

The Oxbow

FROM THE NORTH DAKOTA STATE WATER COMMISSION

Erosion Mitigation Plan is Developed for the Sheyenne River

The North Dakota State Water Commission recently completed an Erosion Mitigation Plan (EMP) for the Sheyenne River, downstream of the state's Devils Lake outlet. The plan was created in response to local concerns over the potential for erosion on the Sheyenne River that they believe may result from the state's operation of the outlet.

While developing the EMP, the Water Commission consulted previous studies conducted by the U.S. Army Corps of Engineers that analyzed the potential for erosion resulting from the operation of a proposed 300 cubic foot per second (cfs) Devils Lake outlet to the Sheyenne. Through that analysis, the Corps determined that during the months when a 300 cfs outlet was in operation, it was unlikely that any obvious additional erosion would occur—beyond what occurs from natural processes. Since the state's outlet to the Sheyenne River is only one-third the size of the Corps' previously proposed outlet, the state's outlet is expected to result in even less impacts to natural erosion rates. Nevertheless, the Water Commission determined that the development of an EMP would be an important safeguard, and in the best interest of riparian landowners and the river.

As with any river system, erosion already occurs along the Sheyenne River at varying rates, depending on a number of natural factors. In recognition of this, the Water Com-

mission gathered historic digital satellite imagery, and low-level aerial photography to determine natural, pre-outlet erosion rates. The imagery gathered was of multiple locations along the Sheyenne River, taken over the course of the last decade, which provided a sound baseline. In addition, the U.S. Geological Survey maintains records of flow rates in the Sheyenne River going back decades.

In the future, if stakeholders or landowners have concerns regarding erosion that they believe has resulted from the operation of the state's Devils Lake outlet, they are encouraged to gather information, and provide as much documentation as possible for the area in question. The concerned

parties can then contact either the Water Commission, or their county water board. At that time, they will be issued a copy of the Devils Lake Outlet Erosion Mitigation Application Form.

Forms submitted to the Water Commission will be reviewed and evaluated as thoroughly as possible. Upon reaching a preliminary decision, the Commission will send the application to the appropriate water board for its review and consideration. The Commission will then consider any water board input, and respond to the applicant with a written reply. In cases where it is deemed appropriate, the Commission will take action to mitigate any erosion that was caused by the state's operation of the outlet.

You can find the EMP and other related documents on the Water Commission website at www.state.nd.us by clicking on "Devils Lake Flooding" and then "Outlet." Paper copies of the EMP can be obtained by contacting the Planning and Education Division of the Water Commission at 701-328-4989 or by e-mailing dschock@state.nd.us.



The Sheyenne River just south of Wellsburg in Wells County.



COMMISSION MEETING MINUTES

At the March 22 meeting in Bismarck, the North Dakota State Water Commission (Commission) heard updates on several ongoing water projects and programs, and took action on several others. In action items, the Commission:

- Approved a cost-share request in the amount of \$225,000 for the North Dakota Cloud Modification Project (NDCMP). The NDCMP is an operational summertime cloud seeding program that is designed to decrease hail damage and increase growing season rainfall within participating counties. Currently, Bowman, McKenzie, Mountrail, Ward, Williams, and part of Slope County are participating in the program.

- Approved funding in the amount of \$36,000 to assist the North Dakota Water Education Foundation with the publication of *North Dakota Water* magazine for two years. This contribution is used to publish the Commission's "Oxbow" and "Primer" portions of the magazine and to assist with mailing costs.

- Approved a cost-share request by the North Dakota Water Resources Research Institute in the amount of \$13,850, to assist with the Institute's 2006-2007 fellowship program. The Commission's cost-share participation is used to partially match federal funding provided through the U.S. Geological Survey. The fellowships support graduate students working on water resource-related topics, and are granted based on project quality and the relevance of projects to the management of North Dakota's water resources.

- Approved a cost-share request in the amount of \$24,500 for the Traill County Water Resource District to

pursue an Elm River snagging and clearing project.

- Approved a \$4,750 cost-share request from the Richland County Water Resource District for snagging and clearing on the Wild Rice River.

- Approved Burleigh County Water Resource District's cost-share request for an additional \$10,000 for its Hay Creek flood insurance study and mapping project. The Commission originally approved \$15,598 for the study in 2003, but as a result of various complications, the study was delayed, and thus, increased costs are expected. The new study will be more accurate than the previously planned effort, as it will incorporate new data and take recent development (bridges, golf courses, etc.) into consideration.

- Approved a cost-share request in the amount of \$88,107 from the Cavalier County Water Resource District. The cost-share request was for a project to reconstruct a portion of the Mulberry Creek Drain. In the reconstruction area, the bottom will be widened 20 to 50 feet, and the side slopes will be reconstructed so they are more stable. The drain will not be deepened.

- Approved a request from Tri-County Water Resource District for cost-share participation in a drain reconstruction project. The amount approved was \$67,172 for the 1.5 miles of reconstruction.

- Approved a cost-share request in the amount of \$62,825 from the Pembina County Water Resource District to construct a new 2.5 mile-long drain.

- Approved a request by the Nelson County Water Resource District for cost-share participation in the Nash Drain extension and construction project. The total amount approved by the Commission was \$27,348.

- Approved the remaining \$79,849 from the \$500,000 obligated for water-related damage repairs in Nelson County by House Bill 1021.

