

**North Dakota
State Water Commission
and
Office of the State Engineer**

Strategic Plan



2004 - 2007

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(Total Full-Time Employees*		82)

**Full-Time Employees (FTEs) have been provided to illustrate relative time and resources devoted to projects/programs.*



A message from the State Engineer:

I am proud to present the North Dakota State Water Commission and Office of the State Engineer's updated 2004-2007 Strategic Plan. This new plan was completed to incorporate and adjust for new expectations that have evolved since our previous plan was published in 1996.

The primary purpose of our 2004-2007 Strategic Plan is to clearly document agency direction and expectations we have set for ourselves through our strategic planning timeframe. As part of the planning process, we have reevaluated our agency's goals to ensure that we are achieving standards expected by our constituents. In addition, we have laid out objectives for many of our key projects and programs, to help us more effectively meet our goals. And more specifically, we have defined tasks and actions that our divisions and management need to take to achieve desired outcomes.

This plan is special because it is not the work of one or two individuals, but is the work of all those involved in the agency's projects and programs addressed in this plan. In having this plan at our disposal, the agency will be better equipped to document the progress it is making in managing North Dakota's water resources. To measure our progress, we will continue to voluntarily publish agency biennial reports, which outline our activities for each biennium – providing an accurate measure of goal achievement. By publishing this plan, I believe we are setting a high standard for ourselves that can be monitored by all interests in the water management community.

Sincerely,

Dale L. Frink, P.E.

North Dakota State Engineer

VISION

Present and future generations of North Dakotans will enjoy an adequate supply of good quality water for people, agriculture, industry, and fish and wildlife; Missouri River water will be put to beneficial use through its distribution across the state to meet ever increasing water supply and quality needs; and successful management and development of North Dakota's water resources will ensure health, safety, and prosperity, and balance the needs of generations to come.



MISSION

To improve the quality of life and strengthen the economy of North Dakota by managing the water resources of the state for the benefit of its people.

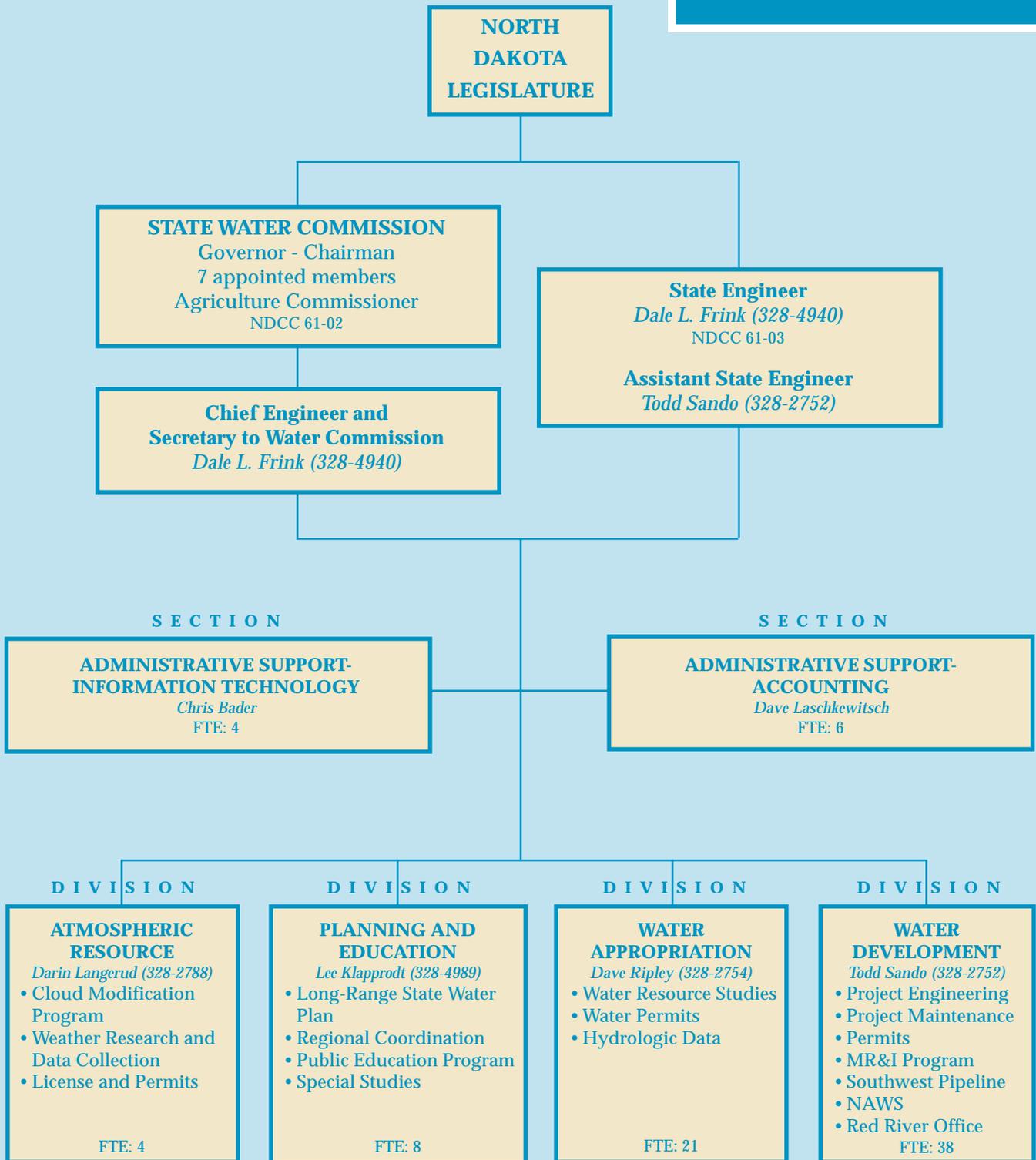
PHILOSOPHY and VALUES

In the delivery of services to the citizens of North Dakota, we the employees of the State Water Commission and the Office of the State Engineer value fairness, objectivity, accountability, responsiveness, and credibility. We pledge to use professional and scientific methods to maintain only the highest of standards in our delivery of services to our constituents.

AGENCY GOALS

- To regulate the use of water resources for the future welfare and prosperity of the people of North Dakota.
- To develop water resources for the future welfare and prosperity of the people of North Dakota.
- To manage water resources for the future welfare and prosperity of the people of North Dakota.
- To educate the public regarding the nature and occurrence of North Dakota's water resources.
- To collect, manage, and distribute information to facilitate improved management of North Dakota's water resources.
- To conduct research into the processes affecting the hydrologic cycle to improve the management of North Dakota's water resources.

Organizational Chart



TOTAL FULL TIME EQUIVALENTS OF 82 PERSONNEL

Strategic Planning



Listed here are the projects and programs that were the focus of our strategic planning process. It should be noted that this is by no means a comprehensive list of all efforts pursued by the State Water Commission (SWC) and Office of the State Engineer (SE), rather it is simply a collection of those efforts that were deemed appropriate to include in our strategic planning process.

Further, the projects and programs identified here have been separated by the divisions that are *primarily* responsible for their management. However, in several instances, many of our projects and programs require staff contributions from multiple divisions.

Administration

Dave Laschkewitsch, Director

Administration & Support Services

Atmospheric Resources

Darin Langerud, Director

ARB Cooperative Observer Network

•

Cooperative Research Program

•

Human Resources

•

North Dakota Cloud Modification Project

Focus Projects & Programs



Water Appropriations

Dave Ripley, Director

- Economic Development
-
- Water Resource Data Information Dissemination
-
- Water Resource Monitoring
-
- Water Resource Research
-
- Water Rights Administration & Processing
-
- Water Rights Evaluation & Adjudication
-
- Water Supply Studies

Water Development

Todd Sando, Director

- Cost-Share Program
-
- Dam Safety Program
-
- Devils Lake Flood Control
-
- Floodplain Management
-
- Investigations
-
- Maintenance and Minor Construction
-
- Municipal, Rural & Industrial Water Supply
-
- Northwest Area Water Supply
-
- Project Design
-
- Red River Valley Water Supply Project
-
- Regulatory Program
-
- Southwest Pipeline Project

Planning & Education

Lee Klapprodt, Director

- State Water Management Plan
-
- Water Education for Teachers Program
-
- Watershed Plan Coordination

Program Overview:

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

Administration & Support Services

Budget and fiscal control work is accomplished 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 and program cost accounting, preparation of budgets, and proper control of various funds appropriated by the State Legislature.

The Division also works on contracts and agreements that are necessary to carry out investigations, planning, and cooperation with various other agencies in water resources development.

Agency Goals Satisfied:

- To develop water resources for the future welfare and prosperity of the people of North Dakota.
- To manage water resources for the future welfare and prosperity of the people of North Dakota.
- To conduct research into the processes affecting the hydrologic cycle to improve the management of North Dakota's water resources.
- To collect, manage, and distribute information to facilitate improved management of North Dakota's water resources.
- To educate the public regarding the nature and occurrence of North Dakota's water resources.

Action Plan:

TASKS	TARGET DATES
Prepare and submit the agency's budget	Aug. 2004 and 2006
Coordinate the timing of agency bonding	As needed
Coordinate development of agency testimony for legislative appropriations hearings	Dec. 2004 and 2006
Maintain accounting records, and provide information technology and records management services	Ongoing
Bill federal, state, and local entities for their share of project costs	As needed
Provide legal support, including research and contract development	As needed

Program Objective:

- Provide umbrella administrative support services to the projects and programs of the agency.

Assumptions and Obstacles:

A particular challenge facing the Administrative and Support Services Division is the implementation of a new accounting system that will require large amounts of time to learn its proper use. In addition, in many cases, the new system changes the way we do business, which will require a transition period of decreased efficiency.

Another issue that will affect the Division is the state's initiative to consolidate information technology services under the State's Information Technology Department.

