



Minnesota Board of Water and Soil Resources.
Minutes.

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7/23/97

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**BOARD OF WATER AND SOIL RESOURCES
CONFERENCE ROOM, ONE WEST WATER STREET
ST. PAUL, MINNESOTA 55107
JULY 23, 1997**

BOARD MEMBERS PRESENT: Kathleen Roer, Barbara Uppgaard, Allan Oehlke, Leland Coe, Marvell Tripp, Dwain Otte, Tim Hvidsten, Ginny Imholte, Jim Dahlvang, Darrell Bruggman, Barbara Cobb.

BOARD MEMBERS ABSENT: Glenn Annexstad

AGENCY MEMBERS PRESENT:

Jim Anderson, Minnesota Extension Service (MES)
Wayne Edgerton, Department of Natural Resources (DNR)
Kim Benson-Johnson, Department of Health (MDH)
Marge Velky, Pollution Control Agency (PCA)
Bob Patton, Department of Agriculture (MDA)

OTHERS PRESENT:

Franklin Denn, Minnesota Association of Townships (MAT)
Ray Bohn, Minnesota Association of Watershed Districts (MAWD)

STAFF PRESENT:

Ron Harnack, Dale Krystosek, Dan Eklund, John Jaschke, Barbara Ohman, Jim Birkholz, Marybeth Block, and Mary Jo Anderson

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Chair Roer called the meeting to order at 9:05 a.m.

97-49 **Adopt Agenda** - Moved by Barbara Uppgaard, seconded by Ginny Imholte, to accept the agenda as presented. Motion passed on a voice vote.

97-50 **Minutes of June 25, 1997** - Moved by Dwain Otte, seconded by Allan Oehlke, to approve the minutes of June 25, 1997, as circulated. Motion passed on a voice vote.

Reports

Chair's Report - Chair Roer attended the Environmental Cluster meeting. She reported that Bernie Oman, Governor's Chief of Staff, will be attending the Environmental Cluster meetings which will be held twice a month in the Governor's office.

Chair Roer introduced Leland Coe, newly appointed board member.

Executive Director's Report - Ron Harnack reported that he, Greg Larson, and Wayne Zellmer have been busy with the "Minnesota Recovers" task force for flood control. Ron stated that discussion on the Conservation Reserve Program (CRP) have been taking place. Ron reported that the management team met for two days, July 8-9, at Riverwood Conference Center in Monticello. Ron stated that the Management Analysis Division of the Department of Administration has been asked to review our agency structure. Ron met with Sharon Clark and Paul Burns at MDA; Ron and Chair Roer will be meeting with DNR, PCA, MES, and MDH over the next few weeks to meet with commissioners regarding voting membership.

Dispute Resolution Committee (DRC) Report - Marv Tripp stated that there are no appeals pending this time; a possible appeal may come forward with the Metropolitan Airport Commission.

Education Committee Report - Barb Uppgaard reported that the education committee met in Redwood Falls on June 25. The committee discussed the education strategy; staffing options; and training definitions. Jim Birkholz will prioritize the board conservationists' needs assessment and the focus throughout the state; Susan will redevelop the educational strategy. The education committee will have a strategy for the Board's review at the August meeting in Crookston.

Cost-Share/Soil Conservation Committee Report - Dwain Otte reported that the cost-share committee met yesterday to discuss options; the committee will meet again in August, while in Crookston.

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Wetlands Committee Report - Darrell Bruggman reported that the wetlands committee met this morning; Darrell will defer comments until later in the meeting.

Financial Oversight Committee (FOC) Report- Ginny Imholte reported that the committee will meet to review the accounting package proposal.

Dwain Otte reported that he and Ron Shelito attended the NACD North Central Regional Meeting in Evansville, Indiana last week. He stated that was a productive meeting, urban issues were addressed, well attended.

Barb Cobb reported that she attended the Metro Association of SWCDs meeting. The meeting focused on a total statewide exchange program for mentoring, understanding and communication -- one mission as a whole, but unique as separate areas.

Allan Oehlke reported that he attended a township meeting with the discussion focused on livestock production, feedlot issues, and agricultural landuse. Allan asked where does BWSR fit in; are we responsible for protection of agricultural landuse? Discussion followed. Chair Roer stated that this is an education process problem with local governmental units; there is a need for good township planning and zoning. Ron stated that we will contact representatives from townships, counties, producers, MDA, PCA, MES, and FLAG (feedlot and manure management advisory group) and discuss these issues at the September meeting.

Agency Reports

Jim Anderson, MES, stated that the College of Agriculture and MES at the U of M, had a legislative initiative for sustainable development; additional staffing will be hired at the experiment stations for this initiative. Jim reported that he will be the voting MES representative to BWSR.

Marge Velky, PCA, stated that on behalf of Wayne Anderson and herself, they have really enjoyed attending the BWSR meetings; and thanked the Board for the opportunity. She stated that Commissioner Peder Larson will now be attending the BWSR meetings.

Kim Benson-Johnson, MDH, stated that MDH is still dealing with flood issues. She stated that while she will continue attending the BWSR meetings, Kelli Johnson will be attending as voting representative.

Bob Patton, MDA, stated that he would like to participate in the discussion on feedlot issues at the September meeting. Bob reported that MDA has an LCMR project to evaluate all agricultural land preservation projects.

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Wayne Edgerton, DNR, reported that DNR would like to see an education and information blitz to provide information to landowners before the next CRP sign-up. Wayne stated that many CRP options are confusing to landowners. Wayne thanked the Board for the opportunity to be a non-voting member; he will continue to attend the meetings with Commissioner Rod Sando, but will not be voting.

Consent Agenda

97-51** **Overview of Wadena County Pre-Settlement Wetland Issue** - Dale Krystosek briefly presented background information on this wetland issue. Darrell Bruggman stated that the wetland committee met to review this issue and recommended approval. Moved by Darrell Bruggman, seconded by Dwain Otte, to reclassify Wadena County as having over 80% pre-settlement wetlands. Motion passed on a voice vote.

97-52** **City of Bloomington Comprehensive Wetland Plan** - Scott Theine, drainage engineer for Bloomington, briefly presented background information; he thanked Barbara Ohman, John Jaschke and Phil Belfiori for their assistance. Darrell Bruggman reported that the wetland committee reviewed this plan and recommends approval; staff recommends this as a model plan for the metro area. Moved by Darrell Bruggman, seconded by Dwain Otte, to approve the City of Bloomington Comprehensive Wetland Plan. Motion passed on a voice vote.

97-53** **Public Road Wetland Impact Mitigation Program** - Barbara Ohman briefly presented an update on the public road impacts from 1996 and also the public road projections for 1997. Darrell Bruggman stated that the wetland committee reviewed the public road wetland impact mitigation program and recommends approval. Moved by Darrell Bruggman, seconded by Barb Cobb, to authorize staff to move forward with the proposed projects. Motion passed on a voice vote.

97-54** **Overview of Amendments to Pelican River Watershed District Revised Management Plan** - Barbara Uppgaard reported that the northern review committee met to review the amendments to the Pelican River Watershed District Revised Management Plan and recommends approval. Moved by Barbara Uppgaard, seconded by Ginny Imholte, to approve the amendments to the Pelican River Watershed District Revised Management Plan. Motion passed on a voice vote.

97-55** **Crow Wing County Water Plan** - Barbara Uppgaard reported that the northern review committee met to review the Crow Wing County Water Plan and recommends approval. Moved by Barbara Uppgaard, seconded by Allan Oehlke, to approve the Crow Wing County Water Plan. Motion passed on voice vote.

Chair Roer called for a break in the meeting at 10:30 a.m. The meeting reconvened at 10:45 a.m.

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Old Business

Discussion of Draft Strategic Plan and Mission Statement - Jim Birkholz and Marybeth Block presented the draft strategic plan and mission statement. Barbara Uppgaard stated that shorter is not better, she prefers the mission statement on page four. Discussion followed. Consensus of the board to use the word "assist" -- the mission statement is: "The mission of the Minnesota Board of Water and Soil Resources is to assist local governments to manage and conserve our irreplaceable water and soil resources." Barbara Uppgaard stated that this is an outstanding document and commended Marybeth and Jim for their efforts. A redraft will be prepared for final documentation. Jim thanked board members for their ideas and suggestions. Jim recognized Marybeth's accomplishments on the document. Chair asked that draft III be distributed and final action to be taken at the September meeting.

"Minnesota Recovers" - Ron Harnack reported that \$694,000,000 has been requested for flood recovery efforts; financial assistance; owner rehabilitation and reconstruction. A bill is being introduced to congressionally provide for 90-10 rather than 75-25 to counties immediately adjacent to the border states. Tim Hvidsten stated that approximately 60% of people will not return to their homes; relocation will occur under the buy-out program. Ron stated that BWSR and DNR had been asked to provide proposals that would address the impacts resulting from the Flood of 1997. Ron stated that BWSR and DNR have submitted proposals to Representative Finseth and Senator Doug Peterson (co-chairs of Flood Disaster Committee) for assistance from RIM Reserve Flood Response and Conservation Practice Cost-Share for Flood Recovery. Ron stated that the financial package will be distributed to members when this is finalized.

Special Local Water Planning Challenge Grants for Flood Related Efforts - Ron requested that \$150,000 be authorized for the Local Water Resources Protection and Management Program (LWRPMP). Moved by Barb Uppgaard, seconded by Tim Hvidsten, to authorize \$150,000 to be used for special LWRPMP for flood efforts; staff will review applications and proceed with the grant process; staff will report back to members as to the grants allocated to the 57 disaster counties. Motion passed on a voice vote.

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97-56

New Business

Bonding Initiatives FY99-20 - Ron reported that BWSR submitted seven initiatives; one was not accepted - metro wetlands greenways. Ron briefly commented on the six initiatives/project requests that were distributed to board members. Ron stated that a big topic this year during the legislative session will be co-location with various agencies, ie, DNR and MNDOT.

Advisory Comments

Minnesota Association of Watershed Districts (MAWD): Ray Bohn stated that flood recovery issues are of interest to MAWD. Ray reported that MAWD had a great summer tour, with good attendance.

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Minnesota Association of Townships (MAT): Franklin Denn stated that townships will be helping with mitigation on township roads as addressed at management workshops and also at county unit meetings. Franklin stated that education and information is essential to address these issues. MAT will be meeting with representatives in Washington, D.C.

The next BWSR meeting will be held Thursday, August 28 in Crookston, with a tour scheduled for Wednesday, August 27.

There will not be a November meeting; the meeting date for December needs to be decided at the August meeting.

The Association of Minnesota Counties (AMC) annual meeting is November 30 - December 2, at the Radisson South in Bloomington.

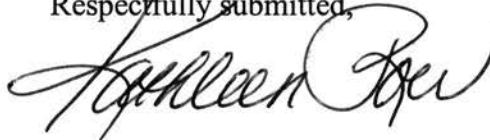
The MAWD annual meeting is December 5-6, at the Radisson/Arrowood in Alexandria.

The MASWCD annual meeting is December 7-9, at the Kahler Hotel in Rochester.

97-57

Moved by Dwain Otte, seconded by Ginny Imholte, to adjourn the meeting at 12:15 p.m.
Motion passed on a voice vote.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read 'Kathleen Roer', written in black ink.

Kathleen Roer, Chair

2.20 Classification System

City staff selected a water body/wetland classification system for Bloomington after reviewing the classification systems from four other cities, two watershed districts, and two watershed management organizations. Each wetland was classified using the five classification systems shown in the table below.

Table 2.20

Wetland Classification Table				
Minnesota 7050 Rule Classification	Bloomington Primary Use Classification	Sensitivity to Storm Water	Wetland Quality	Management Classification
Class 2B	Direct Contact	Highly Sensitive	Excellent	Preserve
Class 2C	Indirect Contact	Moderately Sensitive	Moderate	Apply Best Management Practices
Class 4B	Scenic Habitat	Slightly Sensitive	Highly Impacted	Utilize
Class 5	Detention	Least Sensitive		
Class 6	Nutrient/Sediment (Quality)			



July 15, 1997

To: board members

From: Jim Birkholz and Marybeth Block

RE: Strategic Plan

Some quick "food for thought" for you to consider prior to the strategic plan discussion at the upcoming board meeting. You received a revised copy of the strategic plan in the board packet mailing. Attached you will find the cover page and the 'about the board' section. This did not get included in the packet copy as it was a separate electronic file and I (Marybeth) was not in the office the day the material was put together!

On the back page of this memo you will find a summary of editorial changes reflected in the latest version of the plan. We reviewed all comments and did our best to incorporate them. You will also find some example mission statements on the back of this page. We are hopeful that we will be able to reach a consensus regarding the mission statement at the July meeting. In the event that does not happen we need to develop a different approach (e.g., a separate meeting, a broader or smaller working group, facilitated meeting etc. . .).

We are not planning to go through the plan section by section unless the board so desires. If you are not comfortable with areas of the plan please be prepared to bring them to the attention of your fellow members for discussion.

Travel safely!

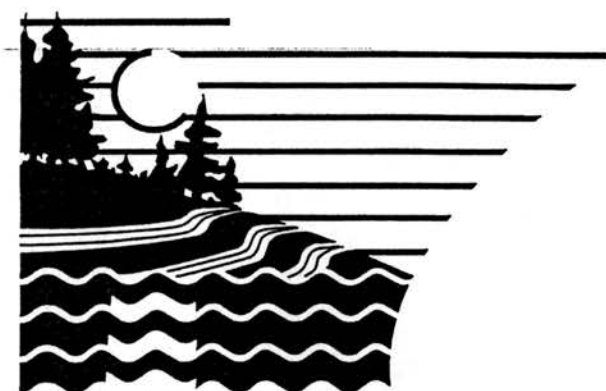
Summary of editorial changes:

- ⇒ added plan purpose section to introduce the plan and speak to why it differs from traditional plans.
- ⇒ added explanation paragraph of the mission statement.
- ⇒ integrated the Minnesota Vision into the mission statement explanation paragraph.
- ⇒ reworked the trend "comprehensively and collaboratively" to emphasize local partnerships and emphasize organizational boundaries.
- ⇒ added a paragraph about water quantity to Minnesota's Resources - Water.
- ⇒ reworked the trend "redefining rural Minnesota" to focus on landownership patterns
- ⇒ reworked last paragraph of strategy #3

More Example Mission Statements -

The mission of the Board of Water and Soil Resources is

- . . . conservation through local government
- . . . supporting local government stewardship of soil and water
- . . . conserving soil and water through local government



Minnesota
Board of
Water & Soil
Resources

(DRAFT II)

STRATEGIC PLAN
1997

About the Board

Creation

The Board of Water and Soil Resources (BWSR or "the board") is a Minnesota state agency formed in 1987 with the merger of the state Soil and Water Conservation Board, the Water Resources Board and the Southern Minnesota Rivers Basin Council.

Board Membership

Twelve members serve on the board including three county commissioners, three soil and water conservation district supervisors, three watershed district representatives and three unaffiliated public members. These voting members, along with the designated chair, are appointed by the Governor to staggered four-year terms. Representatives from the Department of Natural Resources, the Pollution Control Agency, the Department of Health, the Department of Agriculture and the University of Minnesota serve as advisory members. The state Legislature granted advisory members voting privileges in August of 1997.

Board Staff

The board employs an executive director who serves as the head of agency operations. Approximately one half of the BWSR staff are located in the central office in St. Paul and one half in field offices located in Bemidji, Brainerd, Duluth, Marshall, New Ulm, Rochester and St. Paul.

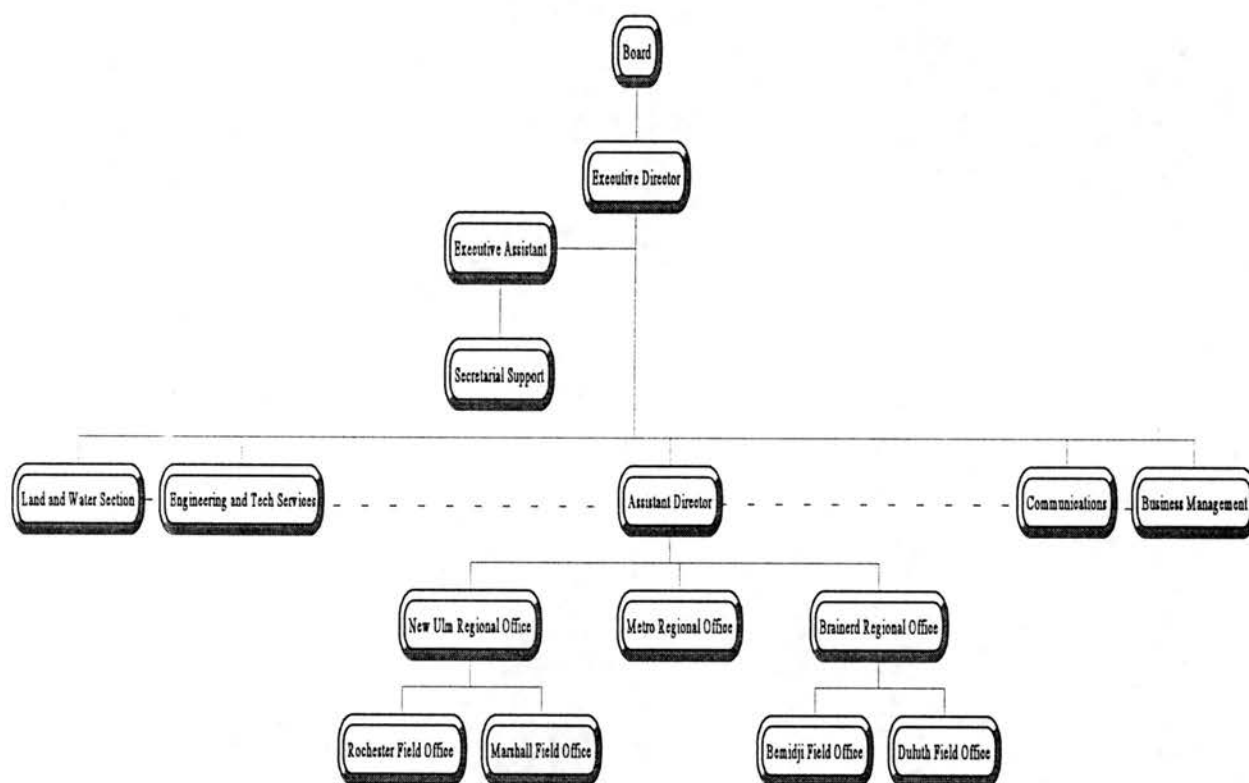


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Plan Purpose

This strategic plan sets forth a foundation upon which agency policy and programs can be created to fit the current issues and priorities of our local government clientele. The primary responsibility of the Board of Water and Soil Resources ("BWSR" or "Board") is to ^{assist} ~~help~~ local units of governments ~~to~~ manage their water and soil resources. This is accomplished by providing them with technical, financial and administrative assistance. To be effective the BWSR must be responsive to local concerns and priorities and be prepared to react to meet those local needs.

This plan describes the agency's mission, basic tenets (principles) and strategies that are fundamental to implementing the board's work in a manner that is meaningful to local governments. It summarizes the extent and condition of the state's water and soil resources as well as some of the industries and land uses dependent on those resources. It also examines some of the major trends influencing water and soil resources management ~~in~~ and includes a summary of the board's statutory responsibilities.

The Board's Mission

The mission of the Minnesota Board of Water and Soil Resources is to ~~help~~ (assist) (support) local governments ~~manage~~ and conserve our irreplaceable water and soil resources.

The BWSR was formed in 1987 by consolidating three smaller agencies in order to provide more efficient and effective state support to local government. The mission statement communicates the Board's focus on local government "clientele": soil and water conservation districts, watershed districts, watershed management organizations, counties, townships and cities. The board also has strong alliances with environmental organizations, farm groups, state and federal agencies and other groups interested in water and soil stewardship. The board works to connect these partners with the local units of government best suited to carry out the resource management tasks at hand.

While the primary clientele are local governments, the primary goal is managing and conserving water and soil resources across the state. To achieve this goal the Board offers technical, administrative and, in some cases, financial support to local government ~~to most fully~~ enable them to carry out their authorities for water and soil resources management. Ultimately all citizens benefit from this grassroots system for implementing water and soil resource protection efforts.

Minnesota Milestones: A Report Card for the Future is Minnesota's long-range plan and it describes a vision (created by Minnesotans) for the state in the year 2020. The themes that pertain to the board's work are: > *Our government will be responsive, effective and close to the people.* > *We will protect and enjoy the natural world.* > *Our economic activity will create wealth and provide a good standard of living for all our people.* The board's mission statement focuses on government close to the people and managing and protecting our water and soil resources that provide both wealth and enjoyment to Minnesotans.

Board Tenets: the board believes that water and soil management is best implemented . . .

at the local level. Water and soil resource management is primarily a land use issue -- both in terms of the type of land use and the quality of resource management. In Minnesota, land use authority is vested primarily in local units of government. Over the past two decades, the state Legislature has reinforced this fact by passing landmark legislation for conservation practice cost-sharing, local water planning, conservation easements and wetland conservation that identify local units of government as the primary implementors. The federal government has also moved toward more state and local leadership for non-point source pollution abatement involving water and soil resource management. Land use authority is a fundamental factor involved in these programs and trends.

Water, soil and other natural resources, and associated management issues, vary substantially from one corner of the state to another. The most appropriate local resource management priorities vary widely as well. Local units of governments working directly with landowners, resource managers and other citizenry provide a grassroots approach to resource management. Locally defined resource management approaches tend to be realistic and better address local needs. Citizens know where and to whom to direct their comments about the approach. Locally developed approaches help target resources to high priority problems and watersheds. State and federal technical and financial assistance provided to and through local government enables a healthy balance between statewide consistency and local flexibility for sound resource management. A key to locally driven resource management is continued effort to involve citizens as well as integrate with other state and federal agencies and programs that relate to the local resource priorities.

voluntarily. Successful resource management (stewardship) is based on landowners embracing attitudes and methods that preserve and enhance resources for the benefit of themselves and others. More than 77% of the land in Minnesota is privately owned. Landowners have strong feelings about their right to manage the land they own as they see fit. They, and all citizens, also perceive the right to have a clean, healthy environment. Education and incentives influence individuals to voluntarily implement resource management practices that protect water and soil resources. Education provides the basis of understanding that helps landowners realize the results of their land use decisions. Incentives may help overcome their restrictions (financial or other) to changing their land use practices.

Most people want to do what's right and do it most effectively when they have the knowledge, means and choice. Regulation is best used sparingly for resource management to provide a level playing field and disincentives for those who choose not to do what's right for public health and safety.

comprehensively and collaboratively. Natural resource issues and problems seldom follow political boundaries or are solveable by the efforts of one individual, group or agency. In response local governments are taking leadership to build partnerships which expand their capacity to implement land and water resource protection. Abundant examples exist of local governments working with their neighbors to achieve mutual goals. Whether through creation of new governmental entities, formal joint powers agreements or more informal working arrangements, local governments are grasping the opportunity and are showing responsibility to help bring people and their local political structures together to meet the challenges of managing land and water resources wisely. Local governments are not only implementing their local priorities but are a key player in helping achieve state and federal goals by providing strong local presence and acceptability with landowners.

The management approaches of the state and federal natural resource agencies are compatible and complementary with local government roles. Some examples are the Department of Natural Resources' Ecosystem Based Management approach, the Minnesota Pollution Control Agency's Basin Management approach and the Minnesota Department of Agriculture's Agri-ecoregion approach. Each of these management strategies affords new opportunities for local governments to team up with appropriate agencies to tap into expertise, funding and new collaborations. Local governments are an essential partner to implement natural resource protection initiatives regardless of the management approach that is used. Effective partnerships with these agencies will enable local governments, whether they are organized along political or watershed boundaries, to assert their implementation responsibilities in an ever more effective fashion. The board strives to encourage and facilitate successful partnerships that build communication, help all levels of government cooperate, inspire creativity and build trust between partners as well as with the public.

Minnesota's resources

Minnesota is rich with natural resources. The wealth generated from Minnesota's natural resources contributes to the well being of its citizens. A healthy state economy depends on the sound management of soil, water and forest resources. The citizens of Minnesota value the quality of life that the environment and the economy have historically provided. The Minnesota Board of Water and Soil Resources (BWSR) is committed to promoting wise use of the state's natural resources to help insure that future generations may also find such satisfaction in the quality of life of the state.

Water

Water covers about 5 percent of Minnesota's surface area with nearly 12,000 lakes and more than 10,000 wetlands. Minnesota's rivers and streams span 25,000 miles. There are about 208,000 miles of shoreline in the state.

Minnesota's significant water resources include those found beneath the land surface. The 14 major aquifers in the state are of "glacial drift" or "bedrock" origin. Two out of every three Minnesotans rely on groundwater for their domestic water use.

There are many threats to this rich water resource. About 51 percent of the state's wetlands have been drained over the last one hundred years and losses are still occurring (BWSR - Jaschke, 1997). Only 51 percent of the state's lakes less than 5,000 acres (99 percent of all lakes) fully support swimmable use (MPCA - Heiskary, 1997). Sediment is, by volume the greatest pollutant of our surface water. Displaced nutrients and pesticides which migrate off site can, and in certain cases, do pose a real threat to the quality of both surface and ground water resources.

The quantity of water is also a concern. "Hydrology" refers to the route precipitation takes on its way to a lake, stream, river or groundwater system. Many factors influence the hydrology of a watershed including precipitation amounts, soils and the use of the land. Increases in either the rate or quantity of surface water runoff can escalate the transport and delivery of sediment and attached nutrients to the receiving water body and can increase flooding and erosion along water courses.

Soil

Soil is a valuable resource in Minnesota. About one-half of Minnesota is covered by soils capable of supporting agricultural uses. Our fertile topsoil and favorable climate make Minnesota one of the outstanding crop producing regions of the United States and the world. Soil not only functions as a medium to grow plants, it regulates the flow of water in the environment and it decomposes organic wastes. Conserving and enhancing soil quality is fundamental to wise natural resource management.

Disturbing the natural cover of the land makes it susceptible to soil erosion. The forces of wind and water erode approximately 168 million tons of Minnesota soil annually - only Texas loses more soil from cropland erosion (USDA-NRI, 1992). In urban areas erosion generated at construction sites is estimated to be as high as 1,100 tons per acre per year (MPCA-Protecting Water Quality in Urban Areas, 10/89).

Economic and Land Uses Dependent on Water and Soil Resources

Water, soil and forest resources are the foundation for Minnesota's main economic industries. The history of Minnesota's development is deeply rooted in **Agriculture**. It remains a dominant land use with nearly 43 percent of Minnesota's surface area in cropland or pastureland (Natural Resource Inventory, 1992 NRCS-USDA). Every region of the state has land devoted to raising crops and livestock, including approximately one half of the seven county metropolitan (metro) area. In 1993 the state ranked seventh in the nation for total cash receipts from crops, livestock and livestock products, with about \$7 billion generated annually from 1991-93 (Minnesota Agricultural Statistics 1996, MDA). In 1996, 162,000 jobs in Minnesota were directly related to farming and food production, and 257,000 were indirectly related to agriculture (MDA, Commissioner's Office, 1997).

Travel and Tourism Industry is also a significant contributor to Minnesota's economy. The industry generated a total of 133,000 jobs, 2.8 billion in wages and salaries and \$6.9 billion in gross receipts (Minnesota Office of Tourism, April 1996.) Water-related activities are major contributors to the tourism industry. In 1985 water-related purchases generated \$1.9 billion for Minnesota businesses. These activities also generate about \$128 million from associated fees and taxes (Minnesota Office of Tourism, Todd, 1989). With a significant portion of the state's economy depended on water-related outdoor recreation, the need to protect and improve water quality is obvious.

For well over a century the **Forest Industry** in the state has continued to thrive. Minnesota's Forest Resource Plan says that the forest products industry directly provides 58,960 jobs in the state. Factor in the indirect influences, and the forestry and forest products industry generates about 111,000 jobs, \$2.8 billion in employee compensation and \$10.1 billion in total industry output (Minnesota Department of Natural Resources, Division of Forestry, 1995). **Agroforestry** is an important component of the forest industry. Agroforestry means putting trees and shrubs to work in both rural areas and communities. Working trees are trees planted in the right place, in the right design, for a specific purpose - often conservation related. The tree plantings can be designed to serve as a windbreak, living snow fence, a buffer strip to protect water resources, a high value crop (e.g., nuts), fuel wood plantations or wildlife habitats.

While **Urban growth** is not an economic industry per se, the geographic area of the cities of Saint Paul and Minneapolis, along with numerous suburbs of these cities, cannot be overlooked as the economic nucleus of the state. The seven county metro region encompasses only 5 percent of the land in the state, yet it is home to more than one half of the state's four million residents. Of the property value of the

state of Minnesota, 65 percent is within the metro area. Building permits are indicators of economic growth and of all the permits applied for in the state during 1990 and 1991, 59 percent were located in the metro area. Soils, water quality, wetlands and forest resources are all affected by urban growth. Sustaining these resources must be encouraged by comprehensive urban watershed planning and management efforts.

The Trends Shaping the Future

The Board believes the following trends must be considered when making decisions as to how water and soil resources are managed in the state.

As a society, we continue to move toward ***governance close to the citizens***. The board sees three primary catalysts for placing more authority and responsibility with local governmental units: **an increase in local government budgets and staff relative to state and federal budgets and staff; the mingling of country and city; and the involvement of citizens in different ways than in the past.**

As state and federal budget and staff outlays slow their rate of increase, the responsibilities they were charged with are being passed to local government - often without adequate funding to carry them out. To insure responsibilities are successfully carried out, administrative dollars must be passed from the federal government to the states, who can pass them to the local unit of government best equipped to provide the solutions to meet the program intentions. States have the important role of transferring the dollars, programs and policies to the local units of government and insuring that they carry out responsibilities imparted to them.

Governance at the local level is also being propelled because the country and the city are becoming increasingly intertwined - physically and socially. More and more people are moving to the country. Open spaces, bluffslands and woodlands are being developed to home sites. Consequently, rural homeowners, like their urban counterparts, have more interaction with their neighbors. This can lead to disputes, particularly regarding land use issues. Local government is called upon first to resolve the conflict. Sometimes, citizens attempt to use environmental standards to prevent lands from being developed.

Many local citizens are taking the time to be involved in issues pertaining to the environment. They see a healthy environment as economically and socially benefiting their well being. Per capita income has been steadily rising in Minnesota, as has the number of environmentally educated citizens. There appears to be a link between these circumstances and the increased involvement of citizens in environmental issues. Some people look to local governmental units as appropriate to address environmental problems while others have a mistrust of local government and favor state or federal intervention.

Managing resources at the watershed level is increasingly recognized as a wise management scale. The most efficient use of human and financial resources is to treat problems in the context of an integrated resource management approach. Cumulative impacts on water and soil resources require that we approach the problem from a resource, rather than a political, perspective. Watershed level management precipitates ***integration and collaboration of efforts*** and encourages agencies, local units of government and community members work together to craft solutions to natural resource management problems. As the competition for the financial and technical resources increases the edge will go to the projects that have a high level of collaboration among a diverse group of partners.

Redefining of Rural Minnesota. Rural Minnesota is changing. Recent surveys by the USDA indicate that the majority of rural residents are no longer involved in or affiliated with agriculture - a major departure from the early and mid part of the 20th century. Those who are involved in agriculture

often no longer fit the traditional view of "farm" and "farmer." In agricultural operations, as in other industries, there is a trend toward specialization and increased size. Many landowners are retired, live or work off the farm and much of the cropland is rented to others. Of those actively farming the median age is 57.8 years - this means that in the next 10-20 years nearly half of all American farmland will change ownership (The Stockman GrassFarmer, 6/97). The trend is for fewer people to manage larger tracts of land - these acres will continue to account for the bulk of agricultural production and income. Conversely, small tract ownership in agriculture and forested landscapes is also rapidly increasing. The owners of these small parcels have conservation needs on their lands which often require different solutions or approaches than larger scale producers.

Finally, **technology** has, and will continue to change how we do business. The Board ^{is} ~~must show~~ leadership to timely adapt new technologies to water and soil management implementation efforts.

Strategies

1. *Encourage local resource planning and protection efforts.* The Board will accomplish this strategy by continuing to use **comprehensive local water planning** as the primary method to plan for and implement water and related land resource protection strategies. The local water planning process is an effective way to define the roles and responsibilities of each of the local resource partners in a county or watershed management organization, and for establishing measures of success. This process also enables state and federal agencies to align their programs, authorities, and technical and financial assistance with local government resource priorities, and increase the efficiency of individual efforts.

The Board will continue to assist local units of government to plan and implement their responsibilities using a **watershed-based management** approach. The Board recognizes that implementing watershed protection requires that local units of government take action. Such commitment to action is a political decision by a political body. The Board believes the key to comprehensive watershed resource management is to bring political units together so that problems are not addressed as isolated cases but as part of an integrated and collaborative effort. The result should be a more effective and efficient use of scarce human and financial resources.

2. *Support local resource management implementation.* The Board will accomplish this strategy by providing a forum to foster state, regional and local units of government working relationships and to maximize local government effectiveness in attaining mutual land and water management goals. The Board will share information and facilitate discussions with and among local governments to help them build on their successes, initiate new cooperative ventures and explore alternative organizational options.

As resource management trends and needs evolve, so must state programs. The Board will work with local units of government to maintain and **enhance the efficiency and effectiveness** of the resource management programs it administers. The Board will involve local units of government and other partners in periodically updating program rules and procedures, including reporting requirements, to foster efficient local implementation while maintaining accountability and the ability to measure success. The Board will also periodically assess, in cooperation with the local government units we serve, their ability to administer programs to effectively address current high priority resource management needs. The Board will strive to allocate financial, technical and administrative support to achieve the best return on the investments of all involved. Innovation, streamlining, flexibility, teamwork, customer service and results will be characteristics promoted within and through the programs administered by the Board.

3. *Develop and maintain our capability to deliver competent service to local units of governments.* Technical capability in the areas of soil conservation, engineering, wetlands, groundwater, information management, communication, planning and administration are crucial to the mission of the board. The Board will accomplish this strategy by developing and maintaining the capability of staff and board members to provide competent technical and leadership assistance to local units of government for water and soil resource management. The Board will maintain an organization that attracts, develops and maintains highly qualified members, including both generalists and specialists who, together, will effectively carry out the Board's mission.

Recognizing the critical relationships between soil conservation, water quality, soil quality and sustainability, the Board will seek opportunities to develop and implement new initiatives which give local units of government tools to address these issues.

Board Responsibilities

The board of water and soil resources' (board) responsibilities can be found throughout Minnesota Statutes, Chapter 103, which pertains to water. Listed below are the references to policies or procedures that are germane to the board. Normal type indicates the text has been transcribed as it appears in the statute. Italic text indicates the statute has been paraphrased to highlight the subjects found within the statutory reference.

General Policies

103A.204 Groundwater policy

Outlines the various state agencies' responsibilities in terms of groundwater protection. The board of water and soil resources has the responsibility to report on groundwater education and outreach with local government officials, local water planning and management, and local cost share programs.

103A.206 Soil and Water Conservation Policy

Improper land use practices have caused serious wind and water erosion of the land of this state, the runoff of polluting materials, increased costs to maintain agricultural productivity, increased energy costs and increased flood damage. Land occupiers have the responsibility to implement practices to correct these conditions and conserve the soil and water resources of the state. It is the policy of the state to encourage land occupiers to conserve soil and water resources through the implementation of practices that effectively reduce or prevent erosion, sedimentation, siltation and agriculturally related pollution in order to preserve natural resources, ensure continued soil productivity, control floods, prevent impairment of dams and reservoirs, assist in maintaining the navigability of rivers and harbors, preserve wildlife, protect the tax base, and protect public lands.

103a.209 Marginal, Erodible Land Retirement Policy

It is state policy to encourage the retirement of marginal, highly erodible land, particularly land adjacent to public waters and drainage systems, from crop production and to reestablish a cover of perennial vegetation.

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. . .

103A.301 to Determination of Water law and Policy

103A.341 *Gives authority for the board to intervene in a proceeding (a procedure under any of the laws listed in 103A.305, jurisdiction) if a petition is filed with the board for referral of a question of water policy involved in the proceeding and lays out the procedure the board follows to make a policy determination.*

General Board Responsibilities

103B.101 Board of Water and Soil Resources. Establishes the board and defines the following duties:

- 1) coordinate the water and soil resources planning activities of counties, soil and water conservation districts, watershed districts, watershed management organizations, and any other local units of government through its various authorities for approval of local plans, administration of state grants, and by other means as may be appropriate;*

- 2) *facilitate communication and coordination among state agencies in cooperation with the environmental quality board, and between state and local units of government, in order to make the expertise and resources of state agencies involved in soil and water resources management available to the local units of government to the greatest extent possible;*
- 3) *coordinate state and local interests with respect to the study in southwestern Minnesota under U.S. Code, title 16, section 1009;*
- 4) *develop information and education programs designed to increase awareness of water and soil resource problems and awareness of opportunities for local government involvement in preventing or solving them;*
- 5) *provide a forum for the discussion of local issues and opportunities relating to water and soil resources management;*
- 6) *adopt an annual budget and work program that integrate the various functions and responsibilities assigned to it by law; and*
- 7) *report to the governor and the legislature by October 15 of each even-numbered year with an assessment of board programs and recommendations for any program changes and board membership changes necessary to improve state and local efforts in water and soil resources management.*

In addition to these duties the board must establish a dispute resolution committee to hear and resolve disputes, appeals and interventions pertaining to water law and policy.

Local Water Planning

103B.201 to Metropolitan Surface Water Management

103B.251 *These sections outline the purpose of water management planning in the metropolitan area and provide direction regarding watershed management organizations and watershed plans. It gives joint powers watershed management organizations the authority to prepare, adopt and implement a plan for the watershed; to review and approve local water management plans; to, under certain conditions, regulate land use; and other authorities pertaining to budgets, assessments and contracts. It requires that the board adopt rules prescribing minimum requirements for the content of watershed management organization joint powers agreements. A watershed management plan must be prepared for all watersheds wholly or partially within the metropolitan area. The plan must be reviewed by the board and other state agencies. The board has the authority to disapprove all or parts of a plan. The watershed management organization is responsible for preparing and implementing the plan. If the watershed management organization is terminated or the board determines they are not implementing the plan, counties or cities can petition to establish a watershed district under chapter 103D. Persons believing there has been a failure to comply with a plan may request the board review the plan and its implementation and act according to a procedure established to resolve disputes and making an implementation compliance determination. The board is directed to adopt rules establishing the requirements for annual financial reports to the board, standards for annual financial audits and requirements for the content of activity reports.*

103B.252 Groundwater Management

This section outlines the authority and procedures for counties to prepare and adopt groundwater plans including advisory committees, general standards, contents, review, approval, adoption and implementation, amendments and property tax levies.

103B.301 to Comprehensive Local Water Planning and Management

103B.335 *These sections encourage counties outside of the metropolitan area to prepare, adopt and implement a comprehensive water plan. The process must be completed in coordination with local government units and contiguous counties. The board must review the draft plan and all written comments received regarding the plan in consultation with other state agencies involved in resource management. The board may disapprove a comprehensive water plan if they determine it is not consistent with state law. The board shall:*

- 1) *develop guidelines for the contents of the comprehensive plan that provide a flexible approach to meeting the resource needs.;*
- 2) *coordinate the planning assistance provided by state agencies;*
- 3) *provide education & information about the planning process;*
- 4) *determine contested cases;*
- 5) *establish a review process;*
- 6) *report to the legislature;*
- 7) *make grants to counties for comprehensive local water planning, implementation of priority actions and sealing of abandoned wells.*

103B.3369 Local Water Resources Protection and Management Program

This section authorizes the board to provide financial assistance to counties for activities that protect or manage water and related land quality. Outlines how counties request funds, the contracts between the state and the county and what the grants may be used for. It directs the board to adopt rules and gives guidance regarding what requests the board will give priority to.

