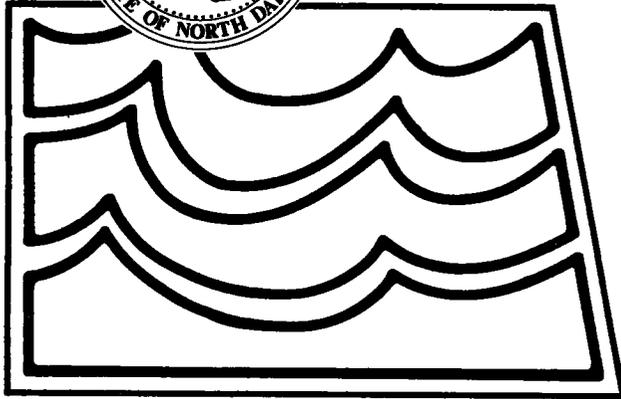


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NORTH DAKOTA  
**State Water Commission**

**BIENNIAL REPORT**  
FOR THE PERIOD  
July 1, 1987 to June 30, 1989

TC824.N9 A32 BIE

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**Office of the State Engineer**

December 1, 1989

Honorable George A. Sinner  
Governor of North Dakota  
State Capitol  
Bismarck, North Dakota 58505

RE: 1987 - 1989 Biennial Report

Dear Governor Sinner:

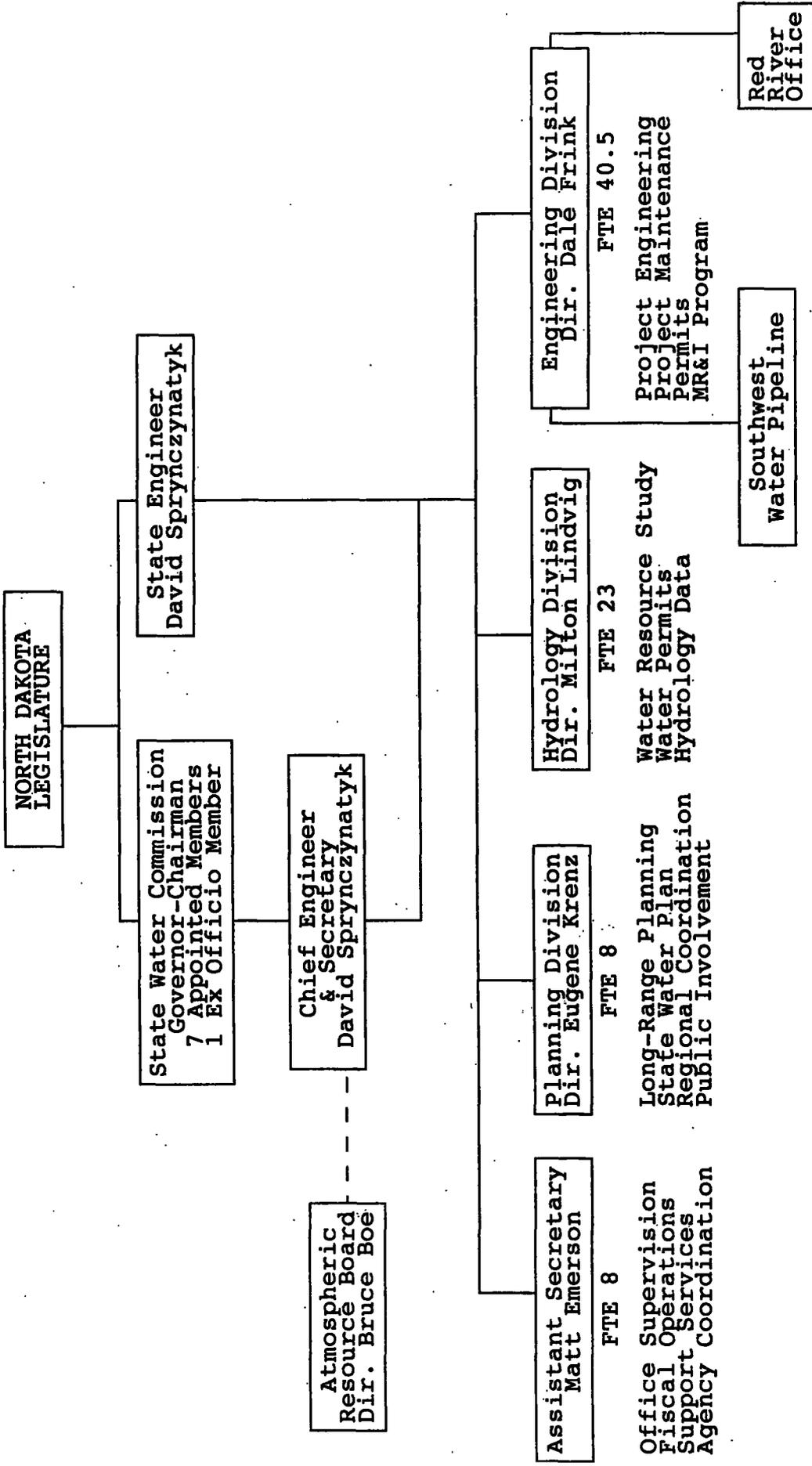
In compliance with North Dakota Laws, we transmit for your information and consideration the Biennial Report of the State Engineer and State Water Commission for the period July 1, 1987 to June 30, 1989.

Respectively submitted,

A handwritten signature in cursive script, reading "David A. Sprynczynatyk".