Program Overview:

The Atmospheric Resource Board's Cooperative Observer Network (ARBCON) has collected growing season rainfall and hail data from volunteer observers statewide since 1977. During those 27 years, participation has ranged from between 700 and 1,000 observers annually, making it one of, if not the most, dense precipitation observation networks in the country. A recent ARB bias study conducted against National Weather Service (NWS) observations found that ARBCON observations have a correlation coefficient of better than 0.99 for both monthly and annual reporting totals when compared to their nearest NWS neighbors. In all, more than 3,000,000 daily precipitation observations and better than 10,000 hail observations have been reported.

ARB Cooperative Observer Network

Action Plan:

TASKS	TARGET DATES
Daily observation of rainfall and hail, including data entry, quality control, and rainfall mapping	April-Sept., annually
Season total mapping & volunteer renewal for following years	Fall, annually
Development of value-added products	Fall 2004
Recruiting of new volunteers	Spring, annually
Mailing of postage-paid reporting cards and rain gages for reporting season	March, annually
Development of trial program for online reporting	Winter 2006
Implementation of online reporting program	April 2006

Agency Goals Satisfied:

- To educate the public regarding the nature and occurrence of North Dakota's water resources.
- To collect, manage, and distribute information to facilitate improved management of North Dakota's water resources.

Program Objectives:

- Make high-resolution precipitation and hail data available to counties, states, federal agencies, and private organizations.
- Provide the entire database online for data download or review (making it searchable by date and location).
- Begin to phase in online reporting and produce value-added products that will be useful to a larger audience.

Assumptions and Obstacles:

The development of an online reporting system will hinge on the agency's ability to continue to employ and develop the 4-D Database system currently in place at the SWC. Depending on the initial success of the online reporting program, it may be expanded for the 2007 ARBCON reporting season.

Program Overview:

North Dakota has a long history of research in weather modification. Since the mid-1980s, four large field research programs have operated in the state. The program has been funded by both the U.S. Bureau of Reclamation (USBR) and National Oceanic and Atmospheric Administration (NOAA) during that time. North Dakota's Atmospheric Resource Board (ARB) currently has funding agreements with the USBR to pursue the Cooperative Research Program.

Cooperative Research Program

Agency Goals Satisfied:

- To educate the public regarding the nature and occurrence of North Dakota's water resources.
- To collect, manage, and distribute information to facilitate improved management of North Dakota's water resources.
- To conduct research into processes affecting the hydrologic cycle to improve the management of North Dakota's water resources.

Program Objectives:

- Better quantify the physical processes of rainfall and hail formation.
- Improve operational application of cloud seeding technologies.
- Better quantify effects through development and application of improved evaluation techniques.

Assumptions and Obstacles:

Funding is a potential obstacle for the Cooperative Research Program. Efforts are underway in Washington D.C. to secure funding in NOAA for FY 2005.

Action Plan:

TASKS	TARGET DATES
Complete ongoing research activities	Sept. 2005
Work with similar organizations, such as the North American Interstate Weather Modification Council, and Weather Modification Association, to establish a long-term research program	Ongoing
Work with NOAA to establish the research program in the agency for FY 2005	Ongoing
Work with NOAA to include the program in its FY 2006 budget	Ongoing



Program Overview:

Beginning in 1943, the North Dakota Legislative Assembly appropriated funds to the SWC for cost-share assistance on existing drain channels. Since then, the SWC Cost-Share Program has significantly evolved, and has now developed into a program that adequately meets the goals of the SWC, and the needs of our constituents.

The SWC Cost-Share Program identifies types of projects that are eligible for cost-share assistance per the agency policy. Currently, as determined by that policy, the SWC cost-shares on several types of projects, and has existing agreements to fund—flood control, water supply, recreation, snagging and clearing, studies, irrigation, bank stabilization, and technical assistance projects.

Upon determining a proposed project’s eligibility and approval of funding, an agreement/contract is entered into with the project’s sponsor describing the scope of work, how funds will be disbursed, and insurance and indemnification clauses. Request for payments are processed per the terms of the agreement/contract. At the discretion of the SWC, projects are reviewed and/or inspected prior to final payment.

Cost-Share Program

Agency Goals Satisfied:

- To develop water resources for the future welfare and prosperity of the people of North Dakota.
- To manage water resources for the future welfare and prosperity of the people of North Dakota.
- To conduct research into the processes affecting the hydrologic cycle to improve the management of North Dakota’s water resources.

Action Plan:

TASKS	TARGET DATES
Review approximately 45 cost-share inquiries/applications for cost-share eligibility and assistance	June 30, annually
Present 30-40 cost-share proposals for authorization by SWC	June 30, annually
Develop agreements/contracts for 30-40 authorized projects	June 30, annually
Process requests for payment, monitor agreement/contract compliance, and review and inspect work for approximately 80 active projects	June 30, annually

- To collect, manage, and distribute information to facilitate improved management of North Dakota’s water resources.
- To educate the public regarding the nature and occurrence of North Dakota’s water resources.

Program Objective:

- To financially assist federal and state agencies and political subdivisions with eligible flood control, water supply, recreation, snagging and clearing, studies, irrigation, bank stabilization, and technical assistance projects.

Assumptions and Obstacles:

The amount of funds available for the Cost-Share Program is dependent on state appropriations and agency budgeting from the contract fund.

Program Overview:

The National Dam Safety Program was initiated in 1978 through the U.S. Army Corps of Engineers after the failure of Taccoa Falls Bible College Dam in Georgia. The North Dakota SWC Dam Safety Program was initiated to continue on with this program of inspecting dams, assessing the safety of dams, and writing related reports. The SWC Dam Safety Program inspects 87 dams of higher hazard or of special interest on a rotational basis, so that every dam on the list is fully inspected at least once every eight years. In addition, each spring, 118 dams are given a partial inspection to check on the status of the dams after the spring runoff season. Other dams in North Dakota are inspected on an “as needed” basis, such as when a dam is built, rehabilitated, or when the public has a concern about a dam.

Dam Safety Program

Three dams (Big Coulee, Epping, and Sweetbriar), with known dam safety deficiencies, will be closely investigated before the end of the 2005-2007 biennium. In addition, seven medium and high hazard dams that do not meet current dam safety design standards, will also be investigated.

Agency Goals Satisfied:

- To regulate the use of water resources for the future welfare and prosperity of the people of North Dakota.
- To educate the public regarding the nature and occurrence of North Dakota’s water resources.
- To collect, manage, and distribute information to facilitate improved management of North Dakota’s water resources.

Program Objectives:

- On a rotational basis, conduct full inspections on 52 dams that require more comprehensive inspections by June 30, 2007.
- Report findings of the inspections to the respective dam owners so they can update and improve the safety of their dams.
- Update and educate dam owners and builders with the most current dam safety standards.
- Update and maintain an inventory of all dams in North Dakota.

Assumptions and Obstacles:

Federal funding through the National Dam Safety Program is used to improve our dam safety program by providing annual funding for training, equipment, and one part-time position.

Action Plan:

TASKS	TARGET DATES
Conduct partial inspections of 118 dams during the spring inspection season	June 30, annually
Conduct full inspections of 16 dams and report findings to owners	Dec. 2004 and 2005
Conduct full inspections of 20 dams and report findings to owners	Dec. 2006
Update the Dam Design Handbook	June 30, 2007
Complete Phase I inspection reports for four dams	June 30, 2007
Work with dam owners to develop Emergency Action Plans for five dams	June 30, 2007

Project Overview:

Since 1992, Devils Lake has risen about 25 feet, causing damage in excess of \$300 million. The federal government, acting through the U.S. Army Corps of Engineers, studied the possibility of constructing a 300 cfs outlet from the Pelican Lake portion of Devils Lake to the Sheyenne River. Although the Environmental Impact Statement and Record of Decision recommended construction of this outlet, the cost of the federal outlet has increased to the point that securing funding on both the state and federal level would be difficult, if not impossible.

The state's Devils Lake emergency outlet is a less expensive alternative to the federal outlet. The initial construction of the state outlet is sized for 100 cfs, but can be expanded to 300 cfs in the future. The outlet consists of: two pumping plants, one on the Round Lake portion of Devils Lake and the second near Lake Josephine; approximately 4 miles of pipeline; and 10 miles of open channel. The open channel is designed for 300 cfs. Additional pumps and pipeline would need to be added if the decision is made to increase the capacity of the outlet to 300 cfs.

Devils Lake Outlet

Agency Goal Satisfied:

- To manage water resources for the future welfare and prosperity of the people of North Dakota.

Project Objective:

- Reduce the risk of flooding around Devils Lake by constructing and operating an emergency outlet to the Sheyenne River.



Action Plan:

TASKS	TARGET DATES
Complete Draft Adaptive Management Plan for outlet operation	February 2005
Complete Final Adaptive Management Plan for outlet operation	April 2005
Complete construction on all Outlet contracts	Spring 2005
Begin operation of Devils Lake Emergency Outlet	Summer 2005
Maintain and operate Outlet after construction	Ongoing

Assumptions and Obstacles:

Potential obstacles include the appeal of the water quality discharge permit, possible action by Canada or the U.S. State Department under the Boundary Waters Treaty of 1909, the availability of construction materials, and the weather.

For a map of North Dakota's Devils Lake emergency outlet project, see the Appendix, page 33.

Program Overview:

Water utilization is a key ingredient to many potential opportunities for economic development. Numerous studies and reports have documented potential water supplies for economic development. Additionally, existing reports and/or water-resource data are interpreted by staff in the form of short reports to aid industries in determining the viability of various water resources with respect to their water needs in their consideration of locating in North Dakota and utilizing North Dakota's water resources to do so.

Assistance is provided by the SE in the formation of irrigation districts.

The SWC also provides cost-share support for several activities designed to strengthen the state's economy. The SWC, in conjunction with the Bank of North Dakota, provides cost-share for new irrigation under the auspices of the AgPACE program. The SWC provides support for the North Dakota Irrigation Association (NDIA). Additionally, the SWC provides support for a vegetable

initiative to enhance the development of vegetable markets and vegetable irrigation, to further enhance the economic development of the state.

