



**US Army Corps  
of Engineers®**

Engineer Research and  
Development Center

## **Authorities and Policies Supporting Implementation of Regional Sediment Management**

### **PURPOSE**

This Technical Note identifies authorities and policies that support Corps implementation of regional sediment management.

### **BACKGROUND**

Regional sediment management is an approach for managing projects involving sand and other sediments that incorporates many of the principles of integrated water resources management. Regional sediment management applies a system perspective to problem solving, managing sand and other sediments as regional resources, and integrating the portfolio of U.S. Army Corps of Engineers programs and projects related to sediment in a given region. These regions can include coastal and inland sediment systems.

Regional sediment management involves coordinating dredging and other sediment management activities, along with studies involving sediment to retain sand or sediments within natural systems, and to achieve greater efficiencies through improved program coordination and integration.

Regional sediment management fosters more balanced and sustainable natural system processes, reduced project costs, and achieves greater regional benefits. Regional sediment management integrates Corps planning, engineering and operations activities within coastal, estuarine, and riverine systems, and broadens the problem-solving perspective from a local, project-specific scale, to an extended scale defined by natural sediment processes. The larger spatial and longer temporal perspectives of regional sediment management require the integration of a broad range of disciplines along with collaborative partnerships among agencies, levels of government, and other stakeholders.

The Corps initiated the Regional Sediment Management (RSM) Demonstration Program in 2000 to examine, apply, and evaluate regional sediment management opportunities, practices, benefits, and challenges. The Demonstration Program is described in Rosati et al. (2001).

A number of legislative authorities and Civil Works policies support the implementation of regional sediment management within the Corps. The authorities include both broad authorities that allow and encourage regional or comprehensive studies, approaches, and perspectives, as well as authorities specific to sediment and sand management, storm damage reduction, shoreline erosion protection, and management of dredged material. A number of Corps Civil Works

**AUTHORITIES AND  
POLICIES RELEVANT TO  
RSM**



detail on these authorities and policies is presented in Martin (2002).

Additional information on the authorities and guidance reference in this Technical Note can be found in: ER 1105-2-100, "Planning Guidance," and EP 1165-2-1, "Digest of Water Resources Policies and Authorities," as well as in the referenced Policy Guidance Letters.

The authorities and policies summarized in this Technical Note are being applied innovatively in different ways as part of the RSM Demonstration Program. Adopting the concept of sand as a regional resource, some districts are combining or better integrating authorities, policies, and projects in ways to more effectively and efficiently address the needs and opportunities that exist in a region - rather than applying them in isolation. Often this involves integration across the functional areas of planning, engineering, and operations.

The U.S. Army Engineer District, Jacksonville, and the Florida Department of Environmental Protection's (DEP's) Office of Beaches and Coastal Systems have executed a Section 22<sup>1</sup> Memorandum of Agreement (MOA) for coordinating dredging activities in the coastal zone on a regional, rather than a project scale. The MOA encompasses all phases of shore protection, navigation and beneficial use projects, initially in three counties in northeast Florida

## EXAMPLES

<sup>1</sup> Sec. 22 of WRDA (Public Law 93-251), as amended, authorizes the Secretary of the Army, acting through the Chief of Engineers, to assist the states in the preparation of comprehensive plans for the development, utilization, and conservation of water and related land resources.

<sup>2</sup> The District provided technical assistance to the state in coordinating regional sediment management activities in the subregions. A regional sediment management Web site (<https://rsm.saj.usace.army.mil/>) was developed as part of the agreement to facilitate coordination with other Federal and non-Federal agencies as well as the public

(Nassau, Duval, and St. Johns Counties).<sup>2</sup> More recently, efforts have been extended to other regions in the state. Subregional workshops have been held to identify stakeholder ideas and issues. The opportunities identified through the Section 22 agreement will improve coordination of dredging activities in the coastal zone by enhancing regional sediment budgets, reducing project costs, and restoring significant environmental habitats. This agreement and associated investigations were conducted in the spirit of the U.S. Army Coastal Engineering Research Board's (CERB's) charge to develop regional and systems approaches to sediment management.

