

MISSOURI RIVER AND *MASTER* MANUAL REVIEW STUDY - BACKGROUND MEMORANDUM

House Concurrent Resolution No. 3044 (attached as [Appendix A](#)) directs the Legislative Council to study how the state might pursue additional uses of Lake Sakakawea and Missouri River waters for such beneficial purposes as domestic and industrial uses, recreation, fish and wildlife, and irrigation, and how the state, to enhance its use of lake and river, might promote congressional review of the 1944 Flood Control Act and a reexamination by the Corps of Engineers of the way in which it manages the Missouri River system. The resolution notes that a significant natural resource issue for the state, as well as the nation, is management of the Missouri River and Lake Sakakawea and that since enactment of the Flood Control Act of 1944, which governs Missouri River management, numerous economic, environmental, and social changes have occurred in the Missouri River Basin. The resolution also notes that the United States Army Corps of Engineers' management of the Missouri River system is outdated and restricts the ability of the state and its citizens to use Lake Sakakawea and Missouri River water creatively, judiciously, and consistently with contemporary needs and opportunities.

MISSOURI RIVER

The Missouri River extends 2,619 miles from its source at Hell Roaring Creek and 2,321 miles from Three Forks, Montana, where the Jefferson, Madison, and Gallatin Rivers converge. The Missouri River is the longest river in the United States, draining one-sixth of the country. The Missouri River system consists of six dams and reservoirs located in Montana, North Dakota, South Dakota, and Nebraska. The Missouri River system has a capacity to store 73.4 million acre-feet of water, which makes it the largest reservoir system in North America. The United States Army Corps of Engineers operates the system to serve congressionally authorized project purposes of flood control, navigation, irrigation, hydropower, water supply, water quality, recreation, and fish and wildlife. Runoff from above-the-system dams is stored in the six reservoirs, where it serves several other project purposes. Water is released from the system as needed for downstream purposes. Released water from the lowest dam in the system--Gavins Point Dam--flows down the lower river, which includes the bank stabilization and navigation project from Sioux City, Iowa, to St. Louis, Missouri.

The North Dakota State Water Commission issued its most recent state water management plan in 1999. The objectives of the 1999 state water management plan are to develop a comprehensive vision for water management for the 21st century, to illustrate how North Dakota water resources are currently managed

and the responsibilities associated with that management, and to identify changes that should occur to improve water management. The 1999 state water management plan has been updated and supplemented by biennial water development reports, the most recent of which was issued in December 2006. The state water management plan notes that nearly 96 percent of North Dakota's surface water is located in the Missouri River and its reservoirs. Lake Sakakawea and Lake Oahe account for approximately 97 percent of all available water storage. The largest use of Missouri River water is for energy production, of which roughly 96 percent is nonconsumptive. The total annual North Dakota consumptive water use from the Missouri River accounts for slightly over 1 percent of the annual flow of the river as it leaves the state.

The report notes that the greatest opportunities for development of Missouri River water are irrigation and municipal, industrial, and rural water supply. Federal support for the development of North Dakota irrigation has declined with the numerous reauthorizations of the Garrison Diversion Project. Originally planned to irrigate 1.2 million acres, the Dakota Water Resources Act of 2000 retains authority for only 73,100 acres of irrigated land.

The *1999 State Water Management Plan* notes that the state has significant potential for new irrigation development in 6.1 million acres of irrigable soils. However, without a supply project, many of these areas do not have an adequate source of water. To date, the state, local entities, and private business have provided much of the needed capital and infrastructure requirements in those areas that have developed. The report identifies irrigation potential along the banks of Lake Sakakawea and on the Standing Rock and Fort Berthold Reservations. Raw water from the Southwest Pipeline Project could supply a small amount of water for irrigation. The report notes that each successful irrigation project, in a state ranked last among the 17 western states in terms of full irrigation, would provide economic opportunities. However, an important element to the success of these projects will be access to federal power. Project pumping power, provided through the original Pick-Sloan Project, is necessary to further ensure the success of future irrigation projects.

The report notes that the need for Missouri River water for municipal, rural, and industrial water purposes has grown since 1980. Much of this growth can be attributed to increases in population in communities along the Missouri River and the development of the Southwest Pipeline Project. The report notes that with the addition of the Missouri West Water Supply Project and the Northwest Area Water Supply Project, Missouri River water will be

supplied to much of western North Dakota and to more than 95,000 people.

WATER PROJECT FUNDING

The 1999 *State Water Management Plan* notes that water development in North Dakota will not move forward without adequate fiscal resources to support it. As the cost of new projects increases and the money available at federal and state levels decreases, funding mechanisms for water development must also change. The report states that the state must explore future alternatives for funding water development in a fair and equitable manner and consistent with the state's vision of water management.

Federal Funding for Water Development

The federal government provides a number of water-related funds to the state. Most federal funding, measured in total financial commitment available for water development, is allocated through a municipal, rural, and industrial water supply program. Under this program, funds are disbursed to the Garrison Diversion Conservancy District and allocated through a joint powers agreement with the North Dakota State Water Commission.

