

GARRISON DIVERSION OVERVIEW COMMITTEE

The Garrison Diversion Overview Committee originally was a special committee created in 1977 by House Concurrent Resolution No. 3032 and recreated in 1979 by Senate Concurrent Resolution No. 4005. In 1981 the Legislative Assembly enacted North Dakota Century Code (NDCC) Section 54-35-02.7, which statutorily created the committee. The committee is responsible for legislative overview of the Garrison Diversion Unit Project and related matters and for any necessary discussions with adjacent states on water-related topics.

Under NDCC Section 54-35-02.7, the committee consists of the majority and minority leaders and their assistants from the House and Senate, the Speaker of the House, the President Pro Tempore of the Senate selected at the end of the immediately preceding legislative session, the chairmen of the House and Senate standing Committees on Natural Resources, and the chairmen of the House and Senate standing Committees on Agriculture.

In addition to its statutory responsibilities, the Legislative Council assigned to the committee Senate Concurrent Resolution No. 4027, which directed a study of issues related to the Missouri River in North Dakota, and the duties to receive a report from the State Engineer on its study of the feasibility and desirability of constructing dams and other impoundments in the Pembina River watershed for the purpose of reducing flows in the lower reaches of the Pembina River and to receive periodic reports from the State Engineer regarding implementation of the comprehensive statewide water development program and state water management plan and the issuance and sources for repayment of bonds to finance construction of flood control projects, the Southwest Pipeline Project, a Devils Lake outlet, and a statewide water development program during the 1999-2000 interim.

Committee members were Representatives John Dorso (Chairman), Merle Boucher, Mick Grosz, Pam Gulleon, David Monson, Eugene Nicholas, and Francis J. Wald and Senators Layton Freborg, Joel C. Heitkamp, Aaron Krauter, Gary J. Nelson, Rod St. Aubyn (until his resignation from the Legislative Assembly on August 30, 2000), John T. Traynor, and Terry M. Wanzek.

The committee submitted this report to the Legislative Council at the biennial meeting of the Council in November 2000. The Council accepted the report for submission to the 57th Legislative Assembly.

HISTORY OF THE PROJECT

Pick-Sloan Plan

The Garrison Diversion Unit is one of the principal developments of the Pick-Sloan Missouri River Basin program, a multipurpose program authorized by the federal Flood Control Act of 1944 [Pub. L. 78-534; 57 Stat. 887]. The Pick-Sloan plan provided for construction of a series of dams on the Missouri River to control flooding, provide power generation, and maintain a dependable water supply for irrigation, municipalities, industry, recreation, wildlife habitat, and navigation. Approximately 550,000 acres of land in the state were inundated by reservoirs on the Missouri River under the Pick-Sloan plan.

One feature of the Pick-Sloan plan was the Missouri-Souris Unit, which was the forerunner of the Garrison Diversion Unit. Under the plan for the Missouri-Souris Unit, water was to be diverted below the Fort Peck Dam in Montana and transported by canal for irrigating 1,275,000 acres; supplying municipalities in North Dakota, South Dakota, and Minnesota; restoring Devils Lake; conserving wildlife; and augmenting the Red River. The building of Garrison Dam changed the diversion point of the Missouri-Souris Unit from Fort Peck Dam to Garrison Reservoir (Lake Sakakawea). After considerable study and review of the Missouri-Souris Unit, Congress reauthorized the project as the initial stage, Garrison Diversion Unit, in August 1965 [Pub. L. 89-108; 83 Stat. 852].

Garrison Diversion Unit

The first detailed investigations of the Garrison Diversion Unit were completed in 1957 and involved a proposed development of 1,007,000 acres. The initial stage of the Garrison Diversion Unit provided for irrigation service to 250,000 acres in the state. This plan involved the construction of major supply works to transfer water from the Missouri River to the Souris, James, and Sheyenne Rivers and the Devils Lake Basin. The plan also anticipated water service to 14 cities, provided for several recreation areas, and provided for a 146,530-acre wildlife plan to mitigate wildlife habitat losses resulting from project construction and to enhance other wetland and waterfowl production areas.

Under the 1965 authorization, the Snake Creek Pumping Plant would lift Missouri River water from Lake Sakakawea into Lake Audubon, an impoundment adjacent to Lake Sakakawea. From Lake Audubon the water would flow by gravity through the 73.6-mile McClusky Canal into Lonetree Reservoir, situated on the headwaters of the Sheyenne River. The Lonetree Reservoir would be created by construction of Lonetree Dam on the upper Sheyenne River, Wintering Dam on the headwaters of the Wintering River, and the James River dikes on the headwaters of the James River. Lonetree Reservoir would be situated so that water could be diverted by gravity into the Souris, Red, and James River Basins and the Devils Lake Basin.

The Velva Canal would convey project water from the Lonetree Reservoir to irrigate two areas totaling approximately 116,000 acres. The New Rockford Canal would convey project water for irrigation of approximately 21,000 acres near New Rockford and to deliver water into the James River Feeder Canal for use in the Oakes-LaMoure area. The Warwick Canal, an extension of the New Rockford Canal, would provide water for irrigation in the Warwick-McVillie area and provide water for the restoration of the Devils Lake chain.

The United States Bureau of Reclamation has overall responsibility for operation and maintenance of the Garrison Diversion Unit and will operate and maintain all project works during the initial period following completion of construction.

A number of concerns have slowed or halted construction on the project in recent years, including:

1. Canadian concerns that the Garrison Diversion Unit would allow transfer of foreign species of fish and other biota to the detriment of Canadian waters in violation of the Boundary Waters Treaty of 1909.
2. Numerous problems concerning wildlife mitigation and enhancement lands.
3. Legal suits brought by groups, such as the National Audubon Society, seeking to halt construction of the Garrison Diversion Unit by claiming the project violates the National Environmental Policy Act and to enforce a stipulation between the United States and the Audubon Society to suspend construction until Congress reauthorizes the Garrison Diversion Unit.

Canadian Concerns

Canadian interest in the Garrison Diversion Unit has centered on concerns that because the Garrison Diversion Unit involves a transfer of water from the Missouri River to the drainage basins of the Souris and Red Rivers, the return flows entering Canada through the Souris and Red Rivers would cause problems with regard to water quality and quantity.

In 1973 the Canadian government requested a moratorium on all further construction of the Garrison Diversion Unit until a mutually acceptable solution for the protection of Canadian interests under the Boundary Waters Treaty of 1909 was achieved. The United States government responded by stating its recognition of its obligations under the Boundary Waters Treaty and by adopting a policy that no construction affecting Canada would be undertaken until it was clear these obligations would be met.

During 1974 several binational meetings of officials were held to discuss and clarify Canadian concerns over potential degradation of water quality. An agreement was reached in 1975 between the governments of Canada and the United States to refer to the International Joint Commission the matter of potential pollution of boundary waters by the Garrison Diversion Unit.

The International Joint Commission created the International Garrison Diversion Study Board. The board concluded that the Garrison Diversion Unit would have adverse impacts on water uses in Canada, including adverse effects on flooding and water quality. The board recommended that any direct transfer by the Garrison Diversion Unit of fish, fish eggs, fish larvae, and fish parasites be eliminated by adopting a closed system concept and the installation and use of a fish screen structure.

In August 1984 representatives of Canada and the United States announced a general agreement between the two governments that Phase I of the initial stage of the Garrison Diversion Unit could be constructed. Canada, however, remained firmly opposed to the construction of any features that could affect waters flowing into Canada.

Garrison Diversion Unit Commission

The water and energy appropriations bill signed on July 16, 1984, contained an agreement to establish a commission to review the Garrison Diversion Unit. The Secretary of the Interior appointed a 12-member Garrison Diversion Unit Commission to review the Garrison Diversion Unit in North Dakota. The commission was directed to examine, review, evaluate, and make recommendations regarding the existing water needs of the state and to propose modifications to the Garrison Diversion Unit before December 31, 1984. Construction on the project was suspended from October 1 through December 31, 1984.

The commission worked under the restriction that any recommendation of the commission had to be approved by at least eight of the 12 members and that should the commission fail to make recommendations as required by law, the Secretary of the Interior was authorized to proceed with construction of the Garrison Diversion Unit as designed.

Congress directed the commission to consider 11 specific areas:

1. The costs and benefits to North Dakota as a result of the Pick-Sloan Missouri Basin program.
2. The possibility for North Dakota to use Missouri River water.
3. The need to construct additional facilities to use Missouri River water.
4. Municipal and industrial water needs and the possibility for development, including quality of water and related problems.

