



Minnesota Board of Water and Soil Resources.
Minutes.

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May 1998

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**BOARD OF WATER AND SOIL RESOURCES
CONFERENCE ROOM, ONE WEST WATER STREET
ST. PAUL, MINNESOTA 55107
MAY 27, 1998**

BOARD MEMBERS PRESENT: Kathleen Roer, Barb Uppgaard, Darrell Bruggman, Dwain Otte, Barb Cobb, Jim Dahlvang, Lee Coe, Allan Oehlke, Sharon Clark, Ginny Imholte, Paul Krabbenhoft, Glenn Annexstad, Kelli Johnson

BOARD MEMBERS ABSENT:

Peder Larson, Pollution Control Agency (PCA)
Marv Tripp
Jim Anderson, Minnesota Extension Service (MES)
Rod Sando, Department of Natural Resources (DNR)

OTHERS PRESENT:

Vern Wilker, Minnesota Association of Soil and Water Conservation Districts (MASWCD)
Kim Benson-Johnson, Department of Health
Rick Reimer, Minnesota Association of Conservation District Employees (MACDE)
Franklin Denn, Minnesota Association of Townships (MAT)
Ray Bohn, Minnesota Association of Watershed Districts (MAWD)
Wayne Edgerton, DNR, sitting in for Rod Sando

STAFF PRESENT: Doug Thomas, Tom Fischer, John Jaschke, Marybeth Block, Jim Haertel, Jim Birkholz, Doug Snyder, Tabor Hoek, Mary Jo Anderson

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Chair Roer called the meeting to order at 9:00 a.m.

**** 98-33** **Adopt Agenda** - Moved by Barb Uppgaard, seconded by Darrell Bruggman, to adopt the agenda as presented. Motion passed on a voice vote.

**** 98-34** **Minutes of April 22, 1998** - Moved by Sharon Clark, seconded by Ginny Imholte, to approve the minutes of April 22, 1998, as circulated. Motion passed on a voice vote.

Reports

Chair's Report - Kathleen Roer reported that the environmental cluster group now meets once a month rather than weekly as they had during the legislative session. Chair Roer stated that the metro subcommittee voted to move the petition to establish the Capital Region Watershed District to the full board. The subcommittee is now in the process of looking for district managers. Chair Roer reported that she and Ron Harnack met with the legislative auditors regarding BWSR's audit. The outcome of the BWSR audit was very good. Chair Roer attended the state Envirothon last week at Whitewater State Park. There were twenty-three teams in attendance. These teams were winners at the area level. The winning team was Mable-Canton High School, they will go on to the national Envirothon in Lansing, Michigan in August. Susan Tsakakis is the state coordinator for the Envirothon and will be attending the national Envirothon with the winning team. Chair Roer stated that Susan suggested that watershed districts get involved in the Envirothon also. Chair Roer reported that she attended the Environmental Quality Board meeting last week. She distributed copies of the "GEIS on Animal Agriculture Livestock Industry Environmental Steering Committee." The steering committee will be a long-term effort. PCA and MDA will be the state agency representation on the steering committee. A concern was expressed that MASWCD is not represented on the steering committee. Chair Roer reported that Susan Schmidt has been chosen to staff the GEIS effort, with Greg Downing assisting. Chair Roer stated that the Metropolitan Airports Commission has come before EQB to request a new runway directly over the Minnesota Valley Wildlife Refuge. A \$27 million compensation proposal has been submitted by the Minnesota Valley Wildlife Refuge, this is a controversial issue, Chair Roer will continue to keep BWSR updated.

Executive Director's Report - Doug Thomas is attending the meeting today on Ron Harnack's behalf. Ron is in Moorhead participating in the Red River Impoundment Mediation. These mediation meetings will be held through December. They look at BWSR as an active participant. Doug stated that board members have received a copy of the Management Analysis Division's strategic planning effort that was done at the board retreat. Doug stated that Ron suggested the administrative advisory committee work with BWSR subcommittees and staff teams. Ron suggested the BWSR meet every other month and committees meet on the months that the full board does not meet in order to work on an implementation strategy. Doug reported

