

MINUTES**North Dakota State Water Commission
Dickinson, North Dakota****October 21, 1991**

The North Dakota State Water Commission held a meeting at the Hospitality Inn, Dickinson, North Dakota, on October 21, 1991. Chairman, Lieutenant Governor Lloyd Omdahl, called the meeting to order at 9:00 AM, Mountain Daylight Time, and requested State Engineer and Chief Engineer-Secretary, David Sprynczynatyk, to call the roll. The Chairman declared a quorum was present. The meeting was held in conjunction with the annual meeting of the North Dakota Water Users Association and the North Dakota Water Resource Districts Association, and the Southwest Pipeline Project dedication.

MEMBERS PRESENT:

Lieutenant Governor Lloyd Omdahl, Chairman
Sarah Vogel, Commissioner, Department of Agriculture, Bismarck
Joyce Byerly, Member from Watford City
Marjorie Farstveet, Member from Beach
Jacob Gust, Member from West Fargo
Daniel Narlock, Member from Grand Forks
Norman Rudel, Member from Fessenden
Jerome Spaeth, Member from Fargo
David Sprynczynatyk, State Engineer and Chief Engineer-Secretary, North Dakota State Water Commission, Bismarck

MEMBER ABSENT:

Lorry Kramer, Member from Minot

OTHER PRESENT:

State Water Commission Staff Members
Approximately 50 persons in attendance interested in agenda items

The attendance register is on file in the State Water Commission offices (filed with official copy of minutes).

The meeting was recorded to assist in compilation of the minutes.

**APPOINTMENT OF
MARJORIE FARSTVEET
BEACH, ND, TO STATE
WATER COMMISSION**

Commission, replacing William Lardy. Her term is effective July 1, 1991 and extending to July 1, 1997.

Chairman Omdahl introduced Marjorie Farstveet, Beach, ND. Mrs. Farstveet was appointed by Governor Sinner to serve as a member of the State Water

APPROVAL OF AGENDA

declared the agenda approved and requested Secretary Sprynczynatyk to present the agenda.

There being no additional items for the agenda, the Chairman requested Secretary

**CONSIDERATION OF MINUTES
OF AUGUST 22, 1991 MEETING -
APPROVED**

The minutes of the August 22, 1991 meeting were approved by the following motion:

It was moved by Commissioner Byerly, seconded by Commissioner Vogel, and unanimously carried, that the minutes of the August 22, 1991 meeting be approved as circulated.

**CONSIDERATION OF MINUTES
OF SEPTEMBER 17, 1991
TELEPHONE CONFERENCE CALL
MEETING - APPROVED**

The minutes of the September 17, 1991 telephone conference call meeting were approved by the following motion:

It was moved by Commissioner Byerly, seconded by Commissioner Vogel, and unanimously carried, that the minutes of the September 17, 1991 telephone conference call meeting be approved as circulated.

AGENCY FINANCIAL STATEMENT

sed the Program Budget Expenditures and Programs/Projects Authorized, dated September 30, 1991, reflecting 12 percent of the current biennium.

Charles Rydell, Assistant State Engineer, presented and discussed the Program Budget Expenditures and Programs/Projects Authorized, dated September 30, 1991, reflecting 12 percent of the current biennium.

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**SOUTHWEST PIPELINE PROJECT -
PROJECT CONSTRUCTION UPDATE
(SWC Project No. 1736)**

Tim Fay, Manager of the Southwest Pipeline Project, provided the Commission members with a project construction update.

Mr. Fay reported construction at the Dodge and Richardton pump stations is in the final stages. The 32-hour test of the pumps was held on October 9 and 10, 1991, which is the final acceptance test of the pumps. If the test is successful, the pump stations will both be ready for service. The pre-final inspections for both pump stations will be scheduled shortly after the pump test.

Installation of the cathodic protection for the pipe between the intake and the Zap reservoir and between Richardton and Dickinson is in its final stages. Mr. Fay indicated that when this contract is complete, all of the existing main transmission line will have corrosion protection.

The Zap reservoir was inspected in September. Mr. Fay informed the Commission members that the paint on the interior was found to be blistered in places. The contractor was notified and the painting subcontractor was recalled to the site. The initial work went smoothly, but the last third of the finish coat was applied before the primer had properly cured. Mr. Fay indicated that portion of the job was rejected and the painting contractor refused to return and correct the job in the allocated time. The prime contractor was notified that the painting would have to be repaired at our convenience. These events occurred during the time in which the 32-hour pump tests were to be done. The pump tests had to be delayed while the tank was out of service. Mr. Fay explained since the tank is cathodically protected, there is no danger of serious corrosion damage in filling it in its present condition. The tank will be used until the second tank is in place.

**SOUTHWEST PIPELINE PROJECT -
FUTURE CONSTRUCTION
(SWC Project No. 1736)**

Tim Fay indicated that design of construction components for next year's work is underway.

These include the Dickinson pump station, transmission line to the New England area, the New England reservoir, the Davis Butte reservoir, transmission line to the Davis Butte reservoir, and the second storage tank north of Zap. Mr. Fay said the need for the second Zap tank became evident when the existing tank was out of service for painting.

**SOUTHWEST PIPELINE PROJECT -
BEGINNING OF SERVICE
(SWC Project No. 1736)**

Tim Fay indicated the actual service to Dickinson will begin soon after completion of the pump test. Lake Sakakawea water

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will be delivered to the Dickinson treatment plant as soon as the necessary adjustments to the treatment process are made. The treatment agreement is expected to be executed by that time.

**SOUTHWEST PIPELINE PROJECT -
RECLAMATION OF PIPELINE AREA
(SWC Project No. 1736)**

Commissioner Byerly discussed reclamation of the pipeline area, and commended the State Water Commission staff for its reclamation efforts.

**SOUTHWEST PIPELINE PROJECT -
CONSIDERATION OF REQUEST
FOR DELIVERY OF PROJECT
WATER TO SOUTH DAKOTA
(SWC Project No. 1736)**

Secretary Sprynczynatyk stated a request has been received from the Southwest Water Authority to consider a proposal to deliver water from the Southwest Pipeline Project into

South Dakota. The State Water Commission and the Legislature had previously discussed this proposal and it was the general consensus that the project could serve the people in South Dakota provided they pay for all of the additional costs to deliver water to South Dakota. Secretary Sprynczynatyk indicated the staff will be initiating communications relative to the request with the State of South Dakota.

**SOUTHWEST PIPELINE PROJECT -
CONSIDERATION AND APPROVAL
OF REQUEST FOR CREDIT
AGAINST CITY OF DICKINSON'S
CAPITAL REPAYMENT OF PROJECT
(SWC Project No. 1736)**

Tim Fay explained that under the terms of their water service agreements, communities can receive credit for eligible debt service against the capital repayment portion of their water fee. The credit is for 75

percent of the eligible annual debt service costs approved by the State Water Commission. Mr. Fay said the motivation for this credit was to allow cities to recover some of the costs they had incurred for facilities which will no longer be needed when Southwest Pipeline water becomes available.

Mr. Fay presented for the State Water Commission's consideration a claim from the City of Dickinson for credit under this provision. The eligible debt services are as follows:

| <u>Issue Date</u> | <u>Expiration Date</u> | <u>Remaining Principal</u> | <u>Total Credit (75%)</u> |
|-------------------------------|------------------------|----------------------------|---------------------------|
| 1966 | 1996 | \$375,000 | \$267,203 |
| 1977 | 1995 | 25,400 | 22,289 |
| (BOR Water Service Agreement) | | | \$ 3,047 |
| (Bascule Gates) | | | \$936,548 |

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Mr. Fay indicated that service to the City of Dickinson under the terms of the water service agreement will begin on November 15, 1991. Until that date, the operations will be conducted in a testing and exercise mode with the city paying the electrical power costs for pumping.

It was the recommendation of the State Engineer that the State Water Commission approve the 1966 issue, the 1977 issue, the Bureau of Reclamation water service agreement, and the bascule gate repayment for credit against the City of Dickinson's capital repayment of the Southwest Pipeline Project, all in the amounts shown in the table above under Total Credit (75%).

It was moved by Commissioner Rudel and seconded by Commissioner Gust that the State Water Commission approve the following eligible debt services for credit against the City of Dickinson's capital repayment of the Southwest Pipeline Project:

| <u>Issue Date</u> | <u>Total Credit 75%</u> |
|-------------------------|-----------------------------|
| 1966 | \$267,203 |
| 1977 | 22,289 |
| Bureau of Reclamation | |
| Water Service Agreement | 3,047 |
| Bascule Gates | 936,548 |

Commissioners Byerly, Farstveet, Gust, Narlock, Rudel, Spaeth, Vogel, and Chairman Omdahl voted aye. There were no nay votes. The Chairman declared the motion unanimously carried.

**SOUTHWEST PIPELINE PROJECT -
CONSIDERATION AND APPROVAL
OF ADJUSTMENT IN WATER
SERVICE RATES
(SWC Project No. 1736)**

Tim Fay indicated the Southwest Pipeline Project water service agreement states that the capital repayment is to be \$0.44 per thousand gallons, but that the State Water Commission can adjust that rate for inflation. Cumulative inflation since 1982 has been 141 percent, converting \$0.44 to \$0.62.

Mr. Fay stated that the expected cost of operation, maintenance and replacement exclusive of treatment is \$1.10 per thousand gallons.

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It was the recommendation of the State Engineer that the State Water Commission adjust the capital repayment portion of the water use fee to \$0.62 per thousand gallons.

It was moved by Commissioner Rudel and seconded by Commissioner Gust that the State Water Commission adjust the capital repayment portion of the water use fee for the Southwest Pipeline Project to \$0.62 per thousand gallons.

Commissioners Byerly, Farstveet, Gust, Narlock, Rudel, Spaeth, Vogel, and Chairman Omdahl voted aye. There were no nay votes. The Chairman declared the motion unanimously carried.

Henry Schank, Mayor of the City of Dickinson, addressed the issue of increasing the costs per thousand gallons to the retail customer. Currently, the city is charging \$2.00 per thousand gallons. Mayor Schank indicated that no decision has been made regarding an increase in the costs per thousand gallons, but based on the information provided, there will be a substantial increase.

**SOUTHWEST PIPELINE PROJECT -
DEDICATION OF FIRST PHASE
OF PROJECT SCHEDULED FOR
OCTOBER 22, 1991
(SWC Project No. 1736)**

Tim Fay stated the dedication ceremony for the first phase of the Southwest Pipeline Project is scheduled for October 22, 1991 in Dickinson. Copies of the dedication brochure and the

project brochure were distributed to the Commission members.

**CONSIDERATION OF REALLOCATION
OF RESOURCES TRUST FUND FOR
1991-1993 BIENNIUM**

At the June 24, 1991 meeting, the State Water Commission approved a tentative allocation from the Resources Trust Fund

for the 1991-1993 biennium based on the \$14.9 million spending authority approved by the Legislature. Secretary Sprynczynatyk said funding from the Resources Trust Fund is also limited to the actual money available.

The Resources Trust Fund had a balance of \$8,548,336 on June 30, 1991. The total revenue projected for the 1991-1993 biennium was estimated at \$7,133,726 in March, 1991. In addition, the state has been reimbursed by

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the federal government for the Southwest Pipeline Project in the amount of \$3,603,792. As a result, Secretary Sprynczynatyk indicated that the total amount available for the 1991-1993 biennium is estimated at \$19,285,854.

Secretary Sprynczynatyk stated that based on this forecast, it appears there is a deficit of \$497,164. Because this forecast will be updated in December, 1991 and every six months thereafter, it was the State Engineer's recommendation that the deficit not be allocated at this time.

The previous Souris River Flood Control allocation was \$1.8 million, but \$162,076 was expended last biennium; consequently only \$1,637,924 remains.

Secretary Sprynczynatyk indicated the main concern at this time is in the MR&I area. The \$5,219,490 will be totally committed in 1992 as part of the 35 percent loan program. He said this means that no money will be available in 1993 for the MR&I loan program unless we can once again obtain reimbursement for the state funds spent on the Southwest Pipeline Project above the 25 percent requirement. Including the \$3.6 million reimbursement, the Southwest Pipeline Project's current expenditures include \$31.6 million-federal, \$22.4 million-state, for a total of \$54 million. The \$22.4 million of state funds is still above the minimum 25 percent requirement of \$13.5 million, but taking large reimbursements at this time will require larger than expected future state contributions in order to complete the Southwest Pipeline Project.

Secretary Sprynczynatyk presented for the Commission's consideration, the following reallocation request for funding from the Resources Trust Fund for the 1991-1993 biennium:

| | |
|---|------------------|
| Garrison MR&I Water Supply Program | \$ 4,000,000 |
| Maple River Dam | 1,000,000 |
| Devils Lake Feasibility Study | 800,000 |
| Na chiin Huun - Dakota Project (formerly NAWS) | 150,000 |
| Drought Disaster Livestock Program | 250,000 |
| Hydrologic Investigations | 556,446 |
| State Water Commission Operations | 1,546,776 |
| Southwest Pipeline Project | 2,500,000 |
| Souris River Flood Control Project | 1,637,924 |
| General Projects | <u>1,609,495</u> |
| Totals | \$14,040,641 |
| Deficit | <u>(497,164)</u> |
| Actual Available in Resources Trust Fund for 1991-1993 Biennium | \$13,553,477 |

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It was moved by Commissioner Gust and seconded by Commissioner Narlock that the State Water Commission approve funding reallocations from the Resources Trust Fund for the 1991-1993 biennium as recommended by the State Engineer.

Commissioners Byerly, Farstveet, Gust, Narlock, Rudel, Spaeth, Vogel, and Chairman Omdahl voted aye. There were no nay votes. The Chairman declared the motion unanimously carried.

**GARRISON DIVERSION PROJECT -
PROJECT UPDATE
(SWC Project No. 237)**

At the August 22, 1991 meeting, the Commission obligated \$40,000 from the Contract Fund to retain the firm of Will & Muys as an environmental consultant for the Garrison Diversion Project, with the balance of the costs to be paid by the Garrison Diversion Conservancy District and the State Game and Fish Department.

Secretary Sprynczynatyk reported that Governor Sinner has entered into an agreement with Will & Muys as the environmental consultant for the Garrison Diversion Project, and the State Water Commission, the Conservancy District and the Game and Fish Department have entered into a cost sharing agreement.

Congress has approved \$33 million of federal funds for the Garrison Diversion Project for Fiscal Year 1992, which began October 1, 1991. The Bureau of Reclamation is currently in the process of finalizing the allocation of those funds. Funds were not included in the FY '92 appropriation for further construction of the project's central supply works.

Secretary Sprynczynatyk briefed the Commission members on the project construction progress. The final contract on the New Rockford Canal will be completed this fall and will complete all of the construction that is pending in terms of the FY '91 appropriation.

Secretary Sprynczynatyk briefed the Commission members on a meeting held with the United States-Canada Joint Technical Committee on October 15, 1991 in Oakes, ND. He said the committee discussed several issues and indicated the meeting was very beneficial.

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**GARRISON DIVERSION PROJECT -
CITY OF ADAMS WATER SUPPLY
(SWC Project No. 237-3)**

Secretary Sprynczynatyk briefed the Commission members that the City of Adams has reported its water supply has failed and they are currently hauling water. Representatives from the city will be meeting with the State Engineer and staff on October 22, 1991 to discuss and consider options for their source of water supply. Secretary Sprynczynatyk indicated one alternative would be to drill a new well, at an approximate cost of \$20,000. Another alternative would be an extension to the Langdon rural water system to serve the City of Adams, at an approximate cost of \$80,000 - \$100,000.

**GARRISON DIVERSION PROJECT -
MR&I WATER SUPPLY PROGRAM UPDATE
(SWC Project No. 237-3)**

Jeffrey Mattern, MR&I Water Supply Program Coordinator, reported there are 121 projects in the different phases of the MR&I Water Supply Program. This includes 47 projects in the initial application phase, 34 projects in the preliminary engineering phase, 19 in the feasibility phase, 2 in design and construction, 14 projects have been completed, and 5 applications have been withdrawn.

Mr. Mattern indicated that major construction should be completed this fall on the rural water systems for Agassiz, McLean-Sheridan and Langdon.

The City of Napoleon is the newest application to the MR&I Program. The request involves improvements to help solve water quantity and quality problems.

The evaluation report was recently completed on a joint water supply project for the City of Devils Lake, Fort Totten Indian Reservation, and Ramsey County Rural Water. A request for drought funding assistance was submitted to the Bureau of Reclamation for connecting the City of Stanley to the Ray-Tioga water system.

**GARRISON DIVERSION PROJECT -
CONSIDERATION AND APPROVAL
TO INCLUDE PAINTED WOODS
SERVICE AREA IN MCLEAN-
SHERIDAN RURAL WATER PROJECT
(SWC Project No. 1782)**

Jeffrey Mattern presented a request from the McLean-Sheridan Joint Water Resource Board for a change order which adds an additional eight hookups to Phase II of the rural water project, and two pipeline loops in service area two. The eight hookups are in the Painted Woods service area four miles southeast of Washburn. Mr. Mattern indicated that the ND Department of Transportation rest area, located along Highway 83, is one of the hookups and has an

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estimated water usage of 26,000 gallons per month. The loops would benefit approximately 40 users in service area two, which has reached maximum capacity since being completed. The change order includes pipelines, valves, meters, curb stops, crossing Painted Woods Creek and several roadway crossings.

Mr. Mattern indicated the Painted Woods service area was not in the original project bid. The owner and the contractor negotiated a new set of unit prices, resulting in a cost of \$200,264.80. This cost would change the total system's cost per user from \$7,300 to \$7,376. Mr. Mattern said this change order would not require an additional MR&I grant, since Phase II budgeted for additional users during construction.

It was the recommendation of the State Engineer that the State Water Commission approve the addition of the Painted Woods service area and pipeline loops in service area two, totalling \$200,264.80. This approval would be contingent upon the availability of funds and that the sponsor continue to meet all requirements of the MR&I Water Supply Program.

The Garrison Diversion Conservancy District considered and approved this request at its October 10, 1991 Board of Directors meeting.

Ivon Boe, Chairman of the McLean-Sheridan Joint Water Resource Board, briefed the Commission members on the status of the project, and expressed appreciation to the Commission, the State Engineer and staff for its support.

It was moved by Commissioner Byerly and seconded by Commissioner Vogel that the State Water Commission approve the addition of the Painted Woods service area and pipeline loops in service area two to the McLean-Sheridan Rural Water Project, totalling \$200,264.80. This motion is contingent upon the availability of funds and that the sponsor continue to meet all requirements of the MR&I Water Supply Program.

Commissioners Byerly, Farstveet, Gust, Narlock, Rudel, Spaeth, Vogel, and Chairman Omdahl voted aye. There were no nay votes. The Chairman declared the motion unanimously carried.

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**GARRISON DIVERSION PROJECT -
CONSIDERATION AND APPROVAL
OF CONTRACT FUND LOAN FOR
MISSOURI WEST RURAL WATER,
PHASE I
(SWC Project No. 237-27)**

areas, north of the Heart River, and to 420 rural users and the communities of Almont, Crown Butte, New Salem and Riverview Heights. The total estimated cost is \$9,791,399. The cost covers the option of a new water treatment plant or obtaining a bulk water service from the City of Mandan.

The Missouri West Rural Water Project will provide service to Morton County and is being developed by the Morton County Water Resource Board. Phase I will provide water to the Mandan and New Salem service areas, north of the Heart River, and to 420 rural users and the communities of Almont, Crown Butte, New Salem and Riverview Heights. The total estimated cost is \$9,791,399. The cost covers the option of a new water treatment plant or obtaining a bulk water service from the City of Mandan.

Jeffrey Mattern stated that the Mandan service area would be completed first and includes bulk service to the Crown Butte community. The estimated cost for the Mandan service area is \$3.5 million and includes design of the New Salem area. The State Water Commission and the Garrison Diversion Conservancy District previously approved a federal MR&I Water Supply Program grant for 65 percent of the eligible costs, not to exceed \$2,275,000. The remaining \$1,225,000 was proposed as a State Water Commission Contract Fund loan with a term of 25 years and an interest rate of 3 5/8 percent.

It was the recommendation of the State Engineer that the State Water Commission approve a loan from the Contract Fund in the amount of \$1,225,000 with interest of 3 5/8 percent and a term of 25 years. Approval would be contingent upon the availability of funds and that Missouri West Rural Water meet all MR&I program requirements and conditions in the North Dakota Water Supply Development Program.

The request was considered and approved by the Garrison Diversion Conservancy District at its meeting on October 10, 1991.

