

UPDATES IN ENVIRONMENTAL PERMITTING REQUIREMENTS FOR DISPOSAL OF DREDGED MATERIAL

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ABSTRACT

With the decreased availability of upland sites for dredged material disposal and the need for evaluating open-water disposal options, it is important to develop a clear understanding of the regulatory requirements for dredged material management.

Ocean disposal of dredged material is regulated under Title I of the Marine Protection Research and Sanctuaries Act (MPRSA). Ocean dumping regulations are clearly stated under CFR Section 40. Similarly, the discharge of dredged material in inland waters, near coastal waters, and surrounding environs is regulated under Section 404 of the Clean Water Act (CWA).

Historically, two guidance documents, *Evaluation of Dredged Material Proposed for Discharge in Waters of the U.S. (Inland Testing Manual)* (USEPA/USACE 1998) and *Evaluation of Dredged Material Proposed for Ocean Disposal* (Green Book) (USEPA/USACE 1991) have been used for technical and regulatory guidance for the evaluation of dredged material. These documents describe relevant requirements for chemical, physical, and biological evaluations of dredged material proposed for ocean disposal and technical guidance for determining the potential for contaminant-related impacts associated with the discharge of dredged material.

USEPA and USACE are currently collaborating on a manual, *The Evaluation of Dredged Material Proposed for Disposal under MPRSA Section 103 (Ocean Disposal) or CWA Section 404 (Inland Disposal)*, herein referred to as the Integrated GB/ITM Manual, intended to combine technical guidance for evaluating dredged material placed in open-water as previously provided in the two guidance documents.

The technical guidance provided in the new manual is intended for use by USACE, USEPA, regulatory personnel, permit applicants, and testing laboratories involved in dredged material evaluations and management. The manual will provide a consistent national guidance that offers the most recent scientific and technical approaches that can be used to make risk-based decisions regarding the potential for contaminants in dredged material.

Keywords: ODMDS, Environmental Permit, Ocean Dumping, Dredged Material Testing, Section 103

INTRODUCTION

Over time, the number of sites accepting dredged material has diminished while the need to keep navigable waters of the United States open for vessel traffic has steadily increased. This has created a need for more open-water disposal, and therefore a need for a better understanding of the regulatory requirements of such disposal.

An excellent overview of the evaluation of environmental acceptability of dredged material management alternatives was prepared in joint cooperation by the United States Environmental Protection Agency (USEPA) and the United States Army Corps of Engineers (USACE). The document entitled “Evaluating Environmental Effects of Dredged Material Management Alternatives – A Technical Framework” (USEPA/USACE 2004), herein referred to as the Technical Framework, was developed to provide a consistent approach to identifying environmentally acceptable dredged material management alternatives that meet the requirements of the National Environmental Policy Act

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(NEPA), the Clean Water Act (CWA), and the Marine Protection, Research, and Sanctuaries Act (MPRSA). The Technical Framework document addresses the disposal and management of dredged material for both new construction projects and navigation maintenance projects and covers the different dredged material management alternatives: beneficial use, confined disposal facilities (CDFs) (diked nearshore or upland), and open-water (aquatic) disposal.

For applicants specifically interested in the open-water disposal alternative, the Technical Framework document provides a regulatory overview of the MPRSA and the CWA, and refers the readers to the two guidance documents, *Evaluation of Dredged Material Proposed for Discharge in Waters of the U.S.* (Inland Testing Manual) (USEPA/USACE 1998) and *Evaluation of Dredged Material Proposed for Ocean Disposal* (Green Book) (USEPA/USACE 1991) that have historically been used for technical and regulatory guidance for the evaluation of dredged material. These documents describe relevant requirements for chemical, physical, and biological evaluations of dredged material proposed for ocean disposal and technical guidance for determining the potential for contaminant-related impacts associated with the discharge of dredged material.

USEPA and USACE are currently working on a manual, *The Evaluation of Dredged Material Proposed for Disposal under MPRSA Section 103 (Ocean Disposal) or CWA Section 404 (Inland Disposal)*, herein referred to as the Integrated GB/ITM Manual, intended to combine technical guidance for evaluating dredged material placed in open-water as previously provided in the two guidance documents. Both agencies are actively working on the new publication and plan to have a draft ready to be presented at the national USACE/USEPA Dredged Material Management Meeting in October 2007. It is expected that the final draft will be ready for public review and comment in late 2008.

The technical guidance provided in the new manual is intended for use by USACE, USEPA, regulatory personnel, permit applicants, and testing laboratories involved in dredged material evaluations and management. The manual will provide a consistent national guidance that offers the most recent scientific and technical approaches that can be used to make risk-based decisions regarding the potential for contaminants in dredged material.

This paper will address some of the common questions asked regarding open-water disposal permits and will attempt to clarify some of the regulations and terminology used in dredged material management.