103B.345 Resolution of Disputes

Provides that counties or other local units of government can request the board to informally, or through a hearing, resolve a dispute pertaining to: 1) the interpretation and implementation of a local comprehensive water plan; 2) two or more counties disagreeing about the apportionment of the costs of a project; or 3) a county and another local unit of government disagree about a change in a local water and related land resources plan or official control.

Soil and Water Conservation Districts

103C.401 Duties of the State Board. The state board shall:

- 1) Offer to assist the district boards to implement their programs . . .*
- 2) Keep the district boards informed of the activities and experience of other districts and facilitate cooperation and an interchange of advice and experience.*
- 3) Coordinate the programs and activities of the districts with appropriate agencies by advice and consultation*
- 4) Approve or disapprove the plans or programs of districts relating to the use of state funds administered by the state board.*
- 5) Secure the cooperation and assistance of agencies in the work of the districts. . .*
- 6) compliance with statewide programs and policies established by the state board by advice, consultation and approval of grant agreements with the districts.*
- 7) Provide operating funds to districts as provided by the legislature.*

Watershed Districts

103D.101 Board of Water and Soil Resources. This section authorizes the board to:

- 1) Establish a watershed district b) define its boundaries c) appoint the first board of managers.*
- 2) The board has the right to hold hearings, subpoena witnesses, examine and cross examine witnesses.*
- 3) The board must keep and maintain a record of all proceedings.*

Throughout this chapter are procedures to establish the watershed district, to change watershed district boundaries, to consolidate or terminate watershed districts and to appoint managers.

Protection of Water Resources

103C.501 Cost-Sharing Contracts

This section authorizes the state board to allocate funds to districts to share the cost of conservation practices and says how districts request funds, how the state approves requests and allocates funds and the terms of the contract between the district and the landowner requesting funds. Also requires the state board to adopt administrative rules.

103F.171 Southern Minnesota Rivers Basin Area II (Study Area II)

This section describes a pilot program to provide technical and financial assistance to local units of government for floodwater retarding and retention, and assigns associated administrative responsibilities.

103F.401 Soil Erosion

to 103F.460 These sections give local units of government (that have planning and zoning authority) the authority to adopt a soil loss ordinance. It says the board will adopt a model ordinance and rules to guide local governments to implement soil loss controls, and the board shall review the model ordinance and rules, in cooperation with local government, every five years.

103F.461 Groundwater Education

This section states that the board shall biennially review groundwater education activities with local units of government and develop recommendations for improvement and submit a report containing such information to the environmental quality board for review. The report must be coordinated with the Minnesota environmental education advisor board and the pollution control agency. The board is given the authority to give grants for innovative groundwater education strategies.

103F.501 Reinvest in Minnesota Resources Act

to 103F.515 *These sections authorize the board to enter into conservation easements with private landowners to keep marginal agricultural land out of crop production to protect soil and water quality and support fish and wildlife habitats. It encourages the retirement of land adjacent to public waters, drainage systems, wetlands, and locally designated priority waters, from crop production. The act explains 1) eligible land; 2) conservation easements and the nature of the property rights acquired; 3) agreements by a landowner; 4) payments for easement and cover; 5) easement renewal; 6) correction of boundaries; and 7) enforcement.*

103F.515 Permanent Wetlands Preserve Act

to 103F.521 *These sections authorize the board to enter into conservation easements with private landowners on lands containing type 1,2,3, or 6 wetlands. The act explains 1) easements; 2) the nature of the property rights acquires; 3) payments; 4) cooperation; and 5) technical assistance.*

Protection of Wetlands

103B.3355 Wetland Functions for determining public values

This section outlines how to determine the public values of a wetland based on functions of wetlands for water quality, floodwater and stormwater retention, public recreation, commercial uses, habitats, low-flow augmentation and other public uses. The board is given the authority to adopt rules citing what methods and criteria will be used to make such determinations.

103F.901 Wetlands Establishment and Restoration Program

to 103F.905 *These sections allow a landowner to apply to restore a wetland on their property provided it is within a board-designated high priority wetland region and identified as a high priority wetland area in the local comprehensive water plan. It outlines the procedures in which the application is reviewed and approved, and outlines the cost-share assistance available.*

103G.222 Replacement of Wetlands

to 103G.2241 *These sections legislate that wetlands cannot be drained or filled without restoring or creating wetland areas of at least equal public value in accordance with a local comprehensive wetland protection and management plan approved by the board. The board must maintain a public list of restoration opportunities within the metropolitan area. Disputes about restoration opportunities for wetland replacement may be appealed to the board's committee for dispute resolution. For new transportation projects wetland credits may be purchased from the wetland bank (103G.2242). The board receives reports of wetland impacts on existing public transportation projects and must replace the lost wetland areas.*

103G.2242 Wetland value replacement plans

This section directs the board to adopt rules governing the approval of wetland value replacement plans and addressing criteria, procedure, timing and location of acceptable replacement wetland values. In addition, the rules may address the establishment and administration of a wetland banking program. Evaluation of replacement plans is done by a technical evaluation panel that includes an employee of the board. Appeals of replacement plans, exemptions or no-loss decisions may be made to the board. The board must decide whether to grant the petition and hear the appeal. All appeals are heard by the committee for dispute resolution of the board. A wetland heritage advisory committee, established by the governor, will advise the board on the development of rules and implementation of the program.

103G.2243 Local comprehensive wetland protection and management plans

This section provides an alternative to replacement plans as required in 103G.2242 and public value criteria in 103B.3355. Local governments can develop and seek board approval of a local comprehensive wetland protection and management plan follows the general requirements and plan contents identified in this section.

103G.237 Compensation for loss of private use

This section authorizes the board to compensate landowners for the loss of private use provided they meet eligibility requirements and apply for compensation.

103G.2373 Annual wetlands report

This section requires the board and the commissioner of the department of natural resources jointly prepare a report to the legislature regarding the status of implementing state laws and programs relating to wetlands, the quantity, quality, acreage, types and public value of wetlands in the state and the changes in those figures from the previous reporting year.

TO: Ron Harnack

FROM: Doug Thomas 

DATE: July 18, 1997

SUBJECT: Use of LWP Challenge Grants for Flood Related Efforts

Since I will be on vacation the week of July 21st I have summarized the statutory requirements that we will have to consider when and if we allocate challenge grant funds. Wayne Zellmer is putting together the estimated dollars that will be available for challenge grants this biennium. I am sure you will be asked how much is left if we spend \$150,000 as proposed.

- Grant authorization (M.S. 103B.3369) "Local Water Resources protection and Management Program" (LWRPMP).
- BWSR shall provide financial assistance to counties for local government activities that protect or manage water and related land quality. The activities include planning, zoning, official controls, and other activities to implement comprehensive local water plans.
- Comprehensive local water plans by definition include: county water plans, watershed district comprehensive plans and metro surface and groundwater plans.
- Counties must submit funding requests to BWSR
- Counties may submit requests on behalf of other units of government. The only exception to this is metro WMO's/WD's any apply directly.
- Grants must be used to implement comprehensive local water plans. (Most plans address flooding and flood control so this should not pose any limitation)
- BWSR cannot award a grant to a county or metro WMO/WD unless they have a state approved locally adopted plan.
- BWSR shall adopt rules. (These have been suspended)
- Priorities - the law does identify some priorities which should be consider in considering applications for financial assistance. They include; 1) adoption, administration, and enforcement of official controls; 2) complement efforts of federal, state, and local units of government, and demonstrate long-term commitment to effective water protection and management programs.
- BWSR is instructed to consult with appropriate agencies to evaluate grant requests and coordinate project activities with other federal, state, and local research management projects.

Analysis - there does not appear to be any major stumbling block to using local water planning challenge grant funds to assist local governments in addressing this years flooding, as long as there is some reference to flooding in their local plans.

s:chalflod.doc/djt

AGENCY CAPITAL BUDGET REQUEST
Fiscal Years 1998-2003
 Dollars in Thousands (\$137,500 = \$138 thousand)

Project Title	1998 Agency Priority Ranking	Agency Project Requests for State Funds (\$ by Session)				Statewide Strategic Score	Governor's Recommendation 1998	Governor's Planning Estimate	
		1998	2000	2002	Total			2000	2002
RIM Permanent Wetlands	1	\$20,950	\$20,950	\$20,950	\$62,850		\$0	\$0	\$0
Local Govt Road Replacement	2	6,281	0	0	6,281		0	0	0
Riparian Erosion Control	3	2,400	2,400	2,400	7,200		0	0	0
Area II MN River Grant-in-Aid Program	4	1,625	800	400	2,825		0	0	0
Conservation Farming Grants	5	5,000	5,000	5,000	15,000		0	0	0
Grass Lake Prairie Wetland	6	1,500	0	0	1,500		0	0	0
Total Project Requests		\$37,756	\$29,150	\$28,750	\$95,656		\$0	\$0	\$0

Executive Summary

Minnesota
Strategic
Capital
Budget
Plan

Preliminary
Agency Requests
June 15, 1997

1998-2003

Presented by
Governor Arne H. Carlson



State of Minnesota
Department of Finance

400 Centennial Building
658 Cedar Street
St. Paul, Minnesota 55155
Voice: (612) 296-5900
Fax: (612) 296-8685
TTY: 1-800-627-3529

June 15, 1997

The Honorable Linda Berglin
Chair, Human Resources Finance Committee

The Honorable Loren Solberg
Chair, House Ways and Means Committee

The Honorable Richard Cohen
Chair, State Government Finance Committee

The Honorable Henry Kalis
Chair, House Capital Investment Committee

The Honorable Keith Langseth
Chair, Senate Education Finance Committee

To Members of the Minnesota Legislature:

Pursuant to Minnesota Statutes 16A.11, I am pleased to forward preliminary agency capital budget requests for FY 1998-2003 as received by the Department of Finance. Included with this letter is a summary of agency requests and associated project detail sheets.

Agencies have requested 266 projects totaling \$2.5 billion over the upcoming six-year capital budget cycle, including \$1.2 billion for projects seeking action in the 1998 session. Our general obligation bond debt capacity will be updated at the time of the November forecast. Preliminary estimates suggest a 1998 capacity of at least \$500 million.

Please note that these requests are preliminary, have not yet been reviewed by the Governor or the Department of Finance, and new projects including those of the Minnesota State Colleges and Universities will be added at a later date. In anticipation of the Governor's Strategic Capital Budget Plan being submitted to the Legislature on January 15, 1998, the Departments of Finance and Administration will work closely with agencies over the next several months to provide additional project information, refine cost estimates and cash flow projections, and score all project requests.

I am certain that you will find this project data useful as you begin consideration of these important and competing uses for the state's limited financing capacity. Should you need any additional information or assistance, please feel free to contact Peggy Ingison or Lee Mehrkens of my staff at 296-5900.

Warmest regards,

A handwritten signature in cursive script that reads "Wayne Simoneau".

Wayne Simoneau
Commissioner

**STATE OF MINNESOTA
CAPITAL BUDGET REQUESTS**

F.Y. 1998-2003

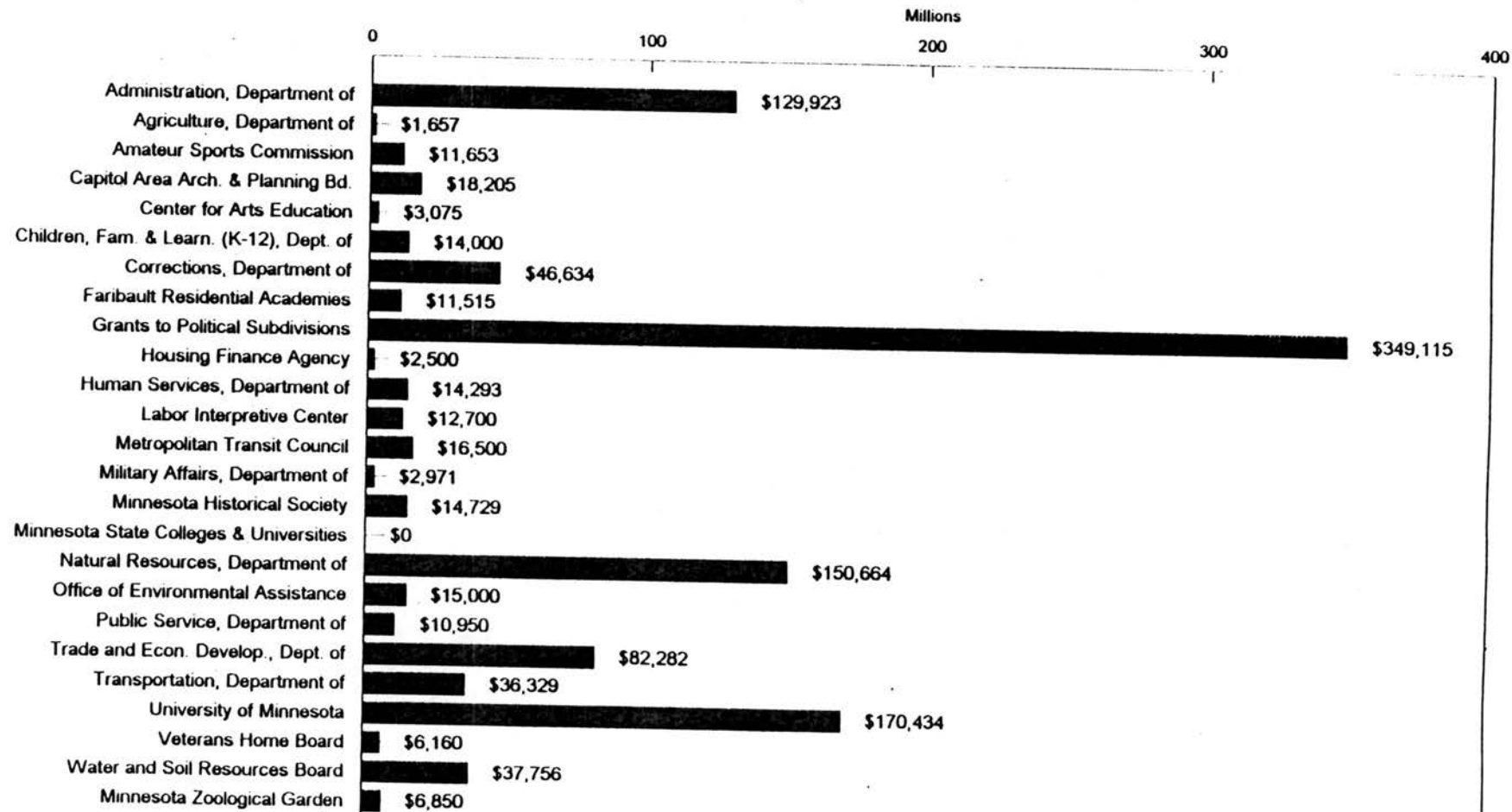
**SUMMARY BY THEME
(ALL PROJECTS)**

(\$ In Thousands)

Funding Theme	Agency Request				Totals	
	F.Y. 1998	% of Total	F.Y. 2000	F.Y. 2002	F.Y. 1998-2003	% of Total
Children, Families and Learning	\$28,590	2.5%	\$15,024	\$9,947	\$53,561	2.1%
Criminal Justice	\$46,634	4%	\$67,882	\$18,817	\$133,333	5.2%
Economic Development	\$123,161	10.6%	\$55,790	\$51,615	\$230,566	9%
Environment and Natural Resources	\$211,927	18.2%	\$178,289	\$162,857	\$553,073	21.6%
Grants to Political Subdivisions	\$349,115	29.9%	\$2,069	\$0	\$351,184	13.7%
Health and Human Services	\$20,453	1.8%	\$19,323	\$46,521	\$86,297	3.4%
Higher Education	\$170,434	14.6%	\$177,812	\$108,800	\$457,046	17.9%
State Government	\$162,752	14%	\$267,589	\$77,919	\$508,260	19.9%
Transportation	\$52,829	4.5%	\$46,626	\$85,636	\$185,091	7.2%
Grand Totals	\$1,165,895	100%	\$830,404	\$562,112	\$2,558,411	100%

State of Minnesota
Capital Budget Requests
 Requests for the 1998 Session, as of June 15, 1997

in (\$000)



As of June 15, 1997, there were 163 agency requests for FY 1998, at a total cost of \$1.2 billion.

**STATE OF MINNESOTA
CAPITAL BUDGET REQUESTS**

F.Y. 1998-2003

(\$ In Thousands)

Agency	Number of Requests	F.Y. 1998	F.Y. 2000	F.Y. 2002	Request Totals F.Y. 1998-2003
Administration, Department Of	18	\$129,923	\$223,237	\$57,890	\$411,050
Agriculture, Department of	3	1,657	31,001	30,000	62,658
Amateur Sports Commission	5	11,653	0	0	11,653
Capitol Area Architectural Planning Bd	5	18,205	20,312	14,553	53,070
Center for Arts Education	9	3,075	8,111	4,935	16,121
Children, Families & Learning	3	14,000	2,000	0	16,000
Corrections, Department of	57	46,634	67,882	18,817	133,333
Faribault Residential Academies	9	11,515	4,913	5,012	21,440
Grants to Political Subdivisions	15	349,115	2,069	0	351,184
Housing Finance Agency	1	2,500	2,500	2,500	7,500
Human Services, Department of	33	14,293	17,455	44,021	75,769
Labor Interpretive Center	1	12,700	0	0	12,700
Metropolitan Council Transit	2	16,500	0	0	16,500
Military Affairs, Department of	7	2,971	24,040	5,476	32,487
Minnesota Historical Society	15	14,729	9,316	12,841	36,886
Natural Resources, Department of	29	150,664	98,928	94,107	343,699
Office of Environmental Assistance	1	15,000	10,000	10,000	35,000
Public Service, Department of	1	10,950	8,100	8,100	27,150
Trade & Economic Development	3	82,282	35,874	28,174	146,330
Transportation, Department of	11	36,329	46,626	85,636	168,591
University of Minnesota	22	170,434	177,812	108,800	457,046
Veterans Homes Board	4	6,160	1,868	2,500	10,528
Water & Soil Resources Board	6	37,756	29,150	28,750	95,656
Zoological Gardens	6	6,850	9,210	0	16,060
Grand Totals	266	\$1,165,895	\$830,404	\$562,112	\$2,558,411

**STATE OF MINNESOTA
CAPITAL BUDGET REQUESTS**

F.Y. 1998-2003

**GOVERNOR'S RECOMMENDATIONS
(BY AGENCY & SCORES)**

(\$ In Thousands)

Project description	Agency Priority	Strategic Score	Funding Source	Agency Request			Governor's Recommendation	Governor's Planning Estimates	
				F.Y. 1998	F.Y. 2000	F.Y. 2002	F.Y. 1998	F.Y. 2000	F.Y. 2002

Administration, Department Of

Capitol Square Bldg Demolition/Relocation	1	0		1,598	0	0	0	0	0
Statewide CAPRA	2	0		25,000	25,000	25,000	0	0	0
Asset Preservation	3	0		6,000	4,000	4,000	0	0	0
Transportation Building, Final Phase	4	0		14,498	0	0	0	0	0
Electrical Utility Infrastructure	5	0		3,123	0	0	0	0	0
New Support Service Facility	6	0		21,261	0	0	0	0	0
Real Property Acquisition	7	0		3,250	0	0	0	0	0
Agency Relocation Fund	8	0		8,875	0	0	0	0	0
Statewide Building Access (ADA)	9	0		10,000	10,000	10,000	0	0	0
Systematic Analysis of Alternative Office Trends	10	0		300	0	0	0	0	0
Renovate Veterans Services Building	11	0		17,976	0	0	0	0	0
Bureau of Criminal App. Facility, Design	12	0		1,737	38,548	0	0	0	0
Military Affairs Fac./Site Acq./Design	13	0		8,323	36,784	0	0	0	0
New Health Building & Ramp, Design	14	0		7,142	107,912	0	0	0	0

Funding Source

Page: 1

GF = General Fund
GO = General Obligation Bonds

NS = Non-State Match Funding
OTH = Other State Funds

THF = Trunk Highway Fund
UF = User Financing

**STATE OF MINNESOTA
CAPITAL BUDGET REQUESTS**

F.Y. 1998-2003

**GOVERNOR'S RECOMMENDATIONS
(BY AGENCY & SCORES)**

(\$ In Thousands)

Project description	Agency Priority	Strategic Score	Funding Source	Agency Request			Governor's Recommendation	Governor's Planning Estimates	
				F.Y. 1998	F.Y. 2000	F.Y. 2002	F.Y. 1998	F.Y. 2000	F.Y. 2002

Administration, Department Of

Capitol Area Predesigns	15	0		840	0	0	0	0	0
Administration Building Renovation		0		0	495	11,230	0	0	0
Ford Building Predesign		0		0	398	7,660	0	0	0
Strategic Plan for Locating State Agencies		0		0	100	0	0	0	0
Agency Totals				\$129,923	\$223,237	\$57,890	\$0	\$0	\$0

Agriculture, Department of

Ag Drainage Research & Demo Center	1	0		1,657	0	0	0	0	0
Rural Finance Authority Loan Participations		0		0	30,000	30,000	0	0	0
Quarantine Facility		0		0	1,001	0	0	0	0
Agency Totals				\$1,657	\$31,001	\$30,000	\$0	\$0	\$0

Funding Source

GF = General Fund
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NS = Non-State Match Funding
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THF = Trunk Highway Fund
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**STATE OF MINNESOTA
CAPITAL BUDGET REQUESTS**

F.Y. 1998-2003

**GOVERNOR'S RECOMMENDATIONS
(BY AGENCY & SCORES)**

(\$ In Thousands)

Project description	Agency Priority	Strategic Score	Funding Source	Agency Request			Governor's Recommendation	Governor's Planning Estimates	
				F.Y. 1998	F.Y. 2000	F.Y. 2002	F.Y. 1998	F.Y. 2000	F.Y. 2002

Amateur Sports Commission

NSC Expansion	1	0		6,685	0	0	0	0	0
Grants Ridge Expansion	2	0		483	0	0	0	0	0
Mt. Itasca Ski Area - Coleraine	3	0		135	0	0	0	0	0
Thief River Falls - Multi-use Center	4	0		950	0	0	0	0	0
St. Paul Tennis Center	5	0		3,400	0	0	0	0	0
Regional Multi-Event Sports Centers	GOV-1	0		0	0	0	0	0	0
Agency Totals				\$11,653	\$0	\$0	\$0	\$0	\$0

Capitol Area Architectural Planning Bd

Capitol Building: Structural Stabilization	1	0		6,636	0	0	0	0	0
Capitol Building: Security and Accessibility	2	0		8,273	0	0	0	0	0
Capitol Complex: Comprehensive Sign Program	3	0		1,238	0	0	0	0	0
Security Improvements & Repair of Capitol Mall	4	0		1,738	0	0	0	0	0
Capitol Building: Interior Restoration Predesign	5	0		320	20,312	14,553	0	0	0

Funding Source

GF = General Fund
GO = General Obligation Bonds

NS = Non-State Match Funding
OTH = Other State Funds

THF = Trunk Highway Fund
UF = User Financing

**STATE OF MINNESOTA
CAPITAL BUDGET REQUESTS**

F.Y. 1998-2003

**GOVERNOR'S RECOMMENDATIONS
(BY AGENCY & SCORES)**

(\$ In Thousands)

Project description	Agency Priority	Strategic Score	Funding Source	Agency Request			Governor's Recommendation	Governor's Planning Estimates	
				F.Y. 1998	F.Y. 2000	F.Y. 2002	F.Y. 1998	F.Y. 2000	F.Y. 2002

Capitol Area Architectural Planning Bd

Agency Totals	\$18,205	\$20,312	\$14,553	\$0	\$0	\$0
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Center for Arts Education

Admin/Classroom Building Renovation	1	0		39	565	0	0	0	0
Asset Preservation	2	0		331	308	79	0	0	0
Delta Dormitory Upgrades	3	0		480	243	75	0	0	0
GAIA Building Renovation	4	0		9	123	0	0	0	0
New Theater/Dance Building	5	0		491	6,497	0	0	0	0
Air Condition-GAIA Building	6	0		392	0	0	0	0	0
Air Condition-Admin/Classroom Bldg.	7	0		1,333	0	0	0	0	0
New Research & Technology Center		0		0	191	2,323	0	0	0
New Media Arts Building		0		0	184	2,458	0	0	0
Agency Totals				\$3,075	\$8,111	\$4,935	\$0	\$0	\$0

Funding Source

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F.Y. 1998-2003

**GOVERNOR'S RECOMMENDATIONS
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(\$ In Thousands)

Project description	Agency Priority	Strategic Score	Funding Source	Agency Request			Governor's Recommendation	Governor's Planning Estimates	
				F.Y. 1998	F.Y. 2000	F.Y. 2002	F.Y. 1998	F.Y. 2000	F.Y. 2002

Children, Families & Learning

Head Start	1	0		3,000	0	0	0	0	0
School Building Accessibility	2	0		8,000	0	0	0	0	0
Library Accessibility	3	0		3,000	2,000	0	0	0	0
Agency Totals				\$14,000	\$2,000	\$0	\$0	\$0	\$0

Corrections, Department of

124 Bed Expansion - Shakopee	1	0		7,870	0	0	0	0	0
Admin. Segregation Unit - Lino Lakes	2	0		8,807	0	0	0	0	0
Security Fence - Red Wing	3	0		1,206	0	0	0	0	0
Seg. , MH, and Hlth Care Units - Oak Park Hts	4	0		3,517	13,637	0	0	0	0
Towers, Wall & Catwalk - Stillwater	5	0		6,062	0	0	0	0	0
Vocational/Industry Bldg. - Red Wing	6	0		92	3,363	0	0	0	0
Asset Preservation - Dept.	7	0		3,000	3,000	3,000	0	0	0
Fire/Life Safety Improvements - Dept.	8	0		4,871	0	0	0	0	0

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Corrections, Department of

Reception Center - St. Cloud	9	0		1,522	0	0	0	0	0
Roof & Window Replacement - Dept.	10	0		5,496	0	0	0	0	0
Education Building - Sauk Centre	11	0		44	4,796	0	0	0	0
Multi-Purpose Complex - Sauk Centre	12	0		36	3,924	0	0	0	0
Addition to Dormitory - Thistledeu	13	0		500	0	0	0	0	0
Replumb Education Wing - St. Cloud	14	0		1,145	0	0	0	0	0
Relocate & Renovate Rooms - St. Cloud	15	0		2,466	0	0	0	0	0
MCF-STW Receiving Complex & Warehouse		0		0	17,608	0	0	0	0
MCF-SCL Remodel Administration Building		0		0	4,504	0	0	0	0
MCF-STW Window Replacement		0		0	3,808	3,808	0	0	0
MCF-STW Master Control Renovation		0		0	1,611	0	0	0	0
MCF-SCL Facility Climate Control		0		0	1,291	0	0	0	0
MCF-SCL Construct New Warehouse		0		0	1,171	0	0	0	0
MCF-STW Sewer Vent - Water Main Replacement		0		0	1,000	0	0	0	0

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Corrections, Department of

MCF-STW Tuckpointing	0			0	800	416	0	0	0
MCF-STW Infirmary	0			0	800	0	0	0	0
MCF-STW Electrical Upgrade - Industry	0			0	800	0	0	0	0
MCF-SCL Upgrade Security System	0			0	749	0	0	0	0
MCF-LL Replace HVAC Systems - Living Units	0			0	700	0	0	0	0
MCF-WR/ML Activities Building WR	0			0	660	0	0	0	0
MCF-SCL Retube Boilers	0			0	517	0	0	0	0
MCF-SCL Toilet Carrier Replacement	0			0	493	0	0	0	0
MCF-SCR Renovate Lind Cottage	0			0	450	0	0	0	0
MCF-SCR Renovate Alcott Cottage	0			0	421	0	0	0	0
MCF-SCL Install New Air Handler- Ind Wing	0			0	388	0	0	0	0
MCF-SCR Renovate Stowe Cottage	0			0	286	0	0	0	0
MCF-SCR Upgrade Tekawitha Cottage	0			0	255	0	0	0	0
MCF-WR/ML Vehicle Garage - ML	0			0	148	0	0	0	0

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Corrections, Department of

MCF-WR/ML Green House - ML	0			0	143	0	0	0	0
MCF-RW New Living Unit	0			0	124	1,346	0	0	0
MCF-WR/ML Building Maintenance Shop - ML	0			0	116	0	0	0	0
MCF-LL Replace Condensate Lines	0			0	65	0	0	0	0
MCF-W/ML Industry Building Addition - ML	0			0	51	708	0	0	0
MCF-FRB Armory Expansion	0			0	47	0	0	0	0
MCF-LL Tuckpointing	0			0	40	40	0	0	0
MCF-WR/ML Industry Warehouse - ML	0			0	39	557	0	0	0
MCF-WR/ML Kitchen Expansion - WR	0			0	34	0	0	0	0
MCF-RW Volunteer Center Preservation	0			0	30	30	0	0	0
MCF-RW Upgrade Domestic Water System	0			0	13	15	0	0	0
MCF-SCL Construct New Plant Operations Building	0			0	0	3,521	0	0	0
MCF-SCL Replace Facility Sewer System	0			0	0	3,214	0	0	0
MCF-SCL Remodel Basement Areas	0			0	0	461	0	0	0

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Corrections, Department of

MCF-SCL Replace Telephone Equipment and Lines		0		0	0	444	0	0	0
MCF-SCR Renovate Evers Cottage		0		0	0	375	0	0	0
MCF-SCL Expand Floor - Balcony Level		0		0	0	318	0	0	0
MCF-SCL Extend Floor in Old Boiler Room		0		0	0	242	0	0	0
MCF-RW Tunnel System Renewal		0		0	0	127	0	0	0
MCF-SCR New Maintenance Building		0		0	0	120	0	0	0
MCF-SHK Sealcoats and Repair Roads		0		0	0	75	0	0	0
Agency Totals				\$46,634	\$67,882	\$18,817	\$0	\$0	\$0

Faribault Residential Academies

Asset Preservation	1	0		725	750	750	0	0	0
Tate Hall Design and Renovation	2	0		4,009	0	0	0	0	0
Frechette Hall Design and Renovation	3	0		2,192	0	0	0	0	0
Lysen Expansion and Renovation	4	0		4,589	0	0	0	0	0

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Faribault Residential Academies

MSAD Gym		0		0	3,720	0	0	0	0
Safety		0		0	443	0	0	0	0
MSAB Dorm/Vocational Expansion		0		0	0	2,916	0	0	0
Vehicle Garage		0		0	0	696	0	0	0
Independent Living		0		0	0	650	0	0	0
Agency Totals				\$11,515	\$4,913	\$5,012	\$0	\$0	\$0

Grants to Political Subdivisions

Minneapolis Convention Center Expansion	MPL-1	0		193,290	0	0	0	0	0
St. Paul Civic Center	STP-1	0		65,000	0	0	0	0	0
Community Schools Partnership (St. Paul Schools)	SPS-1	0		16,500	0	0	0	0	0
Stearns County Quarry Park and Nature Preserve	STC-1	0		7,720	0	0	0	0	0
Hubert H. Humphrey Museum (Waverly)	WV-1	0		4,250	0	0	0	0	0
Duluth Convention Center Expansion	DUL-1	0		28,125	0	0	0	0	0

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Grants to Political Subdivisions

Duluth Cross City Recreational Trail	DUL-2	0		950	1,277	0	0	0	0
St. Louis County Heritage and Arts Center (Duluth)	DUL-3	0		3,017	0	0	0	0	0
Hartley Nature Center (Duluth)	DUL-4	0		4,943	0	0	0	0	0
Lake Superior Zoological Garden (Duluth)	DUL-5	0		3,982	0	0	0	0	0
Bald Eagle Center (Wabasha)	WB-1	0		1,550	0	0	0	0	0
Lawndale ELC (Herman)	ELC-1	0		7,279	792	0	0	0	0
Agassiz ELC (Fertile)	ELC-1	0		5,557	0	0	0	0	0
Prairie Woods ELC (Kandiyohi County)	ELC-1	0		5,521	0	0	0	0	0
Laurentian ELC (Britt)	ELC-1	0		1,431	0	0	0	0	0
Agency Totals				\$349,115	\$2,069	\$0	\$0	\$0	\$0

Housing Finance Agency

Publicly Owned Transitional Housing	1	0		2,500	2,500	2,500	0	0	0
Agency Totals				\$2,500	\$2,500	\$2,500	\$0	\$0	\$0

Funding Source

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Human Services, Department of

System-wide Roof Repair/Replacement	1	0		1,668	910	178	0	0	0
System-Wide Asset Preservation	2	0		2,910	2,185	2,130	0	0	0
FFRTC - Facilities Upgrade	3	0		300	2,000	25,500	0	0	0
WRTC - Bldgs. 8, 9 & 14 Improvements	4	0		1,000	500	0	0	0	0
AGC - Remodel Resident Areas B & C Bldgs.	5	0		1,910	0	0	0	0	0
CRHSC - Building Demolition/Related Site Work	6	0		1,550	200	0	0	0	0
CRHSC - Reconfigure Campus Heating System	7	0		1,400	0	0	0	0	0
BRHSC - Replace Tunnel Waterproofing	8	0		180	1,620	0	0	0	0
WRTC - MTC Building Improvements	9	0		500	0	0	0	0	0
CRHSC - Construct Vehicle Storage Building	10	0		150	0	0	0	0	0
BRHSC - Building #22 Improvements	11	0		1,000	0	0	0	0	0
SPRTC - Bartlett Hall Improvements	12	0		750	0	0	0	0	0
SPRTC - Shantz Hall Improvements	13	0		500	0	0	0	0	0
SPRTC - Sunrise Building Improvements	14	0		70	700	0	0	0	0

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Human Services, Department of

SPRTC - Demolish Bldgs. 30 & 31	15	0		250	0	0	0	0	0
AGC - Demolish DAC Bldg.	16	0		80	0	0	0	0	0
FFRTC - Demolish Buildings 19, 21 and 32	17	0		75	250	250	0	0	0
CRHSC - Complete METO Construction		0		0	4,500	0	0	0	0
AGC - Remodel E Building & Elevator		0		0	2,570	0	0	0	0
Construct 50-Beds for PP Program		0		0	600	7,000	0	0	0
AGC - Install Sprinkler Systems		0		0	400	0	0	0	0
BRHSC - Remodel Dietary Department		0		0	350	800	0	0	0
WRTC - Service Building Improvements		0		0	250	0	0	0	0
SPRTC - Construct Ten Stall Garage		0		0	150	0	0	0	0
SPRTC - Laundry Building HVAC Upgrade		0		0	120	0	0	0	0
SPRTC - Pexton Residential Remodeling		0		0	75	750	0	0	0
WRTC - Complete Sprinkler Systems		0		0	45	450	0	0	0
BRHSC - Boiler Renovation/Upgrade		0		0	30	300	0	0	0

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Human Services, Department of

AMRTC - Remodel Miller Building		0		0	0	4,000	0	0	0
AGC - Remodel D & A Buildings		0		0	0	2,253	0	0	0
WRTC - Tunnel & Utilities		0		0	0	310	0	0	0
WRTC - Construct New Storage Building		0		0	0	80	0	0	0
CRHSC-Predesign		0		0	0	20	0	0	0
Agency Totals				\$14,293	\$17,455	\$44,021	\$0	\$0	\$0

Labor Interpretive Center

Labor Interpretive Center Building	1	0		12,700	0	0	0	0	0
Agency Totals				\$12,700	\$0	\$0	\$0	\$0	\$0

Metropolitan Council Transit

Transit Control Center and Equipment	1	0		4,500	0	0	0	0	0
St. Paul Bus Garage	2	0		12,000	0	0	0	0	0
				\$16,500	\$0	\$0	\$0	\$0	\$0

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Metropolitan Council Transit

Agency Totals

Military Affairs, Department of

Kitchen Renovation	1	0		850	850	450	0	0	0
Asset Preservation	2	0		900	900	900	0	0	0
Military Affairs/Emergency Mgmt Facility	3	0		921	13,297	0	0	0	0
Twin Cities Army Ammunition Plant (TCAAP)	4	0		300	0	0	0	0	0
Mankato Training/Comm Center (Armory)		0		0	5,223	0	0	0	0
Alexandria Training/Comm Center (Armory)		0		0	3,770	0	0	0	0
Anoka Training/Comm Center (Armory)		0		0	0	4,126	0	0	0
Agency Totals				\$2,971	\$24,040	\$5,476	\$0	\$0	\$0

Funding Source

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Minnesota Historical Society

Historic Sites Network - Asset Preservation	1	0		3,693	2,592	1,524	0	0	0
County and Local Historic Preservation	2	0		1,000	500	500	0	0	0
St. Anthony Falls Heritage Zone Orientation Center	3	0		4,800	0	0	0	0	0
North West Company Fur Post Development	4	0		3,148	0	0	0	0	0
Split Rock Lighthouse Visitor Center Addition	5	0		636	0	0	0	0	0
Historic Fort Snelling Site Improvements	6	0		591	2,145	0	0	0	0
State Capitol Furnishings Restoration	7	0		165	150	150	0	0	0
Oliver Kelley Farm Maintenance Building	8	0		429	0	0	0	0	0
Heritage Trails	9	0		267	229	544	0	0	0
St. Anthony Falls Heritage Zone Implementation		0		0	2,000	2,000	0	0	0
History Center Parking Ramp		0		0	650	6,485	0	0	0
Sibley Historic Site Preservation and Repair		0		0	500	500	0	0	0
Historic Forestville Development, Visitor Center		0		0	450	0	0	0	0
History Center Facilities for Storage Area		0		0	100	1,000	0	0	0

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Minnesota Historical Society

Split Rock Lighthouse Barn Reconstruction		0		0	0	138	0	0	0
Agency Totals				\$14,729	\$9,316	\$12,841	\$0	\$0	\$0

Natural Resources, Department of

Statewide Asset Preservation	B-1	0		2,282	2,283	2,283	0	0	0
Office Facilities Development - Interagency	B-2	0		15,575	12,317	500	0	0	0
Office Facilities Development - DNR	B-3	0		17,763	8,402	16,290	0	0	0
State Park & Recreation Area Bldg Rehabilitation	B-4	0		3,000	3,000	3,000	0	0	0
State Park and Recreation Area Bldg Development	B-5	0		4,500	4,500	4,500	0	0	0
Field Office Renovations and Improvements	B-6	0		1,323	1,885	1,146	0	0	0
Minerals - Hibbing Office Improvements	B-7	0		703	0	0	0	0	0
Facility Development - Storage	B-8	0		1,176	1,142	668	0	0	0
State Park & Recreation Betterment Rehab	NB-1	0		3,000	3,000	3,000	0	0	0
Well Sealing and Inventory on DNR Land	NB-2	0		900	0	0	0	0	0

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Natural Resources, Department of

Trail Rehabilitation and Adaptation	NB-3	0		500	500	500	0	0	0
Dam Repair/Reconstruction/Removal	NB-4	0		2,300	2,000	2,000	0	0	0
Flood Hazard Mitigation Grants	NB-5	0		31,172	4,000	4,000	0	0	0
Forestry Roads and Bridges	NB-6	0		2,488	1,840	1,840	0	0	0
RIM - Fish & Wildlife Fish Culture Rehabilitation	NB-7	0		810	180	180	0	0	0
Forest Recreation Facility Rehabilitation	NB-8	0		1,097	0	0	0	0	0
RIM - Fisheries Improvement	NB-9	0		500	500	500	0	0	0
RIM - Wildlife Development/Habitat Imprvment	NB-10	0		2,200	2,000	2,000	0	0	0
RIM - Scientific & Natural Areas (SNA) Dev	NB-11	0		1,200	1,200	1,200	0	0	0
Water Access Acq, Betterment, & Fishing Piers	NB-12	0		4,500	4,500	4,500	0	0	0
RIM - Wildlife Area Land Acquisition	NB-13	0		7,500	4,000	4,000	0	0	0
RIM - SNA Acquisition & Prairie Bank Easements	NB-14	0		12,000	4,500	4,500	0	0	0
RIM - Fisheries Acquisition	NB-15	0		800	600	600	0	0	0
Trail Acquisition, Development, and Betterment	NB-16	0		5,000	5,000	5,000	0	0	0

