

# DREDGED MATERIAL MANAGEMENT IN A WATERSHED CONTEXT: SEEKING INTEGRATED SOLUTIONS

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## ABSTRACT

The annual dredging of several hundred million cubic yards of sediment is essential for the maintenance of the United States' navigation system. Historically, dredged material management has focused on site-specific solutions to address sedimentation of the ports, channels, and waterways on which US commerce and military depend. Water resource projects that are designed to remedy local sediment problems may sometimes create even larger problems some distance away; excessive sediment in rivers, reservoirs, and estuaries may contribute to high turbidity, loss of flood-carrying capacity, and sediment deposition in navigable waterways while in other locations, a shortage of sediment causes coastal erosion, streambank erosion, and wetland loss. The National Dredging Team (NDT), a federal interagency group established to promote consistency and information exchange on dredging issues, recognizes that dredged material and sediment management planning is often done outside the context of watershed management plans. In recognition of the need for greater coordination among dredged material managers and watershed stakeholders, the NDT is planning a national conference on dredged material management in the watershed to bring together dredged material and watershed stakeholders to identify current roles, activities, areas of technical and planning overlap, and gaps in knowledge and management of sediment in the watershed. Through this meeting, the NDT expects to identify the steps needed to integrate dredged material management into watershed plans and to include a broader watershed perspective in dredged material management planning.

**Key Words:** sediment, National Dredging Team, coordination, planning, beneficial use

## INTRODUCTION

Excessive sediment erosion, transport, and deposition are estimated to cause approximately \$16 billion annually in North America. The United States spends about \$800 million annually on dredging sediment from locations where too much has been deposited. Sediment overloading from land and stream erosion causes significant environmental and economic challenges. Excessive sediment in rivers, reservoirs, and estuaries may contribute to high turbidity, loss of flood-carrying capacity, and sediment deposition in navigable waterways. At other locations within the same systems, however, a shortage of sediment may be causing coastal erosion, streambank erosion, and wetland loss.

Dredged material and sediment management planning is often done outside the context of watershed management plans. Many resource projects are designed to remedy local sediment problems, which may potentially result in even larger problems some distance away from the project. Additionally, watershed management planning may fail to consider dredged material and sediment system considerations, such as the competing demands that may exist regarding sediment or the possibility of using it beneficially. This practice misses potential opportunities to improve navigation, flood and storm reduction efforts, and environmental quality in water resource projects; it may also overlook the notion of sediment as a resource.

Effective dredged material planning and sediment management require open and early communication among federal and state dredged material regulators, watershed managers, and other interested parties so that: (1) sources and fates of sediment (and sources of contamination carried by sediment) can be addressed; (2) the broadest range of beneficial use and disposal alternatives for dredged material can be evaluated; and (3) adequate funding for dredged material use or disposal can be secured. In recognition of the need for this communication and to facilitate

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discussion of these issues, the National Dredging Team and the Subcommittee on Integrated Management of Ocean Resources are sponsoring a “Conference on Managing Sediments in the Watershed: Bringing Dredged Material and Watershed Managers Together” August 29-31, 2006, in Portland, Oregon.

### **NATIONAL DREDGING TEAM**

In 1993, an Interagency Working Group on the Dredging Process was convened by the Secretary of Transportation in response to delays in numerous U.S. dredging projects. The Interagency Group was charged with investigating and recommending actions for the improvement of the dredging project review process. The Interagency Group delivered a report in 1994 that proposed a National Dredging Policy and recommended the formation of a National Dredged Team. The National Dredging Team (NDT) was created in 1995 as a result.

The NDT was established to implement the National Dredging Policy, to promote national and regional consistency on dredging issues, and to provide a mechanism for issue resolution information exchange among federal, state, and local agencies and stakeholders. The National Dredging Team is a federal interagency group composed of agency managers, decision makers, and technical experts from the following agencies:

- U.S. Environmental Protection Agency - Co-Chair;
- U.S. Army Corps of Engineers - Co-Chair;
- Maritime Administration (MARAD);
- National Oceanic & Atmospheric Administration’s (NOAA) National Marine Fisheries Service;
- NOAA’s National Ocean Service;
- Fish and Wildlife Service (FWS); and
- U.S. Coast Guard (USCG).

The U.S. Department of Agriculture, the U.S. Navy and the U.S. Geological Survey also participate.

In 2001, the NDT sponsored a workshop to discuss and develop an action agenda to address issues facing dredging and sediment managers. *Dredged Material Management: Action Agenda for the Next Decade* was developed from this workshop. It provides 22 recommended actions, 12 of which are focused on sediment management and beneficial use of dredged material. Included among these actions is the recommendation that the NDT, in coordination with existing Regional Dredging Teams and Local Planning/Project Groups, ensure that sediment management is accomplished in the context of watershed management, and that watershed management plans incorporate both private and federal dredging. A national workshop to share successes and lessons learned in sediment management was also recommended.