5. The possibility of recharging ground water systems for cities and industries, as well as for irrigation.
6. The current North Dakota water plan to see if parts of the plan should be recommended for federal funding.
7. Whether the Garrison Diversion Unit can be redesigned and reformulated.
8. The institutional and tax equity issues as they relate to the authorized project and alternative proposals.
9. The financial and economic impacts of the Garrison Diversion Unit, when compared with alternative proposals for irrigation and municipal and industrial water supply.
10. The environmental impacts of water development alternatives, compared with those of the Garrison Diversion Unit.
11. The international impacts of the water development alternatives, compared with those of the Garrison Diversion Unit.

The commission released its final report and recommendations on December 20, 1984. The commission affirmed the existence of a federal obligation to the state for its contribution to the Pick-Sloan Missouri Basin program but recommended that an alternative plan be implemented in place of the 250,000-acre initial stage of the Garrison Diversion Unit. The commission recommended that the Sykeston Canal be constructed as the functional replacement for the Lonetree Dam. While the Lonetree Dam and Reservoir would remain an authorized feature of the plan, construction of that dam would be deferred pending appropriation of funds by Congress and a determination by the Secretary of the Interior that consultations with Canada were satisfactorily concluded. The commission recommended that the Garrison Diversion Unit be configured to provide irrigation service to 130,940 acres in the Missouri and James River Basins instead of the initial stage 250,000-acre project. The commission also recommended that the first phase of the Glover Reservoir be included as a feature of the plan in lieu of Taayer Reservoir for regulation of flows in the James River.

The commission further recommended the establishment of a municipal, rural, and industrial system for treatment and delivery of quality water to approximately 130 communities in North Dakota. A municipal and industrial water treatment plant with a capacity of 130 cubic feet per second was recommended to provide filtration and disinfection of water releases to the Sheyenne River for use in the Fargo and Grand Forks areas.

An alternate state plan for municipal water development was submitted to the Garrison Diversion Unit Commission by then Governor Allen I. Olson and Governor-elect George Sinner proposing that the state would design and construct the water systems and pay 25 percent of their costs. In return, the federal government would provide up to \$200 million in nonreimbursable funds for municipal water development projects. The federal government would pay 75 percent of the construction costs of the systems with only the operation and maintenance costs borne by the cities benefited.

Garrison Diversion Unit Reformulation

Following the issuance of the commission's final report, Congress enacted the Garrison Diversion Unit Reformulation Act of 1986 [Pub. L. 99-294; 100 Stat. 433]. This legislation was supported by representatives of the state, the Garrison Diversion Conservancy District, the National Audubon Society, and the National Wildlife Federation.

The legislation addressed the James River by directing a comprehensive study of effects over the next two years during which time construction of the James River Feeder Canal, the Sykeston Canal, and any James River improvements could not be undertaken. Of the 32,000-acre New Rockford Extension included in the Garrison Diversion Unit Commission final report, 4,000 acres were transferred to the West Oakes area and 28,000 acres were authorized for development within the Missouri River Basin.

The legislation also provided for:

1. 130,940 acres of irrigation.
2. Deauthorization of the 1944 Flood Control Act and the 1965 Garrison authorization.
3. Preservation of the state's water rights claims to the Missouri River.
4. Nonreimbursement of features constructed before enactment which will no longer be employed to full capacity, to the extent of the unused capacity.
5. Acre-for-acre mitigation based on ecological equivalency rather than the 1982 mitigation plan.
6. Deauthorization of the Taayer Reservoir and purchase of the Kraft Slough for waterfowl habitat.
7. Continued authorization, but no construction, of the Lonetree Reservoir. The Sykeston Canal was mandated for construction following required engineering, operational, biological, and economic studies. The Lonetree Reservoir could be built if:
 - a. The Secretary of the Interior determines a need for the dam and reservoir;
 - b. Consultations with Canada are satisfactorily completed; and
 - c. The Secretary of State and the Secretary of the Interior certify determinations to Congress and 90 days have elapsed.
8. No construction of irrigation acreage other than on the Indian reservations or the 5,000-acre Oakes Test Area until after September 30, 1990.
9. A \$200 million grant for construction of municipal and industrial water delivery systems. A \$40.5 million nonreimbursable water treatment facility was authorized to deliver 100 cubic feet per second of water to Fargo and Grand Forks. All water

entering the Hudson Bay drainage system must be treated and must comply with the Boundary Waters Treaty of 1909.

10. Municipal and industrial water delivery systems for the Fort Berthold, Fort Totten, and Standing Rock Reservations.
11. Irrigation soil surveys that must include investigations for toxic or hazardous elements.
12. Federal participation in a wetlands trust to preserve, enhance, restore, and manage wetland habitat in North Dakota.

Garrison Municipal, Rural, and Industrial Water Supply Program

Included within the Garrison Diversion Unit Reformulation Act of 1986 is an authorization enabling Congress to appropriate \$200 million for the Garrison municipal, rural, and industrial water supply program. These funds are for the planning and construction of water supply facilities for municipal, rural, and industrial use throughout the state.

On July 18, 1986, the Garrison Diversion Conservancy District and the State Water Commission entered an agreement for the joint exercise of governmental powers. The agreement allows the district to use the expertise of the commission in developing and implementing the water supply program. In addition, the district was to enter an agreement with the Secretary of the Interior which designates the district as the fiscal agent for the state concerning moneys received and payments made to the United States for the water supply program.

On November 19, 1986, the United States and the Garrison Diversion Conservancy District entered an agreement that designates the district to act on behalf of the state in the planning and construction, as well as the operation and maintenance, of the water systems constructed pursuant to the Garrison Diversion Reformulation Act of 1986. The agreement defines the responsibilities of the United States and the district under the agreement and contains provisions concerning the work to be undertaken by the district, stipulations concerning the transfer of funds, and the procedure for reporting, accounting, and reviewing the planning and construction programs. The agreement also provides that the Southwest Pipeline Project is eligible to receive funding under this program.

PROJECT UPDATE

The committee received updates concerning the Garrison Diversion Unit Project from representatives of the Garrison Diversion Conservancy District, the State Water Commission, and the United States Bureau of Reclamation.

Appropriations

Since 1966 Congress has expended \$632,358,000 for the Garrison Diversion Unit Project, with \$379,143,000 expended since enactment of the Garrison Diversion Unit Reformulation Act of 1986. The budget request for fiscal year 2001 was \$17,416,000 in federal funds and \$175,000 in nonfederal funds for a total of \$17,591,000. The total estimated cost of the project is \$1,531,449,000 for which \$632,670,000 has been authorized through fiscal year 2000.

Since inception through September 30, 1999, \$236,345,000 has been expended on Garrison Diversion Unit supply systems and operation, maintenance, and replacement of those systems; \$48,668,000 on the Oakes Test Area; \$25,824,000 on other non-Indian irrigation features; \$2,966,000 for Indian irrigation features; \$5,774,000 for the Jamestown Dam; \$13,062,000 for the Audubon Refuge; \$7,075,000 for the Arrowwood Refuge; \$3,756,000 for the James River environmental impact statement and report; \$155,136,000 for the state municipal, rural, and industrial water supply program; \$637,000 for the Sheyenne River release program; \$26,894,000 for Indian municipal, rural, and industrial water supply projects; \$5,743,000 for recreation features; \$12 million for the wetlands trust; \$50,475,000 for the Lonetree Dam feature; \$1,003,000 for the Kraft Slough Refuge feature; and \$37,001,000 for off-refuge mitigation and enhancements.

The executive budget for fiscal year 2001 contains \$5,291,000 for supply systems and operation and maintenance of those systems, \$2,400,000 for Indian irrigation features, and \$6,676,000 for the state municipal, rural, and industrial water supply program. The executive budget for fiscal year 2001 also contains \$474,000 for the Audubon Refuge feature, \$945,000 for the Arrowwood Refuge feature, \$150,000 for the Kraft Slough Refuge feature, \$630,000 for operations and maintenance of wildlife features and stream gauging, \$680,000 for the Lonetree Wildlife Management area, and \$70,000 for scattered tracks and canal-side lands. The executive budget for fiscal year 2001 also contains \$100,000 for recreation facilities.