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that MASWCD's "Leadership for the Next Century: Education Program for SWCD Supervisors and Staff" has announced the next leadership session, which is eight sessions over a two-year period. There are three slots available for BWSR (members and staff); the deadline date is August 30 for BWSR to make a decision who will attend. Doug gave a brief LCMR update. He reported that more than 300 applications were submitted, 173 proposals were accepted. BWSR is involved in two proposals to LCMR: 1) a soil survey update and digitizing - cooperative effort between NRCS/MES/BWSR; and 2) water planning challenge grant program. Barb Uppgaard stated that she would like BWSR to educate LGUs as grant writers. Allan Oehlke suggested getting LGUs involved in the MASWCD leadership program. Doug asked members to look at the wetlands information in the "Board Member Update." Doug explained the BWSR unification project. He stated that staff is working with a consultant to look at BWSR's work processes for the database, joint application development sessions, and development of an operational database for the agency to be completed by January. Doug stated that the BWSR will tour the Snake River area on June 24; with the meeting on June 25. Doug stated that Ron and Wayne Zellmer continue to work on tornado assessment efforts. Ron will be meeting with various agencies and clientele over the next few months regarding possible initiatives for the next legislative session.

Dispute Resolution Committee - Jim Haertel reported that the WCA appeal in Scott County involves an exemption determination. A pre-hearing conference has been held, but no hearing date is set.

Cost-Share/Soil Conservation Committee - Dwain Otte reported that the allocations will be acted on at the June meeting.

Wetlands - Darrell Bruggman reported that John Jaschke is scheduling a wetland heritage advisory committee meeting. Darrell stated that the "Board Member Update" has a lot of information on wetlands.

Ginny Imholte distributed "Water Watch" publication for the board member's information.

Administrative Advisory Committee - Chair Roer stated that the administrative advisory committee will meet in June to discuss implementation recommendations from the board retreat and also the MASWCD leadership training sessions.

Chair Roer distributed an evaluation form for the executive director's position. She explained the evaluation process and stated that the evaluation is confidential, she asked that the evaluation forms be sent to her home address.

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Agency Reports

Sharon Clark, Department of Agriculture (MDA), reported that MDA is working on legislative proposals for the next biennium. Sharon traveled to Canby to look at CRP land, it's devastating to see what was not accepted in recent CRP sign-ups.

Kim Benson-Johnson, Department of Health (MDH), stated that MDH is also working on legislative proposals. Kim mentioned that the well program has a fee increase, this program is calendar year based rather than fiscal year.

Wayne Edgerton, Department of Natural Resources (DNR), stated that the Governor is interested in supporting another lakes initiative. Wayne stated that DNR is involved in the CRP issue, the biggest struggle is that the program had such good success in native grass planting that the price on prairie seed has dramatically increased, any ideas on how to resolve this contact DNR.

New Business

Comprehensive Local Water Planning Program Plan - Doug Thomas introduced the work plan to the Board, which highlights the program's purpose, authorities, strengths, challenges, and identifies strategies to address the challenges. Upon soliciting input from agency staff at the field level, the final plan will be presented to the Board in September. Doug introduced Lynda Peterson, Water Planner from the Kanabec Soil and Water Conservation District and Scott Allen, Water Planner from Rice County. They commented on the strengths and challenges of the water plans in their county and how the program plan will be of benefit to their programs. Barb Uppgaard asked that each county plan gets in the hands of the county commissioners. Chair Roer stated that the comprehensive local water plan is good for the local units to make decisions that are respected; she thanked them for coming in and presenting this plan.

Amendment to Order Establishing the Brown's Creek Watershed District - Jim Haertel stated that the ~~establishment order~~ ^{amendment} is needed to specify the term for the first board of managers appointed by the BWSR is one year or until their successors can be appointed and qualified, and the terms of office for the first board of managers appointed by the Washington County Board is one for a term of one year, two for a term of two years, and two for a term of three years. Moved by Allan Oehlke, seconded by Dwain Otte, to approve the amendment to the order establishing the Brown's Creek Watershed District. Motion passed on a voice vote.

98-35

Chair Roer called for a break in the meeting at 10:40 a.m. - 10:50 a.m.