Lloyd Huber, Morton County Water Resource Board, briefed the Commission members on the project and indicated that a signup coordinator has been hired. The consulting engineers for the project are Bartlett and West, and Mr. Huber said public informational meetings have been scheduled. He expressed appreciation to the Commission for its support and requested favorable consideration of their request.

It was moved by Commissioner Spaeth and seconded by Commissioner Rudel that the State Water Commission approve a loan from the Contract Fund in an amount not to exceed \$1,225,000, with interest of 3 5/8 percent and a term of 25 years for Phase I of the Missouri

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West Rural Water Project. This motion is contingent upon the availability of funds and that the Missouri West Rural Water meet all MR&I Program requirements and conditions in the North Dakota Water Supply Development Program.

Commissioners Byerly, Farstveet, Gust, Narlock, Rudel, Spaeth, Vogel, and Chairman Omdahl voted aye. There were no nay votes. The Chairman declared the motion unanimously carried.

**GARRISON DIVERSION PROJECT -
CONSIDERATION AND APPROVAL OF
LOAN FROM CONTRACT FUND FOR
TRI-COUNTY RURAL WATER PROJECT
(SWC Project No. 237-17)**

Jeffrey Mattern indicated that the Tri-County Rural Water project provides water service to over 900 rural and urban families. The area served involves portions of Walsh, Nelson,

Grand Forks, Steele and Ramsey counties. The project is to provide additional storage and improve the delivery of water to high demand areas. Mr. Mattern said the estimated cost of the project is \$283,000.

The State Water Commission and the Garrison Diversion Conservancy District previously approved a federal MR&I Water Supply Program grant for 65 percent of the eligible costs, not to exceed \$183,950. Mr. Mattern indicated that the remaining \$99,050 was proposed as a State Water Commission loan, with a term of 25 years and interest rate of 3 5/8 percent. The cost estimate has been increased to \$545,000, due to inflation and project additions. Mr. Mattern said there are no funds available for this increase, but a request for additional assistance could be considered if funds become available. He said it is important for the project sponsor to continue in developing a project to utilize FY '92 funding.

It was the recommendation of the State Engineer that the State Water Commission approve a loan from the Contract Fund, not to exceed \$99,050, with interest of 3 5/8 percent and a term of 25 years. Approval would be contingent upon the availability of funds and that the Tri-County Water Users meet all MR&I Program requirements and conditions in the North Dakota Water Supply Development Program.

The Garrison Diversion Conservancy District considered and approved the request at its meeting on October 10, 1991.

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Mike Blessner, Manager of the Tri-County Rural Water Association, briefed the Commission on the project, and requested favorable consideration of the request.

It was moved by Commissioner Narlock and seconded by Commissioner Vogel that the State Water Commission approve a loan from the Contract Fund, in an amount not to exceed \$99,050, with interest of 3 5/8 percent and a term of 25 years, for the Tri-County Rural Water Project. This motion is contingent upon the availability of funds and that the Tri-County Water Users meet all MR&I Program requirements and conditions in the North Dakota Water Supply Development Program.

Commissioners Byerly, Farstveet, Gust, Narlock, Rudel, Spaeth, Vogel, and Chairman Omdahl voted aye. There were no nay votes. The Chairman declared the motion unanimously carried.

**GARRISON DIVERSION PROJECT -
CONSIDERATION AND APPROVAL
OF LOAN FROM CONTRACT FUND
FOR CITY OF STANLEY
(SWC Project No. 237-3)**

to recharge the well's aquifer.
to 1,371 people.

Jeffrey Mattern reported that the City of Stanley has been rationing water since 1988 due to the declining surface water in the Stanley reservoir and lack of precipitation available. The city supplies domestic water

In 1990, the city was virtually out of water so two groundwater wells were drilled at a cost of \$70,000. Most residents haul their drinking water due to the poor water quality. Mr. Mattern said the long-term solution for Stanley is to obtain water from the Ray-Tioga water system. The estimated cost is \$2.9 million and involves connecting the two systems with 27 miles of transmission pipeline. This is approximately the same distance required for providing the city with service from the Na chiin Huun - Dakota Project (formerly known as the Northwest Area Water Supply Project).

The State Water Commission and the Garrison Diversion Conservancy District previously approved a federal MR&I Water Supply Program grant for 65 percent of the eligible costs, not to exceed \$1,878,500. The remaining \$1,011,500 was proposed as a State Water Commission loan with a term of 25 years and an interest rate of 3 5/8 percent.

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It was the recommendation of the State Engineer that the State Water Commission approve a loan from the Contract Fund, not to exceed \$1,011,500, with an interest rate of 3 5/8 percent and a term of 25 years. Approval is contingent upon the availability of funds and that the City of Stanley meet all requirements of the MR&I Program and the North Dakota Water Supply Development Program.

The Garrison Diversion Conservancy District considered and approved this request at its October 10, 1991 meeting.

David Sandberg, Mayor of the City of Stanley, provided comments relative to the project and requested the Commission's favorable consideration.

It was moved by Commissioner Byerly and seconded by Commissioner Vogel that the State Water Commission approve a loan from the Contract Fund, in an amount not to exceed \$1,011,500, with an interest rate of 3 5/8 percent and a term of 25 years, for the City of Stanley Water Supply Project. This motion is contingent upon the availability of funds and that the City of Stanley meet all requirements of the MR&I Program and the North Dakota Water Supply Development Program.

Commissioners Byerly, Farstveet, Gust, Narlock, Rudel, Spaeth, Vogel, and Chairman Omdahl voted aye. There were no nay votes. The Chairman declared the motion unanimously carried.

**GARRISON DIVERSION PROJECT -
CONSIDERATION AND APPROVAL
OF LOAN FROM CONTRACT FUND
FOR CITY OF KINDRED
WATER SUPPLY PROJECT
(SWC Project No. 237-40)**

Jeffrey Mattern reported that the City of Kindred has been working on a solution to their water problem for years. The city supplies domestic water to 569 people. Groundwater is available in quantity, but is of poor quality. Mr. Mattern said the project would connect the city to Cass Rural Water, which could provide a bulk water supply of good quality and quantity. The estimated cost is \$392,000. This involves a transmission pipeline, water storage reservoir, and pumphouse. The city was able to secure limited funding through the Community Development Block Grant Program for the storage reservoir and pumphouse. Additional funding of \$132,000 is needed for the transmission pipeline.

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The State Water Commission and the Garrison Diversion Conservancy District previously approved a federal MR&I Water Supply Program grant for 65 percent of eligible costs, not to exceed \$85,800. The remaining \$46,200 was proposed as a State Water Commission loan with a term of 25 years and an interest rate of 3 5/8 percent.

It was the recommendation of the State Engineer that the State Water Commission approve a loan from the Contract Fund, not to exceed \$46,200, with a term of 25 years and an interest rate of 3 5/8 percent. Approval is contingent upon the availability of funds and that the City of Kindred meet all requirements of the MR&I Program and the North Dakota Water Supply Development Program.

The Garrison Diversion Conservancy District approved this request at its October 10, 1991 meeting.

It was moved by Commissioner Gust and seconded by Commissioner Vogel that the State Water Commission approve a loan from the Contract Fund, in an amount not to exceed \$46,200, with an interest rate of 3 5/8 percent and a term of 25 years, for the City of Kindred Water Supply Project. This motion is contingent upon the availability of funds and that the City of Kindred meet all requirements of the MR&I Water Supply Program and the North Dakota Water Supply Development Program.

Commissioners Byerly, Farstveet, Gust, Narlock, Rudel, Spaeth, Vogel, and Chairman Omdahl voted aye. There were no nay votes. The Chairman declared the motion unanimously carried.

**GARRISON DIVERSION PROJECT -
CONSIDERATION AND APPROVAL
OF LOAN FROM CONTRACT FUND
FOR RAMSEY COUNTY RURAL
WATER PROJECT
(SWC Project No. 237-5)**

Jeffrey Mattern indicated the evaluation report was recently completed on a joint water supply project for the City of Devils Lake, Fort Totten Indian Reservation and the Ramsey County Rural Water Project. The main water supply, main transmission pipeline, and treatment plant were the only joint components. The three entities would individually control their respective distribution system.

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Mr. Mattern explained the project is being developed in phases, with Phase I to be completed in 1992, at an estimated cost of \$6.0 million. The State Water Commission and the Garrison Diversion Conservancy District previously approved a federal MR&I Water Supply Program grant for 65 percent of eligible costs, not to exceed \$3.9 million. The remaining \$2.1 million was proposed as a State Water Commission loan with a term of 25 years and an interest rate of 3 5/8 percent.

Mr. Mattern indicated the project design was approved for a 75 percent federal MR&I grant of \$401,250. The local 25 percent share of design costs is paid from the system's hookup fees. A portion of the design involves the joint report cost, which is equally shared by Ramsey County, the Tribe and the City. Mr. Mattern said Ramsey County has requested a loan for the local 25 percent share of design costs of \$129,596. This loan would have an interest rate of 7.0 percent and a term of 25 years, and would enable cash reserves for initial system start-up.

It was the recommendation of the State Engineer that the State Water Commission approve a loan, not to exceed \$129,596, with an interest rate of 7.0 percent and a term of 25 years; and a loan, not to exceed \$2,100,000, with an interest rate of 3 5/8 percent and a term of 25 years. Commission approval is contingent upon the availability of funds and that the Ramsey County Rural Water Association meet all requirements of the MR&I Program and the North Dakota Water Supply Development Program.

The Garrison Diversion Conservancy District approved this request at its October 10, 1991 meeting.

Robert Garske, Chairman of the Ramsey County Water Resource Board, introduced the members of the Board. He provided comments relative to the project, which is designed for 700 members, and said efforts are underway to increase the membership. Mr. Garske expressed appreciation to the Commission for its cooperation and support and urged favorable consideration of their request.

It was moved by Commissioner Narlock and seconded by Commissioner Gust that the State Water Commission approve a loan from the Contract Fund, in an amount not to exceed \$129,596, with an interest rate of 7.0 percent and a term of 25 years; and a loan from the

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Contract Fund, in an amount of \$2,100,000, with an interest rate of 3 5/8 percent and a term of 25 years, for the Ramsey County Rural Water Supply Project. This motion is contingent upon the availability of funds and that the Ramsey County Rural Water Association meet all requirements of the MR&I Program and the North Dakota Water Supply Development Program.

Commissioners Byerly, Farstveet, Gust, Narlock, Rudel, Spaeth, Vogel, and Chairman Omdahl voted aye. There were no nay votes. The Chairman declared the motion unanimously carried.

**CONSIDERATION OF COST
SHARING REQUEST FOR WETLANDS
DEVELOPMENT AND PROTECTION
EPA GRANT
(SWC Project Nos. 1489-3&4)**

Dakota Water Users Association. On August 24, 1989, the State Water Commission approved a three-year proposal for a North Dakota wetlands education and policy development project in collaboration with the North Dakota Water Users Association. A proposal for first-year funding of \$40,000 was submitted to the Environmental Protection Agency Region VIII in Denver. In July, 1990, the EPA approved the \$40,000 grant, which also included \$15,000 and \$5,000 in-kind matching funds by the Water Users Association and the North Dakota Wetlands Trust. The grant period was from July 1, 1990 through September 30, 1991.

Michael Dwyer, Executive Vice President of the North Dakota Water Users Association, explained that the initial grant award included two major goals: 1) the development of a wetlands management handbook for landowners, political subdivisions and natural resource managers; and 2) the development and conducting of a network of statewide and selected county educational meetings of landowners, political subdivisions, and natural resource managers regarding wetlands programs and the cooperative approach to their management. Mr. Dwyer said the results of accomplishing these goals greatly enhanced North Dakota's current efforts in continuing a cooperative approach to resolving wetlands issues between water, agriculture, and conservation groups.

Mr. Dwyer indicated that because of the high interest generated through the first-year wetlands education and policy development program and the need to expand the program to additional individuals, organizations, and areas within North Dakota, a second-year grant was submitted to the EPA. In September, 1991, the EPA approved a \$65,000

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second-year grant, including a \$15,000 indirect and \$10,000 direct cost matching by the Water Users Association and other local and private sources for a total project cost of \$90,000. Mr. Dwyer said the major goals of this second-year program include: 1) the broad implementation of North Dakota's no net loss of wetlands program and the state's wetlands policy; and 2) the ability to develop projects that meet the needs of water management, profitable agriculture, and wetlands protection.

The State Engineer will serve as the project manager for the second-year grant, with the State Water Commission as the grant recipient and payee. The Water Users Association will serve as subrecipient and will provide the overall day-to-day direction of the second-year grant and project implementation in close collaboration with the State Water Commission through an agreement between the North Dakota Water Users Association and the State Water Commission. Mr. Dwyer indicated that the Water Users Association may subcontract with several designated individuals to carry out the project goals and tasks.

Mr. Dwyer presented a progress report for the first-year grant and grant proposal information for the second-year grant.

It was the recommendation of the State Engineer that the State Water Commission approve and accept the second-year Environmental Protection Agency grant proposal of \$65,000.

It was moved by Commissioner Vogel and seconded by Commissioner Rudel that the State Water Commission approve and accept the second-year Environmental Protection Agency grant proposal of \$65,000.

Commissioners Byerly, Farstveet, Gust, Narlock, Rudel, Spaeth, Vogel, and Chairman Gust voted aye. There were no nay votes. The Chairman declared the motion unanimously carried.

**DROUGHT DISASTER LIVESTOCK
WATER SUPPLY PROJECT
ASSISTANCE PROGRAM UPDATE
(SWC Project No. 1851)**

58 projects approved. Total project costs are estimated at \$239,130, while cost sharing approved to date is \$92,232. An

Secretary Sprynczynatyk reported 85 applications have been received in the Drought Disaster Livestock Water Supply Project Assistance Program with

October 21, 1991

affidavit is now sent to participants who have completed their projects, which requires cancelled checks, notarized signatures and statements regarding the projects. Five projects are completed and paid with project costs of \$15,852 and cost sharing expended \$6,278. Fourteen other projects are reported completed but are waiting return of the affidavits to finish processing.

**NA CHIIN HUUN - DAKOTA
PROJECT UPDATE
(FORMERLY NORTHWEST AREA WATER
SUPPLY/FORT BERTHOLD INTEGRATED
WATER SUPPLY PROJECT)
(SWC Project No. 237-4)**

At the August 22, 1991 meeting, the Commission was advised of the desire of the Tribal Business Council of the Three Affiliated Tribes to have the intake structure for the Northwest Area Water Supply/Fort

Berthold Integrated Water Supply Project located on the reservation instead of Lake Audubon. Lieutenant Governor Omdahl wrote a letter to Chairman Wilbur Wilkenson asking for a meeting with the Chairman and the State Engineer in order to resolve this issue. The meeting was scheduled for September 4, 1991, which was the date scheduled for the second meeting of the Advisory Committee.

Secretary Sprynczynatyk indicated Chairman Wilkenson did not attend the September 4th meeting. At this meeting, the engineering and economics of locating the intake structure at Lake Audubon were explained and discussed. It was stated that if the intake was moved westerly, construction costs could increase by as much as \$37 million and pumping costs could exceed \$600,000. The Advisory Committee unanimously agreed to accept the report and to refer it to the Tribal Business Council for their discussion. The Advisory Committee also agreed to meet at the call of Don Morgan, Assistant Committee Chairman, who would try to coordinate and schedule a meeting in New Town with the Tribal Business Council. Secretary Sprynczynatyk indicated the meeting never materialized.

On October 2, 1991, the Advisory committee met for the third time and unanimously approved the draft of proposed legislation as revised. Senator Conrad is expected to introduce legislation shortly which, among other things, would make the project eligible for federal funding assistance in a manner similar to the current MR&I Program.

The committee also approved a new name for the project as suggested by the Three Affiliated Tribes as an acceptable name for the project. The new project name is Na chiin Huun - Dakota Project. Na chiin Huun is Arikara for "The Large Water".

October 21, 1991

Larry Hanson, Mayor of the City of Williston, inquired about the proposed funding for the project. He expressed support for water development in the state, but he also stressed the importance of completing the phased development of the Na chiin Huun - Dakota Project prior to initiating major water development projects in the state.

Secretary Sprynczynatyk addressed Mayor Hanson's concerns and explained the project proposal relating to funding and development.

**STATE WATER MANAGEMENT
PLAN UPDATE
(SWC Project No. 322)**

LeRoy Klapprodt, State Water Commission Planning and Education Division, reported that the third round of public meetings associated with the State Water Management planning process have been completed.

The meetings were held with each of the eight Citizens Advisory Boards to distribute the final goals and objectives for the regions, review and discuss problems and opportunities identified to date, and discuss the efforts and findings of the Governor's Water Strategy Task Force. Seven of the Citizen Advisory Boards approved resolutions of support for the findings of the Task Force. The resolutions are to be sent to legislators to impress upon them the importance and urgency of water development to North Dakota. Mr. Klapprodt said the Upper Red River Citizens Advisory Board chose to show its support by contacting individual legislators on a personal basis rather than with an endorsement from the board.

The fourth round of public meetings of the Citizens Advisory Boards will be held in late January or early February, at which time the boards will evaluate and prioritize alternatives that have been developed to address the issues, problems, and opportunities in their region.

**GOVERNOR'S WATER STRATEGY
TASK FORCE UPDATE
(SWC Project No. 1852)**

Secretary Sprynczynatyk distributed copies and discussed the Governor's Water Strategy Task Force Final Report. The Final Report is attached hereto as Appendix "A".

Secretary Sprynczynatyk stated that although the public meetings held in September went well, because of the insistence of the legislative leadership that the special session of the Legislature be limited to re-districting, it is very unlikely the water development funding package will be considered in November. A meeting is scheduled on October 24, 1991 with the Interim Natural Resources Committee to further

October 21, 1991

explain the recommendations of the Task Force. Secretary Sprynczynatyk said it is hoped that the Committee, at a minimum, will approve the water development plan and continue to study how to fund it.

The possibility of a water use fee, or tax, was briefly discussed. Commissioner Gust reiterated the comments he made at the August 22, 1991 Commission meeting. He said it is very important that a water use fee proposal receive support from the water users, and "if we are going to come up with a package that will sell to the voters of North Dakota, it would be better if there was a tax on the water used instead of shifting the burden of financing these projects over to income tax or to a sales tax."

**DEVILS LAKE MANAGEMENT
PROJECT UPDATE
(SWC Project No. 1712)**

A briefing on the Devils Lake Management Project was deferred until the joint meeting of the State Water Commission and the Garrison Diversion Conservancy District scheduled for October 23, 1991.

**MISSOURI RIVER UPDATE
(SWC Project No. 1392)**

Secretary Sprynczynatyk reported Nancy Dorn, Assistant Secretary of Army for Civil Works, held a public hearing in Bismarck on October 16, 1991 on the 1992 Missouri River management. Testimony was presented at the hearing relative to concerns about the proposed 1992 Missouri River Operating Plan. Ms. Dorn was asked to consider using an operating plan for 1992 similar to what was used in 1991. The 1991 plan helped recover over 3 million acre-feet of storage in the system and added five feet to the level of Lake Sakakawea. The Corps of Engineers was asked to consider both fairness and equity in making its decision on the Annual Operating Plan. Secretary Sprynczynatyk said Ms. Dorn's presence in Bismarck helped the people realize the attention being given to our problem by the federal government and the Corps of Engineers.

**SOURIS RIVER FLOOD
CONTROL PROJECT UPDATE
(SWC Project No. 1408)**

Secretary Sprynczynatyk briefed the Commission members on the Souris River Flood Control Project. Construction on the Rafferty Dam is nearly complete. A court decision has delayed construction of the Alameda Dam, although the Provincial Government in Saskatchewan was successful in obtaining an agreement to continue construction of the Alameda Dam to a point

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where it would be safe from a dam safety standpoint. Construction on the Alameda Dam is progressing under the agreement, but completion of the project is pending on the required approvals.

**CONTINUED DISCUSSION
RELATIVE TO POLICY FOR
REIMBURSEMENT FOR STATE
WATER COMMISSION MEMBERS**

Chairman Omdahl requested that the Commission defer discussion relative to the reimbursement policy for State Water Commission expenses until a future meeting.

**UPPER MISSOURI WATER
USERS CONFERENCE SCHEDULED
FOR NOVEMBER 20-22, 1991
IN CODY, WYOMING**

The Upper Missouri Water Users Conference is scheduled for November 20-22, 1991 in Cody, Wyoming. Commissioners Gust, Spaeth, Rudel and Farstveet expressed interest and requested approval to attend the conference.

Chairman Omdahl requested the State Engineer to coordinate arrangements for the conference with the Commission members.

