

Preliminary Report For Mouse River Flood Protection Released



Flooding in Burlington in 2011. (Source: Corps of Engineers 2011)

At a February 29 meeting of the Souris River Joint Board, the State Water Commission and Barr Engineering presented the Enhanced Flood Protection Project Preliminary Engineering Report (PER) for the Mouse River. The new report incorporated public input received on a previous draft released in November of last year.

In 2011, flow on the Mouse River at Minot's Broadway Bridge reached a peak flow rate of 27,400 cubic feet

per second (cfs); nine times greater than any flood documented since upstream storage reservoirs were built, and significantly higher than the previous record flow of above 20,000 cfs, recorded in 1882. The 2011 flood resulted in the majority of the permanent and emergency flood-fight levees along the Mouse River being overtopped. Based upon preliminary estimates, 4,700 structures were flooded along the U.S. portion of the Mouse River, with damages exceeding

\$690 million. *[The levee system along the Mouse River protected approximately 1,500 structures, which prevented an estimated \$200 million in additional damages. If an event similar to the 2011 flood were to occur again, an estimated 6,200 structures could be at risk, with an impact of around \$900 million in additional damages.]*

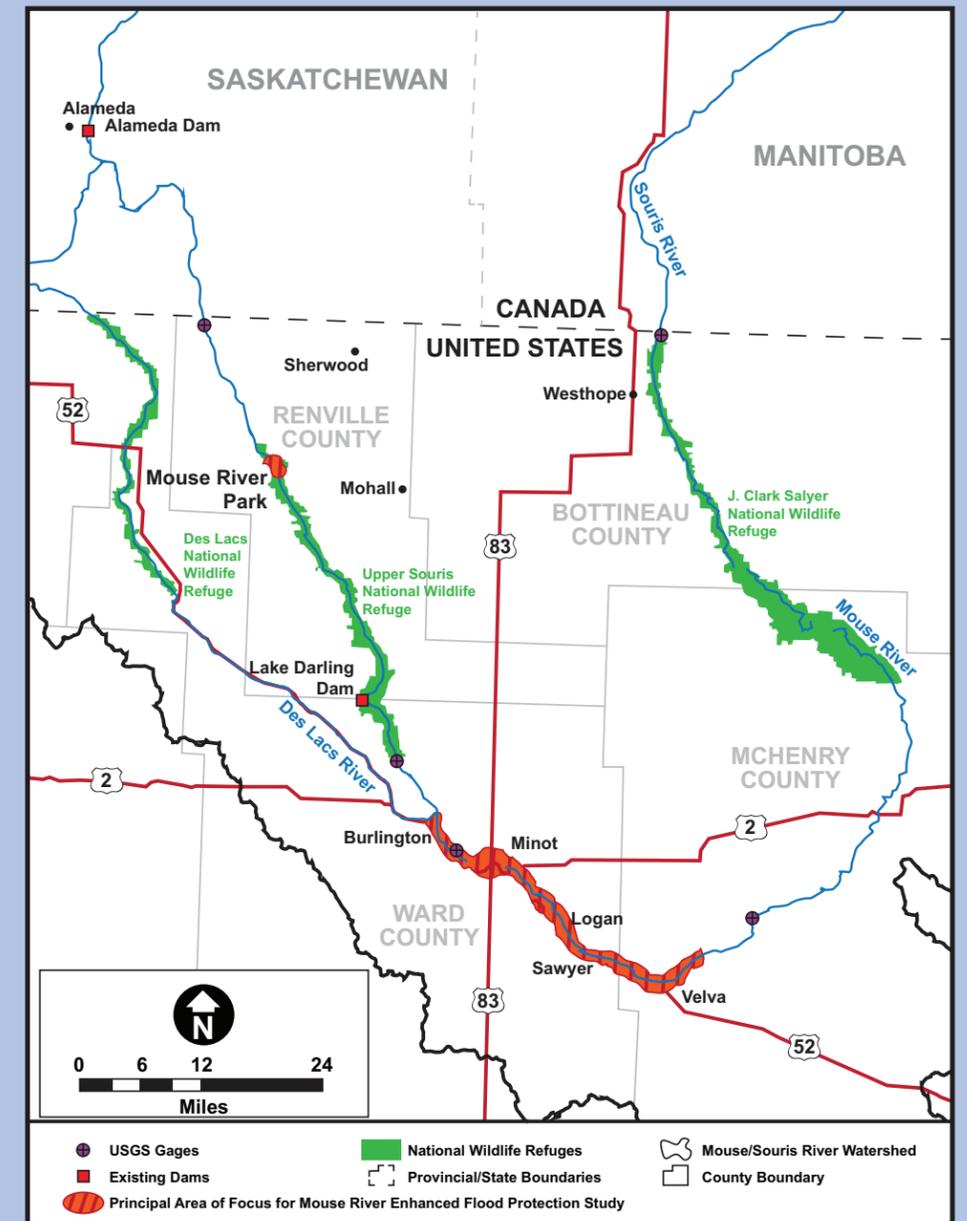
Local and state government recognized that a plan was needed to provide guidance during

recovery efforts, and to offer a measure of protection against future flood events. The PER was developed in response to the catastrophic flooding of 2011, and provides a summary of actions that could be taken to develop flood control measures that would offer protection for flows of 27,400 cfs in Minot. Specific items in the PER include; preliminary levee alignment and footprint, engineering, environmental, and cost considerations for implementation of flood control.