The U.S. Army Engineer District, Mobile, has a number of initiatives ongoing within their RSM demonstration in which they are looking at applying and linking existing authorities, policies, management practices, and business processes to better manage sand as a regional resource and more effectively address needs and opportunities interconnected by the sediment system. For example, at St. Andrews Inlet they are developing an inlet management plan to improve bypassing efficiency, examining how to increase sand downdrift of the inlet, and examining how to protect Gator Lake—a freshwater lake adjacent to the inlet identified as a significant ecological resource in danger of degradation due to erosion along the shoreline. The efforts proposed would link a Section 1135 project to protect the ecological resources, with

O&M policies and practices for maintaining the inlet thereby maintaining sand in the littoral system.

The U.S. Army Engineer District, Detroit, as part of their RSM demonstration has drafted a Nearshore Dredged Material Placement Policy for Operation and Maintenance of Federal Harbors to encourage sediment placement practices that maximize benefits to the nearshore system within the district. The policy will improve coordination between offices within the District, including area offices, and with state agencies. The policy links navigation maintenance, mitigation, and beach nourishment activities, and builds upon the scientific knowledge gained from past experiences.

#### **ADDITIONAL INFORMATION**

This Technical Note was produced under the Coastal Sedimentation and Dredging Program Work Unit “Regional-Scale Modeling Sediment Transport and Morphology Change” by Ms. Lynn R. Martin, Institute for Water Resources. Ms. Julie D. Rosati at the U.S. Army Engineer Research and Development Center, Coastal and Hydraulics Laboratory, is the work unit Principal Investigator. Questions can be addressed to Ms. Martin at [Lynn.R.Martin@wrco1.usace.army.mil](mailto:Lynn.R.Martin@wrco1.usace.army.mil) or to Ms. Rosati at [Julie.D.Rosati@erdc.usace.army.mil](mailto:Julie.D.Rosati@erdc.usace.army.mil).

**REFERENCES**

**Martin, L. R. (2002). "Regional Sediment Management: Overview and initial implementation," IWR Report 02-PS-2, U.S. Army Engineer Institute for Water Resources, Washington, DC.**

**Rosati, J. D., Carlson, B., Davis, J. E., and Smith, T. D. (2001). "The Corps of Engineers National Regional Sediment Management Demonstration Program," Coastal and Hydraulics Engineering Technical Note CHETN XIV-1, U.S. Army Research and Development Center, Vicksburg, MS.**

