

# Minnesota State Case Study

## Analysis of Water Strategies for the Prairie Water Basin

*November 2005*

### **Note to Reviewer**

This document is one of seven jurisdictional and inter-jurisdictional case studies prepared as input to the 2005 Prairie Water Policy Symposium hosted by the International Institute for Sustainable Development ([www.iisd.org](http://www.iisd.org)) on September 22-23, 2005. The other six case studies cover Saskatchewan, Alberta, Manitoba, Interprovincial Management, North Dakota, and International Trans-boundary Management. The intent of the case studies is to provide a description of innovations and challenges in strategic and coordinated action in relation to water management within the respective jurisdiction.

Information in this case study was obtained from publicly available sources (e.g., Internet and literature sources) and supplemented through interviews with government officials. The information is up-to-date as of October, 2005.

**This case study is in an unedited, working paper format.**

Case Study researched and written by:  
Red River Basin Commission  
119<sup>th</sup> 5<sup>th</sup> St. P.O. Box 66  
Moorhead, MN 56561  
[www.redriverbasincommission.org](http://www.redriverbasincommission.org)  
[staff@redriverbasincommission.org](mailto:staff@redriverbasincommission.org)

## Contents

1	Context.....	3
2	Visions and Goals .....	4
2.1	Process .....	4
2.2	Content.....	5
3	Structure and Planning.....	6
3.1	Minnesota Pollution Control Agency .....	6
3.2	Minnesota Department of Agriculture .....	10
3.3	Board of Water and Soil Resources .....	11
3.4	Minnesota Department of Natural Resources .....	12
3.5	Minnesota Department of Health.....	16
3.6	Soil and Water Conservation Districts.....	17
3.7	Watershed Districts.....	17
3.8	County Governments .....	17
4	Multi-level Coordination .....	18
4.1	Major Federal Acts .....	18
4.2	Native American Inclusion .....	19
	<i>Native American Structure in the United States</i> .....	19
	<i>Minnesota Indian Affairs Council</i> .....	20
4.3	Soil and Water Conservation Districts.....	20
4.4	Watershed Districts.....	21
4.5	Red River Watershed Management Board .....	21
4.6	Red River Basin Flood Damage Reduction Work Group.....	21
4.7	Minnesota’s Water Quality Monitoring Strategy .....	22
4.8	Department of Natural Resources, Division of Fish and Wildlife.....	22
4.9	Division of Fish and Wildlife and Division of Park and Recreation .....	23
4.10	Minnesota Forest Resources Council.....	23
5	Implementation .....	23
5.1	Specific Policy Instruments .....	23
5.2	Funding .....	25
6	Monitoring, Evaluation and Improvement.....	26
6.2	Citizen Lake Monitoring.....	27
6.3	Citizen Stream Monitoring Program.....	27
7	Contacts.....	28
	Appendix A.....	28

## 1 Context

Minnesota has an abundance of water resources—an estimated 92,000 miles of streams, 12,000 plus lakes, 10.6 million acres of wetlands and more than one billion gallons of ground water. These water resources are distributed in 81 watershed basins. Minnesota is the headwaters for the Mississippi, and is a major contributor to the Red River of the North. This abundance of water presents both opportunities and challenges. The people of the state and visitors use the water for recreation, municipal and rural drinking supplies and agriculture; water also supports fish and wildlife habitat. Water is important to a healthy agricultural and business economy. Jobs are derived from the utilization of water resources, with much of Minnesota’s \$10 billion-a-year tourism industry based on its water resources. Thus, water determines to a great degree the quality of life in the state. At the same time, as noted on the MN Pollution Control Agency’s web site, the sheer abundance of water in the state results in challenges to monitoring, preventing degradation, and restoring polluted waters.

The task of coordinating state water policy in the state falls on the shoulders of the Environmental Quality Board (EQB), which consists of representatives from the Governor’s office and from nine state agency commission offices, together with five citizens. The degree to which EQB carries out the coordination has varied from administration to administration. Water issues in the state have varied over the years and policies and strategies may change with administrations, yet the Board maintains constant vigilance in defining the key issues for the state. **Issues identified include: Source water protection, impaired waters program and pesticide management. These three main emphasis areas are strategically managed by many state agencies.**

Two federally legislated acts have major consequences in the state’s water management. The first, the Federal Water Pollution and Control Act, enacted in 1972 and amended in 1977 when it became known as the Clean Water Act, established the template for all states and federal agencies to engage in regulating discharges of pollutants into the waters of the United States. The second, the Safe Drinking Water Act, was developed to specifically protect, improve and maintain quality drinking water in the United States.

Other federal laws that mandate areas and directions in state water management policy include:

- Wild and Scenic Rivers Act
  - Federal Insecticide, Fungicide and Rodenticide Act
  - Endangered Species Act
  - Rivers and Harbors Act
  - Fish and Wildlife Coordination Act
  - Floodplain Management Executive Order 11988
  - Farm Bill
  - Navigable Waters – Title 33 of the US Code of Federal Regulations (CFR).
- (See Appendix A for descriptions)

Overseeing the federal policies are the following federal agencies, which contribute in varying degrees to determining and carrying out water resource projects and programs (Noted for each agency is the major federal department in which it resides):

- Army Corps of Engineers (US Department of Defense)
- Bureau of Indian Affairs (US Department of Interior)
- Environmental Protection Agency
- Federal Emergency Management Agency (US Department of Homeland Security)
- Fish and Wildlife Service (US Department of Interior)
- Geological Survey (US Department of Interior)
- National Oceanic & Atmospheric Administration (US Department of Commerce)
- Farm Service Agency (US Department of Agriculture)
- Natural Resource Conservation Service (US Department of Agriculture)
- United States Coast Guard (US Department of Homeland Security).

Water management in Minnesota is set forth in Minnesota Statutes, Chapter 103A, known as the state's water law: To conserve and use water resources of the state in the best interests of its people, and to promote the public health, safety, and welfare, it is the policy of the state that:

- Subject to existing rights, public waters are subject to the control of the state;
- The state, to the extent provided by law, shall control the appropriation and use of waters of the state; and
- The state shall control and supervise activity that changes or will change the course, current, or cross section of public waters, including the construction, reconstruction, repair, removal, abandonment, alteration, or the transfer of ownership of dams, reservoirs, control structures, and waterway obstructions in public waters.

Eight agencies are designated by statute to enforce various aspects of the Minnesota water law. These agencies are:

- Department of Natural Resources
- Department of Agriculture
- Department of Health
- Pollution Control Agency
- Board of Water and Soil Resources
- University of MN Extension Service
- MN Geological Survey, and the
- Metropolitan Council.

## **2 Visions and Goals**

### **2.1 Process**

Water management is complicated by the many uses and users of water in the state. Therefore, the Minnesota Legislature developed the following policy for administering the state's laws by various agencies: 103A.211 Water Law policy. The Water Law of this state is contained in many statutes that must be considered as a whole to systematically administer water policy for the public welfare. Water law that seems contradictory as applied to a specific proceeding creates a need for a forum where the public interest conflicts involved can be presented and, by consideration of the whole body of water law, the controlling policy can be determined and apparent inconsistencies resolved.

The forum for differences is provided by the Environmental Quality Board (see discussion below of Governor’s Water Cabinet). Governors identify areas and goals for water management in consultation with the agency heads responsible for administering water law. Governor Ventura developed the 10 Year Water Plan in 2000, as required by Minnesota Statutes, Section 103B.151, through his administration’s *Water Management Unification Initiative*, which was coordinated by the Environmental Quality Board. Governor Pawlenty established the *Clean Water Cabinet*, which has identified a mission and areas of attention to assist in protecting Minnesota’s water sources, both ground and surface, through the daily coordinated application of laws, programs and expertise of the State’s citizens and agencies. Therefore, coordinated water management is carried out in the state through the process of Governor leadership, the office of the Environmental Quality Board, the state and federal laws, and the programs developed by each state agency.

## 2.2 Content

Because several agencies are dedicated to the management of the water resource in the state, each of the state agencies has developed its own mission and set of goals for the interests in water resources that it administers. Most statewide statements of vision and goals remain broad, although certain themes and goals emerge from these several statements. State policy calls for agencies representing the state **“to conserve and use water resources of the state in the best interests of its people, and to promote the public health, safety, and welfare”** [Minnesota Statutes Sec. 103A. 201], suggesting concern with water quality and human health, with conservation, and with use and allocation.

Similarly, in its 2005-2007 Biennium report, the EQB relates a vision that implies concern with water quality and use and allocation, as well as with water supply: **“As Minnesotans, we expect our waters to be clean and plentiful, both today and long into the future.”**

The 10 Year Water Plan developed in 2000 during Governor Ventura’s term in office identified similar themes and goals for water resources in Minnesota: **1) improve water quality, 2) conserve water, 3) restore and maintain healthy aquatic ecosystems, and 4) be able to enjoy the water resources in various recreational pursuits.** This 10 year plan also introduced a focus on river basins, including the Red River Basin and six others, to better address regional conditions that can be addressed more locally within the overall broad perspective of the four goals.

Governor Pawlenty’s *Clean Water Cabinet* has taken as its vision a Minnesota that:

- Keeps its waters clean by protecting them from present and future threats;
- Ensures safe water to sustain healthy communities;
- Keeps an accurate and realistic picture of the “state of our waters” so that citizens and policy-makers are able to respond effectively and appropriately to new threats; and
- Works aggressively to restore those waters that have been the casualties of society’s great progress.

