



Beneficial Use of Dredged Material in the Atlantic Intracoastal Waterway: Approaching the Regulatory Process

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PURPOSE: Following the Chief of Engineer’s January 2023 goal to expand the beneficial use of dredged material (BUDM), the US Army Corps of Engineers (USACE) strives to apply new and creative ways to increase utilization of dredged materials from a historic 30%–40% to 70% by 2030. As USACE Savannah District (SAS) increases BUDM efforts, a critical component of this transition is understanding and navigating the regulatory requirements. This Technical Note outlines the regulatory process for placement of dredged material in Georgia, identifies challenges and institutional barriers, and offers potential solutions to streamlining the overall process. By increasing the ease of navigating the regulatory process, USACE can facilitate an increase in BUDM and Engineering With Nature® (EWN®) projects in Georgia, and potentially other projects employing nature-based solutions (NBS). While regulatory details may vary from state to state, the Georgia example presented here can serve as a road map for the general types of regulatory procedures and potential hurdles found nationwide.

BACKGROUND AND PROBLEM: Ultimately, this effort is in support of a project that aims to develop tools for evaluation and identification of beneficial use (BU) options within the Atlantic Intracoastal Waterway (AIWW). The AIWW, a 3,000-mile inland waterway stretching from Boston, Massachusetts, to Key West, Florida, provides an important navigable route for commercial shipping, recreational boating, and fishing. It also connects numerous coastal cities and ports along the East Coast of the United States. We plan to create a placement site selection tool, or modeled approach, to identify innovative BU placement options that incorporate EWN principles with dredging requirements and are transferable to other portions of the AIWW along the entire South Atlantic and Gulf Coasts.

Upcoming operations and maintenance (O&M) projects within the Savannah District present valuable opportunities to support the USACE enterprise-wide effort to increase beneficial use to 70% by 2030. Consequently, the Georgia reach of the AIWW is an ideal location to develop and implement innovative strategies for BUDM (Figure 1).



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Figure 1. Representative reach of the AIWW on the Skidaway River at Isle of Hope.

BUDM can create and improve habitat for a variety of aquatic and terrestrial species, rebuild eroded shorelines, and increase recreational opportunities. The strategies SAS has identified for dredge material placement within the AIWW will incorporate three objectives: (1) mitigate and adapt to climate change, (2) support a resilient community through ensuring the AIWW remains navigable, and (3) ensure environmental suitability and engineering resilience. Having a clear understanding of the regulatory procedures is a critical component of evaluating and prioritizing BU projects and determining the feasibility of project implementation.

REGULATORY PROCESS: This section outlines the permitting, authorizations, and other federal, state, and local requirements involved in the environmental compliance process when planning and executing USACE dredging and BUDM efforts.

The National Environmental Policy Act (NEPA) process is a framework established in the United States for assessing the potential environmental impacts of federal actions, such as BUDM.¹ Most BUDM projects planned and executed by federal agencies, including USACE, are subject to NEPA requirements, and each agency has its own regulations for NEPA implementation. Below is a general description of the NEPA process as it applies to such projects.

Scoping: The process typically begins with scoping, during which the project proponent (often a federal agency or private entity working in collaboration with a federal agency) identifies the proposed action and its purpose. Scoping involves determining the scope of the environmental analysis, the potential impacts to be assessed, and the relevant alternatives to be considered.

1. National Environmental Policy Act of 1970, 42 U.S.C. §§ 4321–70m. (2022).
<https://www.govinfo.gov/content/pkg/USCODE-2022-title42/pdf/USCODE-2022-title42-chap55.pdf>

Environmental Assessment or Environmental Impact Statement: Depending on the proposed action’s potential environmental impacts, either an Environmental Assessment (EA) or an Environmental Impact Statement (EIS) is prepared. The EA is a more concise analysis and is suitable for most BUDM projects, while an EIS is more comprehensive and is only prepared for projects with anticipated significant environmental impacts. These documents provide an evaluation of the potential environmental effects of the proposed project. If a BUDM project necessitates an EIS, its viability may be questioned due to the perceived impacts.

