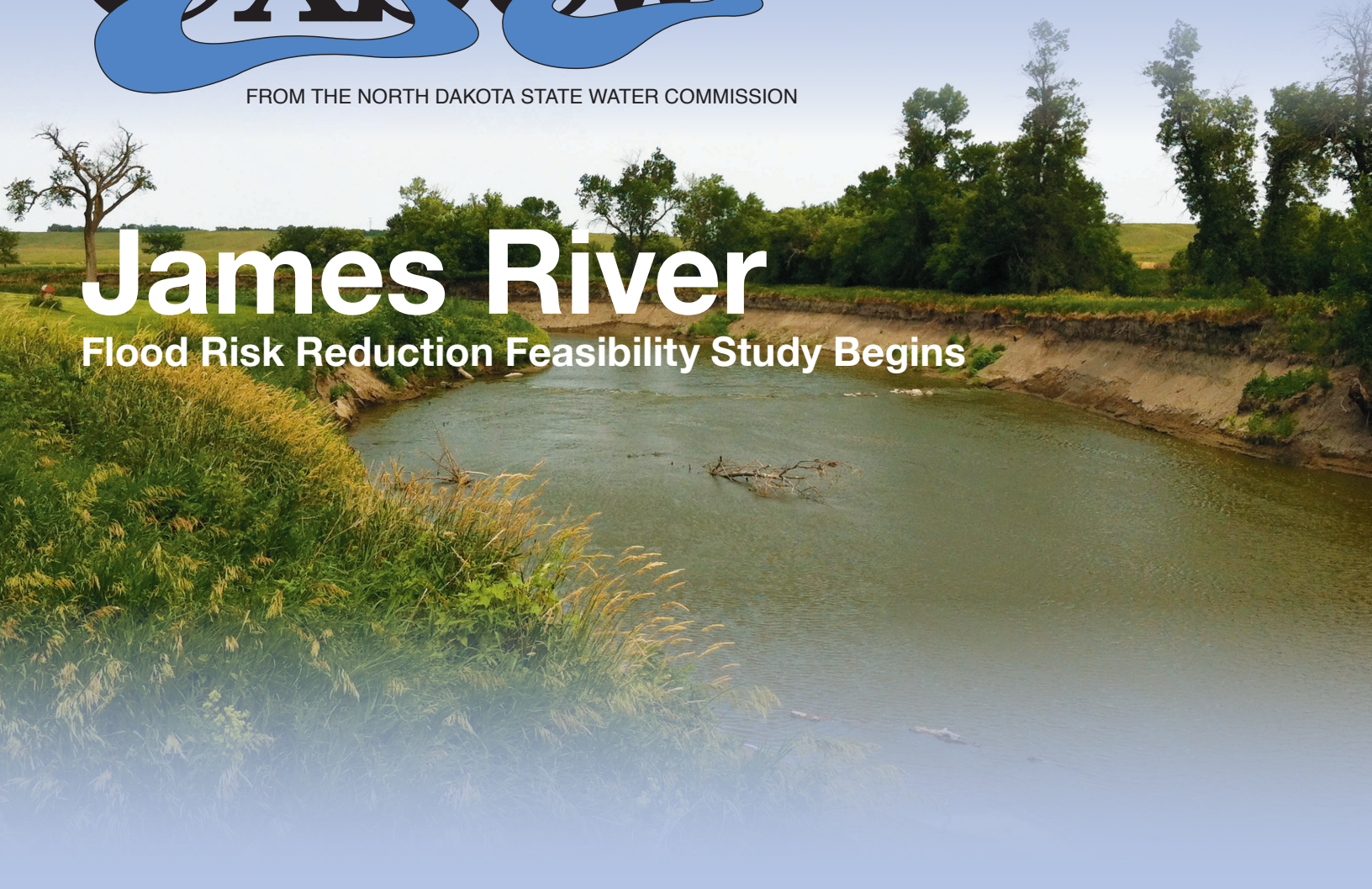




FROM THE NORTH DAKOTA STATE WATER COMMISSION

James River

Flood Risk Reduction Feasibility Study Begins



In response to the record flooding that hit the region in 2009-2011, and following a reconnaissance study that was completed in 2011, Phase I of a feasibility study to determine river and flooding impacts on the James River is expected to be completed in the summer/fall of 2013. Bathymetric (or survey of the river channel) data collection will be completed by the fall of 2012.

