Regional Sediment Management And Engineering With Nature

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Flood Risk Management and Engineering With Nature Collaborative Meeting

Vicksburg, MS 10-11 June 2014
Why RSM?
Regional Sediment Management

A systems approach for efficient and effective use of sediments and management of projects in our Coastal, Estuarine, Riverine, and Watershed environments.
RSM = Sustainable Solutions for.....

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<th>Navigation/ Dredging</th>
<th>Flood Risk Management</th>
<th>Environmental Restoration</th>
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**RSM Operating Principles:**
- Recognize sediments as a regional resource; prioritize use
- Link and leverage across multiple projects, business lines, authorities
- Improve operational efficiencies & natural exchange of sediments
- Economically viable, environmentally sustainable solutions
- Local sediment actions which benefit the region, consider regional impacts
- Enhance technical knowledge/tools for regional approaches
- Share information and data
- Communicate and collaborate – USACE, Stakeholders, Partners
USACE RSM Participation (2000-2014)

- Northwestern Division
- South Pacific Division
- Southwestern Division
- Mississippi Valley Division
- Great Lakes & Ohio River Division
- North Atlantic Division
- South Atlantic Division
- Pacific Ocean Division

7 Division, 25 Districts (20 Coastal/5 Inland), ERDC, IWR
Understand Region
- Sediment Budget
- Beach Morphology
- Landcover Type
- Coastal/Inland Processes
  *Holistic/Systems Approach*

Identify Gaps/Improve Knowledge

Data Management/Regional Tools
  *Collaborative w/Partners*

Identify/Evaluate Opportunities to Optimize Use of Sediments Across Multiple Projects
  *Innovative, Efficient/cost effective, Science-based*

Take Action: Construct Pilot Projects
  *Collaborative w/Partners*

Monitor: Evaluate Performance
  *Adaptive Management*

Incorporate Standard Practice
  *Sustainable*
RSM Long-Term Goal

Link with Engineering With Nature

Bridge Regional Sediment Processes with Regional Environmental/Ecosystem Processes

Sediment/Engineering + Environmental/Ecosystem

Marine Habitat

Landuse

Submerged Aquatic Vegetation

Wetlands
RSM and EWN Successes
Perdido Pass, AL

Pre-RSM

Post-RSM

0.5-1.5 mi

Shoaling Area
Placement Area
Jacksonville District - St Johns, Duval, Nassau Counties

Northeast Florida Regional Sediment Management

Fernandina O&M/Kings Bay/Nassau Co SPP

Fernandina Harbor Entrance Channel

ODMDS ~14 miles from Channel

SHORE PROTECTION PROJECT BORROW AREA

70% Of all sand placed at the Nassau Co. SPP is from the Federal channel

Approx $40M in added value

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Portland District - Mouth of the Columbia River, OR

Collaboration 2002:
- District & Stakeholders
- Leverage:
  - Projects, Resources, Models, Tools, Data Collection…
- Long-term strategy
- Construction 2012
- Monitoring 2013-2014

Benefits
- 4 New nearshore BU sites
- Reduced dredging costs
- Protect navigation structures channel system
- Stabilize Inlet morphology
- Reduce shoreline erosion
- Environmental habitat
Why RSM is Important & Supports EWN

- Improve utilization of sediments - local & regional
- Link multiple projects & authorities, leverage funding, reduce timelines
- Increase benefits while reducing/maintaining costs
- Share data, tools, and capabilities
- Improve partnerships and collaboration
- Pilot Projects/Adaptive Management - Improve channel availability, shoreline erosion/flood protection, environmental habitat
Tools and Data

Sediment Budget Analysis System (SBAS)
CE-Dredge-RSM Dredging Manager & Viewer
Models and Databases
Etc…
14th Annual
RSM and EWN
In-Progress-Review and Workshop
22-24 July 2014
Vicksburg, MS

2013 RSM and EWN IPR and Workshop
Coastal and Hydraulics Laboratory, Vicksburg

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