

The Oxbow

FROM THE NORTH DAKOTA STATE WATER COMMISSION

Corps Looking at Permanent Flood Control for Fargo-Moorhead Metro Area

A study being conducted by the U.S. Army Corps of Engineers (Corps) is getting a lot of attention from Red River Basin residents, as well as state and federal government officials and leaders. That's because the study, called the Fargo-Moorhead Metropolitan Feasibility Study (Study), will look at permanent flood control solutions for Fargo-Moorhead and the surrounding area. In the wake of 2009 flood events, which resulted in a record peak of 40.82 feet at Fargo-Moorhead on March 28, the need for more permanent flood protection is most certainly on the minds of local residents.

The underlying problem in the study area is urban areas along the Red, Wild Rice, Buffalo, and Sheyenne rivers have a long history of facing flood-related risks. The Corps estimates that average annual flood damages in the Fargo-Moorhead metropolitan area are currently at more than \$64 million. If Fargo and Moorhead were to experience a catastrophic failure with their current flood protection during a 100-year flood, damages are expected to exceed \$2 billion. For 250- and 500-year floods, damages could be as high as \$5 billion and \$6 billion, respectively.

The Study will attempt to identify solutions for some of those flood-related risks by addressing several goals, which include:

- To understand the flood prob-

lems in the greater Fargo-Moorhead metropolitan area;

- To develop a regional flood control system to reduce flood risk;
- To determine the federal government's role in implementing flood risk reduction measures;
- To document study findings in a Feasibility Report and a National Environmental Policy Act Environ-



Temporary levees like this one along 2nd Street in Fargo have to be built to protect the community from major flood events like those experienced this spring. With a more permanent flood control project in place, Fargo could avoid having to build these types of structures, and avoid many of the inconveniences that occur during their construction, and after they're in place.



Like Fargo, Moorhead has also struggled with flood-related risks for decades. A cooperative approach to flood control, similar to what was developed in Grand Forks-East Grand Forks, could greatly reduce the area's flood risks.

PHOTO BY U.S. ARMY CORPS OF ENGINEERS

PHOTO BY HERMIE WEISS

Fargo-Moorhead Metro Area Permanent Flood Control Preliminary Schedule

Sept. 2009	Alternative screening
Oct. 2009	Public meeting
Jan. 2010	Identify tentatively recommended plan
Jan. 2010	Public meeting
Sept. 2010	Finalize feasibility report
Oct. 2010	Public meeting
Dec. 2010	Transmit recommendation to Congress
Jan. 2011	Begin plans and specifications
April 2012	Begin construction

FOR MORE INFO

Visit the Study website at <http://www.internationalwaterinstitute.org/feasibility>.

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mental Impact Statement; and

- To recommend implementation of a federal project to Congress – if an economically justifiable alternative is identified.

More specific planning objectives related to the Study are to: 1) reduce flood risk and damages in the Fargo-Moorhead metropolitan area; 2) restore or improve degraded riverine and riparian habitat in and along the Red, Wild Rice, Sheyenne, and Buffalo rivers; and 3) provide additional wetland habitat and recreational opportunities in conjunction with other project features.

On May 19 and 20, the Corps hosted two public meetings to introduce the Study, and to ask for input and ideas that might improve the development of future alternatives. The first meeting was held the evening of May 19 in Fargo, and the second was held the following night in Moorhead.

At those meetings, the Corps unveiled two very preliminary structural alternatives.

The first involved a diversion channel on the east side of the Red River that would run approximately 30 miles in length, from the confluence of the Wild Rice and Red Rivers, to a point northwest of Kragnes,

Minn. In order for the diversion to be effectively sized, it would have a bottom width of 500 feet, be about 20 feet deep, and with adequate side slopes, would be 2,000 feet wide in total. The preliminary cost estimate for that alternative is about \$909 million.

The other preliminary structural alternative covered at the public meetings involved a series of levees in Fargo and Moorhead — including the proposed Fargo Southside Flood Control Project. The cost estimate for this alternative is about \$625 million.

In the coming weeks and months, several other alternatives will be developed for consideration. In addition, some modifications or refinements to the two alternatives covered at the public meetings can also be expected.

Floodwater retention alternatives, which have gained a lot of attention in recent years, will not be looked at as viable options for flood control alternatives in the Study. Part of the Corps' justification for this position is that they estimate it would take as much as 400,000 acre-feet of well-placed storage to reduce a 100-year flood event at Fargo-Moorhead by about a foot-and-a-half. The Corps has indicated, however, that it would encourage state and local government interests to continue pursuing retention as a flood control option in the Red River Valley, as they have in the past.

The Fargo-Moorhead Metropolitan Feasibility Study is being conducted through a cooperative effort between the communities of Fargo and Moorhead, and the Army Corps of Engineers, St. Paul District office.

The total cost to conduct the Study is estimated at \$5.3 million, with \$2.7 million coming from the federal government, and \$2.6 million from non-federal sources.



Completion of a permanent flood control project could make massive sandbag clean-up efforts, like this one in Fargo, a thing of the past.

PHOTO BY U.S. ARMY CORPS OF ENGINEERS

Another Successful Water Festival Held in Bismarck May 19-20



On May 19 and 20, the Bismarck Public School District and North Dakota's Project WET (Water Education for Teachers) sponsored the sixth annual water festival at the Jack Science Center on the Bismarck State College campus.

Over the course of the two-day event, there were about 800 third-grade students from 15 Bismarck public elementary schools and 39 classrooms. Presenters from several

state and federal government agencies, the city of Bismarck, and a rural water system operated the various activities.

Some of the students spent half a day at the event, where they took in four different presentations and activities. Others spent the entire

day, taking in up to eight different programs.

The festival itself consisted of structured learning stations, demonstrations, and exhibits where students were actively engaged in hands-on water activities and investigations. In addition, the festival provided students with an opportunity to learn about water resources in a way that both complemented and reinforced their traditional

classroom learning in a fun and informative manner.

Once again, comments and feedback from both students and teachers were quite favorable, so a seventh annual festival is already in the works for the spring of 2010.

Presenting Agencies

Bismarck City Water Department
Bismarck Public Schools
National Park Service
Natural Resource Conservation Serv.
N.D. Game and Fish Department
N.D. Rural Water Systems Association
N.D. Historical Society
N.D. State Water Commission
U.S. Bureau of Reclamation
U.S. Forest Service
U.S. Geological Survey

Water Commission Considers Devils Lake Outlet Extension

The existing Devils Lake outlet, which removes water from the Round Lake portion of Devils Lake and discharges it into the Sheyenne River, has had limited success because of water quality constraints. More specifically, water located at the outlet intake, and often water in the Sheyenne River exceed water quality standards.

To improve the effectiveness of the outlet, the state is considering an outlet extension that would have an inlet north of Highway 19 in the Pelican Lake and lower Mauvais Coulee area. The reason being, is that this area at the northwest portion of Devils Lake has typically had better water quality than the Sheyenne River. From the new inlet point,

water would be piped to the existing Round Lake inlet, and then on down the existing outlet works.

The goal is to be able to run the outlet system nearly continuously during ice-free conditions, thus removing a much more substantial amount of water throughout the operating season. The Water Commission is also looking at the possibility of increasing the total discharge capacity of the outlet to 250 cubic feet per second (cfs), from the current 100 cfs.



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