- Approved a request from the Pembina County Water Resource District to provide additional cost-share participation toward the District's legal action to remove the international roadway boundary dike that has historically caused extensive flooding in the region. Specifically, the Commission approved \$100,000 to help cover plaintiff legal and expert fees, and \$175,000 to be reserved for Canadian costs – if awarded by the court.

- Approved two requests from the Southwest Water Authority for the expenditure of funds from the Reserve Fund for Replacement and Extraordinary Maintenance to pay for the replacement of blow-off valves (\$29,926) and a back-up transformer for the Richardton Pump Station (\$40,000 to \$58,560).

- Granted authority to the state engineer to contract with the Garrison Diversion Conservancy District for maintenance services at the Devils Lake Outlet. Maintenance will include mowing the easement, weed spraying, and canal repairs if necessary. The cost will be dependent on the actual number of hours spent on maintenance.

- Approved an Erosion Mitigation Plan for the State's Devils Lake Outlet project.



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A Missouri River System Update

Although Missouri River system storage is up slightly from last year, runoff forecasts indicate that no significant improvement will occur this year. In fact, it's very likely that Lake Sakakawea will not reach the pool level seen last year.

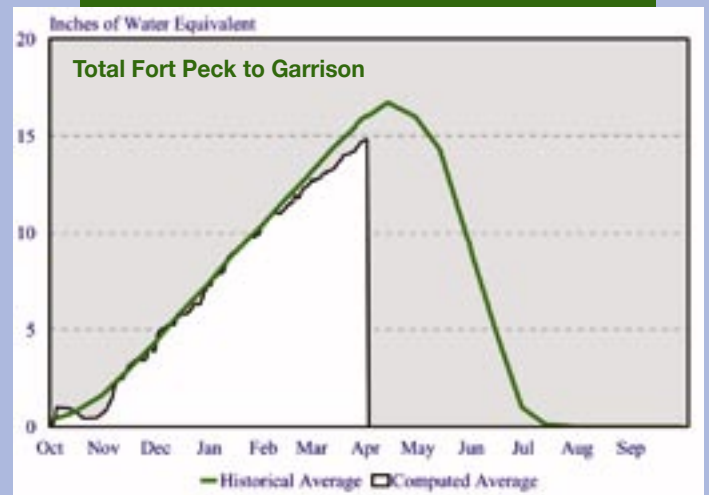
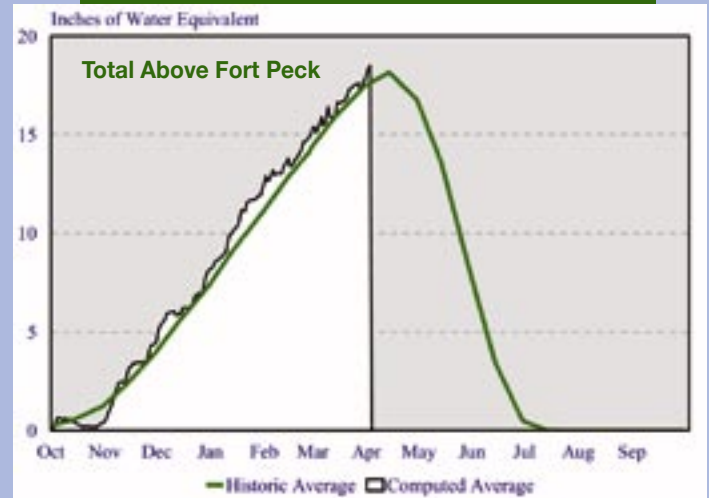
The Missouri River runoff above Sioux City for March was 1.6 million acre-feet (MAF), which is about 53 percent of normal. The Corps' April 1 runoff forecast is predicting runoff above Sioux City for this year to be 19.5 MAF, or 77 percent of normal. On April 7, system storage in the six mainstem reservoirs was 37.1 MAF, an increase of 1.7 MAF from last year, but 19.6 MAF below the average end of March system storage.

As of April 1, the snowpack in the basin was near normal levels for this time of year, with 105 percent of normal above Fort Peck and 92 percent of normal in the reach from Fort Peck to Garrison. Snowpack in the plains of North Dakota and Montana is limited.

On April 7, Lake Sakakawea was at an elevation of 1,811 feet above mean sea level (amsl). This elevation is 2.6 feet higher than a year ago but 22.9 feet below the average end of March elevation. Under the basic simulation released April 1, the Corps is estimating that Lake Sakakawea will peak at 1,813.7 feet amsl by the end of June, and will fall to an elevation of 1,811.3 feet amsl by the end of the year. The lower basic simulation shows the lake peaking at 1,811.3 by the end of June, and falling to an all-time low of 1,805.4 feet amsl by the end of the year.

The elevation of Lake Oahe was 1,576.9 feet amsl on April 7, which is 3.2 feet higher than a year ago, but 27.5 feet lower than its average elevation for the end of March. Under the basic simulation released April 1, the Corps is estimating that Lake Oahe will end the year close to where it's currently at this spring.

Missouri River Basin Mountain Snowpack Water Content 2005-2006



Water Commission/State Engineer Biennial Report Available

The 2003-2005 State Water Commission and Office of the State Engineer Biennial Report has been completed, and is available for download via the agency website at www.swc.state.nd.us under the "Reports and Publications" section.

The purpose of the 2003-2005 Biennial Report is to provide updated information on projects and programs that the Water Commission and Office of the State Engineer pursued and managed during the previous biennium. The report also provides updated information regarding personnel, water-related legislation, agency policies, finances, and data resources.

Paper copies of the report are available through the Planning and Education Division by calling (701) 328-4989 or email dschock@state.nd.us.