BENEFICIAL USE OF DREDGED MATERIAL FOR COASTAL HABITAT RESILIENCY| GEORGIA SUMMARY

PROJECT OVERVIEW

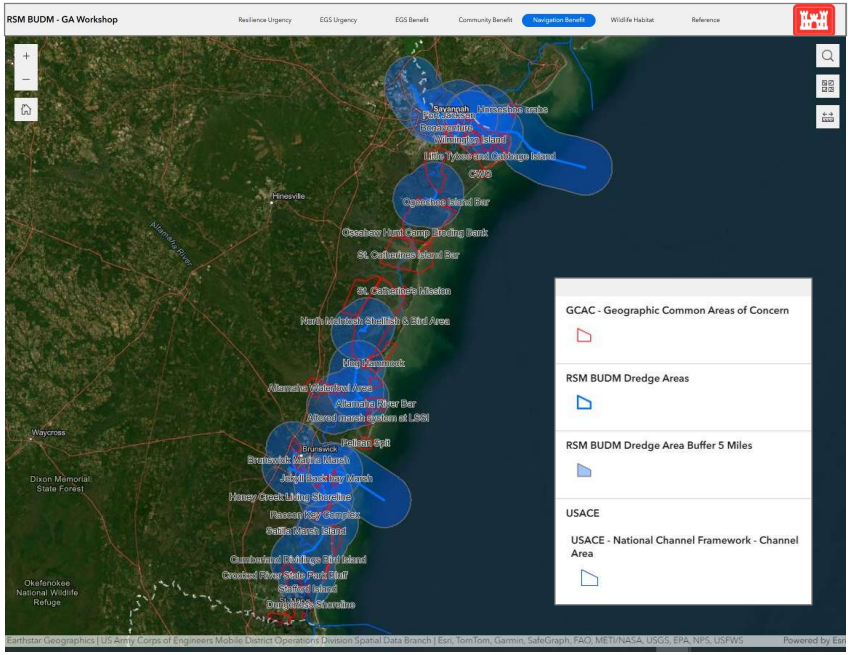
As sea level rises, our coastal salt marshes and intertidal ecosystems have two options: migrate or drown. If salt marsh accretion is unable to keep pace with sea level rise, beyond the inherent loss of habitat value, increased inundation may result in conversion to open water, increased hazards to navigation such as higher waves, and increased siltation of navigation channels. The U.S. Army Corps of Engineers (USACE) dredges over 39 million cubic yards of sediment, annually/cyclically, from areas in North Carolina, South Carolina, and Georgia. Through Regional Sediment Management (RSM) planning and Beneficial Use of Dredged Material (BUDM) we can improve ecosystem health and provide habitat for numerous species and climate hazard risk. This effort brought together key regional partners to analyze sediment availability and match future dredging plans to specific coastal restoration priority areas. Through an interactive process, stakeholders identified four sites, and appropriate BUDM project types, in each state with potential to beneficially use dredged material from nearby channels to restore habitat.

BENEFICIAL USE SITE SELECTION

A web mapping application was used during stakeholder workshops to facilitate discussion, evaluation, and delineation of potential BU sites.

The tool provides the ability to view aspects of the current condition of potential sites as well as future impacts of sea level rise. Site selection focused on considering these conditions in combination with a site's proximity to navigation channels that can provide appropriate sediment to maintain, restore, or create desired habitat.