David A. Sprynczynatyk  
Secretary & State Engineer

DAS:kh



The SWC provides general guidance to the Atmospheric Resource Board.  
 The Atmospheric Resource Board is a separate budget document.  
 Total FTE= 79.5

July 1989

**COMMISSION MEMBERS AS OF JUNE 30, 1989**

<u>NAME</u>	<u>POSITION</u>	<u>TERM ENDS</u>
George A. Sinner Sarah Vogel	Governor-Chairman Department of Agriculture	
Lorry Kramer William Lardy	Member from Minot Member from Dickinson	July, 1991 July, 1991
Joyce Byerly Daniel Narlock Norman Rudel	Member from Watford City Member from Oslo, MN Member from Fessenden	July, 1993 July, 1993 July, 1993
Jacob Gust Jerome Spaeth	Member from West Fargo Member from Bismarck	July, 1995 July, 1995

**COMMISSION MEETINGS**

**JULY 1, 1987 THROUGH JUNE 30, 1989**

<u>DATE</u>	<u>LOCATION</u>
July 22, 1987	Watford City, ND
September 8, 1987	Bismarck, ND
October 21, 1987	Bismarck, ND
December 9, 1987	Jamestown, ND
January 15, 1988 (Telephone Conference Call)	Bismarck, ND
March 17, 1988	Bismarck, ND
April 29, 1988	Bismarck, ND
July 10, 1988	Bottineau, ND
July 28, 1988	Bismarck, ND
August 31, 1988 (Telephone Conference Call)	Bismarck, ND
October 11, 1988	Bismarck, ND
December 7, 1988	Bismarck, ND
January 26, 1989	Bismarck, ND
March 9, 1989	Bismarck, ND
April 20, 1989 (Telephone Conference Call)	Bismarck, ND
May 10, 1989	Minot, ND
June 7, 1989	Bismarck, ND
June 15, 1989 (Telephone Conference Call)	Bismarck, ND

**WATER PERMITS SUMMARY**

**JULY 1, 1987 THROUGH JUNE 30, 1989**

**TOTAL APPLICATIONS FILED -----183**

**IRRIGATION --**

Applications Filed -----	97	
Acre-Feet of Water Granted ----	14,705.4	(includes backlog)
From Ground Water:	11,180.7	Acre-Feet
From Surface Water:	3,524.7	Acre-Feet
Acres Requested -----	20,806.5	
Acres Granted -----	11,221.1	(includes backlog)

**FLOOD CONTROL --**

Applications Filed -----	1	
Acre-Feet Storage Granted ----	392.0	(includes backlog)
Acre-Feet Annual Use Granted --	122.0	(includes backlog)

**INDUSTRIAL --**

Applications Filed -----	35	
Acre-Feet of Water Granted ----	3,245.4	(includes backlog)

**LIVESTOCK --**

Applications Filed -----	2	
Acre-Feet Storage Granted ----	38.0	(includes backlog)
Acre-Feet Annual Use Granted --	6.3	(includes backlog)

**MUNICIPAL --**

Applications Filed -----	9	
Acre-Feet of Water Granted ----	1,334.7	(includes backlog)

**RECREATION, FISH AND WILDLIFE ---**

Applications Filed -----	29	
Acre-Feet Storage Granted ----	7,128.7	(includes backlog)
Acre-Feet Annual Use Granted --	5,003.1	(includes backlog)

**RURAL DOMESTIC --**

Applications Filed -----	10	
Acre-Feet of Water Granted ----	522.0	(includes backlog)

## STATE WATER COMMISSION

### ORGANIZATION

The State Water Commission is located at the State Office Building near the State Capitol in Bismarck, North Dakota. The Commission is made up of the Governor as Chairman, the Commissioner of Agriculture as an ex-official member and seven appointed members who are appointed by the Chairman to serve terms of six years each. The terms of office for appointees are so arranged that two terms and not more than three terms shall expire on the first day of July of each odd numbered year. The Commission appoints a Secretary-State Engineer as their executive officer and he employs a staff as may be needed.

### STATUTORY MANDATES

The State Water Commission was created by legislative action in 1937 as a result of the depression of the 1930's for the specific purpose of fostering and promoting water resources development throughout the state.

The Office of State Engineer was created in 1905 to regulate and administer matters concerning allocation of the state's water and related land resources in compliance with Section 210 of our constitution which declares all waters to be property of the state for public use. In 1937, additional duties were added to this office when the State Engineer was designated chief technical advisor of the Commission. Subsequently, in the years following, the State Engineer was assigned responsibilities for regulation of drainage; control of dikes and dams and management of development in the flood plains of the state.

### POLICIES PROMULGATED

The State Water Commission and the State Engineer have developed procedures and policies based upon the comprehensive legislation contained in Chapter 61 of the North Dakota Century Code to:

- Administer the water laws of the state and its interest in federal and international waters.
- Prepare and maintain a comprehensive plan for future growth and development of the state and to direct project development in accordance with that plan.
- Conduct studies to determine availability and occurrence of the ground and surface waters of the state for the purposes of allocation and management.
- Assist local entities of government in the development and construction of water resource projects.
- Assist local entities of government in management and maintenance of water resource projects.
- Assist in the organization of various legal entities through which water resource projects can be sponsored and operated.

- Coordinate activities of federal, state, and local entities in water resources development.
- Represent the interests of the state in water resources matters in national, state, and international forums.

Many of the policies in effect have evolved as a result of the agency's financial participation in project development along with local government sponsors. The amount of financial participation varies with the project with the project purposes. The contract fund is the source of funds for assistance to local sponsors and is controlled by the Commission.