Funding Source

Page: 18

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**STATE OF MINNESOTA
CAPITAL BUDGET REQUESTS**

F.Y. 1998-2003

**GOVERNOR'S RECOMMENDATIONS
(BY AGENCY & SCORES)**

(\$ In Thousands)

Project description	Agency Priority	Strategic Score	Funding Source	Agency Request			Governor's Recommendation	Governor's Planning Estimates	
				F.Y. 1998	F.Y. 2000	F.Y. 2002	F.Y. 1998	F.Y. 2000	F.Y. 2002

Natural Resources, Department of

State Park and Recreation Area Acquisition	NB-17	0		4,000	4,000	4,000	0	0	0
State Forest Land Acquisition	NB-18	0		1,000	0	0	0	0	0
Lake Superior Safe Harbors	NB-19	0		6,550	5,000	5,000	0	0	0
Local Initiative Grants	G-1	0		7,000	7,000	7,000	0	0	0
Metro Regional Parks Capital Improvement Program	G-2	0		9,825	15,579	15,900	0	0	0
Agency Totals				\$150,664	\$98,928	\$94,107	\$0	\$0	\$0

Office of Environmental Assistance

Capital Assistance Program	1	0		15,000	10,000	10,000	0	0	0
Agency Totals				\$15,000	\$10,000	\$10,000	\$0	\$0	\$0

Public Service, Department of

Energy Investment Loan Program	1	0		10,950	8,100	8,100	0	0	0
Agency Totals				\$10,950	\$8,100	\$8,100	\$0	\$0	\$0

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F.Y. 1998-2003

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				F.Y. 1998	F.Y. 2000	F.Y. 2002	F.Y. 1998	F.Y. 2000	F.Y. 2002

Trade & Economic Development

MPFA State Matching Funds	1	0		21,576	15,400	7,700	0	0	0
MPFA Wastewater Infrastructure Funding	2	0		30,706	20,474	20,474	0	0	0
MPFA Transportation Revolving Fund	3	0		30,000	0	0	0	0	0
Agency Totals				\$82,282	\$35,874	\$28,174	\$0	\$0	\$0

Transportation, Department of

Bridge Replacement & Rehabilitation	GO-1	0		20,100	22,500	66,000	0	0	0
Federal Aid Demonstration Projects	GO-2	0		2,500	1,000	0	0	0	0
Port Development Assistance	GO-3	0		6,000	8,000	8,000	0	0	0
St. Cloud Headquarters - Addn/Remod	THF-1	0		7,729	0	0	0	0	0
Detroit Lake HQ - Addn/Remod		0		0	6,100	0	0	0	0
Golden Valley Maint Addn		0		0	5,000	0	0	0	0
Duluth Field Maint. Addn		0		0	2,500	0	0	0	0
Jordan/Shakopee Consolidation		0		0	1,526	0	0	0	0

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F.Y. 1998-2003

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(BY AGENCY & SCORES)**

(\$ In Thousands)

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				F.Y. 1998	F.Y. 2000	F.Y. 2002	F.Y. 1998	F.Y. 2000	F.Y. 2002

Transportation, Department of

Mankato HQ Addn/Remod		0		0	0	5,636	0	0	0
Thief River Falls Joint Use Facility		0		0	0	4,000	0	0	0
Traffic Management Center		0		0	0	2,000	0	0	0
Agency Totals				\$36,329	\$46,626	\$85,636	\$0	\$0	\$0

University of Minnesota

HEAPR - Health & Safety Improvements	1	0		25,000	0	0	0	0	0
Walter Library	2	0		53,600	0	0	0	0	0
Duluth Library	3	0		21,800	0	0	0	0	0
Morris Science, Math, Sports, and Heating Plant	4	0		26,834	7,812	0	0	0	0
HEAPR - Carlson School of Management Vacated Space	5	0		10,900	0	0	0	0	0
HEAPR - Classroom Renewal	6	0		10,000	0	0	0	0	0
Crookston Facility Improvements	7	0		2,100	0	0	0	0	0
Architecture Addition	8	0		9,000	0	0	0	0	0

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**STATE OF MINNESOTA
CAPITAL BUDGET REQUESTS**

F.Y. 1998-2003

**GOVERNOR'S RECOMMENDATIONS
(BY AGENCY & SCORES)**

(\$ In Thousands)

Project description	Agency Priority	Strategic Score	Funding Source	Agency Request			Governor's Recommendation	Governor's Planning Estimates	
				F.Y. 1998	F.Y. 2000	F.Y. 2002	F.Y. 1998	F.Y. 2000	F.Y. 2002

University of Minnesota

Agricultural Experiment Station Projects	9	0		4,400	0	0	0	0	0
Planning	10	0		6,800	0	0	0	0	0
JOML Replacement		0		0	75,900	0	0	0	0
HEAPR - Health & Safety Improvements		0		0	30,000	30,000	0	0	0
HEAPR - Classroom Renewal		0		0	17,300	9,700	0	0	0
St. Paul Greenhouse Renovation/Replacement		0		0	16,100	0	0	0	0
Art Building Replacement		0		0	14,300	0	0	0	0
HEAPR - Peters Hall Renewal		0		0	7,500	0	0	0	0
HEAPR - Duluth Academic Space Renewal		0		0	3,400	0	0	0	0
Crookston Kiehle Hall Renovation/Expansion		0		0	2,800	0	0	0	0
Planning		0		0	2,700	0	0	0	0
Earth Sciences/Materials Engineering		0		0	0	57,200	0	0	0
HEAPR - Cooke Hall Renewal		0		0	0	10,400	0	0	0
HEAPR - Morris Old Humanities Renewal		0		0	0	1,500	0	0	0

Funding Source

Page: 22

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**STATE OF MINNESOTA
CAPITAL BUDGET REQUESTS**

F.Y. 1998-2003

**GOVERNOR'S RECOMMENDATIONS
(BY AGENCY & SCORES)**

(\$ In Thousands)

Project description	Agency Priority	Strategic Score	Funding Source	Agency Request			Governor's Recommendation	Governor's Planning Estimates	
				F.Y. 1998	F.Y. 2000	F.Y. 2002	F.Y. 1998	F.Y. 2000	F.Y. 2002

University of Minnesota

Agency Totals	\$170,434	\$177,812	\$108,800	\$0	\$0	\$0
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Veterans Homes Board

Minneapolis Infrastructure	1	0		4,293	0	0	0	0	0
Hastings Power Plant Renovation	2	0		1,867	0	0	0	0	0
Hastings Campus Renovation		0		0	1,500	2,500	0	0	0
Maintenance/Warehouse - Silver Bay		0		0	368	0	0	0	0
Agency Totals				\$6,160	\$1,868	\$2,500	\$0	\$0	\$0

Water & Soil Resources Board

RIM Permanent Wetlands	1	0		20,950	20,950	20,950	0	0	0
Local Govt Road Replacement	2	0		6,281	0	0	0	0	0
Riparian Erosion Control	3	0		2,400	2,400	2,400	0	0	0

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**STATE OF MINNESOTA
CAPITAL BUDGET REQUESTS**

F.Y. 1998-2003

**GOVERNOR'S RECOMMENDATIONS
(BY AGENCY & SCORES)**

(\$ In Thousands)

Project description	Agency Priority	Strategic Score	Funding Source	Agency Request			Governor's Recommendation	Governor's Planning Estimates	
				F.Y. 1998	F.Y. 2000	F.Y. 2002	F.Y. 1998	F.Y. 2000	F.Y. 2002

Water & Soil Resources Board

Area II MN River Grant-in-Aid Program	4	0		1,625	800	400	0	0	0
Conservation Farming Grants	5	0		5,000	5,000	5,000	0	0	0
Grass Lake Prairie Wetland	6	0		1,500	0	0	0	0	0
Agency Totals				\$37,756	\$29,150	\$28,750	\$0	\$0	\$0

Zoological Gardens

Roadways and Pathways	1	0		6,700	7,300	0	0	0	0
Education Building	2	0		150	0	0	0	0	0
Bird Holding		0		0	860	0	0	0	0
Water Management		0		0	700	0	0	0	0
Greenhouse		0		0	275	0	0	0	0
Hospital		0		0	75	0	0	0	0
Agency Totals				\$6,850	\$9,210	\$0	\$0	\$0	\$0

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**STATE OF MINNESOTA
CAPITAL BUDGET REQUESTS**

F.Y. 1998-2003

**GOVERNOR'S RECOMMENDATIONS
(BY AGENCY & SCORES)**

(\$ In Thousands)

Project description	Agency Priority	Strategic Score	Funding Source	Agency Request			Governor's Recommendation	Governor's Planning Estimates	
				F.Y. 1998	F.Y. 2000	F.Y. 2002	F.Y. 1998	F.Y. 2000	F.Y. 2002
Grand Totals				\$1,165,895	\$830,404	\$562,112	\$0	\$0	\$0

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8/28/97

DRAFT

DRAFT

**BOARD OF WATER AND SOIL RESOURCES
UNIVERSITY OF MINNESOTA / CROOKSTON CAMPUS
CONFERENCE CENTER
CROOKSTON, MINNESOTA
AUGUST 28, 1997**

BOARD MEMBERS PRESENT: Kathleen Roer, Ginny Imholte, Jim Dahlvang, Jim Anderson, Dwain Otte, Barbara Uppgaard, Lee Coe, Rod Sando, Tim Hvidsten, Allan Oehlke, Barb Cobb, Sharon Clark, Marv Tripp, Kim Benson-Johnson

BOARD MEMBERS ABSENT:

Peder Larson, Pollution Control Agency
Glenn Annexstad
Darrell Bruggman

OTHERS PRESENT:

Wayne Edgerton, Department of Natural Resources
Kathy Zavoral and Lloyd Wiseth, Marshall-Beltrami SWCD
Gary Lee, East Polk SWCD
Lowell Enerson, Russell Sander, Vernon Johnson, Red Lake Watershed District

STAFF PRESENT:

Ron Harnack, Jim Birkholz, Greg Larson, Tim Fredbo, Brian Dwight, Tom Fischer, Bill Best, Karen Johannsen, Ron Shelito, Wayne Zellmer, and Mary Jo Anderson

BWSR Meeting Minutes
August 28, 1997
Page Two

Chair Roer called the meeting to order at 8:40 a.m. and welcomed everyone to Crookston.

Chair Roer stated that we're commencing a new era on the board, agency voting members. Chair Roer introduced Rod Sando, commissioner, Department of Natural Resources; Jim Anderson, Minnesota Extension Service; Sharon Clark, deputy commissioner, Department of Agriculture; Kim Benson-Johnson, attending on behalf of Kelli Johnson, assistant commissioner, Department of Health; and absent today Peder Larson, commissioner of Pollution Control Agency.

Chair Roer thanked Tim Hvidsten, who graciously hosted a wonderful dinner last night for the board; also thanked were staff from Kittson SWCD, Marshall SWCD, Middle River-Snake River Watershed District, Red River Watershed Management Board, MASWCD Area I, Mayor Dick Nelson of Warren, Two Rivers Watershed District, and Brian Dwight and Karen Johannsen for organizing a very informative tour of northwestern Minnesota.

Chair Roer asked members to introduce themselves.

97-58

Adopt Agenda - The New Business item #3, proposal to gain funding for limited duration RIM easements on riparian sites, will be for discussion rather than decision. Moved by Barb Cobb, seconded by Marv Tripp, to approve the agenda as presented. Motion passed on a voice vote.

97-59

Approval of Minutes of July 23, 1997 - Moved by Marv Tripp, seconded by Lee Coe, to approve the minutes of July 23, 1997 as circulated. Motion passed on a voice vote.

Chair's Report - Chair Roer reported that she attended the Environmental Cluster meeting, discussion included budget initiatives and the pipeline for southern Minnesota.

Executive Director's Report - Ron Harnack reported that he attended the NRCS annual meeting on August 26; discussion included NRCS staffing and training initiatives. Ron stated that the tour yesterday of northwestern Minnesota was very good. Ron reported that many activities are going on at this time -- BWSR staff are working on the bonding budget; the Farm Services Agency (FSA) has not fully endorsed the Conservation Reserve Enhancement Program (CREP). The Governor has issued a letter to Congressman Minge affirming the state's endorsement of CREP. A board member will be assigned to the RIM Advisory Committee. The Department of Administration Management Analysis Division has been contracted to assist BWSR in assessing administrative support functions, a periodic need as we grow in numbers and programs. Ron encouraged the agency members to be involved in the BWSR's committees.

Dispute Resolution Committee (DRC) Report - Marv Tripp reported that an active appeal with the Metro Airports Commission vs the Coon Creek Watershed District is scheduled for a hearing in October.

BWSR Meeting Minutes

August 28, 1997

Page Three

Education and Public Relations Committee - Barb Uppgaard reported that the committee met on August 26. A letter was received from the Minnesota Extension Service (MES) alerting BWSR that funding may be lost if the position was not filled by the end of September; that filling the northern position was a priority. Ron Shelito and Jeff Nielsen polled local governmental units throughout the state to see what educational priorities of BWSR should be. A report will be summarized next month by staff. A revised draft report on the education strategy will be done for next month.

Cost-Share/Soil Conservation Committee - Dwain Otte reported that BWSR members and staff met with MASWCD and MACDE and came up with six different options; four options evolved for further discussions at MASWCD area meetings. A committee recommendation will be sent to the Board for decision early next year for allocations to be distributed in June. Dwain thanked the committee for their input.

Chair Roer reported that the Wetlands Committee did not meet; however a meeting is being scheduled to discuss WCA rule process options.

Financial Oversight Committee - Ginny Imholte reported that Stearns SWCD will host a computer session in September to look at software packages.

Feedlot Committee - Allan Oehlke will defer his report until September when we will hear from several interests on the issue of feedlots and land use.

Agency Reports

Sharon Clark, deputy Commissioner, Department of Agriculture (MDA), introduced Bob Patton, staff of MDA. She appreciated the tour yesterday; MDA has been receiving many requests for ring levees. Many meetings regarding the pipeline coming into Minnesota; a mitigation plan is being put together with the Attorney General's office. The Leech Lake and Red Lake tribal units have been meeting with MDA and DNR. MDA is meeting with DNR and PCA to coordinate working relationships. MDA has also been busy with environmental cluster meetings dealing with feedlot issues.

Kim Benson-Johnson, Department of Health, thanked everyone for the tour yesterday; Kelli Johnson will be attending the next BWSR meeting. Kim stated that MDH continues to work with flood issues.

Jim Anderson, Minnesota Extension Service (MES), stated that the tour yesterday was great, he now has a better understanding of issues in northwestern Minnesota. MES received a request from Bruce Sandstrom and Phil Belfiori regarding the joint powers agreement with watershed management organizations in the metro area. Meeting today with JPB members to keep MES

BWSR Meeting Minutes
August 28, 1997
Page Four

involved and how can we legally stay involved. Jim reported that the College of Agriculture/ Natural Resources, and MES received funding for positions statewide at the experiment stations. MES involved with NRCS on EQIP to keep educational programs in place for producers. MES views the education position in the north as a high priority and they are happy to learn this position will be filled. Jim will report next month on the U of M's land development discussions for U of M's Dakota County holdings.

Chair Roer congratulated Rod Sando on his chairmanship of EQB.

Rod Sando, commissioner, Department of Natural Resources, reported on the Mille Lacs treaty; this does need to be appealed to the Supreme Court to bring this issue final closure, as the decision was just announced, he will report on details in September. Rod distributed DNR's strategic plan for members information. DNR is involved with the implementation of CRP; contact Wayne Edgerton with comments on this program. DNR has had a busy season with state parks; tourism has been down in the north; state trails are very popular with rollerbladers; Waters Division has been very busy with the flood disaster; Forestry is involved in the timber harvest; law enforcement will be more mobile. Rod is happy to be here.

Consent Agenda

Mahnomen County Comprehensive Local Water Plan - Tim Hvidsten reported that the northern review committee met on August 26 to review the Mahnomen County Comprehensive Local Water Plan and recommends approval of this plan.

South Washington Watershed District Watershed Management Plan - Barb Cobb reported that the metro committee recommends approval.

Upper Rum River WMO Watershed Management Plan - Barb Cobb reported that the metro committee recommends approval of the plan.

97-60

Moved by Tim Hvidsten, seconded by Ginny Imholte, to approve the Mahomen County Comprehensive Local Water Plan; the South Washington Watershed District Watershed Management Plan; and the Upper Rum River WMO Watershed Management Plan. Motion passed on a voice vote.

Chair Roer called for a break in the meeting at 9:50 a.m. The meeting reconvened at 10:10 a.m.

Old Business

BWSR Draft Strategic Plan - Jim Birkholz distributed an addendum to the draft strategic plan, a brief paragraph regarding technology, replacing page 12. Jim stated that comments on the draft are welcomed. The draft strategic plan is scheduled for decision at the September BWSR

BWSR Meeting Minutes

August 28, 1997

Page Five

meeting. Barb Uppgaard commended Jim and other staff working on this document. Board members commented, Jim and Marybeth Block need to receive additional comments by September 1. Chair Roer commended Jim and Marybeth for their fine efforts on the draft strategic plan.

New Business

Budget Update - Ron Harnack commented on the \$900,000 funding available through DNR for ring levee flood control structures. Commissioner Sando reported that Governor's Commission on Hunting and Fishing meeting is scheduled for September 8. Ron commented on budget initiatives. Ron stated that the Department of Finance has requested that some proposals come from general fund rather than bonding. There is one policy initiative and that is a technical issue on wetlands. The executive budget team meeting is scheduled for September 24, Kathi Roer will attend to review progress over the last ten years.

RIM Easement Land Exchange - Tim Fredbo stated that a request has been received from Mr. Robert Cole for the BWSR to approve a land exchange on a wetland restoration easement in Steele County. Mr. Cole's request is to move 6.6 acres currently under easement and replace it with 8.8 acres of adjacent marginal agricultural land. Staff recommends approval of this RIM easement land exchange. Discussion followed. Moved by Allan Oehlke, seconded by Lee Coe, to accept the staff recommendation to approve the request from Mr. Cole for the RIM easement land exchange in Steele County. Motion passed on a voice vote.

97-61

Proposal to Gain Funding for Limited Duration RIM Easements on Riparian Sites - Tim Fredbo explained that Area I had a pilot limited term program last year and are asking that 20-year easement options be formalized as an ongoing option. Brian Dwight introduced Kathy Zavoral, Marshall-Beltrami SWCD; Dave Clark, Marshall SWCD; and Gary Lee, East Polk SWCD. Kathy Zavoral discussed the purpose of the proposal. Discussion followed. Ron stated that options are: 1) should we continue the pilot program another year; 2) modify the work plan for RIM program, 3) keep the current policy focused on permanent easements. Next month staff will prepare assessment and recommendations for Board consideration. Also, are we looking at a 20-year problem that is perpetual. It was decided to examine this issue, and pursue the larger issue. Tim Fredbo invited a representative from this area to become a committee member of the RIM Reserve Advisory Committee.

FY98 Non Point Engineering Assistance Grant - Wayne Zellmer reported that this is the fourth year of the non point engineering assistance grant program. Wayne, on behalf of the Non Point Engineering Assistance Committee, recommends approval of this grant allocation as presented. Moved by Dwain Otte, seconded by Allan Oehlke, to approve the FY98 Non Point Engineering Assistance Grant. Motion passed on a voice vote. Ron Harnack commended the committee on their work.

97-62

BWSR Meeting Minutes
August 28, 1997
Page Six

97-63

Order Hearing for Washington County Establishment Petition for Brown's Creek Watershed District - Jim Birkholz explained that the area had previously been in a joint powers agreement watershed management organization; however, the Brown's Creek WMO was terminated. Subsequently, BWSR notified Washington County of their obligations, Washington County fulfilled its responsibilities on a temporary basis and now has petitioned for establishment for a watershed district. Moved by Ginny Imholte, seconded by Barb Cobb, to order hearing on the Washington County Establishment Petition for Brown's Creek Watershed District, 10:00 a.m. on September 17, 1997, at the City of Stillwater City Hall. Motion passed on a voice vote.

Advisory Comments

-Mark Aanenson, MACDE, thanked the BWSR for coming to northwestern Minnesota. Mark asked if the critical habitat of the RIM program being addressed; such as prairie chickens, waterfowl production, and timberwolves. Mark also reminded the BWSR that 20 years ago this area of the state was draining wetlands. General services allocation is a concern in this area of the state. Farmstead windbreaks as part of the cost-share program is also a concern in this area.

-Vern Johnson, MAWD, enjoyed the tour of northwestern Minnesota. He briefly commented on the taxing authority for watershed districts.

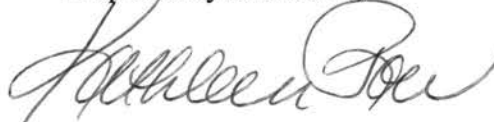
-Al Gustafson, NRCS, reported on the status of CRP. He reported that \$6 million for fiscal year 1997 has been approved for EQIP for Minnesota; FY98 EQIP has been submitted, waiting for approval of \$20 million. Justin Jeffrey's position has been extended another two years. NRCS is pleased with the working relationship of Joe Wiltsey, training coordinator.

97-64

November/December Meeting Date - Moved by Dwain Otte, seconded by Marv Tripp, to eliminate the November meeting and meet on December 17 in St. Paul. Motion passed on a voice vote.

Chair Roer adjourned the meeting at 12:10 p.m.

Respectfully submitted,



Kathleen Roer
Chair





















FYI



July 25, 1997

TO: SWCD's in Flood Disaster Counties

FR: *TF* Tim/Fredbo, RIM Program Manager

RE: RIM Reserve Flood Sign-Up

One West Water Street
Suite 200
St. Paul, MN 55107
(612) 296-3767
Fax (612) 297-5615

Field Offices

Northern Region:

394 S. Lake Avenue
Room 403
Duluth, MN 55802
(218) 723-4752
Fax (218) 723-4794

3217 Bemidji Avenue N.
Bemidji, MN 56601
(218) 755-4235
Fax (218) 755-4201

217 S. 7th Street
Suite 202
Brainerd, MN 56401-3660
(218) 828-2383
Fax (218) 828-6036

Southern Region:

261 Highway 15 S.
New Ulm, MN 56073-8915
(507) 359-6074
Fax (507) 359-6018

40--16th Street SE
Suite A
Rochester, MN 55904
(507) 285-7458
Fax (507) 280-2875

Box 267
1400 E. Lyon Street
Marshall, MN 56258
(507) 537-6060
Fax (507) 537-6368

Metro Region:

One West Water Street
Suite 250
St. Paul, MN 55107
(612) 282-9969
Fax (612) 297-5615

In response to the spring flooding that occurred in many parts of the state the Board of Water and Soil Resources, at its' June 25, 1997 meeting, authorized a special RIM sign-up. The Board made \$2.7 million available to fund conservation easement applications that would inherently help to reduce impacts of future flood events, (i.e., riparian floodplain and wetland restoration easements). **Only SWCD's in declared flood disaster counties (map attached) are eligible to submit easement applications for funding consideration at this time.**

Following are key points of information concerning this sign-up:

- Locally ranked and complete applications should be submitted to your Board Conservationist by September 19th. Utilize your screening committees. In completing applications follow the procedures outlined in the Application Stage section of RIM Handbook 2.
- The Board will only consider wetland restoration and riparian easement applications during this sign-up. Riparian areas should be cropland that flooded this past spring and has a history of frequent flooding (within the 100 yr. floodplain).
- Use the 1996 payment rates for now in figuring RIM easement payment rates with your landowners. Adjust payment rate amounts when you receive your new rates prior to sending them to your BC. New rates should be there within the next three weeks.
- Applications should be numbered 97 - 01, along with your appropriate county code and priority number.
- With wetland restoration applications, remember to fill out the Wetland Restoration Information Form. If you have questions concerning potential restoration sites contact either Tom Wenzel or Jeff Hedtke of our RIM staff.

We will be having our regular RIM sign-up period later this fall. The application deadline will probably be December 8, 1997. The balance of our 1996 bonding appropriation will be available for that sign-up. If the flood sign-up allocates the

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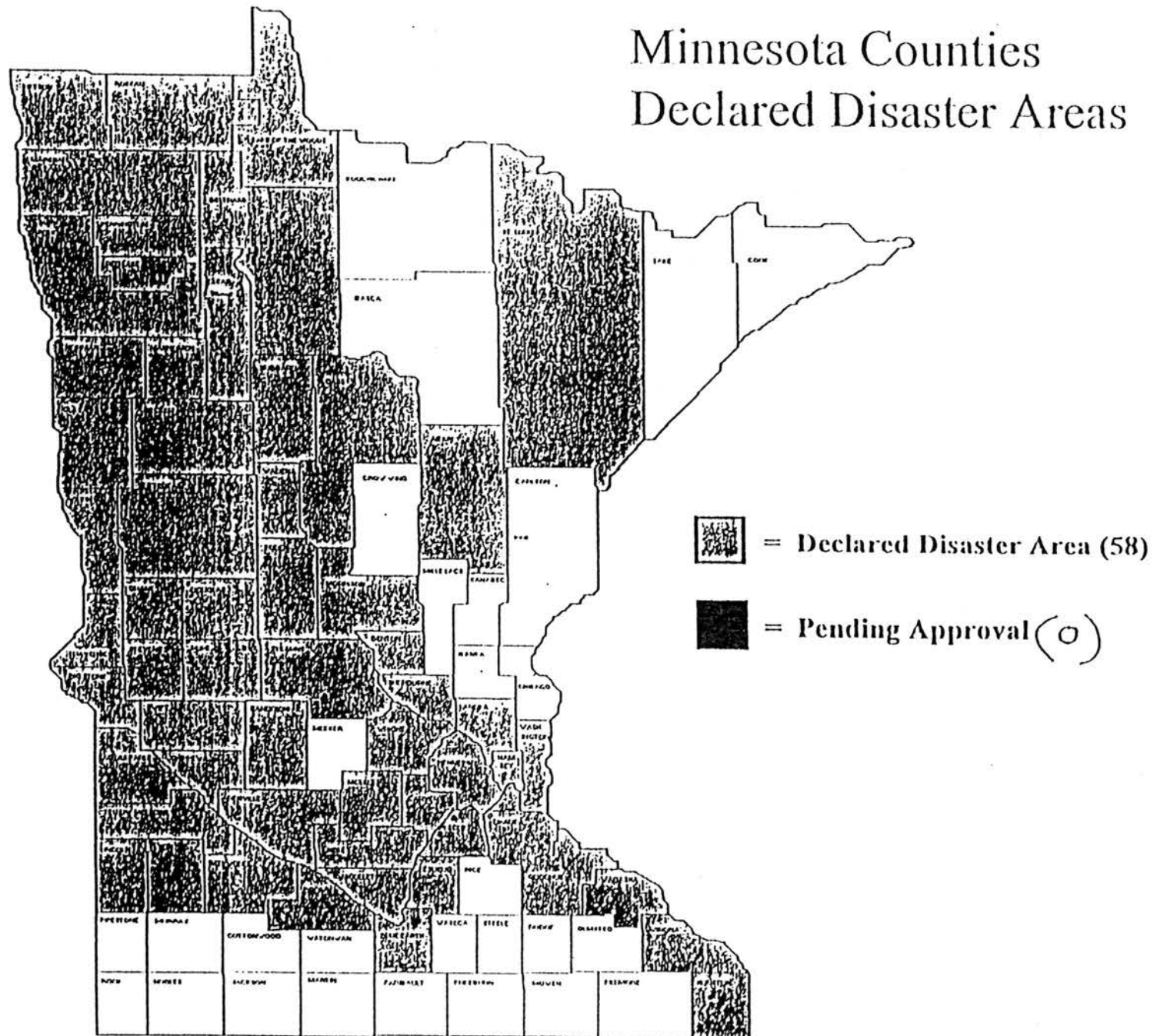
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entire \$2.7 million, the amount available for the fall sign-up will be approximately \$2.8 million. This amount could increase depending on the results of the upcoming special "flood" session of the MN legislature. The BWSR is requesting an additional \$4 million to address flood needs via the RIM program.

If you have questions concerning this special flood sign-up, please contact the RIM staff in St. Paul.

cc: RIM staff
Ron Harnack
Al Kean
Greg Larson
Board Conservationists
Regional Supervisors

Minnesota Counties Declared Disaster Areas



5 May 1997

Board Packet



August 20, 1997

David M. Gilbertson
Nelson Oyen Torvik, P.L.L.P.
P.O. Box 656
Montevideo, MN 56265

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St. Paul, MN 55107
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Field Offices

Northern Region:

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(218) 723-4752
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Southern Region:

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Box 267
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Metro Region:

One West Water Street
Suite 250
St. Paul, MN 55107
(612) 282-9969
Fax (612) 297-5615

RE: Appeal of Permit Decision, Yellow Medicine Watershed District

Dear Mr. Gilbertson:

As we discussed on the telephone August 15, 1997, the Board of Water and Soil Resources is not authorized by law to hear the appeal of Richard Rogers on a July 14, 1997, permit decision made by the Yellow Medicine Watershed District. Minn. Stat. § 103D.537 was amended by the legislature in 1995 whereby the Board of Water and Soil Resources no longer hears appeals of permit decisions or orders not involving projects by watershed districts. Accordingly, this appeal by Mr. Rogers must be denied in all respects.

For your information, the Board of Water and Soil Resources does hear appeals of rules and orders involving projects by watershed districts.

We are returning (please find enclosed herewith) your check in the amount of \$250.00.

Please feel free to contact me at 297-2906 or at the central office address should you wish to discuss this matter further.

Sincerely,


Jim Haertel
Water Management Specialist

Enclosure

cc: Yellow Medicine WD

Dennis Simpson

Matt Seltzer, AGO

BWSR: Ron Harnack, Jim Birkholz, Doug Thomas, Marshall Office

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Board Member Update

August 1997

Engineering and Technical Services Section

Conservation Easements

The Conservation Reserve Enhancement Program (CREP) memo of understanding has been revised (again) and sent to the Farm Services Agency (FSA) for review. Indications are that it will go. The CREP program has the potential to bring \$200 million of federal funds to Minnesota with a state contribution of \$50 million over ten years. Easements in the Minnesota River Basin are targeted.

SWCDs are currently taking applications for wetland restorations and floodplain riparian easements in declared disaster counties during the special flood response sign-up authorized at the June board meeting for up to \$2.7 million. Prioritized applications are due in to board conservationists by September 19.

There are currently about 125 easements through the Reinvest in Minnesota (RIM) Reserve and Permanent Wetland Preserves (PWP) Programs in various stages of processing (and implementation, for wetland

restorations). SWCDs and BWSR engineering staff have completed designs for about 50 wetland restoration projects since the beginning of the calendar year. Many are in the construction phase this summer. Tom Wenzel, design engineer, reports that construction bids have generally seemed more reasonable this year. He's not sure if contractors are hungrier than usual, or if his and other designer's estimates have become more realistic. Bids closer to estimates may also reflect additional efforts to acquaint contractors with projects and bid documents before bidding. We'd like to think those efforts have payed off.

In late July, Tom attended a "WRP (Wetland Reserve Program) Workshop on Management/Monitoring of Easements" in Des Moines in Tim Fredbo's stead. Tom reports that many people from all over the country shared info about their easement programs. Tom shared info about how we administer, manage and monitor RIM and PWP easements, and the status of the WRP/RIM pilot project. Many NRCS folks administering WRP programs are experiencing much the same growing pains that the RIM program experienced in its early years. Tom received many requests for our Easement Program Handbooks and the

MN Wetland Restoration Guide, which should be of assistance to NRCS staff developing national policies and procedures for the WRP. On a related note, the WRP/RIM pilot project to integrate 30-yr. WRP easements and perpetual RIM easements continues to move forward, albeit somewhat slowly.

Tom reports that two pilot applications of a new PVC (plastic) composite sheet pile have been installed this year for principal spillways on wetland restorations where flows are high and water height differentials low. This product had been used primarily in coastal marine applications to date. Our first two wetland restoration applications were about 40 percent lower in cost than steel sheet pile. Two more applications are slated for construction yet this year. BWSR and SWCD staff will monitor these projects to see how the plastic sheet pile holds up in Minnesota.

Lakeshore Engineering

Construction was recently completed on two more shoreline stabilization projects involving a total of about 300 feet of eroding shoreline. Gene Clark, lakeshore engineer, and Brad Matlack, lakeshore engineering technician, have helped North Shore SWCDs and landowners install a total of five projects so far this construction season and expect to assist with construction of four or five more yet this fall.

Gene has been working with Mark Nelson, board conservationist, and the MPCA to help develop a Phase I Clean Water Partnership (CWP) document for the North Shore drainage basin. The Lake Superior

Association of SWCDs and North Shore Management Board have been involved as potential local sponsors. This CWP would enable North Shore landowners to participate in the State Revolving Fund (SRF) Loan Program, with a focus on septic system upgrades and other lakeshore best management practices.

We recently heard from MPCA that two EPA 319 grant proposals submitted by the BWSR for lakeshore related projects will be funded in calendar year 1998. These projects include:

- 1) A one year extension of the part-time lakeshore engineering technician position that Brad fills to support lakeshore best management practice implementation (submitted by Gene; \$21,200 grant).
- 2) A Lake Superior shoreline protection program to combine EPA grant funds with state revolving loan funds and state cost-share for BMP implementation (submitted by Mark; \$60,000 grant).

Gene and Brad continued planning and design work this month on a Great Lakes Commission grant for demonstration projects to stabilize slopes with vegetation and shorelines with other low-cost techniques.

Gene will attend a Coastal Hazards Mitigation Workshop in Traverse City, Michigan, on August 24 and 25. This workshop is sponsored by the National Oceanic and Atmospheric Administration (NOAA) and Federal Emergency Management Agency (FEMA). Other state participants will include Flood Insurance Program Coordinators, Hazard Mitigation Officers and Coastal Zone Management program staff. Costs will be reimbursed by

NOAA.

Technical Consultation and Coordination

Justin Jeffery, training and design engineer, conducted quality assurance reviews of several projects in SWCD Joint Powers Area (JPA) 9 (Slayton) and JPA 7 (Montevideo) in early August. We continue to see good quality work being done by the joint powers staff. These reviews also provide good opportunity for sharing conservation engineering experience with and among BWSR and JPA engineering staff.

Al Kean, chief engineer, attended a meeting of the Feedlot and Manure Management Advisory Committee in late July, along with board member Allan Oehlke.

Recommendations of the Land Application Task Force were presented and discussed. There were some differences of opinion, of course, but good input was provided to MPCA and others. It appears that MPCA is looking to this effort as input for the feedlot rules, which are being revised. MPCA staff presented current concepts they are developing for the new feedlot rules, and got some informal feedback. The feedlot rule schedule has been pushed back to going out for public comment sometime around the first of the year.

Justin and Al also attended a meeting of the Feedlot and Manure Management Coordinating Committee for Information and Education recently. This committee continues to seek new ways to identify and share information about existing publications, ongoing research and education. A database (on a web site?) is

being looked into. The committee is also trying to identify new ways to coordinate training efforts.

The Minnesota Erosion Control Association (MECA) has a workshop about erosion control blankets scheduled for September 5 in Shakopee. The workshop will include a visit to a MNDOT research project which has a variety of erosion control blankets installed next to each other.

Al and Justin continue to work with Joe Wiltsey, training coordinator, to implement the technical training initiative at the area level. Al and Joe will be meeting with NRCS area conservationists this week to look at where this initiative is at and what commitment they can make (or not) to leading area-based training teams. Clarifying expectations for area level training teams and state level coordination by Joe are also expected to be topics of discussion. This initiative has been quite a while in process, and folks are getting restless looking for action at the front lines.

Al and Justin attended an international meeting of the American Society of Agricultural Engineers (ASAE) in Minneapolis recently. About 1,700 people were registered. Many NRCS engineers and a number of the SWCD joint powers engineers also attended. Many papers pertinent to conservation engineering were presented at the conference. Justin is coordinating with those who attended to assemble copies of the many different papers that people picked up. We will try to share to the extent feasible. On a related note, Justin recently distributed copies of a new Engineering Field Handbook chapter on streambank and lakeshore erosion control to

other BWSR staff and SWCD JPA staff.

Al participated with Darrell Apelgrain, water resources engineer, and Billy Thomas, Area II engineer, on annual inspections of several flood control and recreation dams in southwest Minnesota. These dams were sponsored by the Yellow Medicine Watershed District and involved state cost-share to construct. John Bolton represented the Yellow Medicine WD on the inspections. The structures are in good condition, but some minor erosion control and other housekeeping concerns were identified.

Northern Region

A short, mid-summer lull gave north region staff an opportunity to do some much needed brain storming, training, and clientele interacting. A couple examples follow.

Board Conservationists (BCs) Keith Grow, Pete Waller, and Dan Steward met with St. Paul staff members Doug Thomas and Wayne Zellmer to refit the Natural Resources Block Grant (NRBG) application process. We have received some complaints the last couple years regarding the application and the timeliness of the grants getting out the door to districts. Everyone met in Brainerd and came up with some great ideas for streamlining the process, improving administration as well as increasing the accountability of the NRBG. Doug and Wayne committed to following up on the ideas discussed.

Jim Lemmerman, staff forester, has been

working with the new interagency living snowfence task force. They have submitted an application to FEMA to fund some living snowfence activities in Minnesota.

Mark Nelson, Duluth BC, reports attending the first ever State Revolving Fund (SRF) Joint Powers Board/Lake Superior Association combined meeting. Mark hopes that this will continue and ultimately, save time, money, and reinforce the fact that the SRF joint powers work is part of the SWCDs overall program.

Jim Lemmerman assisted in a week-long Windbreak Technology training for about 30 SWCD employees. This was an intense training for design, establishment, and maintenance of both field windbreaks and farmstead shelter belts. Most districts in the state still rely heavily on a tree planting program to supplement their operating budget, as well as to provide a service to local landowners. This type of ongoing windbreak training is needed.

BC Brian Dwight has been putting in extra time planning for the upcoming BWSR Board tour to be held in the Red River Valley. The tour will start and end in Crookston, with the board meeting being held at the U of M, Crookston. The tour is scheduled for August 27 and the board meeting August 28.

Keith Grow organized a RIM Reserve training session for SWCDs in the north region. Pete assisted in this effort, along with St. Paul staff Polly Remick, Steve Miller, and Tim Fredbo. About 35 SWCD employees attended. Field staff appreciate the efforts made by Polly, Steve, and Tim to make the trip to Brainerd to meet with

clientele and assist in the training.

Dan attended an Aitkin County water planning task force meeting and reports that their latest idea is to provide qualifying realtors with certificates for completing environmental training. The training would consist of information prospective buyers should be aware of such as building setbacks, wetlands, and vegetation clearing. The training would be offered by local staff, i.e., SWCD and county. The realtors would be encouraged to post the certificates on their walls or doors where customers could see them.

Dan Steward reviewed the Crow Wing County Water Plan and brought it before the ad hoc committee. The committee recommended approval and the board ultimately approved it at the July meeting. Bill Best, Bemidji BC, will be bringing the Mahnomen Water Plan forward in August.

The Wetland Conservation Act (WCA) is still on the highlight reel in northern Minnesota. In particular, Willard Rehbein has agreed to full restoration on his violation site in Mille Lacs County. Perhaps you remember that Willard put in a seven mile road last year across hill, dale, and wetland. EPA took this action on and prosecuted from the federal level. Willard has agreed to full restoration and will be pulling out the road and refilling all the road ditches. Keith Grow and Dan Eklund (BWSR wetland specialist) have provided excellent assistance to the EPA on this project and strong support to the Mille Lacs SWCD.