This vision, like Governor Ventura’s, emphasizes water quality, conservation, use and allocation, and water supply. In addition, Governor Pawlenty’s vision takes a proactive stance toward identifying and responding to degradation of waters in the state. To ensure a response and thereby to protect Minnesota’s water sources, both ground and surface, the *Clean Water Cabinet*

and the Environmental Quality Board described a set of Core Water Activities that are important to the daily coordinated application of laws, programs and expertise of the State’s citizens and agencies. These core activities include:

- Research
- Monitoring
- Data Management
- Regulation and Enforcement
- Implementation
- Education and Outreach.

In addition to the several common areas of concern implied in these several broad vision statements—water quality, conservation, use and allocation, water supply and education of citizens—the state also regularly addresses issues of recreational opportunities, along with ongoing work on flooding and drainage.

The Environmental Quality Board most recent report about Minnesota’s water resources is “Protecting Minnesota’s Waters: Priorities for the 2005 – 2007 Biennium.” In 2000, the Environmental Quality Board published a 10-year water plan (2000-2010) called “Watermarks” which outlined plans to protect and conserve water throughout the state. The Environmental Quality Board can be accessed on the web at <http://www.eqb.state.mn.us> water for information on the state’s water resources.

### 3 Structure and Planning

State agencies in Minnesota are governed by State statutes and rules. These statutes and supporting rules are carried out and enforceable by the agencies. The statutes are created by the State Legislature and can be changed as often as the Legislature meets, with the majority vote of the Senate and the House, and signature of the Governor. The agency Rules are developed by the agency responsible for carrying out their part of the water management program.

Each of the agencies listed in Section 1 above have specific responsibilities. These responsibilities are detailed in this section in respect to their mandate. In addition, many agencies work together to provide comprehensive watershed management, protection and enhancement. This aspect will be detailed in Section 6.

Each of the previously described agencies has specific responsibilities regarding water management. They each work toward implementation and monitoring the emphasis areas through their own strategies/structures, which are described below, as well as performing their own statutory mandates pertaining to water management.

#### 3.1 Minnesota Pollution Control Agency

The MN Pollution Control Agency, which organizes its water division by 1) surface water resources and 2) ground water resources, leads in the area of protecting water quality, with the mission of **“help[ing] Minnesotans protect and improve the air, land and water to sustain**

**healthy ecosystems.”** The Pollution Control Agency develops an annual strategic plan. Its area of focus for 2005 is to have **Clean, Fishable and Swimmable Surface Waters.**

The Pollution Control Agency is organized into seven Divisions: 1) Industrial, 2) Municipal, 3) Remediation, 4) Regional, 5) Environmental Analysis and Outcomes, 6) Technology, Education and Assistance, and 7) Operational Support. Each Division has some component of water management from the perspective of water quality monitoring, setting standards and enforcement. The Pollution Control Agency uses a geographically based approach to water quality protection and restoration. This approach helps the agency focus on:

- Better identification of water quality problems
- Work with communities to establish shared goals and priorities
- Develop effective pollutant–reduction strategies.

The Pollution Control Agency works with partners in communities throughout the state concerning development of water quality plans for each of the basins. The following Divisions are highlighted for their contribution to the Minnesota Pollution Control Agency water protection activities:

#### Municipal Division

Works with communities regarding two main water issues:

- Wastewater
- Stormwater

*Wastewater Program* deals with community sewage treatment facilities and Individual Sewage Treatment Systems (ISTS). The Wastewater program deals with the “point source” of pollution as described in the federal Clean Water Act of 1970. The *Wastewater Program* has developed a Water Quality Point-Source Plan. It has numerous programs for sanitary district formation and facilitates financial assistance through the Water Pollution Control Revolving Fund to assist smaller communities with developing wastewater facilities. The Division has a permitting, operation and compliance program, as well as educational programs for wastewater treatment operators.

*Stormwater Program* oversees the federal portion of the Clean Water Act described as the National Pollutant Discharge Elimination System (NPDES). Stormwater generated within urban communities is regulated under the State Disposal System (SDS) Permit. These permits also pertain to construction sites and industrial facilities, as well as municipal separate storm sewer systems.

#### Remediation Division

The Pollution Control Agency has many programs that clean up pollution. The Remediation Division oversees the process of pollution cleanup, whether it is in water resources, soil or air. The programs utilized for cleanup may be voluntary or through federal superfund programs. The leaking storage tank program is handled through this Division.

### Regional Division

The Pollution Control Agency delivers the greatest amount of services for smaller dispersed sources of pollution from small cities, businesses and individuals outside of the greater metropolitan area. Therefore, the state has been divided into Regions of responsibility. These regional offices coordinate

- 1) Environmental reviews
- 2) Feedlot regulation,
- 3) Stormwater
- 4) Basin management.

1) Environmental reviews – generally are concerned with projects, such as wastewater treatment plants, large industrial facilities, feedlots or landfills that have the potential for substantial environmental impacts to natural resources. The Environmental Quality Board developed the rules for applicants to follow, but the review process is carried out by the local government unit or state agency that would be the “responsible governmental unit.”

2) Feedlot Program – the Pollution Control Agency is the lead state agency for regulating feedlots. Counties may be delegated the authority by the Pollution Control Agency if the feedlot doesn’t fall under federal regulations. The Pollution Control Agency regulates the collection, transportation, storage, processing, and disposal of animal manure and livestock processing facilities. It is an all-inclusive program, from the construction to operation of the facilities.

The concern with feedlots is the runoff associated with the animal containment areas. The potential runoff carrying high nutrient loads is significant with feedlots. The runoff could be a source of pollutants to surface water features, such as lakes, streams and artificial drainage systems that enter natural systems.

The Minnesota Pollution Control Agency has an agreement with Canada which basically states that any feedlot operation applying for a permit within five miles of the Minnesota/Canada border will provide each respective government the opportunity to comment on that operation.<sup>1</sup> As of this writing, the MN Pollution Control Agency is reviewing three applications from Canada. There are no applications from Minnesota under review by Canada at this time.

3) Basin Management – Red River Basin<sup>2</sup> – In keeping with the geographic focus previously mentioned, the following information will focus on the *Red River of the North Basin*. The Pollution Control Agency has an extensive planning effort for water management in the Red River Basin. In 1999, it developed the Red River Basin Water Quality Plan. It also developed an extensive website devoted to management of the Basin, [www.pca.state.mn.us/water/basins/redriver/index.html](http://www.pca.state.mn.us/water/basins/redriver/index.html). The Water Quality Plan (1999) was a planning partnership between the state, federal, local governments, non-governmental groups, and citizens to “ensure compatibility and sustainability of cultural and natural resource interests.” This partnership formed the Red River Basin Team.

---

<sup>1</sup> Per Conversation with Jim Ziegler, MPCA, Detroit Lakes, MN, 9/7/05

<sup>2</sup> MPCA : <http://www.pca.state.mn.us/water/basins/redriver> and other PCA publications

The Water Quality Plan identifies Subject areas with corresponding Issues, Goals and Strategies. These subject areas include:

- Basin Organization
- Drainage
- Education
- Erosion/runoff
- Flooding
- Funding
- Groundwater
- Lakes
- Monitoring/assessment
- Municipal surface-water based public water supplies
- Point source
- Recreation
- Streams and rivers
- Wetlands.

This Basin Plan was the first such document to be produced by the Pollution Control Agency in the state and was instrumental in guiding the continuation of the process in the Basin. The Red River Basin Team maintains monthly meetings and works toward developing cleaner waters throughout the basin through consensus partnerships.

The Pollution Control Agency is currently developing a Revised Basin Plan which will be available to the public on their web site in late 2005.

#### 4) Impaired Waters Program

The Minnesota Pollution Control Agency is highly involved with the identification, monitoring and implementation of programs associated with the federal Clean Water Act, which pertains to the impairment of surface waters. The Impaired Water Management Program adopts water quality standards which define how much of a pollutant can be in a water while still allowing it to meet designated uses. These uses for different stream “reaches” or lakes may include:

- Fishable
- Swimmable
- Drinkable
- Agriculture and Industrial.

The Clean Water Act requires a Total Maximum Daily Load (TMDL) study for each pollutant that may be identified as impairing a water body. The study would identify both point and non-point sources of pollution and then identify the ways to reduce the pollutant. Monitoring plans, pollution reduction plans and reporting are all part of the program. The program must also identify when the pollutant entered the system and if that incident is ongoing or a one-time event, or if the event is natural and not man-made. The Clean Water Act also requires a biennial reporting process called the 303(D) report which lists impaired water bodies. This list is also available to the public, and can be found at: <http://www.pca.state.mn.us/water/tmdl/index.html>. The Minnesota Pollution Control Agency has a number of different monitoring programs which are detailed under Section 5 of this report.

### Environmental Analysis and Outcomes Division

The information pertaining to this Division is in Section 5 – Monitoring, since this program area deals mostly with monitoring water quality in the state.

### **3.2 Minnesota Department of Agriculture**

The MN Department of Agriculture is the lead agency for all aspects of pesticide and fertilizer environmental and regulatory functions, developing resources to assist planners in managing potential agricultural contamination sources. Its Agriculture Resources Management and Development division, one of 13 divisions within the agency, works with producers to protect and utilize the soil and water resources. The mission of the MN Department of Agriculture is **“to support the development of an agriculture that is profitable and environmentally sound.”**

Local organizations are found within the State that work closely with not only the previously mentioned state agencies, but with federal agencies as well.