Garrison Municipal, Rural, and Industrial Water Supply Program

The Garrison municipal, rural, and industrial water supply program has an appropriation authorization of \$200 million in federal grant funds for the planning and construction of water supply facilities for municipal, rural, and industrial use throughout the state. The state has received \$165 million in federal grant funds through fiscal year 2000. Projects funded under the municipal, rural, and industrial water supply program are funded using 65 percent federal grant moneys and 35 percent nonfederal moneys. The operation, maintenance, and replacement costs for water systems are 100 percent nonfederal costs. To date, 35 projects serving approximately 200,000 people have been completed at a cost of \$233 million. The following table contains a summary of the total costs and federal expenditures since 1986:

Summary of Costs and Federal Expenditures for the Municipal, Rural, and Industrial Water Supply Program		
Feature	Total Costs	Municipal, Rural, and Industrial Water Supply Program Federal Funding
Northwest Area Water Supply Project	\$5,500,000	\$3,700,000
Southwest Pipeline Project	115,300,000	69,700,000
Other municipal, rural, and industrial water supply projects and administration	112,200,000	91,600,000
Total	\$233,000,000	\$165,000,000

The current \$200 million authorization has an estimated balance of \$35 million. Of this total, \$24.4 million is allocated to the Northwest Area Water Supply Project. The following table contains a summary of the costs for the projects, federal funding, and the nonfederal funding for the Garrison municipal, rural, and industrial water supply program:

Summary of Garrison Municipal, Rural, and Industrial Water Supply Program Costs			
	Estimated Total Project Costs	Municipal, Rural, and Industrial Program Federal Funding	Municipal, Rural, and Industrial Program Nonfederal Funding
Expended to date	\$233,000,000	\$165,000,000	\$68,000,000
Current authorization balance	53,846,154	35,000,000	18,846,154
Total	\$286,846,154	\$200,000,000	\$86,846,154

Southwest Pipeline Project

Senate Bill No. 2188, enacted by the 56th Legislative Assembly, authorized the State Water Commission to issue bonds in an amount of \$4.5 million for construction of Southwest Pipeline features during the 1999-2001 biennium. As a result, construction on the Mott-Elgin phase of the Southwest Pipeline Project was commenced in 1999. The funds provided by Senate Bill No. 2188 will be matched with \$1.9 million in loans and \$5.1 million in grants from the United States Department of Agriculture Rural Development Agency for the Mott-Elgin phase for the Southwest Pipeline Project.

Representatives of the State Water Commission reported that contracts for the main transmission pipeline and the Hebron Reservoir were awarded in September 1999 and for the Burt Reservoir in October 1999. The main transmission pipeline is 46.5 miles long and extends from Mott to New Leipzig, Elgin, and Carson. The pipeline from Mott to New Leipzig and Elgin has passed tests for leaks and bacteriological contamination, and service was scheduled to begin to Elgin on October 1, 2000, to Carson by mid-October 2000, and to New Leipzig on November 1, 2000. Also, the 500,000 gallon Hebron Reservoir and the 400,000 gallon Burt Reservoir were completed in August 2000.

Representatives of the State Water Commission reported that in December 1999, bids were opened for the rural water distribution systems in the East Jung Lake and South Hebron pocket areas. In June 2000 a contract was awarded for the Burt service area rural water distribution system. When completed in July 2001, this system will provide water to approximately 160 rural users. A contract for the final portion of the Mott-Elgin phase and the Coffin Buttes service area is expected to be bid in November. The State Water Commission reported that by the end of 2001, water is expected to be delivered to 22 communities and 2,000 rural users.

Northwest Area Water Supply Project

Representatives of the State Water Commission reported that construction of the main transmission line from Lake Sakakawea-Lake Audubon to Minot has been delayed approximately two years pending completion of the National Environmental Policy Act review process. The Northwest Area Water Supply Project is intended to deliver pretreated Missouri River water to Minot with final treatment occurring at that city's existing water treatment plant. The primary issue for study under the National Environmental Policy Act review process is the potential for biota transfer. This study must be conducted to determine whether

the Northwest Area Water Supply Project meets the requirements of the Boundary Waters Treaty of 1909.

Bureau of Reclamation Activities

Representatives of the Bureau of Reclamation reported on bureau activities. The reports included construction activities, fish and wildlife mitigation and enhancement activities, recreation program activities, operation and maintenance activities, and study activities. Construction activity reports described the Indian municipal, rural, and industrial water supply program, the state municipal, rural, and industrial water supply program, and irrigation projects on the Standing Rock Sioux Indian Reservation. Fish and wildlife mitigation and enhancement activity reports described design and construction work at the Arrowwood National Wildlife Refuge, mitigation activities at the Audubon National Wildlife Refuge and Wildlife Management Area, work at the Kraft Slough National Wildlife Refuge, work at the Lonetree Wildlife Management area, and work at scattered tracts. Total funding for the recreation program is \$13 million, of which half is to be provided by the Garrison Diversion Conservancy District and half by the Bureau of Reclamation. The Garrison Diversion Conservancy District and Bureau of Reclamation along with the State Parks and Recreation Department are reviewing the recreation program to develop a recreation plan that is cost-effective and provides the greatest public benefit within existing authorities and funding ceilings. The Bureau of Reclamation and the Garrison Diversion Conservancy District are exploring opportunities to improve recreational use and facilities along the McClusky Canal. Operation and maintenance activities include stabilization of the James River archaeological site, operation and maintenance of the Oakes Test Area, operation and maintenance of the principle supply works--the McClusky and New Rockford Canals, operation and maintenance of the Snake Creek Pumping Plant, and operation and maintenance of tribal municipal, rural, and industrial water supply systems. Study activities included reports on the Northwest Area Water Supply study, the study of wildlife enhancement for the rights of way along the McClusky and New Rockford Canals, and the Red River Valley water needs assessment study. Phase II of the Red River Valley water needs assessment was completed in August 2000. This report concluded that, if nothing is done, the Red River Valley may experience significant water shortages during a future drought. The report describes seven alternatives that may meet the future shortages projected by the bureau and provides a preliminary evaluation of these alternatives. The next step in analyzing Red River Valley needs and options is a feasibility level analysis of alternatives described in the Phase II report, along with other reasonable alternatives, and to begin work preliminary to an environmental impact statement as included in the Dakota Water Resources Act.

RECENT DEVELOPMENTS

Dakota Water Resources Act

The Dakota Water Resources Act would amend the Garrison Diversion Unit Reformulation Act of 1986. The Act outlines a program to meet the water needs of North Dakota including irrigation; municipal, rural, and industrial water supply projects; fish and wildlife; recreation; flood control; augmented streamflows; and ground water recharge. The bill maintains a multipurpose water project to meet the water needs of North Dakota and to compensate the state for the loss of 550,000 acres to the Garrison and Oahe Reservoirs but changes the focus of water development from large-scale irrigation to the delivery of municipal, rural, and industrial water to communities and the four Indian reservations located in this state. The bill would complete the Garrison Diversion Unit Project, while enhancing wildlife habitat and water conservation in North Dakota.

Section 2 of the bill establishes the purposes of the Act to meet the water needs of North Dakota and the four Indian reservations located within the state by development of a multipurpose water project. The project would develop irrigation and municipal, rural, and industrial water systems; enhance fish and wildlife habitat; promote recreation, ground water recharge, and augmented streamflows; and assure appropriate repayment of federal funds and compliance with environmental laws and the Boundary Waters Treaty of 1909. This section also makes fish and wildlife enhancement a specific project purpose. It deletes language from the 1986 Reformulation Act directing construction of the 450 cubic feet per second James River Feeder Canal and the Sykeston Canal. It also requires the state to repay the federal government for the proportionate share of the cost of features, constructed prior to the Dakota Water Resources Act, which actually get used. This section also specifies that the Secretary of the Interior is responsible for the proportionate share of operation and maintenance costs attributable to unused capacity of project features. It authorizes the Secretary of the Interior to enter necessary agreements with the state to carry out the Act. Finally, this section specifies that water may be diverted from the Missouri River drainage basin into the Hudson Bay drainage basin only after the Secretary of the Interior, after consulting the Secretary of State and the administrator of the Environmental Protection Agency, determines that the Boundary Waters Treaty of 1909 will not be violated. The assigned costs of water treatment and related facilities attributable to meeting the requirements of the Boundary Waters Treaty of 1909 continue to be nonreimbursable.

