Management of Dredged Material and Sediment in the Watershed
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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). When dredged material and sediment management occur outside the context of watershed management plans, projects and activities designed to remedy local sediment problems may result in new problems at the original site or further downstream. Alternately, watershed management planning may fail to integrate dredged material and sediment system considerations. These considerations, such as the competing demands for sediment or the potential use of dredged material beneficially, could support more effective watershed management. Understanding the watershed approach to sediment management, how it can be applied, and why it can support dredged material management is the first step towards more effective management of water and sediment resources.

A watershed approach is based on collaborative, iterative, and integrated planning within a specific hydrologically defined area. Collaborative solutions to a watershed's water resource problems are developed by involving all parties with a stake or interest in the watershed. Iterative planning addresses priority water resource goals. An integrated set of tools and programs addresses the myriad complex water resource problems that exist within a watershed.

Applying these watershed concepts to the sediment system can support more comprehensive planning for dredged material, sediment, and watershed management. Watershed planners and managers consider the regional sediment system, including sediment sources and sinks and other factors that influence sediment quantity, transport, quality, and temporal variability. In the watershed approach to sediment management, sediment is recognized as part of a hydrologic system and regional sediment systems are the context for planning and management strategies. Decision makers engage a variety of partners to identify sediment concerns, opportunities for coordination, and management measures that balance objectives and leverage resources. Regional sediment and adaptive management strategies guide decisions that address long-term resource goals, including: maintaining navigable waterways, achieving water quality and habitat management objectives, and reducing potential for flood and storm damage. This approach also applies an integrated set of tools and programs to evaluate sediment needs and considers the use of all sediment resources from uplands to coastal zone.

Though expanding participation in the planning process may seem daunting, increased communication often leads to more effective resource management. 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: sources and fates of sediment (and sources of contamination carried by sediment) can be addressed; the broadest range of disposal alternatives for dredged material, with an emphasis on beneficial use, can be evaluated; and adequate funding for dredged material use or placement can be secured.

Coordinating watershed, sediment, and dredged material management can result in partnerships that expand available pools of data and knowledge. Such coordination has many potential benefits, including:

- More efficient use of funds for integrated water resource and dredged material management objectives;
- Shared technical and regulatory capabilities across programs;
- More efficient permitting for dredging and restoration projects;
- Reduced contaminants entering the system;
- Reduced soil loss and waterbody siltation;
- More effective matching of available sediments to sediment needs;
- Increased beneficial use of dredged material; and
- Increased protection and restoration of natural resources.

Higher cost, limited budgets, conflicting missions and goals, project-specific planning approaches, and support for current practices are perceived as potential limitations to a watershed-based approach to dredged material and sediment management. However, advanced and transparent planning on a comprehensive, system-wide basis, rather than a short-term, site-specific project focus, can improve the use of limited funds and reduce conflicts among stakeholders.

Increasing coordination and communication among dredged material and watershed managers may present opportunities to sustain or enhance port productivity through open and safe navigable channels, to improve flood and storm reduction efforts, and to improve water quality.