<b>Table 1 Overview of Corps Civil Works Authorities and Policies Relevant to Regional Sediment Management</b>	
<b>Authority, Policy, or Program</b>	<b>Overview</b>
<b>General Authorities that Support Watershed, Comprehensive and System Approaches</b>	
<ul style="list-style-type: none"> <li>• Sec. 202 WRDA '00</li> <li>• Specific Authorizations or Study Resolutions for Watershed and Comprehensive studies</li> </ul>	Broad authorizations to address water resources needs and opportunities in a watershed or region
<ul style="list-style-type: none"> <li>• Sec. 22 WRDA 74 – Planning Assistance to States</li> </ul>	Provide assistance with plans for development, use, and conservation of water and related land resources of basins, ecosystems, and watersheds
<ul style="list-style-type: none"> <li>• Sec. 227(d) WRDA '96 – Regional Planning for Conservation of Coastal Resources</li> </ul>	Cooperation in preparation of comprehensive state or regional plans for conservation of coastal resources
<ul style="list-style-type: none"> <li>• Sec. 516, WRDA '96 – Long-term Sediment Management Strategies</li> </ul>	Cooperative long-term strategies for controlling sediments at navigation projects
<ul style="list-style-type: none"> <li>• Sec. 5 Rivers and Harbors Act 1935</li> </ul>	Consider broader effects in navigation studies; potential effects to adjacent shores; not < 10 miles on either side.
<b>Policy and Guidance that Support Watershed, Comprehensive Approaches, and System Considerations</b>	
<ul style="list-style-type: none"> <li>• PGL 61<sup>1</sup> – CW Watershed Perspective</li> </ul>	Advocates watershed and systems perspective w/in and across CW programs
<ul style="list-style-type: none"> <li>• Dredged material management plan (DMMP) policy dredging PGL's</li> </ul>	DMMPs for all projects, groups of interrelated projects; update periodically; consider opportunities for beneficial use.
<ul style="list-style-type: none"> <li>• Planning Guidance – system context</li> </ul>	Watershed perspective; consider landscape implications of navigation improvements; systems analysis in shoreline studies; beneficial use of dredged material; development of DMMPs.
<ul style="list-style-type: none"> <li>• Implementation Guidance for sec. 202, WRDA 2000, Watershed and River Basin Assessments</li> </ul>	Products can be plans or management documents that identify actions to be taken by partners, stakeholders, or the Corps to meet the objectives of the plan.
<ul style="list-style-type: none"> <li>• Implementation Guidance for sec. 107, R&amp;H Act 1962 – Navigation</li> </ul>	Coordinate proposed implementation measures with other non-Federal shore protection projects of the region; prepare a comprehensive regional product that includes sec. 111 projects and shore protection projects pursued under other authorities in the same region.
<b>Authorities Specific to Projects, Sand, Dredged Material Management</b>	
<ul style="list-style-type: none"> <li>• Sec. 216 RHFCA '70 – Review of Completed Projects</li> </ul>	Examine and make recommendations for changes to projects or their operations relative to contemporary needs and opportunities, along with new understanding of processes, economic conditions, etc., for improving the environment.
<ul style="list-style-type: none"> <li>• GI – Specifically Authorized Projects</li> </ul>	Can address a wide range of sediment issues and opportunities and practices depending on authorizing language.
<ul style="list-style-type: none"> <li>• Sec. 111 (RHFCA'68), 940 WRDA'86</li> </ul>	Prevention or mitigation of erosion or shoaling damages attributable to navigation projects.
<ul style="list-style-type: none"> <li>• Sec. 103 and 14</li> </ul>	CAP- "small" projects for storm damage reduction and shoreline erosion
<ul style="list-style-type: none"> <li>• Sec. 145, 933, 217 – Sand on Beaches</li> </ul>	Link dredging w/beach nourishment.
<ul style="list-style-type: none"> <li>• Sec. 204, 206, and 1135</li> </ul>	CAP – "small" environmental projects, including: Beneficial use of dredged material, aquatic ecosystem restoration, and project modifications for improvement of the environment.
<ul style="list-style-type: none"> <li>• Sec. 207 WRDA '96 - Selection of dredged material disposal methods</li> </ul>	Do not have to use least cost disposal of dredged material for ecosystem restoration and protection.
<b>Programs Potentially Relevant to Regional Sediment Management</b>	
<ul style="list-style-type: none"> <li>• Regulatory</li> </ul>	<ul style="list-style-type: none"> <li>- Permits for dredge and fill</li> <li>- SAMPs facilitate regional approaches; stakeholder involvement; link to state wetland management plans and CZM plans;</li> <li>General permits can help make regulated activities consistent with regional sediment management goals</li> </ul>
<ul style="list-style-type: none"> <li>• Natural Resources Management</li> </ul>	<ul style="list-style-type: none"> <li>- Manage natural resources in accordance with ecosystem management principles, which emphasize integration rather than compartmentalized approaches.</li> <li>- Integrate management of natural and cultural resources with other authorized project activities in a "multiple use concept," that takes into account the total system.</li> </ul>
<sup>1</sup> PGL stands for Policy Guidance Letter. A list of Policy Guidance Letters, with links to the documents can be found at: <a href="http://www.usace.army.mil/inet/functions/cw/cecwp/branches/guidance_dev/pgls/pglindex.htm">http://www.usace.army.mil/inet/functions/cw/cecwp/branches/guidance_dev/pgls/pglindex.htm</a> .	