The United States Army Corps of Engineers and the Natural Resources Conservation Service regularly provide technical and funding assistance to resolve water management issues, such as flood control at Grand Forks and Devils Lake. The United States Geological Survey and Environmental Protection Agency provide important aid in monitoring and research efforts.

With regard to other federal funding, the United States Army Corps of Engineers provides significant assistance to the state for flood control projects. The Environmental Protection Agency, United States Bureau of Reclamation, United States Geological Survey, and Natural Resources Conservation Service also contribute to the state's water development efforts in many different ways, including studies, project design, and project construction.

State Funding for Water Development

North Dakota funds a majority of its water projects through the State Water Commission. The funding funneled through the State Water Commission for water development comes from several sources, including the state's general fund; the Dakota Water Resources Act's municipal, rural, and industrial water supply program; the resources trust fund; and the water development trust fund. In addition to these sources, the State Water Commission is also authorized to issue revenue bonds for water projects. The State Water Commission also has shared control of the drinking water state revolving loan fund.

Municipal, Rural, and Industrial Water Supply Program

The municipal, rural, and industrial water supply program receives funding through the federal Dakota Water Resources Act which channels grant funding through the Bureau of Reclamation. Rural development funding through the United States Department of Agriculture has provided the majority of loans to cover the local share of municipal, rural, and industrial water supply projects.

The Garrison Reformulation Act of 1986 authorized a federal municipal, rural, and industrial water supply grant program of \$200 million. To date, all of that funding has been obligated. Efforts to obtain additional federal funding authorization for the municipal, rural, and industrial water supply program were successful with the passage of the Dakota Water Resources Act of 2000. The Act provides resources for general, municipal, rural, and industrial water supply projects; the Northwest Area Water Supply Project, the Southwest Pipeline Project, and a project to address water supply issues in the Red River Valley. Under the Act, an additional \$600 million was authorized, which includes a \$200 million grant for state municipal, rural, and industrial water supply projects, a \$200 million grant for Indian, municipal, rural, and industrial water supply projects, and a \$200 million loan for a Red River Valley Water Supply Project. Annual municipal, rural, and industrial water supply funding is dependant upon congressional appropriation, and thus, the varying annual appropriations result in project delays. As of December 2006, \$6.6 million in federal funds had been approved for the state's municipal, rural, and industrial water supply program for federal fiscal years 2005 and 2006.

Resources Trust Fund

The resources trust fund was created pursuant to passage of measure No. 6 in the November 1980 general election. Measure No. 6 created a 6.5 percent oil extraction tax, 10 percent of which was to be allocated to the resources trust fund. In June 1990 the Constitution of North Dakota was amended to establish the resources trust fund as a constitutional trust fund and provide that the principal and income of the fund could be spent only upon legislative appropriations for construction of water-related projects, including rural water systems and energy conservation programs. In November 1994 the voters of North Dakota approved a constitutional amendment, which is now codified as Article X, Section 24, of the Constitution of North Dakota, to provide that 20 percent of oil extraction taxes be allocated as follows: 50 percent of the 20 percent to the common schools trust fund and 50 percent of the 20 percent to the foundation aid stabilization fund. North Dakota Century Code Section 57-51.1-07 provides that 20 percent of oil extraction tax revenues be distributed to the resources trust fund, 20 percent of the revenues allocated as provided in

Article X, Section 24, of the Constitution of North Dakota, and 60 percent of the revenues to the general fund. The 60th Legislative Assembly appropriated \$69,352,698, or any additional amount that becomes available, from the resources trust fund for the purpose of defraying the expenses of the State Water Commission. The total expenditures will be limited to available funding. Additional new revenue into the resources trust fund will come from Southwest Pipeline Project reimbursements; municipal, rural, and industrial water supply program loan repayments, which amount to \$1 million per biennium through 2017; interest; and future oil extraction tax revenue.

Water Development Trust Fund

North Dakota Century Code Section 54-27-25, created by 1999 House Bill No. 1475, establishes a water development trust fund to be used for the long-term water development and management needs of the state. This section creates a tobacco settlement trust fund for the deposit of all tobacco settlement money obtained by the state. Ten percent of the money in the fund must be transferred within 30 days of its deposit in the fund to the community health trust fund, 45 percent of the money to the common schools trust fund, and 45 percent of the money to the water development trust fund.

North Dakota Century Code Section 61-02.1-04, created by 1999 Senate Bill No. 2188, provides that the principal and interest on bonds issued for flood control projects, Southwest Pipeline Project, and Devils Lake Outlet must be repaid with money appropriated from the water development trust fund. Analyses of the resources trust fund and the water development trust fund is attached as [Appendix B](#).