98-36

BWSR Education Strategy - Barb Uppgaard presented the BWSR education strategy for approval. The education committee wanted the education strategy to be short and to the point, fluid and flexible, and addresses regions. Moved by Barb Uppgaard, seconded by Lee Coe, to

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adopt the 1998 BWSR Education Strategy. Motion passed on a voice vote. Chair Roer thanked the education committee for the strategy and looks forward to implementation.

Implementing LCMR Grants to Local Governments to Assist Natural Resources Decision-Making - Jim Birkholz provided the grant context for the Board's information, with a decision to be made by the Board in July.

McLeod County Drainage Inventory Demonstration - John Jaschke explained that BWSR accepted applications in 1996 for a pilot drainage inventory program. McLeod County's grant application was accepted for funding, and they contracted with OSM to conduct the drainage inventory. Tom Fischer introduced Dr. Linda Tomaselli, Mark Wald, and Jim Jacques from OSM, they presented a demonstration of the final drainage inventory program in McLeod County. Dr. Tomaselli stated that McLeod County greatly appreciated the grant to get this project on the ground. Chair Roer thanked them for coming in.

Darold Neperman

98-37** Area II Work Plan - Tabor Hoek introduced Kerry Netzke, ~~Darrel Nepperman~~, and Carl Hauschild, representatives of Area II. Tabor presented the Area II work plan. Moved by Dwain Otte, seconded Sharon Clark, to approve the Area II work plan for 1999. Motion passed on a voice vote.

Advisory Comments

Ray Bohn, MAWD, stated that the MAWD tour will be held June 26-27 in Roseau County, he invited board members to attend. Ray stated that MAWD is establishing a drainage committee and wants to take a positive approach to dealing with legislation that pertains to drainage systems. Ray stated that he's working with Doug Thomas on the MAWD manager's handbook, which needs updating. The rules guidebook has been distributed to watershed districts. He appreciated BWSR's assistance on this as well. MAWD looks to BWSR on the drainage law, training sessions will be held in conjunction with AMC. Allan Oehlke would like to see MASWCD and MAWD to work together on the drainage issue. Doug stated that Ron Harnack would like to see agencies and clientele work together on the drainage issue as it relates to this legislation, possibly a round table to begin educating the parties involved, and develop a common understanding of what the issues are or are not. Chair Roer asked that constituents work together to accomplish this.

Franklin Denn, MAT, stated that MAT will be holding a legislative research meeting in Willmar. Land use planning is an issue that townships are involved in but need to look to the county for guidance.

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John Brach, NRCS, stated that Mayor Nelson, City of Warren, has been instrumental in earmarking \$8 million in federal funds for a flood control project. If congress approves, this fast-paced favorable project will be underway soon. Chair Roer asked John to pass along special thanks to NRCS staff for assistance at the Envirothon last week.

Rick Reimer, MACDE, stated that MACDE's summer training session will be at Cragun's in Brainerd, June 17-18, he invited board members to attend. MACDE is busily involved in tree sales, living snowfences, CRP, and SRF.

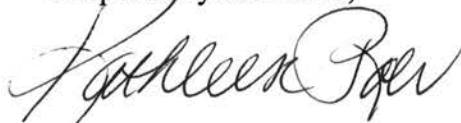
Vern Wilker, MASWCD, stated that the MASWCD Leadership Training Session is needed for many SWCDs. Vern reported that CRP acres have received a three-year extension for seeding due to the high cost of native grass seed. MASWCD was happy with the legislative session. SWCDs will be busy implementing funding allocations. Congressman Dave Minge attended the MASWCD board of director's meeting yesterday. The next MASWCD board of directors meeting will be held in conjunction with the MACDE summer training session. LeAnn Buck has been offered the executive director's position when D'Wayne DeZiel retires in December. Chair Roer thanked LeAnn Buck for the legislative report.

The next BWSR meeting will be held on June 25 in Mora, in conjunction with the BWSR tour on June 24 of the Snake River.

The July 22 BWSR meeting falls around the date of the Water Planner's Conference, which will be held July 21-23 in Crookston. The chair asked board members who were interested in attending the conference to call and we will work around it.

Chair Roer adjourned the meeting at 12:30 p.m.

Respectfully submitted,

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

Kathleen Roer, Chair

To Apply

Applicants should use the following outline. Applications should be kept to two pages or less.