Action Plan:

TASKS	TARGET DATES
Produce synopsis reports on water supplies for interested entities	As requested
Produce water resource interpretive reports	Ongoing/As requested
Administer the AgPACE program	Ongoing
Support NDIA's efforts to expand irrigation development	July 2005
Administer SWC support of the Irrigation Development Plan	July 2006
Provide assistance for irrigation district formation	Ongoing/As requested

Agency

Goals Satisfied:

- To develop water resources for the future welfare and prosperity of the people of North Dakota.
- To manage water resources for the future welfare and prosperity of the people of North Dakota.

Program Objectives:

- Identify and evaluate potential water supplies for economic development.
- Support programs to encourage water-using industries.
- Support programs to encourage irrigation.

Assumptions and Obstacles:

There is a limited amount of surface and ground-water supplies of suitable quality for irrigation and industry. The one significant water resource in the state, the Missouri River, is not located where most potential water users want to locate.

Economic Development

Floodplain Management

Program Overview:

The National Flood Insurance Program (NFIP) works on a partnership formed of federal, state, and local governments. Local government uses state law as a basis to practice floodplain management. The NFIP provides flood insurance for structures in return for participating communities promising to guide development in identified flood hazard areas. The North Dakota Floodplain Management Act of 1981 (amended in 1999 and 2003) adopts the NFIP by reference in North Dakota Century Code (NDCC) 61-16.2.

The Federal Emergency Management Agency (FEMA) provides funding to the states for their role through their Community Assistance Program

The Federal Emergency Management Agency (FEMA) provides funding to the states for their role through their Community Assistance Program

Action Plan:

TASKS	TARGET DATES
Monitor community floodplain management compliance under CAP and provide technical assistance regarding the NFIP	Sept. 30 annually
Manage the FMA to develop local floodplain mitigation plans	Sept. 30 annually
Manage small-scale acquisition projects under the FMA	Sept. 30, annually
Conduct floodplain management training workshops under CAP	Sept. 30, annually
Cooperate with FEMA to pursue MAPMOD efforts	Sept. 30, annually
Conduct floodplain determinations for the Bank of North Dakota	Quarterly

(CAP) and through the Flood Mitigation Assistance Program (FMA). FEMA is also in the early stages of the Map Modernization (MAPMOD) initiative to update and improve the nation's flood hazard maps. FEMA has agreed to cost-share with the SWC for a new position to coordinate that effort.

Agency Goals Satisfied:

- To manage water resources for the future welfare and prosperity of the people of North Dakota.
- To educate the public regarding the nature and occurrence of North Dakota's water resources.
- To collect, manage, and distribute information to facilitate improved management of North Dakota's water resources.



Program Objectives:

- Manage the state's floodplains to reduce flood damages throughout the state.
- Collect and distribute information relating to flooding and floodplain management.
- Coordinate local, state, and federal floodplain management activities.
- Assist communities in their floodplain management activities.
- Fulfill all existing responsibilities under FEMA's CAP and FMA.
- Establish the state's role in the MAPMOD initiative.

Assumptions and Obstacles:

An additional staff position is needed to manage MAPMOD. Thus, federal funding through FEMA is required to help fund this position. (State match would come from existing appropriations).

Program Overview:

Human Resources is a business partner working with and for the divisions of the SWC by maximizing the potential of our employees. More specifically, Human Resources strives to keep SWC employees aligned with agency initiatives, values, strategies, and the needs of our constituents.

Human Resources

Agency Goals Satisfied:

- To regulate the use of water resources for the future welfare and prosperity of the people of North Dakota.
- To develop water resources for the future welfare and prosperity of the people of North Dakota.
- To manage water resources for the future welfare and prosperity of the people of North Dakota.
- To educate the public regarding the nature and occurrence of North Dakota's water resources.
- To collect, manage, and distribute information to facilitate improved management of North Dakota's water resources.
- To conduct research into the processes affecting the hydrologic cycle to improve the management of North Dakota's water resources.

Program Objectives:

- Create systems, structures, and workplace cultures that support diversity.
- Work to strike a balance between organizational and individual needs.
- Work collaboratively with managers to improve the quality of our workforce and their environment.

- Facilitate the ability of employees to learn, grow, and contribute through competency-based training and agency-wide work opportunities.
- Use technology to maximize personal and professional development opportunities, streamline administrative processes, improve agency-wide collaboration, and measure performance.
- Ensure that human resource policies, programs, and practices are flexible, integrated, and value-added.

Assumptions and Obstacles:

The above objectives can only be achieved if agency managers and employees contact Human Resources in regard to personnel matters and questions pertaining to policy and employment law; and if managers inform Human Resources prior to taking policy-related actions.

Action Plan:

TASKS	TARGET DATES
Provide educational materials via email to personnel regarding potential safety hazards/issues	Weekly
Hold Loss Control Committee meetings to review near miss reports, safety compliance violations, and injury claims	Monthly
Conduct an annual staff meeting for a review of safety policies and procedures	May 1, annually
Conduct frequent reviews of personnel, safety, and risk management policies to make changes that may become immediate upon changes in state and federal law, rules and regulations, executive orders, and court decisions	Ongoing
Notify personnel via email and message boards of career development and training opportunities	Ongoing

Program Overview:

The Investigations Section is responsible for the preliminary engineering for surface water projects throughout the state. These projects include flood control, irrigation development, recreation dams, and bank stabilizations. The Investigations Section also conducts and reviews hydrologic and hydraulic models done for floodplain management and dam design and repair. This includes reviewing proposed modifications to existing regulatory floodplains that require SE approval.

In addition, the Investigations Section provides technical expertise in dealing with the management of the Missouri River, flood response, the Eastern Dakota Water Supply Study, and other water issues, as well as providing government survey information to the public.

Investigations

Agency Goals Satisfied:

- To develop water resources for the future welfare and prosperity of the people of North Dakota.
- To manage water resources for the future welfare and prosperity of the people of North Dakota.
- To collect, manage, and distribute information to facilitate improved management of North Dakota's water resources.



Action Plan:

TASKS	TARGET DATES
Develop Tongue River hydrology and hydraulic model	May 2005
Provide technical reviews of Missouri River management issues	As needed
Government survey information management	Ongoing
Conduct other water resource investigations	As needed

Program Objectives:

- Conduct preliminary engineering, hydrologic and hydraulic studies and review studies done by others.
- Provide engineering services for surface water projects throughout the state.

Assumptions and Obstacles:

Severe flooding problems in the Devils Lake basin and concerns over changes to management of the Missouri River system have consumed much of the Investigations Section's time over the course of the last decade. With those issues expected to be in the forefront in the coming years, that trend will likely continue.

Maintenance and Minor Construction

Program Overview:

The Construction Section is involved with assisting dam owners throughout the state in designing repairs and modifications to dams. The section works with the North Dakota Game and Fish Department (Department) to maintain outlet structures and install low-level draw-

downs used by the Department to manage fisheries. The section is also involved in directing emergency actions during major dam incidents. The Dam Safety Program is located in the Construction Section, and is charged with conducting annual inspections of dams throughout the state (see Dam Safety Program).

Agency Goals Satisfied:

- To develop water resources for the future welfare and prosperity of the people of North Dakota.
- To educate the public regarding the nature and occurrence of North Dakota's water resources.
- To collect, manage, and distribute information to facilitate improved management of North Dakota's water resources.

Program Objectives:

- Maintain water resource facilities within the state to ensure public safety, and enhance quality of life by providing water-based recreation opportunities.
- Work with the United States Geological Survey to maintain the network of stream gages throughout the state, thereby ensuring reliable data necessary for managing North Dakota's water resources within the state.

Assumptions and Obstacles:

Federal funding through the National Dam Safety Program is used to improve our dam safety program by providing annual funding for training, equipment, and one part-time position. With regard to annual construction and maintenance efforts, weather is the primary obstacle for timely completion of work.

Action Plan:

TASKS	TARGET DATES
Administer dam inspections and report findings to owners	See Dam Safety Program
Repair and maintain stream gage network through cooperative efforts with the U.S. Geological Survey	Summer, annually
Conduct general construction/maintenance efforts	Summer, annually



Program Overview:

The Municipal, Rural and Industrial (MR&I) water supply program is one source of federal funding used for public water systems. Funding used for the MR&I program is provided through the U.S. Bureau of Reclamation. North Dakota's MR&I program was originally established by the 1986 Garrison Diversion Reformation Act. At that time, Congress authorized \$200 million in the form of a maximum grant of 75 percent. The state has since received \$191 million of the original \$200 million from the 1986 Act. Later, the Dakota Water Resources Act of 2000 added an additional \$200 million for the MR&I program, which is indexed. The Garrison Diversion Conservancy District signed a cooperative agreement with the USBOR to receive the federal funding. Further, the SWC and Garrison Diversion Conservancy District signed a joint powers agreement to administer the program based on a Memorandum of Understanding.

Because of North Dakota's MR&I program, regional and rural water systems have continued to expand throughout the state. As a result of this added assistance, there are now 32 regional water systems in North Dakota providing quality drinking water to 25 percent of the state's population. Over 158,000 residents are served by regional water systems, including 294 cities, 21 subdivisions, and over 90,000 rural residents. Currently, all or part of 47 of North Dakota's 53 counties are served by regional water systems, and most have plans to expand to cover additional areas.

Municipal, Rural & Industrial Water Supply Program

Action Plan:

TASKS	TARGET DATES
Develop a five-year plan for MR&I project funding requests	Feb. 2005
Participate in meetings with communities and rural water districts to provide technical and planning assistance	Ongoing
Provide MR&I budget estimates for project development	annually
Coordinate meetings with funding entities to discuss projects	Ongoing
Work with North Dakota's Congressional Delegation to increase federal MR&I appropriations	Ongoing
Coordinate with the Garrison Conservancy District in the prioritization and allocation of MR&I funds to projects	Ongoing

Agency Goals Satisfied:

- To develop water resources for the future welfare and prosperity of the people of North Dakota.