The Department of Agriculture, Division of Agricultural Resources Management and Development, has adopted the mission **“to support the development of an agriculture that is profitable and environmentally sound.”**<sup>3</sup> To accomplish this mission, the Division conducts research and development partnerships, conducts education on resource issues, and sponsors farm demonstration and pilot projects. The Division has four program strategies:

- Resource Policy and Planning
- Resource Use and Development
- Sustainable Agriculture
- Integrated Pest Management and Biological Control.

These program areas integrate the three overall state emphasis areas: Impaired Waters, Source Water Protection and Pesticide Management. They do this through finding ways to educate producers in using technology for chemical applications to crops, as a way to reduce the rates and amounts of pesticides and fertilizers. They also work with producers to use natural biological control of pests and sustainable methods of crop rotations and residue management. The Division works with other state and federal agencies and academia to develop Best Management Practices they can pass along to the producers. The Division also has three main areas of water management that are described below:

#### Agricultural Water Research Partnership

The division supports Minnesota Department of Agriculture’s efforts in the partnership whose purpose is to design and evaluate technologies and practices that protect or mitigate the impact of agricultural drainage upon water quality. The membership of the partnership includes the Minnesota Department of Agriculture, producers, scientists from the University of Minnesota, and drainage industry representatives. Projects in process or being planned include both intensive shallow and tiled drainage, alternative ditch design, bioremediation through wetlands and other bioreactor mediums, and temporary dryland storage.

---

<sup>3</sup> <http://www.mda.state.mn.us/agdev/default.htm>

### Environmental and Local Water Plan Review

Documents on proposed public and private projects are reviewed for impacts on agriculture. Staff also coordinate with the Environmental Quality Board and other agencies on environmental issues or projects affecting agriculture, help prepare department environmental documents, and provide information on the state environmental review process.

### Impaired Waters

The division has a joint outreach project with the Minnesota Pollution Control Agency to inform producers and producer groups about impaired waters and Total Maximum Daily Loads. Staff meet with producers individually or in groups, participate in statewide conferences and, to the extent possible, participate in local watershed meetings held to prepare Total Maximum Daily Load assessments to address water impairments. Also, the division supports Minnesota Department of Agriculture's role on the Minnesota Pollution Control Agency/Minnesota Environmental Initiative's Stakeholder Process.

### **3.3 Board of Water and Soil Resources**

The mission of the Board is to **“protect and enhance our irreplaceable soil and water resources through implementation of the state’s soil and water conservation policy, comprehensive local water management, and the Wetland Conservation Act.”**<sup>4</sup> The Board of Water and Soil Resources helps the state attain this goal by empowering local units of governments to prioritize and jointly fund programs that achieve the end result of soil and water conservation.

The Board of Water and Soil Resources was established to work closely with local partnerships for effective soil and water conservation on private land. The agency strives to partner with federal, local, and other state agencies to effect good land and water conservation and stewardship. As a means to maintain the partnerships, the agency established eight field offices throughout three broad regions of the state, allowing Board professionals to work closely with local entities. The Board serves as the oversight agency for the many Soil and Water Conservation Districts, Watershed Districts, metropolitan water management organizations, county water management, and other local units of governments that implement the *Minnesota Wetlands Conservation Act* and the *Water Planning and Project Implementation statute 103B*. The Board of Water and Soil Resources provides the following assistance to the local Soil and Water Conservation Districts and Watershed Districts:

- State Cost Share Grants to implement installation of conservation practices to protect water quality and control soil erosion. This funding provides a base capital support for the operations of the Soil and Water Conservation District offices and to be able to provide funding for projects with local landowners through a cost-share agreement.
- Wetland Protection is implemented throughout the state by providing technical evaluation panels, financial assistance grants, dispute resolution, and coordination with the US Army Corps of Engineers and the US Department of Agriculture for decisions regarding wetland protection. Wetland protection is also realized through the use of local comprehensive wetland protection and management plans.

---

<sup>4</sup> Water and Soil Conservation 2005, report to the legislature, per communication Pete Raeker, BWSR

- Wetland Banking Program administered through the Board allows landowners to utilize wetland credits to mitigate unavoidable impacts to wetlands due to development, road construction, or other projects that must be mitigated.
- Conservation Easements: *Reinvest in Minnesota* is an easement-purchasing grant program developed to enroll highly erodible land, riparian protection, and sensitive ground water lands into conservation easements. Development of these easements provides long-term protection for fish and wildlife habitat and improves water quality.
- Local Water Management: The Board works with local governments in carrying out Comprehensive Local Water Planning (1985 legislation) efforts. The program allows local counties to focus on priority concerns, defined goals and objectives, and measurable outcomes. To assist the counties, the Board provides financial assistance through Natural Resource Block Grants.
- eLINK: is the web based accountability program that the Board of Water and Soil Resources has developed for local units of governments to use for their reporting purposes. This program not only tracks funding expenditures, but also can analyze the conservation programs put in place and develop estimates for soil loss reduction, sediment reduction and phosphorous reduction.

The Board has also worked diligently with local and federal agencies to extend a land retirement program called the **Conservation Reserve Enhancement Program (CREP)**. The Conservation Reserve Enhancement Program is a federal/state cost-share easement program that works with landowners/producers to implement conservation techniques on priority issues. The second phase (Conservation Reserve Enhancement Program II) is oriented at placing 120,000 acres in easements, targeting riparian and wetland restoration, flood damage reduction, ground water well head protection, and cropping practices that will effectively reduce sedimentation, nutrient loading, and flooding. The Red River Basin has a target of 51,000 acres. The program pays an easement rate utilizing Reinvest In Minnesota formulas. Easement payments are based on 15-year annual federal payments, and 30-year Reinvest In Minnesota, one-time payment. Land placed in wetland restoration or flood damage reduction easements are paid based on 15-year federal easement, and a perpetual Reinvest In Minnesota payment. When the full program is implemented, the federal cost share is \$200 million and the state's share will be \$50 million. This program has a two-year projected time frame for implementation. Board staff work with the local Soil and Water Conservation Districts and Watershed Districts for implementation of this program, in partnership with the US Department of Agriculture Farm Service Agency and Natural Resources Conservations Service.

### **3.4 Minnesota Department of Natural Resources**

The Water Resources division of Minnesota's Department of Natural Resources works primarily in the areas of conservation and use and allocation of waters. Minnesota's aquatic resources are a defining component in the state's varied ecosystems and are important to tourism and recreation, economic use, and where people choose to live. Lakes, rivers, streams and wetlands provide visible and essential connections for all landscapes, and ecosystems are supported by ground water and subsurface flows. In turn, healthy ecosystems support the plants, wildlife and scenery that provide recreation opportunities and other benefits. The mission of MN's Department of Natural Resources, as stated in its strategic plan of 2000 is **“to work with citizens to protect and manage the state's natural resources, to provide outdoor recreation opportunities, and**

**to provide for commercial uses of natural resources in a way that creates a sustainable quality of life.”**

The Department of Natural Resources is organized into eight Divisions. These include:

- Ecological Services
- Enforcement
- Fish and Wildlife
- Forestry
- Lands and Minerals
- Parks and Recreation
- Trails and Waterways
- Waters.

Each of these Divisions is located in each of the four regional offices. The Red River Basin is in Region 1, located in Bemidji.

The Department has developed a *Strategic Conservation Agenda 2003-2007* which highlights what the Department intends to accomplish, accountability, and targets for six performance areas. An annual report called the Conservation Agenda has been published for 2005 and can be found on the internet at: <http://www.dnr.state.mn.us/conservationagenda/index.htm>.

Division of Ecological Services

This program collects, analyzes, and delivers vital ecological information concerning rare resources of the state including: threatened and endangered species, critical habitats and high-quality native plant communities. This information is disseminated to the State’s leaders, citizens and decision-makers. Among other vital programs, the Ecological Services Division works with River and Stream Ecosystems to provide

- Stream Habitat Protection and Restoration Program
- Aquatic Plant Management Program
- Invasive Species Program

The Stream Habitat Protection and Restoration Programs analyze streams throughout the state to determine the health of the riverine ecosystem. Therefore, the stability of banks, the variation of water depth, streambed substrate, water velocity, types of vegetative cover, water temperature, and types and diversity of aquatic organisms are determined. Through this collection and analysis of information, the Program works with local, state and federal agencies and citizens to make informed decisions on protecting the rivers in their areas. The Program is also engaged in restoring degraded river channels. The restoration process can involve restoring banks and channel meanders, as well as removal or modifying dams to restore fish migration patterns.

Division of Waters

This division is divided into three main Sections to provide comprehensive development and administration of water resources: 1) Water Management, 2) Surface Water and Hydrographics, and 3) Ground Water and Climatology. The focus of this section will be mainly on Water Management Program, with a brief overview of Surface Water and Hydrographics.

The *Water Management Section* is further divided into these Working Units:

- 1) Rivers and Shorelands Unit
  - Shoreland Management Program
  - Lakes Management Program
  - River Resource Management Program
- 2) Floodplain Management Unit
- 3) Research, Information and Policy Unit
- 4) Water Permits Unit

#### 1) Rivers and Shorelands Unit

The *Shoreland and Lakes Management Programs* include informing landowners and potential landowners about living on lakes and streams and the protection of shoreland “to preserve and enhance the quality of surface waters, preserve the economic values of shoreland properties and ensure the sustainable use of water and related resources.”<sup>5</sup> The program is coordinated with other Department of Natural Resources disciplines and agencies by local governments and other groups. The increased pressure of developments along lakes and rivers in the state has caused an increase in concern over the degradation of the banks and the addition of nutrients to the waters. What used to be second homes or seasonal cabins have now turned into large, full-time housing developments. Septic systems adequate for small, seasonal cabins may be inadequate for full-time use and or for houses that have been enlarged; roadways which were once small are now larger and have more runoff; land that was once natural is now developed and landscaped or has more impervious surface creating more runoff into the waterways.