### **SUBCOMMITTEE ON INTEGRATED MANAGEMENT OF OCEAN RESOURCES (SIMOR)**

Congress enacted the Oceans Act of 2000 in recognition of the importance of the oceans, coasts, and Great Lakes. This resulted in the creation of the U.S. Commission on Ocean Policy, which produced a final report with 212 recommendations and covered issues that included resource protection, transportation, ocean resource use, science, education, mapping, and other topics. In response to this report, a new Cabinet-level Committee on Ocean Policy was created by Executive Order on December 17, 2004, and the U.S. Ocean Action Plan was issued. The Committee on Ocean Policy was created to provide a coordinated governance structure and facilitate coordinated ocean policies and actions. As outlined in the Action Plan, a key component of the governance structure includes the Subcommittee on Integrated Management of Ocean Resources (SIMOR).

SIMOR focuses on implementing ocean, coastal, and Great Lakes management actions that will benefit from interagency coordination. SIMOR’s work is designed to complement the efforts of individual Departments and Agencies, as well as other interagency groups. Through its work plan priorities, SIMOR recognizes the importance of building on existing regional collaborations to share best practices and lessons learned in dredging and sediment management. As an initial step, SIMOR will cohost a dredged material conference in 2006 with the NDT to address improved coordination in watershed sediment management and development of best practices.

## **SEDIMENT MANAGEMENT IN THE WATERSHED**

Watershed management focuses on coordinated activities to protect or restore water quality or quantity within a hydrologically defined area (i.e., an area of land that drains to a common body of water like a lake, river, wetland or estuary). Sediment management focuses on actions affecting erosion, recovery, transport or deposition of sediment. It commonly includes dredging and placement, structures that divert or trap sediment, and erosion protection for banks and shorelines. Dredged material planning usually occurs through Dredged Material Management Plans (DMMPs) developed by the Army Corps of Engineers for specific dredging projects.

Although sediment management and watershed management planning often occur separately, they share similar goals. Both seek to control upstream erosion and pollution, which may improve downstream water quality, reduce the need for dredging, and improve downstream sediment quality. Recognition of sediment as a resource can also benefit both sediment and watershed managers. Beneficial use utilizes dredged sediments as resource materials in productive ways, such as wetland restoration or shore protection, and can reduce the amount of material that requires disposal or is removed from the system.

Coordinating watershed and sediment/dredged material management can result in economic and ecological benefits. Coordinated planning may decrease the need for dredging and dredged material sites. It can increase leveraging of funds and cross-program sharing of technical and regulatory capabilities, while also resulting in more efficient permitting for dredging projects. Coordinated planning could potentially help reduce contaminants entering the system, as well as reduce soil loss and waterbody siltation. Better coordination would also result in increased beneficial use of dredged material and increased protection of natural resources.

### **BRINGING DREDGED MATERIAL AND WATERSHED MANAGERS TOGETHER**

The NDT and SIMOR are holding a “Conference on Managing Sediments in the Watershed: Bringing Dredged Material and Watershed Managers Together” in order to promote better communication among dredged material and watershed stakeholders. In addition to facilitating dialogue among dredged material and watershed managers, the objectives of this Conference are: (1) to identify steps need to include dredged material and sediment management in watershed plans and (2) to include a broader watershed perspective in dredged material management planning.

By bringing together dredged material and watershed stakeholders, the NDT and SIMOR hope to identify (1) the current responsibilities and interests in dredged material management in the watershed, (2) existing and potential areas of technical and planning intersection, and (3) gaps in knowledge or management of sediment in the watershed. A successful conference will improve the understanding of beneficial use and disposal alternatives for dredged material, as well as lay the groundwork for continued coordination among dredged material managers and watershed stakeholders at the regional and local levels for development and implementation of regional sediment management strategies. Additional topics will include the Corps of Engineers’ initiative on Regional Sediment Management, erosion control, habitat restoration, reduction at source, and coastal management issues.

### **CONCLUSIONS**

Open and early communication among federal and state dredged material regulators, watershed managers, and other interested parties at forums such as national conferences, regional workshops, and local planning discussions can result in more effective dredged material management planning.

For additional information on the “Conference on Managing Sediments in the Watershed: Bringing Dredged Material and Watershed Managers Together,” please visit:

**[www.epa.gov/owow/oceans/ndt/managingsediments.html](http://www.epa.gov/owow/oceans/ndt/managingsediments.html)**