Public Involvement: Throughout the NEPA process, there are opportunities for public involvement. Agencies solicit public comments on the scope of the analysis, the adequacy of the environmental documents, and the potential impacts of the proposed action. Public meetings or hearings may also be held to gather input from stakeholders, including affected communities, environmental groups, and other interested parties.

Alternatives Analysis: NEPA requires the consideration of reasonable alternatives to the proposed action. In the case of BUDM, alternative options for disposal or use of the dredged material must be evaluated. This analysis helps to identify potential impacts and compare the environmental consequences of various options.

Environmental Review and Decision: Based on the findings of the EA or EIS, the responsible federal agency reviews the potential impacts and considers the public comments. The agency then decides on the proposed action, considering the environmental consequences, economic considerations, and other relevant factors. This decision may involve the selection of the preferred alternative or mitigation measures to minimize adverse impacts. This step is the bulk of the regulatory process and is discussed in greater detail throughout this technical note.

Mitigation and Monitoring: If the proposed action is approved, the responsible federal agency may impose certain mitigation measures to offset or reduce potential adverse environmental impacts. Additionally, monitoring programs may be established to assess the effectiveness of these measures and ensure compliance with environmental regulations.

It is important to note that the NEPA process can vary depending on the specific circumstances and projects involved. However, the general steps outlined above provide an overview of how the NEPA process typically applies to BUDM related projects.

To ensure compliance with NEPA and other environmental laws, USACE consults federal agencies such as US Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) regarding the Fish and Wildlife Coordination Act (FWCA),² Coastal Barrier Resources Act (CBRA),³ Magnuson-Stevens Fishery Conservation and Management Act (MSA),⁴ and

2. Fish and Wildlife Coordination Act, 16 U.S.C. §§ 661–67i (2022).

<https://www.govinfo.gov/content/pkg/USCODE-2022-title16/pdf/USCODE-2022-title16-chap5A-subchapI.pdf>.

3. Coastal Barrier Resources Act, 16 U.S.C. §§ 3501–10 (2022).

<https://www.govinfo.gov/content/pkg/USCODE-2022-title16/pdf/USCODE-2022-title16-chap55.pdf>.

4. Magnuson-Stevens Fishery Conservation and Management Act, 16 U.S.C. §§ 1801–91d. (2022).

<https://www.govinfo.gov/content/pkg/USCODE-2022-title16/pdf/USCODE-2022-title16-chap38.pdf>.

Section 7 of the Endangered Species Act (ESA).⁵ State and local agencies also have roles and responsibilities for environmental compliance, some of which are delegated to the state by the US Environmental Protection Agency (EPA). In Georgia, the Georgia Department of Natural Resources (GA DNR) Environmental Protection Division (EPD) and Coastal Resources Division (CRD) are consulted regarding Section 401 of the Clean Water Act (CWA),⁶ the River and Harbor Act (RHA) of 1899,⁷ Coastal Zone Management Act (CZMA),⁸ National Historic Preservation Act (NHPA),⁹ and Coastal Marshlands Protection Act (CMPA).¹⁰ The general regulatory and environmental compliance process is described in Table 1 for each agency's authorities. USACE must also comply with some state-specific environmental laws and regulations for BUDM projects.

5. Endangered Species Act of 1973 § 7(a)(1), 16 U.S.C. § 1536(a)(1), 1832 (2022).

<https://www.govinfo.gov/content/pkg/USCODE-2022-title16/pdf/USCODE-2022-title16-chap35-sec1536.pdf>.

6. Federal Water Pollution Control Act of 1948 § 401, 33 U.S.C. § 1341. (2022).

<https://www.govinfo.gov/content/pkg/USCODE-2022-title33/pdf/USCODE-2022-title33-chap26-subchapIV-sec1341.pdf>.