The Shoreland Management Program has its basis in Minnesota Rules 6120.2500 – 3900. These Rules provide that local government units must adopt land use controls with the means to provide protection for shores of rivers and lakes from impact from development. Rule 103B.501-581 provides citizens the ability to petition the county in which they live (or own property) to create a “Lake Improvement District” to address specific issues that cannot be addressed with regular local government ordinances.

The River Resource Management Program functions much like the Shoreland Program above, in that it coordinates activities among various state and federal river programs. This program also oversees the Wild and Scenic Rivers Program. The education component of this program includes Project WET (Water Education for Teachers), a national program that is coordinated generally by state agencies.

#### 2) Floodplain Management Unit

This work Unit focuses on promoting and ensuring sound land use development in floodplain areas. The overall goal is to promote the health and safety of the public, minimize loss of life and reduce economic losses due to flooding. This Program also works to administer the National Flood Insurance Program (NFIP) for the State, in collaboration with the Federal Emergency Management Administration (FEMA).

---

<sup>5</sup> [http://www.dnr.state.mn.us/waters/watermgmt\\_section/shoreland/index.html](http://www.dnr.state.mn.us/waters/watermgmt_section/shoreland/index.html)

### 3) Research, Information and Policy Unit:

This Unit works with the Wetlands Conservation Act as a partnership with the Board of Water and Soil Resources to resolve wetland protection and development concerns and integrating federal, state and local programs. The Unit also oversees the Department's review of all environmental assessment and environmental impact statement documents, watershed district coordination activities and public drainage project activities.

### 4) Water Permits Unit

This Unit has two roles in permitting:

- Water Work Permit
- Water Appropriations Permit

The *Work Permit Program* deals with the placement of physical objects in waterways. It also is the part of state government that oversees the Federal Section 404 of the Clean Water Act, regarding protection of wetlands. Some types of activities that would require a permit include: shore protection, bridges, culverts, docks, marinas, water level controls, excavation, and fill projects. This program is vitally important to coordinate with other state agencies in their work activities and local governments with developing local oversight programs.

The *Water Appropriations Permit* program enforces State Statute 103G.265, which requires the Department of Natural Resources to *manage water resources to ensure an adequate supply to meet long range seasonal requirements for domestic, agricultural, fish and wildlife, recreational, power, navigation and quality control purposes*. Therefore, the permitting program needs to balance the competing uses for water to ensure both development and protection of the water resources. Permit holders also are required to submit annual reports of water use. The permits are required for all users withdrawing more than 10,000 gallons per day or 1 million gallons per year. Permits are generally not needed for personal residential use and certain agriculture uses.

Surface Water and Hydrographics Section has the following work units:

- 1) Surface Water Unit:
  - Lake Hydrology Program
  - Stream Hydrology Program
  - Surface Water Technical Analysis Program
- 2) Hydrographics Unit
- 3) Dam Safety Unit

Within the Surface Water Unit, The *Stream Hydrology Program* collects data and provides information on stream flows which are needed to effectively carry out the statutory obligations for the Department of Natural Resources water management programs. Minnesota Statutes, Chapter 103G provides the authority to “*regulate work in public waters; control the appropriation and use of water; ensure the safety of dams; and conduct water resource surveys, investigations and studies.*” Section 103G.285 (2) makes the commission of the Department of Natural Resources responsible for limiting water withdrawals from streams during low flow conditions. This Program has monitoring gages scattered around the state. These gages provide staff with information that they can distribute such as: stream flow conditions during open water conditions (April-October), production of stream discharge and elevation hydrographs, and a

variety of other services. The *Surface Water Technical Analysis Program* provides expertise on the hydrologic and hydraulic aspects of water resources management. The program's staff develops technical reports analyzing the hydrologic and hydraulic issues and develop computer modeling outputs and watershed maps.

### Division of Fish and Wildlife

The Division of Fish and Wildlife is divided into three working sections: Fisheries, Wildlife and License Center. The Division's overall purpose is to "manage, protect and regulate the fish and wildlife resources."<sup>6</sup> Research and management of the resources are carried out by regional and local staff throughout the state. The Division also manages land resources for the use, benefit, management and protection of the fish and wildlife resources, and recommends regulations for the use of the fish and wildlife, through bag limits and hunting/fishing seasons and issuance of licenses. The Division carries out research, census and survey projects, as well as promoting fish and wildlife habitat development on public and private lands.

The Division of Fisheries develops their program through strategies to: 1) gather information, 2) improve and protect habitat, 3) stock fish, 4) adjust regulations, 5) inform and educate, 6) increase access and 7) conduct research. The Division of Fisheries has also been able to purchase land through use of the Environment and Natural Resources Trust Fund (state lottery) to purchase water resources critical for sustaining fisheries. These "Aquatic Management Areas" are focused on protecting critical shoreline habitat, littoral edges of lakes, streams and rivers that are crucial to muskellunge spawning areas and walleye nurseries.

### **3.5 Minnesota Department of Health**

An extremely large agency, the MN Department of Health handles all aspects of health, from childhood immunizations and infectious diseases to food safety and radiation exposure. Its Environmental Health Division contains a section devoted to drinking water protection. The Drinking Water Protection programs protect public health by ensuring a safe and adequate supply of drinking water at all public water systems. The MN Department of Health is the responsible agency for the State of Minnesota in enforcing the federal Safe Water Drinking Act, an act under the federal Environmental Protection Agency.

Drinking Water Protection Section as defined in 2.4.3 has two main goals: providing clean, safe water to the public from 1) surface water and 2) groundwater sources. The *Source Water Protection Unit* looks at preventing contamination of ground water by Wellhead Protection laws. Minnesota Rule, 4720.5100 – 5590 sets standards for wellhead protection planning. The Unit is also concerned with protection of surface water intakes for community water systems; however, at this time there are no standards for surface water intakes. The Department is writing a "guidance document to define Minnesota's approach to source water protection for surface water intakes."<sup>7</sup>

Groundwater is the primary source of water for community systems in the state. Therefore, the Minnesota Department of Health has a Well Management Section which is responsible for regulating wells and borings to protect groundwater from contamination. The Health Risk

---

<sup>6</sup> <http://www.dnr.state.mn.us/fishwildlife/index.html>

<sup>7</sup> <http://www.health.state.mn.us/divs/eh/water/swp/index.html>

Assessment Unit evaluates contaminants in the groundwater and determines the risk to human health from concentrations that are found through periodic sampling.

### **3.6 Soil and Water Conservation Districts**

The Board of Water and Soil Resources formed 91 Soil and Water Conservation Districts throughout the state after the Board’s inception in 1937. Twenty-one of these offices are within the Red River Basin. The mission of the Soil and Water Conservation Districts is to work “one to one with landowners, aiming to connect landowners with the financial and technical resources they need to put conservation practices on the land.”

The Soil and Water Conservation District is located within the boundaries of each County. Soil and Water Conservation Districts operate from annual and comprehensive work plans indicating local conservation priorities, resource treatment needs and construction schedules. The district is authorized to conduct survey and demonstration projects, public information activities and to implement any necessary practices within its boundaries. The Districts are governed by five elected local landowners, the Board Supervisors. The Districts can apply for cost-share funding from the State to help local landowners offset the costs of installing conservation practices on their land. The District must have provided to the state an approved annual work plan, an annual report and a comprehensive plan. In lieu of a comprehensive plan, the board can adopt a resolution to abide by the county’s comprehensive local water management plan.

### **3.7 Watershed Districts**

Watershed Districts follow the natural boundaries of the watershed they represent and work to solve and prevent water-related problems. Within Minnesota, there are 46 Watershed Districts, 12 of which are within the Red River Basin. The Watershed Districts were formed to work with local citizens and other government agencies to deal with water-related issues such as: water quality protection, water quantity and flooding. Minnesota Statutes 103D enable the Watershed Districts to regulate, conserve and control the use of water within the district. Watershed districts have the legal authority to levy taxes for the benefit of their programs. They also have ability to establish permits for work within the watershed district to the extent of their legal authority. Drainage laws for Minnesota develop permitting authority for Watershed Districts to establish legal conforming drainage systems. Watershed Districts have local staff and a Board of Managers who are appointed by the County Commissioners.<sup>8</sup> Watershed Districts are required to develop comprehensive watershed plans. These plans are reviewed by the Board of Water and Soil Resources and other state agencies.

### **3.8 County Governments**

County governments as well have local responsibilities for comprehensive local water planning. State laws 103B.301 and 103E require counties to develop 5-year plans. These plans are sometimes done in conjunction with the affiliated Soil and Water Conservation District, or may be done by the county government internally. The water plans must per, 103B311:

- Address water management issues over the entire county
- Address problems in the context of the watershed units and groundwater systems

---

<sup>8</sup> Minnesota Association of Watershed Districts, <http://mnwatershed.govoffice.com>

- Be based on principles of sound hydrologic management of water, effective environmental protection, and efficient management
- Be consistent with local water management plans prepared by counties, and watershed management organizations wholly or partially within a single watershed unit or groundwater system
- Address water management issues over a 10 year period with five year implementation plans.<sup>9</sup>

## 4 Multi-level Coordination

Though the State has many departments that generally work independently of each other regarding water issues, the work they do supports the State Statutes. The State inter-agency actions are listed in Section 4.6, as well as the interactions between state, local and federal agencies listed in Section 4.3.

