Upper Mississippi River Basin
Flood Risk and Sediment Management Summit

Improving Disaster Preparedness, Economic Growth and Resilience, Ecological Health

July 2017 Summit Outcomes

Upper Mississippi River Basin Association

Perspectives of Challenges
Facing Flood and Sediment Management

Lack of coordination to achieve a common vision – There is no existing forum for the river-floodplain community to discuss challenges and new information and to work towards shared goals. Without a forum and shared vision, misunderstandings and mistrust are fueled and individual actions are not understood within a larger floodplain or watershed context.

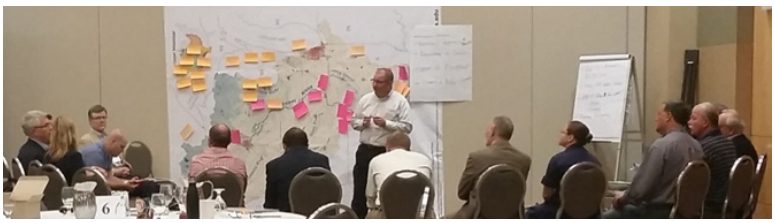
Management and assumption of risk based on outdated information – There is no common, science-based understanding or framework (e.g., model) of existing or potential future conditions to serve as a basis for dialogue. Current channel maintenance and flood risk plans assume the historic risk of sedimentation and flooding without considering the impacts of weather and land use changes. Additionally, there is a lack of awareness and utilization of available knowledge to inform decision making.

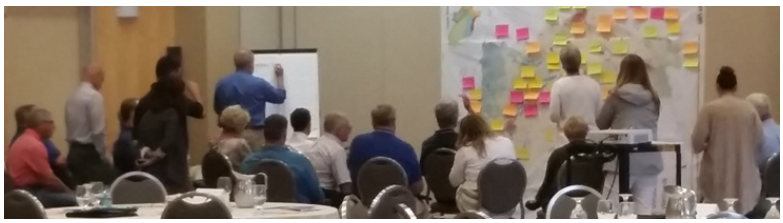
Land use and weather changes altering watershed and floodplain dynamics – Flood and channel constriction events are increasing in frequency and severity. They are occurring in unusual and unpredictable ways that federal and state agencies and floodplain communities are not prepared to deal with. Urban and rural land use development throughout the watershed and floodplain, in combination with changing weather patterns, has resulted in an excessive volume of water and sediment moving through the watershed at a high velocity. Structural and nonstructural measures impact neighboring communities and habitats in ways not well understood.

There is insufficient capacity to store and remove dredged material particularly near accumulation hot spots. Increasing costs, antiquated land acquisition policies, lack of proactive planning, and inadequate funding have all contributed toward more frequent emergency closures of the navigation channel. Insufficient communication about these closures to mariners exacerbates impacts to navigation. Sedimentation also affects ecosystem health and water quality.

Lack of systemic, agreed-upon approach to management – The Upper Mississippi has a decentralized management structure involving multiple layers of federal, state, and local authorities with differing scales, reach, constituents, perspectives, and goals. Conflicting, duplicative, and inconsistent policies and enforcement result in subjective and oftentimes unfair flood protection decisions for neighboring floodplain communities. This has created a high degree of mistrust among neighbors and government officials and a lack of motivation to work collaboratively. Existing planning guidance for channel maintenance management is outdated and no longer relevant.

Lack of investment to improve system infrastructure (structural and nonstructural) – Overall decline in federal, state, and local investment has resulted in antiquated and unreliable navigation and flood control infrastructure (structural and nonstructural) that needs immediate and ongoing attention. Readily available economic information about the river's importance and benefit of investment is needed to motivate decision makers. Levee districts and local communities differ in their financial abilities to invest in their respective infrastructure. Lack of funding for channel maintenance has left the Corps in a reactive position that forces the states to streamline permitting to avoid emergency closures.