Section 3 of the bill recognizes wildlife enhancement as a project purpose and identifies those features considered enhancement features which continue to be a federal responsibility. The bill requires the Secretary of the Interior to consult with the state before approving recreation areas and adds "services in kind" as a form of repayment for recreation areas consistent with current Bureau of Reclamation practice. Existing language of an earlier version of the bill that deauthorized the Taayer Reservoir and authorized the Kraft and Pickell Sloughs as a component of the National Wildlife Refuge System is moved to this section. This section also clarifies that the Bureau of Reclamation is authorized to acquire land in the Kraft and Pickell Sloughs areas through donation or exchange of land. Finally, this section deauthorizes the Lonetree Dam and Reservoir and designates the

lands as a wildlife conservation area to provide additional wildlife habitat. The intent of the "wildlife conservation area" is that the area would not become part of the National Wildlife Refuge System but that the state would continue to manage the area as a state wildlife management area, the costs of which would be paid by the Secretary of the Interior. If the feature selected under Section 8 includes a buried pipeline between the McClusky Canal and New Rockford Canal, the bill authorizes the use of the wildlife conservation area and Sheyenne Lake National Wildlife Refuge for a route for the pipeline.

Section 4 of the bill provides that interest on repayable capital costs may only be calculated until such time as the feature is substantially complete.

Section 5 of the bill deauthorizes 60,460 acres of irrigation service areas authorized in 1986 (6,515 acres at Lincoln Valley, 2,000 acres at Harvey Pumping, 20,935 acres at New Rockford, 13,350 acres at LaMoure, 4,000 acres at West Oakes Extension, and 19,600 acres at West Oakes.) The bill retains authorization for the existing 5,000-acre Oakes Test Area, 13,700 acres at Turtle Lake, 10,000 acres at McClusky Canal, 1,200 acres of canal-side irrigation along the New Rockford Canal provided the full investment costs are repaid by the users at New Rockford without "aid-to-irrigation," and 28,000 acres in the Missouri River Basin. Before development of any projects in the undesignated 28,000 acres, the Secretary of the Interior must report to Congress on the costs and benefits of the proposed irrigation and the financial and engineering feasibility of the proposed unit. Compliance with the National Environmental Policy Act is also required before developing any projects. This section specifically prohibits any irrigation development authorized under the bill in the Hudson Bay-Devils Lake drainage basin. The bill also retains irrigation authorization on the Fort Berthold Indian Reservation (7,700 acres at Lucky Mound and 7,500 acres at Upper Six Mile Creek, but allows for other areas of equal acreage if approved by the tribe and the Secretary of the Interior) and on the Standing Rock Sioux Reservation (2,380 acres).

Section 6 of the bill harmonizes the repayment required by power users of power from the Garrison Dam with how other power users repay capital costs for other power-generating facilities. Additionally, this section specifically prohibits any increase in power rates for Pick-Sloan program customers that would result from any provisions in the Dakota Water Resources Act.

Section 7 of the bill maintains the 25 percent nonfederal cost-share for the municipal, rural, and industrial water supply projects developed under this section and allows the state to credit amounts that exceed the 25 percent minimum toward future cost-shares for municipal, rural, and industrial water development projects. This section also permits the state to make loans in addition to grants and requires that proceeds from repaid loans be recycled back only into the municipal, rural, and industrial water supply grant or loan program. The Southwest Pipeline Project, Northwest Area Water Supply Project, Red River Valley Water Supply Project, and other municipal, rural, and industrial water supply systems in the state are eligible. This section also authorizes the state to develop a water conservation program and calls on the Secretary of the Interior and the state to establish water conservation goals. If the state meets the goals of the program, the 25 percent nonfederal cost-share for municipal, rural, and industrial water supply systems is reduced to 24.5 percent. This section also makes the cost of features previously constructed on the Missouri River by the Army Corps of Engineers nonreimbursable. Finally, this section maintains the authority for the Secretary of the Interior to develop municipal, rural, and industrial water supply systems on the four Indian reservations located in the state and adds adjacent areas to that authorization to permit water systems to serve tribal members living outside the reservation boundaries.

Section 8 of the bill deletes the existing authority to construct the Sykeston Canal, which was to be a connecting link between the existing McClusky and New Rockford Canals to deliver water from the Missouri River to the Red River Valley. Instead, the bill authorizes a Red River Valley Water Supply Project and establishes a formal process of evaluating the water quantity and quality needs of the Red River Valley and the options for meeting those needs. The Secretary of the Interior and the state are to be partners in developing these studies.

The Secretary of the Interior, with the state as a partner, must complete a draft environmental impact statement within one year of the date of enactment of the Dakota Water Resources Act or report to Congress on the status of the draft environmental impact statement. The Secretary of the Interior and the state are required to submit a final environmental impact statement within one year of filing the draft environmental impact statement or report to Congress on the status of the final environmental impact statement. The Secretary of the Interior is then authorized to select a feature to meet the comprehensive water development needs of the Red River Valley, after reviewing the water needs report, the report on options for meeting those needs, and the environmental impact statement, and after consulting with the state, which will coordinate with affected local communities. Within 180 days of the Secretary of the Interior signing the record of decision, the bill requires the Secretary of the Interior to enter an agreement with the state to construct the feature selected. If one of the features selected is delivery of Missouri River water to the Red River Valley, the Sheyenne River water supply and release feature remains authorized to deliver 100 cubic feet per second of water, or another amount determined by the reports, to the cities of Fargo and Grand Forks.

Section 9 of the bill relates to the Oakes Test Area and authorizes the Secretary of the Interior to transfer the Oakes Test Area to the state not later than two years after signing the record of decision required under Section 8, relating to meeting the needs of the Red River Valley, under terms that the Secretary of the Interior believes would protect the public interest. If the Secretary of the Interior and the state cannot reach an agreement for a transfer by the time limit, the Secretary of the Interior is to dispose of the Oakes Test Area under the Federal Property and Administrative Services Act of 1949.

Section 10 of the bill reduces the authorization ceiling for irrigation and related facilities from \$270,395,000 to \$164,000,000. The remaining funds authorized are intended to be used to repair and complete the McClusky and New Rockford Canals and complete mitigation requirements at the Audubon and Arrowwood National Wildlife Refuges. The bill authorizes \$200 million for the Red River Valley Water Supply Project, to be used for the project feature selected by the Secretary of the Interior pursuant to Section 8. This project is reimbursable. Section 10 authorizes an additional \$300 million for statewide municipal, rural, and industrial water supply systems authorized under Section 7 and an additional \$200 million for municipal, rural, and industrial water supply systems on the four Indian reservations located in the state. These funds are allocated as follows--\$30 million for Fort Totten Reservation, \$70 million for Fort Berthold, \$80 million for Standing Rock, and \$20 million for Turtle Mountain. Additionally, the existing authorization of \$61 million is broken into its component parts of \$40.5 million for the Sheyenne treatment and release facility and the initial \$20.5 million provided for Indian municipal, rural, and industrial water supply studies and systems. This section authorizes an additional \$6.5 million for recreation projects and permits up to \$1.5 million of this amount to be used to develop a Wetlands Interpretive Center in North Dakota. The section also authorizes an additional \$25 million for the natural resources trust and authorizes creation of a separate account, after the features selected under Section 8 are operational, within the trust for operation and maintenance costs of mitigation and enhancement lands. Also authorized is \$40 million for demolition of the existing structure and construction of a new Four Bears Bridge across Lake Sakakawea. This section also includes a provision to index certain costs for inflation from the date of enactment of the Act to reflect normal fluctuations in construction costs consistent with current Bureau of Reclamation practices and a provision that prohibits counting funds spent since 1986 on operation and maintenance against the construction authorization ceilings in this section.

Section 11 of the bill changes the name of the current wetlands trust to the natural resources trust and provides that the trust is to be operated to preserve, enhance, restore, and manage wetlands and associated wildlife habitat, grasslands conservation, and riparian areas in the state. This section also authorizes the trust, aside from its existing authority, to fund incentives for conservation practices by landowners. This section also caps the authorized appropriations to the natural resources trust at \$10 million until the features authorized to meet the comprehensive water needs of the Red River Valley are operational. The annual appropriations for the trust are determined by a formula of five percent of the annual funds appropriated for the statewide municipal, rural, and industrial water supply program and the Red River Valley Water Supply Project. Once the Secretary of the Interior and the state determine the project is operational and meeting the objectives of Section 8, the remaining \$15 million authorized by Section 10 may be appropriated.