1. Local Unit of Government name and contact person (project manager). Include address and phone number, e-mail, etc....

2. Amount of funds requested. Amount to be committed as match--list as cash or in-kind.

3. Narrative. Describe what is proposed. Please be brief and specific. Use of bullets or outline format to clearly show the nature of the project is helpful to evaluators. Include at least the following information:

- ▶ The nature of the development pressure which is affecting land and water resources;
- ▶ The staffing expertise to be acquired or the technology to be used to help the governing board(s) make better natural resource decisions;
- ▶ Any new development controls which would be implemented;
- ▶ Participating/benefiting local units of government; and,
- ▶ How this project would show results and how can results be measured or quantified.

4. Other information (optional).

Deadline for applications

The deadline for submitting pre-proposals for this special grant is June 12, 1998. Please note that this date is earlier than the Challenge Grant application deadline!

Submit pre-proposals to:

Jim Birkholz
Board of Water and Soil Resources
One West Water Street
Suite 200
St. Paul, MN 55107

cc: BWSR staff

SPECIAL GRANT ANNOUNCEMENT

GRANTS TO LOCAL GOVERNMENTS TO ASSIST NATURAL RESOURCE DECISION MAKING

Background

The Minnesota Board of Water and Soil Resources has received \$150,000 from the Legislative Commission on Minnesota Resources for matching grants to assist local governments which are experiencing development and land use changes which are impacting natural resources. The funds are intended for projects which utilize emerging technologies and information to make land use, zoning, and permitting decisions which are appropriate to land and water resources and contribute to sustainable development. Augmenting local government staff resources and the input they provide to local governing boards for natural resource decisions is a focus of this grant. Successful projects will result in enhanced capability of local governing boards to effectively deal with development pressures which are affecting land and water resources. This is an opportunity to jump start efforts which help put your local government in a better position to deal with development pressures. This is a limited source of funds available for a limited time; the application process has been streamlined accordingly by using a pre-proposal format--selected grantees will establish final details with a BWSR staff person.

Highlights

- ▶ Eligibility. Applications must come from Counties, Soil and Water Conservation Districts, Watershed Districts or Metropolitan Watershed Management Organizations. Other local units of government must apply through one of the above local units. This announcement is being distributed to the BWSR Challenge grant mailing list.
- ▶ Pre-proposals will be requested and ranked by an inter-agency team. The pre-proposals will be ranked according to the criteria used for the BWSR Challenge Grant Program which is in this same mailing plus the additional points covered in this announcement. The BWSR will contact selected recipients to prepare a final work plan, budget, and other details.
- ▶ There is no upper or lower dollar limit on applications, however, the BWSR expects to fund at least three projects.
- ▶ Projects require a 50:50 match, cash or in-kind.
- ▶ Priority will be given to proposals which contain a cash match, indicate a cooperative effort between two or more local units of government, and show good faith commitment to continue the effort beyond the grant period.
- ▶ Grants will be available through June 30, 1999, with a possible 6 month extension if approved by BWSR and the LCMR.

OFFICE MEMORANDUM

May 14, 1998

TO: Ron Harnack, Executive Director

FROM: Jim Birkholz, Assistant Director



SUBJECT: May 27, 1998, Board Agenda Item--Implementing LCMR Grants to Local Governments to Assist Natural Resource Decision Making

One of the LCMR projects BWSR is managing is a \$150,000 appropriation to make grants to selected local governments to help enhance the natural resource Decision making capacity of their governing boards. Oftentimes local governments lack the budget to obtain the staff and/or obtain and use information or technologies which keep them abreast of their significant land use responsibilities. As you know, making good land use decisions is an essential part of maintaining a quality environment in our state.

Attached is a copy of the request for proposal for this grant initiative. It was piggybacked on our Natural Resource Block Grant mailing to our local government clientele. The deadline for applications is June 12. We will utilize the interagency review team used in the Challenge Grant process to rank the proposals. It is anticipated that a prioritized list of proposals can be prepared for final Decision making at the July, 1998, BWSR meeting.