In other WCA news, most BCs have been running around looking at proposed banking sites for the road mitigation program. Dan

Eklund has a site in Polk County that would be a real dandy--1,000 acres in the valley. The landowners want to sell, but we need to put a financial package together. Dan will be contacting the U.S. Fish and Wildlife Service, Ducks Unlimited, the local SWCD and others to assist with technical assistance and funding for this site.

Mark has been providing much assistance to Koochiching County on preparing their wetland plan. Mark points out that since Koochiching County land area is 80 percent wetlands, and the county is sparsely populated, it is important that BWSR assist the county in developing a plan that meets environmental goals, but is realistic in its view of the wetland resource in Koochiching County. The Koochiching wetland plan will likely be brought to the board by winter.

Ron Shelito, northern supervisor, has been working with the reporting team to pull together a final version of the Local Government Annual Reporting System (LARS). The guidance document is being redrafted, and selected local government units (LGUs) are currently road-testing the latest version of the program. We hope to have 100 percent of our clientele reporting via LARS next year. LARS has been receiving some national attention via the EPA.

1997		November				1997	
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	
						1	
2	3	4	5	6	7	8	
9	10	11	12	13	14	15	
16	17	18	19	20	21	22	
23	24	25	26	27	28	29	
30 ^{AMC}				Thanksgiving Day	Holiday		

1997		December			1997	
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
AMC Annual Meeting Bloomington	1 AMC Annual Meeting Bloomington	2 AMC Annual Meeting Bloomington	3	4	5 MAWD Annual Meeting Alexandria	6 MAWD Annual Meeting Alexandria
7 MASWCD Annual Meeting Rochester	8 MASWCD Annual Meeting Rochester	9 MASWCD Annual Meeting Rochester	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25 Christmas Day	26	27
28	29	30	31			



National Envirothon News 1997

from Susan Tsakakis, BWSR 612/297-1893

Where and when was it?

The National Envirothon was held in Johnstown, Pennsylvania, August 5-10. Johnstown is about 70 miles from Pittsburgh. Participants stayed at the University of Pittsburgh--Johnstown, a beautiful college campus that houses about 2000 students during the school year.

Who won?

Pennsylvania won. Minnesota came in 30th out of 37 teams.

What do the winners get?

Because Canon USA, Inc. is now a major corporate sponsor of the National Envirothon, each member of the top 10 teams received a new Canon Sure-Shot camera. In addition, each student on the first place team received a \$2500 scholarship; each student on the second place team received a \$1500 scholarship; and each student on the third place team received a \$1000 scholarship. Canon plans to continue these scholarship awards annually. This might be a good way to help sell the program to teachers.

Who was there from Minnesota?

Of course, our winning team from Willow River High School (Pine SWCD); their teacher/advisor Tom Leustek, and his wife Jean; Susan Tsakakis (BWSR) and Vicki Miller (Norman SWCD), Minnesota members of the National Envirothon Committee; Mary Ann Mills and Mary Summerland (Pine SWCD); and Jo Lind (Carlton SWCD) and her husband.

What about the 1998 National Envirothon?

The 1998 National Envirothon will be held in East Lansing, Michigan, July 27-August 1, 1998. Michigan approaches their learning stations a little differently than other states...instead of five stations that each focus on a separate topic, they have "eco-stations" that incorporate all subject areas. For example, one eco-station might have five water questions, three soils questions, four wildlife questions, etc. In addition to the usual subjects (soils, forestry, aquatics, wildlife and environmental issues), Michigan plans to incorporate some questions on energy and sustainable ag. The environmental issue topic is watersheds.

What's the National Envirothon's web site address?

<http://www.dunnscomp.com/Natenv>

What about the Area and State Envirothons?

All area coordinators are meeting on August 20. I'll have more information after that.



Directions

For Natural Resources

*An Ecosystem-Based Framework for Setting
Natural Resource Management Priorities*



**Strategic Plan
July 1997**

Minnesota Department of Natural Resources

RESOURCE MANAGEMENT GUIDANCE DOCUMENT

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I. EXECUTIVE SUMMARY

SUSTAINABILITY, ECOSYSTEM-BASED MANAGEMENT, AND ECOSYSTEM INTEGRITY

Sustainability means protecting and restoring the natural environment while enhancing economic opportunity and community well-being. Sustainability addresses three related elements: the environment, the economy, and the community. The goal is to maintain all three elements in a healthy state indefinitely.

Sustainability is the expected result of all DNR resource management activities. DNR will work with partners to protect and restore ecosystems so that their resources can be used indefinitely by present and future generations. Cooperative partnerships will seek options to reconcile human needs and demands with the capacity of ecosystems to meet those demands.

Ecosystem-Based Management is the process of sustaining ecosystem integrity through partnerships and interdisciplinary teamwork. Ecosystem-based management focuses on three interacting dimensions: the economy, the social community, and the environment. Ecosystem-based management seeks to sustain ecological health while meeting socioeconomic needs.

Ecosystem-based management requires that DNR interdisciplinary teams work with the public to develop and implement sustainability goals for entire ecosystems. This is different from the old model of working separately to improve individual resources.

Ecosystem integrity is a measure of the capacity of ecosystems to renew themselves and continually supply resources and essential services. Ecosystem integrity is the degree to which all ecosystem elements -- species, habitats, and natural processes -- are intact and functioning in ways that ensure sustainability and long-term adaptation to changing environmental conditions and human uses.

Resource professionals must work closely with citizens to develop practical measures of ecosystem integrity. Benchmarks of ecosystem health will help identify clear targets for restoring degraded ecosystems and help evaluate progress toward reaching sustainability goals.

Background

Use of Minnesota's natural resources is increasing. Resource use is shaped by local, national, and global demands and pressures. Minnesota's natural resources provide distinct economic and social benefits. But the pattern of increasing use raises concerns for the health of certain ecological communities and the sustainability of vital ecosystems. Furthermore, stakeholders demand more involvement in natural resource decision making, and ask for a wider variety of products and amenities from natural systems. This can lead to increased conflict and new challenges for resource managers.

The DNR developed a foundation to address these concerns with *Directions* 1995. Here DNR outlined its vision:

"to work with people to manage the state's diverse natural resources for a sustainable quality of life."

DNR's vision hinges on the concept of sustainability. To DNR, sustainability means protecting and restoring the natural environment while enhancing economic opportunity and community well-being. DNR endorsed ecosystem-based management as its method to achieve sustainability, and uses the concept of ecosystem integrity as a benchmark to measure progress toward sustainability goals (see sidebar).

These concepts helped build cohesiveness for DNR activities, but many staff felt they were too broad to truly guide resource management on the ground. To address this, the DNR's strategic planning process involved a range of field teams and stakeholders in developing statewide resource management priorities.

Process: The process began with area and regional staff meetings in the summer of 1996. Additional input was sought from department planners, program managers, operations managers, the EBM Coordinating Network, the Senior Managers Council, and the Commissioners Management Team. A stakeholder survey and follow-up focus groups gathered additional input from stakeholders.

This effort resulted in a number of findings and decisions that provide guidance for priority setting. They do not, nor do

APPLYING PRIORITIES

As a strategic guidance document, this is not intended to provide staff with specific directions on which programs to emphasize or de-emphasize. Those decisions cannot be made centrally, since the knowledge of local needs and conditions is held by area and regional staff.

This document presents a preliminary status report on Minnesota's natural resource base. It outlines a desired direction and provides examples of science and community-based approaches to sustaining that natural foundation.

Each region will need to determine which statewide natural resource issues apply in their part of Minnesota and select those that deserve high priority for attention. Working with area teams, regional teams should identify the strategies needed to address the high priority items. This should be an inclusive process that is implemented in partnerships with local communities.

Area and regional staff provided the main suggestions that undergird this document. Their suggestions highlighted the concern for habitat losses and the need for an ethic of resource and land stewardship. Those goals are the heart of the guidance provided by this document. First steps in implementing selected strategies will be identified in biennial work plans developed at area and regional levels. Strategies and goals may be applied in many ways.

- *Area staff cannot possibly address all resource management needs and opportunities arising in their area. They have always developed priorities to address the most important issues. Working as teams, area staff may use the guidance document in several ways. Recognizing habitat loss as a top priority, teams may wish to prioritize important habitat types and locations. They may then select from their numerous issues those with the greatest potential for addressing habitat loss issues.*

- *Regional staff and eventually all area teams will develop spending plans. The high-priority projects may be those that address habitat loss with an integrated approach or that capitalize on a significant environmental education opportunity.*

Time and process will refine these goals and strategies. Cooperative efforts between area, regional and central office staff will clarify how the guidance document will translate into specific program priorities.

they intend to define specific priorities for any program, region, or area. Those decisions must be made at local levels.

This document provides: 1) two primary goals for carrying out DNR's vision of sustainability, 2) a framework for priority-setting, based on our best understanding of citizen perspectives, social and economic forces, and current status and trends of Minnesota's ecosystems, 3) preliminary statewide resource management priorities that are based on this framework, 4) examples of ecosystem-based approaches for addressing these priorities, and 5) strategies for attaining DNR's fundamental goals.

Goals

The DNR endorsed the following goals to implement its vision of sustainability:

- 1) to maintain, enhance, or restore the health of Minnesota ecosystems so that they can continue to serve environmental, social, and economic purposes.
- 2) to foster an ethic of natural resource stewardship among all Minnesotans.

Framework and Basis for Priority Setting

Citizen Perspectives: Surveys conclude that most Minnesotans feel that the state's natural environment generally is in good shape. However, many citizens indicate that there are environmental problems in their locality. DNR will need to work closely with citizens to address their local problems and to develop a mutual understanding of statewide resource conditions.

Economic, Social, and Environmental Forces: These forces include consumerism, political and lifestyle shifts, demographic trends, technology, and nature itself. Understanding how these forces shape natural resource use and demand helps define long term resource management priorities and strategies. For example, population growth creates demand for housing sites, timber, mineral resources, and clean water. Changing demographics create new demand for recreation opportunities. The underlying forces influence an increase — often a dramatic increase — in the use of Minnesota's natural resources.

Ecosystem Status, Priorities, and Approaches: Minnesota's ecosystems — extensive forests, lakes, rivers and wetlands, agricultural lands and prairie grasslands — are the foundation of the state's economy and quality of life. Minnesota has developed a first-class outdoor recreation system based on these ecosystems. Scientific resource management supports a diverse resource-based industry and yields a habitat mix of rich diversity.

However, increased demand on natural resources along with changes in land use and outdoor recreation will challenge DNR's ability to meet its vision of ecosystem sustainability.

- *Many ecological communities in Minnesota require restoration and improved management to reverse trends in declining environmental health.*
- *Land use conversion continues to fragment and reduce the extent of ecological communities.*

These losses weaken the ability of natural ecosystems to renew themselves and to provide resource products and essential ecological services on a sustained basis. To address this concern, DNR needs to assess status and trends of ecosystems and resources, and set priorities based on this assessment. With input from field teams and assessment of ecosystem data, DNR's strategic planning process identified preliminary management priorities for forests, waters and wetlands, agricultural lands, and sensitive and threatened habitats:

Forests:

- 1) Protecting riparian areas,
- 2) ensuring forest soil productivity,
- 3) maintaining wildlife diversity, and
- 4) managing for healthy and resilient forest ecosystems across landscape scales.

Waters and Wetlands:

- 1) Reducing non-point source pollutants,
- 2) achieving no-net loss of wetlands,
- 3) managing shoreline development,
- 4) controlling spread of exotic species, and
- 5) protecting groundwater systems.

Agricultural lands:

- 1) Improving water quality, and
- 2) enhancing habitat and diversity within agricultural landscapes.

Sensitive and Threatened Habitats:

- 1) Accelerating collection and delivery of habitat information,
- 2) Maintaining representative examples of habitats in sufficient extent to sustain essential ecological processes and viable populations of plants and animals, and
- 3) Retaining features of threatened habitats in more intensively managed lands and waters.

DNR Management Responsibilities

To address these priorities, DNR will use ecosystem-based approaches and will become more of a science-led and community-based organization. DNR staff will emphasize the following strategies:

- *Expand development of partnerships with organizations and other agencies to develop common resource management objectives.*
- *Promote integrated approaches to managing resources.*
- *Accelerate the collection, interpretation, and dissemination of scientific information describing Minnesota's ecosystems and natural resources.*
- *Expand efforts to provide technical assistance to citizens and local government.*
- *Improve communication with all stakeholders and citizens.*
- *Establish environmental education as a cornerstone for developing a natural resource stewardship ethic among all Minnesotans.*
- *Establish standards for evaluating and monitoring ecosystem health and effectiveness of ecosystem-based management efforts.*
- *Improve integration of budgeting and planning across area, regional and state levels.*
- *Place more authority with area staff to manage budget and staffing priorities.*

Next Steps: Disciplines, regions, and areas will use this document to help develop strategic natural resource plans, work plans, and budget priorities. For example, regions will work with areas to review these goals and strategies and define how they will be applied in each geographic area. Once priority resource areas and actions are determined, work plans and budget recommendations will be developed to reflect the priorities.

Support bureaus will use this document to define their role in providing services that further resource management priorities. Support bureaus will need to work closely with regional management teams and divisions to identify support needs.

Given the complexity of DNR resource management programs, setting interdisciplinary priorities will resolve past conflicts but may pose new issues. The DNR will develop a process for reaching consensus on resource priorities that can be used at the point where differences arise.

Over the longer term, the DNR will continue to integrate resource management priorities into existing departmental processes (discipline planning, budget development, regional resource plans, work plans, spending plans, etc.). Over time, integration and coordination in setting priorities will improve. So also will efforts to include stakeholders in the process.

SURVEY SOURCES

Himle Horner: Summary and Report on Research Conducted on Sustainable Development, surveys of Minnesota residents, 1996

Focus Groups: Stakeholder focus groups provided detail on responses generated in stakeholder survey by TK Associates (core associates: Dec. 1996, Jan. 1997)

Stakeholder Survey: An independent telephone survey of 130 stakeholders for opinions on DNR's approach of working comprehensively with the community, environment and economy (TK Associates: Sept. 1996)

Southeastern Minnesota: Environmental and Landuse Survey of Residents of Wells Creek Watershed and Southeastern Minnesota, Minnesota DNR and United States Forest Service, 1994.

Cannon River: Survey of Cannon River valley residents for their perspectives on resource issues and management needs. (The Nature Conservancy, 1995)

II. CITIZEN PERSPECTIVES

Stakeholder and citizen perspectives will continue to influence DNR strategic directions. Several recent studies give insight to stakeholder perspectives on resource management.

- *Citizens place high priority on the natural environment and believe that the natural environment is generally healthy.*

In southeast Minnesota, 87% said that their quality of life depends on the environment (*Southeastern Minnesota*). Minnesotans' environmental values will continue to be a keystone around which resource management strategies can be developed.

- *Stakeholders strongly support the balance between economy, the community and the environment sought through sustainable development approaches.*

Ninety-six percent of those surveyed ranked sustainable development approaches as very important and 59% were satisfied with how the DNR is carrying it out (*Southeastern Minnesota*). Seventy-six percent of citizens responded that sustainable development closely or somewhat closely reflects their ideas (*Himle Horner*).

- *Stakeholders prefer local approaches to managing environmental concerns and feel the DNR should focus more management effort on the local community.*

Citizens feel that sustainable development strategies are most effective when implemented at the regional level (*Himle Horner*). More than 90% indicated that community interaction is very important and 96% said that coordinating programs with local communities also is very important. Partnering was suggested as the area where DNR needs to improve the most (*Focus Group*). Two thirds of stakeholders indicated that the DNR needs to provide more technical information to local decision makers and needs to bring local interests together for group decisions on resource issues (*Stakeholder Survey*).

- *The DNR performs its services well but does not always communicate issues and concerns effectively to the public.*

Most citizens conclude that the DNR is performing well. In the statewide telephone survey, there was a 79% satisfaction rate with DNR projects and programs. In the southeastern Cannon River Area, 65% said that DNR programs do a "good job" (*Cannon River*). The DNR, however, is not effective at communicating important issues to the public. 42% concluded that the DNR should do more communication with local people (*Stakeholder Survey*). Citizens raised concerns about one-way communication, not knowing where to get information, weak electronic communications, and the DNR not knowing what the public wants. Citizens are not well informed about resource management issues and what the DNR is doing to manage those issues (*Focus group*).

- *The DNR needs to provide more focus on certain resource issues.*

Stakeholders support management efforts to protect habitat. Citizens affirmed two natural resource priorities as important - water quality and ecosystem management (*Stakeholder Survey*).

MINNESOTA DEMOGRAPHIC PROFILE

- Minnesota's population increased from nearly 4.1 million in 1980 to 4.6 million in 1994, a 12.1% increase — the fastest growth rate in the Upper Midwest.
- Minnesota's population is expected to increase to nearly 5.1 million people by 2020.
- Nearly 80% of Minnesotans live in cities.
- The average family income in Minnesota is higher than the national average and is the highest in the Plains region.
- Minnesota's population of 45 to 64 year olds grew faster than the national average. This age grouping is the fastest growing age category in Minnesota.
- Minnesota has the highest high school graduation rate in the nation.

Source: *Change in Minnesota*, Minnesota Department of Trade and Economic Development

DEVELOPMENT/ECOSYSTEM RELATIONSHIPS

"Development fragments biological communities. Often changes to the ecosystem are made incrementally and adverse affects are not considered or even understood. The many political boundaries further complicate the already difficult task of protecting ecosystems."

Source: *Settlement Patterns and Sustainable development*, Minnesota Planning, March 2, 1993.

III. SOCIAL, ECONOMIC, AND ENVIRONMENTAL FORCES

Economic, social and environmental forces create changes in resource demand and challenge current natural resource management practices. Resource agencies must understand these forces and how they drive resource use and pressures in order to manage ecosystems effectively.

- *Demographic shifts will influence who uses resources, what resources are in demand, and where resources are used.*

The state's population is growing; the fastest growing group is people of color. The state's population also is aging, and baby-boomers soon will be reaching retirement age. Minnesotans are well-educated and family income is high. Family size has declined while the number of single parent families has increased. Population is growing in urban areas, suburban areas and in and around rural communities throughout the state. With urbanization, fewer people have direct connections with the natural landscape. This can influence the public's environmental views and values.

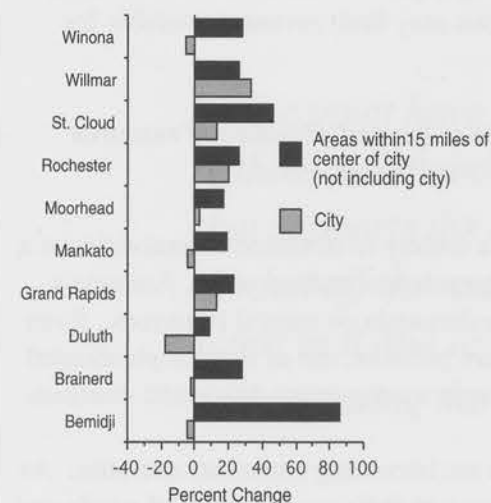
- *Residential development will continue to expand into once rural areas.*

Surveys and market preferences indicate that most Americans prefer a single family dwelling in a non-urban setting. The availability of large tracts of undeveloped land at comparatively inexpensive prices has supported a rural land development growth in many parts of Minnesota. Many Minnesotans have home site choices not readily available in other areas of the U.S. These trends probably will continue. Much of the land supporting these residential sites is wooded, hilly, and near water. These same landscapes are important elements of the state's natural ecosystem and critical to sustaining high quality outdoor recreation opportunities, such as hunting, fishing and canoeing.

- *Technology will reshape how natural resources are used, will create new issues in resource management, yet will offer new solutions to some complex issues.*

Technology creates opportunities and concerns. Technology offers opportunities for new recreation use. Jet skis, roller blades, mountain bikes, off-road vehicles, etc. have created new markets, and further changes can be expected.

SUBURBAN POPULATION GROWTH NEAR REGIONAL CENTERS: 1970 - 1988



Source: *Settlement Patterns and Sustainable development*, State Planning Agency, U.S. Census Bureau, March 2, 1993

PERSONAL INCOME AND EARNINGS BY NATURAL RESOURCE INDUSTRY IN MINNESOTA: 1989 TO 1995

	1989 (millions of dollars)	1995	% increase
Mining	328	641	31%
Lumber Mfg.	611	869	42%
Furn. Mfg.	154	226	47%
Paper Mfg.	1,577	1,958	24%
Primary Metal Mfg.	233	313	34%
Food and Kindred Prod. Mfg.	1,498	2,019	35%
Total Earnings in Minnesota	59,647	82,302	38%

Source: *Survey of Current Business*, October, 1996, United States Department of Commerce

Continued advances in communications and computing will improve information sharing and problem solving capacity. Bio-technology may improve the productivity of some natural resource processes and the ability to manage resource pests such as exotic species and plant diseases. Technology also can generate concerns such as new or more intensive demand on natural resources. Many technology-driven changes will be unpredictable in their advent and impacts.

- *Political shifts will influence how resource decisions are made and what values will influence the public.*

Shifts in responsibilities from the federal level to the state will continue. Local participation in resource management decisions will grow as citizens and local government develop better understanding of resource management needs. Interests in privatization of public services will continue. DNR efforts to cultivate partnerships at the local level may restore some public trust. Social problems will remain difficult in the short term; the public focus will continue to be on crime, education and housing issues.

- *Economic forces will define several conditions important to resource management, including resource use, customer needs and wants, and revenues available for managing natural resources.*

The natural resource sector of the state economy continues to grow and change. Between 1989 and 1995, earnings in key natural resource sectors in Minnesota grew at a healthy rate (see sidebar). Employment also expanded in most of these natural resource sectors. Recent expansions announced in the mineral and timber industry sectors suggest that natural resource based industries will continue to grow in Minnesota.

Natural resource industries in Minnesota that once served mostly local markets increasingly are part of the global economy. Demand as well as production centers in other nations have much greater influence on Minnesota natural resource industries. Global market influences are less predictable but may suggest higher demand and less volatility for natural resource products.

FOREST INDUSTRY IN MINNESOTA

"In the 1980s, an unprecedented \$1.5 billion of capital investment were made in pulp, paper, and particle board facilities. The associated wood fiber demand from the state's forests was also unprecedented: a 70 percent increase in harvest activity occurred between 1980 and 1991. In the early 1990s, additional capital investments totalling nearly 2.2 billion occurred, requiring an additional 1 million cords of wood fiber annually."

Source: Sustainable Forestry Initiatives in Minnesota, an unpublished paper authored by Michael A. Kilgore, David C. Zumeta and Gerald A. Rose.

IMPLICATIONS OF A CONSUMER SOCIETY

High consumption lifestyles give Americans a wealth of options. Options include living space, transportation, food, technology and the items we use to make life easier, safer, healthier or more entertaining. Clearly, the twentieth century is closing on the most gadget rich, technology driven, product fulfilled society ever. The downside of consumption is found in our landfills. Despite recycling, Minnesota generates more waste than ever before. Annual per capita rate of waste generation in greater Minnesota grew from 1,540 pounds per person in 1991 to 1,740 pounds per person in 1994. (Consolidated Solid Waste Report, Office of Environmental Assistance, July, 1996). Options for increasing waste recycling are limited by the high collection costs incurred in Minnesota's low density settlement patterns.

In the social realm, increasing poverty in urban areas will complicate DNR efforts to provide services to a broader mix of the state's population. While survey findings conclude that Minnesotans highly value their natural heritage, greater concerns for education, public assistance and corrections may limit revenue available for resource management.

- *Consumerism will define the scope and direction of resource demand.*

America's affluence allows society to consume commodities at a rapid rate. Despite efforts to recycle and reduce waste, America's consumer society creates large demands on natural resources. Even in outdoor recreation and leisure pursuits, use of more sophisticated equipment can influence resource management needs and demands.

Increasingly, other nations are becoming consumer societies. As third world nations begin to prosper, their consumption of goods and services will grow. With supply and demand markets now being global, trends in other nations can greatly influence demand for resource products in Minnesota.

- *The natural environment itself is a powerful underlying force that helps define resource management issues and opportunities.*

Existing environmental conditions are a force, as they establish a baseline from which gains and losses will be measured and managed. The natural environment has a powerful but unpredictable ability to influence resource trends. Demands created by drought, floods, wildfire and pathogens often will require a shift in managing resources to address crisis situations. Historical environmental conditions provide information for evaluating ecosystem health and guidance for ecological restoration.

DNR plays a major role in managing resources to meet the demands shaped by economic and social and environmental forces. To develop long-term, sustainable strategies, the DNR must take a lead role in helping Minnesotans understand how the state's ecosystems and resources will respond to increased pressures and alternative management actions.

"We cannot have a healthy economy for very long without maintaining and restoring the environment that supports the economy. Conversely, we cannot cordon off the natural world as if humans have no place in it and as if we can lead prosperous lives without using the earth's resources."

— Governor Arne H. Carlson

"We abuse land because we regard it as a commodity belonging to us. When we see land as a community to which we belong, we may begin to treat it with love and respect."

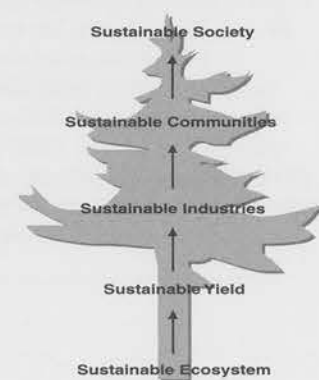
— Aldo Leopold

“Health is the capacity of the land for self-renewal. Conservation is our effort to understand and preserve this capacity.”

—Aldo Leopold

THE SUSTAINABILITY CONCEPT

Sustainable Societies meet the needs of the present generation without compromising the ability of future generations to meet their own needs. Sustainable societies are fundamentally built on **Sustainable Communities**. Communities are where natural environments are conserved or degraded, where people's needs are met or frustrated, and where ecological, social and economic factors are integrated. Sustainable communities are in turn dependent on **Sustainable Industries** that provide jobs and livelihood for people. Industries, in turn, are dependent on **Sustainable Yield** of natural resources — for example, clean air and water, consistent timber supplies, and recreational amenities. Sustained yield is in turn dependent upon a biologically **Sustainable Ecosystem**. Maintaining the health of ecosystems is the most fundamental strategy for achieving sustainability. It is fundamental because humans, like all living things, depend on ecosystems as life-support systems.



IV. ECOSYSTEM STATUS, PRIORITIES, AND APPROACHES

Overview: Increased demand on natural resources along with changes in land use and recreation interests will challenge DNR's ability to achieve its vision of ecosystem sustainability. To DNR, sustainability means protecting and restoring the natural environment while enhancing economic opportunity and community well-being. Sustainability addresses three related elements: the environment, the economy, and the community. The goal is to maintain all three elements in a healthy state indefinitely.

• Sustainability depends on healthy ecosystems.

Healthy ecosystems are productive and diverse. A productive ecosystem yields a continual flow of resource goods and services. A diverse ecosystem contains a variety of species and habitats, also called biodiversity. With this variety, ecosystems are better able to survive and adapt to changing conditions ranging from natural events such as drought, flood, or fire to human activities such as timber harvesting, fishing, and water extraction. Biodiversity is like an insurance policy for sustainability; it helps maintain the ability of ecosystems to renew themselves in the face of continued use and disturbance.

• Increased demand for natural resources and development pressures pose challenges for the sustainability of the state's ecosystems.

Because communities and economies are dependent on healthy ecosystems, ecosystem degradation will ultimately reduce economic opportunity and quality of life. Minnesota's ecosystems respond to increased pressures in a variety of ways. In many areas, management efforts are successfully reversing trends in ecosystem decline and are improving environmental health. However, in other areas, evidence documents ecosystem degradation, simplification, and fragmentation.

• Managing and conserving natural resources is a continuously changing, long-term enterprise.

Society has succeeded in addressing many environmental problems that emerged in the 1960's and 70's, such as recovery of some wildlife species, and abatement of point sources of pollution. But as problems are solved, new ones emerge. Today's problems are more subtle, complex, and unpredictable. Examples include non-point-source pollution, toxic contamination of wildlife, habitat alteration and destruction, and overall loss of biodiversity.

ECOSYSTEMS

An ecosystem is a geographic area including all the living organisms (people, plants, animals, and microorganisms), their physical surroundings (such as soil, water, and air), and the natural cycles that sustain them. All of these elements are interconnected. Managing any one resource affects the others in that ecosystem. Ecosystems can be small (a single stand of aspen) or large (an entire watershed including hundreds of forest stands across many different ownerships).

Ecosystem Features and Management Implications:

- Ecosystems are resilient, but they have limits. Ecosystems can be stressed beyond their capacity to recover and generate resources.
- Ecosystems are dynamic, they constantly change. Management cannot maintain ecosystems unchanged, but management can conserve them undiminished in their capacity to support future generations.
- Ecosystem resilience depends on diversity. Diversity within ecosystems allows them to adapt to changing conditions.
- Ecosystem change is not completely predictable. Consequently, management must be adaptive; continuously adjusted in response to new knowledge.

ENVIRONMENTAL INDICATORS INITIATIVE

The Minnesota Environmental Indicators Initiative will develop and implement the state's first comprehensive framework to assess, monitor, and communicate the overall health of Minnesota's environment. A task force representing environmental agencies, academia, industry, and conservation interests guides the project. Major objectives are to: 1) catalog and evaluate existing environmental monitoring efforts, 2) summarize the extent and condition of Minnesota's major ecosystems, 3) develop a scientifically sound and socially relevant set of environmental indicators, and 4) design a statewide Environmental Indicators Network for the consistent collection of environmental data and reporting of indicators.

These newer problems often result from cumulative impacts of small-scale actions that alone do not raise great concern. For example, draining a one-acre wetland will not cause waterfowl populations to crash or significantly increase flooding risk. But draining many wetlands over large regions can decimate waterfowl populations, and increase flooding potential. Examples of cumulative problems abound. Small impacts add up, often unnoticed, and by the time society recognizes a problem it can be extremely difficult to solve. New approaches that address these cumulative, larger scale impacts are needed.

THE ECOSYSTEM APPROACH

Ecosystem-based management approaches evolved to meet today's complex problems and to address increasing and conflicting demands on the natural resource base. For natural resource managers, ecosystem based management means building on their best management traditions and extending focus from single resources to address multiple resources within whole ecosystems. Ecosystem-based management means building public-private partnerships to accomplish common goals aimed at long-term sustainability of entire land and water systems.

Minnesota DNR plays a vital role in providing reliable and accurate information on the status of Minnesota ecosystems. Using the best available science, DNR is participating in cooperative alliances with citizens to define a range of desired ecosystem conditions and tailor management plans for local ecosystems across the state. DNR also participates in the Environmental Indicators Initiative, an effort to develop indicators of ecosystem health to help guide public policies and private action toward sustainability.

The following pages profile four ecosystem classes as DNR priorities — forests, waters and wetlands, agricultural lands, and rare and sensitive habitats. Each ecosystem is described with:

- 1) ecosystem status and trend information,
- 2) priority sustainability issues, and
- 3) highlights of citizen-based efforts working to ensure ecosystem integrity and resource benefits.

FORESTS

RECOVERING FOREST WILDLIFE POPULATIONS

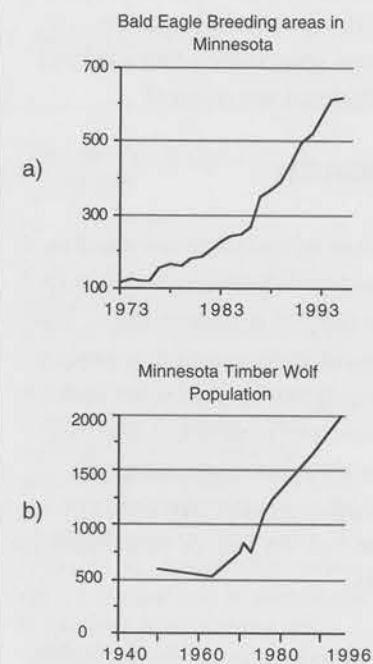


Figure 1.

a) Minnesota surpassed the federal Bald Eagle Recovery Plan Goal of 300 occupied breeding areas in the 1980's.

b) Minnesota surpassed the federal Timber Wolf Recovery Plan goal of 1251-1400 wolves in the 1980's.

Source: Status of Wildlife Populations Report, MN DNR 1996.

Forests cover one-third of the state's 54 million acres. They cross several distinct climatic zones resulting in a complex diversity of deciduous, coniferous, and mixed forest communities. The Minnesota Natural Heritage Program recognizes 23 distinct forest communities. These range from the extensive Aspen/Birch forests to communities of relatively small geographic extent such as Upland White-Cedar forests and Black Ash Swamp forests (MNDNR 1993a).

Minnesota forests are a cornerstone of the state's environmental and economic health. They purify air and water, protect soils, and maintain diverse plant and animal communities. Forests support the forest products industry, valued at 7.8 billion dollars, and provide 58,000 jobs. Healthy forest ecosystems are the foundation for diverse recreational opportunities and a thriving tourism industry (MNDNR 1995).

STATUS AND TRENDS

Minnesota's forests have seen great changes in the past 150 years. Between 1850 and 1900, vast expanses of Minnesota's original 31 million acres of forest were harvested to provide lumber and to clear land for settlement. By 1900, this harvesting reduced forest acreage to about 12 million acres (Forest Inventory Analysis, 1995). With regrowth and scientific management, today's second forest has emerged healthier than it was at the turn of the century.

Forests now cover 17 million acres and growth exceeds harvest for most tree species (Forest Inventory Analysis, 1995). The populations of many forest-dependent wildlife species are stable. Population numbers of some federally threatened species, such as Gray Wolves and Bald Eagles, have recovered, in part, because of forest habitat protection (Fig. 1). Citizens have become more involved in forest management through local projects, educational

Figure 2. Working with landowners, DNR and partners have prepared forest stewardship plans for 492,000 acres of private lands.

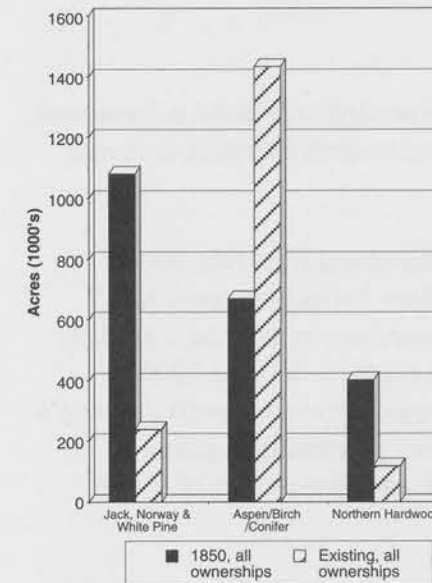
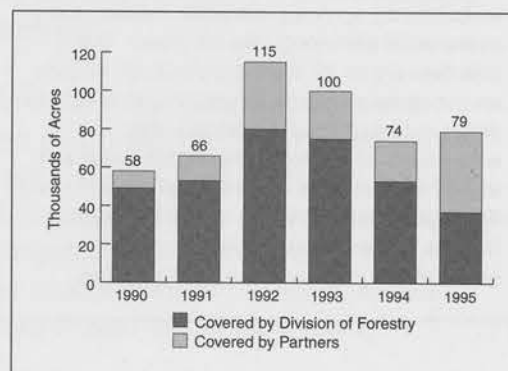


Figure 3. Past and present forest composition of the Headwaters Woodlands Landscape showing decline in pine and northern hardwoods. Source: DNR Region 1 Resource Management Plan.

BIRD SPECIES SENSITIVE TO FOREST FRAGMENTATION

Red Shouldered Hawk
Barred Owl
American Redstart
Red-eyed Vireo
Yellow Throated Vireo
Pileated Woodpecker
Acadian Flycatcher
Northern Waterthrush
Louisiana Waterthrush
Northern Parula
Black-and-white Warbler
Hooded Warbler
Black-throated-blue Warbler
Cerulean Warbler
Canada Warbler
Cerulean Warbler
Ovenbird
Scarlet Tanager

Source: GEIS on Timber Harvesting, 1992.

Table 1. Fragmentation of forests may reduce their ability to maintain healthy populations of sensitive bird species.

programs and development of Forest Stewardship Plans (Fig. 2).

Despite improvements, numerous forest management challenges remain. Historical loss of forest acreage, change in species composition, and shift in age structure have decreased the diversity of Minnesota forests. Traditionally, forest management has been applied on a stand-by-stand basis with little attention to landscape level diversity. This approach can lead to simplification of the forest. For example, significant decline of pine and northern hardwood forests has occurred since the 1800's; in place of a mixed forest, aspen now covers a much greater proportion of the landscape (Fig. 3), (Jaakko Poyry 1992a).

Some forest types and age classes are now rare. The once contiguous "Big Woods" maple basswood forest of south central Minnesota has been converted to small, disconnected parcels (Fig. 4). The consequences of forest fragmentation include the eventual loss of sensitive species (Table 1). Old-growth forests once covered an estimated 51% of the state's forest area, but today occupy less than 4% of the total forest area (Jaakko Poyry 1992a).

Forest Cover in Erin Township, Rice County, MN, 1850-1991

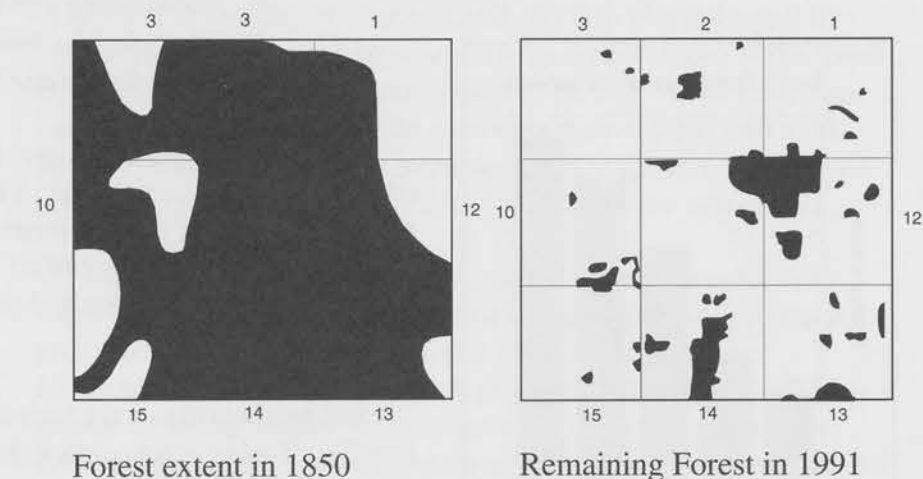


Figure 4. Conversion of forest for agriculture and development has reduced the size of forests in the Big Woods ecoregion to small discontinuous fragments.

SUSTAINABILITY ISSUES

New strategies and techniques are needed to respond to improved understanding of forest ecosystems and to meet changing demands on forest resources.

FOREST RESOURCES COUNCIL

Created by the Sustainable Forest Resources Act of 1995, the Minnesota Forest Resources Council provides a forum to discuss forest management issues and to provide sound forest management recommendations to the governor and to federal, state, county, and local governments. The Council's 13 governor-appointed members represent a broad array of organizations holding commercial, recreational, scientific, and conservation interests in Minnesota's forests. This diverse membership helps ensure that the Council's policies and practices will result in long-term sustainable management of Minnesota's forest resources.

Since 1980, the amount of wood harvested from Minnesota forests has increased by 54 percent (from 2.4 million cords to 3.7 million cords per year). Continuing increases in demand will likely bolster annual harvest to 4.67 million cords by the year 2000 (Fig. 5) (MN DNR 1995). This increased harvest supports the state's current forest-based economy, but poses potentially negative consequences for the long-term health and productivity of forest ecosystems.