Program Objectives:

- Coordinate alternative funding solutions for water supply and water

treatment projects to help water users in cities and rural water areas obtain an adequate supply of quality water for municipal, rural, and industrial purposes.

- Provide planning and technical assistance to water supply systems to promote wise use of water resources throughout the state.

Assumptions and Obstacles:

Adequate federal funding must be received in a manner that does not impede progress.

For a map of North Dakota's regional water systems, see the Appendix, page 34.



Project Overview:

The North Dakota Cloud Modification Project (NDCMP) is a long-running, operational cloud seeding program for the dual purposes of hail suppression and rainfall enhancement. The target area covers nearly 10,500 square miles in six western North Dakota counties during the months of June,

North Dakota Cloud Modification Project

July, and August. Counties partner with the state through its ARB to employ a contractor to provide the aircraft, pilots, and seeding equipment. The ARB owns and operates two radar systems and employs the meteorologists to coordinate seeding operations. The program also offers two intern programs; one for stu-

dents studying meteorology, and another for pilots studying at the University of North Dakota’s J.D. Odegaard School for Aerospace Sciences.

Evaluations of the NDCMP indicate that the program reduces hail damage to crops by 45 percent, increases wheat yields by 5.9 percent, increases rainfall on the order of about 10 percent, and boasts a benefit to cost ratio of approximately 40 to 1.

Agency Goal Satisfied:

- To manage water resources for the future welfare and prosperity of the people of North Dakota.

Project Objectives:

- Reduction of hail damages in NDCMP target area.
- Enhancement of summer rainfall from thunderstorms in NDCMP target area.

Action Plan:

TASKS	TARGET DATES
Hiring of NDCMP field personnel	May, annually
Conduct pre-project ground school	May, annually
NDCMP operations	June-Aug., annually
Final Reporting to participating counties	Winter, annually
Bid opening and award of aircraft service contract	April 2007
Bid Opening and award of radar maintenance contract	April 2007

Assumptions and Obstacles:

The project assumes continued participation by western North Dakota counties and cost-sharing of one-third of project costs by the state. Further, Bowman County has participated at the maximum mill levy allowed by NDCC 61-04.1-26 for the last several years. With project costs slowly rising, and with the nature of the small operating area in southwest North Dakota, the mill levy limit may need to be addressed by the State Legislature to allow their continued participation.

For a map of the North Dakota Cloud Modification Project, see the Appendix, page 35.

Project Overview:

NDCC 61-24.6 declares necessary the pursuit of a project "...that would supply and distribute water to the people of northwestern North Dakota through a pipeline transmission and delivery system..." The SWC has been working to develop the Northwest Area Water Supply (NAWS) project ever since. NDCC 61-24.6 authorizes the SWC to construct, operate, and manage a project to deliver water throughout northwestern North Dakota. Compliance with National Environmental Policy Act requirements and those contained in the 1986 Garrison Diversion Reformulation Act was achieved in January 2001.

In April 2002, the SWC began construction of the pre-treated water pipeline from the Missouri River to Minot – a key component of NAWS. Private contractors are constructing the project according to designs developed by the SWC’s engineering contractor. The SWC oversees the design and construction of the project.

When completed, NAWS will provide up to 2 million gallons of Missouri River water per day to at least 63,000 citizens in northwest North Dakota. With addition rural development, NAWS could serve as many as 81,000.



Northwest Area Water Supply

Action Plan:

TASKS	TARGET DATES
Complete all pipeline contracts between Minot and the Missouri River	Nov. 2005
Develop an Emergency Action Plan and Operation and Maintenance Manuals as required by environmental commitments	Aug. 2006
Complete Max booster pump station	Dec. 2006
Complete South Prairie water storage reservoir	Aug. 2007
Complete intake pump station	Dec. 2007
Complete modifications at Minot Treatment Plant	Dec. 2007

Agency Goal Satisfied:

- To develop water resources for the future welfare and prosperity of the people of North Dakota.

Project Objective:

- Finish construction of the pretreated water delivery system to Minot.

Assumptions and Obstacles:

Adequate federal funding must be received in a manner that does not impede progress. In addition, a lawsuit brought by the Province of Manitoba may result in a requirement for more environmental compliance work.

For a map of North Dakota’s Northwest Area Water Supply project, see the Appendix, page 35.

Project Design

Program Overview:

The Design Section is involved with assisting dam owners throughout the state in designing repairs and modifications to dams. In addition, the Section works with the North Dakota Game and Fish Department to maintain outlet structures and install low-level drawdowns used by the Department to manage fisheries.

The Design Section will be involved in the investigation of several dams through the end of the 2005-2007 biennium. Those investigation efforts will primarily focus on three dams: 1) Big Coulee Dam, near Bisbee; 2) Epping dam, near Williston, and; 3) Sweetbriar Dam, west of Mandan. The Design Section will design modifications to each structure, depending on the results of the investigations. The Design Section will also begin the process of investigating all medium and high hazard dams throughout the state in order to determine if there are modifications required to improve their overall safety.

Agency Goals Satisfied:

- To develop water resources for the future welfare and prosperity of the people of North Dakota.
- To educate the public regarding the nature and occurrence of North Dakota's water resources.
- To collect, manage, and distribute information to facilitate improved management of North Dakota's water resources.



Program Objective:

- Maintain water resource facilities within the state, with a specific focus on Big Coulee, Epping, and Sweetbriar Dams, to ensure public safety and enhance quality of life.

Assumptions and Obstacles:

The investigations at Big Coulee, Epping, and Sweetbriar dams may require the hiring of a consultant with more specialized experience in dam investigations. This will require a commitment from the SWC to assist in the cost of the investigations.

Action Plan:

TASKS	TARGET DATES
Actively work with dam owners and make necessary repairs to dams	Ongoing

Project Overview:

The Red River Valley Water Supply Project was authorized by the Dakota Water Resources Act of 2000, which required that a Needs and Options Report and Environmental Impact Statement (EIS) be completed with joint leadership between the federal government and the State of North Dakota. As such, a Memorandum of Understanding was established between the federal government and the State of North Dakota, with the USBOR being the federal partner, and the Garrison Diversion Conservancy District representing the state. Since that process began a few years ago, SWC staff members from all divisions have been involved with the Needs and Options Report and EIS as technical advisors, serving on multiple committees. In addition, the SWC has a full time staff person dedicated to the development of the studies.

Ultimately, the purpose of the study is to identify reliable sources of quality water to supply homes, businesses, industries, wildlife, and recreation in the Red River Valley within North Dakota through at least the next five decades.

Red River Valley Water Supply Project

Action Plan:

TASKS

TARGET DATES

Provide technical assistance toward the completion of the Red River Valley Water Supply Project Needs and Options Report

Fall 2005

Provide technical assistance toward the completion of the Red River Valley Water Supply Project EIS

Fall 2005

Agency Goal Satisfied:

- To develop water resources for the future welfare and prosperity of the people of North Dakota.

Program Objective:

- Provide technical expertise and assistance toward progress on the Red River Valley Water Supply Project study.

Assumptions and Obstacles:

SWC staff participate in this study and planning process in a technical advisory capacity. Thus, overall progress and target dates for project completion are not controlled by the SWC.



Program Overview:

As authorized by NDCC 61-03, 61-04, and 61-16.1, the SE has been responsible for regulating the construction of dams, dikes, and other water control facilities since the 1930s. Since 1957, NDCC 61-32 and NDCC 61-15 have authorized the SE to regulate drainage. And, the SE has been responsible for managing sovereign lands since 1989, as authorized by NDCC 61-33. The SE coordinates these regulatory activities with the county water resource districts (WRDs) across the state.

In addition to these permitting processes, the Regulatory Program provides technical assistance to local water resource districts, makes flow determinations in accordance with NDCC 24-03-08, provides appeal review of WRD decisions, serves as a source of information to the public, handles easement releases for abandoned structures, participates in training workshops, represents the SE on various interagency committees, and provides agency review of Public Service Commission mining permits and U.S. Army Corps' Section 404 permits.

Agency Goals Satisfied:

- To regulate the use of water resources for the future welfare and prosperity of the people of North Dakota.
- To manage water resources for the future welfare and prosperity of the people of North Dakota.
- To collect, manage, and distribute information to facilitate improved management of North Dakota's water resources.

Program Objectives:

- Regulate, where appropriate, the construction of dams, dikes, water control facilities, drainage works, and projects on sovereign lands, to ensure proper management of North Dakota's water resources and public safety.
- Interact with the public, continue involvement on interagency committees, and participate in training workshops, to facilitate education and information dissemination to other water resource managers – especially at the local level.

Assumptions and Obstacles:

None.

Action Plan:

TASKS	TARGET DATES
Participate in WRD training workshops	April 2005-2007
Provide technical assistance to WRDs as requested	Ongoing
Process 100% of all incoming construction, drainage, and sovereign land permit applications	June 30, 2007
Address 100% of all incoming WRD decision appeals	June 30, 2007
Digitally map 100% of all permitted assessment drains and dams currently in the 4-D Database	June 30, 2007
Provide 100% of flow determinations requested per NDCC 24-03-08	June 30, 2007
Review 100% of incoming Public Service Commission and U.S. Army Corps' Section 404 permits	June 30, 2007

Regulatory Program

Project/Program Overview:

NDCC 61-24.3 declares necessary that the Southwest Pipeline Project (SWPP) "...be established and constructed, to provide for the supplementation of the water resources of a portion of the area of North Dakota south and west of the Missouri River with water supplies from the Missouri River for multiple purposes, including domestic, rural, and municipal uses." The SWC has been working to develop the SWPP ever since. NDCC 61-24.6 authorizes the SWC to construct, operate, and maintain the project.