A briefing for board members at our May meeting would provide the opportunity for Board members to get up to speed on this project and prepare for making the grant decisions in July.

cc: Mary Jo Anderson

BWSR EDUCATION STRATEGY

April 1998

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I. Introduction

When the Legislature created the BWSR in 1987, it clearly believed that the board had an important educational role to play. BWSR's enabling statute contains three mandates directly related to education:

- 1) the BWSR shall develop information and education programs designed to increase awareness of local water and soil resources problems and awareness of opportunities for local government involvement in preventing or solving them;
- 2) the BWSR shall provide a forum for the discussion of local issues and opportunities relating to water and soil resources management; and
- 3) the BWSR shall 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 water and soil resources management available to local units of government to the greatest extent possible.

This document defines how BWSR will integrate these three mandates into its activities as it carries out its mission.

II. BWSR'S educational goal

The mission of the Minnesota Board of Water and Soil Resources is to assist local governments to manage and conserve their irreplaceable water and soil resources.

This mission statement indicates clearly that BWSR's mission is one of local government service and capacity building. Our ultimate educational goal is to **help local governments meet their education and outreach needs.**

A. BWSR's education objectives

Within the context of its mission and its educational goal, BWSR must define its objectives more specifically. The requests of local government units (LGUs) are many and varied. Our assistance must be focused on helping achieve objectives that will make the most effective use of our efforts and resources. These objectives include:

- Developing and maintaining a level of knowledge about existing educational resources and acting as a clearinghouse to refer LGUs to other agencies and resources;

- Building the capacity of LGUs to meet their educational needs;
- Serving as a link between LGUs and other state agencies by providing information about available state resources to local government units;
- Functioning as the LGU advocate at the state level in matters affecting local governments' ability to deliver education and training programs; keeping state agencies and the legislature aware of LGU education needs and how state programs can fit those needs; and
- Keeping soil and water resource issues included as a key component of discussions, policies and programs.

B. BWSR Educational Strategies

To accomplish its objectives, BWSR will use the following specific strategies:

- BWSR will identify specific educational goals--and how those goals will be achieved--in the regional, individual and program work plans and planning process;
- BWSR will identify opportunities for various staff to integrate their activities and priorities with the activities of the education staff, using the regional, individual and program work plans and the planning process;
- BWSR will use LGU input, both formal and informal, to define specific education needs;
- BWSR will coordinate its educational efforts on a statewide level;
- BWSR will develop and maintain appropriate partnerships to increase the impact of its education activities;
- BWSR will continue to serve on the Environmental Education Advisory Board (EEAB), the Minnesota Association of Soil and Water Conservation Districts (MASWCD) Education Committee, and others; and
- BWSR will identify individual LGU needs that have broad application and adaptability; develop and provide training, programs, activities, and products that can be used by a number of LGUs with little or no adaptation.

C. Role of the Education Committee

The Education Committee consists of board and staff members and plays a key role in BWSR's education program. Specifically, the committee:

- defines the vision, overall direction and philosophy of BWSR's soil and water education effort;
- meets at least bi-annually to assess the activities and focus of the previous year and determine if changes need to be made;
- functions as a forum to which staff can bring soil- and water-related educational issues for discussion and direction;
- builds the foundation for partnerships that can benefit BWSR's soil and water education efforts; and
- gathers input from agency members on soil and water education issues.

III. Appendix

Appendix A: History

BWSR has had a number of interesting attempts at a formal education program. In 1989, a BWSR staff Education Team developed a position paper on its education efforts. The board responded by forming an ad hoc Education Committee, which then drafted a document with a number of recommendations, including:

- add three new staff members; and
- direct these staff to ensure that resource education efforts by local governments are optimized by: 1) developing a process to listen to ideas and needs of local governments about what they require to achieve their individual education and communication goals; 2) providing, through training and other means, the capability to local governments to carry out their own communications programs; 3) seeking, creating, fostering and augmenting the opportunities for local entities to share educational materials and programs; and 4) assisting the coordination of local education and communication efforts with other state agencies and environmental education efforts.

The board reviewed the document and essentially tabled it, citing lack of funds and staff time.