Many state laws have come about in some way or another because of two **major federal acts**, the **Clean Water Act of 1970** and the **Safe Water Drinking Act**. These two federal acts are briefly stated in this section.

### 4.1 Major Federal Acts

#### **Federal Water Pollution and Control Act – also called the Clean Water Act**

The Clean Water Act was enacted in 1972 and amended in 1977, when it became known as the Clean Water Act. This act established the template for all states and federal agencies to engage in regulating discharges of pollutants into the waters of the United States. The Environmental Protection Agency was subsequently charged with enforcing the Act. However, the US Army Corps of Engineers was given the responsibility to oversee the enforcement of section 404 of the Act. Therefore, the Environmental Protection Agency oversees the sections of the Act which deal with pollution control programs, such as wastewater standards in industrial and municipal discharges, water quality standards for all contaminants in surface waters, and for any discharge of any pollutant from a point source into navigable waters without a permit.

**Section 404** of the Act controls the dredging and filling activities in navigable waters. This portion of the act has been controversial with respect to dredge and fill activities in wetlands. The US Army Corps of Engineers oversees this portion of the Act; applications for permits by any agency or the public must go through the US Army Corps of Engineers. Based on the magnitude of the permit and if the applicant is a federal agency, a National Environmental Policy Act review would be called for. In the case of a non-federal applicant, the permit application will undergo review by the US Army Corps of Engineers and other agencies and the public as necessary before a permit is granted or denied.

**Section 319** of the Act pertains to non-point source management programs. The states have been delegated the authority to develop their own state programs, based on a set of standards identified by the Environmental Protection Agency. This section of the Clean Water Act also

---

<sup>9</sup> Clay County Local Water Management Plan, Draft 2006-2010, pg 6

provides grant funding to states to implement the program. Funding assistance is withheld if the state is not in compliance with the reporting process to the Environmental Protection Agency. This section of the Act also provides funding cost-share for groundwater quality protection.

**Section 303(d)** of the Act requires all states, territories and authorized tribes to develop a list of impaired waters. The impairments are determined through monitoring standards that each state has set, and have been approved by the Environmental Protection Agency. The law requires the jurisdictions to establish priority rankings for the impaired waters as listed in the “303(d)” list which the jurisdictions are required to submit to the Environmental Protection Agency. The subsequent “priority list generated” then forms the action to develop a “Total Maximum Daily Load” (TMDL) action plan to clean up the pollutant(s) that caused the water to be listed as impaired. It is quite a lengthy process for the jurisdictions to monitor the waters, set the priority lists, and establish TMDL action plans.

**Section 305(b)** of the Act requires a jurisdiction to set a designated use of an individual water body. Designated uses are beneficial uses that the States want their waters to support. These may include: swimmable, aquatic life, fishable, drinkable. Once a “designated use” has been set, then the water body must be monitored through means of analyzing biological, habitat, physical/chemical, and/or toxicity data and other information to determine:

- The degree of designated use support of the water body (fully supporting/threatened, partially supporting, or not supporting)
- If the designated uses are impaired, and if so, the causes or source of problem
- Degree of achievement of biological integrity using the state criteria
- Descriptive information such as the type and quality of data used for the assessment.

NOTE: the purpose of the 305(b) report is to convey the use support status of all surface waters statewide, while the purpose of the 303(d) list is to identify impaired water bodies for which a plan will be developed to remedy the pollution problem(s) (the TMDL). Based on this difference, when discussing water bodies that do not meet water quality standards, the term “non-support” is associated with the 305(b) report and the term “impaired” with the 303(d) list.

### **Safe Drinking Water Act (42 U.S.C. s/s300f)**

This Act was developed to specifically protect, improve and maintain quality drinking water in the United States. This act takes into account all **sources** of water that can potentially be used for drinking water purposes, including sources of water both above and below ground. The Safe Drinking Water Act also imposes strict standards by which public sources of drinking water supply their water.

(Additional federal agencies and laws are found in the Reference portion at the end of the document.)

## **4.2 Native American Inclusion**

### *Native American Structure in the United States*

Native American tribes are sovereign nations; as such they have the right to form and maintain tribal governments. The tribal units are designated by Reservations – geographically located lands that were granted to the tribes upon signing of various treaties between the Federal

Government and the tribes. The Reservation lands were provided by the Federal Government as “Trust lands” to be used by the tribes. Tribal governments have the authority to make laws and enforce those laws for their tribal members living on the Reservation. Tribal governments can tax tribal members and they can tax private companies who extract resources from Reservations. States cannot tax property within the Reservation, nor can they require members to pay state income taxes from work that is done on tribal lands.<sup>9</sup>

Federal agencies have a trust obligation under their treaties to diligently work with Native Americans through each of their respective programs. Most federal agencies have regional offices that work with the Native American tribes within that jurisdiction. The State of Minnesota also has representatives from the respective agencies that work with tribal governments.

#### *Minnesota Indian Affairs Council*

This council was established in 1963 and is the official liaison between the State and the 11 Tribal Governments within Minnesota. The Vision for the Minnesota Indian Affairs Council is: “*The Indian Affairs Council’s vision is to strive for the social, economic and political justice for all American Indian people living the State of Minnesota, while embracing our traditional cultural and spiritual values.*” The Mission statement reads: “**The mission of the Indian Affairs Council is to protect the sovereignty of the 11 Minnesota Tribes and ensure the well-being of American Indian citizens throughout the State of Minnesota.**”<sup>10</sup>

Governor Pawlenty signed Executive Order 03-05 “Affirming the Government-to-Government Relationship between the State of Minnesota and Indian Tribal Governments located within the State of Minnesota” on April 11, 2003. The basic premise of the Order was to establish that both governments play key roles in serving all the citizens of the State and that collaboration between all parties will ensure the services are efficiently provided.

### **4.3 Soil and Water Conservation Districts**

One of the most notable coordination of activities between local units of governments and state and federal agencies is that found between the Soil and Water Conservation Districts and the Minnesota Board of Water Soil Resources and US Department of Agriculture Natural Resource Conservation Service. The Soil and Water Conservation Districts are often housed and technically supported by the Natural Resource Conservation Service. Often, the Soil and Water Conservation Districts work closely with the Department of Natural Resources Forestry Division in efforts to establish windbreak conservation plantings to promote wildlife habitat and reduce wind erosion of soil. Soil and Water Conservation Districts also work with the Pollution Control Agency and Department of Health to protect water quality from surface runoff and manage pollutant sources in wellhead protection areas. The Soil and Water Conservation Districts work with agencies in regards to livestock feeding operations and wetlands identification and protection. They work closely with school groups to provide conservation education.

---

<sup>10</sup> Minnesota Indian Affairs Council, [http://www.cri-bsu.org/IA\\_weeb/htdocs/about/index.html](http://www.cri-bsu.org/IA_weeb/htdocs/about/index.html)

#### **4.4 Watershed Districts**

Watershed Districts work with other county, state and federal agencies to have effective watershed planning and management. Counties are required to have County level Water Management Plans; Watershed Districts are also required to have their own plans, and their plans must support the County's plans for those jurisdictions where the Watershed District overlaps. District watershed projects can get state and perhaps federal cost-share, once a plan is approved. With regards to the Red River Basin, Districts participating under the structure of the Red River Watershed Management Board have additional cost-share support.

#### **4.5 Red River Watershed Management Board**

The Red River Watershed Management Board was created in the mid-1970's to institute, coordinate and finance projects to alleviate flooding and to assure beneficial use of water in the watershed of the Red River of the North and its tributaries. The Board's focus is a basin-wide approach to water management, with an emphasis on reducing flood flows and flood damages.<sup>11</sup>

An important aspect of the Board is the prioritization system that it uses to determine which projects submitted by member Districts will be funded. They use a "STar" Value Method. The "S" represents adjusted storage volume of the project, while "T" is the relative value of the detention time in days. The overall goal of the priority system is to fund projects that will reduce peak mainstem (Red River) flows. A calculation worksheet has been developed, and a technical committee reviews the information for the process annually. The value of the worksheet is that it can be used early in the development stage of a proposal, and the applicant knows immediately, by working through the template, whether or not the objective for "STar" is being met.<sup>12</sup>

The Red River Watershed Management Board is also instrumental in the development of the River Watch Program in the Red River Basin. This program involves high schools in the collection of water samples and analysis for data enhancement for the Water Quality Monitoring Strategy and Citizen Monitoring Programs.

#### **4.6 Red River Basin Flood Damage Reduction Work Group**

Consensus-based mediation in 1998 resulted in the formation of an inter-agency work group. The mediation was aimed at resolving issues that had developed concerning permitting of flood damage reduction projects in the Red River Basin.

The development of the group began when state and federal agencies initiated an Environmental Impact Statement that was targeting cumulative impacts from Watershed District projects. The "Generic Environmental Impact Statement" was challenged in state district court in 1997. In May 1997, the Minnesota Legislature authorized funding for a "mediation" process to seek resolution of the issues and allow for implementation of flood damage alternatives in an effective and environmentally friendly manner. This whole process has been termed the "mediation process" and the product as the "mediation agreement".

---

<sup>11</sup> RRBC Inventory Report – Institutions, October 2000

<sup>12</sup> Red River Watershed Management Board, Governing Documents, 2000

Through the consensus-based process, the group developed flood damage reduction goals for the Red River Basin and identified flood damage reduction strategies and principles. The agreement provided the natural resource agencies, both state and federal, a chance to identify goals that would be understood and accepted by the parties. Lastly a comprehensive watershed planning process was developed to guide the individual district watershed plans as a means to coordinate efforts to achieve the goals set out by the group. The coordination effort is through the use of Project Teams. The Project teams will work with the development of a project from formation to conclusion. The Project Team consists of appropriate stakeholders (landowners, citizens, interest groups) and includes at least one person from each agency that is part of the mediation process (watershed districts, local government, state, federal, and tribal).

