1.0 INTRODUCTION

1.1 Purpose

This document is intended to serve as a consistent "roadmap" for U.S. Army Corps of Engineers (USACE) and U.S. Environmental Protection Agency (USEPA) personnel in evaluating the environmental acceptability of dredged material management alternatives. Specifically, its major objectives are to provide:

- A general technical framework for evaluating the environmental acceptability of dredged material management alternatives (open-water disposal, confined (diked) disposal, and beneficial uses).

- Additional technical guidance to augment present implementation and testing manuals for addressing the environmental acceptability of available management options for the discharge of dredged material in both open water and confined sites.

- Enhanced consistency and coordination in USACE/USEPA decision making in accordance with Federal environmental statutes regulating dredged material management.

1.2 Applicability

The “Technical Framework” was developed to provide a consistent approach to identifying environmentally acceptable dredged material management alternatives that meet the substantive and procedural requirements of the National Environmental Policy Act (NEPA), the Clean Water Act (CWA), and the Marine Protection, Research, and Sanctuaries Act (MPRSA). This document provides that framework and augments other technical guidance documents (e.g., the MPRSA and CWA dredged material testing manuals) for evaluating environmental acceptability. Since this document was first published in 1992, advances have been made in testing and evaluation procedures, and in the area of risk assessment. Although the basic framework described in the original document remains largely unchanged, some new tools are available to facilitate the recommended evaluations. Additionally, formal risk assessment is emerging as a commonly used tool for dredged material evaluation in cases where definitive criteria are not available by which to assess potential environmental impacts. These procedures and references were included in this 2004 updated version of the Technical Framework.

This document is applicable to proposed actions involving the disposal and management of dredged material from both the new-work construction and navigation project maintenance programs of the USACE as well as proposed dredged material discharge actions regulated by the USACE. Further, the document addresses the broad

range of dredged materials, both clean and contaminated, and the broad array of management alternatives, confined (diked nearshore or upland) disposal, open-water (aquatic) disposal, and beneficial use. This document does not present guidance on evaluation of the No-Action alternative as required for evaluation under NEPA.

Application of this framework will facilitate decision making across the statutory boundaries of the MPRSA, CWA, and NEPA. The technical framework and guidance established herein should reduce confusion by both regulators and the regulated community in all future evaluations.

This framework provides only a general overview of other non-environmental factors to be considered in decision making. An in-depth discussion of all decision-making principles regarding selection of a preferred alternative is beyond the scope of this document. The reader is referred to applicable USACE regulations (33 Code of Federal Regulations (CFR) 320-330, 33 CFR 335-338, Engineer Regulation (ER) 1105-2-100) for further guidance and information on procedures employed by the USACE in its required public interest review. However, this document supports the identification, evaluation, and selection of environmentally acceptable dredged material discharge alternatives that are fully adaptable and applicable in the broader context of decision making.

1.3 Background

Several hundred million cubic yards of sediment must be dredged from waterways and ports each year to improve and maintain the nation's navigation system and to maintain coastal national defense readiness. Alternatives for the management of dredged material from these projects must be carefully evaluated from the standpoint of environmental acceptability, technical feasibility, and economics.

Three management alternatives may be considered for dredged material: open-water disposal, confined (diked) disposal, and beneficial use.[1] Open-water disposal is the placement of dredged material in rivers, lakes, estuaries, or oceans via pipeline or release from hopper dredges or barges. Confined disposal is placement of dredged material within diked nearshore or upland confined disposal facilities via pipeline or other means.

Beneficial use involves the placement or use of dredged material for some productive purpose. Beneficial use options should be given full and equal consideration with other alternatives. It is USACE policy to fully consider all aspects of the dredging and disposal operations with a view toward maximizing public benefits. Generally, beneficial use is an adjunct to or involves either open-water or confined placement in some form, although some beneficial uses involve unconfined disposal (e.g., wetland creation, island creation, or beach nourishment). Descriptions of open-water and confined disposal processes and of the categories of beneficial use are given in Part 2.4 and in Chapters 4, 5, and 6, respectively.

[1] A glossary of terms is presented in Appendix A.

Potential environmental impacts resulting from dredged material disposal may be physical, chemical, or biological in nature. Because many of the waterways are located in industrial and urban areas, sediments often contain contaminants from these sources. Unless properly managed, dredging and disposal of contaminated sediment can adversely affect water quality and aquatic or terrestrial organisms. Sound planning, design, and management of projects are essential if dredged material disposal is to be accomplished with appropriate environmental protection and in an efficient manner. The selection of a preferred alternative for dredged material management must be based on a weighing and balancing of a number of considerations that include environmental acceptability, technical feasibility, and economics. Although the intended scope of this document is limited to considerations for determining environmental acceptability, other factors which must be considered in the decision-making process are also mentioned where appropriate.