The Mouse River Flood Protection Project (Project) has seven objectives:

- 1) Reduce the risk of flood damage to as many homes as possible
- 2) Minimize the Project footprint and number of residential acquisitions required
- 3) Minimize increases in flood-level, flow rates, and duration
- 4) Develop a Project that can be implemented at the lowest practical cost
- 5) Establish key transportation corridors that can remain open during flood events
- 6) Minimize environmental impacts to facilitate necessary regulatory approvals
- 7) Design a Project that is consistent with the long-range objectives of the affected communities

The PER is designed to be used as a guide for efforts to reduce the risk of damages resulting from potential future river flows, such as were experienced in the June 2011 flood event. Specific areas for protection include those areas along the Mouse River from Burlington to Velva and Mouse River Park.



Project area for the Mouse River Flood Protection Project.

The preliminary alignment plan incorporates a system of levees, floodwalls, river diversions and closure features, transportation closure structures, interior pump stations, and floodplain buyouts.

Key features of the preliminary alignment include 21.6 miles of levees (90% of the total alignment), 2.8 miles of floodwalls, 30 transportation closure structures (19 roadway and 11 railroad), and 33 stormwater pump stations.

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North Dakota State Water Commission
Todd Sando, P.E., State Engineer
900 East Boulevard Ave. • Bismarck, ND 58505
(701) 328-2750 • <http://swc.nd.gov>

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Construction of flood protection will require acquisition of private property. The preliminary alignment will require the acquisition of 90 residential properties upstream of Minot, 278 in Minot, and 15 downstream of Minot, for a total of 383 properties.

The Project has a total cost estimate of \$820 million, with \$565 million construction-related, \$154 million for property acquisitions, and \$101 million for planning, engineering, and project management.

The final alignment of the flood protection features will be determined by the project sponsor, the Souris River Joint Board, including the cities of Minot, Burlington, and Velva. The final footprint on the project must be determined by local entities. The preliminary alignment was selected

based upon stakeholder input, alignment development, detailed hydraulic modeling, and engineering analysis and design. Prior to final alignment and implementation of major flood control project features, a more comprehensive analysis of the potential project components outlined in the preliminary report will be required.

The PER covers measures to protect the communities of Minot, Burlington and Ward County. The project's scope, however, is the entire river valley in North Dakota. The next steps will be to address the flooding issues in the rural portions of the Mouse River Valley.

For more information about the Mouse River Enhanced Flood Protection Plan, including the Executive Summary, main report, and Appendix A of the

Preliminary Engineering Report, please visit the Mouse River Flood Protection Plan website at www.mouseriverplan.com. A full printed version of the Preliminary Engineering Report, including the Executive Summary and all appendices can be viewed at the Minot Public Library, located at 516 2nd Ave SW.

At their Feb. 2 meeting in Bismarck, the ND State Water Commission approved a new floodway property acquisition cost-share policy; and then three cost-share requests from Minot, Burlington, and Ward County to acquire properties in flood prone areas.

The details of the cost-share approvals are included in the table below.

Flood Protection Project Property Acquisition Status <i>as of February 2012</i>		
Entity	Properties	SWC Cost-Share
City of Minot	117	\$17.75 million
City of Burlington	11	\$1.04 million
Ward County	56	\$11.5 million



A *New* educational opportunity for teachers!



The James and Sheyenne Watersheds Institute
July 15-20, 2012

North Dakota's Project WET (Water Education for Teachers) is proud to announce a new and exciting educational opportunity for teachers this coming summer.

The focus of this unique *four graduate credit* opportunity is North Dakota's James and Sheyenne River watersheds, and the many issues that impact them today. Institute participants will experience many hands-on activities from the New Project WET Curriculum and Activity Guide 2.0 and other Project WET activity guides, and they will receive many other water-related educational materials.

Participants will also visit several water resource sites, where they will learn how environmental investigations are conducted – including chemical, biological, and physical determinations.

FOUR GRADUATE CREDITS (Pending)

For further information contact:
Linda Weispfenning, ND State Water Commission
900 East Boulevard Ave., Dept. 770, Bismarck, ND 58505
Phone (701) 328-4967, FAX (701) 328-3747
E-mail: lweispfenning@nd.gov

Some topics of discussion...

- Devils Lake Outlet Projects
- Sheyenne River Diversion
- Irrigation
- Industrial Water Use
- Sport Fisheries & Recreation
- Drinking Water Treatment
- Waste Water Treatment
- Dam Operations
- Forest/Woodland Management
- Water Supply Issues
- Scenic Byways
- Water Quality
- Best Management Practices

Institute participants will visit...

- Sheyenne River Flooding Areas
- Valley City Water Treatment Plant
- Valley City National Fish Hatchery
- Baldhill Dam/Lake Ashtabula
- Livestock Animal Waste Site
- Prairie Waters Education and Research Center
- Cargill Malting Plant
- Spiritwood Station
- Cavendish Farms
- Jamestown Waste Water Facility
- Jamestown Dam and Reservoir
- Pipestem Dam and Reservoir
- Ft. Ransom State Park
- Little Yellowstone and Clausen Springs Parks