



By Pat Fridgen

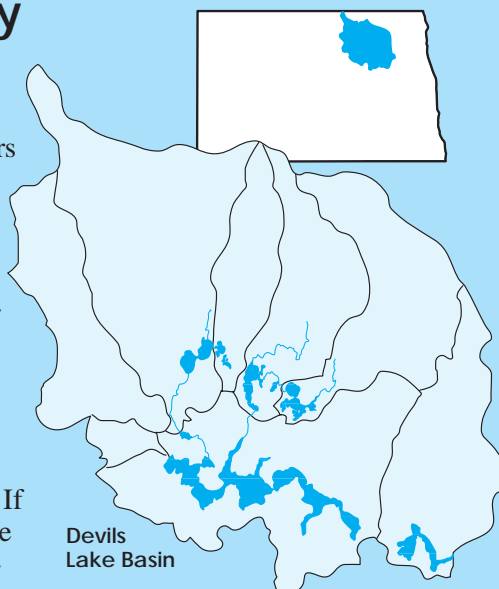
Corps proceeds with Devils Lake Basin water storage study

By Brett Hovde

The U.S. Army Corps of Engineers has been given the task of finding alternatives to prevent or reduce future flood damages from the rising Devils Lake. One of the alternatives they are studying is increasing water storage in the upper portions of the basin. The Corps is contracting with West Consultants, Inc. to investigate the effectiveness of upper basin storage as a flood control alternative for Devils Lake. If shown effective, upper basin storage could be combined with other alternatives to provide a more effective flood control solution for the basin.

The state is a long-time supporter of the three-part approach to solving the Devils Lake flooding problem: basin water management, an outlet to the Sheyenne River, and infrastructure protection. The results of this study will help decide the level of emphasis that should be placed on water storage in the upper basin.

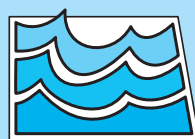
Phase one of the contract was for West Consultants to familiarize themselves with past studies of Devils Lake upper basin storage alternatives and to recommend further studies that would be required to develop and evaluate comprehensive alternatives for upper basin water storage. Upon completion of phase one on November 7, 2000, West Consultants recommended using an hydrologic model to evaluate the effects of water storage on



Devils Lake Basin

Devils Lake. The recommended modeling entails thoroughly evaluating a sub basin and expanding the results to the rest of the basin based on topographical correlations.

The Corps decided the phase two study was necessary and awarded West Consultants the contract in late November. West Consultants will be modeling the basin to produce a tool to analyze the upper basin water storage alternative. A final report describing the current impact of water storage on lake levels and the effectiveness of additional upper basin storage is due March 1, 2001. ■



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Brett Hovde, Editor

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The North Dakota State Water Commission (Commission), chaired by Governor Edward T. Schafer, acted on several items of business and was given status reports on continuing water management projects and programs at the December 8, 2000, meeting in Bismarck.

Secretary Sprynczynatyk presented legislation, which he considered necessary for the 2001 legislative session, to the Commission for their approval. The legislation was approved by the Commission and included the following:

- A bill that increases the amount of revenue bonds that can be issued for the Southwest Pipeline Project from \$15 million to \$25 million;
- A bill authorizing the development of a plan and estimate of costs for the delivery of water to eastern North Dakota; and
- A bill addressing conflicts of interest of Commission members.

The Commission also approved language to be included in the Governor's biennial executive budget bill that will primarily focus on amendments to the 1999 Senate Bill 2188. The amendments will address several issues, such as:

- Repayment from South Dakota

for the Perkins County water system will be deposited in the Resources Trust Fund;

- Removal of the requirement for federal participation in the Devils Lake outlet, so bonds can be issued for a state constructed outlet;
- “Quick take” authority for the Commission to acquire the interests needed for the timely construction of a Devils Lake outlet;
- Authority for the Commission to construct a Devils Lake outlet through a design/build procedure; and
- An extension on the sunset clause associated with the authority of the Commission to issue bonds for Devils Lake and various other flood control projects specified in Senate Bill 2188.

The Renville County Water Resource District was approved for cost-share in the amount of \$39,038, for a Mouse River Park slope stabilization project. The total estimated project cost is \$148,075. The project will be completed in 2001.

The Commission approved another \$500,000 for Maple River Dam based on a 50 percent cost-share of eligible items. The eligible items include: preliminary engineering and design, geotechnical analysis, environmental studies, road and utility relocations and modifications, and associated contingency costs with the Cass County Joint Water Resource District. A majority of the costs are directly related to acquiring a 404 permit from the Army Corps of Engineers.

The Commission approved 35 percent cost-share, not to exceed \$33,075 for the installation of a backflow prevention structure in Cass County Drain #35. The

purpose of the project, which was completed earlier this year, is to prevent backflow from the Sheyenne River through Drain #35 into the Maple River watershed during periods of high flow.

Regarding the Southwest Pipeline Project (SWPP), the Commission adopted the Mott-Elgin rural water design criteria for Peak Instantaneous Flow and Potential Service Units for the Bowman-Scranton Phase of the SWPP. Also in Elgin, the Commission approved an amendment to the city’s water service contract. The amendment will move the point of delivery to a different location from what was specified in the original contract, and will provide a pressure increase to fill the city’s elevated tank.

The Commission also approved capital repayment rates for 2001 for the Southwest Pipeline Project. The rates will be \$0.83 per thousand gallons for contract users and \$25.34 per month for rural users. A rate of \$0.35 was established for Replacement and Extraordinary Maintenance. In addition, a monthly debt service credit of \$7,805 for ten months was approved for the City of Dickinson, provided the city makes a debt service payment to the Bureau of Reclamation. If payment is not made, the credit will be deposited in an escrow pending the outcome of federal legislation.