**FEDERAL WETLANDS
DELINEATION
(SWC Project No. 1810)**

At the August 22, 1991 meeting, the Commission members were informed that a federal decision was made to revise the 1989

Federal Manual for the Delineation of Jurisdictional Wetlands. After conducting hearings throughout the country and obtaining comments, a new manual known as the 1991 Federal Delineation Manual for Vegetated Wetlands was formulated.

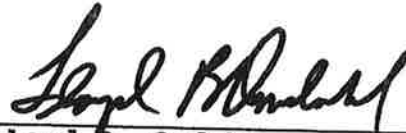
Secretary Sprynczynatyk stated that the federal signatory members have tested the manual in North Dakota, specifically on prairie potholes using the exception criteria. They have found that approximately 25 percent of the areas considered wetlands under the 1989 manual no longer meet the wetland definition under the proposed 1991 manual. Field testing has revealed the proposed manual is confusing, extremely difficult to use and contains technical inaccuracies.

The proposed 1991 manual, as published in the Federal Register, allowed a comment period until October 15, 1991. Secretary Sprynczynatyk said that because of the number of comments received and the extent of opposition from all sectors, the comment period was extended for an additional 60 days. The State Water Commission staff is continuing to review the manual and the results of the field testing in North Dakota.

October 21, 1991

Secretary Sprynczynatyk distributed copies and discussed a letter that was submitted to the Environmental Protection Agency. The letter contained the comments that were provided to the Governor's office for coordination and submission as a state position. Commissioner Vogel briefed the Commission members on comments that were provided from the Department of Agriculture.

There being no further business to come before the State Water Commission, it was moved by Commissioner Narlock, seconded by Commissioner Spaeth, and unanimously carried, that the State Water Commission meeting adjourn at 12:00 p.m.



Lloyd B. Omdahl
Lieutenant Governor-Chairman

SEAL



David A. Sprynczynatyk
State Engineer and
Chief Engineer-Secretary

October 21, 1991

NORTH DAKOTA STATE WATER COMMISSION

REGISTER

ATTENDANCE AT State Water Commission Meeting
 DATE October 21, 1991 PLACE Dickinson, ND
 PROJECT NO. _____

| Your Name | Your Address | Who do you Represent? (Or Occupation) |
|--------------------|--|---|
| Milt Hochoew | 1530 Skyline - Jamestown | ODCD- |
| JEROLD R. BACKES | SUITE 201 2718 GATEWAY AVE - BISMARCK | BWD/DEC BARTLETT & WEST ENGINEERS |
| Lloyd H. Huber | RR 2, Box 130 New Salem ND | Muster Co. & R. Dist |
| Butt Weirich | Buolaha, N.D.A.K | Merced County |
| Felicia Felix Fox | P.O. Box #128 | MRTI Three Affiliated Tribes |
| MAYNARD DEMARAY | BOX 906 NEWTOWN | (THREE AFFILIATED MRTI WATER PROJECT TRIBES) |
| Madgean Young Bean | Box # 154 New Town, ND | MRTI Water Project (Three Affiliated Tribes) |
| Walter E. Sailer | 306 2nd Ave NW | Merced County Water Resource |
| CHARLES VEIN | 1204 So. 23 rd St., GRAND FORKS | ADVANCED ENGINEERING |
| ARLY SMITH | 600 E. Blvd. | OMIB |
| Willie Mastel | 1264-11 th St W | Dickinson S. W. Authority |
| Mike Blossum | Petersburg | Tri County Water |
| Monte Merens | Williston | City |
| Randy Hanson | " | " |
| Gene Emery | Williston | City |

NORTH DAKOTA STATE WATER COMMISSION

REGISTER

ATTENDANCE AT _____

DATE _____ PLACE _____

PROJECT NO. _____

| Your Name | Your Address | Who do you Represent? (Or Occupation) |
|------------------|-------------------------------------|--|
| WAYNE UTALL | Box 374 RAY N.D. | R&T WATER |
| DICK ROSS | Box 47 RAY, N.D. | R&T WATER |
| Lynn Myers | Taylor | SWA |
| Cary Backstrand | Bismarck | SWC/SE |
| Jeffrey Velle | W Fargo | Moore Eng Inc |
| Vera Carlson | Park River | Walsh Co WARD |
| CHUCK RYDELL | 900 E. BOURBON BISMARCK | SWC / STATE ENGINEER |
| Gene Krenz | " | SWC |
| Randy Gjestrum | West Fargo | SWC |
| Steve Vogel | Bismarck | Beaudrain & Cook |
| Michael J. Gille | 112 4th St S.W. Lidgerwood T. D. | Richland Co Water Resources O |
| Ronald H. Dahl | Rt 1 Box 129 MICHIGAN, N.D. | ND Water Users ND Farmers (N/IN) |
| Dana Rae Kaster | Dickinson | The Dickinson Press newspaper |
| Andrew Kielb | Richland Co. | W R B Wheeler M.D. |
| Scott Peterson | Bismarck | ND Game & Fish Dept. |

NORTH DAKOTA STATE WATER COMMISSION
REGISTER

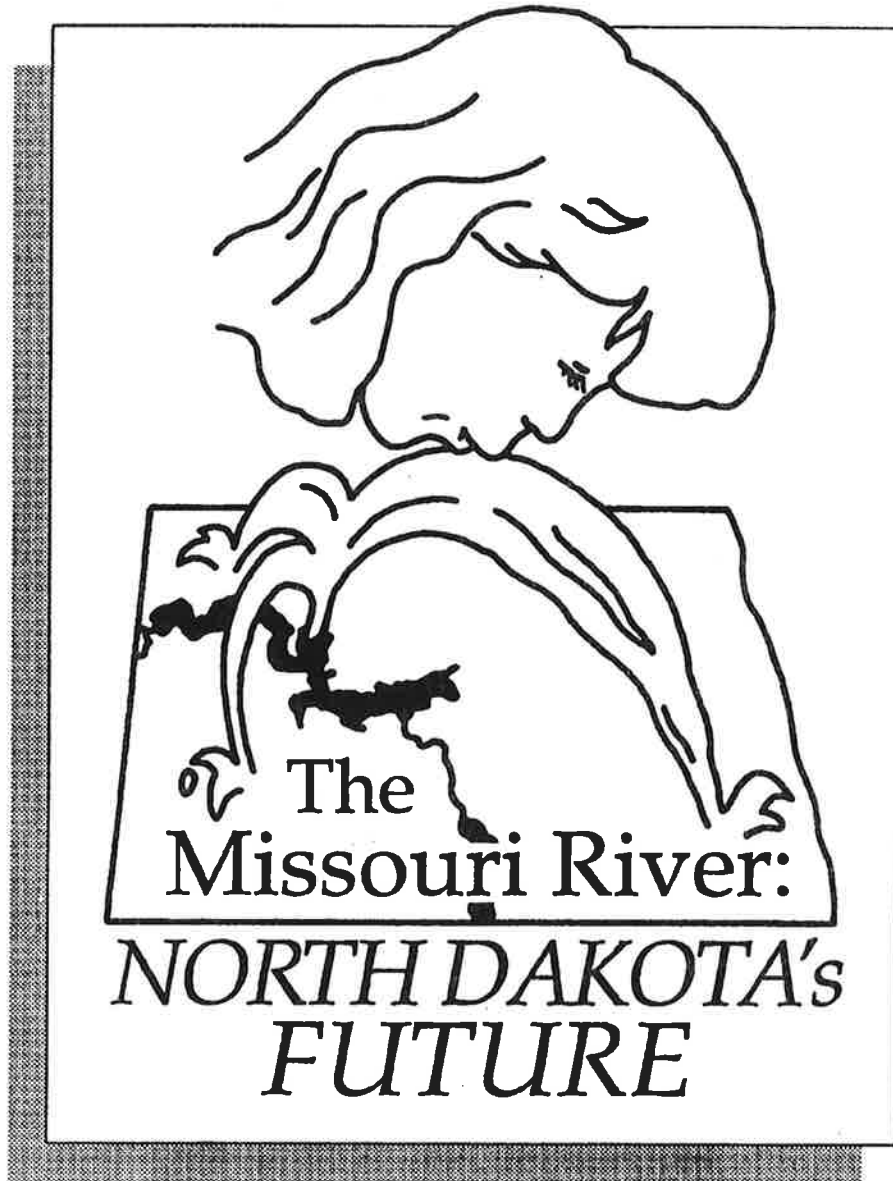
ATTENDANCE AT _____

DATE _____ PLACE _____

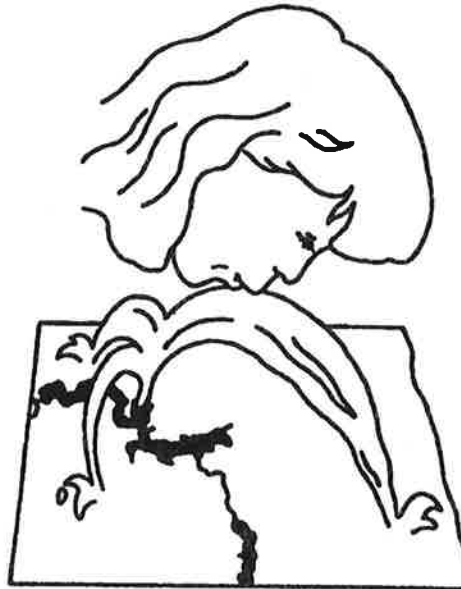
PROJECT NO. _____

| Your Name | Your Address | Who do you Represent? (Or Occupation) |
|-------------------|----------------------|--|
| Sidney I. Cornell | Medora | Billings W R D |
| Juan Mullerberg | Carington | FOSTER Co W R D |
| Wesley Beilke | Buffalo | Maple River W. R. D. |
| Ronald Heim | Rolette | Rolette Co W R D. |
| Roger Beaver | Rolette | Rolette Co W R D |
| Wayne Simon | Hamden | R C R W D |
| John Olson | Devils Lake | RAMSEY RURAL WATER |
| Frank Orthmeyer | 3106 510 Grand Forks | N P Garrison C.D. |
| Judy Orthmeyer | Grand Forks | Homemaker |
| Lee Klapprodt | Bismarck | ND SWC |
| Bob Mayske | Devil Lake | R C R D |
| Mark H. Lunsch | BISMARCK, | AMERICAN ENGINEERING, P.C. |
| Ivan Bof | TURTLE LAKE | MCLEAN SHERIDAN |
| KENNETH LIVENAND | JAMESTOWN, N.D. | Interstate Engineering, Inc. |
| Garland Hoistad | Churchs Ferry, ND | Ramsay Co W R D |

Governor's Water Strategy Task Force FINAL REPORT



OCTOBER
1991



Senate Concurrent Resolution 4011, filed April 4, 1991, urged the Garrison Conservancy District, with the cooperation of the State Water Commission, the Governor, the Garrison Diversion Overview Committee, and each member of the North Dakota Congressional Delegation to attempt to negotiate with the federal officials, a greater role for the state in the development, construction, operation and maintenance of the Garrison Diversion Project. The resolution also recognized the importance of cost sharing with the United States in order to complete the project features.

Governor George A. Sinner created the Water Strategy Task Force by Executive Order, dated April 26, 1991 (Appendix 1). The Task Force was charged with responsibility for recommending a water supply development program to the Governor by October 1, 1991. It was directed to examine issues related to the state's rights to a share of the waters of the

Missouri River, the critical water quality and quantity concern of rural and urban areas throughout the state and to develop recommendations concerning the financing of water delivery systems to meet short and long-term future needs.

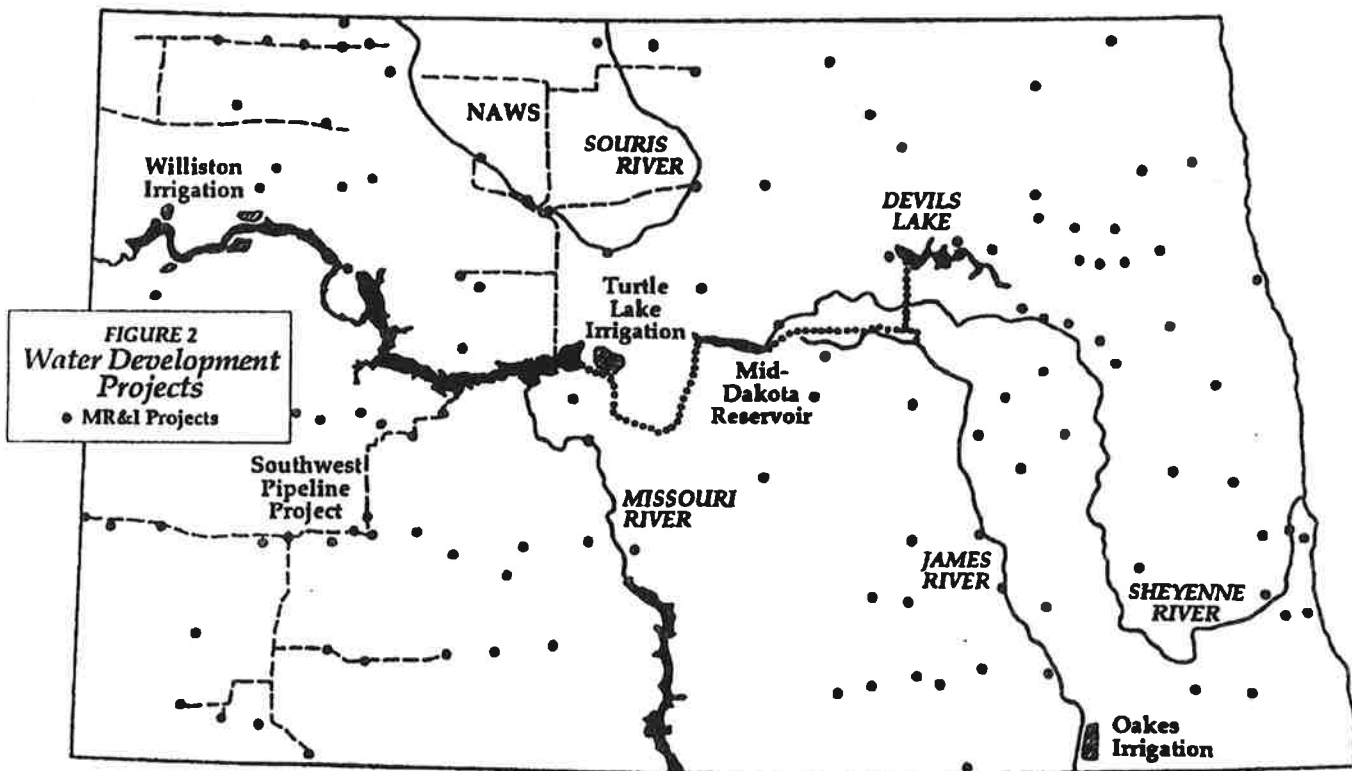
The proposal, presented by the Governor's Water Strategy Task Force to the citizens of the state in a series of public meetings held throughout the state, outlines a plan that will increase the state's participation in the Garrison Diversion Project and will allow for additional development of the water resources of the state. The plan will require an increase in biennial appropriations by the Legislature and it will require water supply project beneficiaries to repay 35 percent of the project costs.

Included in the Task Force recommendations are projects and programs for the next 25 years, through the year 2016. These projects and programs, shown in Figures 1 and 2, are more fully described in Appendix 2.

FIGURE 1
Water Strategy Task Force
Development Plan

| | FEDERAL | STATE & LOCAL ¹ | TOTAL |
|--|----------------|----------------------------|----------------|
| | (MILLIONS) | | |
| MR&I Program | \$91.6 | \$194.4 | \$286.0 |
| Mid-Dakota Reservoir | 22.8 | 12.2 | 35.0 |
| Canal Maintenance and Rehabilitation | 13.3 | 7.1 | 20.4 |
| James River | 4.4 | 2.4 | 6.8 |
| Sheyenne River and Devils Lake | 49.0 | 26.5 | 75.5 |
| Turtle Lake Irrigation | 22.1 | 11.9 | 34.0 |
| Williston Irrigation | 16.3 | 8.7 | 25.0 |
| Southwest Pipeline Project | 58.3 | 20.5 | 78.8 |
| Contract Fund | — | 102.5 | 102.5 |
| Northwest Area Water Supply | 150.0 | 26.3 | 176.3 |
| Water Supply Development Fund ² | — | 80.0 | 80.0 |
| TOTALS | \$427.8 | \$492.5 | \$920.3 |

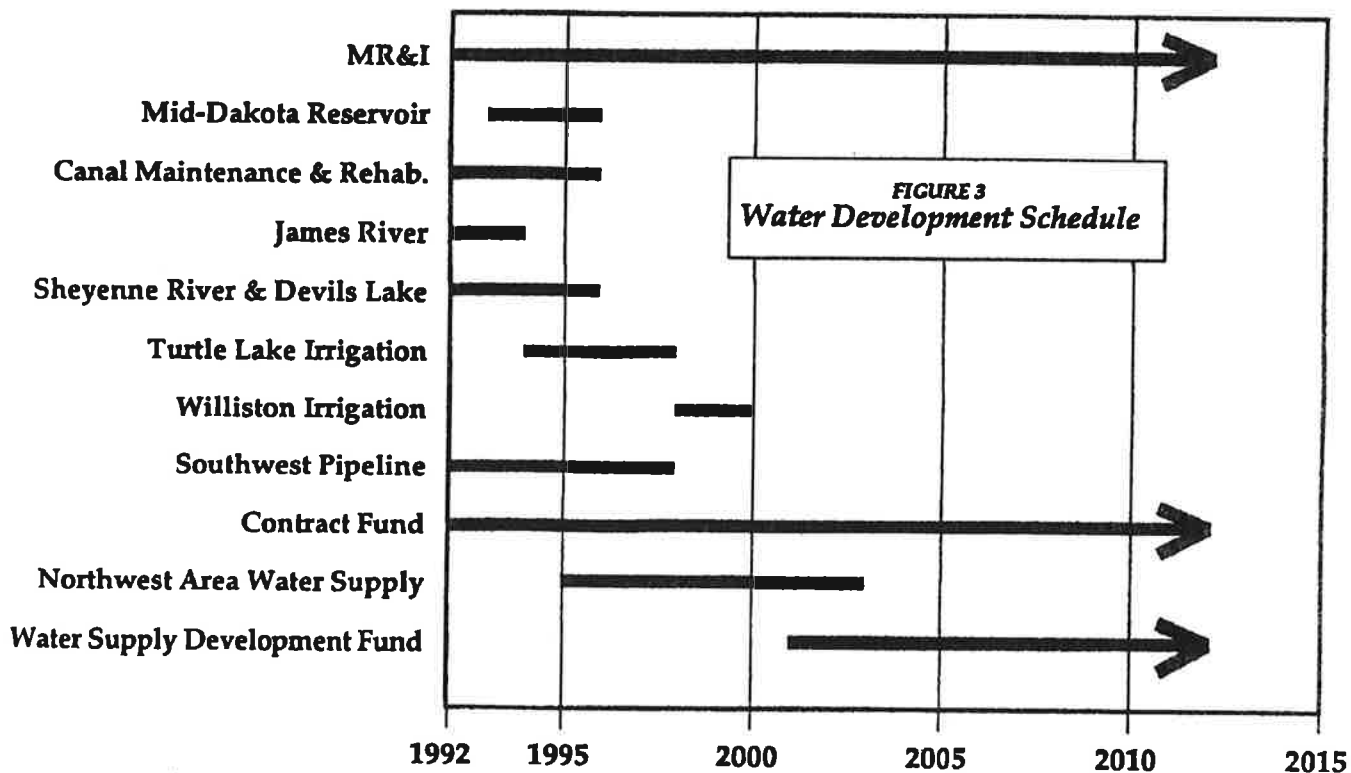
¹ State & local funds are made up of loan repayment, Resources Trust Fund revenue, interest revenue, and new revenue, as proposed by the Task Force.
² Approximately \$9 million per year will initially go into the Water Supply Development Fund to create a self-sustaining fund for future MR&I projects.



The schedule for completing these projects is shown in Figure 3.

Financing the development outlined by the Task Force will require an annual appropriation

of approximately \$22 million to the Resources Trust Fund through the year 1999. Income from repayments made by sponsors of projects completed in the interim, when combined with



the Resources Trust Fund and the State Water Commission Contract Fund, will sustain a moderate level of development for many years.