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**Table 2****Civil Works Authorities that Support Regional Sediment Management**

1. **Sec. 202 of WRDA 2000, Watershed and River Basin Assessments.** Amends sec. 729 of WRDA 1986, providing authority to assess the water resource needs of river basins and watersheds including ecosystem protection and restoration, flood damage reduction, navigation and ports, watershed protection, water supply, and drought preparedness.
2. **Basin and Specific Study Authorities.** A number of specific study resolutions and studies authorities allow, if not emphasize, comprehensive examinations of water resources needs and opportunities.
3. **Planning Assistance to States (sec. 22).** Sec. 22, WRDA 1974, as amended, authorizes the cooperation with states and Indian tribes in preparing plans for the development, utilization, and conservation of water and related land resources of drainage basins, ecosystems and watersheds.
4. **Sec. 227(d) of WRDA 1996, State and Regional Plans** - amends the 1946 Shore Protection Act, by adding sec. 4, "State and Regional Plans" authorizing the Secretary to cooperate with states in preparation of comprehensive state or regional plans for the conservation of coastal resources.
5. **Sec. 516 of WRDA 96, Sediment Management,** authorizes the Secretary to enter into cooperative agreements with non-Federal interests with respect to navigation projects, or other appropriate non-Federal entities, for the development of long-term management strategies for controlling sediments at such projects.
6. **Sec. 5 of the River and Harbor Act of 1935** requires consideration of the broader landscape in navigation improvements studies - improvements potentially affecting adjacent shoreline will include analysis of the probable effects on shoreline configurations (not less than 10 miles on either side of the improvement).
7. **Changes to Completed Projects to Improve the Environment or Examine Changed Economic Conditions (sec. 216,** River and Harbor and Flood Control Act of 1970) authorizes investigations for modification of completed projects or their operation due to significantly changed physical or economic conditions and for improving the quality of the environment in the overall public interest.
8. **Mitigation of Shore Damage Due to Federal Navigation Projects (sec. 111,** River and Harbor and Flood Control Act of 1968, as amended by sec. 940 of WRDA 1986). Authorizes the investigation and recommendation of structural and non-structural measures to prevent or mitigate erosion or shoaling damages attributable to Federal navigation works; implementation is also authorized if the Federal share of the first cost of construction is \$5,000,000 or less.
9. **Storm Damage Reduction, Sec. 103,** River and Harbor Act of 1962 (PL 87-874), as amended, authorizes a program for Federal participation in the cost of protecting the shores of publicly owned property and private property where public benefits result.
10. **Emergency Streambank and Shoreline Erosion Protection for Public Facilities and Services (sec. 14),** Flood Control Act of 1946 (PL 79-526), as amended. Authorizes projects to protect public or non-profit public facilities or services threatened by natural processes on streambanks and shorelines.
11. **Placement of Dredged Materials on Beaches. Sec. 145,** WRDA 1976 (Public Law 94-587) as amended by sec. 933 of WRDA 1986 and sec. 217 of WRDA 99, placement of beach quality sand from new construction or O&M dredging on beaches at state request.
12. **Beneficial Uses of Dredged Material, Sec. 204** of the WRDA of 1992, as amended, authorizes the protection, restoration and creation of aquatic and ecologically related habitats, including wetlands, in connection with dredging for new project construction or maintenance.
13. **Aquatic Ecosystem Restoration, Sec. 206,** WRDA 1996 authorizes the restoration and protection of aquatic ecosystem structure and function. No linkage to an existing Corps project is required. Cap of \$5,000,000 in Federal funds per project.
14. **Project Modifications for Improvement of Environment, Sec. 1135,** WRDA 1986, as amended, authorizes review of completed water resources projects to determine the need for modifying the structures or operations to improve the quality of the environment. Review to determine if the operation of projects has contributed to the degradation of the quality of the environment is also authorized. Recommended structural and operational changes must be consistent with the authorized project purposes. Cap of \$5,000,000 in Federal funds per project.
15. **Selection of Dredged Material Disposal Methods, Sec. 207,** WRDA 1996. A disposal method that is not the least-cost option may be selected if the incremental costs are reasonable in relation to the environmental benefits, including the benefits to the aquatic environment from creation of wetlands and control of shoreline erosion.