Construction began on the project in 1986. The SWPP currently serves about 32,000 residents of southwest North Dakota. Private contractors are constructing the project according to designs developed by the SWC's engineering contractor. The SWC oversees the design and construction of the project.

Southwest Pipeline Project

Agency Goal Satisfied:

- To develop water resources for the future welfare and prosperity of the people of North Dakota.

Project Objective:

- Finish construction of the water distribution system in the Medora-Beach service area and begin construction on the Oliver, Mercer, North Dunn regional service area.



Action Plan:

TASKS	TARGET DATES
Complete construction of the main transmission pipeline system serving the Medora-Beach regional service area	Sept. 2004
Complete construction of the Fryburg service area, Phase I rural water	Sept. 2004
Open bids for rural water distribution contracts for the remainder of the Fryburg and Golva service areas, and Beach	March 2005
Complete preliminary design of service to the Oliver, Mercer, North Dunn service area	Aug. 2007
Complete rural water distribution contracts for the remainder of the Fryburg and Golva service areas, and Beach	Sept. 2007
Complete rural water distribution contracts for Morton County pockets	Sept. 2007

Assumptions and Obstacles:

Adequate state and federal funding must be received in a manner that does not impede progress.

For a map of North Dakota's Southwest Pipeline Project, see the Appendix, page 36.

State Water Management Plan

Program Overview:

By virtue of NDCC 61-02-14, Powers and Duties of the Commission; and NDCC 61-02-26, Duties of State Agencies Concerned with Intrastate Use or Disposition of Waters, the SWC is required to develop and maintain a comprehensive State Water Management Plan (SWMP) for the sound manage-

ment of North Dakota's water resources. The most recent comprehensive SWMP was completed in 1999. In 2001 and 2003, updates to the 1999 SWMP were completed to provide revised project and program information to the 57th and 58th Legislative Assemblies. The biennial updates of the SWMP, such as the 2001 and 2003 Water Development Reports (WDR), provide updated information regarding the state's water development needs and funding abilities at that time, and they serve as formal requests for funding from the state's Resources Trust Fund.

Agency Goals Satisfied:

- To develop comprehensive plans to meet North Dakota's water resource needs.
- To manage water resources for the future welfare and prosperity of the people of North Dakota.
- To educate the public regarding the nature and occurrence of North Dakota's water resources, and water development efforts.

Program Objectives:

- Develop the 2005-2007 WDR to serve as a biennial update to the 1999 SWMP by January 1, 2005.
- Develop a new comprehensive North Dakota SWMP by January 1, 2007.

Assumptions and Obstacles:

Active participation and accurate input from local water managers and project sponsors regarding project funding needs will be critical to successful future statewide water planning efforts.

Action Plan:

TASKS	TARGET DATES
Contact local water managers to request updated water project/program information including funding timeframes for the 2005-2007 WDR	Jan. 2004
Develop text, tables, and compile funding needs for 05-07 WDR	Dec. 2004
Present 05-07 WDR to the 59 th Legislative Assembly, outlining funding needs	Jan. 2005
Contact local water managers to request updated water project/program information, including funding timeframes for the 2007 SWMP	Jan. 2006
Update and review water project inventory database and agency policies	April 2006
Compile water use and other water resource information	June 2006
Review and update North Dakota's water planning goals and objectives	July 2006
Develop text, tables, and compile funding needs for 2007 SWMP	Dec. 2006
Present 2007 SWMP to the 60 th Legislative Assembly, outlining funding needs	Jan. 2007

Project Overview:

Project WET (Water Education for Teachers) is a balanced, supplemental and interdisciplinary water science and water education program for formal and non-formal K-12 educators and students. Project WET facilitates and promotes the learning, awareness, appreciation, knowledge, exploration, and stewardship of North Dakota's water resources. Project WET programs are designed to help youth learn how to think, and not just what to think, while providing means for teachers and students to grasp fundamental concepts related to water resources, watersheds, and the environment. Through Project WET programs, educators, and students obtain skills for acquiring and applying knowledge, and to evaluate the results of their actions toward North Dakota's water resources.

Water Education for Teachers Program

Action Plan:

TASKS	TARGET DATES
Maintain Project WET classroom-ready teaching aids in support of educational efforts	As needed
Provide in-service and pre-service credit and non-credit educational programs for K-12 educators	Ongoing
Provide varying educational programs for K-12 students	Ongoing
Complete facilitator leadership training	Feb. 2004 & 2006
Provide funds for Keep North Dakota Clean water education poster contest	March 2004-2007
Complete Devils Lake Dilemma workshops	June 2004-2007
Complete Missouri River institutes	July 2004-2007

Agency Goal Satisfied:

- To educate the public regarding the nature and occurrence of North Dakota's water resources and water development efforts.

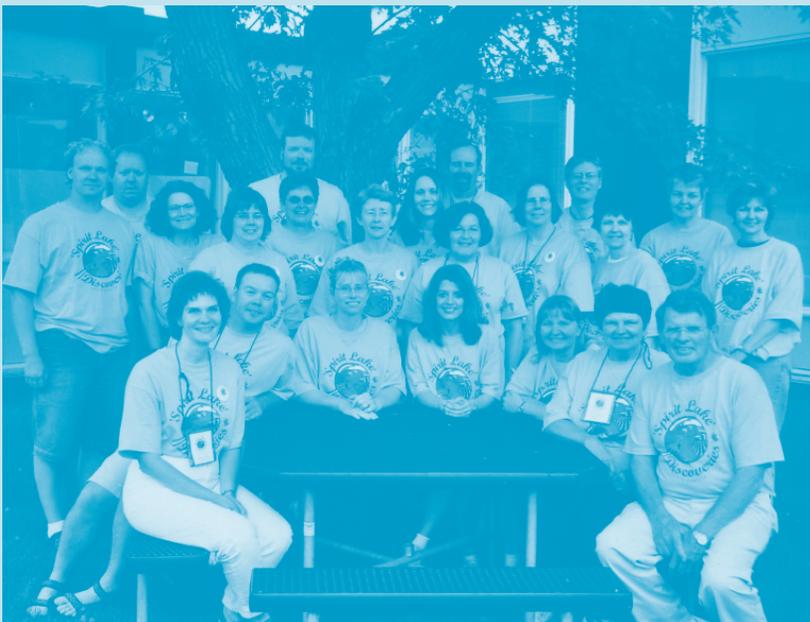
Project Objectives

Develop, promote, deliver, and provide to K-12 formal and non-formal educators and students:

- Indoor and outdoor water science and water education programs;
- Balanced water resource information and education tools, services, programs and resource materials;
- Institutes, workshops, in-service and pre-service educational opportunities; and
- Classroom events, youth camps, youth water festivals, community water or environmental awareness, and youth service/active events.

Assumptions and Obstacles:

Continued funding through EPA's Section 319 Grant is critical to the success of the WET program.



Program Overview:

Significant volumes of surface and ground-water data and water permit information are contained in the SWC's Water Resources Information Management Systems (WRIMS). Private individuals and private enterprise, as well as local, county, state, federal, and international entities routinely make use of various portions of these data sets. Staff can facilitate the ability of interested parties to

Water Resource Data Information Dissemination

access data of interest to them.

A web-based interactive interface is available to allow for direct access to the data on the part of the interested parties. Additionally, numerous interpretive reports are available for various water resources in the state.

Agency Goals Satisfied:

- To educate the public regarding the nature and occurrence of North Dakota's water resources.
- To collect, manage, and distribute information to facilitate improved management of North Dakota's water resources.

Program Objectives:

- Maintain quality water resource data.
- Develop and maintain a database for retrieval of data.
- Maintain trained staff to interpret data.
- Develop and maintain web-based integration for access to data.

Assumptions and Obstacles:

The continuation of the in-house and online retrieval system will depend on the ability of the SWC to maintain the 4-D Database.

Action Plan:

TASKS	TARGET DATES
Anticipate uses for which the data would be needed	Ongoing
Educate staff on the use of WRIMS as improvements are implemented	As needed
Incorporation of streamflow data into WRIMS	July 2005
Communicate with interested parties to determine their informational needs	As requested (none currently)
Write unique programs to meet needs of requests of an unanticipated nature	As requested (none currently)
Image and store 50,000 well drilling reports	Dec. 2005
Image and store county ground-water study reports, city ground-water reports, water resource investigation reports, and landfill investigation reports	To be determined



Program Overview:

Water resource data pertaining to water levels, water quality, and well information are collected on a continuing basis. This data is stored in an Internet accessible database. The database currently contains about 1.5 million water-level measurements, 31,000 site locations, 50,000 water quality analyses, and 17,000 sites with lithologic descriptions. Additional data acquisition sites are implemented as needed through time. Aquifer parameters and properties are evaluated through an aquifer-testing program.

Agency Goals Satisfied:

- To manage water resources for the future welfare and prosperity of the people of North Dakota.
- To educate the public regarding the nature and occurrence of North Dakota's water resources.
- To collect, manage, and distribute information to facilitate improved management of North Dakota's water resources.
- To conduct research into the processes affecting the hydrologic cycle to improve the management of North Dakota's water resources.