Subsequent to the introduction of the Dakota Water Resources Act and before the May 27, 1999, hearing on the bill before the United States Senate Subcommittee on Water and Power, agreement was reached which permitted the administration to testify in support of the Act, subject to incorporation of the following agreements:

- Before construction of any water system to deliver Missouri River water into the Hudson Bay Basin as provided under Section 2, the Secretary of the Interior, in consultation with the Secretary of State and the administrator of the Environmental Protection Agency, must determine that adequate treatment can be provided to meet the requirements of the Boundary Waters Treaty of 1909 between Canada and the United States.
- The additional funding authorized by Section 10 to address the state's municipal, rural, and industrial water supply needs was reduced by \$100 million. The requested ceiling will now be an additional \$200 million rather than the \$300 million in the bill.
- The funding and authorization in Section 10 for the replacement of the Four Bears Bridge across an arm of Lake Sakakawea on the Fort Berthold Indian Reservation will be removed. The agreement includes assurances that the bridge will be included under a different program yet to be determined.
- The principal supply works, which the Secretary of the Interior is directed to maintain and complete, is defined as including the Snake Creek Pumping Plant, McClusky Canal, and the New Rockford Canal. This is a clarification of wording in the bill.
- Agreement was reached on additional concerns relating to the determination of the appropriate share of costs for operation and maintenance on the existing facilities, if used. Mutual understanding was also reached on concerns relating to the operation of an optional loan program within the municipal, rural, and industrial water supply projects grant program and the removal of language that made full funding of the natural resources trust fund conditional upon completion of a Red River Valley Water Supply Project.

Devils Lake

The State Engineer provided updates throughout the interim concerning the Devils Lake flood situation. Devils Lake is normally considered a closed subbasin of the Red River of the North Basin. However, evidence suggests that Devils Lake, on several occasions during the past ten thousand years, has reached its spill elevation of approximately 1,459 feet mean sea level and overflowed into the Sheyenne and Red Rivers. Geologists have concluded that Devils Lake water levels naturally vary widely due to climatic swings. Beginning 130 years ago with the first recorded level of 1,438.4 feet mean sea level, lake levels fell until the lake reached its recorded low of 1,401.9 feet mean sea level in 1940. From that point, the lake has followed a rising trend reaching the modern high of 1,447.1 feet mean sea level in 1999. The current elevation of Devils Lake is 1,446 feet mean sea level. At this elevation, the lake covers 118,000 acres and is storing 2.3 million acre feet of water. The reduction in the lake level over the past year is due primarily to dry weather conditions the Devils Lake Basin experienced between September 1999 and

June 2000.

The State Water Commission is the local sponsor for a permanent outlet to be built by the United States Army Corps of Engineers. Although Congress has released \$2.2 million to the United States Army Corps of Engineers for continuing the design and environmental studies of a west end outlet, there are still many concerns in Congress. The State Water Commission is also in the preliminary design phase of a temporary outlet in the Twin Lakes area that could be built to provide short-term releases before the permanent outlet is constructed. The State Water Commission has applied to the State Department of Health for a discharge permit to release water into the Sheyenne River. The State Water Commission is attempting to design a temporary outlet in a manner that will not require a United States Army Corps of Engineers Section 404 permit.

Devils Lake Litigation

The Attorney General's staff provided updates concerning litigation involving the ownership of the Devils Lake lakebed, *Spirit Lake Nation v. North Dakota, et al.* The source of the lawsuit lies in the 1867 treaty creating a reservation for the Devils Lake Sioux Tribe, now known as the Spirit Lake Nation. The eastern boundary of the reservation was a defined line ending "at the most easterly point of Devils Lake." The treaty then described the northern boundary as "along the waters" of the lake to the lake's most westerly point.

The tribe argues that "along the waters" puts the reservation's northern border on the north side of the lake. The state asserts that "along the waters" meant and has always been understood to mean the south shore of Devils Lake. The state also asserts that at statehood it took title to the lakebed under the rule that states take title to the beds of navigable rivers and lakes when they join the Union.

In 1986 the tribe sued the state, the Garrison Diversion Conservancy District, the United States, and a handful of individuals who owned land along the shore of the lake's west bay. The United States was sued because it holds title to much of the lakebed. The United States received its interest in 1971 when the Garrison Diversion Conservancy District, as authorized by the Legislative Assembly, deeded much of the lakebed to the United States. This was done to satisfy part of the state's monetary allocation for the Garrison Diversion Unit Project.

In the late 1980s, the United States attempted to get the tribe's lawsuit dismissed on two grounds--the tribe had not satisfied the federal quiet title act and because the tribe sued for the lakebed in a prior action that was settled in 1977, the tribe cannot sue for the lakebed again.

The federal district judge agreed with the United States' interpretation of the 1977 settlement agreement and dismissed the case without addressing the United States' quiet title act defense. The tribe appealed and the United States Court of Appeals for the Eighth Circuit reversed. The circuit court ruled that more evidence is required to determine for certain whether the 1977 settlement agreement included the lakebed. After the Court of Appeals' decision, in the 1990s the case had two prominent features--at times the tribe appeared uninterested in pursuing its claim and the tribe and state held a number of meetings to negotiate a settlement. Approximately one year ago, it became clear a negotiated settlement could not be reached, and the case has thus returned to active status.

The state has filed a motion asking the court to declare Devils Lake navigable at statehood. The motion was supported primarily by a historian's affidavit describing the extensive commercial traffic and pleasure boating on the lake in the late 1800s and early 1900s. The tribe has filed a brief resisting the state's navigability motion, which is now pending before the court.

The United States has renewed its motion asking that the case be dismissed against it on the quiet title act's 12-year statute of limitations. The state has filed a brief, affidavits, and exhibits supporting the United States. The tribe is resisting this motion, which is also now pending.

The state supported the United States' motion even though, if granted, it will not end the case against the state. If the case against the United States is dismissed, however, the state will ask that the entire case be dismissed. This motion will be made on the grounds that the United States, as holder of title to most of the lakebed, is an indispensable party to the litigation, and without its presence the case cannot proceed against any of the other parties.

Section 404 Program

The committee reviewed administration of Section 404 of the Federal Water Pollution Control Act [33 U.S.C. 1344] which requires permits to discharge dredged or fill material into navigable waters at specified disposal sites. The Section 404 program is administered by the United States Army Corps of Engineers, but states may request the Environmental Protection Agency to delegate the Section 404 program to them. In 1993 the Legislative Assembly enacted legislation authorizing the state to assume jurisdiction over the Section 404 program. However, this legislation provided the effective date of the Act is when the state receives approval from the Environmental Protection Agency and adequate funds have been made available from the federal

government or other sources to fund the program as determined by the State Engineer and approved by the Emergency Commission. This effective date was amended in 1995 to provide the effective date of the assumption of the Section 404 program of the Clean Water Act is when the State Engineer certifies to the Governor and the Secretary of State that the state has received adequate funds from the federal government or other sources to fund the program as determined by the State Engineer and approved by the Legislative Assembly. This legislation has not become effective.

The committee received testimony that the cost of assuming jurisdiction of the Section 404 program would be approximately \$800,000 per biennium. Testimony indicated the reason the state would want to assume jurisdiction of the program is that it could review permit requests in a more expeditious manner and the state would recoup the cost of assuming the program by making permitting decisions in a more timely manner. As a result of project delays, costs of projects have increased more than the \$800,000 the program would cost per biennium. It was emphasized that the state would still have to comply with all environmental laws in determining whether to issue a permit.

The committee asked the chairman of the Legislative Council to request the Governor to notify the administrator of the United States Environmental Protection Agency that the state intends to assume jurisdiction over the Section 404 program under the Federal Water Pollution Control Act because the state could proceed in a more efficient and expeditious manner in developing and constructing projects that require Section 404 permits if the state administered the program. The Governor notified the administrator of Region VIII of the United States Environmental Protection Agency that the state would like to initiate the process for assuming jurisdiction over the Section 404 program. The State Engineer testified in support of state assumption of the Section 404 program, but said further debate should take place on whether the office of the State Engineer or the State Department of Health is the most appropriate agency to administer the program.

The committee considered a bill draft that would have repealed the contingent effective date of the state assuming jurisdiction of the Section 404 program and appropriated \$800,000 to the State Water Commission for the purpose of administering the program for the biennium beginning July 1, 2001, and ending June 30, 2003. Rather than recommend the bill draft directly, the committee requested that the bill draft be introduced as an agency bill by either the State Water Commission or the State Department of Health.

