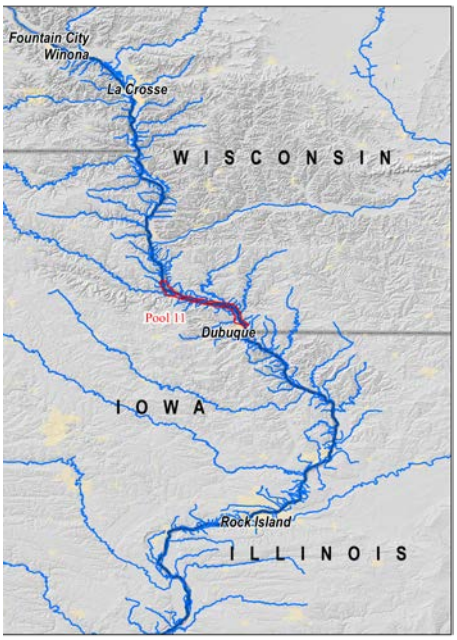
US Army Corps of Engineers®
Engineer Research and Development Center

Regional Sediment Management Program
Rock Island District (MVR):

Upper Pool 11 Sediment Transport RSM

Description

MVR will update existing hydraulic models to better meet agency concerns regarding fate of dredged material. Successful acceptance of the modeling would allow for expedited planning of dredge placement activities and the possible development of beneficial used of dredged material for habitat creation through either direct placement of use of natural river energy patterns.



Pool 11 Location

Issue/Challenge To Address

Historically, dredging has been required every 2-3 years in the navigation channel of the Mississippi River of Upper Pool 11. Two privately owned beneficial use sites are no longer available for placement and recent historic bankline placement sites have become unavailable for use due to regulatory concerns. During the new DMMP formulation, coordination with the regulatory agencies identified a significant concern regarding the fate of the dredged material placed along banklines and within historic island footprints. USFWS Upper Mississippi River Refuge – McGregor District has requested that material be placed on existing islands to increase topographic diversity, improving survivability of hard mast trees. IADNR supports this effort; however WIDNR is concerned that material placed in this manner, or on historic bankline sites, would migrate. They are concerned the material may migrate into either the navigation channel, thereby causing the Corps to re-dredge the material, or environmentally sensitive areas off the main channel. The current draft DMMP plan removed evaluation of the USFWS's sites due WIDNR's requirement that all dredged material be completely removed from the system. Dredging costs between the two alternatives range from $14/CY to $31/CY. By better understanding the fate of dredged material placed along shorelines and on existing islands as well as the movement of dredged material within the context of total sediment load stakeholders will gain mutual understanding of the sediment transport processes within this floodplain reach thus reducing risks and costs of dredging and ecosystem restoration for both Rock Island and St. Paul Districts.

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Successes Lessons Learned

Lessons learned will be compiled during the duration of this study.

Expected Products

- Multiple interagency meetings to create documented consensus
- Updated HEC-RAS model
- Final Report and Presentation

Stakeholders/Users

Stakeholders include St. Paul District, WI DNR, IA DNR, and USFWS, as well as waterway users.

Projected Benefits Value Added

Benefits would include the reduction planning costs for dredged material placement by reducing the number of model iterations and meetings needed to gain regulatory approval. Consensus-based risk assessments and model application may allow USACE to place material in areas preferred by USFWS saving up to 50% of dredging costs. This approach could be applied to adjacent pools in Geomorphic Reach 4 (Pools 10-13) saving additional dollars for MVP and MVR. Using the dredged material beneficially within the system to improve aquatic and terrestrial habitat will have ecosystem benefits for the region.

Leveraging Opportunities

MVR submitted a proposal, and was selected to participate in, Collaboration and Public Participation Center of Expertise's 2017 Gnarliest Collaboration Challenge (GCC). This brings $25k to utilize public participation/collaboration/conflict resolution assistance for mediated workshops with agency partners. In addition, a successful outcome from both the RSM and GCC will allow additional collaboration with USFWS to beneficially use dredged material for habitat improvements at reduced costs to both USACE and USFWS.

Points of Contact

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Participating Partners

USFWS – McGregor District