Much of the discussion during the public meetings centered around the methods that might be used by the Legislature to raise the funds necessary to carry out the program. In an early round of public meetings there seemed to be strong support for increasing the sales tax one-half percent, but in a later round of meetings there seemed to be more support for a combination of taxes, which was recommended by a Task Force subcommittee and adopted by the Task Force. The Task Force report on financing is contained in Appendix 3, and summarized as follows:

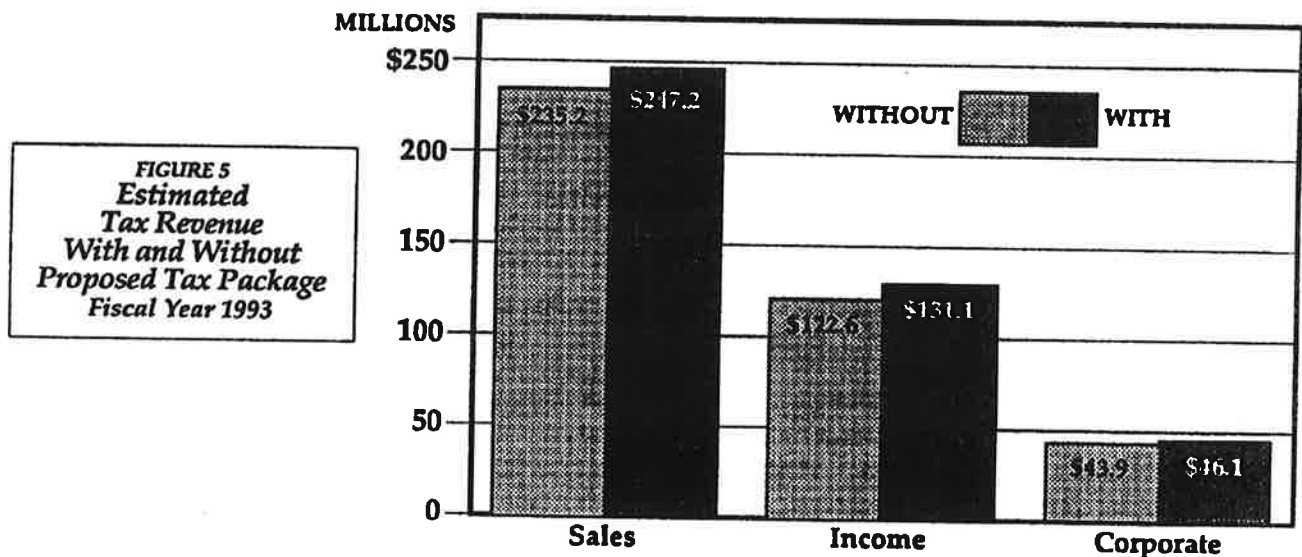
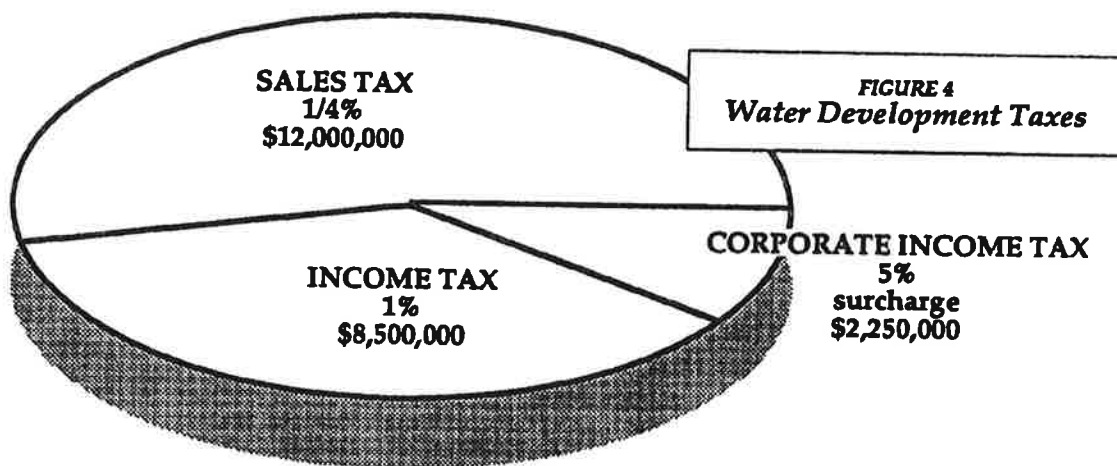
- 1) A 1/4 percent sales tax, which would raise approximately \$12 million annually;
- 2) A 5 percent surcharge on corporate income tax,

which would raise approximately \$2.25 million annually; and

- 3) An increase in the individual income tax rate from 14 percent to 15 percent of federal income tax liability, which would raise approximately \$8.5 million annually.

These taxes would terminate December 31, 1999. Figure 4 shows the percent of contribution for these taxes for water development. Figure 5 shows the relative increase of each of these taxes.

During the past 20 years, there have been several attempts to devise a system of water use fees that could be collected from users and applied to water development programs so that state water needs would be consistently met. Many complexities become involved in the effort to treat all users fairly. Should there be a charge for both consumptive and non-consumptive uses? Should those who benefit from use of



public parks, public waters, including boaters and fishermen pay? Should all rural domestic uses, including stockwatering and household uses be charged? What kind of administrative structure should be implemented by the state to collect the fees?

A Subcommittee on Water Use Fees reported on this matter. Its report is attached as Appendix 4. Although the use of fees to finance water development was discussed at several of the public meetings, it did not receive strong support.

The subcommittee report also recommends that cities and rural water districts benefiting from the construction of water supply improvements be required to pay a part of the costs when a local contribution is appropriate.

At one of the Task Force meetings, a question was raised concerning quantification of benefits for the various kinds of water improvement projects. Water Commission staff developed a short study, which is attached to this report as Appendix 5. It summarizes benefits, exceeding \$2.2 billion over the next 25 years. During that period, 2000 permanent jobs would result from the development, with a peak of 12,000 jobs during project construction in the 1990s.

It is intended that this report, with its Appendixes, be presented as a recommendation to the November, 1991 special session of the Legislature. As noted in the appendix narrative, there are critical water needs throughout the state that will become even more severe with a continuation of the ongoing drought. The Task Force feels that prompt enactment of the North Dakota Water Development Act of 1991 is important for the future of North Dakota. An outline of the Act is contained in Appendix 6.

Efforts by lower basin states are continuous in seeking to claim North Dakota's share of the Missouri River water. The need for this state to establish its claim to our equitable share of Missouri River water becomes more important as the lower basin states press to establish priorities of use for navigation purposes. If they are successful, the upstream reservoirs would continue to be subject to major depletions to satisfy shipping and other interests.

The legal action currently pending before the Federal District Court challenges the manner in which the Corps of Engineers manages

the river. Unfortunately, this may only be the beginning of a lengthy proceeding which may finally only be settled by Congress.

We must act to appropriate and use Missouri River water very soon or we may lose our opportunity to do so. This report outlines an orderly process for laying claim to sufficient water to satisfy the long-term future needs of the state. It also recognizes that completion of the Garrison Diversion Project is essential to the development of a state-wide water distribution system. The Mid-Dakota Reservoir, a major feature of that project, is the key to supplying water to communities in the Red River Valley and to Devils Lake.

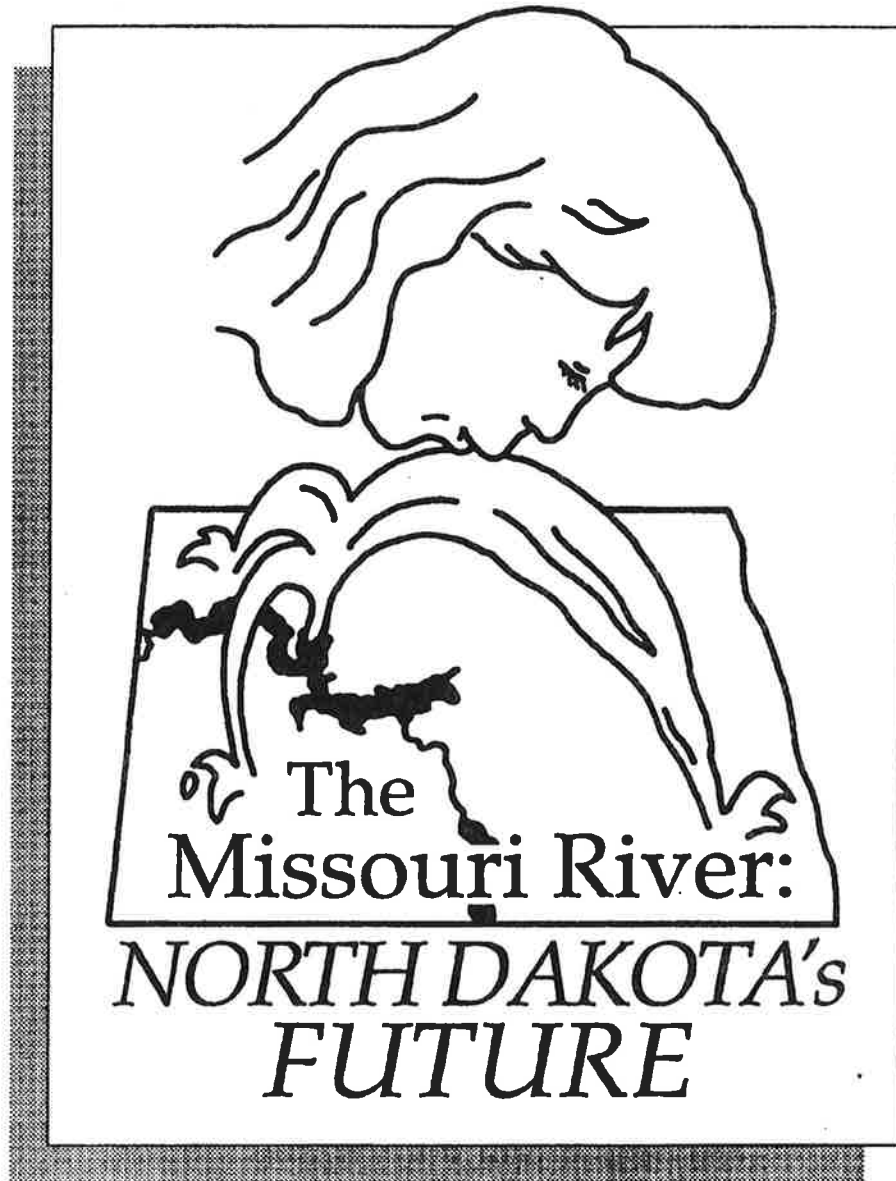
The survival of Devils Lake as a year-round recreation and fishing center remains in constant danger as the level of the lake declines. Experts agree that it would take at least five years to get water to Devils Lake once consensus on a solution has been reached. Without state funds to negotiate with the federal government, progress in stabilizing Devils Lake through a Mid-Dakota Reservoir will remain stalled. Every month of delay is one more month Devils Lake remains at risk.

With new clean water guidelines already in place for 1993 and 1994, more North Dakota communities and rural water systems will be found in violation of the Clean Water Act in the near future. The state must begin now to provide funds for its grant/loan program to help communities meet these requirements. Present funds are much too limited to significantly assist communities when these needs become most acute.

Funds for continued construction of the Southwest Pipeline Project will soon be exhausted. Because of the clean water sanctions involving seven southwestern communities, the focus of the project has been shifted to meet their immediate needs. Meanwhile, the rest of the project will be slowed accordingly.

For these and other reasons, Governor Sinner's Water Strategy Task Force recommends presentation of the North Dakota Water Development Act of 1991 as an answer to the water crisis to the special session of the North Dakota Legislative Assembly when it meets on November 4, 1991.

Governor's Water Strategy Task Force Executive Order





GEORGE A. SINNER
GOVERNOR

State of North Dakota

OFFICE OF THE GOVERNOR
BISMARCK, NORTH DAKOTA 58505
(701) 224-2200



EXECUTIVE ORDER 1991-3

I, GEORGE A. SINNER, GOVERNOR OF THE STATE OF NORTH DAKOTA, BY THE AUTHORITY VESTED IN ME, DO HEREBY ESTABLISH A NORTH DAKOTA WATER STRATEGY TASK FORCE WHICH SHALL, IN SUPPORT OF THE ONGOING STATE WATER MANAGEMENT PLANNING PROCESS OF THE STATE WATER COMMISSION, CONDUCT THE FOLLOWING:

1. REVIEW FUNDING OPTIONS TO IMPLEMENT EXISTING WATER POLICIES OF THE STATE AND WATER-RELATED POLITICAL SUBDIVISIONS;
2. DEVELOP, BY OCTOBER 1, 1991, A WATER DEVELOPMENT PROGRAM AND A FUNDING STRATEGY FOR SUBMISSION TO A SPECIAL SESSION OF THE LEGISLATIVE ASSEMBLY IN LATE 1991; AND
3. DEVELOP, BY DECEMBER 1, 1991, A PLAN FOR ADVOCATING A COMPREHENSIVE STATE WATER POLICY TO THE ADMINISTRATION AND TO CONGRESS.

THE NORTH DAKOTA WATER STRATEGY TASK FORCE SHALL INITIALLY CONSIST OF THE FOLLOWING:

LIEUTENANT GOVERNOR LLOYD OMDAHL, CHAIRMAN
STATE ENGINEER, DAVID SPRYNCZYNATYK, VICE-CHAIRMAN
AGRICULTURE COMMISSIONER, SARAH VOGEL
SENATOR JOHN T. "JACK" TRAYNOR, DEVILS LAKE BASIN
SENATOR ROLLAND REDLIN, NORTHWEST AREA WATER
REPRESENTATIVE SCOTT B. STOFFERAHN, SOUTHEASTERN NORTH DAKOTA
REPRESENTATIVE HERBERT URLACHER, PRESIDENT OF THE NORTH DAKOTA WATER
USERS ASSOCIATION
FELICIA FELIX, NATIVE AMERICAN AND MEMBER OF GARRISON COALITION
CHARLES RICHTER, CHAIRMAN, BOARD OF DIRECTORS, GARRISON DIVERSION
CONSERVANCY DISTRICT
C. EMERSON MURRY, MANAGER, GARRISON DIVERSION CONSERVANCY DISTRICT
ROBERT SCHEMP, CITY MANAGER, CITY OF MINOT AND CHAIR OF GARRISON
COALITION
WILLIAM LARDY, STATE WATER COMMISSION AND SOUTHWEST WATER AUTHORITY
JACOB "JAKE" GUST, STATE WATER COMMISSION AND UPPER RED RIVER
JOHN GALEGHER, PRESIDENT OF THE NORTH DAKOTA WATER RESOURCE DISTRICTS
ASSOCIATION
MICHAEL POLOVITZ, MAYOR, CITY OF GRAND FORKS AND PRESIDENT, LEAGUE OF
CITIES
PAM DRYER, PRESIDENT, NORTH DAKOTA WILDLIFE SOCIETY
MURRAY G. SAGSVEEN, SPECIAL ASSISTANT ATTORNEY GENERAL
REPLACEMENTS AND ADDITIONAL APPOINTMENTS WILL BE MADE BY THE GOVERNOR AS
CIRCUMSTANCES NECESSITATE

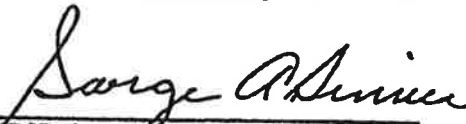
THE SECRETARY OF THE WATER STRATEGY TASK FORCE WILL BE APPOINTED BY THE STATE ENGINEER. THE STATE ENGINEER WILL PROVIDE, BY CONTRACT, APPROPRIATE COMPENSATION AND ADMINISTRATIVE SUPPORT TO THE SECRETARY. TRAVEL EXPENSES WILL BE PROVIDED BY INTERESTED GROUPS.

THE WATER STRATEGY TASK FORCE WILL TERMINATE ON DECEMBER 31, 1991, UNLESS EXTENDED BY A SUBSEQUENT EXECUTIVE ORDER.

This Order is issued upon the following bases and for the following reasons:

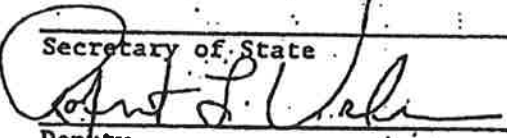
1. The Governor is vested with the executive authority pursuant to Article V, Section 1 of the North Dakota Constitution.
2. North Dakota is in need of a comprehensive state water policy in order to guide us into the Twenty-First Century.

Executed at Bismarck, North Dakota, this 26th day of April, 1991.



GEORGE A. SINNER
Governor

ATTEST:



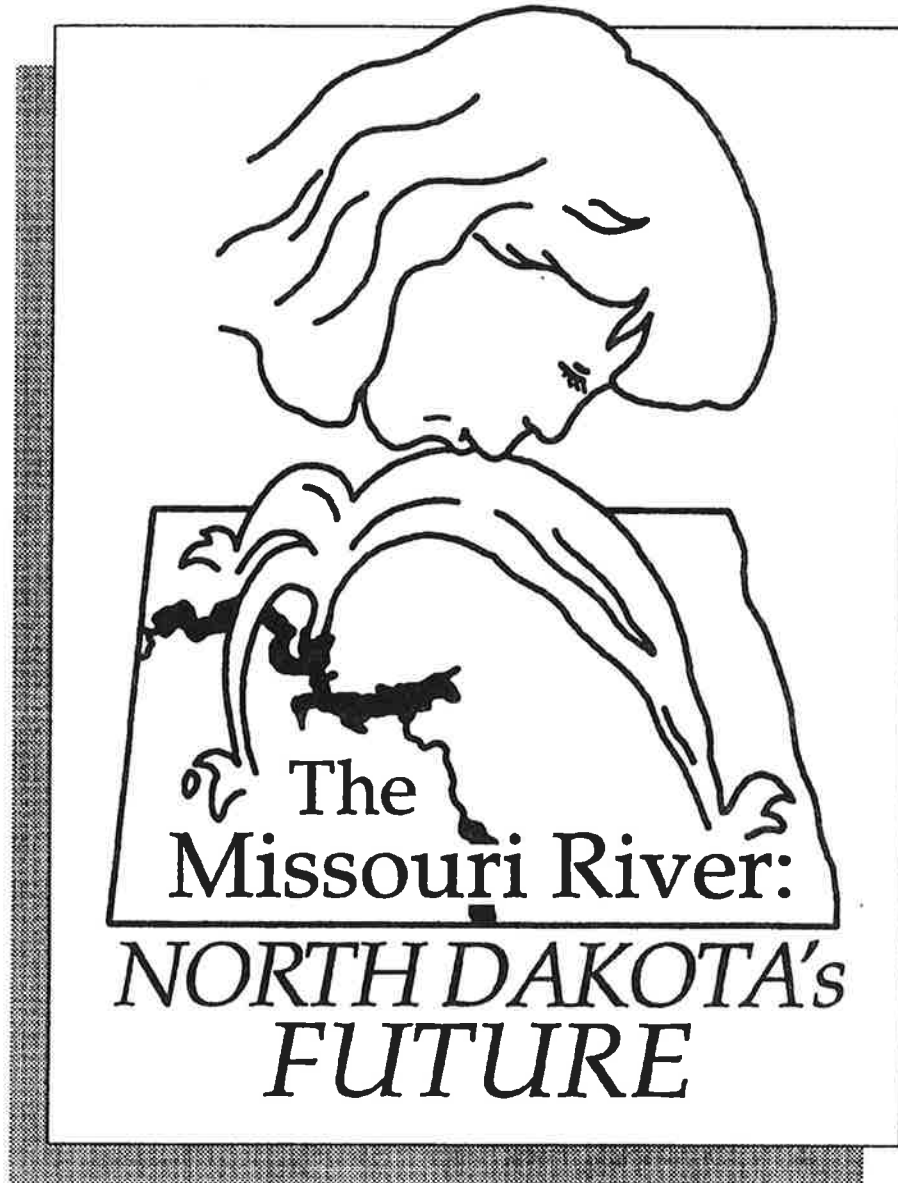
Secretary of State

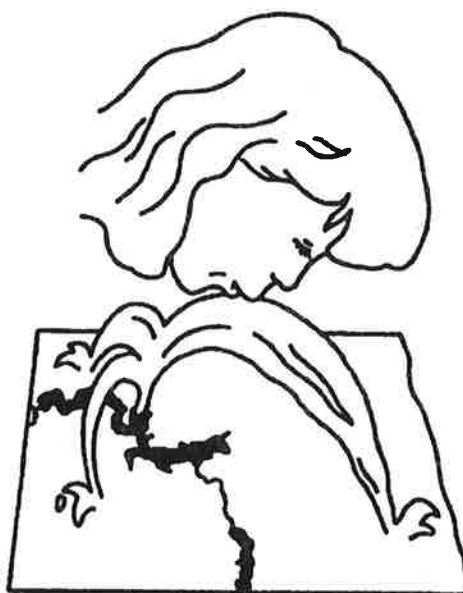
Deputy

North Dakota Water Strategy Task Force Members

Lieutenant Governor Lloyd Omdahl, Chairman
State Engineer David A Sprynczynatyk, Vice-Chairman
Vern Fahy, Executive Secretary
Agriculture Commissioner Sarah Vogel
Senator John T. "Jack" Traynor
Senator Rolland Redlin
Representative Scott B. Stofferahn
Representative Herbert Urlacher
Felicia Felix, Three Affiliated Tribes
Charles Richter, Chairman, GDCD
C. Emerson Murry, Manager, GDCD
Robert Schempp, City Manager, Minot
William Lardy, State Water Commission
Jacob "Jake" Gust, State Water Commission
Lloyd Jones, Commissioner, ND Game and Fish
John Galegher, President, ND Water Resource Districts Asso.
Michael Polovitz, Mayor, City of Grand Forks
Pam Dryer, President, ND Wildlife Society
Murray G. Sagsveen, Special Assistant Attorney General
Cyndy Schaff, Upper Missouri Lake Sakakawea Planning Committee
Mike Anderson, Sportfishing Congress

Governor's Water Strategy Task Force Subcommittee on Program Costs





Governor George A. Sinner created the Water Strategy Task Force by Executive Order, dated April 26, 1991. The Order designated Lieutenant Governor Lloyd Omdahl as chairman.