The Minnesota Forestry Generic Environmental Impact Statement (GEIS) provided a comprehensive study of these potential impacts under current and increased levels of timber harvesting. Building on the GEIS, The Minnesota Forest Resources Council (FRC) identified priority forest management issues. Some of these are:

- 1) *Protecting riparian areas,*
- 2) *ensuring forest soil productivity,*
- 3) *maintaining wildlife diversity, and*
- 4) *managing for healthy and resilient forest ecosystems across landscape scales.*

Forested riparian areas are critical to wildlife and maintenance of healthy aquatic ecosystems. The percent of forest cover within a watershed is one of the best predictors of stream water quality in Minnesota (Jaakko Poyry 1992c). Loss of forests along streams and lakes increases soil erosion and pollution run-off, impacting wildlife, fish, and human health.

Soil productivity is the foundation for maintaining forest benefits. Timber practices that remove woody debris and cause soil compaction and erosion can degrade long-term soil productivity. Sustainable management will require increased monitoring to measure trends in soil productivity. It will also require a better understanding of the relationship between timber harvesting techniques and soil productivity.

Diverse wildlife populations depend on healthy forests. Some species such as deer and ruffed grouse are abundant in Minnesota's forests. Other species, such as the red-shouldered hawk and the Louisiana waterthrush currently are of special concern (Jaakko

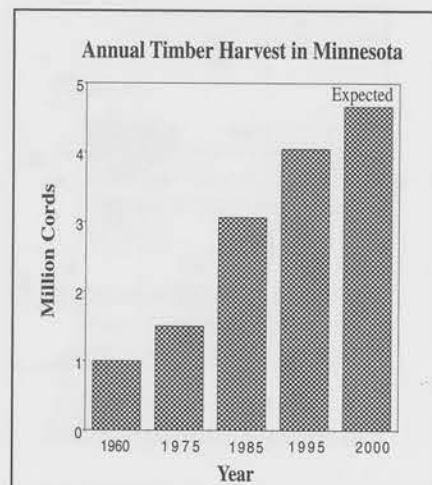
Poyry 1992b). Forest clearing and fragmentation could alter bird populations that depend on large tracts of forest interior for reproduction and survival (Robinson et al. 1995). Environmentally sensitive forest harvest practices are necessary to protect the full range of native forest plants and animals.

Healthy ecosystems across landscape scales: Traditionally, forest management was applied on a stand-by-stand basis (stands are usually 1-50 acres). However, at this scale, multiple goals are difficult to reconcile, such as biodiversity conservation, different types of recreation, and different intensities of management and harvesting. Hence, many of the most pressing forest sustainability issues are best addressed at a landscape scale (landscape scales are usually 100's to 1000's of acres) with coordination across different forest landowners. DNR will participate with the Forest Resource Council's newly created Landscape-level Forest Resources Program in efforts to develop a landscape-level planning and coordination framework.

ECOSYSTEM-BASED MANAGEMENT APPROACH

DNR will work with partners and citizens to cooperatively define future forest conditions and to accomplish common goals for ecosystem sustainability. For example, the Big Woods Project is implementing innovative approaches to increase the size of the forest land base and reduce its fragmentation in the Big Woods Landscape (see Big Woods case study). In another initiative, DNR will work with all forest landowners to increase the presence of White Pine on ecologically appropriate landscapes (see White Pine case study).

The ecosystem-based approach extends management focus to larger geographic scales with the goal of maintaining forest health, productivity, and a diversity of forest habitats across entire landscapes. A forest system with high ecological integrity will have a mosaic of young, mature, and old-growth forests that maintains a diverse assemblage of species necessary for long-term adaptation in a continuously changing environment. New management techniques are being integrated into forestry practices to enhance ecological integrity. These include increased emphasis on uneven-aged management, extended rotations, retaining snag and den trees, and application of Best Management Practices.

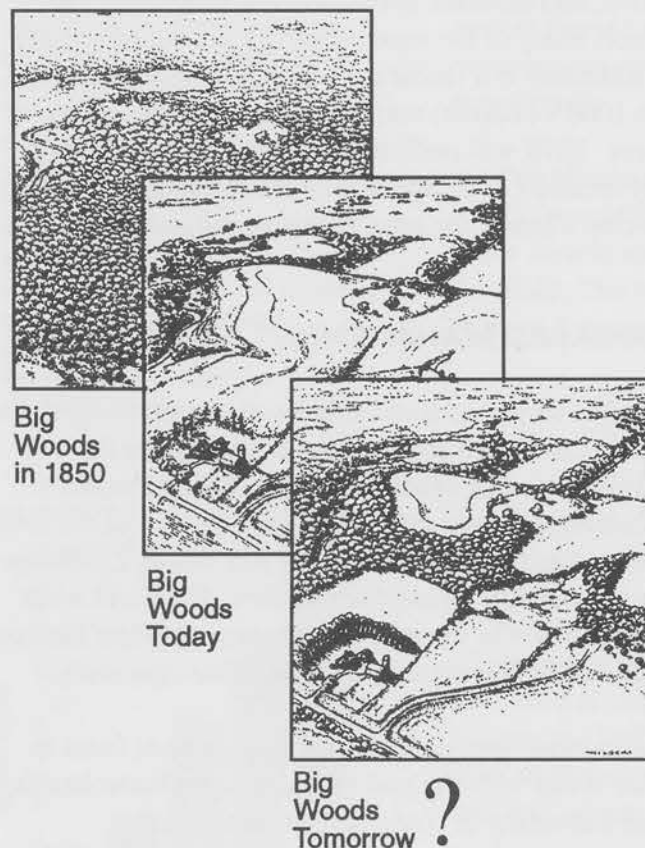


Source: MNDNR and Minnesota Forest Resources Council

Figure 5. Continuing demand for wood is expected to raise the annual harvest level to 4.67 million cords by the year 2000.

Case Study – The Big Woods

What is the future of The Big Woods?



The "Big Woods" Maple-Basswood forest once covered 3,420 square miles of south central Minnesota. Today only a few thousand acres of isolated forest tracts remain. Local groups working with agency partners have developed a vision for restoring forest connectivity and vitality to the landscape.

THE BIG WOODS PROJECT

The Big Woods Project, a model effort initiated by local groups and concerned citizens, is working to improve the Big Woods ecosystem in south-central Minnesota. The goal of the project is to "protect, maintain and restore healthy and biologically diverse natural areas as part of the social and economic environment in eastern Rice County". Project activities include:

- Maintain and restore Big Woods forest remnants,
- Protect and restore connectivity to these forest patches,
- Improve the overall quality of the landscape by providing habitat for important plant and animal species, and
- Reduce erosion and improve water quality.

Partners include the Cannon River Watershed Partnership, Seven Mile Woods Association, the river Bend Nature Center, Friends of the Big Woods, the Nature Conservancy, and the regional office of the MN Department of Natural Resources.

CASE STUDY — THE BIG WOODS

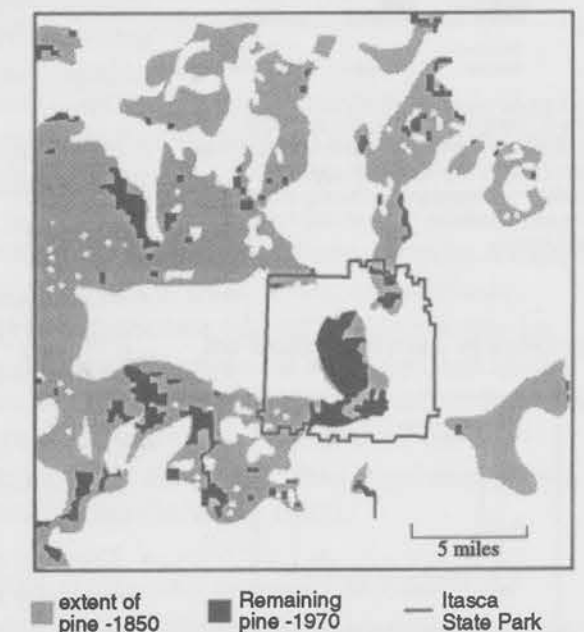
Case Study – White Pine Forest

What is the future of Minnesota's White Pine Forest?

WHITE PINE REGENERATION STRATEGIES WORK GROUP

Substantial declines in white pine in Minnesota forests resulted from harvesting in the late 1800s and early 1900s, clearing of forested land for agricultural and other uses, the introduction of blister rust from Europe, an increased deer population that often feeds on white pine, and emphasis on management of tree species other than white pine.

In response to widespread public concern about the white pine resource in Minnesota, a White Pine Regeneration Strategies Work Group was appointed in 1996 by DNR. This multi-disciplinary team recommended significantly increasing the role and presence of white pine in Minnesota. In a recently completed report they recommended doubling the number and acres of young white pine trees in Minnesota within the next seven years. The work group stressed that it will require the combined efforts of all concerned stakeholders to achieve this and other recommended goals.



Distribution of white pine/red pine:
Itasca State Park Environs 1850 - 1970

CASE STUDY — WHITE PINE FOREST

WATERS AND WETLANDS

MISSISSIPPI RIVER WATER QUALITY DOWNSTREAM OF THE TWIN CITIES

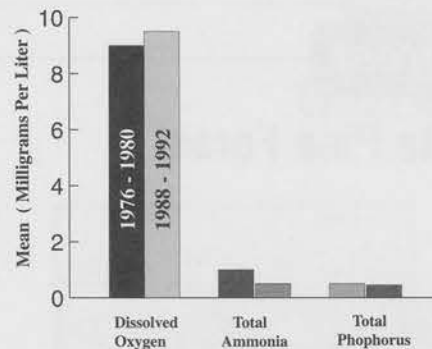


Figure 6. Trends in water quality indicators suggest overall improvement for 3 indicators over the last 20 years in response to upgrading wastewater treatment and increasing efforts to reduce runoff pollution. Source: MN Pollution Control Agency.

DECLINES IN TROPHY SIZED FISH

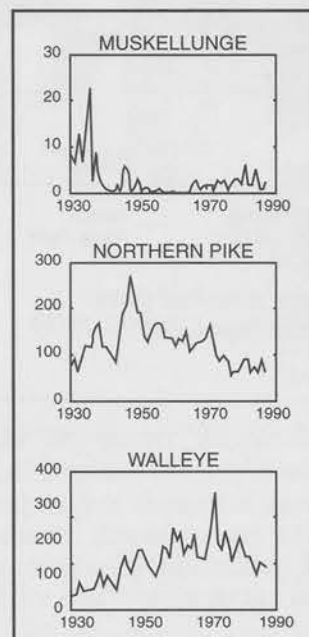


Figure 7. Numbers of large muskellunge and northern pike in the Park Rapids area declined after the 1930's and 40's; large walleye have declined since their peak in the 1970's. Source: Olson and Cunningham 1989.

Minnesota enjoys an abundance of high quality aquatic resources. Clean and adequate supplies of water maintain the state's tourist industry, support residential development, and provide for irrigation, electricity, and other economic endeavors. Water is the lifeblood of the environment, essential to plant and animal life and human health.

STATUS AND TRENDS

Lakes, Rivers, and Streams: Minnesota has over 92,000 miles of streams and rivers, and over 15,000 lakes. Minnesotans and out-state visitors spend over \$900 million per year on fishing and related activities (MN DNR 1996). Our aquatic ecosystems show both signs of improvement and evidence of deteriorating quality.

- Mississippi River water quality measurements show improvements; concentrations in ammonia and phosphorous have decreased since 1976, and dissolved oxygen has increased (Fig. 6) (MPCA 1993).
- PCB concentrations in Metro Area carp have declined six-fold since 1973. These levels, however, still exceed the MN Department of Health's recommendation for human consumption (MPCA 1995).
- Over the last 20 years, only 5% of all river miles in Minnesota have been assessed for water quality (MPCA 1994).
- The total number of fish harvested in the state has remained basically stable over the last 30 years, but numbers of trophy sized fish caught in the Park Rapids area have declined (Fig. 7) (Olson and Cunningham 1989).
- The Minnesota river is currently considered "one of the state's most highly polluted waters," often exceeding federal water quality standards for nutrients, fecal coliform, sediment, and dissolved oxygen (MPCA 1994).
- From 1967 to 1984, the number of cabins and homes around lakes increased by 74%, and rapid lakeshore development trends continue. Shoreland development often impairs water quality and fish and wildlife habitat (MN Environmental Quality Board 1991).

ESTIMATED WETLAND LOSSES BY ECO-REGION

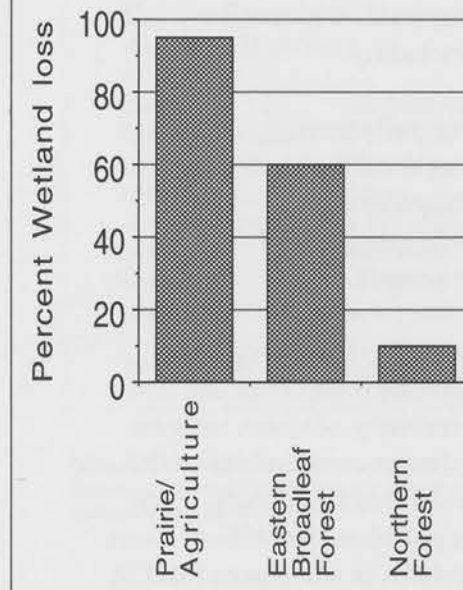


Figure 8. Wetlands losses vary substantially by ecoregion. Source: MN DNR Division of waters.

Wetlands: Minnesota has over 10.6 million acres of wetlands, and is second only to Louisiana and Alaska with respect to wetland acreage still remaining. Wetlands provide numerous benefits, including flood mitigation, improved water quality, wildlife and fisheries habitat, and scientific and educational uses. Programs have been effective in maintaining and restoring Minnesota wetlands, but losses continue from development and agricultural practices (NRCS 1996).

- 54% of Minnesota's original wetland acreage remains (NRCS 1996).
- Net wetland losses in Minnesota averaged 2,650 acres per year between 1982-1992 (NRCS 1996).
- Historically, wetland losses were caused mainly by conversion to agriculture. Today, urban development is a major cause of wetland losses in Minnesota (NRCS 1996).

Groundwater and Water Use: Groundwater supplies are much larger than the volume of water in lakes, rivers, and wetlands. Seventy-five percent of Minnesotans depend on groundwater for residential supplies. Though Minnesota has extensive high quality groundwater sources, pressures on ground and surface water sources are increasing (Fig. 9). Public water use has increased nearly eight times faster than population growth over the past 35 years (MNEQB 1992).

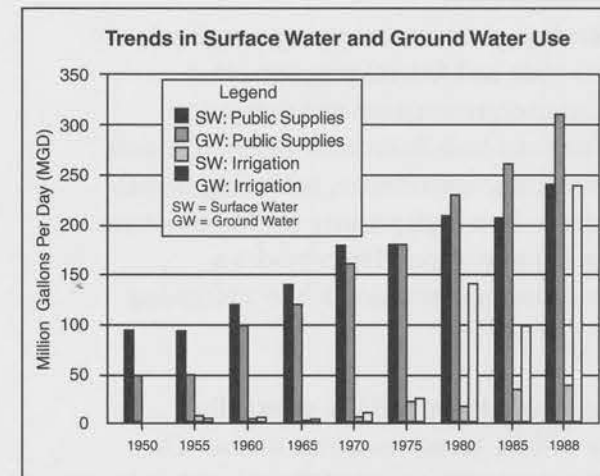


Figure 9. Surface and groundwater use has increased over the last 50 years. Source: MN DNR Division of Waters.

- At least 70% of all septic systems in Minnesota are inadequately treating wastewater. This means that nearly 300,000 septic systems may be contaminating ground or surface water (MPCA 1994).
- A 1989 survey of 21 Minnesota cities and 18 companies revealed that groundwater contamination has cost the cities over \$24 million and the companies \$43 million (Freshwater Foundation).
- During 1992-3, 62% of wells sampled contained nitrates, and 7% exceeded the Minnesota Department of Health Risk Standard. Elevated nitrates can have adverse health impacts on infants, children, and pregnant women (MPCA 1994).

SUSTAINABILITY ISSUES

WETLAND CONSERVATION EFFORTS IN MINNESOTA

Recognizing the economic and ecological costs of wetland losses has stimulated efforts to slow development and degradation of wetlands. Minnesota has long been a leader in wetlands protection. In the 1950's, wetlands protection began with the DNR's "Save the Wetland's Program." Under this and similar programs, more than 1,000 Wildlife Management Areas (WMA's) were established, totaling nearly 900,000 acres. Wetlands cover about one half of these acres.

Today, the most comprehensive wetland policy is the 1991 Wetland Conservation Act. This act calls for "no-net-loss" and strives for increased wetland acreage. Changes in 1996 increased flexibility of the law and reduce financial burdens on farmers.

MINNESOTA WETLANDS CONSERVATION PLAN

This plan, to be completed by June 1997, builds on past policies and provides an "umbrella" wetlands policy framework to help coordinate different agency responsibilities and address concerns of landowners and local governments. It involves the combined efforts and contributions of a diverse group of experienced citizens and professionals throughout Minnesota. Major features include:

- Enhancing the role of responsible local government units (LGU's) as primary point-of-contact for applicants and regulating agencies.
- Getting more and better information to LGU's and landowners to help with evaluating options and making informed decisions.
- Accounting for regional differences and avoiding "one-size-fits-all" wetlands policy.
- Providing guidance for wetland restoration and mitigation for different management settings across the state.

Growing demand for water, development pressures, and pollution will continue to stress aquatic and wetland ecosystems. Sustaining aquatic and wetland ecosystems will require accelerated efforts in many areas, including:

- reducing non-point source pollutants,
- achieving no-net loss of wetlands,
- managing shoreline development,
- controlling spread of exotic species, and
- protecting ground-water systems.

Non-point source pollution primarily includes runoff of nutrients, sediments, and toxic chemicals from urban and rural landscapes. These inputs increase turbidity of water, increase populations of undesirable plants, change communities of fish and animal species, and increase water treatment costs. Non-point sources contribute significant pollutants for 95% of rivers that fail to meet designated use standards in Minnesota (MPCA 1994). Use of Best Management Practices in forests and agricultural lands have helped reduce these inputs, and more widespread use will directly benefit aquatic systems.

No-net-loss of wetlands is closer to becoming a reality in Minnesota due to various state and federal programs that encourage alternative land uses, restoration and mitigation (Minnesota Board of Water and Soil Resources 1996). Because of their ecological and economic importance, achieving no-net-loss of wetlands continues to be a high priority for Minnesotans. The Minnesota Wetlands Conservation Plan provides a framework to improve wetland conservation while addressing concerns of landowners.

Managing shoreline development will be especially important as the number of lake homes continue to rise. On popular lakes, lot densities sometimes exceed those in urban areas. Removal of shoreland and aquatic vegetation allows sediment and chemicals to enter water bodies. As more shoreline is developed, cumulative inputs will have greater impacts on the aquatic plant and animal communities. Loss of shoreline vegetation also directly affects fish and waterfowl populations by removing critical spawning, feeding, and nesting habitat.

EXOTIC SPECIES IN MINNESOTA'S AQUATIC HABITATS

Species	1996 Occurrence
Eurasian watermilfoil	79 lakes total
purple loosestrife	548 lakes
flowering rush	10 lakes
curly-leaf pondweed	65 of 87 counties
zebra mussel	Duluth Harbor, Lake Pepin
rusty crayfish	> 12 counties
ruffe	Duluth Harbor

Source: DNR Exotic Species Program

Table 2. Introduction of exotic species can undermine the health of ecosystems and displace desired native species.

Exotic species are a growing concern in many Minnesota lakes, rivers and wetlands. They compete with native plants and animals, sometimes eliminating them from an area. Although often productive, exotics frequently are not useful as a food source for other native animals, and may grow densely enough to interfere with boating, fishing and swimming. The DNR Exotic Species Program is tracking the occurrence and introduction of exotic species in Minnesota's waters and wetlands, and in several cases is effectively limiting their spread.

Groundwater systems are under increased pressure. In some regions, heavy use of groundwater limits supply, particularly during drought years. Chemical and bacterial contamination of groundwater supplies further limit groundwater use, and are expensive to mediate. For example, it would cost Clear Lake \$350,000 for a nitrate removal system to bring their water supply up to safe drinking water standards.

STRAIGHT RIVER WATERSHED

The DNR's Divisions of Waters and Fish and Wildlife, in partnership with local units of government, citizen groups, conservation organizations, and other agencies, are leading a comprehensive study of the Straight River watershed. The study examines available water supplies, current uses of its ground water system, and the effect of ground water use on the unique resources of the region. Located in Hubbard and Becker Counties, the Straight River is one of the premier brown trout fisheries in the Upper Midwest. The cool, clean water supplied by ground water resources is the key element in the trout fishery of the Straight River, providing the low temperatures necessary for successful trout reproduction, growth and survival. Recent increases in irrigation for the continued development of potato farming in the area could put the Straight River trout population at risk because of the potential increasing water temperatures that may result. In addition, there is a growing concern that nitrates and nitrogen based fertilizers could eventually pose a threat to public health. Field staff from state and local agencies will collect data on the river to provide additional information needed to determine the extent to which ground water use is affecting water supplies and quality, stream flow conditions, and fish habitat. Information gathered will be used to develop computer models of possible impacts to the Straight River and its watershed associated with groundwater pumping.

ECOSYSTEM-BASED MANAGEMENT APPROACH

TRI-COUNTY LEECH LAKE WATERSHED PROJECT

The Tri-County Leech Lake Watershed Project, in north central Minnesota, provides a mechanism for both intergovernmental and private citizens' cooperation to develop a long range comprehensive watershed management plan. The project spans 750,000 acres of forest land and lakes in northern Minnesota. Land ownerships are diverse, and include private residential and industrial land, the Leech Lake Indian Reservation, and the Chippewa National Forest.

Recent Accomplishments:

- Secured funding for the City of Federal Dam wastewater treatment system and other private, commercial wastewater projects in the watershed.
- Completed a stormwater runoff report for Walker, MN; reports are underway for Federal Dam, Longville, Akeley, and Laporte.
- Completed forest stewardship plans for six landowners in the Necktie River sub-watershed.
- Began regular circulation of a Leech Lake Watershed Newsletter.
- Initiated development of an informational video and project brochure on Leech Lake Watershed issues.

Wetlands, streams, and lakes are the lowest spots on the landscape; hence they receive pollutants and other impacts from a wide variety of upland activities. Threats to aquatic environments can be addressed only from the larger and more comprehensive perspective of their surrounding watersheds. Problems such as non-point-source pollution cross political and jurisdictional boundaries and must be addressed by all affected communities. To improve the health of watersheds and aquatic systems, DNR works with communities, local governments, and private groups in comprehensive watershed partnerships. Based on successful pilot efforts (see Big Sandy and Leech Lake sidebars), DNR will expand the number of watershed projects and accelerate efforts to provide up-to-date and accurate natural resource information to watershed participants. New efforts are underway on the Mississippi River and Metro Trout Stream Watersheds to bring together citizens and resource practitioners to gain understanding of aquatic ecosystems and develop innovative ways to manage them sustainably (see case studies).

BIG SANDY AREA LAKES WATERSHED PROJECT

This project is a comprehensive, grassroots partnership that aims to preserve and improve water quality in the Big Sandy Area Lakes Watershed. The effort works to sustain valuable and vulnerable shoreland habitat and promote Best Management Practices with all landusers.

Recent accomplishments:

- Completed Phase I of Clean Water Partnership Project (MNPCA funded) involving diagnostic studies as the basis for corrective actions to improve watershed water quality.
- Local citizens and work teams are completing Phase II of the Partnership to carry out water quality improvements.
- Produced an educational video on watershed issues and Best Management Practices.
- Initiated collaborative development of an interpretive display at Savanna State Park on local geology, cultural history, and natural resource issues.

Case Study – Mississippi River

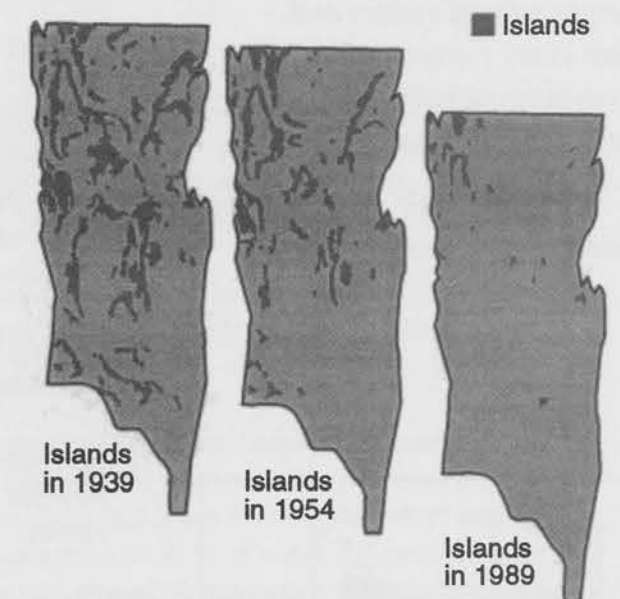
What is the future of the Mississippi River Ecosystem?

MISSISSIPPI RIVER ADAPTIVE ENVIRONMENTAL ASSESSMENT

The Minnesota DNR in cooperation with the Upper Mississippi River Basin Association is sponsoring a series of workshops to explore sustainable futures for the river. Workshop objectives are to:

- develop an integrated, science-based understanding of the Upper Mississippi River as a natural system;
- chart the relationships among ecological, economic, and social conditions; and
- use this integrated understanding to explore alternative management options that reconcile multiple demands.

The ultimate goal is development of a management program that sustains the use of the river as a navigation system and an internationally significant ecological area.



Since construction of the lock and dam system the island habitats in Pool 8 have steadily eroded. The Mississippi's mosaic of islands, open water and marshes create habitat for abundant fish and wildlife.

CASE STUDY — MISSISSIPPI RIVER

AGRICULTURAL LANDS

“For agriculture to be sustainable, farm management and farm policy will recognize that each farm is part of a larger natural system and that every element in this system is interconnected and interdependent”

– MN Sustainable Development Initiative Agriculture Team

Agricultural lands occupy more than 45% of Minnesota. They represent a changing pattern of croplands, pastures, woodlands, livestock, soils, water, and wetlands. These lands are vital components of the state's economy and environment. Food and fiber production and related industries provide livelihoods for a significant number of Minnesotans. Surface and groundwater quality, soil maintenance, wildlife and fish populations, and aquatic ecosystems directly depend on the health of agricultural landscapes.

Soil and water conservation are concerns of the agricultural community. In recent years this concern has broadened to include sustainability of whole watersheds and ecosystems. New alliances among farmers, citizens, local governments, private organizations, and other agencies are working to improve the health of agricultural lands and watersheds. DNR will accelerate its role in these partnerships by focussing on the following:

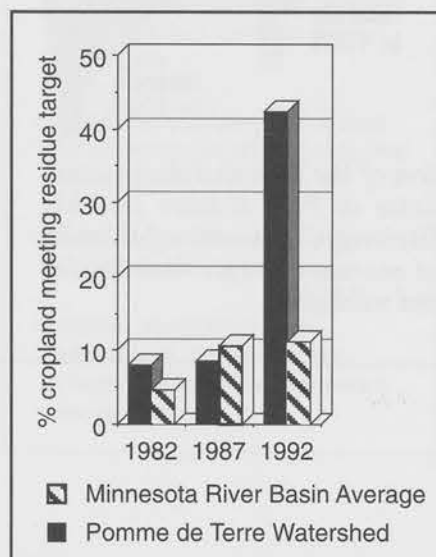
- 1) Helping diverse groups to better understand each other and develop shared sustainability goals, and
- 2) providing scientific information on ecosystem status and trends to increase understanding of the consequences of management options.

STATUS AND TRENDS

Careful land stewardship will sustain agricultural productivity and improve environmental quality. Minnesota is making progress toward sustainability, but continuing problems remain that require new approaches.

PROGRESS

- Environmentally sensitive agricultural practices are being incorporated into farm management. These include Best Management Practices for fertilizer and manure application, conservation tillage and residue management, maintaining filter strips of vegetation or trees near stream banks, and rotational grazing practices.
- Between 1982 and 1992, use of residue management practices in the Minnesota River Basin increased considerably (Fig. 10). Sediments in the Minnesota river have declined by 25% (Mallatawntri et al. 1996).



Source: Natural Resources Inventory

Figure 10. Increases in Crop Residue Management in the Minnesota River Basin help reduce sediment runoff.

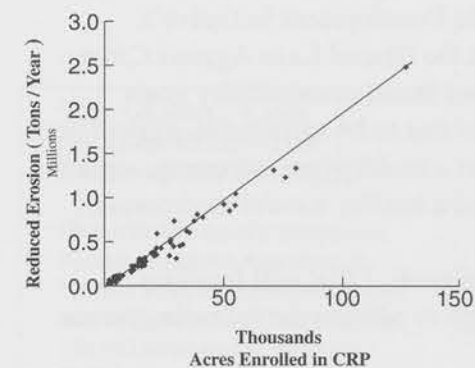


Figure 11. Reduced Soil Erosion attributed to Conservation Reserve Program (CRP) Enrollment (USDA ASCS Data for Each County). CRP converts highly erodible or environmentally sensitive croplands to permanent vegetative cover. Program goals are to reduce soil erosion, enhance fish and wildlife habitat, improve water quality, and protect soil resources.

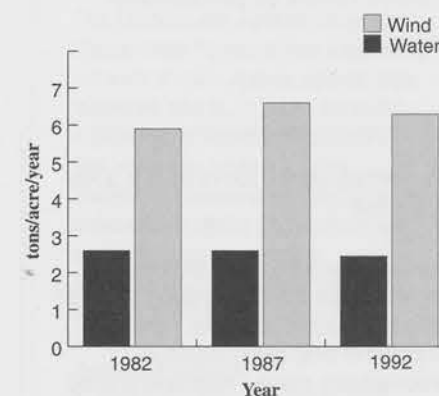


Figure 12. Erosion Rates on Minnesota Croplands. Source: USDA Natural Resources Conservation Service.

- From 1996 to 1997, the tally of “River-Friendly Farmers” in the Minnesota River Basin increased from 70 to 120. The Minnesota Alliance for Crop Residue Management awards River-Friendly status to farmers when they satisfy 10 criteria for on-farm nutrient, soil, and resident management (Alliance for Crop Residue Management).

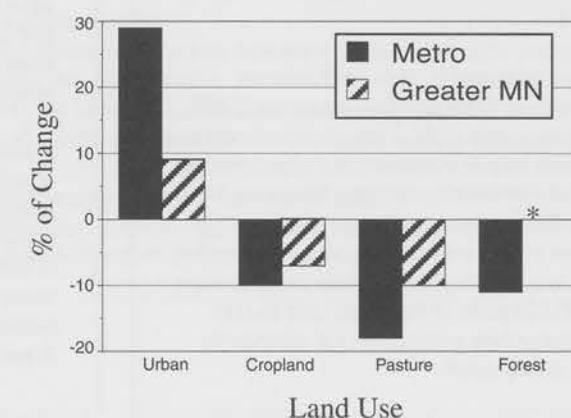
- Between 1985 and 1995, 1.8 million acres of farmlands were enrolled in the Conservation Reserve Program (CRP). /RP reduces erosion and provides habitat for wildlife (Fig. 11) (NRCS).

CONCERNS

- Agricultural practices continue to be major contributors of non-point-source pollution to surface and ground waters. A recent survey showed that of all environmental problems, Minnesotans are most concerned about water quality.
- Wind erosion exceeds acceptable rates on 59% of Minnesota cropland and water erosion exceeds acceptable rates on 9% of cropland (NRCS, 1992 data).
- Conversion of non-crop agricultural areas with permanent vegetative cover (woodlands, pastures) into row-crop production decrease wildlife values and poses erosion and water quality concerns. For example, over 40% of non-CRP grasslands in the Glacial Lake Agassiz area of Northwestern Minnesota have been converted in the last 10 years (NRCS, 1992 data).
- Increasing size and number of feedlots pose challenges for manure management and water quality (MPCA 1995).

Figure 13. Between 1982 and 1992, urban landuses grew in Minnesota, while acreage in cropland and pasture declined. Forest acreage declined in the 7 county Metro Area, but remained stable* in greater Minnesota. Source: MN Agricultural Economist no. 684.

Land Use Change in Minnesota, 1982-1992.



MINNESOTA RIVER INITIATIVE

In 1992, Governor Arne Carlson challenged Minnesota to make the Minnesota River swimmable and fishable by the year 2002. The Minnesota River is the state's most polluted river. Bacteria, nutrients, and sediments are the main pollutants, originating mainly from non-point sources.

The Minnesota River Initiative is a network of projects of many different organizations, agencies, and local governments and citizens aimed at restoration of the river ecosystem. The foundation of the initiative began with the Minnesota River Assessment Project, conducted mainly by MPCA. A Citizen Advisory Committee (CAC) report gave recommendations to address pollution in the river. Now, the Minnesota River Basin Joint Powers Board is a key component of the overall initiative. The 39 county board works to fulfill recommendations of the CAC Report and coordinate efforts of many different restoration and clean-up activities. The Joint Powers Board is currently developing a framework to implement watershed management through partnerships in each of the 12 major watersheds in the Minnesota River Basin.

Specific efforts to restore the Minnesota River include: The Minnesota River Implementation Project which established best management practices demonstration projects in each watershed; the River Friendly Farmer Program that recognizes farmers for good land practices; designation of 300 miles of road along the river as scenic byway to enhance appreciation and tourism potential for the Minnesota River; exploration of soil stabilizing alternative crop production in riparian areas such as hybrid poplar; and the Conservation Reserve Enhancement Program (see below).

All of these efforts make up the Minnesota River Initiative. Together they will bring the Governor's challenging goal closer to reality.

CONSERVATION RESERVE ENHANCEMENT PROGRAM

This program, developed by state environmental agencies (Board of Water and Soil Resources [BWSR] as lead agency), seeks USDA financial commitment to obtain voluntary perpetual conservation easements on environmentally sensitive lands in the Minnesota River Watershed. Goals include continuous enrollment of 100,000 acres of frequently flooded cropland along the river's floodplain, 30,000 cropland acres along principle tributaries, 30,000 acres of filter strips, and 30,000 acres of prairie pothole wetlands of high potential for filtering and storing runoff.

SUSTAINABILITY ISSUES

A number of forums on agricultural sustainability, such as the Sustainable Development Initiative's Agriculture Team and the Glacial Lake Agassiz Citizen Forums, have identified broad sustainability goals. These efforts conclude that to be sustainable, agricultural systems must maintain a healthy farm economy, vigorous rural communities, and a healthy natural environment.

Within these broad goals, DNR will focus on working in partnerships to address the following issues:

- *Improving water quality*
- *enhancing habitat and diversity within agricultural landscapes.*

DNR will provide technical expertise to help rural communities maintain clean water supplies, enhance habitat quality of lakes, rivers, wetlands, forests, and grasslands, and improve recreational and tourism opportunities. Ecosystem-based approaches provide a framework for addressing these issues in partnership with rural communities.

ROTATIONAL GRAZING: INCREASING DIVERSITY AND PROFITABILITY ON THE FARM

Rotational grazing is a farming system currently being implemented and tested by farmers in Minnesota. Under rotational grazing, pastures are divided into small areas (2-3 acres) called "paddocks." Livestock graze on a paddock for a short period of time, giving individual paddocks a period of rest between grazing events. Rotational grazing provides substantial and continuous vegetative cover which reduces erosion and can mitigate and reduce threats to water quality and aquatic ecosystems. Well managed pastures improve soil structure and quality, decrease the amount of chemical and nutrient runoff entering water systems, reduce pesticide use and replace synthetic fertilizer with manure.

A team of farmers, researchers, consultants, non-profit personnel, and agency representatives including DNR is evaluating the benefits of rotational grazing to farmers and the environment. A participating farmer converted 150 acres of row crops to rotational grazing paddocks in 1993. The farmer's costs decreased because fewer inputs (such as heavy machinery and pesticides) were needed. Plant diversity on paddocks increased, as did grassland nesting birds that are uncommon in row-cropping systems.

THE GLACIAL LAKE AGASSIZ ECOSYSTEM STEWARDSHIP PROJECT

Northwest Minnesota's Glacial Lake Agassiz Interbeach Area contains 190,000 acres of pasture land, almost 40% of the state's CRP lands (approx. 750,000 acres) and an estimated 75,000 acres of native prairie. Statewide, forage and grasslands contribute 15-20% of cash farm income, provide primary habitat for many wildlife species, are important in reducing soil erosion, and are home to over 40% of Minnesota's rare and endangered species. The continuing decline of grass and forage based agriculture in the region, expiration of CRP contracts, and accelerating loss of biodiversity has brought the future of this ecosystem to a crossroad.

The Glacial Lake Agassiz Ecosystem Stewardship Project brings together a network of multi-agency projects plus individual efforts, to better serve the region's interrelated environmental and economic problems. This Partnership believes that region-wide, collaborative efforts can make a real and lasting improvement to stewardship of the Glacial Lake Agassiz Interbeach Area.

Activities include:

- *landowner workshops and field tours*
- *grassland demonstration projects*
- *community education activities*
- *cooperative resource assessments*
- *multi-agency/stakeholder training*
- *internet information resources*

ECOSYSTEM-BASED MANAGEMENT APPROACH

Issues such as non-point source pollution, habitat quality, and landscape diversity cross political and jurisdictional boundaries, and must be addressed by all affected communities. Growing networks of citizens, farmers, government agencies, and private groups are addressing these and other sustainability issues at watershed and landscape levels. Based on the success and experience of pilot projects, such as Heron Lake, Wells Creek, and Glacial Lake Agassiz Interbeach Area, DNR will help expand and develop new watershed and landscape partnerships.

WELLS CREEK WATERSHED PARTNERSHIP

Wells Creek winds through 18 miles of scenic bluffs in southeastern Minnesota. The creek's watershed encompasses 52,000 acres of fields, forests, hills, and bluffs and is home to 1500 people. Wells Creek Watershed partners are working together to implement actions to sustain the ecological and economic vitality of the watershed.

Recent accomplishments:

- *A citizen steering committee and a technical work group developed a watershed plan with goals, objectives, and action steps.*
- *Conducted a local resident survey to document citizen priorities for watershed land-use and environmental issues.*
- *Established a local volunteer network for monitoring the health of the creek.*
- *Developed GIS maps displaying land use and natural resource conditions.*
- *Sponsored field demonstrations of riparian and woodland management techniques, rotational grazing, and prairie burning.*

HERON LAKE WATERSHED RESTORATION PROJECT

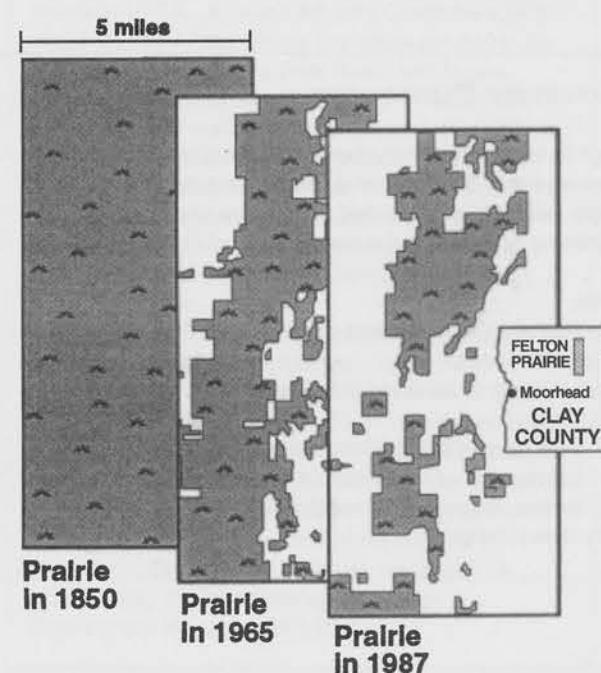
Dozens of public and private groups and individuals are working together to reverse the degradation of the Heron Lake watershed, historically one of the richest wildlife and waterfowl areas in Southwestern Minnesota. Partners include local counties, municipalities, and families, as well as local and national conservation organizations, hunting and fishing organizations, and governmental organizations.