7. Act of March 3, 1899. 2021. 33 U.S.C. §§ 401, 403–404, 406–409, 411, 413–15.

<https://www.govinfo.gov/content/pkg/USCODE-2021-title33/pdf/USCODE-2021-title33-chap9.pdf>.

8. Coastal Zone Management Act of 1972, 16 U.S.C. §§ 1451–68. (2022).

<https://www.govinfo.gov/content/pkg/USCODE-2022-title16/pdf/USCODE-2022-title16-chap33.pdf>.

9. National Historic Preservation Act of 1966, 54 U.S.C. §§ 300301–7108. (2022).

<https://www.govinfo.gov/content/pkg/USCODE-2022-title54/pdf/USCODE-2022-title54-subtitleIII-divsNA.pdf>.

10. Coastal Marshlands Protection Act of 1970. O.C.G.A. §§ 12-5-280–97 (2023).

Table 1. Steps in the regulatory process for SAS BUDM projects.

Regulation/ Act	FWCA	ESA	MSA	CZMA	CBRA	CWA and/or RHA	NHPA	CMPA & Buffer Variances
Applicable Resource Agency	USFWS & NMFS ^a	USFWS & NMFS	NMFS	GA DNR-CRD	USFWS	GA DNR-EPD (401); USACE Regulatory (404) ^b	GA DNR-State Historic Preservation Office (SHPO); Federally recognized Indigenous nations and Tribal governments ^c	GA DNR- CRD/EPD ^d
Steps in the coordination/ consultation process	Step 1: Scoping. USACE defines the project and identifies potential resource impacts. Early engagement with resource agencies aids in identification of resources and anticipated impacts and provides ample notice to the agencies that further communication and supporting documentation are forthcoming.							
		Based on pre- dicted impacts, determine if this will be formal or informal consultation						
	Step 2: USACE drafts an impacts analysis document and submits it to the corresponding resource agency.							
		Draft Biological Assessment sent to USFWS and NMFS	Draft Essential Fish Habitat (EFH) Assessment sent to NMFS	Draft CZMA Consistency Determination sent to GA DNR-CRD	Draft CBRA Compliance sent to USFWS	Draft 404(b)(1) sent to GA DNR- EPD; Submit permit application to DNR-CRD and USACE Regulatory ^b	Draft Section 106 Compliance sent to SHPO, appropriate Tribal Leader, and Tribal Historic Preservation Officer (THPO) or designated tribal official	Submit permit application

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Table 2 (cont.). Steps in the regulatory process for SAS BUDM projects.

Regulation/ Act	FWCA	ESA	MSA	CZMA	CBRA	CWA and/or RHA	NHPA	CMPA & Buffer Variances
Steps in the coordination/ consultation/ process	Step 3: The resource agency reviews the initial submission from USACE. This review may lead to requests for additional information and/or recommendations for mitigation or other conditions. In response, USACE will address comments and either resubmit to the agency or make the document available concurrent with the public notice and comment period.							
	Step 4: USACE or the resource agency (e.g., GA-EPD for a buffer variance) will submit the document for public review and comment. Concurrent with the public review of the Draft EA.							
	Step 5: USACE revises the document and/or responds to comments as necessary, then submits the final draft to the respective Resource Agency.							
	Step 6: Resource Agency provides concurrence or certification							
	USFWS provides consolidated response with ESA	USFWS and NMFS will provide concurrence if applicable, or may select to not comment	NMFS will provide concurrence or may select to not concur	GA DNR-CRD provides concurrence with Consistency Determination	USFWS provides concurrence	GA DNR-EPD provides 401 Water Quality Certificate; DNR-CRD and USACE Regulatory issues permits ^b	SHPO and THPO (if applicable) provides Section 106 Concurrence Determination	GA DNR-CRD/EPD provides concurrence
Step 7: USACE finalizes the decision document (Finding of No Significant Impact [FONSI] or Record of Decision [ROD]), incorporating the completed compliance.								

^aNMFS and USFWS typically provide a consolidated ESA and FWCA response.