### Principal Agency Activities

- . Establishing the procedures for claiming this state's share of the flows of the Missouri River for our future needs as reflected in our comprehensive planning documents and the Pick-Sloan Plan.
- . Continued efforts for funding of the Garrison Diversion Project to provide for water distribution throughout much of North Dakota, in return for the land given up for early development of the Pick-Sloan Plan.
- . Developing international flood control with the Province of Saskatchewan and Canada for solving the flood problems along the Souris River.
- . Developing legislation and policies for administering and Resources Trust Fund through which water facilities such as the Southwest Pipeline can be constructed as needed.
- . Initiation of discussions with Indian representation regarding tribal water rights in North Dakota. The intent being to negotiate water rights to avoid litigation.
- . Developing policies and initiatives that will stimulate progress in solving flooding problems along the Sheyenne, Pembina, and Red Rivers.
- . Joint administration with the Garrison Conservancy District of the federally authorized municipal rural and industrial water supply program of the 1986 Garrison Diversion Reformation Act.
- . Continued funding by the legislature for advanced ground-water studies. Completion of these more detailed studies, which will more precisely define the nature and occurrence of groundwater, is essential in order to optimize development of the state's ground-water resources.
- . Pursuing cooperative efforts with neighboring states and province for planning for mutual beneficial water management on shared water resources.

## ADMINISTRATION DIVISION

The Administrative Division provides the overall direction of agency powers and duties as described in the State Water Laws. The activities include both the State Engineer's and the Water Commission's operations as well as accounting, records and support services for all agency programs.

Budget and fiscal control work is carried on within the provisions of statutory law and principles or rules of that law. Agency accounting consists of keeping adequate financial records, preparation of financial statements and reports, project or program cost accounting, preparation of budgets and proper control of various funds appropriated by the State Legislature.

A considerable portion of time is spent in coordination of water resource programs with federal agencies and other state and local entities. The division works with contracts and agreements necessary to carry out investigations, planning and cooperation with various other agencies in water resources development. A close liaison is maintained with Irrigation Districts, Water Resource Districts and the Garrison Conservancy District.

## PLANNING DIVISION

### State Water Plan Maintenance

North Dakota's water resources policy as defined in subsection 4 of 61-01-26 NDCC suggests that accruing benefits from the State's water resources can best be accomplished through the ". . . development, execution, and periodic updating of comprehensive, coordinated, and well-balanced short-term and long-term plans and programs . . ."

North Dakota's current state water plan was approved and published in 1983. Shortly thereafter the Planning Division staff input major components of the plan into a computer database so they might be more easily updated. A computerized database not only makes it possible to quickly and easily update information contained in the plan, it also improves the staff's ability to respond in a timely fashion to information requests made by resource managers and the public. Another benefit is the ability to better analyze the potential effects of a project proposal on existing projects and on other proposed projects in the affected watershed. Planning along watershed boundaries is facilitated by the computer database.

The planning staff continues to revise the State Water Plan database to reflect actions taken by the State Water Commission at its regular meetings.

### Missouri River States Association

After the Missouri River Basin Commission (MRBC) was terminated in 1981, the governors of the ten states in the Missouri River Basin formed the Missouri Basin States Association (MBSA). MBSA, which is entirely state-supported, continues to promote communication and coordination between the basin states. The Association is placing considerable emphasis on developing methodologies to resolve conflicts that may arise between the member states.

### Red River Water Resources Council

Funds to continue operation of the Red River Water Resources Council have not been included in the Executive Budget recommendations for either North Dakota or Minnesota since July 1, 1983. Although the office in Moorhead, Minnesota has been closed for some time, the Council continues to function as a vehicle for coordinating water and related land resources matters in the Red River Basin. Continued funding limitations have prevented the two states from re-establishing an office with Council staff. Administration of the Red River Water Resources Council is accomplished under a chairmanship that rotates annually between North Dakota and Minnesota.

Quarterly meetings of the North Dakota and Minnesota Council directors are regularly attended by the representatives of various federal and state agencies and public interest groups.

## The International Coalition for Land and Water Stewardship in the Red River Drainage Basin

In 1985 the International Coalition was formally established as a non-profit organization with its primary purpose being to promote wise stewardship of land and water resources in the Red River Basin. The group's area of interest encompasses the entire Red River Basin including portions of eastern North Dakota; western Minnesota and southern Manitoba. Members of the Planning Division staff provide technical assistance to the Coalition in response to a request made to the Red River Resources Council. The request involved helping to coordinate the Coalition's activities with federal, state and local water management agencies. The Red River Water Resources Council has representatives serving on two of the Coalition's committees; the policy guidance committee and the education/information committee.

### The Oxbow Newsletter

The Planning Division assumed responsibility for publishing the Oxbow newsletter in March of 1984. This publication is currently sent to over 1,100 people on a monthly basis.

The Oxbow continues to serve the dual purpose of information and education, keeping readers aware not only of State Water Commission projects and programs, but also of recent activities in water resource management and development at the local, regional and national levels.

In 1989, the Planning Division published a special Centennial issue of the Oxbow in a magazine format as part of the State Water Commission's contribution to North Dakota's Centennial Celebration.

### Public Education Program in North Dakota Water Resource Management

The Planning Division continued development of its public education program during this biennium. The program's primary goal is to facilitate and promote the public's awareness, appreciation and knowledge of North Dakota's water resources.

Considerable progress has been made through the Water Education for Teachers (WET) program which provides a variety of water resource education materials to teachers working in kindergarten through grade 12. These teaching aids were made available to persons attending the thirty-seven workshops held at sites across the state during the biennium. Teachers were able to earn graduate credit from North Dakota universities while learning about the State's water resources and management concepts.