BASIC REGULATORY OVERVIEW AND GEOGRAPHICAL JURISDICTION FOR OPEN-WATER DISPOSAL

It is important for applicants considering open-water disposal of dredged material to understand the difference between the MPRSA and the CWA. Title I of the MPRSA, Section 103, regulates ocean disposal of dredged material, and ocean dumping regulations are clearly stated under the Code of Federal Regulations Section 40 (40 CFR). Section 404 of the CWA regulates the discharge of dredged material in inland waters (lakes, rivers, near coastal waters, and surrounding vicinities).

The geographical jurisdictions of the MPRSA and the CWA are depicted in Figure 1 with an aerial photograph and marked areas indicating the regulatory boundaries. Material dredged from waters of the United States and disposed of in the territorial sea is evaluated under the MPRSA. In general, dredged material discharged as fill (e.g., beach nourishment, island creation, underwater berms, etc.) and placed within the territorial sea is evaluated under the CWA. An overlap of jurisdiction between the MPRSA and the CWA exists within the territorial sea.

USACE and USEPA share the federal responsibility for regulating the discharge of dredged material into waters of the United States. Under MPRSA Section 103 (Ocean Disposal), USACE is the permitting authority for dredged material and is subject to USEPA review, e.g., USACE issues the permits and USEPA concurs. On the other hand, both USACE and USEPA administer specific aspects of Section 404 of the CWA, and most states assume discharge program administration and grant, deny, or waive certification for activities permitted or conducted by USACE based on the potential impacts to water quality that may result from a discharge of dredge or fill material to U.S. waters.

DEFINITION OF OPEN-WATER DISPOSAL

The Technical Framework, Green Book, and Inland Testing Manual define open-water disposal as “the placement of dredged material in rivers, lakes, estuaries, or oceans via pipeline or surface release from hopper dredges or barges.”

This definition does not imply that dredged material can be freely disposed of without permits in unregulated and unspecified open-water areas. Neither does it imply that the material does not need to be tested in accordance with MPRSA or CWA protocols.

