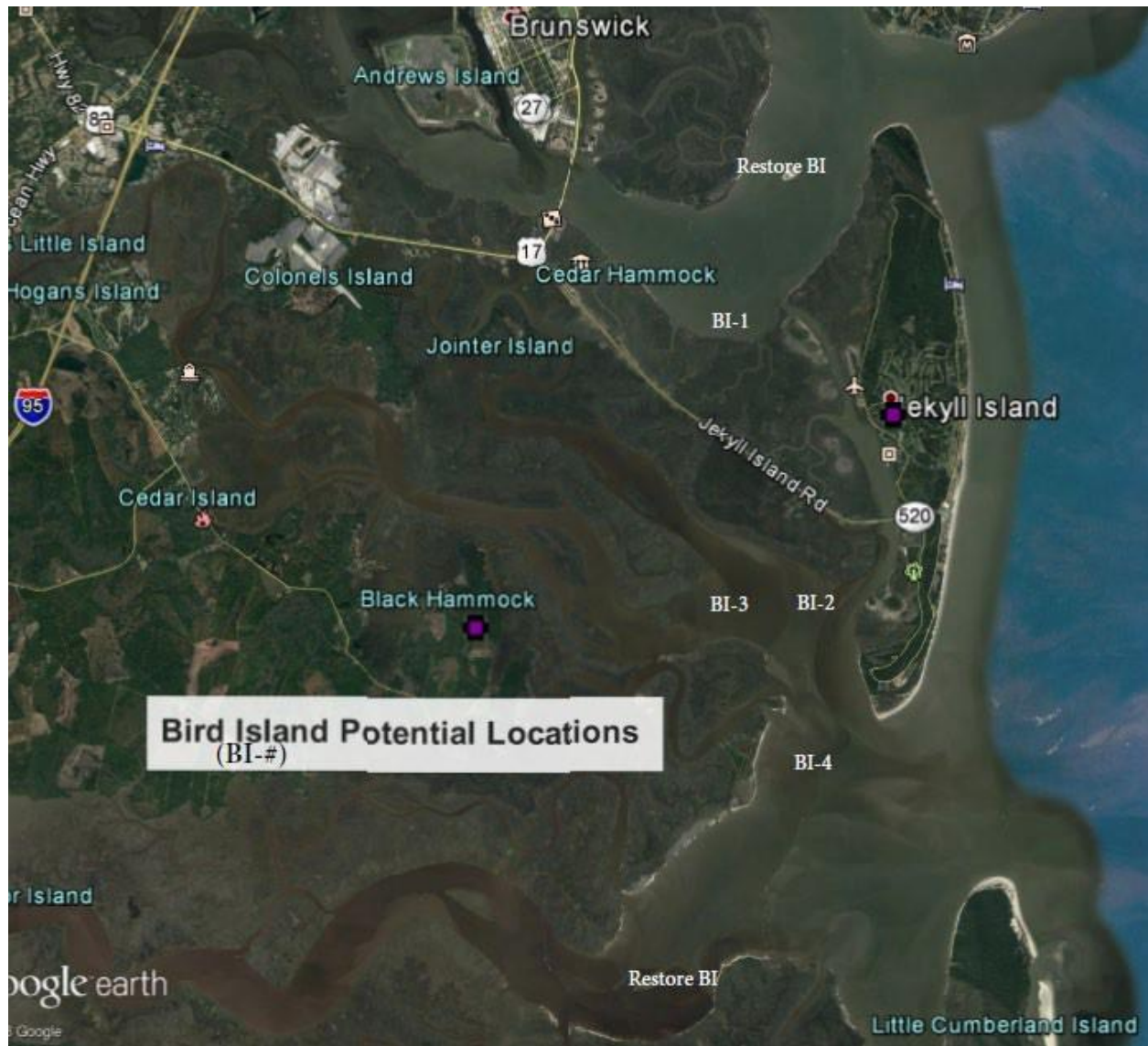
Create a new bird island or islands in shallow somewhat protected areas of St. Simons, Jekyll, and/or St. Andrews Sounds. As general conditions, we recommend not armoring any new islands, thereby making them subject to natural forces and making them temporary impacts to the shallow subtidal non-vegetated flats or unconsolidated soft sediment bottom in the estuaries that currently serve as EFH. This will also serve to keep the channel widening dredge sediments in the sediment system as opposed to placement in a DMCA.