The Flood Damage Reduction Work Group continues to meet quarterly as a means to continue the conflict resolution and coordinate watershed planning efforts.<sup>13</sup>

#### **4.7 Minnesota's Water Quality Monitoring Strategy**

The Minnesota Pollution Control Agency and partnering agencies have teamed up to conduct a variety of surface and ground water monitoring activities. The Water Quality Monitoring Strategy provides an overall strategy to guide the efforts so the information gathered will satisfy the Environmental Pollution Agency's requirements for a statewide monitoring program.

Agencies involved include:

- Citizen Volunteer Monitoring
- Minnesota Department of Agriculture
- Minnesota Department of Natural Resources
- Metropolitan Council Environmental Services
- Water Resources Center (University of Minnesota/US Geological Survey)
- US Geological Survey

Three types of monitoring will be conducted by one or more of the cooperating partners:

1. Condition Monitoring will be used to identify the overall environmental status and trend of individual water bodies or aquifers. Monitoring will be done in 10-year cycles for both lakes and streams.
2. Problem Investigation Monitoring will be used to investigate specific problems or protection concerns to develop management approaches for improving or protecting the resource.
3. Effectiveness monitoring strategy is used to determine the effectiveness of specific regulator or voluntary management actions taken to remediate contaminated water.<sup>14</sup>

#### **4.8 Department of Natural Resources, Division of Fish and Wildlife**

The Fisheries Section works closely with other Department of Natural Resources Divisions. The Ecological Services Division and Fisheries Section work hand-in-hand with aquatic exotic species and stream habitat improvement. The networking between these two intra-agency departments, along with local organizations, has led to restoration of the Red River for certain species. One such fish is the Sturgeon—this fish has been successfully reintroduced in to the Red

---

<sup>13</sup> Red River Basin Flood Damage Reduction Work Group, Agreement, December 9, 1998

<sup>14</sup> Minnesota's Water Quality Monitoring Strategy, 2004-2014, Minnesota Pollution Control Agency

River drainage system and is expected to live sustainably, since the stream restoration has altered or removed low head dams.

#### 4.9 Division of Fish and Wildlife and Division of Park and Recreation

These two agencies work closely together to implement public access for fishing, limited hunting and public education efforts on state lands. The State Parks are often associated with lakes and access for fishing is a managed program between the two agencies.

#### 4.10 Minnesota Forest Resources Council

The Council is made up of 13 governor-appointed members. It was created in 1995 through the Minnesota Sustainable Forest Resources Act. The Council provides opportunities for discussion on forest management issues and provides sound forest management recommendations to the Governor, federal, state and local agencies.

## 5 Implementation

The number of programs within the five major state agencies, and two local governmental units which share in the management of Minnesota’s water, do not allow the following list to be comprehensive. However, the list illustrates the variety of policy instruments supporting its water strategies, including institutional instruments (strategies), regulatory (laws), expenditure (education/awareness, research/development), and economic (taxes/incentives). The programs are listed using the general areas of focus and activity in the management of the state’s waters.

### 5.1 Specific Policy Instruments

Activity Theme	Legislation	Key Policy Instruments	Status
1. Water Quality	MN Department of Health	Drinking Water Protection Program	In operation
	Pollution Control Agency	Water Quality Point-Source Plan	In operation
	Pollution Control Agency	Water Pollution Control Revolving Fund	In operation
	Pollution Control Agency	Stormwater Program	In operation
	Pollution Control Agency	MN Water Quality Monitoring Strategy 2004-2014	In operation
	Pollution Control Agency	Impaired Waters Program - Water Quality Assessment 303(D) and 305(B) reports	Annual reporting to Environmental Protection Agency
	Red River Watershed Management Board	River Watch Program	In operation
2. Conservation	Dept. of Natural Resources	Stream Habitat Protection & Restoration Program	In operation

	Dept. of Natural Resources	Shoreline Management Program	In operation
	Dept. of Natural Resources	River Resource Management Program	In operation
		Wetlands Protection Act	In operation
		Wetland Banking	In operation
		319 Buffer Strip Program Red River Basin Commission	2004-2006
3. Use and Allocation	Dept. of Natural Resources	Water Appropriation Permit Program	In operation
	Dept. of Natural Resources	Stream Hydrology Program	In operation
	Dept. of Natural Resources	Surface Water Technical Analysis Program	In operation
4. Water Supply/Resources	Dept. of Natural Resources	Stream Hydrology Program	In operation
	Dept. of Natural Resources	Surface Water Technical Analysis Program	In operation
		State Statute 103H – Groundwater Protection	In operation
		Wellhead Protection	In operation
		Source Water Protection	
5. Flooding	Dept. of Natural Resources	Floodplain Management Program	In operation
		Flood Damage Reduction Work Group and 1998 Mediation agreement	In operation
6. Drainage		State Statute 103D establishes drainage law	
		State Statute 103E establishes drainage authority	
7. Education	Wetland Health Education Program - Pollution Control Agency	Citizen Lake Monitoring Program Citizen Stream Monitoring Program	In operation
	Pollution Control Agency	Environmental assessments	In operation
	Department of Natural Resources	Water Education for Teachers (WET) Shoreline and Lakes Management program	In operation In operation
	Red River Watershed Mgmt. Bd.	River Watch Program	In operation
Funding	Pollution Control Agency	Water Pollution Control Revolving Fund	In operation
		319 – Non-point source pollution and TMDL grants	In operation

	Board of Water and Soil Resources	Natural Resource Block Grant	In operation
		Reinvest in Minnesota (State conservation cost-share)	In operation
	State-Federal Easements	Conservation Reserve Enhancement Program	In operation
	Soil and Water Conservation Districts	Self funding mechanisms	In operation

## 5.2 Funding

The majority of state agency funding comes through the General Fund and the Environmental Fund. The agencies, legislature and the Governor’s office work to establish and balance the budget requests from the agencies and the funding capacity as determined by the legislature with the funding level that the Governor will support. Some state agencies receive funding from the federal government in support of the delegated authority that the federal government provides through predominantly the Clean Water Act and the Safe Drinking Water Act. Section 319 of the Clean Water Act provides for granting funding to the states, once a state has developed an approved Assessment Report and submitted it to the Environmental Protection Agency. Total Minnesota funding for fiscal year 2005 water programs amounted to approximately \$446.8 million. Of that total, federal contribution amounted to \$73.7 million, General Fund was \$42.5 million, bonding \$294.8 million and collected fees \$35.77 million.<sup>15</sup>

Watershed Districts have taxing authority which, when exercised, assesses property within each county according to a certain levy formula. The counties collect the assessments during the normal county tax collection period. Watershed Districts can also request cost-share funds from the state for projects. Watershed Districts that have formed *Joint Powers Board Agreements* with other districts are, by law, allowed to assess properties at a higher rate; the assessment is then used to support the Joint Powers Board and the board will then assist the watershed district with projects. Forming joint powers agreements helps leverage funds to do whole watershed basin planning, as opposed to just local planning.

Soil and Water Conservation Districts generally receive base funding allocation from their respective counties. Additionally, they can apply for cost-share funds from the state as a means to assist local landowners with conservation projects. Many districts buy trees and shrubs for resale. These vegetative materials are used by landowners to create windbreaks for soil erosion projects and for wildlife habitat improvement. The districts may also rent equipment or provide the labor and equipment to plant vegetative buffers where needed for soil and water conservation projects. Districts may also receive funding from non-governmental conservation organizations targeting certain conservation practices.

---

<sup>15</sup> Environmental Quality Board

## 6 Monitoring, Evaluation and Improvement

The Pollution Control Agency completed a Water Quality Assessment for streams and lakes in the Basin in 1996. The assessments were completed for a report to the US Congress to meet the reporting requirements under Section 305(b) of the Clean Water Act. The purpose of this section of the Act is to determine:

- to what extent the water bodies in Minnesota meet the goals of the Act and attain State water standards, and
- share the information with planners, citizens and other partners in basin planning and watershed management activities.

The Pollution Control Agency is also involved with determining or classifying the waters of the state based on what “uses” the water body supports. **State of Minnesota Rule 7050** pertains to the *“maintenance of water quality and aquatic habitats; definitions of water use classes; standards for dischargers of sewage, industrial, and other wastes; and standards of quality and purity for specific water use classes. This chapter shall apply to point source and nonpoint source discharges and to physical alterations of wetlands....”*

Water use classes include:

- Class 1 - domestic consumption
- Class 2 - aquatic life and recreation
- Class 3 - industrial consumption
- Class 4 - agriculture and wildlife
- Class 5 - aesthetic enjoyment
- Class 6 – other
- Class 7 – limited resource value waters

The classification of the water body determines what type of water protection the water receives. The “protection” mechanism is also found in the federal Clean Water Act, through the use of setting “Total Maximum Daily Load” levels determined for each water body that exceeds certain chemical or biological standards set by the State. These Total Maximum Daily Loads form the next basis for developing a list of *“impaired water bodies.”* The State then develops plans for those rivers or lake systems to protect the water bodies so they can reach the standard of use that it has been classified as.

The staff from the Environmental Analysis and Outcome Division of the Pollution Control Agency Division monitor and evaluate the physical, chemical and biological conditions of the state’s environment. The Division conducts trend analysis for:

- Biological Monitoring,
- Citizen Lake Monitoring
- Citizen Stream Monitoring Programs.