Farmland or Ranchland Acquisition Advisory Committee

North Dakota Century Code Section 10-06.1-10 prohibits the purchase of farmland or ranchland by a nonprofit organization for the purpose of conserving natural areas and habitats for biota without approval by the Governor. This section requires the nonprofit organization to first submit a proposed acquisition plan to the Agriculture Commissioner who is required to convene an advisory committee consisting of the director of the Parks and Recreation Department, the State Engineer, the Agriculture Commissioner, the State Forester, the director of the Game and Fish Department, the president of the North Dakota Farmers Union, and the president of the North Dakota Farm Bureau, and for acquisition plans containing lands within the Garrison Diversion Conservancy District the manager of the district. The advisory committee is required to hold a public hearing with the board of county commissioners concerning the proposed acquisition plan and to make recommendations to the Governor within 45 days after receipt of the proposed acquisition plan. The Governor is then required to approve or disapprove the proposed acquisition plan, or any part thereof, within 30 days after receipt of the recommendations of the advisory committee.

The manager of the Garrison Diversion Conservancy District questioned whether the advisory committee is effective or provides any useful purpose and urged the committee to review the membership of the advisory committee or consider abolishing the committee.

The committee considered a bill draft that would have replaced the statutory advisory committee with one convened by and consisting of members as determined by the Governor. The committee received testimony that any legislation to lessen the hurdles that private landowners must surmount to sell their land is positive and that conservation groups are financially sound and are able to pay property taxes on proposed acquisitions in perpetuity. Although testimony indicated this law is an abridgment of private property rights and an impediment to working with the federal government and national conservation groups on issues such as Garrison Diversion, a representative of the North Dakota Association of Counties said the advisory committee enhances local involvement in acquisitions of farmland or ranchland by nonprofit organizations.

State Aid Distribution Fund

North Dakota Century Code Section 57-39.2-26.1 requires each county to reserve a portion of its allocation of state aid distribution funds for further distribution to or expenditure on behalf of townships, rural fire protection districts, rural ambulance districts, soil conservation districts, county recreation service districts, county hospital districts, the Garrison Diversion Conservancy District, the Southwest Water Authority, and other taxing districts within the county, excluding school districts, cities, and taxing districts within cities. The committee received testimony that this distribution formula does not work well for the Garrison Diversion Conservancy District because it is a multicounty district, and distribution to these types of entities is left to the discretion of the board of county commissioners. Some counties have distributed state aid distribution funds based on the

formula in effect before 1997, and some have reduced it to zero, which makes it difficult for the Garrison Diversion Conservancy District to plan its budgets.

The committee received testimony that the state aid distribution formula in effect before 1997 rewarded political subdivisions that increased taxes and penalized political subdivisions that did not raise taxes or could not raise taxes because of statutory caps. Testimony indicated the revised state aid distribution formula provides a reasonable funding level for political subdivisions through a continuing appropriation that eliminates the need for biennial discussions and disagreements over funding levels; provides funding that floats with overall state revenues; provides funding tied to population within groups of similar-sized jurisdictions rather than by mill levies; and increases the flexibility and responsibility of elected county and city governing bodies. A representative of the North Dakota Association of Counties testified that the association will urge the governing bodies of counties that are members of the Garrison Diversion Conservancy District to provide a fair allocation to the conservancy district.

Conclusion

The committee makes no recommendation concerning its statutory responsibilities.

PEMBINA RIVER BASIN STORAGE STUDY

Section 7 of Chapter 45 of the 1999 Session Laws provides that the Legislative Assembly finds that floodwater in recent years has inundated parts of the cities of Neche and Pembina, and thousands of acres of farmland along the Pembina River in Pembina County; construction of flood control dams and other impoundments in the Pembina River watershed in the United States and Canada may reduce flows on the Pembina River that may result in less severe flooding of the cities and farmland along the lower reaches of the Pembina River; and within the limits of available funds, the State Engineer is to conduct a comprehensive study of the feasibility and desirability of constructing dams and other impoundments in the Pembina River watershed for the purpose of reducing flows in the lower reaches of the Pembina River. Pursuant to this section, the State Engineer submitted a report to the committee.

The study investigated plans to provide storage sites in the Pembina River Basin that would provide flood control benefits to the area between the cities of Walhalla and Pembina. To provide protection to agricultural lands, the State Water Commission determined that projects should be able to reduce the frequency of flows that exceed the river's bank flow capacity, which is approximately 4,000 cubic feet per second. Reduction in peak flows of any amount would be helpful to the cities of Neche and Pembina. The report concludes, however, that the value of these reductions is extremely difficult to quantify because the flow at Neche is affected by breakout flows between that city and Walhalla. If the flow is reduced at Walhalla, the flow at Neche is not reduced to the same extent. The same factor is present at the city of Pembina, but the situation there is even more difficult because effects of the Red River are pronounced. The report evaluated five alternatives--depression storage, construction of the Pembina Dam, construction of the Pembilier Dam, modification of Rock Lake and Swan Lake, and construction of the Pembilier Dam combined with modification of Rock Lake and Swan Lake. The report concludes that benefits of depression storage are not quantifiable; construction of the Pembina Dam would be at least as costly as construction of the Pembilier Dam but the benefits substantially less; and although construction of the Pembilier Dam combined with modification of Rock Lake and Swan Lake would provide the most benefits, these benefits are not substantially greater than those of construction of the Pembilier Dam alone and come at the additional substantial land acquisition costs to the project. The report concludes that construction of the Pembilier Dam alone is the most effective of the options considered.

The Pembilier Dam was not constructed in the early 1980s because its benefits did not exceed its cost. The reason the dam's benefits did not exceed its cost is because it could not provide 100-year flood control and thus could not be relied upon to remove any of the communities from the 100-year floodplain. Consequently, no benefits for municipal flood protection could be assigned to the project. Agricultural benefits were not sufficient to justify the cost of the project. The cost of constructing the Pembilier Dam in 1982 was estimated at \$44,070,000. This estimate has increased to \$73,597,000, and the report concludes that it is not likely the value of agricultural production has increased to offset this figure and thus make the dam feasible. The report concludes that construction of a project for flood storage alone does not appear feasible. If flood control storage is to be made feasible, it would likely need to be coupled with another valuable use. Irrigation has become more prevalent in Manitoba, and the need for a water supply for this application may offer some opportunity for cooperation with Manitoba which could increase the feasibility of the project.

COMPREHENSIVE STATEWIDE WATER DEVELOPMENT PROGRAM AND STATE WATER MANAGEMENT PLAN AND WATER PROJECT BONDS

Section 9 of Chapter 535 of the 1999 Session Laws requires the State Engineer to report periodically regarding implementation of the comprehensive statewide water development program and state water management plan and the issuance and sources for repayment of bonds to finance construction of flood control projects, Southwest Pipeline Project, Devils Lake outlet, and a statewide water development program during the 1999-2000 interim. The State Engineer reported a draft comprehensive statewide water development program has been prepared. This report updates the State Water Commission's list of proposed

water projects in the state; establishes a prioritization process for evaluating projects in terms of funding; analyzes various funding sources, including the water development trust fund, the resources trust fund, state funds, local funds, other federal funds, and bonding; and provides a list of recommended projects for the 2001-03 biennium. The report identifies the total cost of this program at \$74 million. Concerning the issuance of water project bonds, the State Water Commission completed the first bond sale in March 2000. This bond sale totaled \$32.1 million and provided \$23 million to the Grand Forks flood control project, and \$4.5 million to the Southwest Pipeline Project. To date, the State Water Commission has expended \$8.9 million for the Grand Forks flood control project and \$4.5 million for the Southwest Pipeline Project from the bond proceeds. The State Water Commission estimated the cost of Grand Forks flood control features for the current biennium at \$23 million and that is the reason \$23 million of the bond proceeds is allocated for these projects. For the 2001-03 biennium, the Grand Forks flood control project will require an additional \$15 million. Also, construction is expected to commence on Wahpeton, Grafton, and potentially Devils Lake flood control projects during the 2001-03 biennium.

MISSOURI RIVER ISSUES STUDY

Senate Concurrent Resolution No. 4027 reflected the Legislative Assembly's concern with issues related to the Missouri River in North Dakota. In addition to the Pick-Sloan Missouri Basin program, the resolution identified three areas of study, i.e., Missouri River streambank erosion and bank stabilization; United States Army Corps of Engineers' *Master Manual*; and land and natural resource issues, water management, land use, and development of a long-range vision for the Missouri River in North Dakota.