Water Resource Monitoring

Action Plan:

TASKS	TARGET DATES
Install test holes and plug obsolete observation wells	Apr.-Dec., annually
Install 125-175 monitoring wells	Apr.-Dec., annually
Install 20-30 staff gages, monitor water levels & flows	Apr.-May, annually
Measure 25,000-30,000 water levels in wells and surface-water bodies	Apr.-Dec., annually
Collect data from 50-60 continuous water level recorders	Jan.-Dec., annually
Collect 1,500-2,000 samples from wells and surface-water bodies	Apr.-Dec., annually
Analyze samples for various chemical constituents	Apr.-Jan., annually
Repair and maintain 900-1,100 measurement & sampling locations	Apr.-Dec., annually
Enter data into database	Ongoing
Coordinate USGS Cooperative water resource monitoring program	Mar.-Dec., annually
Report on Medina aquifer test	Aug. 2004
Report on North Kidder County aquifer test	Oct. 2004
Conduct aquifer test on Kidder County aquifer (south part)	Oct./Nov. 2004
Conduct aquifer test on Page/Galesburg aquifer (Traill Co.)	2004-2005
Report on southern Kidder County aquifer complex test	Apr. 2005
Conduct aquifer test on Elk Valley aquifer	Fall 2004 or Spring 2005
Report on Elk Valley aquifer test	Fall 2005
Report on Page/Galesburg aquifer test	Dec. 2005

Program Objectives:

- Collect water resource data.
- Organize and store water resource data.
- Evaluate water resource data and future data needs.

Assumptions and Obstacles:

Budget constraints have reduced the number of stream gages in the USGS Cooperative Program.

Program Overview:

Water-resource research involvement falls into three categories. The first is where the SWC provides monetary support for



Water Resource Research

water-resource related studies. Generally this research is done by the USGS or universities. The second category is where the SWC enters into a cooperative study, again generally with university researchers or the USGS. The third category is the entire study conducted by SWC staff.

Agency Goal Satisfied:

- To conduct research into the processes affecting the hydrologic cycle to improve the management of North Dakota's water resources.

Program Objectives:

- Support research into water resources of the state.
- Conduct studies of the nature and occurrence of water to optimize its conservation and development throughout the state.

Assumptions and Obstacles:

Continuing or reformulated research could result from the interpretations that result from these studies.

Action Plan:

TASKS	TARGET DATES
Publications on denitrification in North Dakota and Minnesota aquifers	2004-2005
Report on nitrogen isotopes as denitrification rate indicators	Winter 2004-2005
Quantification of Karlsruhe aquifer denitrification report	Spring 2005
Report on Oakes Infiltration Data Summary	Sept. 2005
Final report on Karlsruhe aquifer nitrate assessment	Fall 2005
Fact sheet on sulfur isotopes as Elk Valley aquifer sulfate source trackers	Fall 2005
Publications on Elk Valley aquifer sulfate sources	2005-2006
Report on use of sulfur isotopes for tracking sulfates in Elk Valley aquifer	Spring 2006
Water Quality Assessment of ND National Guard Camp Grafton South Unit report	Fall 2007
Annual review and decisions for graduate Water Resource Investigations	Annually

Program Overview:

NDCC 61-04-02 requires all uses except for domestic, livestock, fish, wildlife, and other recreational uses (unless the aforementioned are greater than 12.5 acre-feet per year) to apply for a water permit before putting water to beneficial use. Set procedures are mandated by NDCC and regulations. Staff guide applicants through this process. In addition, records, documents, and a relational database are all meticulously maintained. Upon completion of a water-use development, inspections are conducted to verify the ability of the applicant to put the water to beneficial use. Based upon the inspection report, a conditional permit is perfected and filed by the appropriator with the county as a

Water Rights Administration & Processing

Action Plan:

TASKS	TARGET DATES
Guide applicants through the water permit application process	Ongoing
Maintain records in each water permit application file	Ongoing
Key appropriate data into water permit database	Ongoing
Conduct 65-85 inspections of 'completed' conditional permits	Annually
Perfect 50-70 inspected, completed conditional permits	Annually
Send out requests for annual use reports to permit holders	Nov./Jan., annually
Complete annual use data collection process	May, annually
Summary report on annual water use in North Dakota	Sept., annually
Measure pumping rates to help establish water rights	Ongoing
Maintain water use records to quantify water rights	Ongoing

water right associated with the land. Annual, self-reported, water-use forms are recorded to document the water is being put to beneficial use and the water right is being maintained.

Agency Goal Satisfied:

- To regulate the use of water resources for the future welfare and prosperity of the people of North Dakota.



Objectives:

- Process water permit applications.
- Maintain meticulous water right records.
- Perfect conditional water rights.
- Document permitted water use.

Assumptions and Obstacles:

Water use records are dependent upon encouraged self-reporting of annual water use. Some conditional water permits take long periods of time in order to resolve water and legal complications.

Program Overview:

The allocation of water resources for beneficial use can result in competition for those resources. This competition can cross political boundaries. Efforts are continually underway to

protect prior rights while maximizing benefits. These efforts are expended externally to the state (other states and provinces), as well as internally with respect to other state agencies with various regulatory authorities. In the assessment of the

degree to which the state's water resources can be utilized beneficially, the rights of prior appropriators need to be assessed and protected. Staff prepares recommendations for the SE on the basis of encouraging beneficial use while protecting prior rights.

Agency Goals Satisfied:

- To regulate the use of water resources for the future welfare and prosperity of the people of North Dakota.
- To manage water resources for the future welfare and prosperity of the people of North Dakota.

Program Objectives:

- Pursue cooperative efforts with neighboring states and provinces to plan for beneficial water management of shared water resources.
- Cooperate with agencies that have regulatory authority over North Dakota's water to protect and enhance the quality and quantity of North Dakota's water resources.
- Evaluate water permit applications and recommend decisions to the SE.

Assumptions and Obstacles:

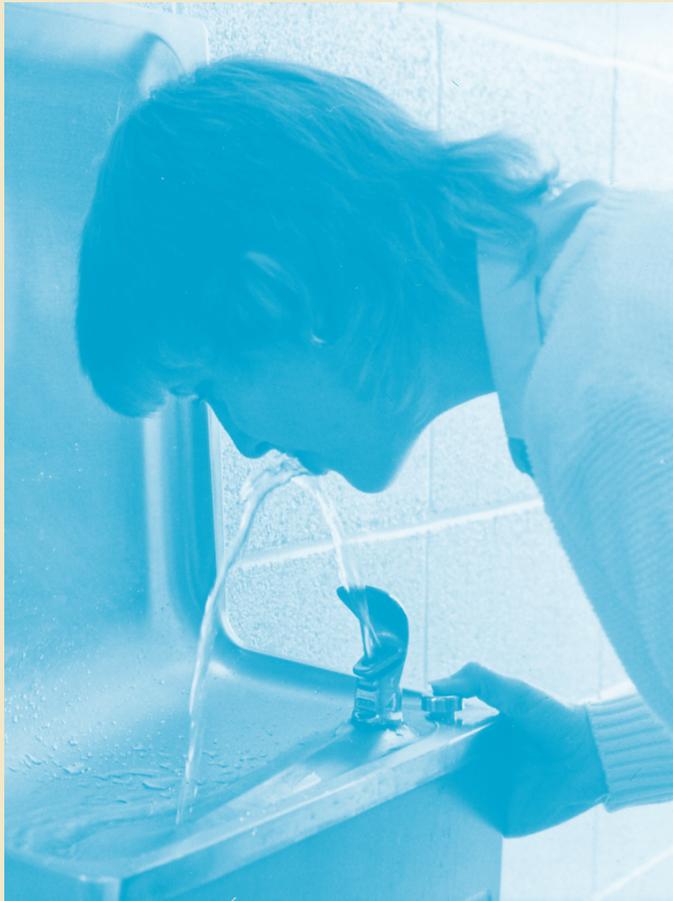
Different organizations, states, and provinces have different perspectives and laws pertaining to the best way to manage water resources. In the evaluation of ground-water permit applications, the state's ground-water resources are becoming more fully allocated. Thus, the process of protecting prior water rights is becoming more difficult.

Water Rights Evaluation & Adjudication

Action Plan:

TASKS	TARGET DATES
Gather data on shared resources	As needed
Discuss possible actions regarding water resources	As needed
Negotiate water management decisions	Ongoing
Conduct water resource investigations	As needed
Prepare recommendations for the State Engineer	Ongoing





Program Overview:

Rural water entities and municipalities in need of help with their water supply can access staff for interpretation of existing data. They can also apply for cost-share help from the SWC for water supply studies. Rural water entities and municipalities use the reports of the water resource studies to help with their decisions regarding water supply concerns and options.

Water Supply Studies

Agency Goal Satisfied:

- To develop water resources for the future welfare and prosperity of the people of North Dakota.

Action Plan:

TASKS	TARGET DATES
City of Devils Lake Ground-Water Supply Study report	Oct. 2004
City of Bottineau Phase II Ground-Water Supply Study report	Dec. 2004
City of Medina Ground-Water Supply Study report	Feb. 2005
Traill County Rural Water Users Phase I, II, and III Ground-Water Supply Study report	Sept. 2005
Wahpeton Buried Valley Aquifer System Ground-Water report	June 2006
Complete other water supply studies as requested	Ongoing

Program Objectives:

- Provide interpretation of existing water resources.
- Conduct studies of potential water resources.
- Publish reports on water resource studies.
- Provide guidance and/or recommendations with regard to water supply concerns.
- Process appropriate paperwork to establish or maintain water rights.

Assumptions and Obstacles:

The main assumption is that no other more pressing water supply issues arise, thus changing priorities.

Program Overview:

In addition to water management planning efforts at the state level, it is the belief of the SWC that it is also beneficial for stakeholders that live and work within key watersheds of the state to guide the management of water resources in their region through the development of regional water plans. In order for regional planning efforts and studies to proceed and evolve in a productive manner, it is often required that local, state, and federal government officials participate in those planning processes as technical advisors.

Watershed Plan Coordination

which is the focus of many projects and planning efforts, the SWC has an office with a full-time engineer in West Fargo.

Beyond participating in regional planning and coordination efforts within the state, SWC staff members are also involved with international and national organizations involved with interjurisdictional water management. Examples include the International Joint Commission, the Red River Basin Commission, the International Red River Board, and the Missouri River Basin Association.

Agency Goal Satisfied:

- To manage water resources for the future welfare and prosperity of the people of North Dakota.

Program Objective:

- Provide technical expertise and assistance toward the development of regional watershed management and planning efforts, and studies.