Recent accomplishments:

- *Acquired 4,100 acres that will be restored to wetland and native prairie to improve water quality and wildlife habitat.*
- *Established the Heron Lake Environmental Learning Center.*
- *Installed an electric fish barrier on the Heron Lake outlet to exclude undesirable fish species.*
- *Implemented a private lands grass buffer project.*
- *Investigated ways to mitigate impacts of municipal waste water on surface water and initiated a public use plan for the Heron Lake system.*

Case Study – Prairie Ecosystems

What is the future of Minnesota Prairie?



Land use changes have fragmented the once contiguous prairie of Clay County's beach ridges landscape. Despite these changes, traditional grazing practices along with establishment of reserves maintain the area as one of the largest prairie remnants in the upper Midwest. The area harbors 25 state listed rare plant and animal species.

CLAY COUNTY BEACH RIDGES FORUM

Clay County's beach ridges, remnants of Glacial Lake Agassiz, support agriculture, gravel mining, and native prairie. In 1995, a local forum was organized to allow landowners, aggregate producers, supporters of native prairie, government agencies and the interested public to discuss, in a neutral setting, the future of the gravel and prairie resources. Forum goals include:

- Provide key information about the beach ridges to landowners, gravel operators, land managers and the public,
- Protect natural resources (both prairie and gravel) and avoid future conflicts,
- Recommend ways to improve reclamation.

The forum will produce computer-generated maps, an information handout, and a draft plan for the beach ridges that has value and relevance to the people of Clay County.

SENSITIVE AND THREATENED HABITATS

Minnesota contains a rich variety of natural habitats or ecological community types. The Minnesota Natural Heritage Program identifies fifty-seven ecological community types with 196 sub-types that cover a wide range of forest, water, wetland, and agricultural land-forms and water bodies. The quality of these habitats exists along a continuum from undisturbed and intact to severely degraded. This diversity of habitats and the scope of threats to their maintenance poses challenges and opportunities.

Natural habitats maintain resilience of ecosystems, provide recreational, aesthetic, and scientific benefits, and provide homes to common as well as rare and endangered species. Remaining high quality examples of habitat types serve as important benchmarks for evaluating the health of impacted sites. They are also the building blocks to begin restoration of larger ecosystems.

STATUS AND TRENDS

Minnesota has made significant progress toward protecting threatened and high quality habitats. The state's 115 Scientific and Natural Areas now protect 172,000 acres of high priority habitats. A significant number of threatened habitats and sensitive features have been protected in the state's system of state parks, wildlife management areas, and state forest and trust lands. Private landowners, organizations such as The Nature Conservancy, and federal agencies also play a major role in protecting threatened habitats.

HEALTHY HABITATS AND ECOSYSTEMS ARE A FOUNDATION FOR OUTDOOR RECREATION

The linkage between healthy ecosystems, quality of life, and a sound economy are clearly played out in outdoor recreation. Minnesota public agencies have developed a large array of parks, trails, public accesses, and other outdoor recreation facilities. In addition to the organized facilities, public forest land, lakes, and rivers provide for diverse outdoor recreation activities. These facilities and public areas support the broad range of winter and summer recreation activities for residents and tourists.

Minnesota excels in providing outdoor recreation opportunities largely because of the natural resources available in the state. The extensive forests, unpolluted lakes and rivers, and the state's prairie grasslands are the foundations for the state's outdoor recreation system.

Outdoor recreation opportunities are a major contributor to quality of life. Minnesota ranks high on most national quality of life assessments, due in large part to outdoor recreation opportunities available here. Outdoor recreation also accounts for a major component of the state economy and is especially crucial in many localities.

BLUFFLANDS INITIATIVE

Southeastern Minnesota's Bluffland area is one of the state's natural treasures. Jagged rock outcrops, wooded slopes, bluff prairies, trout streams, and fertile valleys cross the region. More than 30 natural plant communities harbor more than 100 rare animals and plants, more than anywhere else in the state.

Citizens in the region are increasingly concerned about the future of the Blufflands. Habitats are lost as residential development increases. The Blufflands Initiative works with citizens, private organizations, elected officials, local units of governments, and state and federal agencies in seven counties to employ an ecosystem approach in land use decision-making. Such tools as comprehensive plans, conservation easements, cluster development, and Best Management Practices on private lands are used to minimize habitat losses caused by development and maintain quality of life in the region.

MINNESOTA COUNTY BIOLOGICAL SURVEY

The Minnesota County Biological Survey (MCBS) began in 1987 to assess biological diversity state-wide. The survey's goals are to identify significant natural areas and to collect and interpret data on the distribution and ecology of natural communities, rare plants, and rare animals. This information, housed in the Natural Heritage Information System, serves as a foundation for the management and conservation of areas of ecological significance. So far, surveys have been completed in 29 counties, and are underway in 12 more. Published maps that display the results of the survey are now available for 12 counties. Another outcome is publication of the book, Minnesota's St. Croix River and Anoka Sandplain: a Guide to Native Habitats.

Despite progress, much needs to be done. Threatened habitats, such as old-growth forests and prairies, once defined much of Minnesota's landscape but are now reduced to scattered remnants. Other habitats, such as Calcareous Fens, were always rare and continue to decline in extent. Conservation action is required to maintain the state's most endangered habitats:

- *Less than 1% of native prairie remains.*
- *1/10 of 1% of bigwoods (maple-basswood forest) remains.*
- *Less than 1/10 of 1% of oak savanna remains.*
- *Less than 4% of old growth forests remains.*

More common natural habitats also continue to decline in extent and quality. Conservation action is needed to protect habitats such as riparian areas, wildlife migratory corridors, aspen parklands, shorelands and blufflands.

SUSTAINABILITY ISSUES

The sustainability of high quality natural habitats will require increased efforts within three major themes:

- *Accelerate collection and delivery of information on the distribution, abundance, and security of native habitats and species so that management priorities for protection can be identified.*
- *Maintain representative examples of all natural habitats in Minnesota, in each of the eco-regions that the habitats originally occupied, and in sufficient extent and distribution to sustain essential ecological processes and maintain viable populations of plants and animals.*
- *Where possible, retain features of threatened habitats in more intensively managed lands.*

METRO GREENWAYS AND NATURAL AREAS INITIATIVE

With significant natural areas continuing to disappear in the face of rapid urban growth, the DNR and partners have launched a long-term initiative to preserve and enhance the integrity of natural systems within the seven-county metro region. The effort has already resulted in identification of many of the remaining areas worthy of protection. A collaborative of nearly three dozen community leaders from across the region has started developing a vision for connecting these scattered islands of habitat by means of natural corridors or greenways that would maximize environmental and recreational benefits.

These benefits include:

- *Minimizing the impacts of habitat fragmentation by allowing species to move between areas that would otherwise be isolated by human activity;*
- *Protecting water quality;*
- *Providing recreational opportunities for hikers, bikers, birdwatchers, and others;*
- *Maintaining property values;*
- *Providing natural aesthetic relief within an urban landscape.*

ECOSYSTEM BASED MANAGEMENT APPROACH

Minnesota's habitats cross many ownerships, from extensive private lands to state, county, and federal holdings. Ecosystem-based management uses partnerships and the best available science to integrate a variety of land-uses, management activities, and habitat protection levels across Minnesota's landscapes. The cumulative effects of these activities determine the overall health of ecosystems and the diversity of habitats that ecosystems will support.

Protecting natural habitats is a key component of maintaining ecosystem health. Aldo Leopold stated: "To keep every cog and wheel is the first rule of intelligent tinkering." Threatened habitats provide "cogs and wheels" -- species and ecological processes that are important to the functioning and resilience of ecosystems.

Protection of natural habitats must be integrated with economic and recreational uses in the larger landscape. On a landscape scale, a network of natural habitats can be maintained through careful design and use of protected areas along with incentives that encourage private landowners to conserve habitats. A system of corridors and greenways can connect the highest quality natural areas of a region in order to retain critical natural processes and species viability while providing additional recreational and aesthetic benefits. In the seven-county Twin Cities area, nearly three dozen community leaders are taking this approach in the Metro-Greenways Project. This approach complements the already extensive statewide network of State Parks, State, County, and National Forests, and Scientific and Natural Areas. This ensures long-term conservation of high-quality habitats that support a full variety of plants and animals.

Case Study — Metro Area Trout Streams

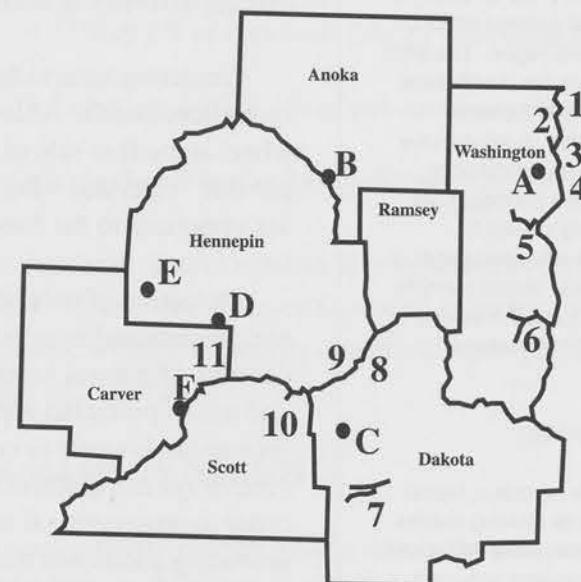
What is the Future of Metro Area Trout Resources ?

TROUT STREAMS

- 1 Falls Creek
- 2 Gilbertson Creek
- 3 Old Mill Creek
- 4 Willow Creek
- 5 Brown's Creek
- 6 Valley Creek
- 7 Vermillion River
- 8 Kennaley's Creek
- 9 Unnamed 1, 4, & 7
- 10 Eagle Creek
- 11 Assumption Creek

TROUT LAKES

- A Square Lake
- B Cenaiko Lake
- C Lac Lavon
- D Christmas Lake
- E Little Long Lake
- F Courthouse Lake



METRO TROUT STREAM WATERSHED PROTECTION INITIATIVE

In the Fall of 1996, a consortium of biologists, anglers, and conservation interests released a report documenting the loss of urban trout streams. This document spurred the DNR and local partners to build a community-based collaborative process to save the remaining Metro Trout Streams. The effort formulates sustainable development strategies that balance social, economic, and environmental needs within each trout stream watershed. This effort may serve as a foundation for future resource management efforts throughout the region. The benefits from saving the metro region's few remaining trout streams are far reaching. They include: improving water quality, increasing recreational opportunities, maintenance of property values historically associated with preservation of natural features, and continued high quality of life in the metro region.

DEDICATED ACCOUNTS

Dedicated accounts will continue to provide funding for special resource management programs. Legislative guidelines for use of these accounts will continue to be followed. However, stronger emphasis on ecosystems-based management may suggest different approaches to reaching objectives set forth in dedicated accounts. The DNR will work closely with dedicated account stakeholders in developing new approaches.

V. DNR MANAGEMENT RESPONSIBILITIES

DNR Vision Statement

"We will work with people to manage the state's diverse natural resources for a sustainable quality of life."

The DNR vision statement is shaped by statute and by citizen needs and expectations. That vision defines the current range of DNR programs and services. The variety of services is always changing as new programs are added and new techniques are developed to accomplish goals. Changes will continue as the DNR, in partnership with citizens, develops new strategies to sustain healthy, productive communities and Minnesota's quality of life.

Establishing Priorities: DNR budget appropriations probably will continue to fluctuate. Appropriations for some programs have remained relatively static resulting in reduced purchasing power. However, appropriations for some new programs have been and probably will continue to be available. Many strategies developed by DNR planning processes will be funded through existing budget appropriations.

Some DNR programs -- for example--public safety, recreation services, and public land management, will continue to need support. They provide a quality service expected by the public. Other programs will be de-emphasized to support new strategies.

This document provides statewide guidance for making these shifts. Discipline, regional and area teams, working closely with citizens and stakeholders, will make the actual decisions on which programs to de-emphasize and how to implement new strategies. Area and regional teams have the responsibility to make these decisions through the resource and budget planning processes. Many of these shifts have been occurring formally and informally for some time as area and regional teams establish priorities in the face of rising work loads.

TRADITIONAL AND EVOLVING ECOSYSTEM BASED MANAGEMENT APPROACHES

Traditional:

1. program driven, focus on separate programs
2. performance measured by program goals and objectives
3. discipline based mission, goal, priorities and budgets
4. emphasis on regulatory strategies

Ecosystem-Based Management:

1. place based, program and budget integration, to address interrelated natural resource and community issues
2. performance measured by indicators of environmental and community improvements
3. interdisciplinary and citizen-based goal setting for whole ecological communities
4. emphases on collaboration, voluntary compliance and technical assistance.

Source: Region IV/V Ecosystem Based Management Report, 1995

Goals

The DNR working with citizens, governmental partners and other stakeholders will pursue two goals to support the sustained use of Minnesota's ecosystems and natural resources. The DNR will seek to:

- ***Maintain, enhance or restore the health of Minnesota ecosystems so that they can continue to serve environmental, social and economic purposes.***

The DNR will continue a balanced approach to resource management. DNR sustainability initiatives are broadly focused. They address the needs for natural resource enhancement, for economic development, and for protecting and restoring the natural environment upon which people and economies depend.

Current trends are creating an imbalance. Loss and degradation of many native habitats and ecological communities threaten the basis of ecosystem sustainability. Priority concerns are the once-extensive native habitats that are now relatively rare and native habitats that are sensitive to development pressure. These habitats of concern still maintain native species composition and interaction characteristic of their ecoregion and are not greatly altered by development activity. Habitats of concern include: native prairies, wetlands, blufflands, oak savannas, river corridors, shorelands, and pristine ecological communities. If current trends continue, damage to these ecological communities will impair the resilience of local and regional ecosystems necessary for economic and community well being.

Providing the best scientific information available, the DNR, working cooperatively with citizens, will seek:

- ***To foster an ethic of natural resource stewardship among all Minnesotans.***

Area, regional and discipline teams, working with partners and citizens will seek to foster a broad understanding of how natural systems function, how individual actions result in environmental consequences, and how stewardship principals are consistent with sound economics.

NATIVE HABITATS AND LAND USE DEVELOPMENT

Healthy ecological communities are the basis for the state's natural resource industries, including agriculture, forestry and outdoor recreation. Land conversion, such as residential subdivisions, alters ecological communities. In some cases, the land use conversion permanently reduces the potential benefits that an ecological community or native habitat holds for other economic, environmental or community interests.

Conversion of land from one use or cover to another is an ongoing condition. Underlying forces identified in Section III drive these changes. The concept of land stewardship suggests guidance to the land conversion process. That guidance would seek to protect rare and sensitive ecological communities and insure that land conversion continues in keeping with the long term goals of sustainability.

Cooperative approaches can guide land conversion in ways that enhance sustainability and maintain ecological communities. The foundation for these approaches was developed in *Design with Nature* by Ian McHarg. McHarg advocated development concepts that respect the natural environment and ecological communities.

Strategies

The DNR will become more of a science-led and community-based organization responsive to resource needs at the local as well as the state level. To accomplish this, DNR staff will emphasize the following strategies.

- ***Expand development of partnerships with organizations and other agencies to develop common resource management objectives.***

Partnership development has been a high-priority DNR strategy. Area staff have been especially successful in developing local partnerships. Efforts to develop partnerships and coalitions will expand. They will include stakeholders groups and government agencies with similar resource management objectives and with the capacity to implement projects. The DNR will give high priority to partnerships that preserve or restore important ecological communities, especially those that are rare or threatened.

- ***Promote integrated approaches to managing resources.***

The DNR has been actively promoting integrated approaches (watershed and landscape projects) for several bienniums. This allows a more holistic and longer term approach to managing resources. This approach implements the community focus, including both communities of interest and communities of place. Internally, the DNR has been forming area staff into landscape and watershed teams. The DNR will expand these efforts and will continue to look for opportunities to use integrated approaches.

The DNR will undertake specific planning and budgeting measures to support area staff involvement in cooperative management efforts with communities.

- ***Accelerate the collection, interpretation, and dissemination of scientific information describing Minnesota's ecosystems and natural resources.***

The DNR will continue to collect and disseminate science-based information and basic surveys (*forest, fisheries, wildlife, natural areas, and minerals inventories*) and the interpretation needed to use the information effectively. The DNR will focus on integrating existing databases and using this information to foster sound decisions on resource use and management. That includes applying science-based information to assess the effectiveness of management policies and programs.

DNR: A COMMUNITY BASED ORGANIZATION

The concept of community includes people in a community of place and people with a community of interest. Community of place is geographic and includes people living in a location, such as the municipality of Blackduck, or a watershed, such as Wells Creek. A community of interests includes people who share a common need or perspective. Deerhunters are people with a community of interest regardless of where they reside.

DNR is a community based organization. DNR offices and staff are situated throughout the state. DNR staff interact closely with local communities and interest groups.

DNR will become even more community based. DNR staff will have greater freedom and support to work closely with communities, citizens, other government agencies and interest groups as they develop cooperative approaches on a broad range of resource issues.

DNR: A SCIENCE BASED ORGANIZATION

The DNR will use the best available scientific knowledge as a foundation for decision making. Scientific information will be used to build a common understanding of complex natural resource problems. Solid scientific information helps increase citizen understanding of options to address problems, the social, economic, and ecological consequences of each option, and the trade-offs between management alternatives.

- *Expand efforts to provide technical assistance to citizens and local government.*

Stakeholders indicated that the DNR should place a higher priority on providing technical information to local decision makers. The DNR will continue to work closely with municipal, township, and county agencies that make land use and resource decisions. Recommendations for early coordination with developers, local government and citizens developed as part of the Environmental Review process will be implemented at all levels. The DNR will provide information early in decision-making processes. The DNR will use its expanded Geographic Information Systems (GIS) capacity to help resource users and decision makers understand linkages between resource use and sustainability.

DNR also will provide assistance to private landowners through such programs as the Private Forest Management Program. The DNR will continue to promote best management practices in timber management, agriculture, and other sectors.

- *Improve communication with all stakeholders and citizens.*

Stakeholders concluded that the DNR needs to improve communications with citizens, local government, and stakeholders. The DNR will expand its communication efforts in order to develop a better mutual understanding of resource management conditions, issues, and strategic priorities. Improved communication includes listening to communities and citizens to understand their needs and perspectives.

- *Establish Environmental Education as a cornerstone for developing a natural resource stewardship ethic among all Minnesotans.*

DNR will elevate the role of environmental education in resource management. The purpose will be to encourage citizens and organizations to implement sustainable resource practices. To accomplish this, the DNR will work with landowners; resource users, including the business community; and the general public. Shifts to such concepts as sustainable agriculture already are occurring but will require a better understanding of how individual decisions affect sustainability.

The short-term objective is to continue to support existing environmental education programs—State Parks Programs, Project Wild, Project Learning Tree, MinnAqua, Project Wet, etc.—and work

closely with schools, colleges, environmental education centers, and other education providers to implement this strategy.

The long-term objective is to develop a comprehensive assessment of how to move forward with existing programs and how environmental education opportunities can be explored at all organizational levels. For example, state parks provide an excellent opportunity to deliver environmental education messages and to model sustainable resource practices.

- *Establish standards for evaluating and monitoring ecosystem health and the effectiveness of ecosystem based management efforts.*

The objective will be to develop more effective means of linking program evaluation and environmental outcomes and planning processes and budgeting. The DNR will create an Office of Management and Budget to provide an evaluation and monitoring function that will tailor management efforts towards sustainability goals. The Minnesota Environmental Indicators Project will monitor and document the health and status of Minnesota ecosystems.

- *Improve integration of budgeting and planning across area, regional, and state levels.*

The DNR will integrate resource management priorities into existing departmental processes - discipline planning, budget development, regional resource plans, and spending plans. The process has begun and will be accelerated in the 1998/1999 biennium.

- *Place more authority with area staff to manage budget and staffing priorities.*

The objective will be to give area staff more flexibility in working with communities. DNR area management teams will have additional budget authority and latitude for establishing work priorities within the mandates of the DNR mission.

NEXT STEPS

This is a guidance document. It does not, nor is it intended to, define specific priorities for any program, region, or area. Instead, it provides a general framework for making priority decisions. It highlights two crucial goals for the DNR and strategies designed to achieve the goals.

Disciplines, regions, and areas will use the guidelines to develop strategic natural resource plans, work plans, and budget priorities. For example, regions will work with areas to review these goals and strategies and define how they will be applied in each geographic area. Once priority resource areas and actions are determined, work plans and budget recommendations will be developed to reflect the priorities.

Support bureaus will use this document to define their role in providing services that further resource management priorities. Support bureaus will need to work closely with regional management teams and divisions to identify support needs.

Given the complexity of DNR resource management programs, setting interdisciplinary priorities will resolve past conflicts but may pose new issues. The DNR will develop a process for reaching consensus on resource priorities that can be used at the point where differences arise.

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Notes

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Notes

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1996 Annual Report

Red River Watershed Management Board

TWENTIETH ANNUAL REPORT

RED RIVER WATERSHED MANAGEMENT BOARD ACTIVITIES AND FINANCIAL REPORT FOR 1996

THE RED RIVER WATERSHED MANAGEMENT BOARD

Nine watershed districts within the Red River Valley form the Red River Watershed Management Board (RRWMB). They work together under a joint powers agreement towards a basin-wide approach to resolving water resources problems in the Valley.

The member districts are:

Joe River WD
The Two Rivers WD
Roseau River WD
Middle River-Snake River WD
Red Lake WD
Sand Hill River WD
Wild Rice WD
Buffalo-Red River WD
Bois De Sioux WD

Representatives to the Red River Watershed Management Board are appointed by each of the respective Watershed Districts for a three year term.

BOARD MEMBERS FOR 1996

<u>President</u>	Ron Osowski Oslo, Minnesota 56744 <i>Middle River/Snake River WD</i>	<u>Managers</u>	Farrell Erickson Badger, Minnesota 56714 <i>Roseau River Watershed District</i>
<u>Vice President</u>	John Finney Humboldt, Minnesota 56731 <i>Joe River Watershed District</i>		Curtis Nelson Barnesville, Minnesota 56514 <i>Buffalo-Red River WD</i>
<u>Secretary</u>	Harley Younggren Hallock, Minnesota 56728 <i>The Two Rivers Watershed District</i>		Gerhard Ross Crookston, Minnesota 56716 <i>Red Lake Watershed District</i>
<u>Treasurer</u>	Dan Wilkens Fertile, Minnesota 56540 <i>Sand Hill River Watershed District</i>		Sanford Moen Gary, Minnesota 56545 <i>Wild Rice Watershed District</i>
			Ralph Christenson Campbell, Minnesota 56522 <i>Bois De Sioux Watershed District</i>

MISSION STATEMENT

"The Red River Watershed Management Board was created by legislative act in the 1976 session for the purpose of instituting, coordinating, and financing projects to alleviate flooding and to assure the beneficial use of water in the watershed of the Red River of the North and its tributaries." The scope of the RRWMB's jurisdiction and authority encompasses the area managed by the individual Watershed Districts which have membership on the Board.

STRUCTURE

The board first formed in 1976, consisted of seven member Watershed Districts with the Buffalo-Red River Watershed District joining in 1980 and the Bois de Sioux joining in 1994. Representative Board members are appointed by each individual Watershed District's Board of Managers to serve a three-year, rotating term. In January of each year, the RRWMB elects from among its members a chairperson, a vice chairperson, a secretary, a treasurer and any other officers it deems necessary to conduct its meetings and affairs. The 1976 legislation allowed the member Watershed Districts to levy up to 2.0 mills ad valorem tax to be utilized for floodwater detention projects. One half of the tax collected is retained by the member Watershed District while the other one-half is transferred to the Red River Watershed Management Board. The present levy is set at .0363 per cent of the estimated market value which is 75% of the allowable maximum.

ACTIVITIES

The RRWMB's activities have historically centered around flood control. The Board promotes a basin-wide perspective for water management, especially with regard to reducing flood flows. Several hydrologic studies have been completed (e.g., flood wave timing analysis) which provide an understanding of the flooding mechanism and serve as a tool for assessing the effects of flood control projects on a basin wide scale.

Other Board activities include the promotion of basin planning, water quality studies and

educational programs. These projects include: 1) developing a functional Geographic Information System (GIS) for the Red River Basin to use in addressing watershed management issues; 2)

developing educational centers and materials intended to inform the public about natural resource management within the Red River Basin; 3) funding and promoting county water planning on an individual county and basin-wide basis; 4)

funding water quality studies and assessments; and 5) assisting other units of local government with an inventory of possible wetland restoration locations.

OBJECTIVES

The principle objective of the RRWMB is to provide financial assistance to member Watershed Districts for the implementation of water-related projects and natural resource initiatives. Watershed District costs which are eligible for RRWMB funding include: concept development, preliminary and final engineering design, the preparation of plans and specifications, environmental planning and preparation of environmental review documents.

PROJECT FUNDING

Funding assistance provided by the RRWMB to member Watershed Districts for water-related projects is dependent upon approval by the RRWMB after demonstration of: 1) proper consideration of the review criteria presented in "Application Procedures for Funding Floodwater Detention Projects" dated January 15, 1991; and 2) review of the project as to the possible environmental impact of the proposed project.

Member Watershed Districts operate within a variable time frame, with projects in differing stages of planning, design, construction or operation. Projects can be initiated and completed within 3-6 years if all qualifying factors are achieved. A 7-12 year planning and development time frame is common for more complex projects. The present fiscal ability of the RRWMB is the funding of approximately 2-3 watershed district projects per year.

To date, the Red River Watershed Management Board has financially participated in the completion of 32 floodwater retention projects in the Red River Valley. One project is presently under construction. Three projects that were officially being held "in abeyance" by the U.S. Army Corps. of Engineers until an Environmental Impact Statement was completed have now been released.

OTHER INITIATIVES

The RRWMB will also consider funding programs, initiatives or projects proposed by other private institutions, universities, local, state or federal agencies, when the activity is deemed in the interest of the member Watershed Districts.

The Red River Watershed Management Board has taken an active role in the County Water Planning effort in the Red River Valley. Working with the International Coalition for Land and Water Stewardship in the Red River Valley and with special efforts by the Red Lake Watershed District, the Legislative Commission on Minnesota's Resources (LCMR) funneled \$228,792 in cost share money to the 15 counties in the Red River Valley. In addition, the RRWMB has expended \$190,000 for the development of a Geographic Information System (GIS) in cooperation with the county planning effort. Of this expenditure, \$105,000 was for a land-use update within the fifteen participating counties.

1991 LEGISLATION

Legislation in 1991 expanded the funding capabilities of the Board from "... construction and maintenance of projects of common benefit." To "... development, construction, and maintenance of projects and programs of benefit to the Red River Basin."

COOPERATION

Although the RRWMB's jurisdiction is limited to that of member Watershed Districts, the Board has the power to cooperate with authorities in North Dakota, South Dakota, and Manitoba and to enter into "contracts, compacts,

and agreements which may be necessary to ensure integration of its projects". It presently holds meetings biannually with its North Dakota counterpart, the North Dakota Joint Water Resource Board.

STATE OF MINNESOTA LEGISLATIVE SUPPORT AND FUNDING

1979 - Approved a cost share program through the Legislative Commission on Minnesota Resources (LCMR). This program provided for up to 50% cost share for the development and construction of floodwater retention projects. \$1,000,000 was appropriated along with the Red River Coordinator position to administer the program and to assist coordinating activities.

1981 - Approved an extension of the LCMR cost share program to include another \$700,000. In addition, \$1,500,000 was appropriated for cost share participation on the Moose River Impoundment located in the Red Lake Watershed District.

1983 - Appropriated \$2,000,000 to the cost of constructing the Winger Dam in the Sand Hill River Watershed District.

1984 - \$500,000 was added to the state cost share for the Winger Dam.

1987 - Established a flood hazard mitigation program to provide technical and financial assistance to local government units for study and implementation of structural and nonstructural flood damage reduction measures.

1988 - Appropriated \$728,030 for construction of five Watershed District projects and numerous farmstead ring dikes, and Planning for two other projects.

1989 - Appropriated \$235,000 for project development, construction of farmstead ring dikes, and local cost share on the Federal Project at Alvarado.

1991 - Appropriated an additional \$75,000 for Alvarado; \$250,000 for the Good Lake Project in the Red Lake Watershed; and \$211,500 for additional ring dike construction, local cost share

in the Red Lake Watershed; and \$211,500 for additional ring dike construction, local cost share on the Duxby Project in the Roseau River Watershed, survey work in conjunction with the Corps. of Engineers "UNET" modeling, and the continuation of three project development initiatives.

1992 - Appropriated an additional \$300,000 for the Good Lake Project.

1994 - Appropriated an additional \$350,000 for the Good Lake Project.

1996 - Appropriated \$9,000 to the Roseau River WD for the construction of farmstead Ring Dike; \$23,000 to the Two Rivers WD for construction of the Nereson Sub-Impoundment Project; and \$15,000 to the Roseau River WD for their Flood Control Planning process.

PLANNING AND DEVELOPMENT PROGRAM

The long range objectives of the Red River Watershed Management Board are to assist watershed districts and other local organizations in managing the basin's water resource problems and needs. The most current emphasis is on flood damage reduction.

The Board promotes a basin-wide perspective of reducing flood damages. Past efforts in dealing with the flooding problem concentrated on the effects of single projects on local areas and neglected the overall basin impacts. Hydrologic studies completed (timing analysis) provide an informational aid in assessing the effects of projects - primarily floodwater retention impoundments - from a basin-wide perspective. This effort emphasizes the concept that flood flows on the mainstem are a combination of flows from the upstream tributaries. This timing concept is used by the Board to prioritize funding expenditures.

A principle objective of the RRWMB is to financially support its' member Districts to develop and construct impoundment projects which reduce the flooding within their own geographic areas and also have main stem flood flow reduction benefits. Studies have been completed and are used to ascertain the potential effects of individual projects. In order to be effective, the storage of tributary floodwaters must be timed so that floodwater which would have reached the mainstem during the peak will be stored and retained until flood flows subside. By understanding the flood mechanism on the mainstem, consideration and financial support can be given to the design and operation of projects which maximize potential benefits basin-wide.

The STAR Value method is a tool developed to provide an easy method for the Red River Watershed Management Board to estimate the value of a Floodwater retention project towards reducing peak mainstem flood flows. It is based on parameters that can be determined during early stages of project development and can be kept up-to-date as the project moves through the various funding steps. The method strongly favors projects which are designed and operated to achieve long floodwater detention times. The STAR value equation is:

$$\text{STAR Value} = S \times T$$

Where: S = Adjusted storage volume in acre-ft.
T = relative value of the detention time.

The adjusted storage volume (S) is the storage volume adjusted by reducing the value of that which exceeds 3.6 inches.

The relative value of the detention time (T) is determined from a curve which converts the calculated detention time of the impoundment to a relative value based on mainstem/tributary timing considerations. Those Floodwater detention projects which are capable of storing floodwater so that it can be effectively removed from the mainstem peak receive a greater relative value.

PROJECTIONS FOR 1997

The past year's activities, relative to the completion of the "Environmental Impact Statement" (EIS) on flood damage reduction projects, have taken a disproportionate amount of the RRWMB's time and resources. A legal challenge to the EIS has been made to protect the interests of the residents of the Red River Basin. The eventual outcome may be determined in the next year. It is the intention of the RRWMB to vigorously pursue decisions from permitting agencies that are favorable for the continuance and expansion of local watershed management initiatives.

Water quality studies (including a comprehensive methyl mercury analysis) will continue to be a major activity. The allegation in the EIS, about the negative quality effect on the storage of water to accomplish flood damage reduction, have compelled the RRWMB to pursue factual studies on existing projects.

The need to provide for public information on all decision making at the local governmental level is also very apparent. Individuals and organizations are expressing their interest and opinions on project activity months, and even years after the appropriate prescribed time for public input, which is during plan formulation and project development. The influence from outside the Red River Basin on agency permit decisions is troubling. The RRWMB and its member districts have recognized the need for broad public information on Watershed District activities by publishing a monthly newsletter and issuing press releases. Local issues should be addressed through appropriate local publications.

Currently, state and federal involvement in natural resource management is primarily carried out through regulation and permitting. The exception is the stewardship of state and federal lands and site specific studies. Private industry and local government have had to assume major roles in addressing "hands on" land and water management issues. The responsibility for administration of Watershed District regulations and project implementation has created an increased work-load. It is imperative that districts rise to the occasion by providing the necessary resources for responding to issues that develop in their respective areas.

The issues brought out in the EIS may influence the location, design and operation of future surface water control projects, but should not affect the mission of Watershed District managers to carry out their duties.

Meetings held in 1996

January 16, 1996

**Sand Hill Watershed District Office
Fertile, Minnesota**

The Red Lake WD reported they are seeking funds from the DNR flood damage reduction program for the Parnell project.

The Buffalo-Red River WD preliminary survey report for the Moorhead-Dilworth Area floodway channels was presented to the District and preliminary hearings were held in early December. The District appointed viewers and ordered the detailed engineer's survey report.

The Red River Watershed Management Board passed a resolution supporting the Boise de Sioux Watershed District's purchase of land for a water control project in North Ottawa Township, Grant County, Minnesota. If a water control project cannot be built within five years, the RRWMB shall at that time determine if the land should be resold and the RRWMB reimbursed fully for all funds forwarded up to that time. The RRWMB agreed to fund annual payments for the purchase of said land, and that the net rental funds (proceeds) received shall be deducted from the annual request for funds.

The Middle River-Snake River WD reported preparation of the Engineer's Report for Angus Oslo Site #4 is in progress. They met with interested persons on January 10. Additional survey is underway and soils investigations have been authorized.

The following officers were duly elected for 1996:

Chairman - Ron Osowski
Vice Chairman - John Finney
Secretary - Harley Younggren
Treasurer - Dan Wilkens

February 20, 1996

**Wild Rice Watershed District Office
Ada, Minnesota**

The RRWMB approved the Step II proposal for the EDA projects in Moorhead, Dilworth, and Hawley. It includes five flood control projects:

1. Hawley Flood Control Ditch
2. Improvement of Clay CD #50 - concrete liner
3. Improvement of Clay CD #41 - concrete liner
4. Establishment of lateral 2 to Clay CD #41
5. Improvement and extension of lateral #1 to Clay CD #41

Total cost (all 5 projects)	\$ 4,321,460
EDA Grant	\$ 2,582,400
Buffalo Red WD	\$ 347,815
RRWMB	\$ 347,815
Local government units - (cities, townships, etc.)	\$ 1,043,430

The Board authorized the down payment to secure the property for sale in North Ottawa Township, Grant County. TERMS:

Purchase price:

(\$945 per acre) \$ 1,985,455.00

Down payment: (25%) \$ 496,361.25

Contract for deed:

5 years, 5 equal payments on principle with interest calculated on balance each year, due March 15 of each year

Interest rate: 7%

Rental contract:

Currently in place for 2 years at \$80.00 per acre

The RRWMB approved Naomi Jagol to provide assistance to Dan Wilkens for treasury work at 1.3 X the hourly rate of payment.

The Board approved to authorize another \$50,000.00 to the EIS budget.

March 21, 1996
Best Western Inn
Thief River Falls, Minnesota

The Wild Rice WD managers reported they authorized the development of a model of the Wild Rice River Basin. The model will assist the Board with the evaluation of future flood control projects being proposed in the Basin. The study is estimated to cost approximately \$75,000.

The Joe River WD reported April 2 is John Finney's birthday!

Don Ogaard suggested updating the filming of flooding in the valley area and documentation of current events and projects. He stated there are two issues which should be done professionally including (1) Filming for the video, and (2) Production of a brochure on what the RRWMB does. The Board approved both projects with a \$15,000.00 limitation for the video.

The Board approved the Sand Hill Watershed request for funding of \$1,500 to send a teacher and a student to Tucson, Arizona, for the National Science Fair. The presentation will be on the Sand Hill River Water Quality Study.

Mark Deutschman, in a letter, reported that the EIS budget costs to date are as follows:

<u>Watershed District/ Consultant</u>	<u>Invoiced Totals to Date</u>
MRSR Watershed District	\$ 69,140
JOR Engineering	\$ 68,949
Houston Engineering	\$ 138,854
Widseth, Smith, Nolting	\$ 51,477
Red Lake Watershed District	\$ 45,709
Watts and Associates	\$ 134,474
HDR Engineering	\$ <u>584,874</u>
Total Expenditures	\$ 1,093,477
Approved Contract Total	\$ <u>1,143,200</u>
Balance	\$ 49,723

April 16, 1996
Concordia College
Moorhead, Minnesota

The Wild Rice WD reported comments have been received from the Minnesota Department of Natural Resources and the US Fish and Wildlife Service on the Marsh Creek, Site No. 6 Project, concerning the District's COE Section 404 permit application. An "extensive" formal response was prepared.

The Red Lake WD reported staff has been working with the DNR and US Fish & Wildlife Service in conducting the drawdown on Elm Lake, the Moose River Project, Lost River Pool, and Thief Lake. Spring drawdown has problems with freezing downstream ditches.

Bonding for the Flood Damage Reduction Program was about \$1 million and no Red River Impoundments Projects were funded.

The Sand Hill WD Project #11, Beltrami Flood Control and Diversion Project was granted Step I approval by the Board. The project consists of a diversion of the Old Sand Hill River channel at a point approximately 1.5 miles east of the City of Beltrami. It will facilitate the reroute of most of the flood runoff through a diversion to the Sand Hill Ditch to help prevent flooding within the City of Beltrami and the surrounding area.

Proposed funding:

RRWMB	\$ 127,500
Sand Hill WD	<u>63,745</u>
TOTAL	\$ 191,245

The Sand Hill Watershed District Project #8 (Ogaard Wildlife and Flood Control Structure) was granted Step I approval by the Board. The project will include a permanent Wildlife Pool and an ungated flood storage capability of 190 acre ft.

Proposed funding:

RRWMB	\$ 43,700
Sand Hill WD	<u>21,845</u>
TOTAL	\$ 65,545

The Board approved moving the computer from Houston Engineering to the TIC office.

Dan Thul's Coordinator position was discussed regarding job description and future direction. The last time the contract was discussed was July 1, 1990, to June 30, 1991. No action was taken at this time.

The Board authorized \$2,500.00 to the Minnesota Association of Watershed Districts for them to prepare an LCMR proposal and grant request. The proposal will address water quality issues and the Watershed District's ability to address these issues.

The Board approved to support the "Applied Fluvial Geomorphology" workshop to be held at Grand Forks, ND, on June 10-14, 1996, with \$1,000 as a sponsor.

May 21, 1996
Sand Hill Watershed District Office
Fertile, Minnesota

The Bois de Sioux WD reported that sellers of North Ottawa Township/Redpath Township lands have contacted them and have scheduled a tentative closing date of June 1, 1996. Finances are in order.

The Buffalo-Red River WD reported the District has made the final order for Clay CD 50. This is the main channel for the City of Dilworth. Right-of-way easements are being negotiated with the landowners along the Hawley diversion project.

The Executive Director was authorized by the Board to pursue a proposal to find someone to document benefits and cost of impoundments and impoundment operations for past floods.

The following funding requests were approved:

Red Lake Watershed District -
Parnell Impoundment:

Total cost	\$2,300,000.00
RRWMB (85%)	\$1,950,000.00

Clearwater River Low Flow Monitoring,

\$150,000 previously committed:

\$50,000 in 1995 -- paid
\$50,000 in 1996 -- approved
\$50,000 in 1997 -- obligated

The Board authorized the expenditure of \$22,500.00 up front money for the potential BWSR grant of \$45,000.00 which would provide local cost share for costs associated with the development of a Basinwide Plan.