The Governor's Water Strategy Task Force has been charged with responsibility for recommending a water supply development program to the Governor by October 1, 1991. The Task Force is to examine issues related to the state's rights to a share of the water of the Missouri River, the critical water quality and quantity concern of rural and urban areas and to develop recommendations concerning the financing of water delivery systems to meet short and long-term future needs, including the development of a comprehensive state water policy to be recommended to the Administration and Congress.

The majority of urban and rural water supplies in the state are inadequate to fully satisfy needs or are in violation of one or more of the State Health Department standards. In some areas, residents are hauling water a considerable distance for residential use. Over 100 cities and rural systems have applied for financial assistance under the state's Municipal, Rural and Industrial Program. Seven cities recently received notices of violation from the Environmental Protection Agency, stating that they must comply with federal fluoride standards for drinking water, or be subject to a fine of up to \$25,000 per day. It is reasonable to expect that compliance with other recently enacted federal water

quality standards will cause additional cities to seek state aid for costs of compliance.

Although the problems of our urban and rural areas are critical, there is an overriding concern related to our ability to maintain our rights to the use of the waters of the Missouri River, the only surface water source available to meet the long-term needs of the state.

The idea of distributing the water of the Missouri River throughout the state has been the basis of every water plan developed since Major John Wesley Powell addressed our Constitutional Convention in 1889. He urged the delegates to vest control of its waters in the hands of the people and to distribute them throughout the state to satisfy people and to negate the impacts of frequent droughts.

When the Garrison Diversion Project was authorized as a part of the Flood Control Act of 1944, it seemed that Major Powell's recommendations would be realized in North Dakota.

The Flood Control Act of 1944 included the Pick-Sloan Plan for development and control of the Missouri River. The drought of the 1930s was followed by a series of disastrous floods in the Missouri Basin and the region pleaded for federal assistance. The United States Army Corps of Engineers introduced a plan focused on flood control and channel improvement for navigation in the lower Missouri (Pick Plan). The United States Bureau of Reclamation presented a plan calling for irrigation development and

land reclamation (Sloan Plan). Both plans included installation of hydroelectric facilities at some of the dams.

Congress combined the two plans into the most comprehensive water development program of its kind. All of the major water uses within the enter basin were included in the plan which was "to secure the maximum benefits for flood control, irrigation, navigation, power, domestic and sanitary purposes, wildlife and recreation."

In the 47 years since enactment of the Pick-Sloan Plan, flood control efforts and hydropower production have yielded the greatest benefits. The Corps of Engineers estimates that the main stem dams and levees have prevented approximately \$4.5 billion in flood damages, primarily in the lower basin since closing the last main stem dam. In addition, thousands of acres of now protected flood plains in the lower basin have been developed into a bonanza of commercial, industrial and agricultural uses.

Hydropower development has far exceeded the capacities in the original design. Pick-Sloan facilities have annually produced in excess of 11 billion KWH of electricity worth about \$160 million. Nearly all of the power is produced in Montana, Wyoming and the two Dakotas, but two-thirds of the power is used in Minnesota, Colorado, Iowa and Nebraska.

Navigation development is a different story. The planned annual tonnage of 20 million tons has never been realized. It reached a peak of 3.3 million tons but has settled generally into the 2 million ton capacity in recent years. In spite of the meager tonnage and exorbitant per ton mile cargo costs, the Corps continues to release large quantities of water for navigation purposes.

Irrigation development, the component of the project which was to repay the upper basin states for their losses in impounding floodwaters, has not been generously treated as has the flood control and navigation components. North Dakota has irrigated less than one percent of the acreage authorized, 9,000

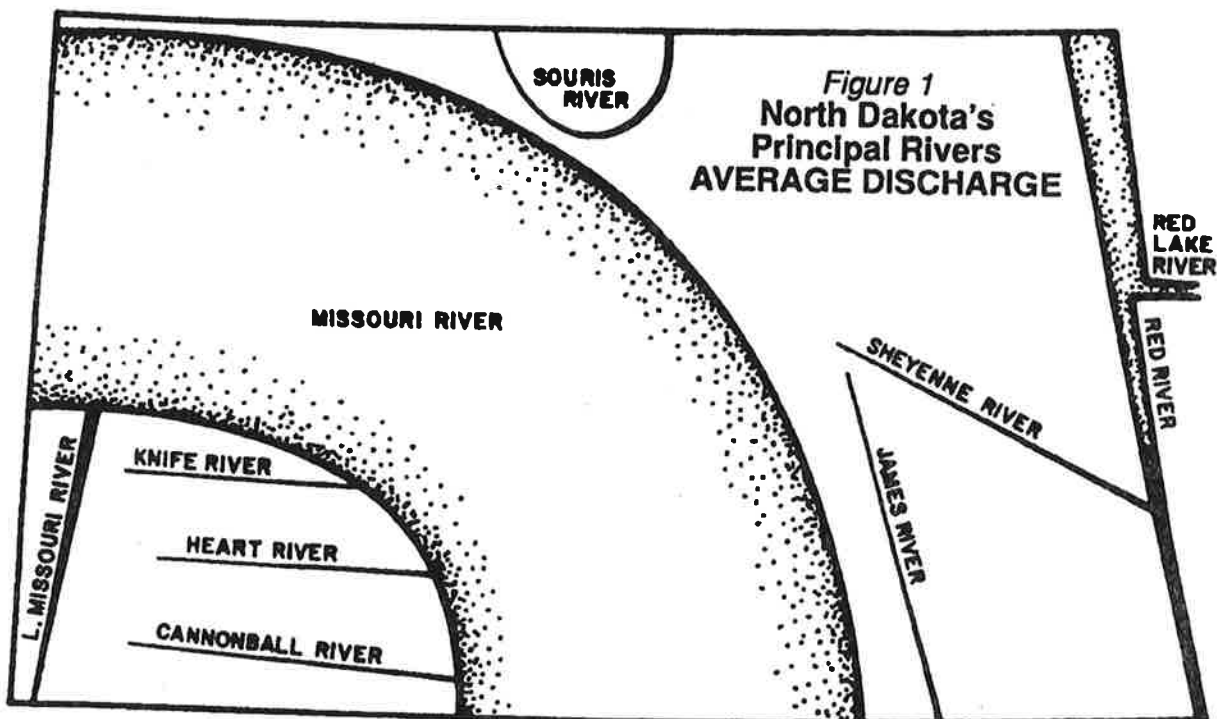
acres, but has permanently flooded 584,000 acres to impound water for downstream flood control.

The Garrison Diversion Project in our state, although authorized in 1944 with a 1 million acre irrigation component, reauthorized in 1966 with a 250,000 acre irrigation component, and reformulated in 1985 with 130,000 acres of irrigation has yet to deliver its first gallon of Missouri River water through the length of its' principal supply works which were placed under construction in 1968.

In Fiscal Year 1991, the Administration recommended no further funding for the project, but Congress did appropriate some limited funding and in FY 1992 the Administration and Congress approved some funds, but did not approve funds for the continuation of construction of the principal supply works for *non-irrigation related* components of the project.

This ban on further project development has proponents and state officials very concerned because it not only deprives the state of its best opportunity for economic development but it also jeopardizes the state's legal claim to sufficient rights to the Missouri River to satisfy its long-term needs. The Missouri River constitutes 96 percent of the flowing surface waters available for distribution in the State (see Figure 1). Although we have an early authorization to use Missouri waters, the Prior Appropriation Doctrine in effect throughout the states west of the Missouri, mandates that the water must be put to beneficial use before a legal water right is established. This Doctrine also provides that "first in time is first in right" and that "beneficial use is the measure of that right".

Thus, it is readily apparent that we must put Missouri River water to use in satisfying our critical water needs and that we cannot depend entirely on the federal government for financial assistance. We cannot allow our claim to waters of the Missouri River to be usurped by other entities who may be in a better financial position to develop water projects.



The critical needs of our rural and urban areas, the need to insure agricultural uses against the drought, and the very real danger of losing the right to use the only surface water source available for a state-wide water distribution system are the principal factors which the Water Strategy Task Force must consider in developing a recommendation to

the Governor. The creation of a Water Supply Development Fund will enable the state to use its funds to build critically needed water facilities. It will also allow state funds to be used to match federal funds where necessary to assist in building certain Garrison Diversion Project components essential to completing a state-wide water distribution system.

RECOMMENDED PROGRAMS

The Comprehensive State Water Management Plan, prepared under the direction of the State Engineer, attempts to reflect the needs of residents in each of the major drainage basins in the state. Information concerning the needs was gathered at public hearings held throughout the state and from information provided by various public interest groups, including the North Dakota Water Users Association, the North Dakota Water Resource Districts Association, the Garrison Coalition, the West River Joint Boards and the

Northwest Area Water Supply Advisory Committee. Detailed information regarding the needs of the Garrison Diversion Conservancy District was obtained through meetings with directors and staff of the District.

After reviewing the Comprehensive Plan and the information gathered directly by the Water Strategy Task Force from hearings conducted in eight locations throughout the state, the following list of projects and expenditures are necessary to satisfy our needs through the year 2000 and beyond:

I) GARRISON DIVERSION PROJECT:

A) Municipal, Rural and Industrial Water Supply Program (MR&I):

The Garrison Diversion Unit Reformulation Act of 1986 reauthorized a modified version of the Garrison Diversion Unit. Section 5 of this Act included provisions for the planning and

construction of municipal, rural and industrial water supply systems throughout the state and it included provisions for substantial recreation and wildlife development to insure that public and environmental needs could be met. The Act authorized the sum of \$200 million of federal funds with the stipulation that the total project costs be shared by the federal government (75 percent) and state and/or local entities (25 percent). The 1986 Act authorized the Southwest Pipeline Project as an eligible project for MR&I funding. Thus far, approximately \$54 million has been spent on that project, including \$22 million of State funds. An additional \$80 million will be required to complete the project.

At present, nearly 120 applications have been received for MR&I funding. The cost of these projects total over \$250 million. In addition, the need for assistance is expected to increase as the communities are forced to meet future EPA drinking water quality standards. It is expected that an annual expenditure of at least \$10.8 million will be required to satisfy these MR&I needs. The \$200 million Garrison authorization will not meet all of these needs.

Estimated Expenditures (1992-2000) — \$98 Million

B) Principal Supply Works:

1) Mid-Dakota Reservoir:

The Mid-Dakota Reservoir is needed to link the existing McClusky and New Rockford Canals. The reservoir is truly the heart of the Garrison

Diversion Project and it is the key feature for moving Missouri River water eastward to the James, Sheyenne and Devils Lake watersheds.

Mid-Dakota Reservoir is located at the same site as the original Lonetree Reservoir. However, there are several major differences between the two reservoirs. The 6,800-acre Mid-Dakota is much smaller than the 21,000-acre Lonetree Reservoir and, in addition, Mid-Dakota has been redesigned to greatly enhance its wetlands, wildlife and environmental aspects. A major feature includes a small pipeline system to wetlands in the upper reservoir to allow the wetlands to be operated at optimum levels.

The land has already been acquired for the Mid-Dakota Reservoir. In addition, the foundation for the dam has been completed along with several other key components. The remaining cost of the Mid-Dakota Reservoir, including the environmental enhancement features, is \$35 million. It is expected that construction on the Mid-Dakota Dam could begin in the year 1993 and be completed in the year 1996.

Estimated Expenditures (1993-1996) — \$35 Million

2) Canal Maintenance and Rehabilitation:

Rehabilitate and maintain the McClusky Canal (73.6 miles) at a minimum capacity of 500 cubic feet per second (cfs). Rehabilitation would include repair of existing earthen slides, prism cleaning, beach belting and rock riprap repair, and lining repair. This would be done in addition to normal OM&R. Complete the New Rockford Canal (45 miles). This includes 11 miles of P.V.C. lines, pipe drains, and canal belting. The canal work could begin in the year 1992 and end in the year 1996.

Estimated Expenditures (1992-1996) — \$20.4 Million

3) Construct James River Feeder Canal and Stabilize Several Reaches of James River:
The feeder canal is 2.6 miles in length and includes two drop structures and a bifurcation

structure. Minor stabilization work is necessary along approximately 190 miles of the James River channel. The work on the James River could begin in the year 1992 and end in the year 1994.

Estimated Expenditures (1992-1996) — \$ 6.8 Million

4) Sheyenne River Treatment Plant Devils Lake Pipeline:

The treatment plant would be a microscreening/ozonation plant with an eight-mile pipeline to deliver water into the Sheyenne River north of Harvey. A pipeline would be extended north from the New Rockford Canal to the West Bay of Devils Lake. The pipeline would be designed to carry water both to and from Devils Lake. The pipeline to Devils Lake will have to be authorized by Congress before design can begin. This schedule includes testing of the proposed design of the treatment plant, final design of the plant, and preparation of the EIS statement for the delivery of water to the Sheyenne River and Devils Lake. The design construction for the delivery of water to the Sheyenne River and Devils Lake could begin in the year 1992 and end in the year 1996.

Estimated Expenditures (1992-1996) — \$75.5 Million

5) Turtle Lake Area Irrigation Development:

In response to a petition signed by landowners living in the vicinity of Turtle Lake, the State Engineer approved formation of an irrigation district encompassing 13,700 acres of land as authorized by the Garrison Diversion Reformulation Act of 1986. The McClusky Canal will be the water supply source. This will be a multi-purpose water project which will also supply water for wildlife enhancement. Construction could begin in 1994 and end in 1997.

The construction for the Turtle Lake Irrigation area could begin in the year 1994 and end in the year 1997.

Estimated Expenditures (1994-1998) — \$34 Million

6) Williston Area Irrigation Development:

Interest is very high in the Williston area in the creation of an irrigation district that could serve approximately 10,000 acres. This area has suffered the loss of one irrigation district due to increased river stages caused by the silting in of large areas upstream of Williston. Corps of Engineers estimates show silt accumulations of approximately 47 million tons annually in the headwaters of Lake Sakakawea. A second irrigation area is presently suffering extensive damage due to high water tables. The construction of the Williston Irrigation area could begin in the year 1998 and would end in the year 2000. Project design will include consideration of wildlife values.

Estimated Expenditures (1998-2000) — \$25.0 Million

II) SOUTHWEST PIPELINE PROJECT:

The Southwest Pipeline Project is a water supply system to furnish Missouri River water to 20 cities and 3 rural water organizations in southwestern North Dakota. The water will be diverted from Lake Sakakawea. The pipeline is essentially complete to Dickinson but the pipelines to the small communities and rural users have not been constructed. When completed, these lines will serve those communities that have received notice of violations from the Environmental Protection Agency. Construction of the Southwest Pipeline Project could continue, and the project would be completed in the year 1998.

Estimated Expenditures (1992-1998) — \$78.8 Million

III) CONTRACT FUND:

This fund, which was established in the 1940s, allows the State Water Commission to cost share with local sponsors on a wide variety of engineering projects and to participate in hydrologic data collection programs. Engineering construction projects include water supply facilities, recreation projects, engineering projects, water management projects and flood control projects. Projects vary from relatively small undertakings to large projects such as the Sheyenne River Flood Control, in which local, state and federal agencies have cooperated to construct two major diversion canals to bypass flood-waters around the West Fargo-Horace area. The last phase of this project will be construction of a dam on the Maple River. The projects can be developed for multiple purposes including wildlife and recreation enhancement.

Estimated Expenditures (1992-2000) — \$27.0 Million

IV) NORTHWEST AREA WATER SUPPLY:

The area included in this project includes the Fort Berthold Indian Reservation and 9 counties in the north central part of the State. Federal funding will be requested as a joint undertaking with the Fort Berthold Tribal Council.

The NAWS/Fort Berthold Integrated water supply project can be defined as a piped, potable water distribution system for the project area. Except for two sub-areas on the Fort Berthold Reservation, Mandaree and Twin Buttes, the system is supplied from Lake Audubon. The major users on this system would include Minot (which also services the Minot Air Force Base and North Prairie Rural Water); Upper Souris and All Seasons Rural Water Districts; the large cities of Garrison, Kenmare, Mohall, Bottineau, New Town and Stanley; all of the Fort Berthold Indian Reservation; and, several small cities not presently served by rural water. Construction of the NAWS project could begin in 1995 and end in the year 2003.

Estimated Expenditures (1995-2003) — \$176.3 Million

V) WATER SUPPLY DEVELOPMENT FUND:

Because the MR&I needs are expected to continue indefinitely in the future, an on-going program is needed. The program would be created by establishing a 65 percent grant-35 percent loan concept for MR&I projects. The repayments from the loans would go into a fund for use on new multi-purpose water management projects such as the Burleigh-Kidder project, a project that will enhance water management capabilities at Long Lake National Wildlife Refuge, stabilize flows in Apple Creek, provide additional water for McKenzie Slough, and municipal supplies for several communities. It is anticipated that this fund would require approximately \$10 million annually until the year 2000, after which it would become self-sustaining. After the year 2000, the fund would be sufficient to allow for an annual expenditure of \$11.7 million.

Estimated Annual Expenditure (2001-2016) — \$11.7 Million

SUMMARY AND CONCLUSIONS

It has become increasingly apparent over the last 10 to 15 years that the federal administration and Congress believe little is owed this state for its losses in complying with the terms of the 1944 Flood Control Act. In spite

of the multi-million dollar annual benefits gained by the federal treasury due to the existence of the Garrison Reservoir on 584,000 acres of State and Indian lands, North Dakota has been unable to secure adequate federal

funding for timely construction of the authorized Garrison Project and for other needed water development programs.

It is clearly evident that the state must invest additional funds in water programs, including certain components of the Garrison Diversion Project, if it is to meet economic development goals and provide municipal, rural and industrial water supplies. Recently the State of Utah proposed a matching cost sharing program, which has been approved by the US House of Representatives, permitting the Central Utah Project to go forward. A similar program may be needed for the Garrison Diversion Project.

After careful study of available information, including information given the Water Strategy Task Force during the public hearing process, this committee has determined that during the period 1992-1999, additional revenue of \$22 million plus the currently authorized revenue to the Resources Trust Fund and income from project loan repayments and other project revenues would be adequate to meet the water program needs of the state through the year 2016 and beyond.