The Division also has other programs that deal with water resources. The Division sets standards for water resources and identifies environmental threats and impacts to humans and ecosystem health. Data is made available to the public, agency leadership, staff and stakeholders throughout the state.

## **6.1 Biological Monitoring**

This monitoring effort tracks the health of the resource by measuring and evaluating the condition of biological systems and the response to those systems from the consequences of human activities for those systems. More can be found about the program by accessing [www.pca.state.mn.us/water/biomonitoring](http://www.pca.state.mn.us/water/biomonitoring). In the past, aquatic ecosystems were monitored from a chemistry standpoint, but because chemistry changes alone could not show all the impacts caused by human action, biological monitoring looks at a broad range of habitat and aquatic life variables in streams and wetlands.

Biological monitoring in streams, particularly for fish, is a priority for the Pollution Control Agency. Because fish species are diverse and occupy positions throughout the aquatic food web and inhabit even the smallest streams, the Pollution Control Agency uses them as indicators for water quality. Biological assessments are used by Minnesota for water resource management, including:

- Long-term condition monitoring (status and trends)
- Aquatic life use assessment (305b)
- Total Maximum Daily Load (303d) listing, de-listing, diagnostic and effectiveness of implantation
- Problem investigation monitoring
- Effectiveness monitoring
- Issuing National Pollution Discharge Elimination System (NPDES) permits, 5 year reviews.

The Pollution Control Agency also uses aquatic invertebrate bio-monitoring to assess impacts of anthropogenic stress in aquatic systems. Over 25 years' worth of data have been collected and analyzed to measure the impact human disturbance has had on the aquatic resource. The sensitivities that macro-invertebrates show concerning water temperature, substrate composition, amount of dissolved oxygen and other water quality measurements make them ideal indicators of aquatic ecosystem health.

The Pollution Control Agency also has recently begun using a measurement of algal populations to relate to nutrient concentrations and biochemical oxygen demand in streams.

## **6.2 Citizen Lake Monitoring**

The Pollution Control Agency and Minnesota Audubon Society have collaborated to develop sampling protocols, analytical tools and training materials to provide to citizen groups to be used to assess wetland health. This program is now known as the Wetland Health Evaluation Program (WHEP). This program has received national recognition and is used as a model for other locations around the nation. The information collected is being used by water resource and city planning decision-making.

## **6.3 Citizen Stream Monitoring Program**

The Citizen Stream Monitoring Program (CSMP) combines the knowledge and commitment of interested citizens with the technical expertise and resources of the Minnesota Pollution Control Agency to develop a more comprehensive statewide network for monitoring the state's 92,000

miles of streams. Any person or group willing to devote a small amount of time and energy to conduct simple stream checks on a regular basis can become a volunteer monitor.

The program aims to increase understanding of how human activities such as land use affect water quality and to gain insight on how these human activities affect the benefits gained from clean water, such as swimming and fishing. Increased stream monitoring helps identify problems, develop strategies and prioritize activities for improving water quality, and tracks progress toward improvement.

## **7 Contacts**

The Red River Basin Commission thanks the following individuals for their assistance in reviewing this document:

John Wells, Environmental Quality Board, State of Minnesota  
Pete Waller, Board of Water and Soil Resources, State of Minnesota  
Molly MacGregor, Pollution Control Agency, State of Minnesota

## **Appendix A**

Supporting documents for federal laws and agencies: Source, Red River Basin Commission, Inventory Reports, 2000.

### **Federal Laws**

#### **Endangered Species Act**

The Endangered Species Act promotes the conservation of endangered plants and animals as well as the habitats in which these federally listed species are found. The US Fish and Wildlife Service maintains a list of endangered plants and animals. Under the provisions of this act, it is unlawful to participate in the “taking” of any of the listed endangered species. It is also unlawful to adversely manipulate the habitat of an endangered species in addition to the import, export, interstate, and foreign commerce of listed species.

#### **Federal Insecticide, Fungicide, and Rodenticide Act**

This Act was primarily developed to give the Environmental Protection Agency greater control over the sale and use of pesticides. Later amendments to the bill required that all pesticides used in the United States be registered and that all persons involved in their application be certified. By requiring the registration of pesticides, the Environmental Protection Agency can better determine the potential environmental risks posed by these chemicals

#### **Wild and Scenic River Act**

In the late 1960’s, it became apparent that a number of rivers within the United States were being either dammed, dredged, diked, diverted, or otherwise degraded at an alarming rate. In response, Congress developed the Wild and Scenic River Act, which designated a number of rivers having outstanding characteristics to be left in their original free-flowing condition. This act protects

designated rivers from most development (including Federally licensed dams and diversions) on publicly held lands. However, development on private land along the corridor of these protected river segments is still permitted.

### **Rivers and Harbors Act**

This act prohibits construction of any structure that will influence or adversely affect the navigation or flow of any US waterway. Any construction, modification or improvements to rivers or navigable waterways must first be approved by the Army Corps of Engineers.

### **Fish and Wildlife Coordination Act**

This act requires the Secretaries of Agriculture to work with State and Federal agencies to “protect, rear, stock and increase” quantities of game. Also, the Fish and Wildlife Coordination Act requires studies of sewage, trade wastes and other polluting substances to see how they influence or adversely affect wildlife. A later amendment required consultation with the Fish and Wildlife Service before construction or modification of any stream or river structure (under Federal permit or license) that may influence wildlife numbers in the affected areas.

### **Floodplain Management Executive Order 11988**

Prior to the development of Executive Order 11988, studies had shown the number of flood damages losses throughout the US were steadily increasing, despite increased funding and construction of flood control devices. Results of previous studies further determined that non-structural, in addition to structural mitigation efforts, would be needed to more effectively deal with flood hazards.

Executive Order 11988 directed Federal agencies to make efforts toward reducing flood damages through mitigation efforts when avoidance was not permissible. Executive Order 11988 also outlined a mandatory cooperation between the Water Resources Council, Council on Environmental Quality, and the Federal Insurance Administration. This cooperation effort was encouraged to improve procedure development within these agencies.

### **National Environmental Policy Act (NEPA)**

When federal monies are used to develop or institute major federal programs, the federal agency must also follow the National Environmental Policy Act. The National Environmental Policy Act is the national charter for protection of the environment in the United States. It was first passed by Congress in 1970. It establishes policies, sets goals and provides the means for **federal agencies** to inform the public of federal decisions affecting the environment. It further provides that federal agencies must have high quality, accurate scientific analysis, expert agency comments, and public scrutiny before **major** projects are undertaken. National Environmental Policy Act documents must concentrate on pertinent issues significant to the action that is being undertaken. National Environmental Policy Act documents are intended to help public officials make better informed decisions to protect restore and enhance the environment.

The Council on Environmental Quality is an independent group that has developed the regulations that the National Environmental Policy Act documents must comply with. The Environmental Protection Agency reviews documents submitted by the federal agency at the completion of their work and then approves or disapproves the documents submitted. If the

documents are disapproved, the Environmental Pollution Agency works with the submitting agency to bring the documents into compliance, before any final decision can be made by the lead agency. This process provides checks and balances to all federal projects of significant magnitude.

### **Food Securities Act (1985, 1996, 2002)**

The Farm Security and Rural Investment Act of 2002 (Farm Bill) represents the single most significant commitment of resources toward conservation on private lands in the Nation's history. The legislation responds to a broad range of emerging natural resource challenges faced by farmers and ranchers, including soil erosion, wetlands, wildlife habitat, and farmland protection. Private landowners will benefit from a portfolio of voluntary assistance, including cost-share, land rental, incentive payments, and technical assistance. The 2002 Farm Bill places a strong emphasis on the conservation of working lands, ensuring that land remain both healthy and productive. The conservation provisions build upon past conservation gains and respond to the call of farmers and ranchers across the country for additional cost-share resources. The 2002 Farm Bill also ensures greater access to the programs by making more farmers and ranchers eligible for participation.

## **Federal Agencies**

### **Department of Defense**

#### **US Army Corps of Engineers**

##### **Mission/Purpose**

The US Army Corps of Engineers provides engineering, management and technical support to the Department of Defense, other federal agencies, and state and local governments. Functions include planning, designing, building, operating, and maintaining projects providing flood control, water supply, hydroelectric power, navigation, environmental restoration/protection, recreation, disaster relief, and recovery assistance.

##### **Authority**

The legislative origins of the US Army Corps of Engineers' regulatory program include the Rivers and Harbors Acts of 1890 (superseded) and 1899 (33 U.S.C. 401, et seq.). Various sections establish permit requirements to prevent unauthorized obstruction or alteration of any navigable water of the United States. The most frequently exercised authority is contained in Section 10 (33 U.S.C. 403), which covers construction, excavation or deposition of materials in, over or under such waters or any work which would affect the course, location, condition or capacity of those waters. The authority is granted to the Secretary of the Army. Other permit authorities in the Act are Section 9 for dams and dikes, Section 13 for refuse disposal and Section 14 for temporary occupation of work built by the United States. Various pieces of legislation have modified these authorities but not removed them.

In 1972, amendments to the Federal Water Pollution Control Act added what is commonly called Section 404 Authority, (33 U.S.C. 1344) to the program. The Secretary of the Army, acting through the Chief of Engineers, is authorized to issue permits, after notice and opportunity for public hearings, for the discharge of dredged or fill material into waters of the United States at

specified disposal sites. Selection of such sites must be in accordance with guidelines developed by the Environmental Protection Agency in conjunction with the Secretary of the Army; these guidelines are known as the 404(b)(1) Guidelines.