^bApplies to nonfederal construction projects not specifically authorized by Congress, to include non-USACE Civil Works Projects.

^cThe term *Indian tribe* as it appears in the NHPA refers only to federally recognized Indigenous nations and Tribal governments, which include Alaska Native Villages and Village and Regional Corporations. The NHPA does not restrict Tribal consultation to Tribal lands alone and those off Tribal lands may be the ancestral homelands of an Indigenous nation or Tribal government, and thus may contain historic properties of religious and cultural significance. Federal agencies must make “a reasonable and good faith” effort to identify each and every such Indian Indigenous nation and Tribal government and invite them to be consulting parties (Protection of Historic Properties. 36 C.F.R. § 800.4 (b)(1). <https://www.ecfr.gov/current/title-36/chapter-VIII/part-800/subpart-B/section-800.4>).

^dUSACE federal activities are exempt from CMPA due to our “responsibility of keeping the rivers and harbors of this state open for navigation. . . including areas for utilization for spoilage designated by such agencies.” (Coastal Marshlands Protection Act of 1970—Applicability of part, O.C.G.A. § 12-5-295(3) [2023]).

The FWCA serves as a vital mechanism for harmonizing federal efforts that have the potential to impact fish and wildlife resources, with the overarching goal of ensuring conservation and protection. Meanwhile, the ESA plays a crucial role in safeguarding and revitalizing endangered and threatened species, as well as critical habitats. By establishing a robust framework, the MSA effectively manages fisheries within US federal waters, aiming to prevent overfishing, facilitate the recovery of depleted stocks, and foster sustainable fishing practices. Furthermore, the NHPA seeks to preserve and safeguard the nation's invaluable historic and cultural resources, employing a systematic process for identifying, assessing, and conserving historic properties. In a similar vein, the CZMA promotes comprehensive management of coastal zones, effectively balancing economic development with the imperative of protecting and conserving natural resources and ecosystems. Lastly, CBRA limits federal activities within designated coastal barrier areas, acting as a deterrent for development while preserving sensitive coastal ecosystems and habitats. Collectively, these legislative measures exemplify the concerted efforts of the United States to address multifaceted environmental challenges and ensure the sustainable and responsible management of its natural and cultural resources.

There are some differences between the permitting process for USACE projects compared to other federal agency or private entity projects. For example, although USACE Civil Works projects are exempt from the CMPA, other agencies and private entities would be required to complete consultation for this act. Similarly, private entities and other agencies (outside of USACE Civil Works projects) typically require a Section 404 permit from USACE if they intend to discharge dredged or fill material into waters of the United States, including wetlands. This applies even if the intention is BUDM. While USACE does not follow the typical Section 404 permitting process for its Civil Works projects, these projects are still subject to the guidelines of NEPA, CWA Section 404(b)(1),¹¹ and Section 10 of the RHA of 1899.¹²

Coordination and/or consultation, as described in Table 1, refers to a process in which USACE corresponds with resource agencies to ensure effective management and protection of natural resources during projects. USACE works closely with various federal, state, tribal, and local resource agencies to assess potential impacts on the environment and ensure compliance with applicable laws and regulations. Biological Assessment occurs when USACE conducts analysis and drafts an assessment of potential project impacts on ESA listed species or their designated critical habitat. A Biological Opinion is developed if the biological assessment suggests potential adverse effects. In this case, the appropriate resource agencies (USFWS or NMFS) prepare a biological opinion with recommendations and additional mitigation requirements or conditions if necessary.

The terms Biological Assessments and Biological Opinions apply specifically to ESA listed species under USFWS and NMFS jurisdiction. For coordination with other agencies, a draft Environmental Assessment would be provided, demonstrating USACE's analysis of impacts.

11. Federal Water Pollution Control Act of 1948 § 404, 33 U.S.C. § 1344 (2022).

<https://www.govinfo.gov/content/pkg/USCODE-2022-title33/pdf/USCODE-2022-title33-chap26-subchapIV-sec1344.pdf>.

