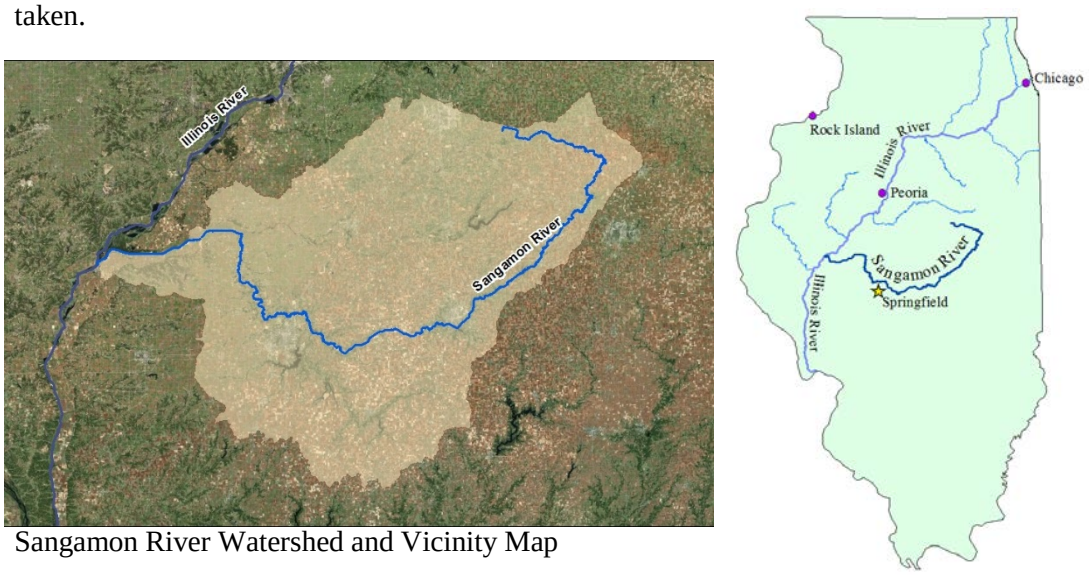
US Army Corps of Engineers®
Engineer Research and Development Center

Regional Sediment Management Program

Rock Island District (MVR)
Sedimentation Impacts at the Confluence of the Sangamon and Illinois Rivers

Description

The Sangamon River flows into the Illinois River near Beardstown, IL. In an effort to develop sediment management strategies for this area, a system wide approach of understanding land use patterns and sediment transport throughout the watershed will be taken.



Sangamon River Watershed and Vicinity Map

Issue/Challenges

The Illinois River was recognized by WRDA ’86 as “a nationally significant ecosystem and commercial navigation system.” As with most navigable waterways, dredging must occasionally be performed in certain areas to maintain required depths. One significant area that requires frequent dredging on the Illinois River is at the confluence with the Sangamon River. In 1949, the mouth of the Sangamon River was relocated from river mile 98 to 89 of the Illinois River near a backwater area called Muscooten Bay. Over time, Muscooten Bay has filled with sediment, impacting the local boat harbor and inhibiting its use. In the last 20 years, sediment has started to deposit in the main channel of the Illinois River, impacting navigation. As the dredging costs in this area have increased over the years and become a larger part of the US Army Corps of Engineers (USACE), Rock Island District (MVR) channel maintenance budget, alternative methods to address sediment management in the watershed are needed.

Successes Lessons Learned

This effort began in 2012 with a compilation of existing data and watershed history, laying the foundation for future work. Consultations with subject matter experts, reconnaissance sediment sampling, cross section surveys (cost-shared with the Illinois Department of Natural Resources), and the development of a HEC-RAS model with sediment transport capabilities furthered the team’s understanding of sediment dynamics in the system. Key stakeholders were engaged early on and were brought together at a facilitated conceptual modeling workshop to brainstorm problems and opportunities for regional sediment management. The workshop and a follow-on town hall meeting provided opportunities for open communication between MVR, stakeholders, and the public on contentious issues and created interest in future collaborative efforts.

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Expected Products

- Stakeholder Meeting summary
- Repeat Cross-Sections and Erosion Analysis
- Technical Note on Sediment Sampling in Muscooten Bay
- Beneficial Use Strategy
- Presentation at the annual Regional Sediment Management – Engineering With Nature In Progress Review and Working Meeting
- Article/presentation for the Association of Illinois Soil and Water Conservation Districts 15th Biennial Governor's Conference on the Management of the Illinois River System
- Technical Note describing the work completed to date

Potential Users

Potential users include local residents, members of the hunting and duck clubs and levee and drainage districts in the area, and local, county, state, and federal agencies. See also Leveraging Opportunities below for future uses of the Expected Products.

Projected Benefits

Potential benefits include the reduction of the amount of sediment delivered to the Illinois River and the volume and frequency of dredging required in the navigation channel, thus conserving channel maintenance funds. Another potential benefit is improved management of sediment within the watershed and the development of beneficial uses of the sediment. Improved sediment management could also result in potential ecological benefits such as the preservation of backwater habitat that would otherwise be lost due to sedimentation. Continued investment in stakeholder relationships will result in more robust partnerships and collaboration between the USACE and citizens, non-governmental agencies, and local, state, and other federal agencies.

Leveraging Opportunities

The Illinois Department of Natural Resources previously collaborated with MVR in the collection of survey data for use in the HEC-RAS model and may be able to collaborate on the resurvey of select cross-sections for the erosion analysis. The Illinois State Water Survey and Illinois Sustainable Technology Center participated in the conceptual modeling workshop and may be able to assist with Muscooten Bay sediment sampling and development of a beneficial use plan for converting sediments into a soil product. Within MVR, leveraging opportunities may exist with navigation and ecosystem restoration programs. Leveraging opportunities with State agencies and USACE programs with the State of Illinois as the non-Federal sponsor may be limited by ongoing State budget issues.

Points of Contact

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Participating Partners

Cass County, Clear Lake Drainage & Levee District, City of Beardstown, Ducks Unlimited, Hager Slough Special Drainage District, Illinois Department of Natural Resources, Illinois Natural History Survey, Illinois State Water Survey, Illinois Sustainable Technology Center, Sanganois State Fish & Wildlife Area, The Nature

Conservancy, USDA-Natural Resources Conservation Service, U.S. Fish & Wildlife Service