Instead of simple round or oblong islands with increasing elevation toward the middle, we recommend that features such as tidal pools, varying elevations to create large intertidal areas, and/or planting of saltmarsh cordgrass (*Spartina alterniflora*) be incorporated into any design. We recommend a minimum size of 5 acres of dry bird nesting habitat, but larger is better.

Bird islands should be located with open water between the proposed island and exposed mudflat or marsh at low tide to discourage predators such as raccoons from accessing the islands during nesting. The existing bird island in St. Simons sound has 0.5 mile of open water between it and the mud flat nearby the marsh edge. It has experienced little or no mammalian predation. A minimum distance to achieve only slight mammalian predation cannot be recommended as factors such as water current velocity and area predator density are not known or are variable.

Any bird island creation proposal should be in compliance with the Federal Aviation Administration (FAA) Advisory Circular 150/5200-33A, "Hazardous Wildlife Attractants on or near Airports". The advisory circular establishes separation criteria for wildlife attractants located within the approach/departure area of an airport to be a distance of 5 miles from the airport. For areas other than the approach/departure the circular recommends 10,000 feet, slightly less than 2 miles, separation for airports serving turbine-powered aircraft and 5,000 feet of separation for airports serving piston-powered aircraft. Additionally, the FAA may be notified of any land use change that results in what it considers a hazardous wildlife attractant. Any proposed island may require an assessment by the U.S. Department of Agriculture's Wildlife Services program (APHIS, aka USDA-WS) to provide recommendations for reducing wildlife hazards to human health and safety.

Four recommended locations for new bird islands as well as the locations of the existing bird islands are shown on the below illustration. All new locations should have hydrologic modeling performed to understand what impacts the sediments may have on the area and under what conditions the sediments would be expected to move. We have selected new island locations based on our rough understanding of lower energy areas, and distance and orientation to airports and approach/departure flight paths. The bird island locations are numbered to correspond to the comments that follow below the illustration. Any bird island may go under the management and ownership of GADNR. However a management partnership with the USACE would be beneficial as done for the existing bird island.



Bird island potential location 1 (BI-1) - Create a bird island south of the intersection of cedar hammock and Brunswick point cut ranges and north of the marsh. This would be close to the ship channel for potentially low cost construction. It could be located slightly greater than five miles from the end of the St. Simons Island Airport (KSSI). This would be in compliance with FAA Advisory Circular 150/5200-33A, "Hazardous Wildlife Attractants on or near Airports" which establishes separation criteria for wildlife attractants located within the approach/departure area to be a distance of 5 miles from the airport. The location would also be 2 miles from the side of the Jekyll Island Airport (K09J). The advisory circular recommends 10,000 feet, slightly less than 2 miles, separation for airports serving turbine-powered aircraft and 5,000 feet of separation for airports serving piston-powered aircraft. While we would not consider this to be within the approach/departure area as it is approximately perpendicular to the only runway, the

FAA may be notified of the land use change that results in what it considers a hazardous wildlife attractant.

Bird island potential location 2 (BI-2) – Create a bird island near Jekyll Creek at Jekyll Sound across the inter-coastal waterway (ICW) from Jekyll Island. This would be a location protected from severe storms by Jekyll Island to the east. It's location near the ICW may cause it to be an attractive place for human recreation. This may result in disturbance to shore and seabird nesting. Conversely it would be convenient for monitoring by passing law enforcement patrols. The location is 2.5 miles from Jekyll Island Airport. It may be considered to be within the approach/departure area depending on how wide an angle the FAA uses from a straight approach to the runway.