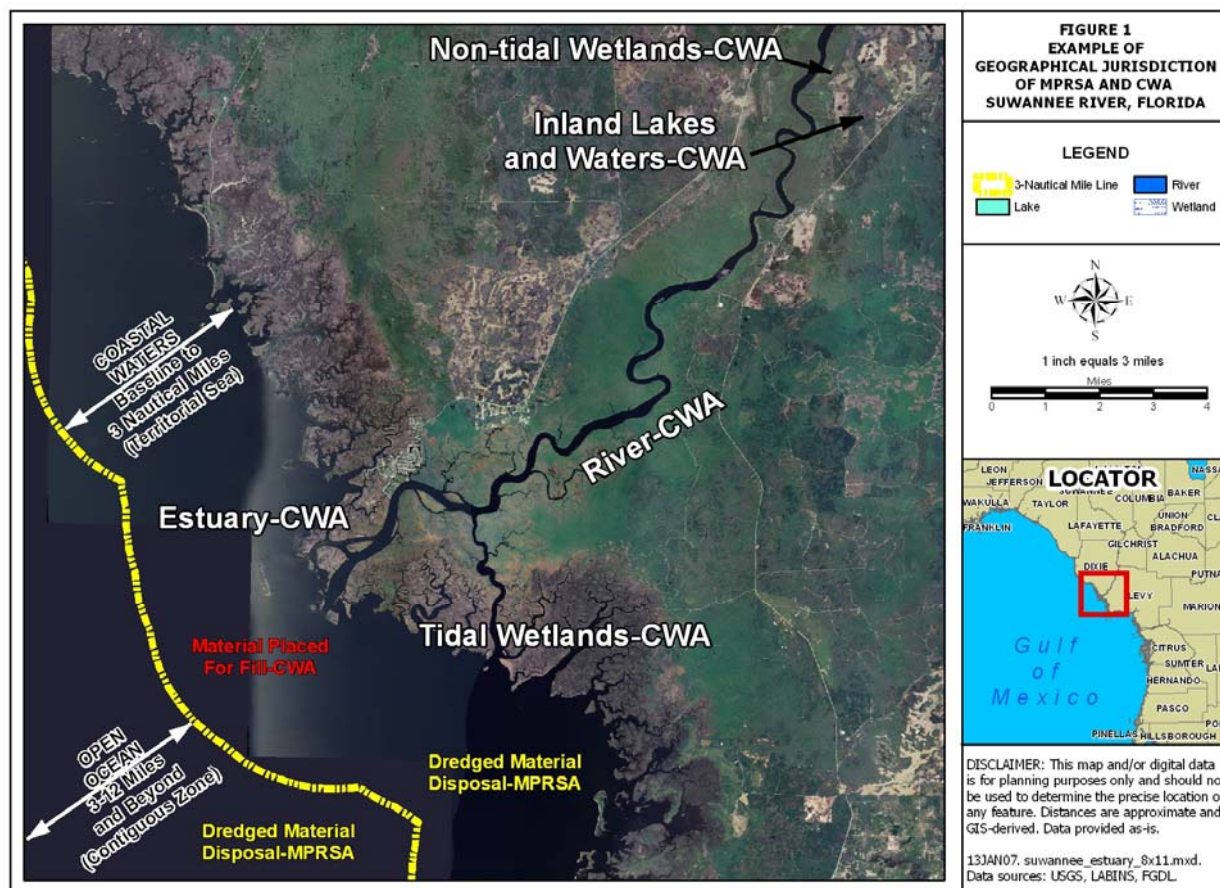


Figure 1. Example of geographical jurisdiction of MPRSA and CWA.

Open-water disposal sites assigned under both the MPRSA and the CWA have to be carefully selected. The Green Book and the Inland Testing Manual provide detailed explanations of the determination of characteristics necessary for assessment of potential impacts of open-water sites. In general, the same concerns as given for ocean-site designations are applied to site specifications under the CWA. These include potential impacts on physical, chemical, and/or biological characteristics of the aquatic ecosystem, potential effects on special aquatic sites, and potential effects on human-use characteristics (40 CFR 230 Subparts C-F). USACE and USEPA may jointly identify, in advance, sites generally suitable or unsuitable for discharge of dredged material (40 CFR 230.80). An example of this effort is the designation of an Ocean Dredged Material Disposal Site (ODMDS) for ocean disposal.

The advanced identification of sites does not permit or prohibit the discharge of dredged material or fill material, but does facilitate individual or general permit application and processing. USEPA may prohibit, withdraw, or restrict the discharge of dredged or fill material if it determines that the discharge would have unacceptable adverse effects.

OPEN-WATER DISPOSAL OPTIONS FOR DREDGED MATERIAL

A summary of disposal options for dredged material is provided in Figure 2. The flow chart depicts the dredged material disposal options that an applicant may explore if upland disposal is not an alternative. It is important to note that use of an established open-water disposal site for dredged material needs to meet the approval of federal and when applicable, state agencies. Additionally, the applicant needs to demonstrate that there is no practical alternative upland disposal site or beneficial use for the dredged material, such as beach enhancement.