The Board appointed a group to participate in an interagency committee (DNR, RRWMB) to develop a procedure to review potential projects: Charles Anderson, Don Ogaard, John Finney.

Marsh Creek #6: The Board agreed to authorize funding of legal support as needed by the Wild Rice WD.

The Board approved a funding request by USGS for a project to compile, summarize, and publish streamflow characteristics for all active and inactive USGS gaging stations in the Red River of the North Basin downstream of Halstad. The proposed breakdown of funding is:

	1996	1997	Total
RRWMB	\$ 9,000	\$ 7,750	\$16,750
RRJWRB*	9,000	7,750	16,750
USGS	<u>18,000</u>	<u>15,500</u>	<u>33,500</u>
	\$36,000	\$31,000	\$67,000

* Red River Joint Water Resource Board

June 18, 1996
Wild Rice Watershed District Office
Ada, Minnesota

The Board authorized the Dorsey and Whitney law firm to enter a "Friend of the Court" (Amicus brief) on behalf of the Sand Hill Watershed District in the matter of Beiswenger et al. vs Sand Hill Watershed District. This court case involves an appeal of the Sand Hill Watershed District decision on a drainage ditch petition.

The Wild Rice WD managers submitted a BWSR Challenge Grant Application for funding of its Water Quality Assessment for the Wild Rice/Marsh River Project. The Board authorized expenditures of \$25,000 which equals their previous commitment.

Dr. J. L. Richardsen from NDSU and advisor and consultant for the Buffalo-Red River WD presented a project concerning groundwater hydrology and seepage of altered wetlands. The Board accepted the proposal as presented with funding as follows:

RRWMB	\$ 7,600.00
Buffalo-Red River WD	7,600.00
USFWS	<u>7,600.00</u>
Total	\$22,800.00

The Red Lake WD reported the District has been working on the land purchase for the Parnell Impoundment Project No. 81.

Mark Deutschman presented a letter closing their contract for work on the EIS. No future invoices after June 15, 1996. Mark thanked the Board for using HDR Engineering for the EIS process.

Final costs for services are:

HDR Engineering, Inc.	\$592,106.13
Houston Engineering	138,853.76
JOR Engineering	69,105.06
Red Lake Watershed District	46,369.70
Middle River-Snake River WD	72,372.20
Watts and Associates	134,473.95
Widseth, Smith, Nolting	<u>51,477.16</u>
Total	\$1,104,757.96

July 16, 1996
Roseau River Watershed District Office
Roseau, Minnesota

The Two Rivers WD reported that the outlet structure to the Nereson Impoundment is under design by their Engineer, Omar Rood. Omar is coordinating with DNR-Wildlife, who is looking for disaster funds to help replace the structure.

The Wild Rice WD reported that the U.S. Army Corps of Engineers has indicated that they are not going to act on the permit application for Marsh Creek Site No. 6 until after the completion of the cumulative EIS. The COE believes that there is potential adverse impact both upstream and downstream of the project, but that it is unclear at this time whether or not the impact is significant. The Operation Plan and Mitigation Package have yet to be finalized. At the Board's July regular meeting it was decided to extend, if it can, the land options that will expire in July and December on this project.

The Buffalo-Red River WD reported they have made the final order on all the Moorhead-Dilworth flood control channels. The 30-day appeal period will expire on August 7, 1996. Plans and specifications are being

prepared. A hearing on the Hawley diversion channel is scheduled for later this month.

The Red Lake WD Managers have made an agreement on purchasing Section 3 in Parnell Township for the Parnell Impoundment Project, which is 2/3 of the land needed for the project. The Board approved payment in the amount of \$588,088.92.

The Board approved start-up funding for the second year of the Red Lake WD water quality projects, in the amount of \$12,500.00.

The Roseau River WD is participating on a recently formed Flood Control Committee. The committee intends to develop an overall plan for reducing flooding within the City of Roseau and other areas within the Watershed.

The Middle River-Snake River WD reported that as a result of the flooding in April and May, they, along with the City Council for the City of Warren, requested that the Natural Resources Conservation Service (SCS) do a study of flood control measures for the Snake River under Public Law 566. In 1988, for a previous PL-566 application the Soil Conservation Service had proposed an off channel storage site approximately 12 miles east of Warren and a diversion around Warren. The requested study is basically a resumption of the previous proposal.

The Bois de Sioux WD reported that Senator Pressler is again planning to introduce a bill to hold down the maximum flood water levels on Lake Traverse. The bill would reduce existing floodwater storage by approximately 88,000 acre feet. The Board authorized Don Ogaard to make appropriate contacts with the COE and Area Representatives to communicate the RRWMB's concern on the potential loss of Floodwater Storage on Lake Traverse.

Steve Mikkelsen, TIC, reported he is leaving TIC for a public relations position with MPCA in Detroit Lakes.

The Board approved the tax levy at the present level of 75 percent of amount allowable by law.

The Board authorized up to \$30,000 to support a review of the final EIS document by HDR Engineering, Dorsey, and Whitney, and the Individual Member Districts.

The Board reviewed the HDR Flood Damage Assessment proposal. Phase I involves a pilot area to determine feasibility and costs of carrying the assessment basin wide. They agreed to fund the first phase at approximately \$7,700.00.

August 20, 1996
Conference Center, U of M
Crookston, Minnesota

The Bois de Sioux WD closed on the land purchase for the North Ottawa Project on July 31, 1996. A plan of action is being developed. Discussion includes funding and design options. Plans are to involve the Advisory Committee as well as a subcommittee of board members to lay out a plan.

Don Ogaard reported on the "Interim Planning Group." The Articles of Incorporation, Bylaws, Operating Procedures, and Work Group Structure is all under development. The proposal is for 19 members including one from the RRWMB.

Don Ogaard passed out a letter from Mark Deutschman on HDR's Review of the Final EIS. In the letter Mark reported that 24% of comments submitted resulted in text revisions, however, conclusions changed little. One major change resulted in the determination of potential significant adverse impact for all sub-basins for Mercury except the Wild Rice and the Two Rivers sub-basins.

Jeff Lewis from MPCA reported on the LCMR Red River Planning grant that was approved. It included \$100,000 to TIC; \$150,000 match to USGS for a Sediment Study; and \$125,000 to fund a PCA Coordination position.

The Board approved a draft letter to the COE from Attorney Rebecca Comstock on behalf of the RRWMB. The letter stated that the EIS failed to utilize data made available to them and in many areas reached conclusions inconsistent with the data.

The Board agreed to file a petition in District Court and to fund a possible legal challenge of the FEIS under the State of Minnesota rules for Project #11, Site #6.

Ray Ecklund, City Administrator and Mike McDonald, Project Engineer of Crookston, presented a flood control project for the City of Crookston. Projected cost is \$7.1 million with the city bearing 25% of the cost. Costs to date are Federal \$1,140,000 and the City of Crookston \$460,000. City total at \$2,700,000 and the Red Lake WD for the design stage at \$235,000.

Ron Lindberg, Public Works, and Councilman Hammerlink, of Thief River Falls, presented a fact sheet for restoration/dredging of the Thief River Falls Reservoir.

Proposed Funding:

City of Thief River Falls	\$	250,000
Red Lake WD		250,000
RRWMB		250,000
State of Minnesota		500,000
	\$	1,250,000

September 24, 1996
Wild Rice Watershed District Office
Ada, Minnesota

The Middle River-Snake River reported on the status of the Angus Oslo Site #4 Project. A land purchase/land exchange is underway for approximately 160 acres and a land purchase is in the process for approximately 320 acres. When these are completed, the District will own most of the lands required for this project.

The Board approved a request by the Middle River-Snake River WD for the Angus Oslo Site #4 project to advance 85% of the funds already expended (\$86,984.95) and 85% of the cost of purchasing the additional lands (\$238,000) for a total of \$324,984.95.

The Board approved the Diked Flood Storage Study Cost Reimbursement Request from the Roseau River WD as follows:

	<u>State of MN</u>	<u>RRWMB</u>
8/90 - 6/91	\$20,068.71	\$13,379.12
7/91 - 6/92	\$12,180.74	\$ 8,120.48
7/92 - 6/93	\$ 3,571.29	\$ 2,518.24

The Board approved the Nereson Subimpoundment Cost Reimbursement Request from the Two Rivers WD as follows:

	<u>State of MN</u>	<u>RRWMB</u>
1/91 - 6/91	\$ 7,340.00	\$ 5,505.00
7/91 - 6/92	\$21,282.27	\$15,961.70
7/92 - 6/93	\$14,336.55	\$10,752.41
7/93 - 6/94	\$12,020.50	\$ 9,015.37
7/94 - 6/95	\$10,895.00	\$ 8,171.25

The Board approved the Juneberry Ridge Study Pay Request from the Two Rivers WD as follows:

	<u>State of MN</u>	<u>RRWMB</u>
3/92 - 6/92	\$ 370.00	\$ 185.00
7/92 - 6/93	\$ 70.00	\$ 35.00
7/93 - 6/94	\$ 55.00	\$ 27.50
7/94 - 6/95	\$ 3,130.00	\$ 1,565.00

In order to legally challenge the FEIS under the State of Minnesota rules, it was necessary that the RRWMB have a project within its member watersheds on file in District Court to be able to fund the challenge if it arises. The Wild Rice Watershed District volunteered Project #11, Site #6 and Don Ogaard noted that the filing was in the process of completion.

In response to Board action on potential threat to drainage law, Don Ogaard noted the need to have a proactive position rather than reacting after the fact. The Board approved Don facilitating a round table discussion consisting of various associations.

October 22, 1996
Sand Hill River Watershed District Office
Fertile, Minnesota

The Middle River-Snake River WD reported that the District has received notification from the Natural Resources Conservation Service that the preliminary investigation shows that the flood control project on the Snake River developed previously under Public Law-566 is feasible.

The Board approved payment for the following projects:

Red Lake WD

Maple Lake Project	\$ 40,600
Good Lake Project	90,438
Total	\$131,038

Sand Hill River WD

To the Agassiz Environmental Learning Center to fund a 3-year study for River Watch at \$20,000 per year.

Jay Leitch-Wetland "Social Value" Delineation

This would involve a study of 5-10 currently mitigated wetlands in the Red River Basin, and would compare public values of before and after wetland mitigation. A budget of approximately \$15,000 was presented and the results would be available by December of 1997. The final product of this study would be utilized as a report that could be presented to appropriate state and federal agencies.

With regard to the current Drainage Law, Don Ogaard reported that there is no plan for any major legislative changes. However, the Association of Rural Counties is attempting to organize a legislative study group.

Previously, the Wild Rice WD volunteered Project #11, Site #6 to be filed in District Court in an effort to legally challenge the FEIS. Don Ogaard stated that Dorsey & Whitney is in the process of preparing a response to submit to state and federal agencies documenting the support of the RRWMB in the Wild Rice WD's initiative to challenge the FEIS.

The Board approved Phase II of the flood damage assessment proposal given by Rick St. Germain. The proposal was split into two different phases.

Phase I included:

1. Goals
2. Data Source Development

Phase II would include:

1. Developing a method to gather the data.

When the COE issued flood damages for the Red River Valley, they used extrapolated information from previous floods and then applied a multiplication factor to determine the flood damages. Rick stressed the urgency to have authentic data on file for future reference. Rick stated that Phase I is essentially complete.

Dan Thul discussed the Coordinator position relative to the RRWMB. He stated this position was created in 1979 since LCMR money needed to be monitored through a state agency. The need to keep positive lines communication open was discussed and the idea of a DNR Fish & Wildlife Division representative was mentioned also.

November 19, 1996
Wild Rice Watershed District Office
Ada, Minnesota

The Two Rivers WD reported that the contractor at Nereson is done for the year with dike work. Approval of funding was obtained from FEMA regarding the outlet structure.

Correspondence was received by the RRWMB from JOR Engineering, Inc., concerning a numerical error that resulted in an overbilling of the Nereson Project. Additional work has been completed and JOR will submit these bills. The Board agreed to credit the Two Rivers WD with the overbilling of \$16,860 until additional bills have been received.

The Sand Hill River WD reported that they voted to appeal Judge Anderson's decision regarding Project #12 - County Ditches 98 and 148 at the last regular meeting. Regarding the request for legal assistance from the RRWMB on Project #12, Don Ogaard stated that Dorsey & Whitney had been notified to file a friend of the court brief on behalf of the RRWMB.

The Buffalo-Red River WD reported that the plans and specs were revised at the request of EDA for the Moorhead, Dilworth, and Hawley Projects and also that a wetland replacement plan is being finalized.

Relative to the newly formed Red River Basin Board, the Board selected Don Ogaard as their official representative.

The Wetland Restoration Guide was reviewed. The guide was developed in order to promote uniform guidelines that could be implemented by individual watershed districts in permitting procedures. It would serve as an incentive for applicants to do restorations that would not detract from flood control. It was decided to send out a copy to agencies for review along with an invitation to attend a RRWMB meeting for discussion.

December 23, 1996
Wild Rice Watershed District Office
Ada, Minnesota

Manager Dan Wilkens, was elected to serve as the Board's official alternate to the Red River Basin Board.

\$50,000 was approved for funding the Minnesota Counties contribution to the Red River Basin Board.

The Board accepted the proposal of Loyd Gilbert and Associates in the amount of \$49,950 for promotion of public relations.

Don Ogaard reported that Colonel Wonsik, St. Paul Corps of Engineers, was given a one-day tour of the Wild Rice WD and specifically the proposed Project #11, Site 6 (Marsh Creek) flood control project. The District's topographic wall map was used to outline the watershed of the project and its relationship to the district as a whole, with existing wildlife (wetland) management areas of the DNR and USFWS highlighted.

Dan Thul stated that the DNR is establishing a Red River Issues Team. This group would involve DNR staff from both Bemidji and St. Paul. The purpose of this group would be to identify Red River Basin issues, define DNR positions, recommend solutions, and resolve conflicts.

The Wild Rice WD reported that in response to landowners, the WRWD along with Norman and Clay County have proceeded with a study to address management of natural watercourses (Dahlen Coulee). An Interagency Task Force, made up of agencies responsible for resource management and wetland protection, have been appointed, along with a Policy Committee made up of local government to provide direction for the study. A primary goal of the project has been to assess and prioritize economical and scientifically sound solutions to problems associated with maintenance and long-term resource management of natural waterways.

The Board approved funds of \$10,000 to the Roseau River WD to acquire a hydrologic model and improve public relations. They intend to develop a basin plan through the efforts of the Roseau Flood Control Committee. Proposed funding:

State FDR	\$ 15,000
RRWMB	10,000
Roseau WD	<u>5,000</u>
Total:	\$30,000

DAHL, HATTON, MUIR & REESE, Ltd.

Certified Public Accountants

Conrad M. Dahl, CPA
Mark Hatton, CPA
Patricia L. Muir, CPA
Jeffrey F. Reese, CPA

INDEPENDENT ACCOUNTANT'S REPORT ON APPLYING AGREED-UPON PROCEDURES

Board of Directors
Red River Watershed Management Board

We have performed the procedures enumerated below, which were agreed to by Dan Wilkens, Treasurer, solely to assist you with respect to the accounting records of Red River Watershed Management Board as of December 31, 1996. This engagement was performed in accordance with standards established by the American Institute of Certified Public Accountants. The sufficiency of the procedures is solely the responsibility of the specified users of the report. Consequently, we make no representations regarding the sufficiency of the procedures described below either for the purpose for which this report has been requested or for any other purpose.

Our procedures and findings are as follows:

- A. We obtained confirmations of the cash on deposit and certificates of deposits from your banks; we agreed the confirmed balances to the amounts shown on the bank reconciliations maintained by Red River Watershed Management Board. We mathematically checked the bank reconciliations and compared the cash balances per book to the respective general ledger account balances.

We found that on a few certificates of deposits, compounded interest had not been recorded on the schedule of investment. We made the necessary adjustments and all interest earned is included in these statements.

- B. We obtained confirmations of the pledged securities to obtain assurance that all deposits of Red River Watershed Management Board were adequately safeguarded.

We found three cases of under-pledged securities. We recommend that the Treasurer request, on a quarterly basis, an investment portfolio of pledged securities from all depositories with balances over \$100,000.

- C. We performed, on a random basis, a review of disbursements to determine if they were proper expenditures of the Board and were properly recorded.

We found that all items reviewed were proper expenditures and were properly reported.

- D. We performed, on a random basis, a review of receipts to determine the adequacy of the reporting of receipts.

We found that for items tested, receipts were properly reported and timely deposited.

- E. We performed a review of the Secretary's Minutes regarding the meetings of the Board.

We found that the Minutes which were reviewed: 1) needed to be signed, 2) no mention was made as to Board per diems and mileage rates, 3) no mention was made as to naming official depositories or legal services.

We were not engaged to, and did not, perform an audit, the objective of which would be the expression of an opinion on the specified accounts or items. Accordingly, we do not express such an opinion. Had we performed additional procedures, other matters might have come to our attention that would have been reported to you.

This report is intended solely for the use of Red River Watershed Management Board and should be not used by those who have not agreed to the procedures and taken responsibility for the sufficiency of procedures for their purposes.

Dahl, Hatton, Muir & Reese, Ltd.

DAHL, HATTON, MUIR & REESE, LTD.

At: Hallock, Minnesota 56728

Date: June 18, 1997

Red River Watershed Management Board
Ada, Minnesota
COMBINED BALANCE SHEET
December 31, 1996

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EXHIBIT A

	Governmental Fund Type General	Account Group General Fixed Assets	Totals (Memorandum Only)	
			1996	1995
<u>ASSETS</u>				
Cash	\$ 921,294.63	\$	\$ 921,294.63	\$ 965,266.94
Investments	5,486,674.39		5,486,674.39	5,816,112.73
Furniture & Fixtures		15,942.41	15,942.41	15,942.41
TOTAL ASSETS	<u>\$6,407,969.02</u>	<u>\$ 15,942.41</u>	<u>\$6,423,911.43</u>	<u>\$6,797,322.08</u>
<u>LIABILITIES & FUND EQUITY</u>				
Total Liabilities	\$ -0-	\$	\$ -0-	\$ -0-
<u>Fund Equity</u>				
Investment in General Fixed Assets		15,942.41	15,942.41	15,942.41
Fund Balance - Unreserved				
- Designated			-0-	-0-
- Undesignated	6,407,969.02		6,407,969.02	6,781,379.67
Total Fund Equity	<u>6,407,969.02</u>	<u>15,942.41</u>	<u>6,423,911.43</u>	<u>6,797,322.08</u>
TOTAL LIABILITIES & FUND EQUITY	<u>\$6,407,969.02</u>	<u>\$ 15,942.41</u>	<u>\$6,423,911.43</u>	<u>\$6,797,322.08</u>

Red River Watershed Management Board
Ada, Minnesota

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STATEMENT OF RECEIPTS AND DISBURSEMENTS AND
CHANGES IN FUND BALANCE - GENERAL FUND

EXHIBIT B

Year Ended December 31, 1996

	Totals (Memorandum Only)	
	1996	1995
<u>RECEIPTS</u>		
State of MN - Project Funding	\$ 105,320.06	\$ 87,541.29
District Levies Collected	1,242,670.44	871,003.99
Interest Income	406,177.19	331,763.56
Refunds on Stream Gaging	37,004.00	17,176.00
Miscellaneous	58.52	1,211.66
TOTAL RECEIPTS	1,791,230.21	1,308,696.50
<u>DISBURSEMENTS</u>		
Administrative:		
Executive Director	29,674.59	30,967.07
Manager's Per Diem & Expense	13,753.71	16,135.06
Payroll Taxes	1,350.34	1,774.09
Technical Committee	-0-	2,433.83
Professional Services	2,123.90	1,004.30
Telephone	71.69	1,303.47
Meeting Expense	2,653.13	2,455.19
Printing	656.33	479.95
Insurance	5,859.00	3,418.00
Bank Charges	60.00	-0-
Dues	500.00	500.00
Office Expense	1,848.97	-0-
Promotion	1,679.98	5,603.63
Refunds & Reimbursements	406.86	242.22
Total Administrative	60,638.50	66,316.81
Environmental Assessment:		
Engineering	89,711.31	229,730.98
Legal	77,521.40	80,839.32
Public Relations	4,939.86	16,805.56
Miscellaneous	-0-	500.00
Total Environmental Assessment:	172,172.57	327,875.86
Coordinating Services:		
Coordinating	22,550.00	11,000.00
Information Package	40,000.00	40,000.00
Wetlands Restoration Project	8,563.66	-0-
Leaders Summit	53,836.88	-0-
Total Coordinating Services	124,950.54	51,000.00

Red River Watershed Management Board
Ada, Minnesota

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STATEMENT OF RECEIPTS AND DISBURSEMENTS AND
CHANGES IN FUND BALANCE - GENERAL FUND (Cont'd)
Year Ended December 31, 1996

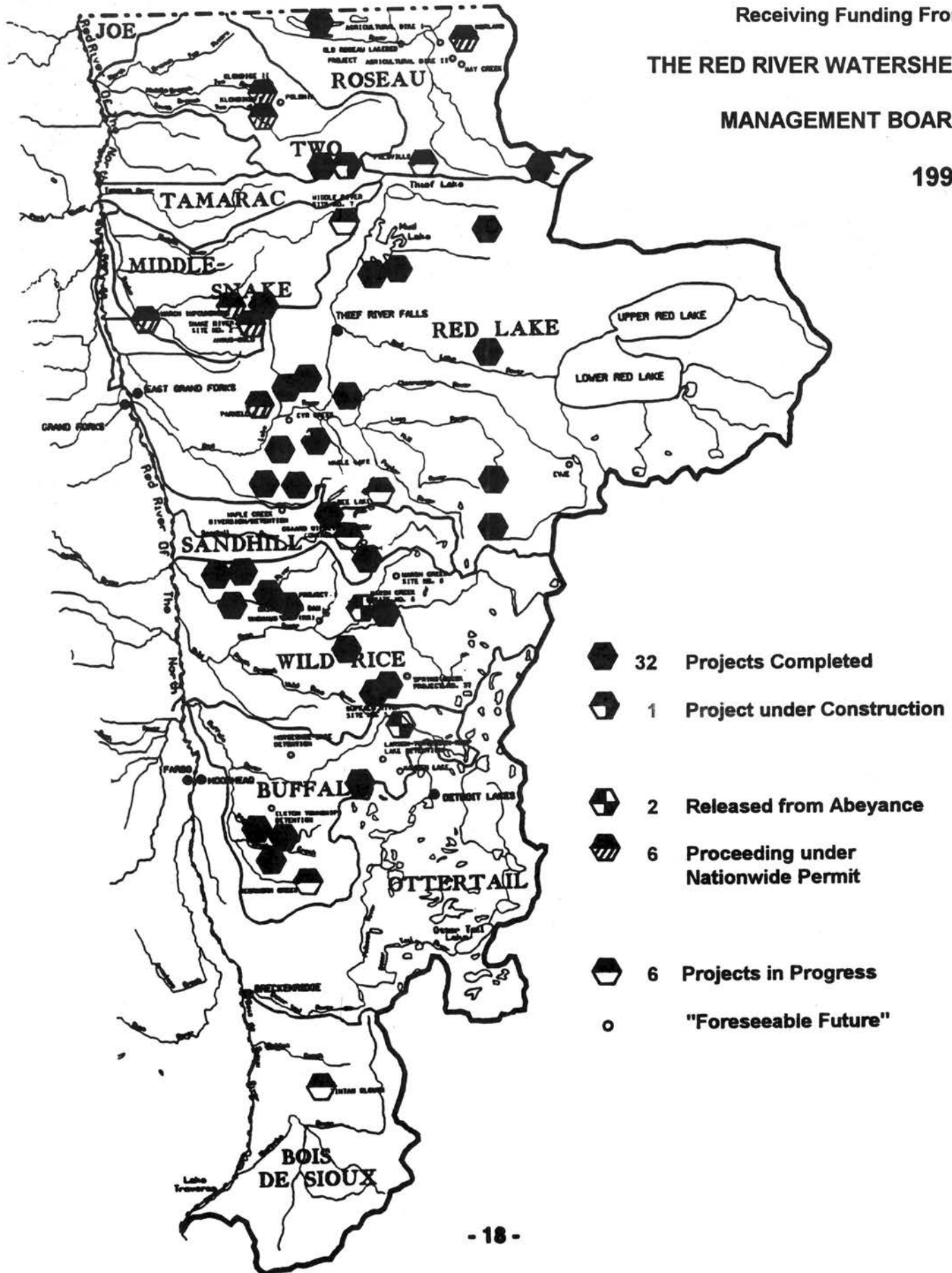
EXHIBIT B

	<u>Totals</u>	
	<u>(Memorandum Only)</u>	
	<u>1996</u>	<u>1995</u>
<u>DISBURSEMENTS (Cont'd):</u>		
Funding:		
Study Funding	\$ 291,156.13	\$ 102,700.00
Project Funding	1,502,373.12	201,601.68
Data Acquisition	13,350.00	51,342.50
Total Funding	<u>1,806,879.25</u>	<u>355,644.18</u>
TOTAL DISBURSEMENTS	<u>2,164,640.86</u>	<u>800,836.85</u>
EXCESS OF RECEIPTS OVER (UNDER) DISBURSEMENTS	<u>(373,410.65)</u>	<u>507,859.65</u>
FUND BALANCE, JANUARY 1	6,781,379.67	6,273,520.02
FUND BALANCE, DECEMBER 31	<u>\$6,407,969.02</u>	<u>\$6,781,379.67</u>

FLOODWATER RETENTION PROJECTS

Receiving Funding From
THE RED RIVER WATERSHED
MANAGEMENT BOARD

1996



RED RIVER WATERSHED MANAGEMENT BOARD FUNDED PROJECTS

	<u>Storage Gated</u>	<u>*Storage Total</u>	<u>Total \$</u>	<u>RRWMB \$</u>	<u>WSD \$</u>	<u>State LCMR/FDR</u>	<u>**Other \$</u>
Red Lake #13-Moose River	29,500	36,250	\$3,413,865	\$1,130,000	\$588,865	\$1,695,000	\$ —
Buffalo-Red #8-Barnesville	1,100	2,840	515,536	356,250	159,286	—	—
Roseau River WMA (upgrade)	—	4,985	1,100,000	39,674	4,408	—	1,055,918
Angus-Oslo #1	420	420	152,384	63,329	20,555	68,500	—
Gentilly - SWCD	—	6	29,824	4,059	4,059	—	21,706
Nereson Impoundment	—	2,550	441,105	141,340	40,000	181,340	78,425
Red Lake #25-Black River	4,000	4,800	1,125,120	387,839	287,281	450,000	—
Wild Rice #10-Mashaug	—	495	288,500	60,000	30,000	58,500	140,000
Wild Rice #13-Agassiz-Olson	—	2,600	933,554	352,665	204,935	216,000	159,954
Wild Rice #8-Moccasin Creek	1,060	1,874	771,448	432,000	159,448	180,000	—
Roseau River Dam	—	1,140	96,349	10,000	10,000	18,410	57,939
Roy Abraham Dam-SWCD	—	66	15,585	4,950	4,935	2,200	3,500
Red Lake #27-Pine Lake	—	1,250	50,119	16,539	8,520	25,060	—
Odney Flaot Dam-SWCD	—	81	34,641	2,693	2,692	8,559	20,697
Red Lake #17-Lost River Pool	—	4,500	122,395	30,598	30,600	61,197	—
Theibert-Knutson Dams-SWCD	—	48	54,537	3,435	3,435	—	47,667
Red Lake #16-Baird-Beyer Dam	—	400	178,127	45,610	57,517	25,000	50,000
Sand Hill #1	—	3,800	467,030	227,015	19,000	221,015	—
Sand Hill #2	—	285	25,988	10,395	2,894	12,699	—
Wild Rice #6-Lake Ida	—	355	49,750	24,125	24,125	—	1,500
Buffalo-Red #5-Henry Dam	—	496	180,995	135,745	45,249	—	—
Mashaug Creek #1	—	400	127,600	15,000	15,000	—	97,600
Wild Rice #4-Becker Dams	—	4,625	911,970	100,000	73,000	—	738,970
Burnham Creek-SCS	—	—	—	—	—	—	—
BR6 Structure	—	1,023	1,126,741	105,825	101,687	—	919,229
Red Lake #52-Elm Lake	2,000	7,500	1,600,000	33,333	16,667	50,000	1,500,000
Buffalo-Red #13	—	—	—	—	—	—	—
Bjornson WMA	—	2,760	678,897	393,613	285,284	—	—
Wild Rice #35-Sundal	—	259	512,366	152,218	360,148	—	—
Wild Rice #36	—	285	151,320	75,660	60,660	—	15,000
Buffalo-Red #16	—	—	—	—	—	—	—
Stinking Lake	2,898	3,994	686,760	355,005	156,725	175,030	—
Good Lake	—	11,300	2,252,876	740,438	412,438	975,000	125,000
Nereson Sub-Impoundment	—	275	400,000	150,000	75,000	125,000	50,000
33 Projects	<u>40,978</u>	<u>101,662</u>	<u>\$18,495,382</u>	<u>\$5,599,353</u>	<u>\$3,264,413</u>	<u>\$4,548,510</u>	<u>\$5,083,105</u>

*Total storage is the available flood storage up to the emergency spillway elevation and includes the gated storage.

**Other Sources of Funding include:

Department of Natural Resources, Section of Wildlife
Counties
Soil and Water Conservation Districts
ASCS Funds
Minnesota Department of Transportation
Soil Conservation Service
Private Landowners
Local Assessments
Ducks Unlimited, Inc.
Red Lake Tribe

FLOODWATER DETENTION PROJECT PARTICIPATION

COMPLETED PROJECTS

RED LAKE PROJECT #13 - MOOSE RIVER IMPOUNDMENT

Location: Moose River and Mud River; Section 8, T157N, R37W
Drainage Area: 125.5 square miles
Flood Pool: 36,250 acre-feet = (5.4")
(29,500 gated controlled)

Description: The Moose River Impoundment is a multipurpose impoundment designed and operated for floodwater retention, wildlife enhancement, and downstream flow maintenance. The impoundment is located on the Moose River WMA with easements provided to the Red Lake Watershed District for operation to store floodwaters. Two separately operated pools are provided through the construction of approximately 16 miles of dike with a maximum height of 15 feet. Two diversion ditches increase the contributing drainage area from 70 square miles to 125.5 square miles. The North Pool will outlet into the Moose River (J.D. 21) while the South Pool will outlet into the Mud River system (J.D. 11). Operation of the flood gates will provide 29,500 acre-feet of gate controlled storage. This equals about 4.0 inches of runoff from the entire watershed. An additional 6,750 acre-feet of flood storage will be provided up to the emergency spillway elevation.

Cost: \$3,413,865 = \$94/A.F.
Funding: State (Capital Improvement Bonding Bill) \$1,500,000
State of Minnesota - Flood Damage Reduction \$ 195,000
Red River Watershed Management Board \$1,130,000 = \$31/A.F.
Red Lake Watershed District \$ 588,865
State of Minnesota, Consolidated Conservation - Use of Land

BUFFALO-RED PROJECT #8-BARNESVILLE WMA - BUFFALO-RED RIVER WATERSHED DISTRICT

Location: Stoney Creek, Sections 1, 12 & 13, T137N, R45W
Drainage Area: 26.1 square miles
Flood Pool: 2,840 acre-feet = (2.0")
(1,100 acre-feet gated)

Description: This 11-foot high detention structure is a multipurpose project, including wildlife management features as well as flood control. The structure provides permanent pool level control, and gate-controlled floodwater storage. The project includes a 3-year plant community study to examine the impacts of a project of this nature.

Cost: \$515,536.38 = \$182/acre-ft.
Funding: Red River Watershed Management Board \$356,250.00 = \$125/A.F.
Buffalo-Red River Watershed District \$159,286.38
State of Minnesota, DNR Section of Wildlife Use of land

SAND HILL #2 - SAND HILL WATERSHED DISTRICT

Location: Tributary to Sand Hill River, Section 21, T147N, R43W

Drainage Area: 0.9 square miles

Flood Pool: 285 acre-feet = (5.9")

Description: This project is an earthfill dam 290 feet long and 13-1/2 feet high. The principle spillway is a 24" diameter R.C.P., 80 feet long.

Cost: \$25,987.40 = \$91/A.F.

Funding:	LCMR (Floodwater Retention Assistance)	\$ 12,698.75
	Red River Watershed Management Board	\$ 10,394.96 = \$36/A.F.
	Sand Hill Watershed District	\$ 2,893.69

ROSEAU RIVER WMA - ROSEAU RIVER WATERSHED DISTRICT

Location: Pool #2 and Pool #3 within the Roseau River Wildlife Management Area, tributary to the Roseau River, Northwest Roseau County.

Drainage Area: Pool #3 - 197.7 square miles (includes Pool #2)

Flood Pool:	<u>Pool #2</u>	<u>Pool #3</u>
	4,035 acre-feet	3,900 acre-feet
	(2,885 A.F. drawdown)	(2,100 A.F. drawdown)

Description: The total project consisted of upgrading 26 miles of existing wildlife dikes, replacing 3 outlet control structures, and replacing 3 emergency spillways. The flood water retention benefits of the project include: a higher dike providing for a safer freeboard, emergency spillway redesign which allows for floodwaters to be diverted through Pool #3 before into the Roseau River, and an assurance of 4,985 acre-feet of permanent spring flood water storage achieved through drawdowns prior to spring runoff.

Cost: \$1,100,000 (upgrade dikes, structures, and emergency spillways)

Funding:	State of Minnesota, Section of Wildlife	\$ 735,917.00
	Ducks Unlimited Incorporated	\$ 320,000.00
	Red River Watershed Management Board	\$ 39,674.69
	Roseau River Watershed District	\$ 4,408.31

ANGUS-OSLO #1 - MIDDLE RIVER-SNAKE RIVER WATERSHED DISTRICT

Location: Unnamed Coulee tributary to Polk County Ditch #44;
Section 15 & 22, T153N, R46W

Drainage Area: 3.0 square miles

Flood Pool: 420 acre-feet (gate controlled) = (2.6")

Description: The project included the modification of approximately 600 feet of township road. The principle spillway consists of a gate controlled two stage drop inlet with a pipe conduit through the embankment.

Cost: \$152,384.24 = \$363/A.F.

Funding:	LCMR (Floodwater Retention Assistance)	\$ 68,500.00
	Red River Watershed Management Board	\$ 63,329.24 = \$151/A.F.
	Middle River-Snake River Watershed District	\$ 20,555.00

GENTILLY GROUP - RED LAKE WATERSHED DISTRICT

Location: 3 miles northeast of Gentilly, MN
Sections 1, 2, 3, 10, 11 & 12, T150N, R45W

Description: This project was designed by SCS and sponsored by the West Polk Soil and Water Conservation District. It includes the construction of two water control structures, one grade stabilization structure, and four acres of grassed waterways.

Cost: \$29,823.60

Funding: ASCS \$ 21,705.94
Red Lake Watershed District \$ 4,058.83
Red River Watershed Management Board \$ 4,058.83

SAND HILL #1 - SAND HILL WATERSHED DISTRICT

Location: Sand Hill River, Section 12, T146N, R43W

Drainage Area: 146 square miles

Flood Pool: 3,800 acre-feet = (0.5")

Description: The project is located on the mainstem of the Sand Hill River and consists of a reconstruction of an existing township roadway. The principle spillway is a two-stage concrete structure. The drainage area above this structure is 34% of the entire Sand Hill River Basin.

Cost: \$467,029.85 = \$123/A.F.

Funding: LCMR (Floodwater Retention Assistance) \$ 221,014.93
Red River Watershed Management Board \$ 227,014.92 = \$60/A.F.
Sand Hill Watershed District \$ 19,000.00

NERESON WMA - TWO RIVERS WATERSHED DISTRICT

Location: State Ditch No. 91, Section 28, T160N, R41W

Drainage Area: 16.1 square miles

Flood Pool: 2,550 acre-feet = (3.0")

Description: This is a cooperative project with the Section of Wildlife and Roseau County. The project is located within the Nereson Wildlife Management Area. It consists of approximately five miles of earth dike with two diversion channels which divert flows from State Ditch No. 91, laterals No. 4 & 5 into the impoundment.

Cost: \$441,104.70 = \$173/A.F.

Funding: LCMR (Floodwater Retention Assistance) \$ 181,340.35
Red River Watershed Management Board \$ 141,340.35 = \$55/A.F.
Two Rivers Watershed District \$ 40,000.00
Section of Wildlife - In kind work, use of land \$ 78,424.00
Roseau County - In kind work

RED LAKE PROJECT #25-BLACK RIVER DAM - RED LAKE WATERSHED DISTRICT

Location: Black River, Section 35, T152N, R45W
Drainage Area: 107.7 square miles
Flood Pool: 4,800 acre-feet (4,000 gated) = (0.8")

Description: This is a unique project in that it is specifically designed to reduce peak flows at Crookston and at Grand Forks. The principle spillway is gated and sized to allow for large flows to pass until the floodwater storage is needed. The operation calls for closing the gates when flood stages at Crookston or Grand Forks are predicted and keeping them closed until flood stages recede.

Cost: \$1,125,120 = \$234/A.F.
Funding: LCMR (Floodwater Retention Assistance) \$ 450,000
Red River Watershed Management Board \$ 387,839 = \$81/A.F.
Red Lake Watershed District \$ 287,281

WILD RICE PROJECT #10-MASHAUG CREEK - WILD RICE WATERSHED DISTRICT

Location: Mashaug Creek; Section 30, T145N, R43W
Drainage Area: 14.1 square miles
Flood Pool: 495 acre-feet = (0.7")

Description: This project is a bridge replacement project that does not include a permanent pool. The principle spillway consists of a 66-inch reinforced concrete pipe with a rectangular concrete drop inlet.

Cost: \$288,500 = \$583/A.F.
Funding: LCMR (Floodwater Detention Assistance) \$ 58,500
Red River Watershed Management Board \$ 60,000 = \$121/A.F.
Wild Rice Watershed District \$ 30,000
Minnesota Department of Transportation \$ 115,000
Norman County \$ 25,000

RED LAKE #27 - PINE LAKE DAM - RED LAKE WATERSHED DISTRICT

Location: Pine Lake, Clearwater County, Section 21, T149N, R38W
Drainage Area: 44.7 square miles
Flood Pool: 1,250 acre-feet (additional through fall drawdown) = (0.5")

Description: The project consists of construction of a sheet pile outlet structure on Pine Lake. It provides for improved floodwater retention capabilities of 1,250 acre-feet through a one-foot drawdown of the lake in the fall. It provides for improved lake level stabilization and downstream flow maintenance.

Cost: \$50,119.36 = \$40/A.F.
Funding: LCMR (Floodwater Retention Assistance) \$ 25,059.68
Red River Watershed Management Board \$ 16,539.39 = \$13/A.F.
Red Lake Watershed District \$ 8,520.29

WILD RICE #13-AGASSIZ OLSON WMA - WILD RICE WATERSHED DISTRICT

Location: Tributary to Spring Creek; Section 21, T146N, R45W
Drainage Area: 35.7 square miles
Flood Pool: 2,600 acre-feet = (1.4")

Description: This project includes a diversion structure designed by SCS to divert all flows from Spring Creek into the impoundment. This increases the drainage area upstream of the structure from 10.0 square miles to 35.7 square miles. The project is located within the Agassiz-Olson WMA and is in cooperation with the Section of Wildlife and Norman County.