The following tables display the program elements, the amount of federal and state funds needed for each, and the totals through the year 2000 and 2016:

| Short-Term Development Through Year 2000 | | | |
|---|----------------|----------------|----------------|
| | (MILLIONS) | | |
| | FEDERAL | STATE | TOTAL |
| MR&I Program | \$63.8 | \$34.2 | \$98.0 |
| Mid-Dakota Reservoir | 22.8 | 12.2 | 35.0 |
| Canal Maintenance and Rehabilitation | 13.3 | 7.1 | 20.4 |
| James River | 4.4 | 2.4 | 6.8 |
| Sheyenne River and Devils Lake | 49.0 | 26.5 | 75.5 |
| Turtle Lake Irrigation | 22.1 | 11.9 | 34.0 |
| Williston Irrigation | 16.3 | 8.7 | 25.0 |
| Southwest Pipeline Project | 58.3 | 20.5 | 78.8 |
| Contract Fund | — | 29.8 | 29.8 |
| Northwest Area Water Supply(1) | 80.0 | 13.7 | 93.7 |
| Water Supply Development Fund(2) | — | 80.0 | 80.0 |
| TOTALS | \$330.0 | \$247.0 | \$577.0 |

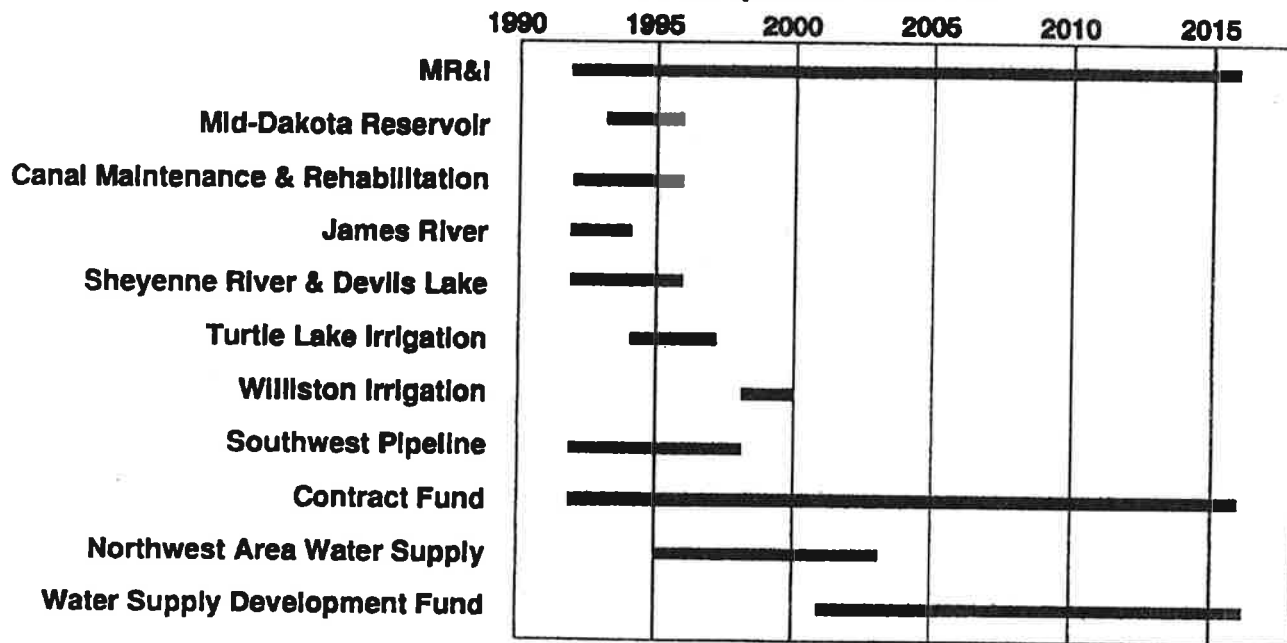
*1 Northwest Area Water Supply construction starts in the year 1996 and is completed in 2004.
2 Approximately \$9 million per year will go into the Water Supply Development Fund to create a self-sustaining fund for future MR&I projects.*

| Long-Term Development Beyond Year 2001 to Year 2016 | | | | |
|--|---------------|---------------|-----------------------------|----------------|
| | (MILLIONS) | | | |
| | FEDERAL | NEW STATE | REPAYMENTS & INTEREST(1) | TOTAL |
| MR&I | \$27.8 | \$— | \$160.2 | \$188.0 |
| Contract Fund | — | 56.02(2) | 16.7 | 72.7 |
| Northwest Area Water Supply | 70.0 | — | 12.6 | 82.6 |
| TOTALS | \$97.8 | \$56.0 | \$189.5 | \$343.3 |

*1 Because of loan repayments and interest revenue to the Water Supply Development Fund, the fund remains nearly constant and allows for an annual expenditure of approximately \$11.7 million.
2 Contract Fund appropriations would come from the Resources Trust Fund.*

Figure 2 shows the proposed schedule for development between the year 1992 and 2016:

Figure 2
North Dakota Water Development Schedule



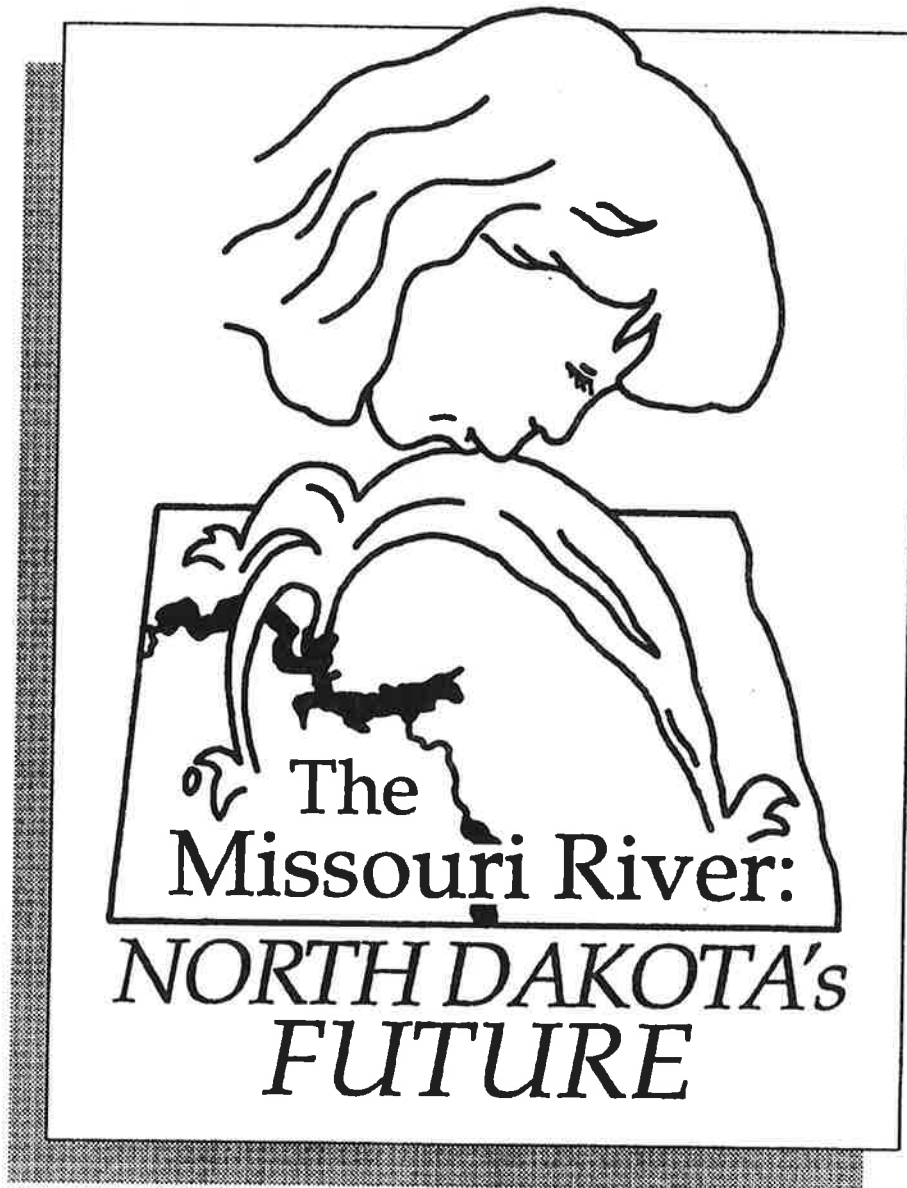
In presenting this information to the legislators and the general public, every effort should be made to explain factually the critical nature of this state's water supply needs and how they can be met through this program. The rains we have received this spring have provided a welcome respite but have not contributed materially to reducing the seriousness of our water supply situation.

The presentation should also explain that this expedited water development program will allow the state to meet the requirements of the prior Appropriation Doctrine and its

"use it or lose it" mandate. The state must use the water of the Missouri River if it is to secure a legal right to that use.

An important point to make in discussion of the need for a water development fund is that economic development will not reach its potential in this state until Missouri River and other waters are distributed and available on a statewide basis. The revenue increase necessary to fund this program could easily be offset by income to the state treasury resulting from a vigorous economic development program.

Governor's Water Strategy Task Force Subcommittee on Financing



Subcommittee on Financing Report

The Subcommittee on Financing report was amended and given preliminary acceptance:

1. A 1/4 percent sales tax;
2. A 5 percent surcharge on corporate income tax;
3. An increase in the individual income tax rate from 14 percent to 15 percent, with a sunset on all three tax measures on December 31, 1999.
4. Optional alternative: water user tax.

In addition, the Subcommittee recommends that cities and rural water districts benefiting from construction of water supply improvements be required to pay for part of the cost of the improvement, when a local contribution is appropriate.

According to the Tax Commissioner's Office, a 1/4 percent sales tax would raise approximately \$12,000,000 per year.

Increasing the individual income tax from 14 percent to 15 percent would raise approximately \$8.5 million per year, and a 5 percent surcharge on corporate income tax would raise

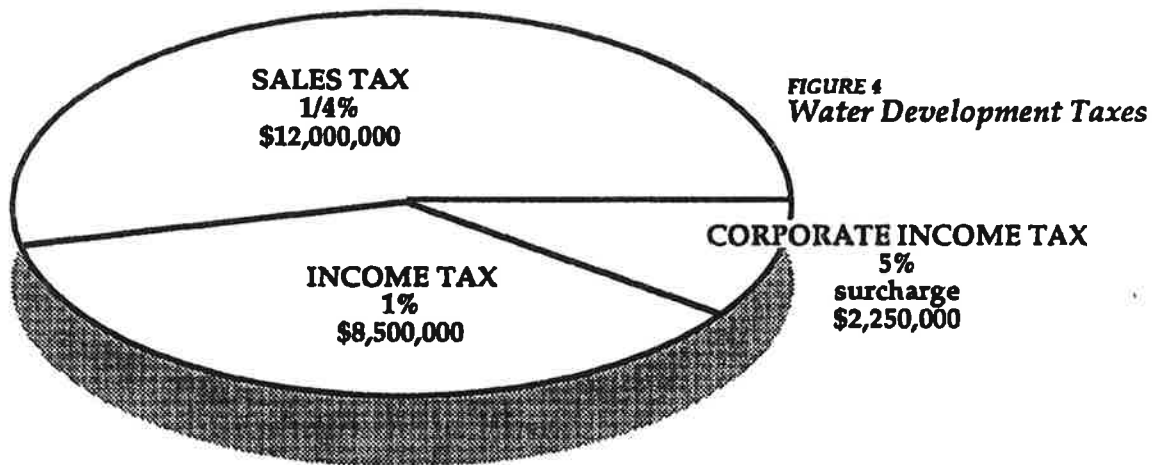
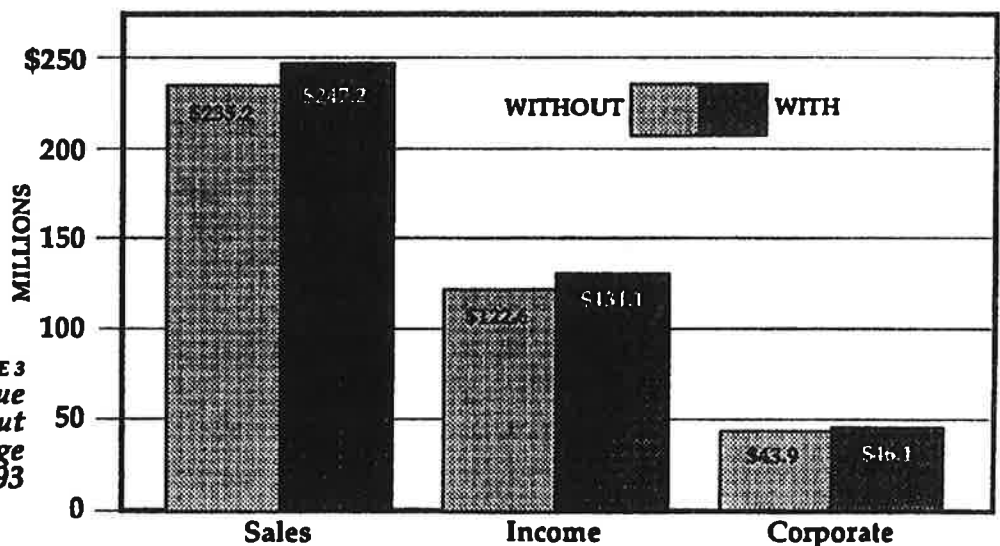


FIGURE 3
Estimated Tax Revenue With and Without Proposed Tax Package Fiscal Year 1993



approximately \$2.25 million per year.

So, about \$22.75 million would be raised annually by the proposed combination of sales and income taxes.

Subcommittee members feel that a combination of revenue sources would be desirable, in order to answer concerns expressed at the regional meetings.

A 1/4 percent sales tax would not severely impact minimum wage earners but would enable visitors to the state to contribute.

The income tax would affect all wage earners — including those who live outside the state — and would also enable out of state corporations to contribute.

Requiring payment by political subdivisions, when improvements such as water treatment plants are being constructed, would address the feeling that there should be a direct contribution from water users. And, sharing of

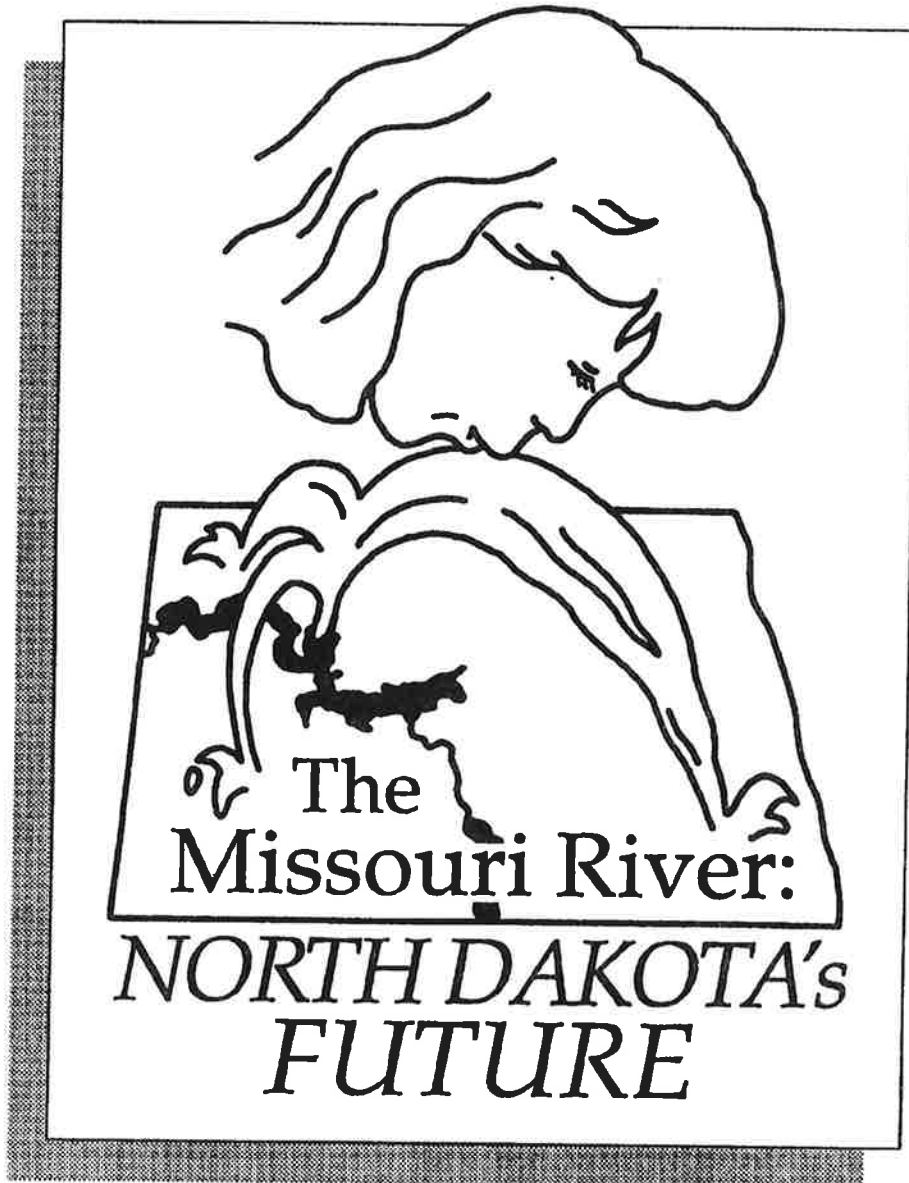
costs usually helps to control costs. For example, the present Water Commission 35 percent/65 percent grant program could be continued and applied to some of the new projects that will be constructed in order to assure that part of the cost is assumed by local users.

(While considering this report, the Task Force felt that the suggestion for a general water user tax be developed and submitted at the regional meetings for comment.)

If the proposal is adopted; the federal government, state government, local governments, and people who are utilizing water services will all be involved in development of a state-wide water distribution system.

We also recommend that the proposal be discussed at the September regional meetings to determine citizen reaction before the final report is written.

Governor's Water Strategy Task Force Subcommittee on Water Use Fees





Currently, North Dakota does not charge any water user a fee to utilize water. The concept has been studied several times over the years; however, it has never been aggressively pursued. The primary reason is due to the problem in a developing rate system that would be equitable to all users. There are numerous complexities involved in trying to determine water's value to each individual users (e.g., municipal, irrigation, industrial, recreation). For example, a \$.25 per 1,000 gallon charge for the average family of four using an estimate 183,723 gallons a year would cost \$46.00 per year. The same fee rate applied to an irrigator irrigating a quarter section of land will cost \$11,000 or about \$80.00 per acre. According to a recent North Dakota State University Study of the Turtle Lake area, the \$80.00 cost per acre is roughly equal to the profit that the average North Dakota irrigator makes over dry land farming. Therefore, applying the same rate to all potential users is not reasonable nor equitable.

This report attempts to develop water use rates for various water users based upon a rate that could be considered realistic or reasonable. This information has been developed for the purpose of determining what revenue could be expected to be generated if water use fees were imposed. In most instances, these water use fees are arbitrary; therefore, they do not attempt to equate a dollar value concerning what that water is actually worth to the water users either based on the user's willingness to pay or the eco-

nomical benefit the users will receive from actual use. For example, irrigated corn produces more bushels per acre than non-irrigated corn;

therefore, the farmer derives an economic gain in his farming operation if he irrigates. However, what is his actual net economic return if he has to pay a water fee and how much can he pay and still make a profit in his endeavor. These are questions this report does not attempt to assess.

BACKGROUND

Water use can be placed in two major categories - consumptive and non-consumptive use of water. Consumptive water use is defined as water which is withdrawn and will not be available for immediate reuse. Non-consumptive use is water that is diverted and returned to the source or surface water which is utilized for such purposes as recreation, fish and wildlife preservation, and navigation. The water is utilized; however, it is considered to be non-consumptive if the composition has not been substantially altered and in the case of diversion, it has been returned to the source in a relatively short period of time.

The State Engineer is responsible for administration of water permits in North Dakota. Generally speaking, a permit is required for all uses of water except in cases when both the amount of water to be impounded, diverted, or withdrawn is less than 12.5 acre-feet and the contemplated use is domestic, livestock, fish, or wildlife, and other recreation use.

There are two types of water permits. A conditional water permit is an authorization for the permittee to construct facilities such as well and irrigation system and to begin utilizing the water. A perfected water permit is a permit issued after the permittee has initiated beneficial use of water in accordance with the terms and conditions of the conditional permit. The perfected water permit is the instrument of conveyance of a water right. This report will illustrate the perfected permitted water as compared to water the user has reported to the State Engineer in the annual use reports.

THE WATER USER

The primary water users in North Dakota are industrial - 76 percent; irrigation - 15 percent; municipal - 5 percent. The figure on page 4 displays the comparisons of the major water users, excluding recreation, in regard to total water used, in addition to consumptive and non-consumptive use of the water.

In all water use categories with the exception of fish and wildlife, the actual water used is much less than the amount of water that has been permitted. For example, 172,390 million (M) gallons of water has a perfected permit for municipal use; however, in 1989, only 20,956 M gallons was actually used. When municipalities request water permits, they include the potential water use that may be required for growth and expansion of their

community. This adds to the complexity of developing a fee rate schedule based upon permitted or actual water use. Since the permit protects the user, the water that remains unused cannot be utilized by another user; therefore, does possess some value to the permit holder. Table 1 displays the water permitted and the non-consumptive and consumptive use of the water by type of users.

Industrial Use

In 1982, a report was presented to the State Water Commission regarding water user fees and industrial users. The following information is primarily an update of what was generated as a result of that report (Memorandum, Vern Fahy to State Water Commission, December 1982).