12. Act of March 3, 1899 § 10. 33 U.S.C. § 403 (2022). <https://www.govinfo.gov/content/pkg/USCODE-2022-title33/pdf/USCODE-2022-title33-chap9.pdf>.

These regulatory steps can be generalized into a six-part process to arrive at a regulatory decision or certification (Figure 2).



Figure 2. Regulatory and environmental review process streamlined into a six-part procedure.

The duration of the coordination process can vary significantly depending on the complexity of the project, availability of data, number of species and other resources involved, and level of coordination required. It is not uncommon for the process to take several months or even longer, particularly for large-scale or environmentally sensitive projects (Goodrich et al. 2023). USACE and resources agencies work together to ensure that the coordination process is thorough, scientifically sound, and consistent with the requirements and regulations.

CHALLENGES: Coordinating with federal, state, and local agencies/entities can present challenges, such as navigating a complex regulatory framework, having multiple stakeholders with differing authorities and potentially competing priorities, limited resources, the political environment, legal challenges, and communication barriers.

Agencies are typically responsible for enforcing complex and detailed regulatory frameworks, which can be challenging to navigate and comply with. Challenges in complying with regulations of resource agencies derive from the complex and overlapping nature of each agency's authorities. This can often result in conflicting or even duplicative requirements and lengthy approval

processes, making it difficult to navigate and satisfy all the necessary criteria within prescribed timelines. Additionally, resource agencies may have varying priorities and objectives based on those authorities, making it challenging for USACE and other NBS practitioners to align their activities and projects with the diverse interests and expectations of these agencies while still fulfilling its own mission. For example, one resource agency may prioritize upland habitat enhancement for bird foraging and nesting, while another may prioritize subtidal habitat enhancement for aquatic species.

BUDM projects typically involve multiple stakeholders and partners, including other federal agencies, state and local governments, and private industry, which can make coordination and collaboration more challenging. Additionally, landowners and others with an interest in each project area may oppose any action that they perceive to be intrusive or detrimental. Documenting and communicating the benefits of a BUDM project is essential to aligning priorities among all stakeholders.

The alignment of dredging operations and BU placement is a complex task. It requires the synchronization of multiple elements, including the timely coordination and issuance of required environmental permitting and compliance. Agencies, both within and outside USACE, grapple with limitations in manpower and funding. USACE may encounter resource hurdles when supporting an extended and complex consultation process. Similarly, external resource agencies may have limited staffing and funding, impacting their responsiveness and support capabilities. The sheer volume of consultation requests received by agencies, due to interactions with multiple federal agencies, frequently results in considerable consultation processing delays. These resource limitations can obstruct the initial engagement and prompt considerable delays later in projects, ultimately disrupting project schedules and execution. When considering the need for synchronization with dredging operations, this can culminate in missed deadlines and/or abandonment of a project altogether, resulting in missed opportunities for beneficial use.

Priorities and decision-making processes of resource agencies may change due to changes in policy or leadership. For example, changes to the CWA certification process can change the permitting process USACE adheres to and can delay progress toward acquiring a CWA certification and completing consultation. Additionally, if USACE does not respond quickly to these changing processes, then legal challenges could arise, underscoring the need for USACE to remain nimble and adapt rapidly to changing priorities and policies.

STREAMLINING ENVIRONMENTAL REVIEW AND PERMITTING: Streamlining the regulatory process can provide benefits such as improved productivity, reduced costs, and enhanced quality, consistency, and communication. To make the regulatory process more efficient, we consider the challenges previously established and present best practices and lessons learned.