Use this QR code to access the tool:



GA Webapp Tool: https://experience.arcgis.com/experience/b327ad3827794f579c82eb3c683aa8b3/

BENEFICIAL USE SITE EVALUATION

The web mapping application provides a data-driven approach to score and compare potential sites based on six beneficial use site prioritization metrics* (BUSPM):

1) **Resilience Urgency** – calculated flood risk to environmental and cultural resources, infrastructure, and socially vulnerable populations plus proximity to NFWF Resilience Hubs.
2) **Ecosystem Goods and Services (EGS) Urgency** - measured level of ecosystem change or estimated vulnerability to future change.
3) **Ecosystem Goods and Services (EGS) Benefit** – estimated loss of EGS benefits under predicted sea level rise and habitat conversion.
4) **Community Benefit** - proximity to a disadvantaged community as mapped by the Climate and Economic Justice Screening Tool.
5) **Navigation Benefit** - proximity to a mapped dredged area with potential to provide sediment for beneficial use and increased risk of channel shoaling.
6) **Wildlife Habitat** - level of opportunity to improve and protect important wildlife habitat areas based on multiple data layers and expert knowledge.

The site evaluation provided each delineated site with BUSPM scores of low=1, medium=2, or high=3 which were added for a cumulative score. Sites with the highest scores include:

Score	Site GEORGIA	Resilience Urgency	EGS Urgency	EGS Benefit	Community Benefit	Navigation Benefit	Wildlife Habitat
18	Kings Bay – Bird Island*	3	3	3	3	3	3
18	Ft. Pulaski / Bird/Long Island	3	3	3	3	3	3
18	St. Andrews Beach	3	3	3	3	3	3
17	Stafford Island*	3	3	2	3	3	3
17	Altamaha River Bar	3	3	2	3	3	3
17	Jekyll Back bay Marsh*	3	3	3	2	3	3
17	Dungeness Shoreline	2	3	3	3	3	3
16	Jekyll Beach and Nearshore*	3	3	2	2	3	3

*BUSPM are based on published authoritative federal, state, NGO, and academic geospatial data sources.

GEORGIA PRIORITY SITES

Metrics used in the site evaluation represent important considerations when prioritizing decisions for BUDM but do not represent all considerations used for final site selection. The Georgia stakeholder group prioritized the following four sites based on the process described above as well as implementation readiness, expert knowledge, and several other factors. Additional information on each site is provided on the reverse side.

SAVANNAH HARBOR, FT PULASKI

OGEECHEE ISLAND BAR

AIWW ALTAMAHA MUD FLAT AREA 32

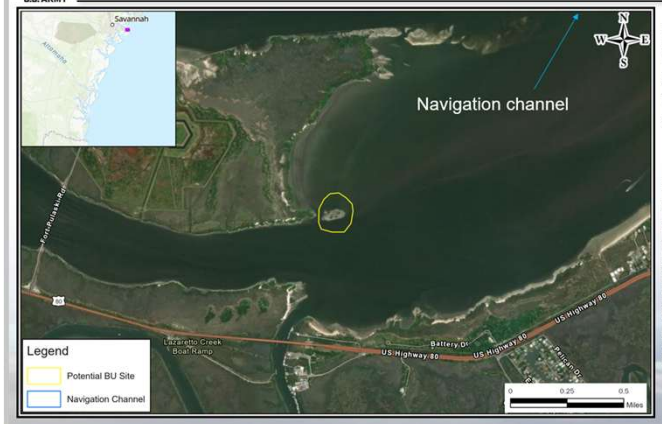
KINGS BAY COMPLEX NW MARSH

A collaborative, data-driven approach to identify and prioritize beneficial use of dredged material (BUDM) opportunities for coastal habitat resilience throughout Georgia, South Carolina, and North Carolina.