Industrial water permits greater than 2,000 acre-feet (1 acre-foot = 325,829) were reviewed. This involved 12 permits with three of the largest permits being flow-through power generating systems on the Missouri River. In each case, the amount of water pumped through the system is much less than the permit amount. Permitted amount totaled 1,883,960 acre-feet or 613,858 M gallons, while use (consumptive and non-consumptive) is 901,320 acre-feet or 293,675 M gallons. In addition, 97 percent of the water used is non-consumptive, which represent one of the complexities of determining a water fee for

Table 1
Water Permitted and Used

| | Perfected Permitted | Non-Consumptive Use | Consumptive* |
|------------------------------|---------------------|---------------------|--------------|
| | M Gals | M Gals | M Gals |
| Industry | 613,848 | 279,817 | 13,858 |
| Irrigation | 195,224 | | 65,165 |
| Municipal/Rural Water System | 176,990 | | 23,241 |
| Recreation/Fish/Wildlife | 27,146 | 27,146 | |

* The assumption is made that all irrigation use is consumption; however, depending upon type of irrigation use, it is estimated that about 2 percent of total use is non-consumptive or approximated 1,303 M gallons.

industrial users.

The concept that has been discussed over the years is as follows:

- \$20.00 per acre-foot (or per 325,829 gallons) charged on the actual amount of water used on an annual basis.

- \$.50 per acre-foot charged on actual amounts of water circulated in flow-through systems.

Utilizing this method, it was determined that a total of \$1,046,000 could be generated from industrial water users. Some additional complexities involving imposing water use fees upon industrial users include:

- Meters for large pipelines are expensive and require close monitoring.
- Many companies have small water permits that are intended for domestic use or, in some cases, dust control - should these other permits be considered or are they incidental.
- The amount of water used by flow-through power generation systems is determined by the cooling requirement of the effluent water which fluctuates considerably on a year-to-year basis as a result of climatic conditions.

For comparison purposes, a flat fee rate schedule was developed. Applying a flat fee

of \$.01, \$.05, and \$.25 per 1,000 gallons used, Table 2 has been developed displaying the potential revenue generated for consumptive and non-consumptive industrial water use.

Irrigation Use

Currently about 200,000 acres of land is being irrigated in the state. The actual amount of water required is a factor of climatic conditions and the type of crop produced. It can be assumed that an irrigator will apply about 1-foot of water per acre. This would be equivalent to 65,165 M gallons being used for irrigation purposes in the state.

The perfected permitted amount is for 195,224 M gallons involving 286,524 acres of land. Table 3 has been developed to determine what revenue can be expected to be generated if an irrigator were charged \$.01, \$.05, and \$.25 per 1,000 gallons of water used.

Municipal Use

Approximately 506,000 people in the state receive water from a municipal or rural water system. It is also estimated that the Garrison Diversion MR&I program currently involves over 358,000 people. This represents 54 percent of the state's total population; or 71 percent of those people already on municipal and rural water systems.

Municipal water fees vary considerably throughout the state. These fees are associ-

**Table 2
Industrial Use**

| | M Gals | Use Fee/1,000 Gallons | | |
|-----------------|----------------|-----------------------|---------------------|---------------------|
| | | \$.01 | \$.05 | \$.25 |
| Consumptive | 13,858 | \$ 138,588 | \$ 692,940 | \$ 3,464,702 |
| Non-consumptive | 279,817 | 2,798,173 | 13,990,869 | 69,954,345 |
| Total | 293,675 | \$2,936,761 | \$14,683,809 | \$73,419,047 |

**Table 3
Irrigation Use State-wide**

| | |
|--|--------------|
| 65,165 M gallons x \$0.25 per 1,000 gallons used = | \$16,291,250 |
| 65,165 M gallons x \$.05 per 1,000 gallons used = | \$ 3,258,250 |
| 65,165 M gallons x \$.01 per 1,000 gallons used = | \$ 651,650 |

Table 4
1989 Municipal and Rural Water System Use State-wide

| | |
|--|--------------|
| 23,241 M gallons x \$1.00 per 1,000 gallons used = | \$23,241,000 |
| 23,241 M gallons x \$.50 per 1,000 gallons used = | \$11,620,500 |
| 23,241 M gallons x \$.25 per 1,000 gallons used = | \$ 5,810,250 |
| 23,241 M gallons x \$.05 per 1,000 gallons used = | \$ 1,162,050 |
| 23,241 M gallons x \$.01 per 1,000 gallons used = | \$ 232,410 |

ated with the cost of the delivery system plus operation and maintenance costs. All communities with the exception of Jamestown, charge a minimum fee per a designated number of gallons. The minimum charge ranges from zero to as much as \$26.83 per month. In addition, any water used beyond the gallons received for the minimum charge are charged an additional fee. Some communities also charge commercial users higher rates than the residential users. It must be noted that many municipalities do not have individual meter systems.

The 1989 municipal water use was 20,956 M gallons and rural water system use was 2,285 M gallons. The perfected permit for total municipal water is 172,390 M gallons and the perfected permit for rural water systems is 4,599 M gallons.

Utilizing estimated 1989 municipal and rural water system water use information. Table 4 has been developed indicating the annual revenue that could be generated if a statewide water use fee were placed upon municipal and rural water users.

Applying a fee of \$.25 for 1,000 gallons of water used to every municipal and rural

water user statewide, would provide \$5,810,250 annually. The average water use is estimated at 126 gallons/person/day, therefore, the average water use for a family of four is estimated at 183,723 gallons per year. A \$.25 tax per 1,000 gallons would cost a family of four about \$46.00 per year or \$2.00 per year at \$.01 per 1,000 gallons.

Fish and Wildlife and Recreation Use

It is extremely difficult to develop a water use fee for this non-consumptive, virtually public sector use of water. The use is non-revenue producing. The water is only consumed by evaporation. Therefore, charging fees for this particular use category is extremely difficult and eventually will be passed onto the user who utilizes the water body for recreation purposes (e.g., fishing, skiing, boating, swimming, and waterfowl hunting).

The holders of fish and wildlife and recreation permits include the US Fish and Wildlife Service, the Game and Fish Department, the Bureau of Reclamation, the local water resource districts, and local park boards. The permits have been obtained for

Table 5
Fish and Wildlife

| | |
|---|-----------|
| 3,930 M gallons x \$.25 per 1,000 gallons = | \$982,500 |
| 3,930 M gallons x \$.05 per 1,000 gallons = | \$196,500 |
| 3,930 M gallons x \$.01 per 1,000 gallons = | \$ 39,300 |

Table 6
Recreation

| | |
|--|-------------|
| 23,216 M gallons x \$.25 per 1,000 gallons = | \$5,804,000 |
| 23,216 M gallons x \$.05 per 1,000 gallons = | \$1,160,800 |
| 23,216 M gallons x \$.01 per 1,000 gallons = | \$ 232,160 |

water bodies including National Wildlife Refuges and multi-purpose and single purpose recreation dams.

Fish and wildlife permits comprise 3,930 M gallons and recreation permits consist of 23,216 M gallons. Utilizing these permit amounts, Table 5 and 6 illustrates what revenue can be expected to be generated at \$.01, \$.05, and \$.25 per 1,000 gallon fee.

Another method has also been utilized to develop revenue from this water use sector.

This method involves increasing the existing users fee associated with water-related recreational activities. This includes boat registration, waterfowl hunting, fishing, and park entrance fees (most parks in North Dakota are next to a body of water).

Tables 7-10 identify the estimated revenue that can be expected to be generated with a 25 percent increase in existing licenses, registration, and entrance fees.

Table 7
1990 Fishing Licenses

| | No. | Fee | Total | Increase | |
|------------------|----------------|-------------|----------|----------|---------------------|
| | | | | 25% | Increase |
| R-disabled | 593 | x \$ 3.00 = | \$ 1,779 | x .25 = | \$ 444.75 |
| R-fishing | 44,618 | x \$ 9.00 = | 401,562 | x .25 = | 100,390.50 |
| R-husband/wife | 27,319 | x \$13.00 = | 359,147 | x .25 = | 88,786.75 |
| R-senior | 13,450 | x \$ 3.00 = | 40,350 | x .25 = | 10,087.50 |
| N-fishing | 2,683 | x \$20.00 = | 53,660 | x .25 = | 13,415.00 |
| N-husband/wife | 593 | x \$35.00 = | 20,755 | x .25 = | 5,188.75 |
| N-short-term (7) | 3,772 | x \$13.00 = | 49,036 | x .25 = | 12,259.00 |
| N-short-term (3) | 9,265 | x \$ 8.00 = | 74,120 | x .25 = | 18,530.00 |
| Total | 102,293 | | | | \$249,102.25 |

R=resident N=non-resident

Table 8
1990 Boat Registration

| | No. | Fee | Total | Increase | |
|--------------|--------|--------------------|------------------|----------|--------------------|
| | | | | 25% | Increase |
| Under 16' | 17,591 | x \$ 9.00/3 yrs. = | \$ 52,773 | x .25 = | \$13,193.25 |
| 16'-20' | 19,345 | x \$21.00/3 yrs. = | 135,415 | x .25 = | 33,853.75 |
| Over 20' | 2,173 | x \$30.00/3 yrs. = | 21,730 | x .25 = | 5,432.50 |
| Total | | | \$209,918 | | \$52,479.50 |

Table 9
1990 Waterfowl Licenses

| | No. | Fee | Total | Increase | |
|--------------|--------|-------------|-----------|----------|------------------|
| | | | | 25% | Increase |
| Resident | 27,529 | x \$12.00 = | \$330,348 | x .25 = | \$ 82,587 |
| Non-resident | 5,522 | x \$64.00 = | 353,408 | x .25 = | 88,352 |
| Total | | | | | \$170,939 |

Table 10
1990 Park Entrance Fees

| | |
|--------------------------------------|--------------------|
| Average entrance fee for 1989-1990 = | \$184,671 per year |
| x 25% increase = | \$ 46,168 |

USE COMPARISON

For the purpose of comparing water use types and the amount of revenue that can be expected when applying use fees, Table 11 has been developed utilizing the fee rates of \$.01, \$.05, and \$.25 per 1,000 gallons of water used. The table displays potential revenue that could be generated if this rate fee schedule were applied to these water users based upon their actual use.

CONCLUSIONS

Table 12 illustrates the potential revenue that is estimated to be generated annually if users fees were assessed to the identified water users on a statewide basis.

In the case of industrial, irrigation, and municipal/rural water use, the fee has been applied to actual use not what is permitted. In assessing fees it probably does have merit to investigate a permit charge for the portion of the permit which doesn't actually get used. As mentioned previously, in many cases this amount is substantial and does indeed have some value to the permit holder. However, it must be recognized that a charge for actual

use in addition to a charge for permit allocation will result in the permit holder to re-evaluate the permit allocation and what is actually used. This has the potential to result in conservation, thus potentially freeing up water for other uses. For example, a city has a water permit for five times the amount of water it actually uses. Should the city be charged a fee for the unused permit allocation? Should the city be charged for planning for future growth?

No attempt has been made to determine the administrative cost that will be involved to obtain the users fees. Administrative costs would include cost of collection, monitoring meters for actual use, and bookkeeping. Many municipalities are not metered and neither of course are irrigation systems. Some of these costs could have the potential to be excessive and if this concept is pursued would have to be factored in the actual user fee charge. Nor have all the complexities associated with water fees been fully identified or assessed. Many factors exist that make this concept very difficult to regulate and administrate, particularly in regard to municipal/rural water systems, and irrigation water use.

Table 11
Use Comparison Flat Fee Schedule Rate

| | M Gals Used Gals | Revenue Generated | | |
|---------------------------------|---------------------|---------------------|---------------------|---------------------|
| | | \$.01/1,000 Gals | \$.05/1,000 Gals | \$.25/1,000 Gals |
| Industrial | 293,675* | \$ 2,936,761 | \$14,683,809 | \$73,419,047 |
| Irrigation | 65,165 | 651,650 | 3,258,250 | 16,291,250 |
| Municipal/Rural Water System | 23,241 | 232,410 | 1,162,050 | 5,810,250 |
| Recreation/Fish/ Wildlife | 27,146** | 271,460 | 1,357,300 | 6,786,500 |

* Consumptive use is 13,858 M gallons; non-consumptive 279,817 gallons.
** Represents perfected permitted amount.

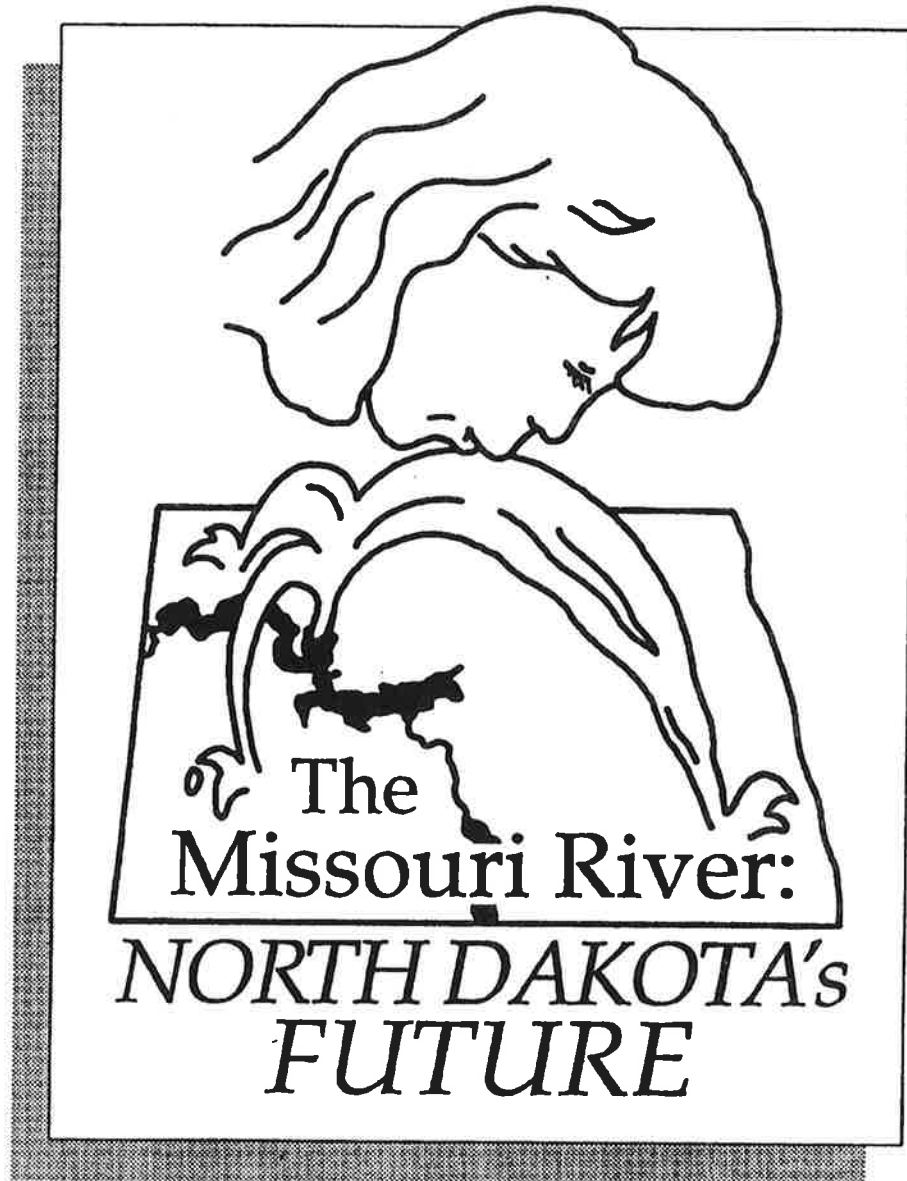
Table 12
Potential Revenue Options Based on Current Use

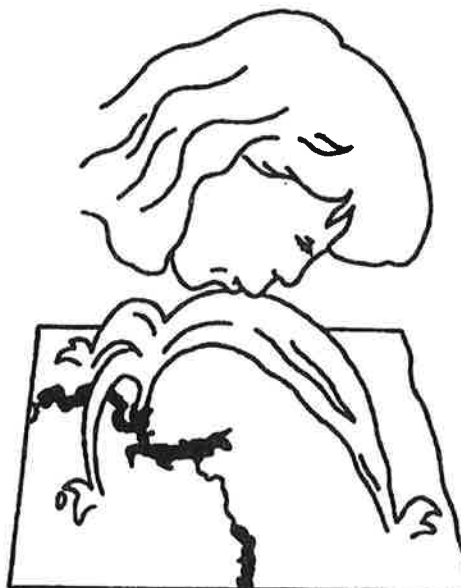
| | M Gals | |
|--|---------|-------------|
| Industrial: | | |
| \$20.00 * per acre-foot consumptive and | 293,675 | \$1,046,000 |
| \$.50** flow-through per acre-foot | | |
| Irrigation: | | |
| \$.01 per 1,000 gallons | 65,165 | \$ 651,658 |
| Municipal/Rural Water System: | | |
| \$.01 per 1,000 gallons | 23,241 | \$ 232,410 |
| Fish/Wildlife/Recreation (Permitted): | | |
| \$.01 per 1,000 gallons | 27,146 | \$ 271,470 |
| Licenses/Registration/Entrance Fee: | | |
| 25 percent increase in current fees | - | \$ 518,689 |

* Equivalent to \$.06 per 1,000 gallons.

** Equivalent to \$.015 per 10,000 gallons.

Governor's Water Strategy Task Force Subcommittee on Program Benefits





The Governor's Water Strategy Task Force must recommend a water supply development program to Governor Sinner by October 1, 1991. The Task Force examined water-related issues and gathered information on North Dakota's water needs from the Comprehensive State Water Management Plan and from hearings conducted in eight locations throughout the state. After reviewing all available information, the Task Force developed the water supply development program to be recommended to the Governor.

The program contains a list of 11 projects and expenditures which are necessary to satisfy the state's water-related needs through the year 2000 and beyond. The Subcommittee on Program Costs (1991) estimated both federal and state cost shares for each of the 11 projects and expenditures in the recommended program. This document provides estimates of the benefits which North Dakotans will receive from the proposed water supply projects.

BENEFIT IDENTIFICATION

Short-term and long-term benefits are produced by water supply projects. Short-term benefits are the dollars of increased economic activity resulting from the expenditure of federal dollars to construct projects in North Dakota. Federal dollars are considered "new money" to the state's economy, whereas state dollars, which are necessary to obtain the federal cost-share, are simply a transfer of money from the private to the public sector. Dollars of increased economic activity result-

ing from construction expenditures are estimated using the North Dakota Input-Output Model (Coon et al. 1990). Increases in the state's

total business activity, retail trade, personal income, and employment can be estimated using input-output technology.

Long-term benefits are derived from the use of water supply projects after construction has been completed. Long-term benefits can be from irrigation, recreation, wildlife, or water for municipal, rural, and industrial (MR&I) uses. Some of these benefits have been valued in dollar terms in published studies. However, there are also intangible benefits (such as quality of life or health-related benefits for MR&I projects) which can not be quantified in dollar terms without in-depth analyses. These benefits, which can be very important to a project's total value, will be identified and described.

VALUATION OF BENEFITS

The Subcommittee on Program Costs (1991) estimated federal cost-shares for the recommended projects to be:

| | (millions) |
|---|-------------|
| Mid-Dakota Reservoir | \$22.8 |
| Canal Maintenance and Rehabilitation | 13.3 |
| James River(Oakes Test Area Irrigation) | 4.4 |
| Sheyenne River and Devils Lake | 49.0 |
| Turtle Lake Irrigation | 22.1 |
| Williston Irrigation | 16.3 |
| Southwest Pipeline Project | 58.3 |
| Northwest Area Water Supply | 80.0 |
| MR&I Program | <u>63.8</u> |
| TOTAL | \$330.0 |

Federal cost-share dollars for each project were averaged over the estimated years needed to complete construction activities (See end of this appendix). The federal expenditures were inserted into the North Dakota Input-Output Model to estimate the short-term impacts on the state's economy.

Short-term Benefits

Construction of the proposed projects would improve total business activity in the state by about \$800 million from 1992-2000 (Table 1). Retail trade would increase by \$130 million and personal income would improve by \$200 million. Over 1,300 jobs per year would be supported during the construction phase of the projects.

Long-term Benefits

As stated previously, long-term benefits accrue from the use of projects. Long-term benefits for the proposed projects which can be quantified in dollar terms are:

- irrigation, and
- enhanced recreation and wildlife.

Benefits from water supply projects providing water for MR&I uses as well as canal maintenance and construction are difficult to quantify or are intangible benefits. They will be expressed in non-dollar terms.