Assumptions and Obstacles:

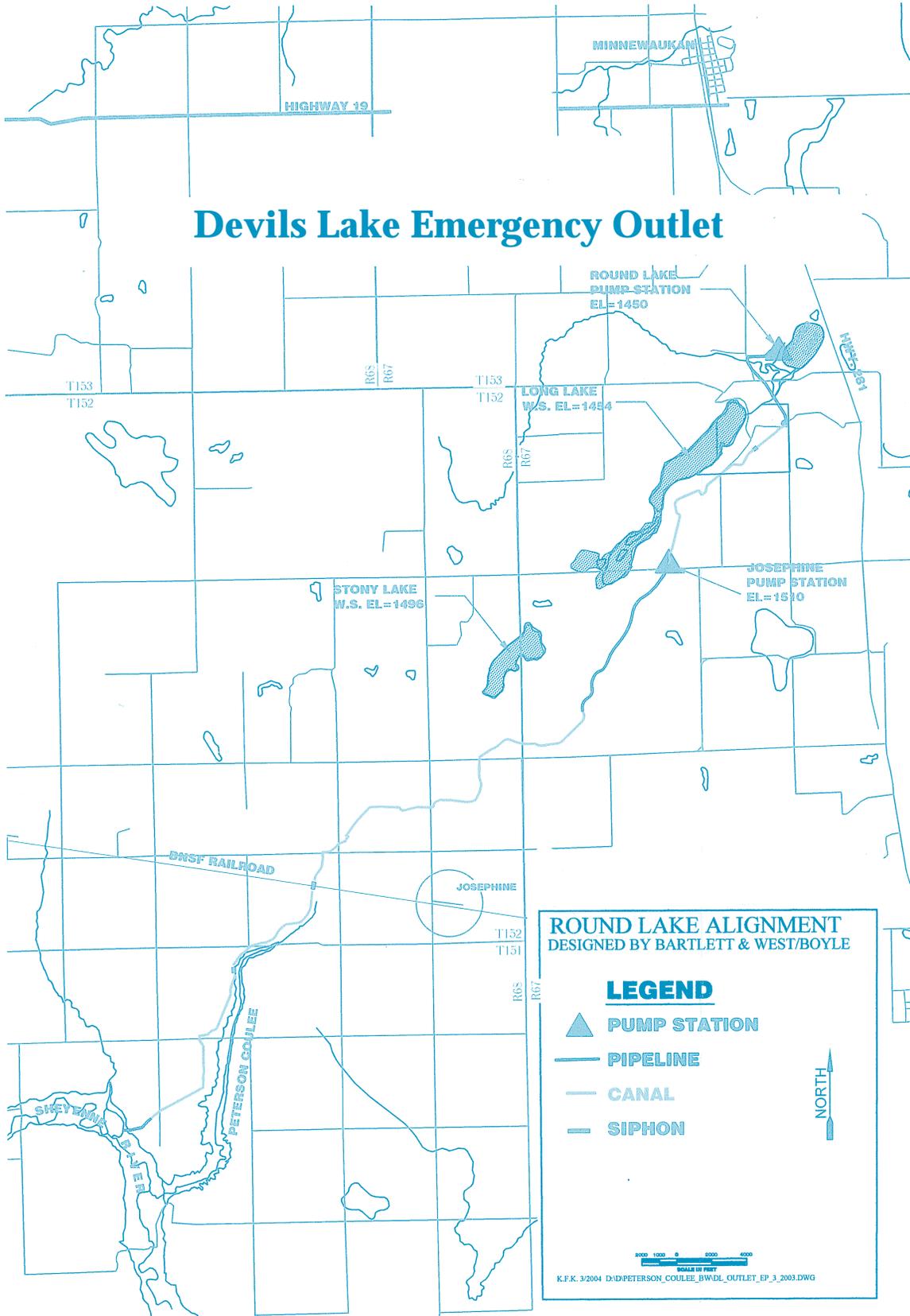
In order for all of the above organizations and planning/coordination efforts to succeed in the future, they will require continued commitment and dedication from all stakeholders involved in those processes.

More recently, the SWC has provided technical assistance toward the development of the Devils Lake Basin Water Management Plan, and the Fargo-Moorhead and Upstream Feasibility Study Phase I. In addition, the SWC has been actively involved in helping to initiate regional watershed planning efforts in the Upper Sheyenne River basin, and the Red and Missouri River corridors. To provide ongoing regional support in the Red River basin,

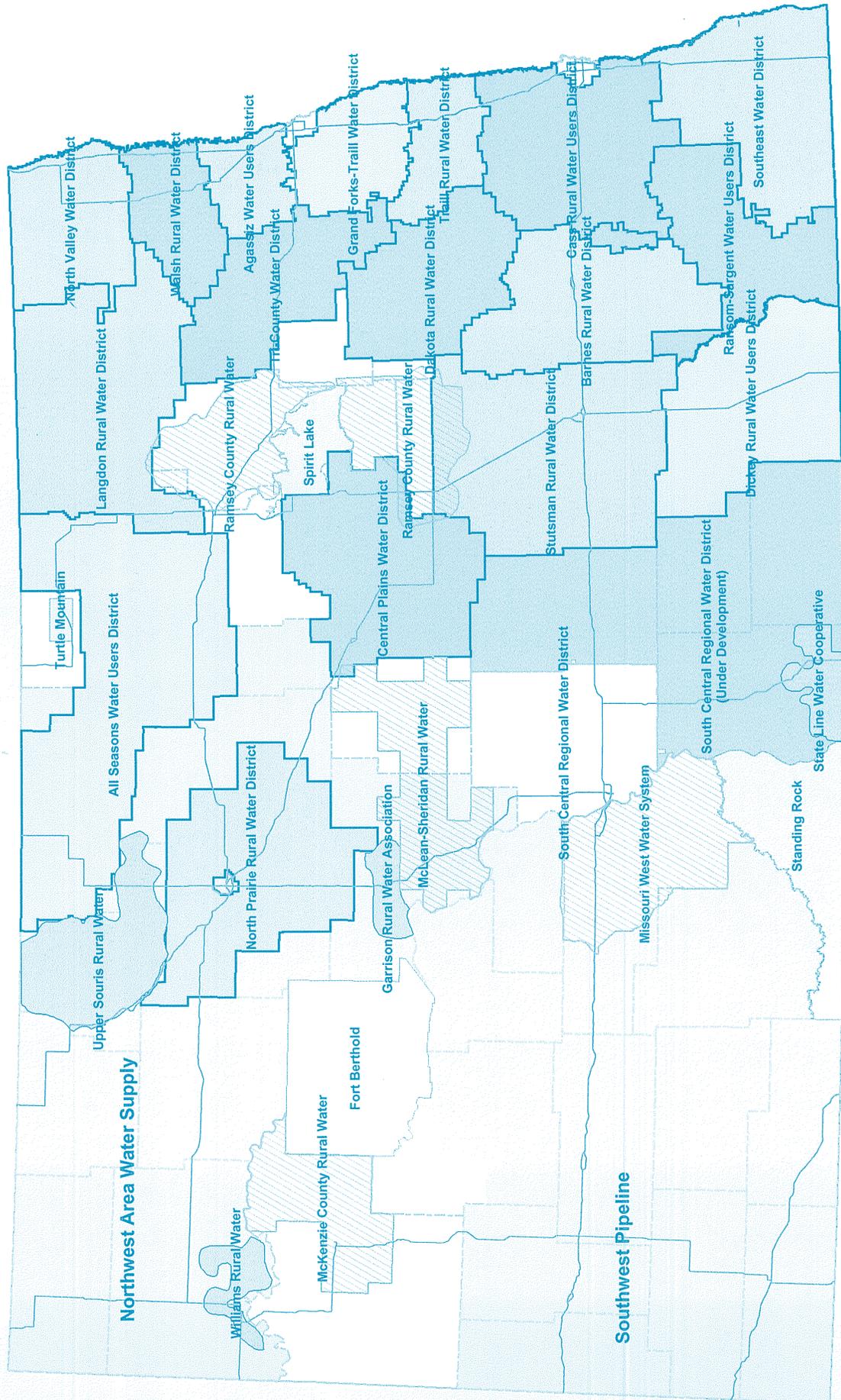
Action Plan:

