FY16 RSM IPR
Rock Island District, Sedimentation Impacts at the Confluence of the Sangamon and Illinois Rivers
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BLUF: This effort achieves greater understanding of the consequences of channelization and other land use activities in the Sangamon River watershed and explores opportunities for addressing sediment delivery to the Illinois River.

Description/Challenges
- Most expensive dredging location in the District
- Historic USACE project changed outlet of River
- Backwater areas of the Illinois have filled in with sediment (also affecting Federal Small Boat Harbor)
- Lack of data
- Lack of regional/political will
- Massive sand stockpiles to offload

Objectives
- Continue sediment data acquisition and analyses
- Expand collaboration efforts – Gov. conference, continued stakeholder engagement
- Develop beneficial use strategies for sediment
  - IDOT use of sand for new bridge
  - Partnership for soil manufacturing
  - Increase topographic diversity
  - Improve local ag. fields
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Approach
(Tools, Models, Technologies)
• Approach: Examine sediment transport through tributary delta
• Model: Unsteady HEC-RAS Sediment
• Tools:
  • Literature review
  • Local expert
  • Innovative approaches
• Technologies:
  • Bedload sediment collector
  • Custom soil blending
  • Deep plowing
  • Thin layer placement
  • Pump and pond

Deliverables

<table>
<thead>
<tr>
<th>Deliverable</th>
<th>Date</th>
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<tbody>
<tr>
<td>Article to IL River Governor’s Conference</td>
<td>10/29/15</td>
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<tr>
<td>Presentation at the RSM-EWN IPR</td>
<td>5/17/16</td>
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<tr>
<td>Stakeholder Meeting</td>
<td>7/14/16</td>
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<td>Meeting Summary from the Stakeholder Meeting</td>
<td>7/31/16</td>
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<td>Technical Note</td>
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<td>Beneficial Use Plan</td>
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Accomplishments/Benefits/Lessons Learned/Actions-construction

• Accomplishments
  • IL River Gov’s Conference
  • Site visit with Univ of IL soil scientists and advocate of “Mud to Parks” initiative
  • Visit to Davenport Compost Facility to discuss their successful soil manufacturing business model

• Benefits – Unexpected Opportunities
  • ISWS – Previous USACE suspended sediment station reopened by state
  • NGRREC – Suspended sediment and nutrient monitoring
  • USGS – Proposed ADCP Suspended Sediment Station
  • PL 84-99 – Borrow site for levee repairs
  • ERDC Levee Setback Research Project – Using 2015 Sangamon HEC-RAS model for case study
  2015 Stakeholder meetings published in USACE “Collaboration Corner”
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What is working? Ups? Success?

- Field level engagement of locals and regional soil and sediment experts generated new ideas for investigation and implementation
- HEC-RAS model development allowed integration of other R&D work to enhance work in project area
- Greater awareness toward integrated management among Corps mission areas – Navigation, Flood Risk Management, and Environmental Protection & Restoration
What is not working? Downs? Issues?

- State of Illinois is not a viable partner at this time and most authorized partnerships require participation with the non-Federal sponsor (65/35). Much of the land is in private ownership. Past USACE activities have created strong local animosity which makes moving forward difficult.

- Mission priority and least cost solution

- Volume of material moving is increasing (systemic)
District PDT Members
• Nicole Manasco, Operations
• Tom Kirkeeng, Engineering
• Toby Hunemueller, Engineering
• Elizabeth Bruns, Engineering
• Chuck Theiling, Planning
• Davi Michl, Planning

Stakeholders and Partners
• Illinois State Water Survey
• National Great Rivers Research & Education Center
• Ducks Unlimited
• University of Illinois
• Illinois Department of Natural Resources
• USGS – Illinois Water Science Center
• Local Communities

Leveraging/Collaborative Opportunities
• Navigation (Operations Division)
• Illinois River Basin Restoration Program
• Upper Mississippi River Restoration Program
• Navigation and Ecosystem Sustainability Program (NESP)
• Beneficial use of Illinois River Sediment
• Levee Safety Program
• Mud to Parks Program
Value to the Nation

- Leveraging resources – CHL modeling, levee repair, log jam
- Improved partnerships – restore relationships with locals
- Permitting and compliance requirements improved (cost savings from reduction in requirements) – being investigated, what is the end of our custody?
- Capacity of placement site saved and therefore $ saved on coordination, surveys, modeling, etc to designate a new placement site