Irrigation Benefits

Three proposed projects would form irrigation districts in the Oakes, Turtle Lake, and Williston areas. Leitch et al. (1991) estimated the dollar values of irrigation benefits to the state's economy. Crop rotations and yields used to estimate returns in the Turtle Lake area will be used as a proxy for the Williston area. The study included estimates tailored to Oakes area agricultural practices.

Two types of economic effects occur when converting cropland from dryland to irrigated. Net returns change, affecting the well being of farm families, and on-farm production activity increases as a result of intensified cropping and a widened range of possible enterprises (Leitch et al. 1991).

Net returns to unpaid labor and management were \$79.25 per acre higher for irrigated land than dryland in the Turtle Lake area and \$107.97 for the Oakes area (Leitch et al. 1991). This figure assumes irrigators did not raise surplus crops such as wheat or corn grain on their irrigated acres. Returns similar to Turtle Lake could be expected for the Williston area, which has a growing season comparable to the Turtle Lake area.

The increased on-farm production activity affects the economy of the state. More inputs used per acre and higher per acre

Table 1
Short-Term Benefits of Projects
Recommended by the Governor's Water Strategy Task Force

| Year | Total Business Activity | Retail Trade | Personal Income | Employment |
|---------------|----------------------------|-----------------|--------------------|---------------|
| | ----- millions ----- | | | |
| 1992 | \$70.27 | \$11.51 | \$18.54 | 1,059 |
| 1993 | 84.20 | 13.85 | 22.01 | 1,267 |
| 1994 | 95.00 | 15.66 | 24.63 | 1,428 |
| 1995 | 127.58 | 21.13 | 32.75 | 1,926 |
| 1996 | 127.58 | 21.13 | 32.75 | 1,926 |
| 1997 | 81.05 | 13.32 | 20.11 | 1,232 |
| 1998 | 94.33 | 15.55 | 23.42 | 1,430 |
| 1999 | 63.18 | 10.60 | 15.73 | 958 |
| 2000 | <u>63.18</u> | <u>10.60</u> | <u>15.73</u> | <u>958</u> |
| TOTALS | \$806.37 | \$133.35 | \$205.67 | 12,184 |

returns translate into increased economic activity. The proposed irrigation developments would increase the state's total business activity by over \$27 million annually, and provide additional secondary employment of 466 jobs per year (Table 2).

Enhanced Recreation & Wildlife Benefits

Construction of Mid-Dakota Reservoir and the Devils Lake Pipeline would provide the state with additional water and wildlife associated recreation benefits. The value of water-associated recreation benefits (boating, camping, swimming) can be measured by estimating the per day dollar expenditures of recreationists. Wildlife-associated recreation benefits can be valued by estimating per day expenditures of people hunting or fishing.

Another method of valuing recreation benefits is by estimating consumers' surplus, which is the extra benefits consumers receive beyond what they pay for a good or service (Anderson et al. 1985). In other words, consumers' surplus is what consumers are willing to pay for benefits from goods or services minus what they actually pay. Consumers' surplus is a method used by the federal government to conservatively value recreation benefits. Both expenditures and consumers' surplus values are presented to offer an upper and lower range of values for recreation and

wildlife benefits (Table 3).

Impacts of recreation and wildlife benefits to the state's economy can be estimated by inserting expenditures (Table 3) into the Recreation and Tourism sector of the Input-Output model. Over \$110 million of total business activity would be generated annually. Over \$14 million in retail trade and nearly \$20 million of personal income would be generated. Use of the two proposed projects would support the employment of over 1,600 people in the state.

The state will receive additional wildlife-associated benefits from the stabilization of habitat along canals and rivers in the state. Bank stabilization projects prevent erosion in riparian habitats. Fisheries and wildlife habitats in and along rivers and impoundments used to transport and store Garrison Diversion water will benefit from a stable source of clean water (Leitch and Schutt 1990).

Municipal, Rural, and Industrial Water Project Benefits

Quantification in dollar terms of long-term MR&I benefits would require an extensive, in-depth analysis that is beyond this study's scope. Traditional analytical procedures establish MR&I water supply benefits equal to the cost of the most likely alternative

Table 2
Annual Long-Term Benefits for Proposed Irrigation Projects Recommended by the Governor's Water Strategy Task Force

| Project | Total Business Activity | Retail Trade | Personal Income | Employment |
|------------------------------------|-------------------------|----------------|-----------------|------------|
| | ----- million ----- | | | |
| Oakes Test Area (5,000 acres) | \$5.10 | \$1.92 | \$1.55 | 82 |
| Turtle Lake Area (13,700 acres) | 13.13 | 5.24 | 3.92 | 222 |
| Williston Area (10,000 acres) | <u>9.58</u> | <u>3.83</u> | <u>2.86</u> | <u>162</u> |
| TOTALS | \$27.81 | \$10.99 | \$8.33 | 466 |

Table 3
Annual Long-Term Recreation and Wildlife Benefits
of Projects Proposed by the Governor's Water Strategy Task Force

| Project/ Activity | Days | Expenditures | | Consumers' ^a Surplus |
|------------------------------|---------|--------------|---------------------|------------------------------------|
| | | Per Day | Total | |
| Mid-Dakota | | | | |
| Water Rec. ^b | 98,844 | 63 | \$6,227,172 | \$2,490,869 |
| Hunting ^c | | | | |
| Waterfowl | 1,600 | 105 | 168,000 | 67,200 |
| Upland | 3,000 | 218 | 654,000 | 261,600 |
| Big Game | 2,600 | 255 | 663,000 | 265,200 |
| Totals | | | \$7,712,172 | \$3,084,869 |
| Devils Lake ^d | | | | |
| Fishing | 215,422 | 87 | \$18,741,714 | \$7,496,686 |
| Water Rec. | 120,148 | 63 | 7,569,324 | 3,027,730 |
| Totals | | | \$26,311,038 | \$10,524,416 |
| TOTAL ANNUAL BENEFITS | | | \$34,023,210 | \$13,609,285 |

^aAnderson et al. (1985) estimated consumers' surplus for North Dakota water-related activities to be 40 percent of expenditures.

^bAverage annual days of recreation on Lake Tschida were multiplied by 1.5 to be used as a proxy for Mid-Dakota recreation. Mid-Dakota Reservoir will be two times as large with a cleaner, more stable water supply and better facilities than Lake Tschida. Daily expenditures of visitors to Lake Metigoshe and Lake Sakakawea State Parks in 1984 (Mittleider and Leitch 1984) were averaged, then inflated to 1991 dollars using the Consumer Price Index (CPI) to serve as a proxy for all nonconsumptive outdoor recreation activities.

^cEstimated annual days hunting for Lonetree Reservoir (Leitch and Schutt 1990) were multiplied by 2.0. Mid-Dakota Reservoir will provide about 2.5 times the habitat area as the proposed Lonetree Reservoir. Expenditure estimates from Baltezare and Leitch (1988) were inflated to 1991 dollars using the CPI.

^dEstimates of fishing and water recreation days in Devils Lake attributable to Garrison Diversion water and expenditures were derived from Leitch and Schutt (1990).

that would furnish equal service. Unfortunately, nearly every city or rural water system's alternative supply is unique, thereby rendering a general analysis inaccurate at best. In some cases there is no other alternative water source. Recognizing this problem, the computerized Waterware II cost-benefit analysis program for water projects assumes MR&I project benefits equal costs (Coon et al. 1989).

Proposed MR&I projects include the Southwest Pipeline Project, the Northwest Area Water Supply, and the MR&I Water

Supply Program. The primary benefits of MR&I projects are an:

- improvement in water quality,
- increase in water quantity, and/or
- improvement in the reliability of water quality and quantity.

These primary benefits translate into many intangible benefits which are difficult to quantify in dollar terms. Intangible benefits from MR&I projects are:

- improved health,
- enhanced quality of life,

- private economic considerations:
 - MR&I water may be the least-cost alternative for communities trying to meet EPA standards,
 - increased useful life of water supply equipment,
 - retained property values, and
- economic development for North Dakota.

Citizens throughout the state are experiencing problems finding reliable quantities of good quality water. Southeastern North Dakota water supplies have high arsenic levels. Water with high mineral contents reduces the service lives of water heaters and individual wells in some areas. Southwestern North Dakota communities have water with fluoride levels too high to meet the Environmental Protection Agency health codes. Seven cities have received notices of violation from the EPA and face fines of up to \$25,000 per day. Proposed MR&I projects would solve these problems.

Prolonged drought has reduced water supplies and forced many North Dakota cities to restrict lawn watering and other water uses. Gardening and yardwork is the second-most popular outdoor recreation activity in the state (ND Parks and Recreation Dept. 1991). Citizens' quality of life could be improved if more reliable sources of water were made available.

Increasing water supplies for economic

development is becoming an issue in North Dakota and the nation (Clark 1991). Water's effects on economic development are receiving more attention by researchers. McGuire (1986) found public investment in infrastructure such as water supply and transportation were the keys to improved business productivity and economic development. Aschauer (1988) furthered McGuire's findings by comparing public investments and growth in the nation's economy. He found public investment in infrastructure to be the most productive investment of public money. He also found other countries such as Japan and West Germany invested much more in infrastructure and had much higher business productivity than the United States.

CONCLUSION

According to the Vision 2000 Committee, North Dakota's economic future depends on minimizing the state's limits to economic growth. A dependable supply of good quality water may be limiting some areas' economic growth. Public investment in infrastructure, such as a state-wide water distribution system, would help minimize this limit to growth. No definitive cost-benefit analysis can be made on this issue. In addition, the public sector makes expenditures for society and does not expect to recover all outlays on projects, such as water supply projects that provide infrastructure. Public sector water programs are "repaid" in returns to society, some of which remain intangible.

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ECONOMIC ACTIVITY FROM CONSTRUCTION EXPENDITURES — 1992-2000
Total Business Activity (in millions of dollars)

| PROJECT | AVE YEARLY EXPENDITURE | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | TOTAL |
|------------------------------------|------------------------|--------------|--------------|--------------|---------------|---------------|--------------|--------------|--------------|--------------|---------------|
| Mid-Dakota Reservoir | 5.70 | | 13.93 | 13.93 | 13.93 | 13.93 | | | | | 55.72 |
| Canal Maintenance & Rehabilitation | 2.60 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | | | | | 32.50 |
| James River | 0.88 | 2.15 | 2.15 | 2.15 | 2.15 | 2.15 | | | | | 10.75 |
| Sheyenne River & Devils Lake | 9.80 | 23.95 | 23.95 | 23.95 | 23.95 | 23.95 | | | | | 119.75 |
| Turtle Lake Irrigation | 4.42 | | | 10.80 | 10.80 | 10.80 | 10.80 | 10.80 | | | 54.00 |
| Williston Irrigation | 5.43 | | | | | | | 13.28 | 13.28 | 13.28 | 39.84 |
| Southwest Pipeline Project | 8.32 | 20.35 | 20.35 | 20.35 | 20.35 | 20.35 | 20.35 | 20.35 | | | 142.45 |
| Northwest Area Water Supply | 13.33 | | | | 32.58 | 32.58 | 32.58 | 32.58 | 32.58 | 32.58 | 195.48 |
| MR&I Program | 7.08 | 17.32 | 17.32 | 17.32 | 17.32 | 17.32 | 17.32 | 17.32 | 17.32 | 17.32 | 155.88 |
| TOTAL | | 70.27 | 84.20 | 95.00 | 127.58 | 127.58 | 81.05 | 94.33 | 63.18 | 63.18 | 806.37 |

ECONOMIC ACTIVITY FROM CONSTRUCTION EXPENDITURES — 1992-2000
Employment

| PROJECT | AVE YEARLY EXPENDITURE | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | TOTAL |
|------------------------------------|------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|------------|------------|---------------|
| Mid-Dakota Reservoir | \$ 5.70 | | 208 | 208 | 208 | 208 | | | | | 832 |
| Canal Maintenance & Rehabilitation | 2.60 | 94 | 94 | 94 | 94 | 94 | | | | | 470 |
| James River | 0.88 | 26 | 26 | 26 | 26 | 26 | | | | | 130 |
| Sheyenne River & Devils Lake | 9.80 | 366 | 366 | 366 | 366 | 366 | | | | | 1830 |
| Turtle Lake Irrigation | 4.42 | | | 161 | 161 | 161 | 161 | 161 | | | 805 |
| Williston Irrigation | 5.43 | | | | | | | 198 | 198 | 198 | 594 |
| Southwest Pipeline Project | 8.32 | 311 | 311 | 311 | 311 | 311 | 311 | 311 | | | 2177 |
| Northwest Area Water Supply | 13.33 | | | | 498 | 498 | 498 | 498 | 498 | 498 | 2988 |
| MR&I Program | \$ 7.08 | 262 | 262 | 262 | 262 | 262 | 262 | 262 | 262 | 262 | 2358 |
| TOTAL | | 1059 | 1267 | 1428 | 1926 | 1926 | 1232 | 1430 | 958 | 958 | 12,184 |

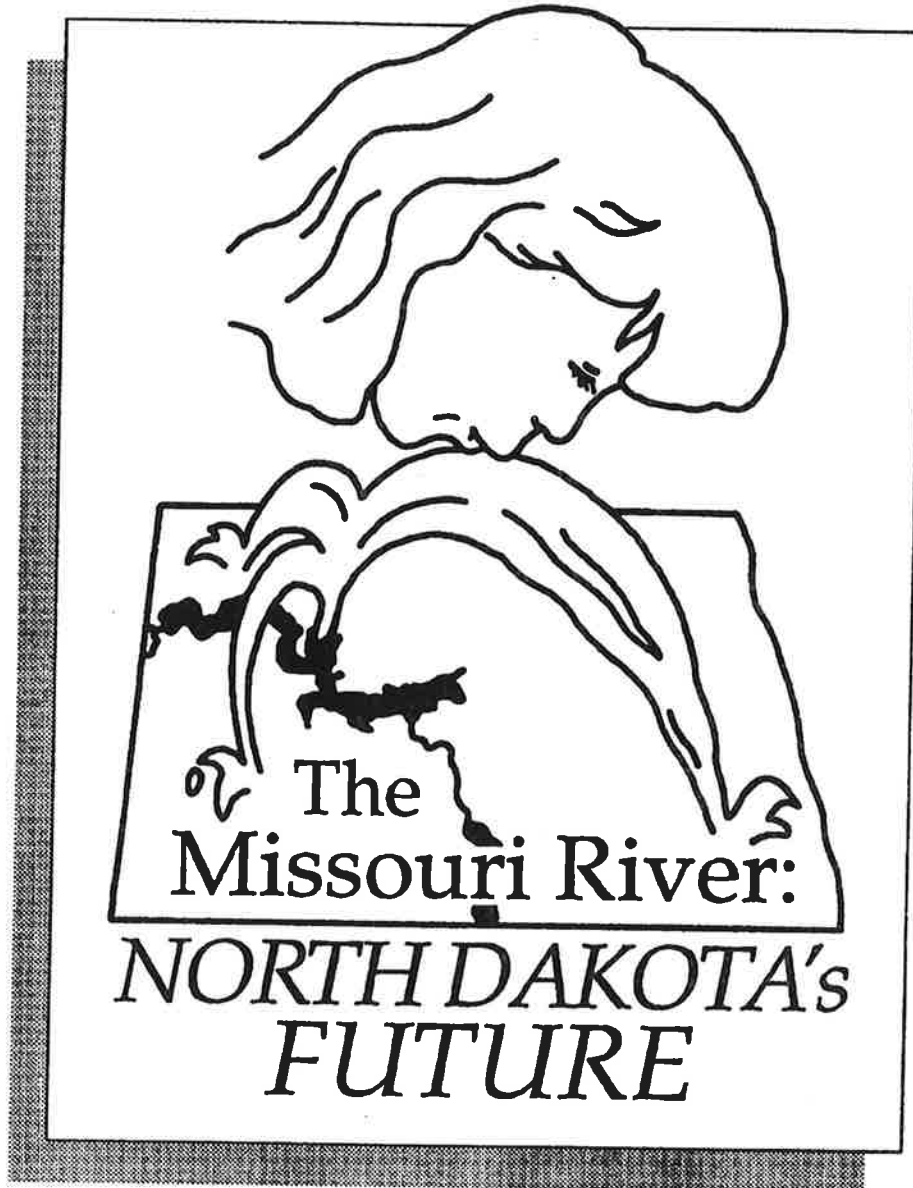
ECONOMIC ACTIVITY FROM CONSTRUCTION EXPENDITURES — 1992-2000
Retail Trade (in millions of dollars)

| PROJECT | AVE. YEARLY EXPENDITURE | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | TOTAL |
|------------------------------------|-------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------|
| Mid-Dakota Reservoir | 5.70 | | 2.34 | 2.34 | 2.34 | 2.34 | | | | | 9.36 |
| Canal Maintenance & Rehabilitation | 2.60 | 1.09 | 1.09 | 1.09 | 1.09 | 1.09 | | | | | 5.45 |
| James River | 0.88 | 0.36 | 0.36 | 0.36 | 0.36 | 0.36 | | | | | 1.80 |
| Sheyenne River & Devils Lake | 9.80 | 4.02 | 4.02 | 4.02 | 4.02 | 4.02 | | | | | 20.10 |
| Turtle Lake Irrigation | 4.42 | | | 1.81 | 1.81 | 1.81 | 1.81 | 1.81 | | | 9.05 |
| Williston Irrigation | 5.43 | | | | | | | 2.23 | 2.23 | 2.23 | 6.69 |
| Southwest Pipeline Project | 8.32 | 3.14 | 3.14 | 3.14 | 3.14 | 3.14 | 3.14 | 3.14 | | | 21.98 |
| Northwest Area Water Supply | 13.33 | | | | 5.47 | 5.47 | 5.47 | 5.47 | 5.47 | 5.47 | 32.82 |
| MR&I Program | 7.08 | 2.90 | 2.90 | 2.90 | 2.90 | 2.90 | 2.90 | 2.90 | 2.90 | 2.90 | 26.10 |
| TOTAL | | 11.51 | 13.85 | 15.66 | 21.13 | 21.13 | 13.32 | 15.55 | 10.60 | 10.60 | 133.35 |

ECONOMIC ACTIVITY FROM CONSTRUCTION EXPENDITURES — 1992-2000
Personal Income (in millions of dollars)

| PROJECT | AVE. YEARLY EXPENDITURE | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | TOTAL |
|------------------------------------|-------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------|
| Mid-Dakota Reservoir | 5.70 | | 3.47 | 3.47 | 3.47 | 3.47 | | | | | 13.88 |
| Canal Maintenance & Rehabilitation | 2.60 | 2.66 | 2.66 | 2.66 | 2.66 | 2.66 | | | | | 13.30 |
| James River | 0.88 | 0.54 | 0.54 | 0.54 | 0.54 | 0.54 | | | | | 2.68 |
| Sheyenne River & Devils Lake | 9.80 | 5.97 | 5.97 | 5.97 | 5.97 | 5.97 | | | | | 29.85 |
| Turtle Lake Irrigation | 4.42 | | | 2.62 | 2.62 | 2.62 | 2.62 | 2.62 | | | 13.10 |
| Williston Irrigation | 5.43 | | | | | | | 3.31 | 3.31 | 3.31 | 9.93 |
| Southwest Pipeline Project | 8.32 | 5.07 | 5.07 | 5.07 | 5.07 | 5.07 | 5.07 | 5.07 | | | 35.49 |
| Northwest Area Water Supply | 13.33 | | | | 8.12 | 8.12 | 8.12 | 8.12 | 8.12 | 8.12 | 48.72 |
| MR&I Program | 7.08 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 38.70 |
| TOTAL | | 18.54 | 22.01 | 24.63 | 32.75 | 32.75 | 20.11 | 23.42 | 15.73 | 15.73 | 205.65 |

Governor's Water Strategy Task Force Water Development Act of 1991



North Dakota Water Development Act of 1991

1. LEGISLATIVE INTENT

- **Importance of water development to North Dakota**

2. PROGRAM PROJECTS

- **MR&I**
- **Mid-Dakota Reservoir**
- **Canal Maintenance & Rehabilitation**
- **James River**
- **Sheyenne River & Devils Lake**
- **Turtle Lake Irrigation**
- **Williston Irrigation**
- **Southwest Pipeline**
- **Contract Fund**
- **Northwest Area Water Supply**
- **Water Supply Development Fund**

3. REVENUE SOURCES (sunsets Dec. 31, 1999)

- **1/4% Sales Tax**
- **1% Personal Income Tax**
- **5% Corporate Tax**

4. RESOURCES TRUST FUND

- **Funding for Water Development**

5. TIME FRAME

- **Effective January 1992**
- **Expiration December 1999**