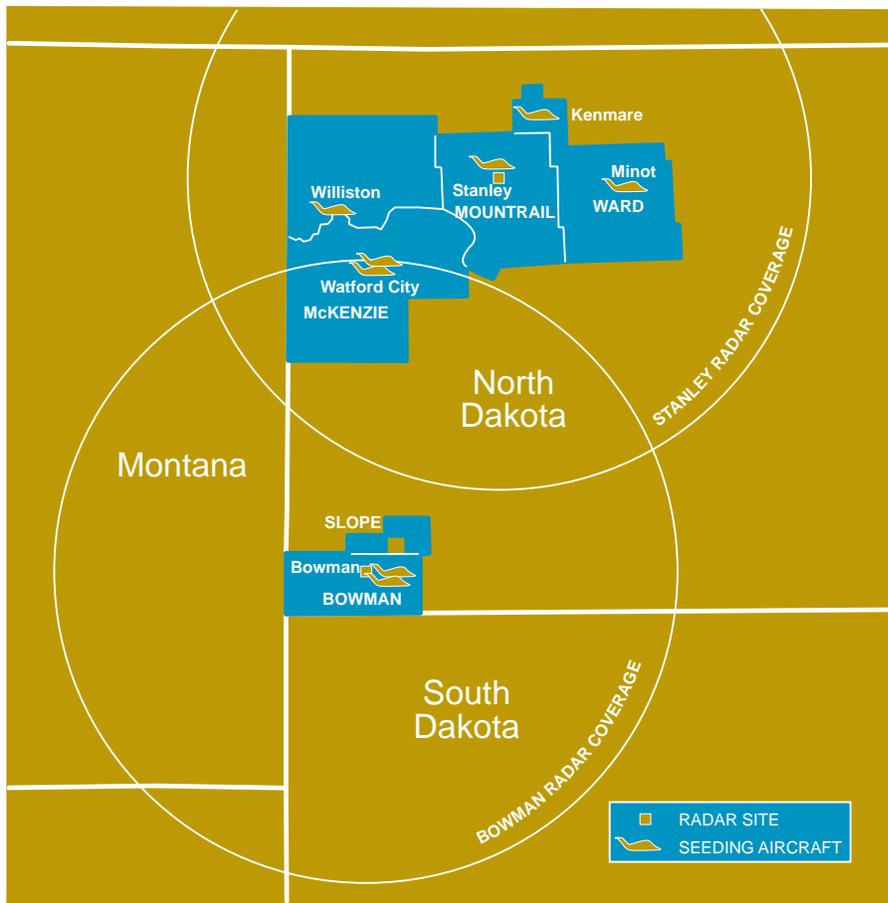
TASKS	TARGET DATES
Provide technical assistance toward the scheduled review of the Devils Lake Basin Water Management Plan	Dec. 2005
Provide technical assistance in the development of bylaws to allow for the establishment of a Missouri River Corridor Joint Board	Spring 2005
Provide technical assistance toward the development and completion of the Red River Basin Commission's Natural Resource Framework Plan	June 2005
Provide technical assistance toward the development and completion of the Fargo-Moorhead and Upstream Feasibility Study Phase I	Feb. 2005
Provide direction and technical expertise to the Red River and Upper Sheyenne River Joint Water Resource Districts in their development of regional water management plans	Ongoing
Continue to participate as board members and technical advisors for international and national watershed planning and coordination efforts	Ongoing

Appendix

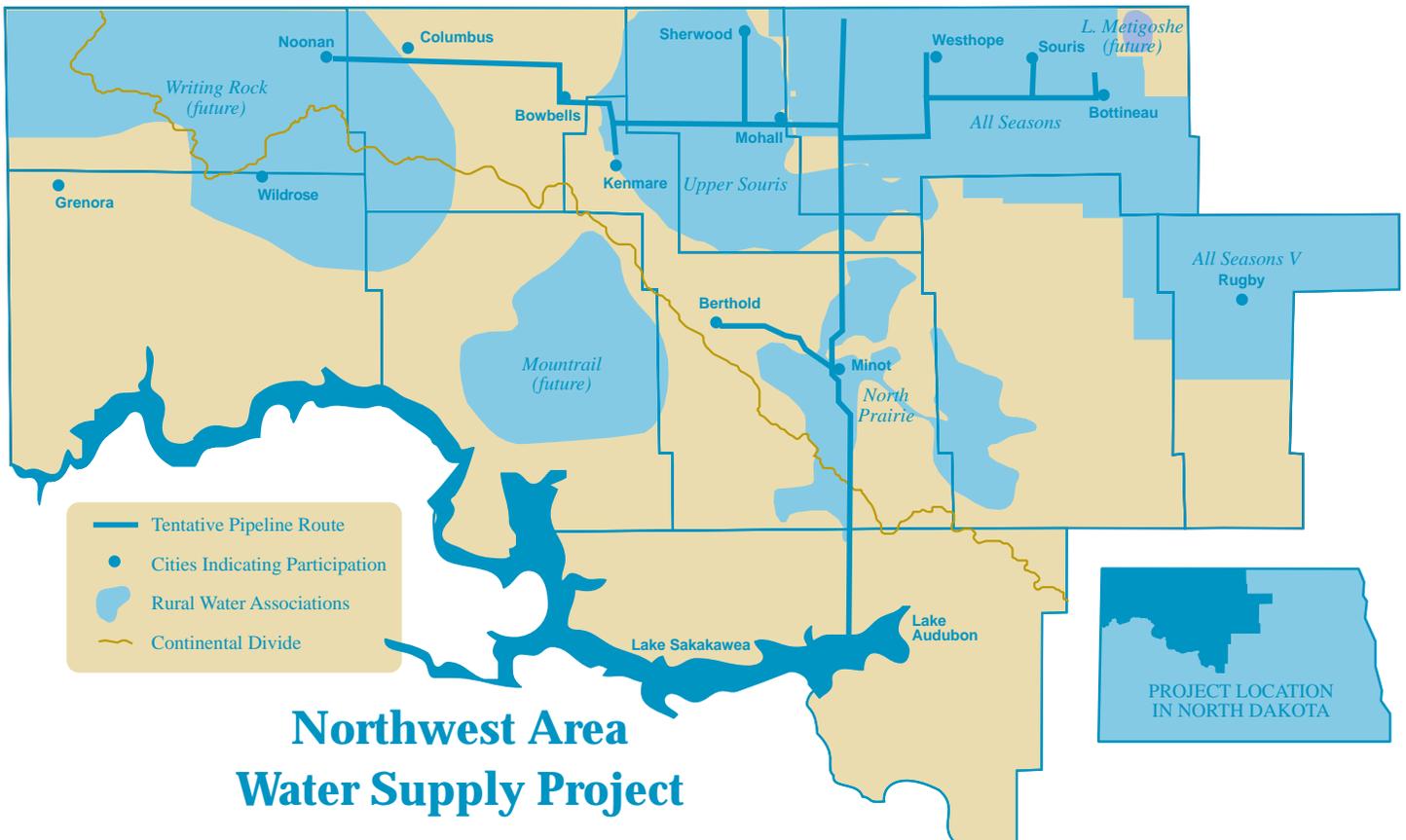


North Dakota Regional Water Systems

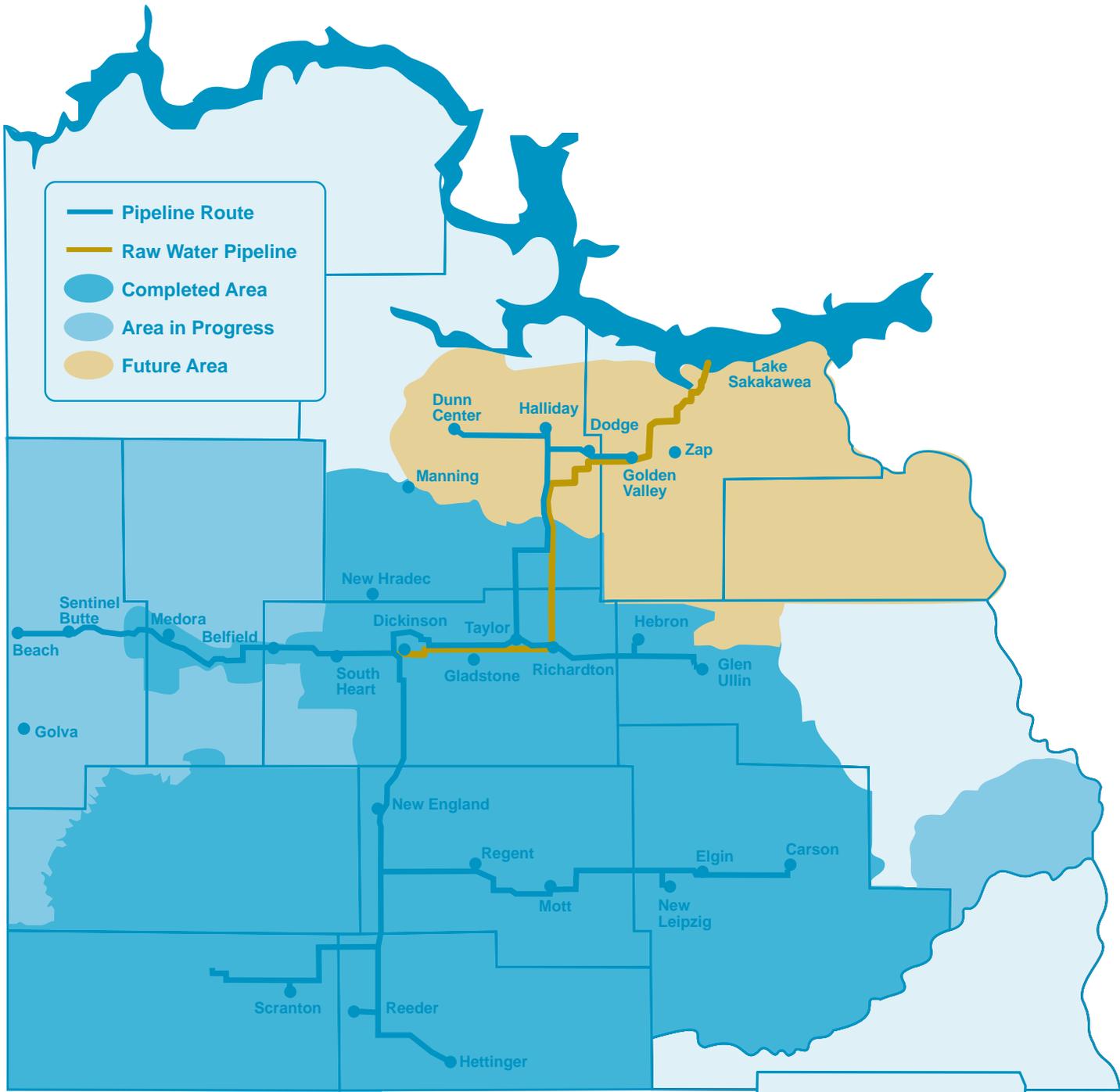




North Dakota Cloud Modification Project

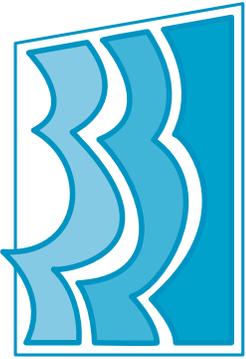


Northwest Area Water Supply Project



Southwest Pipeline Project





North Dakota State Water Commission
900 East Boulevard Ave. Dept. 770
Bismarck ND 58505-0850