State Water Commission engineering assistance has been provided to the Devils Lake region for several years through cost-share arrangements with the Devils Lake Basin Joint Water Resources Board. James Landenberger of the Water Commission’s Development Division currently provides that assistance. The Commission agreed to continue providing assistance at the request of the Joint Board. The Joint Board will pay \$9,000 of the

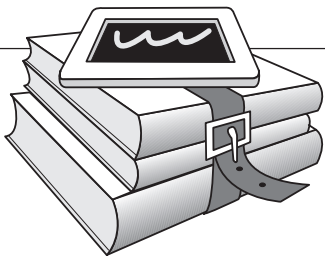
position cost, with the balance being paid by the Commission.

The Commission approved a renewed contract for a full-time Devils Lake Outlet Awareness Project Manager. Joe Belford will remain as contractor for that position. The Commission also extended the Devils Lake Basin Manager position contract from January 1, 2001 to December 31, 2001. That position, previously held by Wayne Simon, is now occupied by Mike Connor.

Also related to Devils Lake, the Commission approved \$500,000 in emergency funding from the Resources Trust Fund to be dedicated to the state’s environmental review process, land rights acquisition, engineering consultation, and other tasks associated with the Devils Lake Temporary Emergency Outlet project. In addition, the Commission agreed to immediately solicit proposals from qualified firms to undertake the Devils Lake Temporary Emergency Outlet environmental review.

The International Flood Mitigation Initiative’s “Memorandum of Understanding for Flood Mitigation on the Red River” was discussed by the Commission. The Memorandum of Understanding is basically an agreement between the Governors of North Dakota, Minnesota and South Dakota, and the Premier of Manitoba, to meet at least annually to discuss flood-related issues concerning the Red River Basin. All three governors and the Manitoba Premier signed the agreement.

And finally, the Commission approved a resolution of appreciation for Bruce Boe, who recently resigned as Executive Director of the North Dakota Atmospheric Resources Board, for his dedicated service to the State Water Commission. The Commission wishes Bruce and his family the best of health and happiness in their future endeavors. ■



THE WATER PRIMER

Water: A Tour Through Time (Part 2)

This is Part 2 of a series that features a timeline giving a brief glimpse of the past 110 years in water development.

1948 - Construction started in April of the initial phase of the Bureau of Reclamation's Heart Butte Dam, located 18 miles south of Glen Ullin on the Heart River. Currently provides water for irrigation, flood control, and recreation.

1950 - Bureau of Reclamation's Heart Butte Dam completed; estimated cost \$3,500,000. Bureau of Reclamation's Dickinson Dam (Patterson Lake) completed; estimated cost \$1,400,000.

1950 - Homme Dam, Park River, completed; cost \$1,340,000. Baldhill Dam, Sheyenne River, all construction completed; estimated cost \$2,700,000. Mandan flood control works and levees completed; estimated cost \$645,000.

1953 - (June 11) Garrison Dam dedicated by President Dwight D. Eisenhower.

1954 - Jamestown Reservoir completed north of Jamestown; built as an early portion of the Garrison Diversion Unit.

1955 - The North Dakota Legislature established the Garrison Diversion Conservancy District consisting of 22 counties in the state that contained areas that would be benefited by the development of the Garrison Diversion Project. The Conservancy District was established to provide the overall legal entity through which this project could be constructed and operated. Headquar-

ters for the district, which now encompasses 25 counties, are in Carrington.

1958 - Grand Forks flood protection levee and floodwall completed; estimated cost, \$949,000.

1959 - The North Dakota Water Users Association was formed through a merger of the North Dakota Reclamation Association and the Missouri-Souris River Projects Association.

1962 - President John F. Kennedy dedicated Oahe Dam.

1962 - Fargo flood protection levee completed for an approximate cost of \$1,640,000.

1963 - (July 1) The "prior appropriation" doctrine became the only doctrine recognized as a basis for granting water permits. Prior to July 1, 1963, both the "riparian" and the "prior appropriation" doctrines were recognized. Under the "riparian" doctrine the owner of land adjacent to a stream has certain rights, in common with other similarly situated owners, in the flow of the water by virtue of such land ownership. Under the "prior appropriation" doctrine, the first user of water acquires a priority to continue the use of that water and the nearness of the land he owns to the watercourse is not a factor in his right. The "prior appropriation" doctrine requires the filing of an application to appropriate water with a designated state agency (the State Water Commission) in order to establish the water right holder's priority date as to the use of the water.

1963 - Construction started on Pheasant Lake Dam west of Ellendale in Dickey County. In completing this

project, a portion of Highway 11 was used as embankment for the dam.

1964 - As a result of cooperative efforts of federal, state and local agencies, two reservoirs were created in North Dakota, west of the cities of Bismarck and Mandan, by utilizing the embankment of Interstate Highway 94 as a dam. These two dams, one named Sweetbriar and the other Crown Butte, were the first highway dam combination projects to be constructed as a part of the Interstate system.

1965 - Construction started on the Bowman-Haley Dam located about 25 miles southeast of Bowman, North Dakota. A flood control, recreation and water supply development.

1967 - (May 16) North Dakota State Water Commission granted the U.S. Bureau of Reclamation a permit to divert and appropriate 3,145,000 acre-feet of water annually for use in operating the Garrison Diversion Unit. Believed to be the largest single water permit ever granted.

1968 - A 1968 landmark decision handed down by the North Dakota Supreme Court in Baeth vs. Hoisveen upholds the constitutionality of State legislation which requires that a water permit be obtained from the State Engineer prior to appropriating water, unless the water is for domestic or livestock purposes or for fish, wildlife or other recreational uses.

1968 - State Water Plan update addressed specific water development needs to satisfy expected growth in lignite mining, power production and irrigation. ■