BENEFICIAL USE OF DREDGED MATERIAL PRIORITY SITES | GEORGIA

SAVANNAH HARBOR FT PULASKI, GA

U.S. ARMY

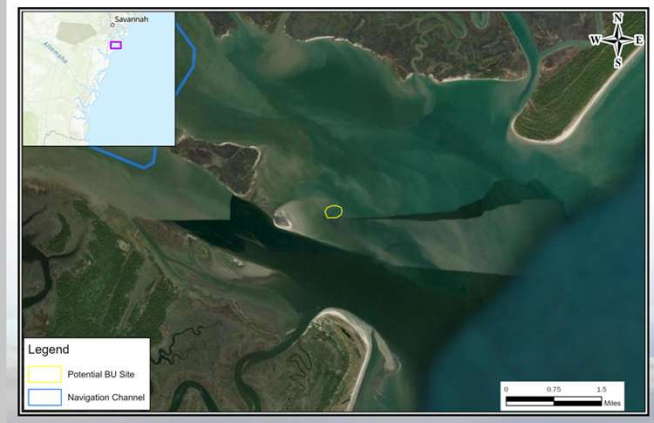


Sediment Source: ~ Savannah Harbor Entrance Channel 600kcy sand dredged annually, and Inner Harbor mix of sand and silt also dredged annually.

Restoration Potential: 3 to 5+ acres. Bird island habitat adjacent to the Cockspur Island Lighthouse, specifically the north bank has been historically eroding. Cultural resource benefits to protecting eroded shoreline and high value bird habitat.

OGEECHEE ISLAND BAR, GA

U.S. ARMY



Sediment Source: ~100kcy of mix sand and silt dredged from AIWW Isle of Hope/Ossabaw Reach "Hell's Gate" every two years.

Restoration Potential: ~20 acres. Extension of existing bar island footprint to provide bird habitat.

Considerations: Spring staging area for REKN where there is intertidal HSC spawning. Balance to increase elevation while protecting intertidal areas. Build elevation while avoiding more connection to upland. The flat that extends to the east would be the main area.

AIWW ALTAMAHA MUD FLAT- AREA 32, GA

U.S. ARMY

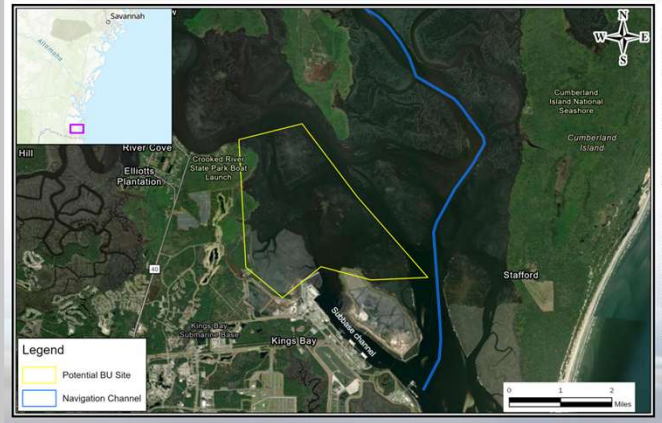
Sediment Source: ~300kcy from the AIWW St. Simons Reach Altamaha River of mixed sand and silts dredged every 30 months.

Restoration Potential: ~25 acres Mud Flat foraging habitat to support erosion on Wolf Island NWR, and nearby high value bird habitat. Wading bird colonies in the immediate area include white/gloss ibis, egrets, and least terns.

Of Note: Additional sites identified in the area (not pictured) include Site 28 and Altamaha Marsh Island as potential BUDM opportunities.

KINGS BAY COMPLEX- NW MARSH, GA

U.S. ARMY



Sediment Source: ~1Mcy per year from Subbase, unlimited from upland DMMA sites, and additional dredge material may be available from the AIWW.

Restoration Potential:~1,500 acres of degraded marsh habitat.

Of Note: Additional sites in the area (not highlighted) include Dungeness Shoreline, Stafford Island, and Bird Island south of the area for potential BUDM opportunities.

BENEFICIAL USE ROADMAP TO IMPLEMENTATION

1. **Identify site and potential sediment sources.**
2. **Evaluate available sediment characteristics and volume.**
3. **Delineate site by determining appropriate BUDM type and size.**
4. **Design BUDM, estimate costs and benefits.**
5. **Permitting, funding, and final scheduling.**
6. **Implementation!**

This project helped facilitate the completion of steps 1, 2, and 3.