The James River basin experienced significant flooding between 2009 and 2011, resulting in a loss of municipal services, road

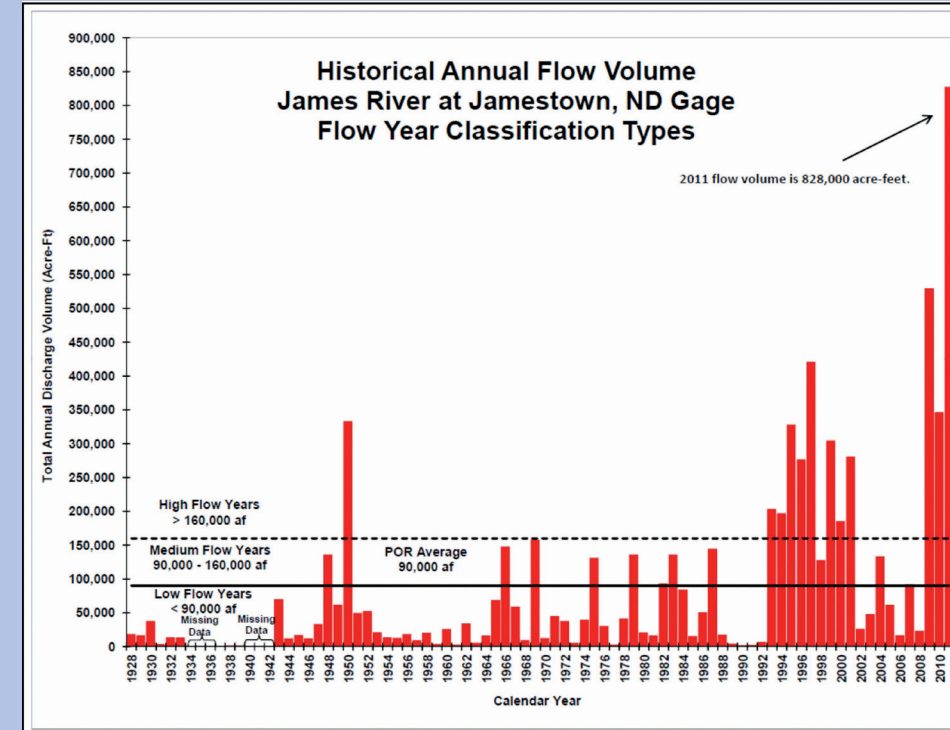
closures, impacts to agricultural land, emergency response expenses, and record high water levels in reservoirs and the river.

In response, a cooperative effort between the James River Basin Joint Water Resource Board, the city of Jamestown, the State Water Commission and U.S. Army Corps of Engineers (Corps), with support from the North Dakota congressional

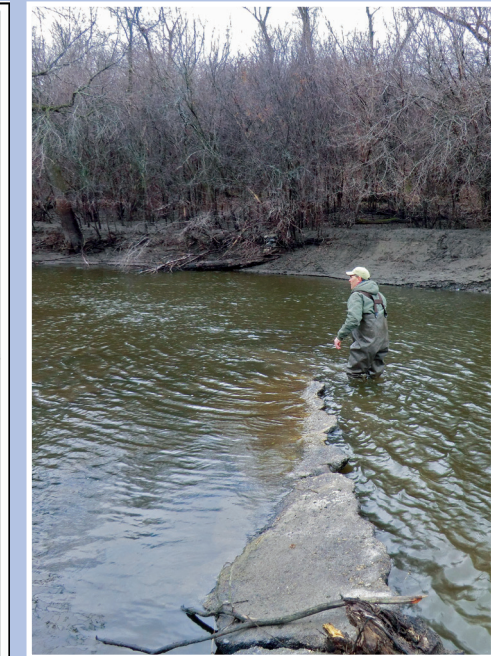


The flood of 2011 caused significant problems such as large snags at river crossings.

delegation, led to a reconnaissance study of the James River basin. The reconnaissance study identified information that would need to be gathered in order to better quantify flood risks and to develop flood risk reduction options. The reconnaissance study was funded entirely by the federal government, and



The flood of 2011 was almost twice the volume of the previous record.