Missouri River Streambank Erosion and Bank Stabilization

In a March 1988 General Accounting Office briefing report entitled *Evaluation of Erosion Problems on Upper Missouri River*, the General Accounting Office discusses streambank erosion problems concerning the Corps of Engineers' six dams and lakes located on the Upper Missouri River in Montana, North Dakota, South Dakota, and Nebraska. The United States Army Corps of Engineers built and operates six dams and lakes on the Upper Missouri River in Montana, North Dakota, South Dakota, and Nebraska. Construction of the six dams and lakes on the Upper Missouri River began in 1933 with the Fort Peck project and ended in 1965 with the completion of the Big Bend project. The Garrison Dam project was started in 1947, and the dam was completed in 1954. The six dams and lakes were designated the Pick-Sloan Missouri Basin program in 1970. In 1982 the Corps of Engineers estimated that since completion, its projects have prevented more than \$1.7 billion in flood damage. In addition, the Department of the Interior estimated the projects have produced more than \$1.4 billion from sales of hydroelectric power, allowed for a steady increase in barge traffic, and provided recreation for millions of people. Irrigation benefits, however, were considerably less than planned. Over 3.5 million acres were planned for irrigation development, but only about 394,000 acres have been irrigated.

Concerning erosion problems, the report notes that bank erosion occurs to some extent on practically all streams in the Missouri River Basin. The predominate factors causing bank erosion are channel meander, varied streamflow rates, channel restriction, and wave action. Other general causes are high sand content of the soil, saturated banks, and the freeze-thaw winter periods.

Before construction of the dams and lakes, the Upper Missouri River had a wide variation of seasonal flows. Typically, a spring rise in flow began in late March or early April when snow cover melted and spring rains came. Flows were low in the summer and through early autumn. From December to February, ice may cover the river as far south as Kansas City, Missouri. Since completion of the dams and lakes on the Missouri River, the Corps of Engineers has evaluated the streambank problems below the dams. In 1987 the Corps of Engineers identified a total of 192 erosion sites on the 375-mile stretch that would require an estimated \$103.6 million to protect. Finally, this report notes the Corps of Engineers has reported that out of nearly 3.5 million miles of rivers and streams nationwide, approximately 142,000 bank-miles have severe erosion problems and need protection. The Corps of Engineers estimated the cost to protect these banks from erosion in 1981 at \$1 billion annually. The Corps of Engineers has reported that the cost of bank protection structures generally exceed by a large margin the benefits to be derived.

In a report entitled *Upper Missouri River Bank Erosion Montana and North Dakota* prepared by the North Dakota State Water Commission and the Montana Department of Natural Resources and Conservation in April 1991, it is noted that since the completion of the Missouri River main stem reservoirs, the net loss of highly valued lands along the river in the upper basin states has increased substantially. The loss of these lands has adversely impacted landowners, local and state governments, Indian reservations, recreation, wildlife, and the environment. In addition to streambank erosion, delta formation is an increasing problem. As soil eroded from the riverbanks settles out of the water in the upstream reaches of the reservoirs, deltas are formed. These deltas reduce storage areas in the reservoirs, raise the water table of adjacent land, and can cause ice jams and flooding during the fall freeze and the spring thaw. Currently, deltas are being formed south of Bismarck where the Missouri River drops sediment as it enters Lake Oahe and near Williston where the Missouri River drops sediment as it enters Lake Sakakawea. This report concludes that the states in the upper basin of the Missouri River have and are continuing to experience a net loss of land due to bank erosion along the river. The report identifies the reservoirs built and operated by the Corps of Engineers as the primary cause of the erosion due to the discharge of clear water, fluctuations of flow rate, and the elimination of the rebuilding of high valley lands.

A report entitled *Missouri River Bank Erosion Garrison Dam to Lake Oahe*, prepared by the State Water Commission in December 1997, provides a rated listing of Missouri River bank erosion sites and documentation of the process used to create the list as well as cost estimates and justification to protect the erosion sites. This report states that bank erosion along the Missouri River has been a continuing problem since closure of the main stem reservoirs. The present bank erosion results in the permanent destruction of bottom lands, widening of the riverbed, and a continuing net loss of land. This report also notes that soil eroded from the banks settles out of the water in the upstream regions of the reservoirs forming deltas. Reducing the erosion rates would reduce delta formation. The report quotes the Corps of Engineers as stating that bank erosion, unless halted, will gradually transform the present river into a wide area of sandbars, channels, and islands occupying most of the valley floor between bluffs, and will make boating, fishing, and withdrawal of water for off-river uses almost impossible.

This report concludes that the total estimated cost for reinforced revetment for all sites is \$13,640,000 and notes that bank erosion along the Missouri River continues to cause personal and business income losses, property tax revenue losses, irrigation pump site losses, natural hardwood forest losses, delta formation, and associated impacts to adjacent land. These losses will continue to mount until the Corps of Engineers mitigates the impacts being caused by the operation of Garrison Dam as directed in Section 33 of the Water Resources Development Act of 1988. Section 33 of the Water Resources Development Act of 1988 provides that "the Secretary of the Army is directed to undertake such measures, including maintenance and rehabilitation of existing structures, which the Secretary determines are needed to alleviate bank erosion and related problems associated with reservoir releases along the Missouri River between Fort Peck Dam, Montana, and a point 58 miles downstream of Gavins Point Dam, South Dakota, and Nebraska. The cost of such measures may not exceed \$3,000,000 per fiscal year. Notwithstanding any other provisions of law, the costs of these measures, including the costs of necessary real estate interests and structural features, shall be apportioned among project proposes [sic] as a joint-use operation and maintenance expense. In lieu of structural measures, the Secretary may acquire interests in affected areas, as the Secretary deems appropriate, from willing sellers."

Testimony

The committee received testimony that as a result of construction of dams on the Missouri River, the streambanks have experienced a great deal of erosion. Three-fourths of the needed protection is in place, and only 25 percent of the needed bank stabilization efforts need to be completed. The estimated cost of the remaining needed stabilization is approximately \$13.7 million. Testimony also indicated the delta formation at the headwaters of Lake Oahe has increased over the last 15 years, and if streambank and river bottom erosion continue at the same rate, they will have a significant impact on the city of Bismarck.

The committee received testimony that if the state or federal government were to continue rock riprapping of erosion sites on the Missouri River, it would violate the state's public trust responsibility to manage the river for the people of North Dakota. Testimony indicated the public interest, fish and wildlife interests, and recreation interests must be considered as well as what the losses are to private landowners caused by streambank erosion. Also, the issue of the formation of a delta is not new, and it has long been known that as fast-moving water that is carrying a significant sediment load hits slack water it drops the sediment to form a delta. The committee received testimony that studies are conflicting as to whether the sediment is coming from the Missouri River tributaries or its banks.

United States Army Corps of Engineers' *Master Manual*

The United States Army Corps of Engineers manages the six main stem dams and reservoirs on the Missouri River pursuant to the *Missouri River Master Water Control Manual (Master Manual)*. The *Master Manual* was developed in 1960, and with only slight revisions, the last of which occurred in 1979, is used to manage the river today. In response to a lawsuit filed by the Upper Missouri River Basin states against the Corps of Engineers, however, the Corps of Engineers has undertaken a process to revise the *Master Manual*. The *Master Manual* has been under review by the corps since 1989. The first proposed revisions to the *Master Manual* were released in 1994 but were not supported by the Upper Missouri River Basin states. The Corps of Engineers asked the Missouri River Basin Association to identify new recommendations for river management. As a result of this process, the Missouri River Basin Association submitted a list of recommendations. On January 13, 2000, the Corps of Engineers released a fact sheet that summarizes the key points of the northwestern division preferred alternative for the *Master Manual*. The fact sheet on the revised draft environmental impact statement for the preferred alternative for the *Master Manual* provides:

Flood control - The base of the annual flood control and multiuse zone will remain at 57.1 million acre feet. This is the target storage for the reservoir system on March 1 each year.

Navigation support triggers - (These are the storage levels that trigger releases for navigation service flows and season length. Lower levels trigger reduced releases for navigation earlier in droughts.) During a drought, navigation target flows will be reduced by 3,000 cubic feet per second if total system storage is less than 54.5 million acre feet on March 15. Target flows will be reduced by 3,000 cubic feet per second and the season shortened to 7.1 months if storage is less than 59 million acre feet on July 1. In a severe drought, target flows will be reduced by 6,000 cubic feet per second from July 1 to August 20 of the following year. A severe drought is defined as a year in which there is no gain in total storage between March 15 and July 1.