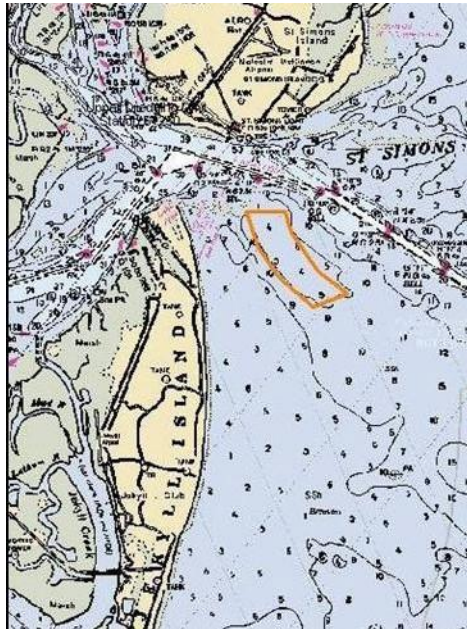
Bird island potential location 3 (BI-3) – Create a bird island in Jekyll Sound near Joiner Creek. This location would be further away from most boating traffic and somewhat protected from severe storms by Jekyll Sound. It is 3.0 miles from Jekyll Island Airport. It is a wider angle away from the runway and may be considered to be outside the approach/departure area depending on how wide an angle the FAA uses from a straight approach to the runway.

Bird island potential location 4 (BI-4) – Create a bird island in St. Andrews Sound near Raccoon Key. This location would be away from most boating traffic due to a large expanse of shallow flat around it at low tide. It would have little protection from severe storms and would be subject to waves originating in the ocean when driven by strong east winds or nor'easter storms. It is 4.5 miles from Jekyll Island Airport. It may be considered to be within the approach/departure area depending on how wide an angle the FAA uses from a straight approach to the runway. It is about the same offset as the BI-2 location except further away from the airport.

Onshore placement of beach quality sand onto the Jekyll Island beach should be considered as a form of beneficial use of dredge material for suitable material. Some portions of the beach currently have no dry sand at high tide. There is no sea turtle nesting habitat due to coastal erosion of the beach coupled with shoreline armoring to protect human development. Using beach quality sand to renourish the beach would provide sea turtle nesting habitat as well as enhance shorebird habitat and the desirability of the beach for human recreation. Similarly the same could be done for the southern end of St. Simons Island.

Offshore placement to construct subtidal, intertidal, or supratidal feeder berms as a beneficial use should also be considered. Sand placed south of the St. Simons ship channel may serve a variety of purposes. All sand placed in feeder berms may migrate to the Jekyll Island beach for sea turtle and shorebird habitat. All berm locations should have hydrologic modeling performed to understand what impacts the sediments may have on the area, direction of sediment movement, and under what conditions the sediments would be expected to move. As previously mentioned, some portions of the beach currently have no dry sand at high tide. Intertidal berms would serve as foraging and loafing habitat for shore and seabirds. Supratidal berms would provide these habitats and also nesting habitat that is difficult for mammalian predators to access. This has the potential to increase shorebird and seabird numbers that have been dropping for several years (Rosenberg K., et.al., 2019). All forms of berms would keep dredge material in the coastal

system and not in an upland disposal site. The berms would be a temporary feature that would change with natural processes, a man-induced sand sharing system. The quality of the sand can vary more than that used for onshore placement. The below NOAA chart shows a possible location for a feeder berm. It should be noted that direct placement on a beach is a more assured way to create dry beach sea turtle nesting habitat than feeder berms. So a consideration of goals is an important component of any decision as to what beneficial use alternative to select.



Some of the dredge material produced by the project may be marl or limestone. As an experimental beneficial use, this may be used to create an artificial shell rake(s). Natural shell rakes are located in the estuaries and tidal creeks behind Georgia's barrier islands. This habitat is used by 40% of the American oystercatchers in Georgia. The elevation of these varies but is generally only slightly above high tides. These sites are valued for bird usage as they are less erosional than sand islands. These will be some of the first habitats to become inundated and become un-useable with sea level rise and higher tides. This beneficial use could be considered to be wildlife mitigation for sea level rise. The NMFS-EFH may consider the subtidal and intertidal portions of shell rakes to offer the same complex habitat structure and ecological value as other shellfish habitats. Therefore, shell rakes can also serve as EFH-Habitat Areas of Particular Concern (EFH-HAPCs) for species in the snapper-grouper management unit. An artificial shell rake could be created near the existing St. Simons Sound bird island or the proposed bird island 1 (BI-1) location. The existing Satilla River Marsh Island Natural Area includes shell rakes at either end that could be enhanced with this type material.

We opine that the current way that the USACE determines if beneficial use will occur, as we understand it, does not take into account the value(s) provided by the beneficial use. We would like to request that the USACE reconsider its current method of determining if beneficial use shall occur.