Coordination among agencies involved in environmental compliance and permitting can be challenging due to the complexity of the regulatory frameworks, multiple stakeholders involved, limited resources, political environment, legal challenges, and communication barriers. It is important to develop effective communication strategies, establish clear lines of communication, and build strong relationships with agencies and their partners to achieve successful coordination. These are essential steps before, during, and after project completion. Engaging early and often is

recognized as a key best practice, fostering positive coordination with resource agencies. This proactive approach was recently exemplified in the Cumberland Dividings BUDM project, serving as a model for future BUDM coordination and compliance processes within the Savannah District. Involving state and federal resource agencies from the onset, and ensuring collaboration during pivotal stages of the study, such as placement site identification and selection for beneficial use projects, effectively preempted potential compliance issues that often arise in later phases of a project. In this example project, the Savannah District engaged resource agencies early and collaborated with them on site selection, impacts analysis, and design of the BUDM site. Early stakeholder engagement not only helps in establishing clear objectives but also aligns the project stakeholders around common goals. This strategy provides a means to identify and tackle potential challenges early, leading to more collaborative and streamlined project execution.

Creating a working group among the coordinating agencies with a common goal could help streamline this regulatory process. First and foremost, it allows for better coordination and collaboration among agencies, leading to more effective and efficient efforts in achieving the shared goal. By pooling resources and expertise, agencies can develop more comprehensive and well-informed solutions to complex problems. Additionally, a working group can help streamline communication between agencies, reduce duplicative efforts, and facilitate sharing of data and information. Finally, a working group can help to build trust and foster a sense of shared responsibility and accountability among participating agencies. Successful examples of this type of working group within USACE includes the interagency South Carolina Regional Sediment Management Working Group (SC RSMWG). Since its inception, the SC RSMWG has been based on collaboration between members in the interest of advancing regional sediment management (RSM) and BUDM in South Carolina. In other states and regions, regional permitting teams like the San Francisco Bay Restoration Regulatory Integration Team (BRRIT) and the Puget Sound Multi-Agency Review team have facilitated and coordinated expedited and streamlined environment permitting and reviews for NBS projects. To overcome resource challenges, some regional permitting teams fund staff at the resource agencies through existing programs and funding authorities (e.g., Puget Sound Geographic Program and Section 214 of the Water Resources Development Act of 2000).¹³

Resource agencies can play a vital role in facilitating coordination with USACE by providing example documents, templates, and best management practices that can guide and standardize communication and collaboration. For example, an agency could share a particularly effective Essential Fish Habitat (EFH) assessment that efficiently conveys all pertinent information, thus enhancing the coordination process. Additionally, sharing data and creating collaborative virtual work environments and automated interagency information systems would enhance and accelerate coordination and consultation. By sharing documents, data, and expertise, resource agencies can foster a common set of guidelines and expectations, which can reduce ambiguity and streamline the coordination process.

Creating a programmatic agreement between USACE and a resource agency can provide multiple benefits. First, it can help to ensure that the management and protection of the resources are

13. Consolidated Appropriations Act of 2021, Pub. L. No. 116-260, 134 Stat. 2615–757.
<https://www.govinfo.gov/content/pkg/PLAW-116publ260/pdf/PLAW-116publ260.pdf>.

consistent and coordinated between the agencies. The programmatic agreement can outline specific roles and responsibilities for USACE, as well as establish clear guidelines and procedures for implementing actions. By establishing this level of coordination, the programmatic agreement can help reduce time spent and duplicative efforts through coordination on actions of a similar scope and scale. Finally, the programmatic agreement can help ensure that resources are managed in a manner consistent with applicable laws and regulations while allowing for flexibility and adaptive management as new information or challenges arise.

For example, SAS and other districts within the South Atlantic Division (SAD) have developed a programmatic agreement between USACE and NMFS called The South Atlantic Regional Biological Opinion (SARBO), issued in 2020 (NMFS 2020). The 2020 SARBO is the formal consultation for certain O&M actions, which allows them to proceed without additional consultation. O&M actions covered by the SARBO are dredging and BU placement for beach nourishment and living shorelines. Although certain actions are covered by the SARBO, these actions must be coordinated with NMFS. For activities not covered by the 2020 SARBO, including some dredging and BUDM placement activities, USACE must conduct a Section 7 ESA consultation.