Bonds

The State Water Commission has bonding authority under North Dakota Century Code Section 61-02-46 to issue revenue bonds of up to \$2 million per project. The Legislative Assembly must authorize revenue bond authority beyond the \$2 million per project. In 1991 the Legislative Assembly authorized full revenue bond authority for the Northwest Area Water Supply Project, and in 1997 the Legislative Assembly authorized \$15 million of revenue bonds for the Southwest Pipeline Project. In 2001 the Legislative Assembly raised the Southwest Pipeline Project bonding authority to \$25 million.

In 1999 the State Water Commission was authorized to issue up to \$84.8 million in appropriation bonds under the provisions of Senate Bill No. 2188. The Legislative Assembly's intent was to partially fund flood control projects at Grand Forks, Devils Lake, Wahpeton, and Grafton and to continue funding for the Southwest Pipeline Project. In March 2000 the State Water Commission issued bonds generating \$27.5 million, thus reducing available bonding authority to \$57.3 million. Recognizing the need for water development projects in addition to those identified in Senate Bill No. 2188, the 2003 Legislative

Assembly allowed authority for the unissued \$57.3 million to expire but then authorized \$60 million of bonding authority for statewide water development projects. In June 2005 the State Water Commission issued bonds generating \$60 million. The 2005 Legislative Assembly authorized an additional \$7 million of bonding authority for statewide water development projects during the 2005-07 biennium. Because tobacco settlement dollars are not projected to remain uniform each year, the State Water Commission has established a repayment schedule to correspond with the projected tobacco receipts. Although repayment amounts are based on the projected receipts, the scheduled repayments must be made regardless of the actual receipts. Payments for existing water development bonds will be \$14 million for the 2007-09 biennium.

Drinking Water State Revolving Loan Fund

An additional source of funding for water supply development projects is the drinking water state revolving loan fund. Funding for this program is distributed in the form of a loan program through the Environmental Protection Agency administered by the North Dakota State Department of Health. The drinking water state revolving loan fund provides below-market interest rate loans of 3 percent to public water systems for capital improvements aimed at increasing public health protection and compliance with the federal Safe Drinking Act.

MASTER MANUAL

The Missouri River *Master Water Control Manual* or *Master Manual* is the guide used by the United States Army Corps of Engineers to operate the system of six dams on the Missouri River main stem reservoir system, Fort Peck, Garrison, Oahe, Big Bend, Fort Randall, and Gavins Point Dams.

First published in 1960 and subsequently revised during the 1970s, the *Master Manual* was revised in March 2004 to include more stringent drought conservation measures. The 2003 amendment to the 2000 biological opinion presented the United States Fish and Wildlife Service's opinion that the regulation of this system would jeopardize the continued existence of the endangered pallid sturgeon. The United States Fish and Wildlife Service provided a reasonable and prudent alternative to avoid jeopardy to the pallid sturgeon that included a provision for the United States Army Corps of Engineers to develop a plan to implement a bimodal "spring pulse" from Gavins Point Dam. Working with the United States Fish and Wildlife Service, tribes, states, and basin stakeholders, the United States Army Corps of Engineers developed technical criteria for the bimodal spring pulse releases. In March 2006 the *Master Manual* was revised to include technical criteria for a spring pulse. The March 2006 revisions to the Missouri River main stem reservoir system *Master Water Control Manual* were challenged by the state of Missouri in *Missouri v. United States Army Corps of*

Engineers (Civil No. 06-1616). The United States District Court for the District of Minnesota found that the United States Army Corps of Engineers did not violate the National Environmental Policy Act by preparing an environmental assessment rather than supplementing the final environmental impact statement when it implemented the revisions to the *Master Manual*. The court found that the corps also complied with the National Environmental Policy Act in its consideration of a range of alternatives to the revisions. The court found that the corps fully analyzed the environmental impacts of the revisions and adhered to all administrative and regulatory requirements and that therefore the revisions to the *Master Manual* were not made arbitrarily, capriciously, or contrary to law.

In September 2007 the United States Army Corps of Engineers released the draft of the 2007-08 annual operating plan for the Missouri River main stem system. The draft annual operating plan presents pertinent information and plans for regulating the Missouri River main stem reservoir system through December 2008 under widely varying water supply conditions. The plan provides a framework for the development of detailed monthly, weekly, and daily

regulation schedules for the system's six individual dams during the coming year to serve the congressionally authorized project purposes; to fulfill the corps' responsibilities to Native American tribes; and to comply with environmental laws, including the Endangered Species Act.

POSSIBLE STUDY APPROACH

In conducting its study of how the state might pursue additional uses of Lake Sakakawea and Missouri River waters for such beneficial purposes as domestic and industrial uses, recreation, fish and wildlife, and irrigation, and how the state, to enhance its use of lake and river, might promote a congressional review of the 1944 Flood Control Act and a reexamination by the Corps of Engineers of the way in which it manages the Missouri River system, the committee could solicit testimony from a number of sources. These include the State Engineer, the Garrison Diversion Conservancy District, and the North Dakota water users.

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