In addition to the WET workshops, the planning staff participated in over thirty-six youth and adult education forums, seminars, camps and conferences during the biennium. The staff also developed and sanctioned three water related Centennial Projects on behalf of the State Water Commission.

## HYDROLOGY DIVISION

Development and management of State's water resources to serve the needs of present and succeeding generations of North Dakota citizens is the major goal of the Hydrology Division. To do so, the following objectives were pursued:

- . Identify the availability and quality of the State's ground-water resources.
- . Assist municipalities and other public entities in developing solutions to particular water supply problems
- . Assess impacts on existing water supply development in an aquifer or watershed on water levels, streamflow and water quality for purposes of allocation and management.
- . Construction and operation of predictive models that simulate hydrologic conditions for the purpose of developing viable water management programs and assist in the equitable allocation of the resource.
- . Collect, store and disseminate data on stream flow, groundwater levels, water quality and water use.
- . Provide orderly processing of water permit applications for the equitable allocation of the resource.
- . Provide recommendations on individual water permit applications to the State Engineer on the availability of water and impact on senior appropriations for the equitable allocation and management of the resources.
- . Provide for the orderly storage and retrieval of water permit records.
- . Maintain a record of the utilization of each conditional water permit and water right.

### Project Activities for 1985-87

During the biennium the following reports were published:

The Hydrologic System of the Lower James River, North Dakota.

Hydrogeology of the Plaza Area Mountrail County, North Dakota.

Hydrogeology of the Lost Lake Aquifer System in the Wilton-Washburn area, McLean County, North Dakota. Feasibility of Artificial Recharge to the Oakes Aquifer Southeastern North Dakota; Evaluation of Experimental Recharge Basins.

Feasibility of Artificial Recharge to the Oakes Aquifer, Southeastern North Dakota; Preliminary Cost Analysis of a Project - Scale and Pilot - Scale Well Field and Artificial Recharge Facilities.

Feasibility of Artificial Recharge to the Oakes Aquifer, Southeastern North Dakota; Summary.

## DIVISION OF ENGINEERING

The major goals of the Division of Engineering are to manage and ensure that the surface waters of the state are developed in an orderly and safe manner; to ensure that the waters in which the state has a direct interest are protected for future generations; to develop necessary water resource projects at the request of local entities in the state; to provide technical data to communities in floodplain management; to manage and construct the Southwest Pipeline Project; and to provide coordination for the Garrison Diversion Municipal, Rural, and Industrial (MR&I) Water Supply Program.

The Division of Engineering is divided into six sections: The Regulatory Section provides assistance to communities on floodplain management and issues drainage, dam, dike, and sovereign land permits. The Investigation Section completes hydrologic and hydraulic studies, surface water related feasibility studies, and performs topographic surveying for the Commission. The Construction Section provides for the design, construction, maintenance, and construction inspection of water resource projects in the state. The Division of Engineering also includes a MR&I Section, a Southwest Pipeline Section, and the Red River Valley office in West Fargo.

During the 1987-1989 biennium, the Regulatory Section processed 106 dam-dike-other device permit applications, and 70 applications to drain. There were 2 drainage applications of statewide or interdistrict significance. The dam-dike-other device applications consist of 55 for fish and wildlife purposes, 11 for flood protection of agricultural land, 11 for flood protection of municipalities, 6 for mining operations, 6 for industrial uses, 6 for livestock watering, 3 for flood protection of farmsteads, 3 for irrigation, 2 for recreation, 2 for water supply, and 1 for erosion control.

The Section also processes requests for pipeline and utility crossings of streams, such as gas mains, power distribution lines, water and sewer lines, and telephone lines. Requests for mine permits involving new lands for mining and reclamation activities are also reviewed. The Section reviewed 12 new mine permits and 49 revisions to existing permits. A total of 33 utility crossings were also processed during this biennium.

The Regulatory Section is also responsible for floodplain management in the state and coordination of the National Flood Insurance Program. The floodplain management staff assists 230 communities in the administration of their floodplain management responsibilities. Each community designates an individual as the floodplain administrator to oversee all development. The State Water Commission staff works closely with these individuals in providing technical assistance. The floodplain management staff visits the communities on a pre-determined basis of need, and

during the 1987-89, biennium over 100 communities were visited. Approximately 75 percent of the State Water Commission costs are paid through the Community Assistance Program (CAP) sponsored by the Federal Emergency Management Agency.

The Investigations Section completed the following hydrologic and investigation reports during the biennium:

- Devils Lake Outlet Comm. Final Recommendations, SWC #1712
- Dickinson Flood Plain Management Study - SWC #1751-E
- Fort Lincoln Bank Stabilization - SWC #576-28
- Golden Rush Lake Improvements - SWC #475
- Hoskins Lake Improvements - SWC #1834
- Linton Snagging and Clearing - SWC #558-1
- Painted Woods Lake - SWC #160
- Raleigh Dam Recreation Area - SWC #507-3
- Rush Lake Restoration - SWC #463
- Spring Creek Bank Stabilization - SWC #1291
- Sykeston Dam Backwater Study - SWC #450

In addition to the formal investigations, the Investigations Section also provided technical assistance on the following projects:

- Alkali Lake - SWC #1303
- Apple Creek - SWC #331
- Blacktail Dam - SWC #560
- Bowman-Haley Dam - SWC #216
- Brander Drain - SWC #1689
- Chain Lakes - SWC #1802
- Des Lacs Lake - SWC #554
- Devils Lake Water Supply - SWC #416
- Edmore Dam - SWC #927
- Emergency Disaster (Red River Flooding) - SWC #1431
- Garrison Diversion - SWC #237
- Grand Forks Riverside Park Dam - SWC #520-2
- Green Lake - SWC #1435
- Griggs County Water Management Plan - SWC #1019
- Hammer-Sullivan Drain - SWC #1832
- Hansen Dam - SWC #342
- Harvey Dam - SWC #671
- Lake Isabel - SWC #1284
- Lake Metigoshe - SWC #330
- Little Missouri - SWC #1762
- Max Flood Control - SWC #1833
- Missouri River - SWC #1392
- Missouri River Bank Stabilization - SWC #576
- Mount Carmel Dam - SWC #1346
- Niobe Coulee Dam - SWC #1839
- Park River Bank Stabilization - SWC #1335
- Pudwill Lake - SWC #1834
- Raleigh Dam - SWC #507-2
- Red River Dikes - SWC #1638

Red River Mainstem - SWC #1701  
 Section 22 Program - SWC #1730  
 Souris River Flood Control - SWC #1408  
 Squaw Creek Dam - SWC #417  
 Whitetail Dam - SWC #1825  
 Wolf Butte Dam -SWC #359  
 Yellowstone River - SWC #1507

During the biennium, the Investigations Section also distributed 4726 field notes and 9892 maps to the public.

The Construction Section worked on several projects during the 1987-91 biennium. The two largest projects include Raleigh Dam and Grand Forks Riverside Dam.

Raleigh Dam is located on Dog Tooth Creek about three miles west of the city of Raleigh, in Grant County. A new dam was constructed approximately 700 feet downstream of an old railroad dam. The total cost of the dam and recreation facilities was \$397,177. These costs were divided between the Grant County Water Resource District, the Game and Fish Department, the Parks and Recreation Department, and the State Water Commission.

Grand Forks Riverside Dam consists of a 320-foot concrete structure located on the Red River between Grand Forks, North Dakota and East Grand Forks, Minnesota. The new dam is located about 1,000 feet downstream of a old rock filled timber crib structure. The dam serves as a water supply for Grand Forks. Total cost of the dam was \$1,454,419. Approximately, 75 percent of the costs were paid by the Garrison Diversion MR&I program. The city of Grand Forks and the State Water Commission provided the remaining funds.

The Construction Section also designed, inspected, and provided partial funding for the following smaller projects:

	<u>SWC</u> <u>Costs</u>	<u>Total</u> <u>Costs</u>
Blacktail Dam (Williams Co)	3,959	11,976
Bowman-Haley Dam Drawdown Mod. (Bowman Co)	4,065	16,259
Edmore Dam Repair, Edmore (Ramsey Co)	5,495	10,990
Golden-Rush Lake Channel Impr. (Steele Co)	8,191	24,574
Pembina Dam Repair	4,209	8,218
Sather Dam Repair (McKenzie Co)	982	1,964
Schlect-Thom & Lehr Dam Repairs (LaMoure Co)	3,196	7,991
Sheyenne R. Snagging & Clearing (Barnes Co)	8,971	32,754
Sheyenne R. Snagging & Clearing (Richland Co)	26,226	77,425
Spring Creek Bank Stabilization Mercer Co)	14,994	39,338
Sweetbriar Dam (Morton Co)	1,360	
Valley City Park Dam (Barnes Co)	7,499	14,998
Wilson Dam (Dickey Co)	6,580	20,454
Numerous US Geological Sur. Stream Gage Mod.		

Under the state's Dam Safety Inspection Program, a total of 45 dams were inspected and reports prepared. Forty of the inspections were reinspections of dams previously inspected. Thirty-one of the dams inspected were dams in which the State Water Commission had previously participated in construction or maintenance. Of the 45 dams, 12 were considered to be high hazard, 23 were medium hazard, and the remaining 10 dams were considered to be low hazard dams. Dams inspected included:

<u>Inspections</u>	<u>County</u>	<u>SWC #</u>	<u>Hazard Class</u>
Blacktail Dam	Williams	560	M
Bourbanis Dam	Cavalier	849	M
Burlington Dam #1	Ward	221	H
Burlington Dam #2	Ward	221	H
Bylin (N.Br.Forest R 1)	Walsh	929	H
Camel Butte	Golden Valley	1382	M
Clausen Springs	Barnes	1378	H
Crown Butte Dam	Morton	870	M
Daub Dam (Lake Arroda)	Oliver	1527	M
Edmore Dam	Ramsey	927	M
Epping	Williams	346	M
Erie (Brewer Lake)	Cass	1471	M
Fertile Valley	Williams	1315	L
Flasher Dam	Morton	1292	M
Froelich Dam	Sioux	627	L
Harmon Dam	Williams	1400	L
Harvey Dam	Wells	671	M
Hunter Dam	Cass	619	H
Iverson Dam (Mathilda)	Williams	1315	L
Matejcek (Mid.S.Br.Forest R 1)	Walsh	929	H
McGregor (Spangrud)	Williams	528	H
Minto	Walsh	448	M
Mount Carmel Dam	Cavalier	1346	M
Neché Dam	Pembina	274	L
New Rockford RRD	Eddy	656	L
North Lemmon Lake Dam	Adams	543	M
Northgate Dam	Burke	667	M
Odland Dam	Golden Valley	394	L
Olson Dam (T7-1)	Pembina	849	H
Pheasant Lake Dam	Dickey	501	M
Queen City Dam	Stark	1409	M
Renwick (M-4)	Pembina	849	H
Senator Young Dam (M-3)	Cavalier	849	H
Sheep Creek Dam	Grant	1358	L
Square Butte #2	Oliver	846	L
Square Butte #4	Oliver	846	M
Square Butte #5	Oliver	846	H
Sweetbriar Dam	Morton	642	M
Sweetbriar Dam	Morton	642	M
Sykeston Dam	Wells	450	M
Tioga Dam	Williams	561	H