1.4 Regulatory Overview

Regulation of dredged material disposal within waters of the United States and ocean waters is a complex issue and is a shared responsibility of the USEPA and USACE. The primary Federal environmental statute governing transportation of dredged material to the ocean for the purpose of disposal is the MPRSA, also called the Ocean Dumping Act. The primary Federal environmental statute governing the discharge of dredged or fill material into waters of the United States (inland of and including the territorial sea) is the Federal Water Pollution Control Act Amendments of 1972, also called the CWA. The regulatory path for disposal of dredged material in confined disposal facilities (CDFs) is not as clear (USACE 2003). However, both the CWA and NEPA provide strong mandates for USACE regulation of placement in CDFs. The discharge of return flow (effluent and surface runoff) to waters of the United States is specifically defined as a dredged material discharge under the CWA.

All proposed dredged material disposal activities regulated by the MPRSA and CWA must also comply with the applicable requirements of NEPA and its implementing regulations. In addition to MPRSA, CWA, and NEPA, a number of other Federal laws, Executive orders, etc., must be considered in evaluation of dredging projects. An overview of MPRSA, CWA, and NEPA is given in the following paragraphs. Additional discussion of these and other applicable Federal laws is found in Appendix B.

1.4.1 Jurisdiction of MPRSA and CWA

The geographical jurisdictions of the MPRSA and CWA are indicated in Figure 1-1. As shown in Figure 1-1, an overlap of jurisdiction exists within the territorial sea. The precedence of MPRSA or CWA in the area of the territorial sea is defined in 40 CFR 230.2 (b) and 33 CFR 336.0 (b). Material dredged from waters of the United States and disposed in the territorial sea is evaluated under MPRSA. In general, dredged material discharged as fill (e.g., beach nourishment, island creation, or underwater berms) and placed within the territorial sea is evaluated under the CWA.

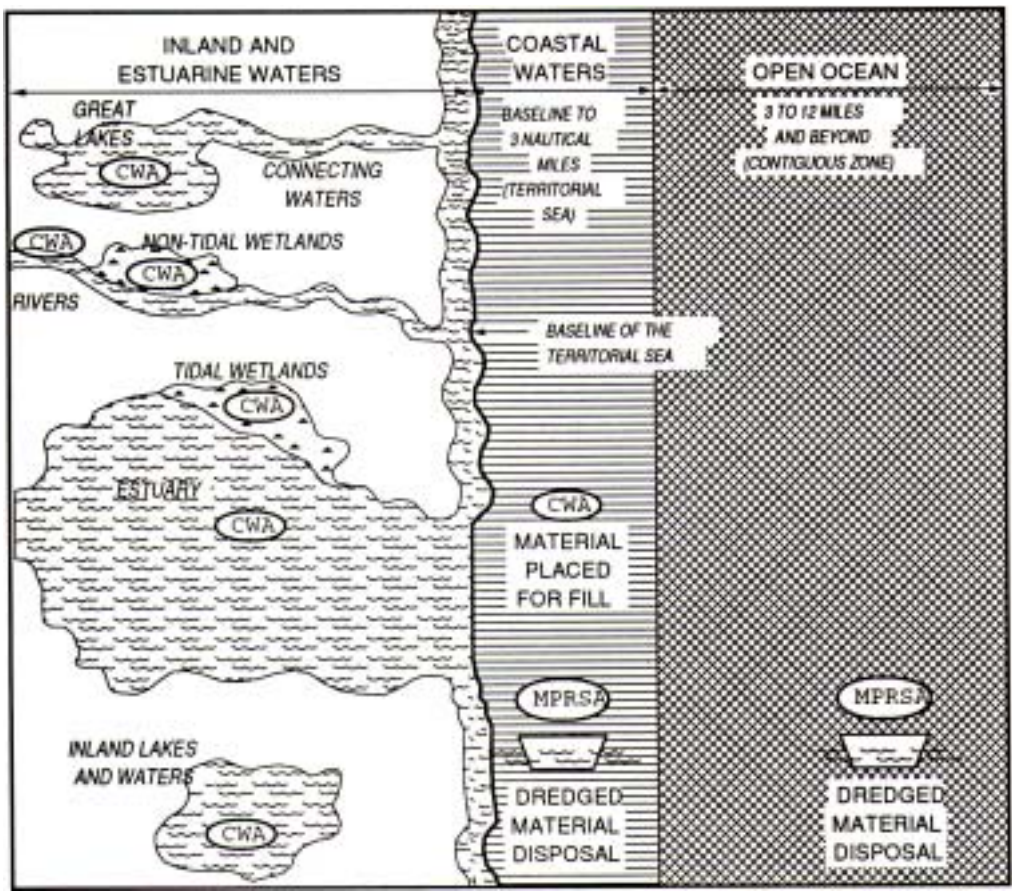

Figure 1-1. Geographical Jurisdictions of the MPRSA and CWA

1.4.2 Overview of MPRSA

Section 102 of the MPRSA requires USEPA, in consultation with USACE, to develop environmental Criteria[2] that must be complied with before any proposed ocean-disposal activity is allowed to proceed. Section 103 of the MPRSA assigns to the USACE the specific responsibility for authorizing the ocean disposal of dredged material. In evaluating proposed ocean-disposal activities, the USACE is required to apply the Criteria developed by USEPA relating to the effects of the proposed disposal activity. In addition, in reviewing permit applications, the USACE is also required to consider navigation, economic, and industrial development, and foreign and domestic commerce, as well as the availability of alternatives to ocean disposal. USEPA has a major environmental oversight role in reviewing the USACE determination of compliance with the ocean-disposal Criteria relating to the effects of the proposed disposal. If USEPA determines ocean-disposal Criteria are not met, disposal may not occur without a waiver