As we understand, dredge sediment placement is determined as the least environmentally damaging practicable alternative (LEDPA) and/or by the 'Federal Standard' which is similar to the LEDPA. Should a beneficial use placement alternative cost more than the LEDPA such as offshore or in a DMCA, then the LEDPA would be selected. We opine that the value of the created feature or the cost of constructing the beneficial use should be valued and considered in any calculation of the 'best' way to dispose of dredge sediments. In example, if 'society' sees value in creating habitat for birds then that value should be considered in the decision of what is the 'best' spoil disposal method. Valuation can be the cost to build something, or a dollar value placed on what it contributes to society or the rarity of the habitat type. The latter two are more subjective and difficult to quantify. Similarly we know that society chooses to renourish beaches for human recreational enjoyment and we know how much renourishment costs. The cost or value of the renourishment should be considered in the decision as to where the dredge sediments should be placed, assuming that they are of suitable quality. It could be considered that feeder berms that keep material in the coastal system while supplying sand to beaches are a more natural form of beach nourishment than direct placement. While material placement into a DMCA may be cheaper for the channel dredging project, if a beach nourishment project is planned for the near future, any reduction in cost of nourishment that nearshore placement can be attributed to should be considered in the LEDPA calculation to dispose of the sediment.

Coordination with State and Federal Agencies

Project comments from GADNR - Coastal Resources Division, GADNR - Wildlife Resources Division, NMFS-EFH, and the Jekyll Island Authority (the agencies) were included in the draft FWCA comments submitted to the Corps. Since then the study alternatives have changed slightly. These changed alternatives were sent to the agencies for their further comments. All their comments were received by email and/or by phone. They are written into the text of these final FWCA comments and/or paraphrased below.

In summary GADNR – Wildlife Resources Division has concerns about creating a meeting area at St. Simons Sound (Alternative 5). The channel widening could create erosion on either or both of the two islands, St. Simons and Jekyll. The channel widening could cause the area to begin filling in and become shallow. The area could require dredging in the future for maintenance. The Wildlife Resources Division recommends that before any future dredging to maintain this meeting area occur, modeling of effects of the dredging should be done. They further opine that placing suitable beach sand dredge material directly on Jekyll beach or St. Simons beach instead of feeder berm would have more value, that is be a more beneficial use to wildlife as well as in other aspects. Erosion of the north end of Jekyll would be directly mitigated, and habitat would be immediately created. Whereas a feeder berm may not provide the same values with the same quantity of sand. Also they recommend modeling be done to check the effectiveness of a feeder berm to supply sand to the beach.

The NMFS-EFH comment that using a quick assessment it appears that none of the planned USACE alternatives would result in any activities that would require mitigation. This is because it now appears that no habitat conversion will occur (intertidal to subtidal or shallow subtidal to

deep subtidal) as part of the project. Concerning shell rakes, the NMFS considers subtidal and intertidal portions of shell rakes to offer the same complex habitat structure and ecological value as other shellfish habitats. Therefore, shell rakes can also serve as EFH-Habitat Areas of Particular Concern (EFH-HAPCs) for species in the snapper-grouper management unit.

The GADNR - Coastal Resources Division and the Jekyll Island Authority had no further comments after the USACE changes to the alternatives. As a note, NOAA Fisheries and the USACE are continuing endangered species consultation and essential fish habitat consultation to further consider impacts and mitigation to resources under NOAA Fisheries jurisdiction.

We appreciate the opportunity to provide comments during the early phase of this project. If you have any questions, please contact our Coastal Georgia Sub Office staff biologist, Bill Wikoff, at 912-832-8739 extension 5.

Sincerely,

A handwritten signature in blue ink that reads "Donald W. Imm". The signature is stylized, with the first name "Donald" and last name "Imm" clearly legible, and "W." in the middle.

Donald W. Imm, PhD.

Field Supervisor

cc: Cynthia Cooksey, NMFS, Charleston, South Carolina
Kelie Moore, GADNR-Coastal Resources Division, Brunswick, Georgia
Jason Lee, GADNR-Wildlife Resources Division, Brunswick, Georgia
Ben Carswell, Jekyll Island Authority, Jekyll Island, Georgia
Clay McCoy, USACE Regional Sediment Management - Regional Center of Expertise,
Jacksonville District, Jacksonville, Florida

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