Vigness Dam	Walsh	546	L
White Earth	Mountrail	327	M
Whitman Dam	Nelson	1436	M

During the biennium the Garrison Diversion Municipal, Rural, and Industrial Water Supply Program, which was authorized by the US Congress on May 12, 1986, received \$27.211 million of federal funds for the planning and construction of water supply facilities. To date, 104 applicants have requested assistance through the Garrison MR&I program. Of these, 32 projects have received approval from the State Water Commission and Garrison Diversion Conservancy District for MR&I funding. Thirteen projects are in the design and construction phase, including: Abercrombie, Englevale, Golden Lake Resort, Gwinner, Hankinson, Langdon Rural Water - Phases I and II, Minto, McLean/Sheridan, New Town Transmission line, Rugby, Riverside Park Dam, Langdon Rural Water, and the Southwest Pipeline Project.

The estimated total project cost for the 70 projects which have completed preliminary engineering work is approximately \$173 million. This does not include the cost of the \$213 million Northwest Area Water Supply System or the \$110 million Southwest Pipeline Project, which are also seeking funding through the MR&I program.

A total of \$885,125 of state funds were authorized for MR&I projects from the Contract Fund during the biennium. The projects and the respective amounts which were approved from the Contract Fund are: 1) Northwest Region Study - \$37,500; 2) Englevale Water Supply - \$13,125; 3) Grand Forks Riverside Dam - \$70,000; 4) McLean/Sheridan Rural Water - \$667,750; and 5) Minto Water Supply - \$96,750. Payments from the Contract Fund during the biennium total \$175,859, leaving a Carryover of \$709,266.

Construction continued on the Southwest Pipeline Project, which will divert water from Lake Sakakawea to areas in southwestern North Dakota for municipal and rural domestic water uses. The complete project will consist of 324 miles of pipeline, water treatment facilities, several pump stations, and reservoirs. The pipeline intake works are located at the existing Basin Electric intake. By June 30, 1989, approximately 52.8 miles of 30 to 36-inch pipeline had been laid. In addition, work had begun on the intake pump house, raw water reservoir, and a reservoir near Dickinson. The Southwest Pipeline Project continues to receive federal funds from the Garrison Diversion MR&I program, in addition to state funds.

The Red River Valley office, located in West Fargo, includes one water resource engineer and a part-time employee. The cost of operating the office is shared by the Red River Joint Water

Resource Board and the State Water Commission. Approximately half of the engineer's time involves working on projects eligible for Red River Joint Water Resource Board funding. The purpose of this Board, comprised of 13 water resource boards within 10 counties, is to develop flood protection projects within the Red River Basin.

## LEGAL REPORT

Since the consolidation of the Attorney General's Office in 1987, the State Engineer's Office no longer has a Legal Division. Instead, the Natural Resources and Indian Affairs Division of the Attorney General's Office provides legal services to the State Engineer. The assistant attorneys general assigned to provide legal services to the State Engineer's Office act as agency counsel. They provide legal services and answer the day-to-day legal questions that arise in the operation of the State Engineer's Office.

In addition to providing legal advise for the day-to-day problems faced by the State Engineer's Office, assistant attorneys general have assisted the State Engineer in numerous different activities. Attorneys have worked extensively on drafting new administrative rules and amending existing rules. Furthermore, the attorneys have aided in the drafting of various pieces of legislation which were introduced during the 1989 legislative session.

Assistant attorneys general have also been involved in a number of judicial and administrative actions. These actions have involved the granting and revoking of water rights, as well as the legality of various drainage activities and dams and dikes.

Staff attorneys have also been closely involved in the state's effort to change the Corps of Engineer's management of the Missouri River. In addition, staff attorneys have been providing legal advise to the State Engineer's Office concerning negotiations with the Three Affiliated Tribes over the extent of the Tribes reserved water rights.

For additional information concerning the activities of the Natural Resources and Indian Affairs Division of the Attorney General's Office, please consult the Attorney General's biennial report.

**NORTH DAKOTA ATMOSPHERIC RESOURCE BOARD**

**A DIVISION OF THE**

**NORTH DAKOTA STATE WATER COMMISSION**

The Atmospheric Resource Board (ARB) became a division of the State Water Commission in 1981. Although under the control of the Water Commission, the Board is a quasi-judicial, quasi-legislative, advisory and rule making department with its own budget and general fund appropriations.

The primary purpose of the Atmospheric Resource Board is to protect the rights of the public concerning weather modification. To do this the Board's rules and regulations governing weather modification procedures are continually being assessed and updated to ensure environmental and public safety and that operations remain at the forefront of technology. From this, making and enforcing reasonable rules and regulations concerning qualifications, procedures and conditions of licenses and permits is accomplished.

The Atmospheric Resource Board is comprised of ten members, of which three are ex-officio and seven are appointed. The NDCC outlines the seven districts in the state from which the governor appoints one member from each district. The three ex-officio members are the State Engineer, a representative from the State Department of Health and Consolidated Laboratories, and the Director of the State Aeronautics Commission.

During this past biennium the Board has been working with five counties in a cost-sharing hail suppression program. For this operational program the state funds 11% while the counties fund the remaining 89%. Analyses of this program show a reduction (43.5%) in hail damage which relates to an increase (\$2.21 per acre) in average annual crop profits.

The State-Federal Cooperative Research Program conducted experiments at Bismarck, North Dakota during the summer of 1989. These experiments were designed to study weather modification theories and techniques as well as to gain a greater understanding of Great Plains thunderstorms. This program was attended by scientists from throughout the United States as well as the world.