[2] For purposes of this report, Criteria (capitalized) refer to criteria developed by the Environmental Protection Agency under Section 102 of MPRSA relating to the effects of the proposed dumping.

of the Criteria by USEPA [40 CFR 225.2 (e)]. In addition, USEPA has authority under Section 102 to designate ocean-disposal sites. The USACE is required to use such sites for ocean disposal to the extent feasible. Section 103 does authorize the USACE, where use of a USEPA-designated site is not feasible or a site has not been designated by USEPA, to select ocean-disposal sites for project(s)-specific use. In exercising this authority, the USACE utilizes the USEPA site-selection criteria (40 CFR 228), and the site selection is subject to USEPA review as part of its permit review responsibilities.

1.4.3 Overview of CWA

Section 404 of the CWA requires USEPA, in conjunction with the USACE, to promulgate Guidelines[3] for the discharge of dredged or fill material to ensure that such proposed discharge will not result in unacceptable adverse environmental impacts to waters of the United States. Section 404 assigns to the USACE the responsibility for authorizing all such proposed discharges, and requires application of the Guidelines in assessing the environmental acceptability of the proposed action. Under the Guidelines, the USACE is also required to examine practicable alternatives to the proposed discharge, including alternatives to disposal in waters of the United States and alternatives with potentially less damaging consequences. The USACE and USEPA also have authority under Section 230.80 to identify, in advance, sites that are either suitable or unsuitable for the discharge of dredged or fill material in waters of the United States. USEPA is responsible for general environmental oversight under Section 404 and, pursuant to Section 404(c), retains permit veto authority. In addition, Section 401 provides the States a certification role as to project compliance with applicable State water quality standards.

1.4.4 Overview of NEPA

Dredged material disposal activities must comply with the applicable NEPA requirements regarding identification and evaluation of alternatives. The basic NEPA process discussed in this framework is that specifically associated with the dredging project (as opposed to other related actions such as ocean-site designation which may require an entirely separate NEPA process).

Section 102(2) of NEPA requires the examination of reasonable[4] alternatives to the action proposed by the lead agency. The alternatives analyzed in an Environmental Assessment (EA) or Environmental Impact Statement (EIS) must include not only all reasonable alternatives but also those that were eliminated from further study (Part 1502.14) by the agency responsible for the final decision. The NEPA document must rigorously address reasonable alternatives that are beyond the capability of the applicant

[3] For purposes of this report, Guidelines (capitalized) refer to the CWA Section 404(b)(1) Guidelines.

[4] The terms practicable (CWA), feasible (MPRSA), and reasonable (NEPA) all have specific regulatory meaning. However, in this document, the term reasonable is used generically and not in a strict regulatory sense. Reasonable is herein defined as practical or feasible from the technical and economic standpoint and using common sense, rather than simply desirable from the standpoint of the project proponent or applicant.

or project proponent or are beyond the jurisdiction of the lead agency. The Council on Environmental Quality (CEQ) regulations for implementing the procedural provisions of NEPA are found at 40 CFR 1500-1508. For USACE dredging projects, the USACE is responsible under NEPA for developing alternatives for the discharge of dredged material, including all facets of the dredging and discharge operation, including cost, technical feasibility, and overall environmental protection. The USACE regulations provide that the preferred alternative must be the least costly plan that is consistent with environmental statutes, as set forth in the National Economic Development (NED) Plan for new work projects (ER 1105-2-100) or as the Federal Standard for required maintenance dredging of existing projects (33 CFR 335-338). Compliance with the environmental Criteria of the MPRSA and/or with the CWA Section 404(b)(1) Guidelines is a controlling factor used by the USACE in determining the environmental acceptability of disposal alternatives.

Both the MPRSA and CWA specify similar approaches in evaluating potential environmental impacts of dredged material discharged in ocean waters or waters of the United States, respectively. In many regards, these same evaluations provide essential input in meeting overall NEPA requirements. However, procedural implementation of the three environmental statutes has evolved more or less separately over time, and substantial inconsistencies have, in turn, developed particularly in the alternatives evaluations required by these environmental statutes. For example, while NEPA, CWA, and MPRSA all require both a detailed evaluation of alternatives to the proposed action and preparation of appropriate NEPA documentation, present guidance does not provide clear technical and/or procedural guidance for how such evaluations are to be undertaken.