Memorandums of understanding (MOU) can also be beneficial to streamlining the environmental review and permitting process. GA DNR has had a RSM MOU with USACE for the past 20 years that was put in place when the Georgia River and Harbors Development Act was adopted in 2004. Both were formally adopted into Georgia's Coastal Management Program in 2005 and are used during CZMA federal consistency review. Collaboration in creation of this MOU made the CZMA consistency process more efficient and faster overall. Where possible, working with agencies to create MOUs can streamline the coordination/consultation process.

SUMMARY: The purpose of this document is to provide an overview of the regulatory process for the placement of dredged material in the AIWW and to identify challenges and potential solutions for streamlining the process. This document outlines the steps involved in the NEPA process, including public involvement, alternatives analysis, and environmental review and decision-making. Additionally, we highlight the importance of consultation with federal, state, and local agencies to ensure compliance with environmental regulations. Building on similar efforts undertaken by other federal agencies and entities (e.g., EPA's Green Infrastructure Federal Collaborative), it is important to emphasize the need for coordination and collaboration among resource agencies and other stakeholders to facilitate the implementation of NBS projects, including BU projects, along the AIWW and other coastal areas. This can be a complex process; however, by streamlining and regulating the process, building and maintaining productive relationships with agencies and other stakeholders, creating interagency permitting and environmental review teams, and creating programmatic agreements, USACE will be capable of achieving its goal of 70% BUDM by the year 2030.

ACKNOWLEDGMENTS: Funding for these analyses was provided by the Engineering With Nature® (EWN®) program. The authors wish to thank Mr. Kyle Gordon, Wetlands Regulatory Assistance Program (WRAP) Manager, Engineer Research and Development Center—Environmental Laboratory (ERDC-EL), and Ms. Marina Howarth, ERDC-EL, for internal reviews of this document. The authors also thank the members of the Atlantic Intracoastal Waterways

Beneficial Use Project Development Team from Georgia Department of Natural Resources, Georgia Sea Grant, and the University of Georgia for their input and review.

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Gregory, A. B., J. M. Lopes, K. T. Powell, and S. Altman. 2024. *Beneficial Use of Dredged Material in the Atlantic Intracoastal Waterway: Approaching the Regulatory Process*. ERDC/TN EWN-24-2. Vicksburg, MS: US Army Engineer Research and Development Center.

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Protection of Historic Properties. 36 C.F.R. § 800.4 (b)(1). <https://www.ecfr.gov/current/title-36/chapter-VIII/part-800/subpart-B/section-800.4>.

ABBREVIATIONS

AIWW	Atlantic Intracoastal Waterway
BRRIT	San Francisco Bay Restoration Regulatory Integration Team
BU	Beneficial use
BUDM	Beneficial use of dredged material
CBRA	Coastal Barrier Resources Act
COMPA	Coastal Marshlands Protection Act
CRD	Coastal Resources Division
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
EA	Environmental assessment
EFH	Essential fish habitat
EIA	Environmental impact statement
EPA	Environmental Protection Agency
EPD	Environmental Protection Division
ESA	Endangered Species Act
EWN [®]	Engineering With Nature [®]
FONSI	Finding of no significant impact
FWCA	Fish and Wildlife Coordination Act

GA DNR	Georgia Department of Natural Resources
MOU	Memorandums of understanding
MSA	Magnuson-Stevens Fishery Conservation and Management Act
NBS	Nature-based solutions
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
O&M	Operations and maintenance
RHA	River and Harbor Act
ROD	Record of decision
RSM	Regional sediment management
SAD	South Atlantic Division
SARBO	South Atlantic Regional Biological Opinion
SAS	Savannah District
SC RSMWG	South Carolina Regional Sediment Management Working Group
SHPO	State Historic Preservation Office
THPO	Tribal Historic Preservation Officer
USACE	US Army Corps of Engineers
USFWS	US Fish and Wildlife Service

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