Two regional offices administer programs and regulatory activities in the Red River Basin. The St. Paul District is responsible for planning activities for all states in the basin plus permitting activities associated with the Minnesota and South Dakota portion of the basin. The Omaha District Office is responsible for permitting activities in the North Dakota portion of the basin.

## **US Department of Interior**

### US Fish and Wildlife Service

#### Mission/Purpose

The mission of the US Fish and Wildlife Service is “working with others to conserve, protect, and enhance fish and wildlife and their habitats for the continuing benefit of the American people.”

#### Authority

The US Fish and Wildlife Service is involved with federal permitting processes requiring consultation concerning effects on threatened and endangered species. Consultations are associated with such laws as the implementation of the Clean Water Act and the National Environmental Policy Act that requires analysis of impacts of projects and programs. Activities include implementation of the Endangered Species Act (listing, reclassifying and delisting species), implementation of the North American Waterfowl Management Plan, management of the National Wildlife Refuge System, conservation of migratory birds, fisheries and wildlife research, development and management of fish hatcheries, habitat conservation, administration of federal aid, Pittman-Robertson and Dingell-Johnson Program funds and wildlife law enforcement.

### US Geological Survey

#### Mission/Purpose

The mission of the US Geological Survey is “to provide the Nation with reliable, impartial information to describe and understand the earth; minimize loss of life and property from natural disasters; manage water, biological, energy, and mineral resources; and enhance and protect our quality of life.”

The US Geological Survey works with local, state and federal agencies and Indian Tribes to collect data and conduct interpretive studies on water, biological, energy and mineral resources to enable better management of natural resources. They are the lead federal agency collecting and interpreting water quality and quantity resource data and information, including monitoring stream flows, lake levels and ground water levels of numerous aquifers.

The US Geological Survey provides a variety of additional water-related databases including: real-time water data and National Water Information Systems. These databases keep historical records of stream flows at more than 20,000 locations. The Suspended-Sediment Database provides a record of sediments and associated contaminants found within the nation’s

waterways. Other information includes Water Use Maps, a Hydro-Climatic Data Network and various GIS data for water resources.

#### Authority

The Agency has no regulatory, permitting or taxing authority.

For further information, contact their Web site at: <http://www.usgs.gov/>.

### Bureau of Indian Affairs

#### Mission/Purpose

The Mission of the Bureau of Indian Affairs is “to enhance the quality of life, to promote economic opportunity, and to carry out the responsibility to protect and improve the trust assets of American Indians, Indian tribes, and Alaska natives.” This is accomplished through the delivery of quality services, maintaining government-to-government relationships within the spirit of Indian self-determination.

The Bureau of Indian Affairs is responsible for administration of federal programs for federally recognized Indian tribes and promoting Indian self-determination. In addition, the Bureau has a trust responsibility emanating from treaties and other agreements with Native groups. The Bureau provides other services, including, but not limited to, law enforcement, social services, education, housing improvements, loan opportunities for Indian businesses, and leasing of land.

The Bureau of Indian Affairs provides federal services to approximately 1.2 million American Indians and Alaskan Natives who are members of more than 557 federally recognized Indian tribes in Alaska and the contiguous United States. The Bureau administers 43,450,266.97 acres of tribally owned land, 10,183,530 acres of individually owned land, and 417,225 acres of federally owned land held in trust status.

#### Authority

Under the authority of the Native American Graves Protection and Repatriation Act, the Bureau of Indian Affairs has the authority to protect Indian burial grounds both above and below the earth’s surface.

#### Databases

The Bureau of Indian Affairs maintains a number of map and information products. These include a variety of maps depicting Indian lands in the United States. The most detailed of these is The Land Title Mapper.

For further information, contact their Web site at: <http://www.doi.gov/bureau-indian-affairs>.

### **Homeland Security Administration**

#### Federal Emergency Management Agency

#### Mission/Purpose

The mission of the US Federal Emergency Management Agency is “to reduce loss of life and property and protect our nation’s critical infrastructure from all types of hazards through a

comprehensive, risk-based, emergency management program of mitigation, preparedness, response and recovery.”

The Federal Emergency Management Agency plays a key role in managing the nation’s water sources, as well as providing standards for mitigation measures. It provides Flood Insurance Rate Maps for communities enrolled in the National Flood Insurance Program.

#### Authority

The Federal Emergency Management Agency was founded in 1979 by Executive Order by President Carter to merge and better coordinate the disaster related responsibilities of numerous federal agencies. The agency administers the National Flood Insurance Program.

#### Databases

The Federal Emergency Management Agency maintains an extensive database of flood related maps through its Map Service Center, which include Digital Flood Insurance Rate Maps, Flood Insurance Rate Maps, Digital Q3 flood data, community status in the National Flood Insurance Program, Flood Map Status Information Service, and Letters of Map Change. It also has a database of federally claimed disasters from past years including the state, county and type of disaster. Data regarding the allocation of disaster funds is also available. The information includes the amount of disaster funds allocated, what the funds were allocated for and the county in which the funds were distributed.

For further information, contact their Web site at: <http://www.fema.gov/>.

#### US Coast Guard

The **Eighth Coast Guard District**, with district office in New Orleans, LA, is comprised of North Dakota, South Dakota, Wyoming, Nebraska, Iowa, Colorado, Kansas, Missouri, Kentucky, West Virginia, Tennessee, Arkansas, Oklahoma, New Mexico, Texas, Louisiana, Mississippi and Alabama and parts of Pennsylvania, Ohio, Indiana, Illinois, Wisconsin, Minnesota, Florida and Georgia to the Gulf of Mexico (the coastal end of the Seventh and Eighth Coast Guard District land boundary.)

Because the Red River is a “navigable” water under the definition, that it borders between two states, the US Coast Guard has authority to the extent of commerce and therefore the licensing of vessels and operators in regards to commerce. This applies to vessels and operators hired for recreation purposes, such as fishing or tour guides.

#### **Independent Federal Agency**

##### Environmental Protection Agency

##### Mission/Purpose

The primary purpose of the Environmental Protection Agency is to protect the integrity and quality of the nation’s waters and environment. The mission of the Environmental Protection Agency is “to protect human health and to safeguard the natural environment, air, water, and land upon which life depends.”

The Environmental Protection Agency actively enforces Federal regulations in the Red River Basin and throughout the country to ensure human health and to reduce environmental risks. The Environmental Pollution Agency is also involved in working with other nations, such as Canada, to protect the global environment.

#### Authority

The Environmental Protection Agency has authority under the Clean Water Act to establish national criteria for water quality standards. The state water quality standards are based upon the national criteria.

#### Databases

The Environmental Protection Agency maintains the *STORage and RETrieval System for Water and Biological Monitoring Data (STORET)*, a database consisting of records related to water quality and biological monitoring data. All states are required to enter their water quality measurements into STORET, so that they can be accessed by the agency and the public for use in the 319 program.

### **United States Department of Agriculture**

#### Natural Resources Conservation Service

The Natural Resources Conservation Service (formerly known as the Soil Conservation Service) was developed in response to the soil erosion problems of the 1930's. Today, the Natural Resource Conservation Service is still primarily involved in working with private landowners to preserve the soil, water, plants, air, and animals of the United States. To more effectively implement conservation practices at the local level, the Natural Resources Conservation Service works with more than 3,000 Soil and Water Conservation Districts throughout the country. The Natural Resources Conservation Service works together with the Farm Service Agency to implement the Farm Bill Act. The Farm Bill Act is now in its third generation and the current Act expires in 2007.

#### Mission/Purpose

The mission of the Natural Resources Conservation Service is “to provide leadership in a partnership effort to help people conserve, improve, and sustain natural resources and the environment.”

#### Authority

The agency has no specific regulatory or permitting authority other than project and program implementation. It must comply with federal law concerning the Clean Water Act, the Endangered Species Act, Swampbuster (a provision of the Farm Bill which prohibits draining of wetlands), and The National Environmental Policy Act.

#### Farm Service Agency

#### Mission/Purpose

The mission of the USDA Farm Service Agency is “to ensure the well-being of American agriculture, the environment, and the American public through efficient and equitable administration of farm commodity programs; farm ownership, operating and emergency loans; conservation and environmental programs; emergency and disaster assistance; domestic and international food assistance and international export credit programs.” The Farm Service Agency promotes the development and implementation of environmentally sound farm programs to ensure protection of the nation’s natural resources. In promoting these types of programs, the Farm Service Agency contributes to maintaining cleaner surface and ground water sources through programs such as the Conservation Reserve Program and Swampbuster provisions, both are part of the current Farm Bill program.

#### Authority

To qualify for market transition payments involving the commodity programs, farm operators must agree to abide by the Conservation Compliance and the Wetland Conservation (Swampbuster) provision of the 1996 Farm Bill.

### **Department of Commerce**

#### National Oceanic and Atmospheric Administration, National Weather Service

##### Mission/Purpose

The mission of the National Weather Service is to “provide weather, hydrologic, and climate forecasts and warnings for the United States, its territories, adjacent waters and ocean areas, for the protection of life and property and the enhancement of the national economy.”

#### Authority

The National Weather Service has no permitting or taxing authority.

#### Databases

The National Oceanic and Atmospheric Administration maintains and provides a broad range of databases. Some of the general data categories include evaporation, heating and cooling days, maps and charts, precipitation, radar, relative humidity, satellite imagery, severe weather, soil temperature, sunrise/sunset information, temperature, upper air, water and wave, winds, and health issues.

For further information, contact their Web site at: <http://www.noaa.gov> .