Minimum storage - (This establishes the minimum total storage in the reservoirs during droughts.) The new minimum will be 43 million acre feet in a drought like the 1980s. The low point during that event was 40.9 million acre feet in January 1989.

Navigation preclude - (This is the minimum storage level on March 15 for navigation support that year.) If total storage is less than 31 million acre feet, there will be no releases from the reservoirs to support navigation.

Flow enhancement at Fort Peck - There will be an increase in cold water flows from the powerhouse in May and June and a warm water release from the spillway from May through August. (These flows are expected to benefit warm water river fish such as the endangered pallid sturgeon.)

Flow enhancement at Gavins Point - The current schedule of flat releases will be maintained to benefit nesting interior least terns and piping plover, two protected shorebird species.

Split navigation season - The preferred alternative does not include a split navigation season.

Intrasystem unbalancing - This is a three-year cycle of rotating variable water storage in the three largest reservoirs. This will encourage growth of vegetation around the shorelines to provide fish spawning habitat and hiding places for young fish. Lake levels will drop three to five feet and not affect access.

Mississippi River navigation target - (This establishes a target flow of 90,000 cubic feet per second at St. Louis to benefit Mississippi River navigation during years of excess water in the Missouri River system.) A maximum additional 5,000 cubic feet per second will be released.

Comparison of the Economic and Environmental Benefits of the Preferred Alternative (% Change From the Current Water Control Plan)	
Economic Use/Environmental Resource	Preferred Alternative
Flood control economics	-1
Missouri River navigation economics	-1
Hydropower economics	1
Water supply economics	0
Recreation economics	4
Total national economics	0
Cold river fish temperature habitat	2
Cold reservoir fish temperature habitat	3
Warm river fish temperature habitat	-8
Warm river fish depth/velocity habitat	0
Young-of-year fish production	2
Tern and plover island habitat	43
Wetland habitat	1
Riparian habitat	-2
Historic properties erosion potential	-3
Mississippi River navigation economics	0

The Corps of Engineers has placed the preferred alternative for the *Master Manual* on hold pending the outcome of formal consultations on the operations of the Missouri River under the current water control plan, the Bank Stabilization and Navigation

Project, and the Kansas River Project under provisions of the Endangered Species Act with the United States Fish and Wildlife Service. The Fish and Wildlife Service has notified the Corps of Engineers that the current water control plan does not contain several elements necessary to avoid jeopardizing the continued existence of three protected species--the interior least tern, piping plover, and pallid sturgeon. The Endangered Species Act requires all federal agencies to work to conserve endangered and threatened species. Section 7 of the Endangered Species Act requires federal agencies to ensure that their actions do not jeopardize the existence of any listed species. The consultation period between the Corps of Engineers and the Fish and Wildlife Service may last up to 90 days, after which the service has 45 days in which to prepare a biological opinion on whether the Corps of Engineers action will jeopardize the continued existence of a listed species. Under the Endangered Species Act, jeopardy occurs when an action is reasonably expected to diminish a species' numbers, reproduction, or distribution so that the likelihood of survival and recovery in the wild is appreciably reduced. When the Fish and Wildlife Service makes a jeopardy determination, it also provides the consulting agency with reasonable and prudent alternatives to its proposed action. A reasonable and prudent alternative must be consistent with the purposes of the project, be consistent with the agency's legal authority and jurisdiction, be economically and technically feasible, and avoid jeopardy in the opinion of the Fish and Wildlife Service. Once the Fish and Wildlife Service has issued the biological opinion, the Corps of Engineers may then decide how to proceed. The Corps of Engineers could implement the actions identified in the reasonable and prudent alternatives, modify the project actions and consult again, or apply for an exemption.

The revised timeline for the revision of the *Master Manual* anticipated that the final biological opinion from the Fish and Wildlife Service would be issued on June 30, 2000. The revised draft environmental impact statement was scheduled to be published in September 2000, the public and tribal comment period ends in March 2001, and the final environmental impact statement is scheduled to be published in December 2001. The Washington, D.C., level review and final environmental impact statement is scheduled to be released in June 2002, and the record of decision issued in August 2002. The revised *Master Manual* is scheduled to be released in August 2002, the final annual operating plan issued in January 2003, and the final annual operating plan implemented in March 2003.

Testimony

The State Engineer testified the Corps of Engineers is forecasting runoff in the upper Missouri River for the year 2000 at 17.1 million acre feet. The median runoff is 24.6 million acre feet. The Corps of Engineers forecast calls for Lake Sakakawea to drop from its current level of 1,833.5 feet mean sea level to 1,829.8 feet mean sea level by the end of the year 2000. Lake Oahe is forecast to drop from 1,600 feet mean sea level to 1,599.6 feet mean sea level by the end of the year.

The State Engineer testified that based on the criteria in the Corps of Engineers preferred alternative for the *Master Manual*, the Missouri River is in a severe drought. The preferred alternative calls for releases to be reduced by 6,000 cubic feet per second and for the navigation season to end three weeks early. The State Engineer testified that the Governor has urged the Corps of Engineers to conserve additional water in upper basin reservoirs.

The State Engineer testified that the Corps of Engineers and the Fish and Wildlife Service are continuing their formal consultations regarding endangered species on the Missouri River. As a result in the delay of the issuance of the biological opinion by the Fish and Wildlife Service, the *Master Manual* environmental impact statement will also be delayed. The state of Missouri has filed suit against the Secretary of the Interior and the Fish and Wildlife Service alleging that the Fish and Wildlife Service has failed to designate critical habitat for the endangered species on the Missouri River in violation of the Endangered Species Act, and therefore the Fish and Wildlife Service should be ordered to cease consultation with the Corps of Engineers.

Land and Natural Resource Issues, Water Management, Land Use, and Development of a Long-Range Vision for the Missouri River in North Dakota

The Burleigh, Oliver, Morton, Mercer, and McLean Counties Joint Water Resource Board has established the Missouri River coordinated resource management program. This program is designed to coordinate the efforts of groups with interests in the reach of the Missouri River between Garrison Dam and Lake Oahe to address natural, cultural, recreational, agricultural, and economic resources of the Missouri River in North Dakota. The program is composed of representatives from state and federal agencies and agriculture, industry, landowner, environmental, and other private organizations. The program includes two groups--the Missouri assessment program technical group and the Missouri River vision group. The Missouri assessment program technical group is composed of several state and federal agencies that were brought together in an attempt to reach an agreement on the data and assessment needs necessary to aid the United States Army Corps of Engineers in completing its *Cumulative Impact Statement* for the reach of the Missouri River from the Garrison Dam to the headwaters of the Oahe Reservoir. This group is also charged with providing technical information to the vision group. The technical group is working to secure technical data on sediment, river channel conditions, impacts based on certain river flows, land use patterns, and other related issues. It is also developing a geographic information system for the river. The Missouri River vision group is composed of several state and federal agencies as well as a variety of groups and organizations associated with or having concerns regarding the Missouri River. The vision group is working to develop a long-range strategic plan for the Garrison reach of the Missouri River. Issues that the Missouri River coordinated resource management program will attempt to reach a consensus on include floodplain development; setbacks, development, and buffer zones; bank stabilization; and the resolution of public-private land

use conflicts.

Testimony

The committee received testimony from representatives of the Burleigh, Oliver, Morton, Mercer, and McLean Counties Joint Water Resource Board and the Sierra Club concerning the study. The committee received a draft strategic plan prepared by the vision group of the coordinated resource management program which identifies 10 issues to be addressed in the plan. These include aquatic habitat, land use issues, riverbank erosion, endangered species-sandbar habitat, floodplain management-delta formation, riparian woodlands-adjacent wetlands, historical-archaeological features, water quality, regulatory-jurisdictional issues, and *Master Manual*-reservoir operation. The strategic plan also identifies the goals, rationale, tasks, recommendations, and timelines for each of these 10 issues. Representatives of the Burleigh, Oliver, Morton, Mercer, and McLean Counties Joint Water Resource Board reported that the board is still working on developing a strategic plan concerning the Garrison reach of the Missouri River and has not reached a consensus concerning this issue.

Conclusion

The committee makes no recommendation concerning the study of Missouri River issues.