Anyone who desires further information about the Atmospheric Resource Board is encouraged to read the 1987-89 Biennium Report from the Board.

STATE WATER COMMISSION  
PROGRAMS/PROJECTS AUTHORIZED  
June 30, 1989

SWC No.	NAME	County	Date Approved	Amount Approved	Payments	Balance
237-3	MR&I-Remaining Balance			\$0	\$0	\$0
237-4	N.W. Region Study		12-9-87	37,500	36,369	1,131
237-35	Englevale Water Supply	Ransom	3-9-89	13,125	0	13,125
520-2	G.F. Park Dam	Gr. Forks	7-6-89	70,000	5,631	64,369
1782	McLean-Sheridan R. Water		5-10-89	667,750	133,859	533,891
237-7	Minto Water Supply	Gr. Forks	6-7-89	96,750	0	96,750
<b>MR&amp;I Total</b>				<b>\$885,125</b>	<b>\$175,859</b>	<b>\$709,266</b>
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<b>Special Projects</b>						
1344	Sheyenne River F.C.	Cass	6-7-89	\$2,358,248	\$122,029	\$2,236,219
1408	Souris River F.C.		6-7-89	1,858,692	0	1,858,692
1736	S.W. Pipeline		7-6-89	1,919,251	0	1,919,251
<b>Special Project Total</b>				<b>\$6,136,191</b>	<b>\$122,029</b>	<b>\$6,014,162</b>
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0001	Contract Fund - Remaining Balance			\$0	\$0	\$0
463	Rush Lake	Cavalier	5-10-89	171,850	0	171,850
475	Golden Lake	Steele	5-10-89	7,050	0	7,050
484	Hoskins Lake Dam	McIntosh	5-10-89	10,800	0	10,800
559	Hurricane Lake		7-10-88	12,080	12,080	0
620	Morton F.C.	Morton	8-31-88	131,850	131,850	0
978	Wells Co. Water Inv.	Wells	3-9-89	9,864	9,864	0
1061	St.Cr.-White Spur Dr.	Bottineau	7-10-88	206,115	48,065	158,050
1191	Richland Drain #30	Richland	9-8-87	13,580	13,580	0
1291	Spring Cr Bank St.	Mercer	10-11-88	14,993	0	14,993
1395	USGS Coop Investig.		7-1-87	511,251	505,251	6,000
1483	Wells Drain #1	Wells	10-11-88	31,622	31,622	0
1557	Lakota Drain	Nelson	6-7-89	19,274	19,274	0
1638	Red River Dikes		5-10-89	29,916	19,916	10,000
1649	North Cass RC&D	Cass	6-7-89	8,235	0	8,235
1689	Brandner Drain #7	Bottineau	5-10-89	134,920	0	134,920
1736	Southwest Pipeline		5-10-89	4,152	4,152	0
1738	Heimdal Drain	Wells	6-7-89	58,815	0	58,815
1746	Morrison L. Outlet	Ramsey	12-9-87	56,020	56,020	0
1775	Oak Cr. Watershed	Wells	12-9-87	16,405	16,405	0
1813	Sheyenne R. Sn.&Cl.	Cass	6-8-89	36,228	26,228	10,000
1814	Sheyenne R. Sn.&Cl.	Richland	1-26-89	30,000	21,426	8,574
1816	Sheyenne R. Sn.&Cl.	Barnes	1-26-89	5,841	5,841	0
1828	Biota Transfer Study		3-17-88	50,000	17,574	32,426
1832	Hammer-Sull. Dr. #1	Ramsey	10-11-88	53,171	53,171	0
	State Engr. approvals			74,781	56,325	18,456
<b>Contract Fund Total</b>				<b>\$1,698,813</b>	<b>\$1,048,644</b>	<b>\$650,169</b>
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<b>All Funds</b>				<b>\$8,720,129</b>	<b>\$1,346,532</b>	<b>\$7,373,597</b>
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**NORTH DAKOTA STATE WATER COMMISSION**

**FUND SUMMARY FOR BIENNIAL  
PERIOD ENDING JUNE 30, 1989**

Account Description	Original Appropriation	Adjusted Appropriation	Revenues/Expenditures	Appropriation Balance
Federal Fund Revenue	\$24,095,377	\$24,282,631	\$12,298,979	\$11,933,652
Special Fund Revenue	11,658,493	21,236,871	5,319,533	16,204,592
General Fund	5,631,845	6,010,081	5,857,613	152,468
<b>TOTAL</b>	<b>\$41,385,715</b>	<b>\$51,529,583</b>	<b>\$23,476,125</b>	<b>\$28,340,712</b>
Salaries and Wages	\$ 4,449,187	\$4,487,597	\$ 4,403,916	\$ 83,681
Central Data Processing	103,100	109,744	100,442	9,302
Operating Expenses	1,067,686	1,042,862	975,596	67,266
Equipment	124,480	158,290	158,204	86
Grants/Contracts	9,785,828	9,789,828	1,380,592	8,409,236
Contract Carryover 85-87	25,855,434	2,357,450	1,251,919	1,105,531
Southwest Pipeline		25,855,434	12,220,245	13,635,189
Pipeline Carryover 85-87		7,728,378	2,900,000	4,828,378
<b>TOTAL</b>	<b>\$41,385,715</b>	<b>51,529,583</b>	<b>\$23,390,914</b>	<b>\$28,138,669</b>

NOTES: Approved carryover from appropriation balance:

Water Commission Contracts	\$7,373,597
Southwest Pipeline Contracts	1,800,000

NORTH DAKOTA  
STATE WATER COMMISSION

FUNCTION SUMMARY FOR BIENNIAL  
PERIOD ENDING JUNE 30, 1989

FUNCTION NUMBER & DESCRIPTION	COST
100 Administration Including Management, Commission Members, Fiscal Control and Records Coordination, Personnel and Staff Support	\$ 895,678
210 Upper Mississippi River Basin Commission	29,742
220 Missouri River Basin Commission	24,085
230 State Water Plan Process	187,467
240 Special Studies	287,041
250 Interagency Coordination - Planning	8,614
301 Hydrology Division Administration	356,534
302 Field Work Related to Water Permits	51,356
303 Cancelling Water Permits	4,110
304 Computer Storage and Management	112,223
305 Hydrologic Studies	87,498
311 Preliminary Planning	176,795
312 Water Records	209,806
314 Subsurface Exploration	198,209
315 Quality of Water Work	231,004
316 Aquifer Testing and Special Investigations	101,591
317 Data Compilation and Analysis	187,129
318 Report Preparation and Review	145,745
319 Special Investigations	116,959
320 Repay - USGS Coop Program	258,298
330 Ground-Water-Shop Related	214,318
400 General Engineering Administration	482,229
401 Administration, Microfilming, Filing Ect.	154,252
402 Training	32,209
403 Equipment Maintenance	43,877
404 Shop Maintenance	29,653
411 Drainage Permits	78,541
412 Diking Permits	100,044
413 Flood Plain Management	222,301
414 Surface Water Permit Hydrology	2,533
415 Strip Mine and Energy Plant Regulation	12,863
416 Federal Permit Review	2,755
417 Inter Agency Coordination - Engineering	187,138
418 Emergency Diaster Assistance	23,223
420 Flood Control Project Hydrology	7,600
421 Drainage Project Hydrology	3,326
422 Recreation Project Hydrology	8,456

423	Water Supply Project Hydrology	2,265
430	Flood Control Project Investigation	122,283
431	Drainage Project Investigation	3,891
432	Recreation Project Investigation	97,143
433	Water Supply Project Investigation	94,407
435	Streambank Erosion & Maintenance Investigation	55,767
436	Snagging, Clearing & Channel Improvement Investigation	12,614
440	Flood Control Project Design	4,108
441	Drainage Project Design	795
442	Recreation Project Design	75,124
443	Water Supply Project Design	52,689
445	Streambank Erosion & Maintenance Design	5,352
446	Snagging, Clearing & Channel Improvement Design	1,673
450	Flood Control Project Construction	68,409
451	Drainage Project Construction	867,644
452	Recreation Project Construction	257,770
453	Water Supply Project Construction	14,609,898
455	Streambank Erosion & Maintenance Construction	5,305
456	Snagging, Clearing & Channel Improvement Construction	5,981
460	Flood Control Project Maintenance	1,633
461	Drainage Project Maintenance	1,376
462	Recreation Project Maintenance	80,258
463	Water Supply Project Maintenance	23,761
466	Snagging, Clearing & Channel Improvement Maintenance	688
470	Dam Safety Inspection	127,971
480	Topographic Map Sales	10,440
481	Field Note Sales & H&V Control	15,117
490	Grant Payments for Flood Control Projects	375,866
491	Grant Payments for Drainage Projects	802,775
492	Grant Payments for Recreation Projects	4,421
493	Grant Payments for Water Supply Projects	178,016
494	Grant Payments for Irrigation Projects	111,137
495	Grant Payments for Streambank and Erosion Projects	4,590
496	Grant Payments for Channel Improvement Projects	44,535

**\$23,390,914**

NORTH DAKOTA  
STATE WATER COMMISSION

OBJECT EXPENDITURES FOR  
BIENNIAL PERIOD ENDING JUNE 30, 1989

1000	Permanent Salaries	\$ 3,607,784
1080	Temporary Salaries	56,167
1090	Overtime Salaries	81,223
1800	Fringe Benefits	919,757
2017	Central Data Processing	113,721
2110	Employee Travel	223,974
2140	Payments to State Motor Pool	203,907
2170	Dues and Professional Development	53,235
2200	Utilities	10,208
2310	Lease/Rental	46,171
2400	Postage	28,804
2420	Telephone/Telegraph	74,879
2500	Repair Services - Non-Contract	14,969
2515	Repair Services - Contracts	19,390
2610	Professional Services (Includes SW Pipeline)	1,329,372
2616	Operating Fees and Services	31,749
2710	Insurances	3,282
2900	Other Fees	24,574
3050	Office Supplies	25,477
3105	Data Processing Supplies	24,627
3200	Printing	56,350
3210	Resource and Reference Materials	17,676
3400	Laboratory Supplies	26,592
3550	Building/Equipment Supplies	153,957
3800	Equipment Maintenance	5,604
4115	Office Equipment/Furniture	105,854
4120	Scientific Equipment	24,274
4190	Machinery/Other	47,696
5100	Land/Easements/Buildings	142,152
5550	Contract Payments (Includes SW Pipeline)	14,568,278
6700	Water Resources Grants	<u>1,349,211</u>
		<b>\$23,390,914</b>

**RESOURCES AVAILABLE FROM THE AGENCY**

1. Minutes of meetings held may be obtained by writing to:

State Water Commission  
State Office Building  
Bismarck, ND 58505

2. Data available for public use include:

- a. Government Land Office Plats
- b. Survey Horizontal and Vertical Control
- c. Various Ground Water Studies
- d. Water Permit Data
- e. Drainage Permit Data
- f. Stream Flow Data