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**Table 3**  
**Civil Works Policies that Support Regional Sediment Management**

**1. Civil Works Watershed Perspective.** Policy Guidance Letter (PGL) 61 - *Application of a Watershed Perspective to Corps of Engineers Civil Works Programs and Activities*, establishes and describes policy regarding a watershed perspective to guide water resources development, protection, and management within the Civil Works program. Examination of water resources needs and opportunities in regional contexts along with integrative, regional or watershed approaches to in carrying out Civil Works projects and programs is emphasized. The system approach advocated is equally applicable to coastal regions as it is to interior watersheds, and the connecting system components. (See [http://www.usace.army.mil/inet/functions/cw/cecwp/branches/guidance\\_dev/pgls/pglindex.htm](http://www.usace.army.mil/inet/functions/cw/cecwp/branches/guidance_dev/pgls/pglindex.htm) ).

**2. Sec. 202, Watershed Assessments, WRDA 2000, Implementation Guidance** – Products from watershed assessments can be plans or management documents that identify actions to be taken by partners and stakeholders to meet the objectives of the plan, not just projects recommended for Corps implementation. (See [http://www.usace.army.mil/inet/functions/cw/cecwp/branches/mp\\_and\\_dev/Wrda00/wrda00202.PDF](http://www.usace.army.mil/inet/functions/cw/cecwp/branches/mp_and_dev/Wrda00/wrda00202.PDF) ).

**3. Consideration of the Broader Landscape Implications of Navigation Improvements.** Planning guidance includes the requirements of sec. 5 of the River and Harbor Act of 1935 that each investigation on navigation improvements potentially affecting adjacent shoreline will include analysis of the probable effects on shoreline configurations. A distance of not less than 10 miles on either side of the improvement should be analyzed. (ER 1105-2-100, para E-14(h)).

**4. Sec. 107 (River and Harbor Act of 1962) Planning Guidance** – Proposed implementation measures shall be coordinated with other non-Federal shore protection projects in the same geographic region; to the extent practicable, sec. 111 projects and shore protection projects pursued under other authorities in the same region, shall be combined into a comprehensive regional product (ER 1105-2-100, p. F-15).

**5. Civil Works Planning Guidance Acknowledges the Need for Systems Analysis in Shoreline Studies.** A systems analysis is included among the principles in guidance for evaluation of benefits from hurricane and storm damage reduction projects. Appendix E of ER 1105-2-100, paragraph E-24(f) includes requirements for a systems analysis approach which includes: physical processes, coastal alterations, shoreline change forecasts, and economic benefits and costs.

**6. Beneficial Use of Dredged Material.** Corps planning guidance (ER 1105-2-100) encourages districts to consider options that provide opportunities for aquatic ecosystem restoration when examining dredged material disposal. Consideration of opportunities to beneficially use dredged material that can foster multiobjective analysis in dredged material management, and potentially achieve greater benefits than consideration of maintenance dredging objectives alone. Beneficial use is a business practice within Operations and Maintenance (O&M) and authorized in a programmatic authority (sec. 204). EM 1110-2-5026 provides guidance for planning, designing, developing, and managing dredged material for beneficial uses, incorporating ecological concepts and engineering designs with biological, economical, and social feasibility.

**7. PGL 56, sec. 207 WRDA 1996, Selection of Dredged Material Disposal Methods.** Dredged material from construction, operation or maintenance of authorized projects can be used to create wetlands or protect environmental resources from erosion. Studies for new navigation projects or modifications to existing navigation projects shall examine the feasibility of using dredged material for ecosystem restoration. If feasible, this beneficial use would be authorized as part of the project. For maintenance dredging, sec. 207 could be used if the environmentally beneficial disposal method has large incremental costs which preclude the use of sec. 204 (i.e., Federal cost >\$5 million). The increment of costs to achieve environmental benefits are shared on a 75 percent Federal and 25 percent non-Federal basis. (See: [http://www.usace.army.mil/inet/functions/cw/cecwp/branches/mp\\_and\\_dev/Wrda00/wrda00202.PDF](http://www.usace.army.mil/inet/functions/cw/cecwp/branches/mp_and_dev/Wrda00/wrda00202.PDF) ).