Solutions and Actions for Improving Flood and Sediment Management

Develop a coordinated, systemic flood and sediment management plan – A comprehensive planning effort is undertaken in a transparent and collaborative manner will develop a commonly-held vision with goals, objectives, and an implementation strategy that recommends a suite of structural and nonstructural measures. The plan would integrate solutions to, while recognizing separable elements of, flood fighting and risk reduction and channel maintenance management. More specifically, the plan would create a systemic monitoring network/strategy, assess the river's existing conditions and trends, and evaluate progress towards a desired condition. Intended outcomes are to:

a) Integrate and better facilitate federal, state, local and private actions in the watershed and floodplain

b) Improve federal and state laws, regulations, enforcement, and management to the extent possible and appropriate, including enhancing consistency, eliminating contradictions and confusion, and reflecting regional goals and objectives (when defined)

c) Assess existing levels of protection throughout the entire Upper Mississippi and Illinois Rivers (potentially utilizing FEMA's approach to levee analysis and mapping flood hazards)

d) Guide the development of individual pool-scale dredged material management plans

e) Identify targeted structural and non-structural actions in the watershed and floodplain – e.g., upland storage, floodplain restoration, levees, desired land use practices, improved buildings, and stabilizing bankline erosion

f) Develop a business plan for marketing beneficial use of dredged material – e.g., in-river fish and wildlife habitat restoration, upland placement, management facilities to sell material

g) Advance multi-purpose management of the Upper Mississippi and Illinois Rivers

Establish a regional coordinating (governance) body – A regional coordinating body routinely convenes the floodplain-river community to discuss issues and collaborate on solutions. Questions remain regarding the structure and function of any new coordinating or governance model – e.g., five-state compact or other binding agreement, an executive steering committee. Specific actions include:

a) Creating a common reference and terminology of definitions, rules, and regulations

b) More clearly defining roles and responsibilities

c) Facilitating a regular, inclusive forum for ongoing dialogue and coordination – e.g., a leadership summit to discuss policy and planning needs

d) Advancing integrated multi-purpose management of the Upper Mississippi and Illinois Rivers

Address policy impediments and fiscal resource needs – Pending the planning effort (detailed above), modify state and federal policies and regulations to facilitate effective implementation of the agreed-upon goals and objectives. Examples include a mitigation bank for sediment and nutrient reduction, flood storage, or ecosystem services as well as incentives to landowners for flooding property during major high water events. Secure resources to perform levee maintenance and repair.

Improve and better utilize knowledge – Better utilize existing knowledge and increase accessibility of available information to the public; enhance information sharing within the federal and state governments. Continue ongoing data collection, analysis, and reporting and employ a gap analysis to determine new data, modeling, and research needs. Information needs include effectiveness of individual and cumulative structural and non-structural actions, HEC-RAS and CWMS models for the entire UMRS, more frequent levee surveys, NWS's National Water Model (and potentially a similar model for sediment movement), and a flow line-type study.

Upper Mississippi River Basin Flood Risk and Sediment Management Summit

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Special thank you to:

Brian Stenquist of the Minnesota Department of Natural Resources for facilitating the Summit through an innovative, engaging, and effective approach that resulted in an interactive dialogue of common challenges and a shared set of solutions for moving forward.

Steve Buan of the National Weather Service, Larry Weber of the Iowa Flood Center, Scott Whitney of the U.S. Army Corps of Engineers, and J.C. Nelson and Jon Nania of the U.S. Geological Survey for your insightful presentations that helped set the context for the Summit's discussions.

Participants Represented A Broad Array of Stakeholders Who Work and Live in the Floodplain

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Federal Government

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Bryan Nichols, Rep. Sam Graves
Brad Pfaff, Rep. Ron Kind

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Ryan Benjegerdes
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Eli Chen
Heather Day
Olivia Dorothy
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Greg Genz
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Karin Jacoby
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Kevin Keithly
Michael Klingner
Kim Knowles
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