Dan Sauter of the Water Commission begins the process of collecting bathymetric data for the James River in 2012.

also resulted in the Silver Jackets program becoming involved in order to help with coordination and communication amongst the involved entities.

The Silver Jackets program is a national organization that creates state-level teams to coordinate the flood risk management efforts of local, state, and federal entities. A Silver Jackets program was created in North Dakota following the record flooding of 2009.

Based upon the need identified in the reconnaissance study, Phase I of a feasibility study was initiated in 2011. Phase I received 50% funding from the Corps, \$160,000 in cash and \$58,000 through in-kind work via the Water Commission, with the remainder being provided by local entities, for approximately \$755,000 total. At this time, local interests need to come up with approximately \$40,000 in additional funding for the study. Highly accurate remote

sensing data called LiDAR, is also being collected to aid in the analysis.

Phase I of the reconnaissance study will use hydrology and hydraulics to identify the potential for development of cost-effective flood risk management solutions and provide updated floodplain maps from Jamestown Reservoir to the South Dakota border.

If there is continued federal interest, Phase II of the Feasibility Study will assess the reach of the James River above Jamestown Reservoir, an area that received mostly rural flooding.

Based upon the information developed with Phases I and II, if the suggested project qualifies for federal interest, and if sufficient local, state, and federal funding is available, the next stage of the process will be engineering, design, and the eventual construction of flood risk reduction efforts.

For further information on the James River Feasibility Study, please contact Mike Hall ND Silver Jackets Coordinator at (701) 328-4971, or mihall@nd.gov.



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Mouse River Enhanced Flood Protection Project Update

UPDATE

At their June meeting, the Water Commission approved funding to complete Phase II, and initial funding for Phase III of the Mouse River Enhanced Flood Protection Project Preliminary Engineering Report (PER), following the completion of Phase I in early 2012.

Catastrophic flooding in the Mouse River basin in 2011 led local, state, and federal agencies to devote considerable time and effort gathering information, conducting studies, and developing possible designs for flood risk reduction structures, with the objective of reducing the risk of damages resulting from potential future river flows, similar to a 2011 flood event. Work that began in 2011, resulted in the development of the PER, which provided a summary of actions that could be taken.

The PER, which focused on flooded communities, was completed on a rapid timetable in order to satisfy the desperate need of displaced residents for relevant information as quickly as possible. The PER was funded 100% by the Water Commission, and provided preliminary engineering information, project footprints, and key project data, while allowing for community input.

Phase II of the PER will extend preliminary engineering to the rural regions of the Mouse River Basin, similar to what was done for flooded communities such as Minot and Burlington. At their June meeting, the Water Commission approved \$1,828,000, or 100%, of project

costs to complete the preliminary engineering for Phase II.

In these rural reaches, in addition to flooding of rural homes, erosion, sediment deposition, and seasonal farmland flooding are also serious problems. Because of these issues, different engineering methodologies will be required in order to properly design flood protection. Specifically, how the river flows through McHenry and Bottineau counties is significantly different than how it flows upstream.

Also at the meeting in June, the Water Commission approved funding for Phase III of the Mouse River Enhanced Flood Protection process. Phase III will move beyond the preliminary engineering work associated with Phases I and II, and begin the steps needed in order to evaluate and implement the range of options that were developed in earlier phases. While Phases I and II were funded 100% by the Water Commission, Phase III represents an appropriate point to begin applying normal cost-share policy. As a result, the Water Commission approved \$98,750, or 50% of the

total project cost of \$197,500. The funding was approved for the 2011-2013 biennium.

Phase II of the PER will include these components:

- 1) Use of U.S. Geological Survey data in order to understand the historical relationship between flows in the Mouse River and tributary inflows, using that data to calibrate the models being used.
- 2) Hydrologic modeling that will provide a predictive tool to understand and assess tributary inflows to the Mouse River from un-gaged portions of the Mouse River.
- 3) Unsteady hydraulic modeling to understand how a flood moves through the Mouse River system, giving stakeholders and project partners a better understanding of how the proposed project will impact downstream rural areas. And will look at the characteristics of the river at different flows.



Tim Fay, Investigations Section Chief at the Water Commission, addresses the audience at a stakeholder meeting.