Cost: \$933,554.00 = \$359/A.F.
Funding: LCMR (Floodwater Retention Assistance) \$ 216,000.00
Red River Watershed Management Board \$ 352,665.00 = \$97/A.F.
Wild Rice Watershed District \$ 204,935.00
ASCS \$ 150,000.00
East Agassiz SWCD \$ 9,954.00
Section of Wildlife Use of land
Norman County Land Donation of 20 acres

WILD RICE #8-MOCCASIN CREEK - WILD RICE WATERSHED DISTRICT

Location: Moccasin Creek; Section 6, T143N, R43W
Drainage Area: 57.4 square miles
Flood Pool: 1,874 acre-feet = (0.6") (1,060 acre-feet is gated controlled)

Description: This project is located in the lower portion of the Moccasin Creek Watershed approximately 1.5 miles upstream from the confluence with the Wild Rice. The gates will be operated in response to flood levels on the Red River mainstem at Halstad, Minnesota.

Cost: \$771,448.43 = \$411/A.F.
Funding: LCMR (Floodwater Retention Assistance) \$ 180,000.00
Red River Watershed Management Board \$ 432,000.00 = \$230/A.F.
Wild Rice Watershed District \$ 159,448.43

ROSEAU RIVER DAM - ROSEAU RIVER WATERSHED DISTRICT

Location: Roseau River, Section 32, T159N, R36W
Drainage Area: 52 square miles
Flood Pool: 1,140 acre-feet = (0.4") (100 AF drawdown)

Description: This is a Department of Natural Resources, Section of Wildlife restoration project of an old wildlife dam within the Red Lake WMA. Floodwater detention benefits have been added to make it a multipurpose impoundment.

Cost: \$96,349.00 = \$85/A.F.
Funding: Red River Watershed Management Board \$ 10,000.00 = \$9/A.F.
Roseau River Watershed District \$ 10,000.00
LCMR (Floodwater Retention Assistance) \$ 18,409.80
Section of Wildlife- use of land \$ 57,939.20

ROY ABRAHAM DAM - RED LAKE WATERSHED DISTRICT

Location: Intermittent Tributary to the Lost River, Section 32, T148N, R38W

Drainage Area: 0.4 square miles

Flood Pool: 66 acre-feet = (3.1")

Description: This is an SCS designed and built project sponsored by the Clearwater County Soil and Water Conservation District. It is an earthfill dam with an 18" CMP principle spillway.

Cost: \$15,584.75 = \$236/A.F.

Funding:	LCMR (Floodwater Retention Assistance)	\$ 2,200.00
	Red River Watershed Management Board	\$ 4,950.00 = \$75/A.F.
	Red Lake Watershed District	\$ 4,934.75
	ASCS	\$ 3,500.00
	SCS - Design and Engineering Services	

RED LAKE WATERSHED DISTRICT PROJECT #52 - ELM LAKE RESTORATION

Location: Branch 200 of Judicial Ditch 11; Marshall County

Drainage Area: 63.4 square miles

Flood Volume:	<u>Gate Controlled</u>	<u>Temporary Storage</u>	<u>Total Storage</u>
	2000 acre-ft.: stoplogs	3500 acre-ft.: 100' weir	7500 acre-ft.: (2.18")
	2000 acre-ft.: drawdown		
	4000 acre-ft.: (1.14" R.O.)		

Description: This project is a multipurpose impoundment designed to provide downstream flood control, upstream drainage improvement, and marsh habitat enhancement. The project restored a 1,775 acre lake basin drained for agricultural purposes in about 1920. The lands involved are owned by the DNR Section of Wildlife and the Federal Fish and Wildlife Service. The project includes a dam embankment, an outlet control structure, and an enlargement of branch Ditch 200. The outlet control structure consists of a concrete box with twenty 5-foot wide stoplog bays. Gate control operation involves installation of stoplogs on the weir during severe flood events.

Cost: \$1,600,000 = \$213/A.F.

Funding:	Ducks Unlimited Incorporated	\$ 1,500,000
	Red Lake Watershed District	\$ 16,667 in kind work
	Red River Watershed Management Board	\$ 33,333 = \$4/A.F.
	State of Minnesota - Flood Damage Reduction	\$ 50,000
	State of Minnesota - Section of Wildlife	Use of land
	Federal Fish and Wildlife Service	Use of land

ODNEY FLAAT DAM - RED LAKE WATERSHED DISTRICT

Location: Tributary to Burnham Creek, Section 9, T148N, R45W
Drainage Area: 5.3 square miles
Flood Pool: 81.3 acre-feet = (0.3")

Description: The project was designed and built by SCS. It is sponsored by the West Polk Soil and Water Conservation District. The principle spillway is a 30" CMP with a 42" riser inlet.

Cost: \$34,641.24 = \$426/A.F.
Funding: Landowner \$ 3,173.60
LCMR (Floodwater Retention Assistance) \$ 8,558.66
Red River Watershed Management Board \$ 2,692.50 = \$33/A.F.
ASCS \$ 3,500.00
Red Lake Watershed District \$ 2,692.50
West Polk SWCD \$14,023.98

WILD RICE PROJECT #6-LAKE IDA - WILD RICE WATERSHED DISTRICT

Location: Tributary to the Wild Rice River; Section 12, T144N, R45W
Drainage Area: 7.5 square miles
Flood Pool: 355 acre-feet = (0.9")

Description: This project is a multipurpose project constructed in cooperation with the Minnesota Department of Natural Resources, Section of Wildlife. It consists of an earthfill dam and sheet pile weir. It was built in conjunction with the Lake Ida ditch project which included channel improvements downstream.

Cost: \$49,749.49 = \$140/A.F.
Funding: Red River Watershed Management Board \$ 24,124.49 = \$68/A.F.
Wild Rice Watershed District \$ 24,125.00
DNR, Section of Wildlife \$ 1,500.00 Use of land

RED LAKE PROJECT #17-LOST RIVER POOL - RED LAKE WATERSHED DISTRICT

Location: Branch #200 of Judicial Ditch 11, Section 6, T155N, R41W
Drainage Area: 53.0 square miles
Flood Pool: 4,500 acre-feet = (1.6")

Description: This project is unique in that it incorporates off-channel storage. The excess flood waters will enter the site through a diversion ditch and culverts located 2.5 miles upstream of the storage impoundment. The amount of flow into the storage area is dependent on the depth of flow in Branch #200. The project is in cooperation with the Section of Wildlife and within the Elm Lake Wildlife Management Area. The construction consisted of raising approximately 10.0 miles of existing earthen dikes approximately 1 foot and raising the existing emergency spillway 1.6 feet.

Cost: \$122,395.39 = \$27/A.F.
Funding: LCMR (Floodwater Retention Assistance) \$ 61,197.69
Red River Watershed Management Board \$ 30,598.00 = \$7/A.F.
Red Lake Watershed District \$ 30,599.70
Section of Wildlife In kind work - Use of land

THEIBERT-KNUTSON DAMS - RED LAKE WATERSHED DISTRICT

Theibert Dam

Location: Section 17, T151N, R44W
Drainage Area: 1.0 square miles
Flood Pool: 6 acre-feet = (0.1")

Knutson Dam

Location: Section 26, T151N, R44W
Drainage Area: 2.7 square miles
Flood Pool: 42.4 acre-feet = (0.3")

Description: SCS designed and the Red Lake Soil and Water Conservation District sponsored projects.

Cost: \$54,537.62 = \$1,136/A.F.

Funding: Red River Watershed Management Board
Red Lake Watershed District

\$ 3,435.00 = \$72/A.F.

\$ 3,435.00

RED LAKE PROJECT #16-BAIRD-BEYER DAM - RED LAKE WATERSHED DISTRICT

Location: Section 25, T152N, R45W
Drainage Area: 7.0 square miles
Flood Pool: 400 acre-feet = (1.1")

Description: The dam consists of a level dike 36 feet high. The spillway is a two-stage concrete structure with a 3 foot square opening that controls the normal flow from the impoundment. When water reaches the top of the concrete structure, the flow automatically increases through the secondary opening.

Cost: \$178,127.28 = \$445/A.F.

Funding: Red Lake Watershed District
Red River Watershed Management Board
ASCS
LCMR (Floodwater Retention Assistance)
SCS - Design and Engineering Services

\$ 57,517.02

\$ 45,610.26 = \$114/A.F.

\$ 50,000.00

\$ 25,000.00

BUFFALO-RED PROJECT #5 - BUFFALO-RED RIVER WATERSHED DISTRICT

Location: Tributary to Hay Creek, Section 25, T138N, R46W
Drainage Area: 8.7 square miles
Flood Pool: 496 acre-feet = (1.1")

Description: The structure is an earthfill dam with a two stage principle spillway. An 18" R.C.P. culvert is located at the existing channel bottom to allow all low flows to pass through the structure. The second stage consists of a 48" R.C.P. with a 14' x 6' concrete riser inlet with two 7'8" x 2'0" openings.

Cost: \$180,993.93 = \$365/A.F.

Funding: Red River Watershed Management Board
Buffalo-Red Watershed District

\$135,745.45 = \$274/A.F.

\$ 45,248.48

MASHAUG CREEK #1 - WILD RICE WATERSHED DISTRICT

Location: North Branch Mashaug Creek; Section 24, T145N, R44W
Drainage Area: 12.2 square miles
Flood Pool: 400 acre-feet = (0.6")

Description: This project was a replacement of a deteriorated bridge over County Road #151 in Norman County across Mashaug Creek and was designed by SCS. Five different agencies were involved in the funding of this project: Wild Rice Watershed District, Lower Red River Watershed Management Board, East Agassiz Soil and Water Conservation District, Norman County, and the Minnesota Department of Transportation.

Cost: \$127,599.50 = \$319/A.F.
Funding: Red River Watershed Management Board \$ 15,000.00 = \$38/A.F.
Wild Rice Watershed District \$ 15,000.00

BECKER DAMS - WILD RICE WATERSHED DISTRICT

UPPER DAM

Location: So. Br. Wild Rice River
Section 32, T142N, R42W
Drainage Area: 39.0 square miles
Flood Pool: 2,400 acre-ft. = (1.2")

LOWER DAM

Location: So. Br. Wild Rice River
Section 7, T141N, R42W
Drainage Area: 43.0 square miles
Flood Pool: 2,225 acre-ft. = (1.0")

Description: The two dams work in conjunction with each other. Both are earthfill structures with a two stage principle spillway. The upper dam was constructed by raising the existing roadway and allowing a low section to serve as the emergency spillway. The lower dam is located in a narrow constriction in the river valley. This project was initiated by petition.

Cost: \$ 911,970.00 (upper and lower dams) = \$197/A.F.
Funding: Red River Watershed Management Board \$ 100,000 = \$22/A.F.
Benefits assessed locally (100,000 acres) \$ 738,970
Wild Rice Watershed District \$ 73,000

BURNHAM CREEK-STRUCTURE BR-6 - RED LAKE WATERSHED DISTRICT

Location: Section 2, T148N, R45W
Drainage Area: 8.1 square miles
Flood Pool: 1,023 acre-feet = (2.4")

Description: The flood retention structure BR-6 is part of an overall PL 566 project sponsored by Polk County and by the east and West Polk County Soil and Water Conservation Districts. The project is an earthfill dam.

Cost: \$1,126,741 = \$1,101/A.F.
Funding: Federal PL 566 Funds \$ 919,229
Red River Watershed Management Board \$ 105,825 = \$103/A.F.
Red Lake Watershed District \$ 101,687

BUFFALO-RED PROJECT #13-BJORNSON WMA - BUFFALO-RED WATERSHED DISTRICT

Location: Hay Creek; Sections 10 & 15, T138N, R45W
Drainage Area: 33.6 square miles
Flood Volume: Temporary Storage
2,760 acre-feet (1.25" R.O.)

Description: This project is located within the Bjornson WMA and will be a cooperative project with the Department of Natural Resources, Section of Wildlife. The project includes a 454 acre wildlife pool.

Cost: \$678,896.86 = \$246/acre-foot
Funding: Red River Watershed Management Board \$393,612.50 = \$143/A.F.
Buffalo-Red River Watershed District \$285,284.36
State of Minnesota, Section of Wildlife Use of land

WILD RICE #35, SUNDAL TOWNSHIP - WILD RICE WATERSHED DISTRICT

Location: Norman County Ditch No. 45, Section 7, T146N, R44W, Sundal Township
Drainage Area: 6.0 square miles
Flood Volume: Temporary Storage
181 acre-ft 18" pipe
+ 78 acre-ft 6', 7', 8', or 9' diameter riser
=259 acre-ft (0.8" R.O.)

Description: The project consists of a series of seven pools, each having its own outlet and overflow spillway system. Wildlife nesting areas were constructed in each of the pools. Permanent pools in each segment will provide wildlife enhancement. The project will include erosion control benefits to the immediate downstream reach.

Cost: \$512,366 = \$1,978/A.F.
Funding: Red River Watershed Management Board \$152,217.50 = \$529/A.F.
Wild Rice Watershed District \$360,148.50

WILD RICE PROJECT #36 - WILD RICE WATERSHED DISTRICT

Location: Tributary to Marsh Creek, Section 32, T145N, R42W, Marsh Creek Township, Mahnomen County
Drainage Area: 8.6 square miles
Flood Volume: Temporary Storage
185 acre-ft 30" pipe
+100 acre-ft 44' weir
=285 acre-ft (0.6" R.O.)

Description: The project consists of a road dam located on County Road No. 36. The dam will be an earth fill design with a two stage principle spillway. The first stage is a 30" diameter concrete low flow pipe. The second stage is a 16.5' x 5.5' concrete box riser with a 66" diameter concrete pipe through the embankment.

Cost: \$151,320 = \$531/A.F.
Funding: Red River Watershed Management Board \$ 75,660 = \$265/A.F.
Wild Rice Watershed District \$ 60,660
Mahnomen County \$ 15,000

BUFFALO RED PROJECT #16 - STINKING LAKE DETENTION

Location:	Stinking Lake; Cuba Township, Becker County		
Drainage Area:	24.1 square miles		
Flood Volume:	<u>Gated Storage</u>	<u>Temporary Storage</u>	<u>Total Storage</u>
	2,898 acre-ft	1,096 acre-ft 98' weir	3,994 acre-ft (3.10")

Description: The project consists of construction of a floodwater retention structure on an existing lake, Stinking Lake. The total flood storage capacity will be 3,450 acre-feet of which 2,898 acre-feet will be gate controlled. The lake has been lowered to encourage growth of submergent vegetation and hence improved waterfowl habitat. The outlet structure has a unique design; it includes eighty feet of 6" adjustable slotted gates. During the waterfowl nesting season the 80 feet of weir will help to minimize lake level bounce. If the lake level bounce exceeds 6" during the nesting season or during non-nesting times, the gates can be closed to maximize flood storage benefits.

Cost:	\$686,760 = \$172/A.F.		
Funding:	Red River Watershed Management Board	\$ 355,005	= \$89/A.F.
	Buffalo-Red River Watershed District	\$ 156,725	
	State of Minnesota, Flood Damage Reduction	\$ 175,030	
	State of Minnesota, Section of Wildlife	Use of land	

GOOD LAKE PROJECT - RED LAKE WATERSHED DISTRICT

Location:	Good Lake, Sections 28, 19, 32, 33, & 34, T153N, R38W, Beltrami County and Sections 3, 4, 5, & 6, T152N, R38W, Clearwater County, Red Lake Indian Reservation		
Drainage Area:	72.3 square miles		
Flood Volume:	<u>Gated Storage</u>	<u>Temporary Storage</u>	<u>Total Storage</u>
	1450 acre-ft drawdown	9850 acre-ft 30" pipe	11,300 acre-ft (2.9")

Description: The project is located within the Red Lake Indian Reservation. It is a phased construction of a multi-purpose flood control, wildlife enhancement, water supply project. Phase I was completed in 1988 which consisted of upgrading the dikes constructed by the tribe prior to 1987. The sideslopes were stabilized and the top of dike raised to a uniform height. Phase IIA and IIB consisted of raising the Phase I dikes and extending new dikes on the west and east ends. The Final stage was completed in the fall of 1994 which extended the inlet channel on the west end to divert additional drainage area into the project, and construct a new concrete control structure. The spring flood storage capacity is 11,300 acre-ft and the summer flood storage capacity is 9,850 acre-ft.

Cost:	\$2,252,876 = \$200/A.F.		
Funding:	Red Lake Indian Reservation (In kind work-Use of land)	\$ 125,000	
	State of MN - Flood Damage Reduction	\$ 75,000	(General)
		\$ 900,000	(Bonding)
	Red River Watershed Management Board	\$ 740,438	= 66/A.F.
	Red Lake Watershed District	\$ 412,438	

UNDER CONSTRUCTION

NERESON SUB-IMPOUNDMENT - TWO RIVERS WATERSHED DISTRICT

Location:	Nereson WMA, Sections 33 & 34, T160N, R41W (Nereson Township), Roseau County		
Drainage Area:	Sub-Impoundment	7.3 square miles	
	Nereson Impoundment	15.9 square miles	
Flood Volume:	<u>Temporary Storage</u>		
	275 acre-ft	5' weir (Sub-impoundment)	
	2,250 acre-ft	1-36" pipe (Nereson Impoundment)	
	2,525 acre-ft	(3.0" R.O.)	
Description:	The proposal involves alterations to the outlet to the existing Nereson Impoundment as well as construction of an additional sub-impoundment upstream. The Nereson Impoundment outlet structure will be reduced from two 48" pipes to one 36" opening, thus, improving the effectiveness of 2,250 acre-feet of existing storage. The wildlife pool will be raised 0.5' to provide the originally envisioned benefits which did not occur with the construction of the Nereson Impoundment. A 530 acre impoundment will be constructed upstream to provide an additional flood storage volume of 275 acre-feet and an additional 500 acre wildlife pond.		
Cost:	\$400,000		
Funding:	Red River Watershed Management Board	\$ 150,000	= \$242/A.F.
	Two Rivers Watershed District	\$ 75,000	
	State of Minnesota, Flood Damage Reduction	\$ 125,00	
	State of Minnesota, Section of Wildlife	Use of land	
	State of Minnesota, RIM	\$ 50,000	
Status:	Scheduled for 1997 construction, permits received.		

RELEASED FROM ABEYANCE

WILD RICE PROJECT #11, SITE #6 - WILD RICE WATERSHED DISTRICT

Location: Marsh Creek, Mahnommen County

Drainage Area: 108.7 square miles

Flood Volume:	<u>Gated Storage</u>	<u>Temporary Storage</u>	<u>Total Storage</u>
	1,400 acre-ft	1,000 acre-ft	2,400 acre-ft (0.41")

Description: The project consists of construction of a flood detention structure on Marsh Creek. It is a petitioned project which originally defined 17 different sites. The project is a road dam which consists of raising and upgrading County Road #36. The existing bridge would be replaced with a gated concrete control structure. The purpose of the project is to detain and reduce peak discharges from the contributing watershed as well as to reduce erosion. The project would provide 2400 acre-ft. of floodwater storage of which 1400 acre-ft. would be gate controlled.

Cost: \$ 712,000 = \$297/A.F.

Funding:	Red River Watershed Management Board	\$ 475,000 = \$198/A.F.
	Wild Rice Watershed District	\$ 237,500

BUFFALO-RED PROJECT #9, DONLEY DETENTION - BUFFALO-RED RIVER WATERSHED DISTRICT

Location: Buffalo-River, Section 14, T141, R42N

Drainage Area: 102 square miles

Flood Volume:	<u>Temporary Storage</u>	<u>Gated Storage</u>	<u>Total</u>
	1,320 acre-ft	2,380 acre-ft	3,700 acre-ft (.7" R.O.)

Description: The project consists of construction of a low hazard earth fill dam, an outlet for an existing altered wetland, and the raising of two township roads. The project will include two secondary embankments to contain the temporary flood pool. The surface area of the flood pool is 596 acres. The project will provide 2380 acre-ft. of gated storage plus 1,320 acre-ft. of non-gated storage.

Cost: \$1,072,000 = \$290/A.F.

Funding:	Red River Watershed Management Board	\$ 268,000 = \$72/A.F.
	Buffalo-Red River Watershed District	\$ 268,000
	State of Minnesota, Flood Damage Reduction	\$ 536,000

PROJECTS PROCEEDING UNDER COE NATIONWIDE PERMIT

MARCH IMPOUNDMENT, PROJECT #2 - MIDDLE RIVER-SNAKE RIVER WATERSHED DISTRICT

Location: Sections 11, 12, 13, and 14, T154N, R49W in Polk County.
 Drainage Area: 207 square miles
 Flood Pool: Gated Storage
 1,360 acre-ft = (.12")

Description: The project would temporarily store floodwaters during periods of flooding along the Snake River. The project would store excess waters by diverting overflows from the Snake River through a weir or culvert(s) into the adjacent project site. 18,600 feet of dike from 3 to 8.5 feet high will be constructed to store the floodwaters. A gated 48" culvert will control outflow from the impoundment. Floodwaters would be held until flood stages downstream on the Snake River near Alvarado or the Red River near Drayton falls below flood stage. The project will provide 1,360 acre-ft. of gated floodwater storage.

Cost:	\$614,600 = \$452/A.F.	
Funding:	Red River Watershed Management Board	\$205,000 = \$151/A.F.
	Middle River-Snake River Watershed District	\$102,600
	State of MN, Flood Damage Reduction	\$307,000

SNAKE RIVER PROJECT #2 - MIDDLE RIVER-SNAKE RIVER WATERSHED DISTRICT

Location: Judicial Ditch 25-I, Section 18, T154N, R46W, Polk County
 Drainage Area: 12.6 square miles
 Flood Volume: Gated Storage
 787 acre-ft gated 42" pipe (1.17" R.O.)

Description: The project will incorporate the construction of 12,400 feet of earthen dike, inlet works to divert floodwaters into the site, and outlet works to release waters from the site. The inlet works will consist of a weir in Judicial Ditch 25-I that will divert flows into the off channel impoundment. The principle spillway will have sufficient capacity to release the waters in 10 days or less once the gate is opened.

Cost:	\$300,000 = \$381/A.F.	
Funding:	Red River Watershed Management Board	\$ 100,000 = \$127/A.F.
	State of MN, Flood Damage Reduction	\$ 150,000
	Middle River-Snake River Watershed District	\$ 50,000

ANGUS-OSLO #4 - MIDDLE RIVER SNAKE RIVER WATERSHED DISTRICT

Location: Judicial Ditch 25-II, Section 3, T153N, R46W, Brandt Township, Polk County
Drainage Area: 25.3 square miles
Flood Volume: Gated Storage Temporary Storage
4,000 acre-ft 48" gated pipe (3.6" R.O.) 1,920 acre-ft (1.5" R.O.)

Description: The project is an off channel impoundment which would temporarily store floodwaters until the downstream channels can accommodate the flow. Approximately 13,800 feet of dike will be constructed as well as a diversion channel to divert flows into the site and the outlet works to release waters from the site. A 330-acre permanent pool could be included without significantly affecting summer flood control capability.

Cost: \$2,148,327 = \$340/A.F.
Funding: Red River Watershed Management Board \$ 1,826,078 = \$285/A.F.
Middle River-Snake River Watershed District \$ 322,249

PARNELL IMPOUNDMENT, PROJECT #81 - RED LAKE WATERSHED DISTRICT

Location: Sections 3 and 10, Parnell Township, Polk County
Drainage Area: 23.0 square miles
Flood Pool: Gated Storage
4,000 acre-ft = (3.26")

Description: The basic goal of the project is to reduce localized flooding on the J.D. 60 system and ditches #126, #66, and #2 and enable an economical design of downstream channel improvements. A secondary goal is to reduce flooding at points further downstream on the Red Lake River and the Red River of the North. The impoundment will be operated so as to safely handle the 100-year spring event without emergency spillway use. The principal outlet structure will consist of a gated 48-inch RCP pipe with the gate set at a 50% gate opening under normal conditions.

Cost: \$2,384,300 = \$596/A.F.
Funding: Red Lake Watershed District \$ 350,000
Red River Watershed Management Board \$ 1,950,000 = \$488/A.F.

KLONDIKE PROJECT I & II - TWO RIVERS WATERSHED DISTRICT

Location: Section 27, and Sections 1 & 12 of Klondike Township (T161N, R45W)
in Kittson County.
Drainage Area: 500 square miles
Flood Pool: Gated Storage Area
Pool I 1,331 acre-ft 600 acre
Pool II 3,728 acre-ft 932 acres

Description: This is a two pool off-channel floodwater storage project. Both pools will be surrounded by earthen dike with inlet and outlet structures. Gated inlets will allow the floodwater to enter onto the land as the flood peak arrives but then will not allow the water to exit until downstream flooding subsides. The outlet for pool #1 will be designed to discharge 50 cubic feet per second. The outlet for pool #2 will be designed to discharge 150 cubic feet per second.

Cost: Pool #1 - \$ 324,700
Pool #2 - \$ 834,062
\$ 1,158,762 = \$175/A.F.
Funding: Red River Watershed Management Board \$ 772,508 = \$116/A.F.
Two Rivers Watershed District \$ 386,254

NORLAND PROJECT - ROSEAU RIVER WATERSHED DISTRICT

Location: Sections 19, 20, 21, 28, 29, 30 and 31, T163N, R38W
Drainage Area: 36.7 Square miles (32.1 square miles effective)
Flood Pool: 3169 acre-ft. (2,256 very restricted) = (1.8")

Description: The Norland Project is a multipurpose project for flood control and wetland restoration. wetland restoration will be achieved by the plugging of legal ditches and by eliminating agricultural practices on the project's peat soils. Restrictive outlets will be placed at Lateral 3 of Judicial Ditch Number 61 and at Branch 5, Lateral 3 of Judicial Ditch Number 61 and an outlet will be placed at the southwest corner of the project which will outlet into county Ditch Number 18. These outlets will reduce the flood outflow from the project. Secondary weirs will be constructed with overflow elevations of 1055 at each of these sites and an overflow spillway will be constructed on the north side of the project. Existing legal ditches will divert flow from county Ditch Number 18 and Branch 5 into the project.

Cost: \$1,400,000 = \$442/A.F.
Funding: Wetland Credits \$900,000
Red River Watershed Management Board \$400,000 = \$126/A.F.
Roseau River Watershed District \$100,000

PROJECTS IN PROGRESS

PALMVILLE IMPOUNDMENT - ROSEAU RIVER WATERSHED DISTRICT

Location: Palmville Township, Sections 20, 28, 29, 30, 32, & 33, Roseau County
Drainage Area: 35.5 square miles
Flood Volume: Gated Storage 6,929 acre-ft.
Temporary Storage 2,216 acre-ft.
Total Storage 9,145 acre-ft. = (4.8")

Description: Located upstream of Roseau, the Palmville Project is a combined wildlife and floodwater retention project. This project would provide flood retention benefits to the City of Roseau and to a large area of low lying farmland. It will include three miles of dike, two gate controlled outlet structures and a diversion ditch with structure to supply low flows from the Thief River system to maintain the 2,600 acre wildlife pool.

Cost: \$2,500,000 = \$273/A.F.
Funding: Red River Watershed Management Board \$ 350,000 = \$38/A.F.
Roseau River Watershed District \$ 350,000
State of MN, Flood Damage Reduction \$1,250,000
DNR, Section of Wildlife/Wildlife Interests \$ 550,000

MIDDLE RIVER SITE #7 - MIDDLE RIVER-SNAKE RIVER WATERSHED DISTRICT

Location: Tributary to Judicial Ditch #28, Section 5 & 4, T157N, R42W

Drainage Area: 7.0 square miles

Flood Pool:	Gated Storage	700 acre-ft.
	Temporary Storage	<u>1,170 acre-ft.</u>
	Total Storage	1,870 acre-ft. = (3.0")

Description: The project would temporarily store a portion of the floodwaters from JD #28 via a diversion channel. 11,300 feet of dike would be constructed with an average height of 6 feet. The project would store 1,870 acre-ft. of floodwater. 700 acre-ft. of this amount would be controlled by a gate. A 410 acre wildlife pool would be included as part of the design (in cooperation with the DNR).

Cost: \$246,750 = \$132/A.F.

Funding:	Red River Watershed Management Board	\$ 82,000	= \$44/A.F.
	Middle River-Snake River Watershed District	\$ 41,750	
	State of MN - Flood Damage Reduction	\$123,000	

DEERHORN CREEK STRUCTURE - BUFFALO-RED RIVER WATERSHED DISTRICT

Location: Sections 21 & 28, T136N, R45W (Prairie View Township)

Drainage Area: 21.2 square miles

Flood Volume:	<u>Temporary Storage</u>	<u>Gated Storage</u>	<u>Total Storage</u>
	355 acre-ft	712 acre-ft	1,078 acre-ft (.95" R.O.)

Description: The proposed project consists of an earth fill flood detention structure on Deerhorn Creek. The main purpose is floodwater detention. The principle spillway will consist of a concrete pipe culvert through the embankment with a gated inlet pipe and an overflow drop structure. No permanent pool is planned.

Cost: \$775,660 = \$719/A.F.

Funding:	Red River Watershed Management Board	\$ 193,915	= \$180/A.F.
	Buffalo-Red River Watershed District	\$ 193,915	
	State of MN, Flood Damage Reduction	\$ 387,830	

BEE LAKE - PROJECT #83 - RED LAKE WATERSHED DISTRICT

Location: Sections 6, 7, and 8 of Knute Township in Central Polk County

Drainage Area: 5.9 square miles

Flood Pool:	<u>Gated Storage</u>	<u>Temporary Storage</u>	<u>Total</u>
Bee Lake	695 acre-ft.	120 acre-ft.	815 acre-ft. = (2.6")
Dahl Lake	100 acre-ft. drawdown	60 acre-ft.	160 acre-ft. = (5.2")

Description: The Bee Lake Project will consist of building an embankment, a concrete control structure, an outlet channel improvement, and an emergency spillway. The control structure is a two-stage, gate controlled drop-inlet spillway which includes 50 feet of stop log bays for wildlife management. The channel work will allow for complete drawdown capability.

Dahl Lake work involves the construction of an outlet structure and excavation to improve flow characteristics to and from the structure. The outlet structure will be five foot diameter corrugated metal riser pipe with a five foot stop log bay. A fall drawdown will provide 100 acre-ft. of spring runoff storage.

Cost: \$200,000 = \$205/A.F.

Funding:	Red River Watershed Management Board	\$ 65,000	= \$67/A.F.
	Red Lake Watershed District	\$ 65,000	
	North American Pothole Venture	\$ 70,000	

NORTH OTTOWA IMPOUNDMENT PROJECT - BOIS DE SIOUX WATERSHED DISTRICT

Location: Judicial Ditches 12 and 2;
Sections 6, 7, 8, 17, 18, 19, 20, 29, 30 & 31, T129N, R44W, Grant County

Impoundment Options

	<u>A</u>	<u>B</u>	<u>C</u>
Drainage Area:	93 mi ²	75 mi ²	73 mi ²
Flood Pool:	17,000 AF (3.4")	13,600 AF (3.4")	13,000 AF (3.3")
Cost:	\$10,000,000 (\$588/AF)	\$8,000,000 (\$588/AF)	\$6,000,000 (\$462/AF)

Description: Option A

The project would consist of a complex of 6 shallow impoundments (4,300 acres total) separated by raised roadways. Each impoundment cell may be operated independently during normal conditions to control vegetation to optimize wetland wildlife habitat. During major flood events, the roadways will be inundated and the complex will operate as one large flood control reservoir. This is the preferred option by the US Fish and Wildlife Service and they would eventually purchase all the lands.

Option B

This option was originally proposed as a flood control and wildlife impoundment with USF&W as a sponsor. It would be a scaled down version of Option A and would only include four sections of land; 17, 18, 19, and 20. It would include a diked inlet channel to develop efficient flood storage. If USF&W does not participate, the elimination of the wildlife pool and interior dikes would lower the cost.

Option C

This option would be a single purpose flood control impoundment. It also would require a dikes inlet channel to develop efficient flood storage. This would only require two sections of land; 18 and 19, and is the preferred local resident option.

Funding: US Fish and Wildlife Service (Options A or B)
Red River Watershed Management Board
Bois de Sioux Watershed District
State of Minnesota - Flood Damage Reduction

SAND HILL WATERSHED DISTRICT PROJECT #8, Ogaard Wildlife and Flood Control Structure - SAND HILL WATERSHED DISTRICT

Location: SW1/4 Section 31, T141N, R43W, (Winger Township), Polk County
Drainage Area: 2.7 square miles
Flood Pool: 190 acre-ft = (1.3")

Description: The project is on a tributary to the Sand Hill River. It was designed by the Natural Resources Conservation Service (NRCS). It will be an earthfill dam with a 24" CSP conduit with a 36" dia. CSP vertical riser. A permanent wildlife pool will be included as part of the project. Township road crossings for approximately 1.5 miles downstream will benefit from the reduced peak discharges.

Cost: \$65,545 = \$345/AF

Funding: Red River Watershed Management Board \$ 43,700
Sand Hill Watershed District \$ 21,845

NON-FLOODWATER DETENTION PROJECT PARTICIPATION

PROJECTS IN PROGRESS

MOORHEAD, DILWORTH, HAWLEY ECONOMIC DEVELOPMENT ADMINISTRATION (EDA) PROJECTS - BUFFALO/RED RIVER WATERSHED DISTRICT

Location: Cities of Moorhead, Dilworth, and Hawley. Legal Ditches CD #50, CD #41, Lat. 2 CD #41, Lat. 1 #41.

Description: The total project includes five separate flood control projects:

1. Project #32 - Hawley Flood Control Ditch
This project would divert a substantial portion of the watershed above the high school around the north side of the city. Cost: \$366,245
2. Project #33 - Improvement of Clay County Ditch #50 - Concrete Liner
This project will enlarge the ditch cross section and includes a concrete liner in the bottom to efficiently pass the 100 year flood. Cost: \$1,699,310
3. Projects #34 & #37 - Improvement of Clay County Ditch #41 - Concrete Liner
These projects will include an enlargement of lateral #1 and a concrete liner in the main Ditch #41. Cost: \$ 297,735
4. Project #36 - Establishment of Lateral 2 to Clay County Ditch #41
This project will establish approximately 1.5 miles of new ditch along the Burlington Railroad grade. Cost: \$156,485
5. Project #37 - Improvement and Extension of Lateral 1 to Clay County Ditch #41
This project includes an extension to lateral 1 of about 1.1 mile which will divert flows around the north side of Dilworth and require an enlargement of existing lateral 1. Cost: \$1,801,585

Total Cost: \$4,321,460

Funding:

EDA Grant	\$2,582,400
Local Cities and Townships	\$1,043,430
Red River Watershed Management Board	\$ 347,815
Buffalo/Red River Watershed District	\$ 347,815

BELTRAMI FLOOD CONTROL & DIVERSION PROJECT #11 - SAND HILL WATERSHED DISTRICT

Location: Sections 21, 22 and 23, T147N, R46W, Polk County

Description: The project consists of a high flow diversion of the old Sand Hill River channel at a point approximately 1-1/2 miles east of the City of Beltrami. The one and three- quarter mile diversion will re-route high flows around the city to the Sand Hill Ditch Flood Control Project (COE) thus reducing flood flows through the City of Beltrami. A small amount of base flow will remain in the old Sand Hill River which is a "Protected" Watercourse.

Cost: \$191,245

Funding:

Red River Watershed Management Board	\$127,500
Sand Hill Watershed District	\$ 63,745

**PROJECT #31, DEERHORN CREEK FLOOD CONTROL LEVEES -
BUFFALO-RED RIVER WATERSHED DISTRICT**

Location: The Levees will begin at County State Aid Highway No. 52 in Section 29 of Prairie View Township and follow both sides of Deerhorn Creek to the confluence with the South Branch of the Buffalo River, Wilkin County.

Drainage Area: Approximately 55.1 square miles

Description: The proposed levee improvements on Deerhorn Creek will be provided on both sides of Deerhorn Creek up to County State Aid Highway No. 52 in Section 29 of Prairie View Township, Wilkin County. The project length is approximately 9 miles. Each levee will be located approximately 75 feet from the centerline of the creek, except where natural wetlands are encountered. At these locations, the levees will circumvent the wetland systems and enclosed them between the levee and Deerhorn Creek. Levees will be omitted where the existing channel has adequate hydraulic capacity. All lands between the levees will be acquired as right-of-way (r-o-w) for this project.

The levee system is designed to convey the 25-year return period flood event with a 2-foot freeboard. Emergency overflow spillways will be provided in both flanking levees at selected points along the levee alignment should the levee system receive flows greater than the 25-year event. A special diversion structure is planned for the upper end of the proposed levees on the east side of CSAH No. 52. The purpose of this diversion is to control historic overflows from Deerhorn Creek into the County Ditch No. 42 system to the north.

A major objective of the project is to reduce flood damages along Deerhorn Creek and to provide for a storage area between the levee system to impound floodwaters.

Total Cost: \$650,000

Funding:	Red River Watershed Management Board	\$130,000
	Buffalo-Red River Watershed District	\$520,000

STUDIES & INITIATIVES FUNDED IN 1996

	<u>RRRWMB Commitment</u>
WILD RICE RIVER BASIN WATER QUALITY STUDY MPCA Clean Water Partnership project to conduct an assessment of the water quality of the Wild Rice River Watershed.	\$ 25,000
MAWD GRANT Funded cost share to the Minnesota Association of Watershed Districts for them to prepare a LCMR proposal and grant request addressing water quality issues.	\$ 2,500
BWSR BASIN PLAN Authorized expenditure for 50% local cost share for a grant from the Board of Water and Soil Resources to develop a Basin-Wide Water Management Plan.	\$ 22,500
USGS GAGE STUDY Project will compile, summarize, and publish stream flow characteristics for all active and inactive USGS gaging stations in the Basin downstream of Halstad. (2-year effort)	\$ 16,750
NDSU GROUNDWATER STUDY The study would be conducted by Dr. J. L. Richardsen at NDSU and will investigate the hydrology and seepage of altered wetlands.	\$ 7,600
HDR/HOUSTON ENGINEERING - FLOOD DAMAGE ASSESSMENT	
Phase I - Pilot study to determine the feasibility and costs of accomplishing a basin-wide assessment.	\$ 7,700
Phase II - Collect recent historic flood damage figures by County and institute a program to efficiently gather future flood damage data and costs.	\$ 57,000
JAY LEITCH WETLAND SOCIAL VALUE STUDY This study would involve a detailed assessment of the public values associated with 5-10 current wetland restoration initiated under the Wetland Conservation Act guidelines.	\$ 15,000
FLUVIAL WORKSHOP Funded sponsorship of a River workshop on "Applied Fluvial Geomorphology" held at Grand Forks.	\$ 1,000

RRRWMB Commitment

NATIONAL SCIENCE FAIR

Funding to send a student and teacher to the National Science Fair to present their Water Quality Study on the Sand Hill River.

\$ 1,266

RED RIVER BASIN BOARD

This funding was approved as the Minnesota Counties' contribution to the first year of operation for the Red River Basin Board. The Local Contribution is 1/3 Minnesota, 1/3 North Dakota, and 1/3 Manitoba.

\$ 50,000

SAND HILL RIVER WATCH PROGRAM

First year commitment to the Agassiz Environmental Learning Center for a 3-year study on the Sand Hill River.

\$ 20,000

PUBLIC RELATIONS

The Board accepted a proposal from Loyd Gilbert and Associates to promote the Board's Public Relations.

\$ 49,950

RED LAKE WATERSHED WATER QUALITY PROGRAM

The Board approved funding for the second year of the ongoing 3-year Water Quality Program.

\$ 50,000

MAPLE LAKE LEGAL COSTS

The Board agreed to fund the legal costs incurred by the Red Lake Watershed District in their legal battle to appeal the Maple Lake permit decision.

\$ 40,600

ROSEAU RIVER FLOOD CONTROL PLAN

This funding provides 1/3 cost share of a county, city, and Roseau River Watershed District flood control planning effort for the City of Roseau and the Roseau River Watershed.

\$ 10,000