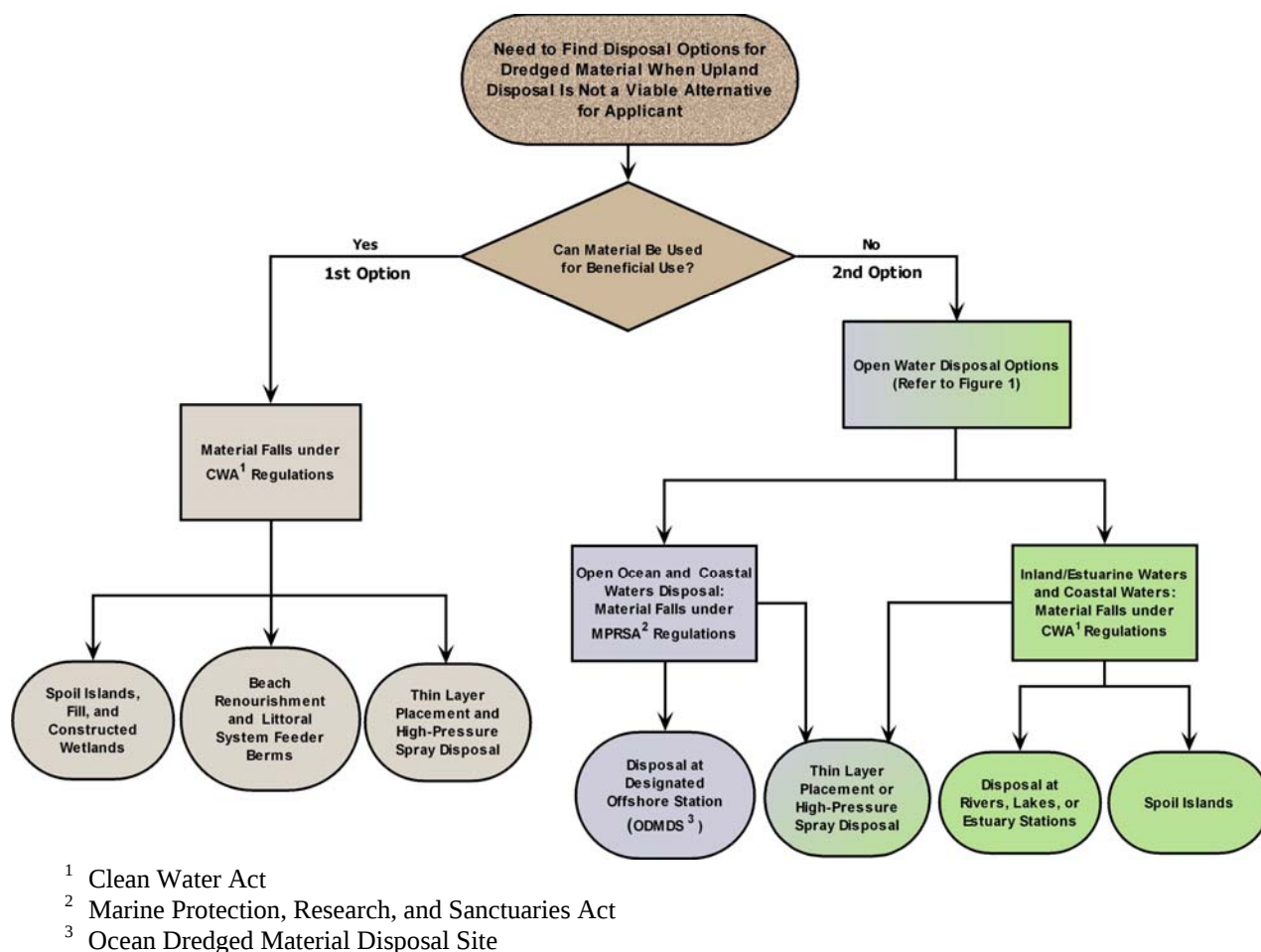


Figure 2. Summary of dredged material disposal options.

DREDGED MATERIAL TESTING

Some of the common misconceptions about dredged material testing arise from the differences between MPRSA and CWA regulations. Except for exclusionary material falling under the Ocean Dumping Regulations in 40 CFR Section 227.13(b), all dredged material proposed for open-water disposal needs to be tested. The Ocean Dumping Regulations allow exclusion from testing if:

- *Dredged material is composed predominantly of sand, gravel, rock, or any other naturally occurring bottom material with particle sizes larger than silt, and the material is found in areas of high current or wave energy such as streams with large bed loads or coastal areas with shifting bars and channels; or*
- *Dredged material is for beach renourishment or restoration and is composed predominantly of sand, gravel or shell with particle sizes compatible with material on the receiving beaches; or*

- *The dredged material proposed for dumping is substantially the same as the substrate at the proposed disposal site and the site from which the material proposed for dumping is to be taken is far removed from known existing and historical sources of pollution so as to provide reasonable assurance that such material has not been contaminated by such pollution.*

It is important to note that dredged material falling under the above exclusionary criteria would still need to adhere to remaining requirements of the Ocean Dumping Regulations (e.g., as related to physical impacts, etc.). All other material to be disposed of in open-water would need to be tested according to the specific jurisdiction under which it falls. While MPRSA material testing protocols are more clearly defined under federal regulations, CWA testing requirements can vary significantly from state to state. The main emphasis for testing dredged material earmarked for open-water disposal is to determine if the material is acceptable for disposal from the standpoint of contamination. If the material is found to be environmentally unacceptable for disposal in the ocean, there is a strong likelihood that it will also be found to be environmentally unacceptable for disposal under the CWA.

If the material to be tested falls under MPRSA jurisdiction (Figure 1) for open-water disposal, a tiered approach of contaminant testing and assessment (as described in the Green Book) will need to be followed. Water-column contaminant impacts will need to be considered from the standpoint of water quality (chemical), toxicity (biological), and physical characteristics. Benthic impacts will also need to be determined from the standpoint of toxicity and bioaccumulation.

On the other hand, for disposal operations under the CWA, water quality and water-column toxicity standards and allowances for initial mixing are specified by the states as part of the Section 401 (CWA) water-quality certification requirements. Toxicity and bioaccumulation testing to address benthic impacts may or may not be required under the State guidelines. The Inland Testing Manual provides technical and regulatory guidance for the evaluation of dredged material under the CWA.

In order to standardize open-water testing requirements across regions and combine technical guidance for evaluating dredged material placed in open-water under the MPRSA and the CWA, USEPA and USACE are currently integrating the Green Book and the Inland Testing Manual into one comprehensive document. The intent of the new manual is to provide a consistent national guidance as previously provided in the two guidance documents. The technical guidance provided by the new manual will guide the readers through the regulatory process, material testing requirements, material evaluation, and material management.

SUMMARY

A clear understanding of the rules and regulations governing the disposal of dredged material is extremely valuable for determining the available options for open-water disposal in the territorial waters of the United States. Proper testing and evaluation of the material can save the applicant time and money whenever dealing with either MPRSA or CWA permits. The updating and merging of these two very important dredging references into the Integrated GB/ITM Manual will make the disposal permitting process less confusing and should remove some of the gray areas that previously existed.

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