The next major attempt began in 1991, when a BWSR Education Committee composed of board members and staff, local government representatives, and a University of Minnesota Extension Service representative met monthly to develop a BWSR Education Strategy. The strategy heavily involved BWSR's board conservationists (BCs) and a new education coordinator position. Essentially, the strategy entailed the BCs working closely with BWSR clientele to determine the clienteles' needs and then working with the education coordinator to develop products to fill those needs.

Recommendations made by the committee to implement this strategy included:

- creation of an education coordinator position;
- creation of an education budget;
- development of a yearly education plan;
- each BWSR board conservationist and appropriate central office staff members should dedicate a specific portion of his time to education;
- each BC and appropriate central office staff member should develop an "education plan" that outlines his educational goals and activities for the year; and

- staff should seek out feedback from their clientele regarding what types of assistance they need.

Although the full board approved the plan in spring of 1992, it was only partially implemented. When discussing the hiring of an education coordinator, a unique opportunity to share a full-time position with the University of Minnesota Extension Service presented itself, and BWSR made the decision to fill the education coordinator position on a shared basis with Extension. To accommodate Extension's needs, the position was implemented differently than the committee originally envisioned. In addition, about the time the Education Strategy was approved, the legislature gave BWSR authority for the Wetland Conservation Act, a new program designed to combat wetland loss. The program unexpectedly commanded huge amounts of time from all BWSR staff, but most particularly from the BCs, who were not able to take on any new education responsibilities.

BWSR did, however, learn a number of valuable lessons from the implementation attempt:

- Staff specifically devoted to education is necessary for success. While staff skills, knowledge and ability is an integral part of a successful educational program, and the connection that BCs have with their clientele is key, expecting non-education staff to take a lead role in education is not realistic.
- One oversight position, responsible for coordinating the efforts of the education coordinators, is necessary.

Appendix B: Planning Strategy

As staff members develop program, individual and regional work plans, they will look at incorporating educational objectives and activities. Staff may want to look at incorporating the following steps during development of the education coordinators' work plans and the educational components of other work plans:

- Needs assessment: What is needed? More conservation tillage? Improved septic?
- Outcomes: What outcomes are desirable? An increase in conservation tillage? Improved septic? Better shoreline landscaping?
- Audiences: What audiences will need to be reached? What are their characteristics? What are the best ways to reach those audiences?
- Action: What types of activities would be most effective?
- Evaluation: Has this done what it was supposed to do? Why or why not?

Existing LGU plans could also be helpful during this process.

Appendix C: Staff involvement

BWSR's strength has always been in providing personal support tailored to the needs of our clientele. To provide this level of service in the educational arena, many staff members, including program managers and specialists, will need to be involved; however, because of their first-hand awareness of the needs and opportunities of our clientele, our board conservationists (BCs) have a particularly important role to play. More than any other position, BCs can provide the link we need between our education staff and the LGUs.

As they do with the other BWSR specialists, BCs will play a key collaborative role between the LGUs and education specialists. This role includes:

- **advising** education staff people about needs they see and the most effective ways to fulfill those needs;
- **ensuring** that LGUs know about the education staff people and the assistance they provide;
- **planning** appropriate education activities as part of their regional workplans and program plans;
- **participating** in various educational programs, activities and projects; and
- **promoting** key natural resource issues to LGUs.

Appendix D: BWSR needs

As needs change, so too will BWSR's programs, abilities, focus and needs; however, some things must remain constant. The following have been identified as key components to the success of BWSR's education program (and, for that matter, any other BWSR program):

Flexibility:

- Different regions of the state have different resource needs and concerns. Educational efforts that make sense in one area of the state may not be useful in another area. For example, one area may be interested in water quality issues; another may be concerned about feedlot management or other agricultural issues.
- In addition to regional differences, BWSR also works with a wide variety of local units of government. An educational effort appropriate for a city may not work for a soil and water conservation district, and watershed districts have different needs than counties.
- One characteristic that BWSR believes separates it from other agencies is its ability to quickly adapt its programs to answer specific unexpected needs (such as erosion due to flooding).
- Resource management is constantly changing. As people become more aware of environmental concerns, various topics that were previously of little interest can attract the public's attention. It is important for BWSR to be able to respond to such shifts, since they also present opportunities for learning.

Personal service: BWSR's strongest quality is the personal, individualized service it provides to the local government units that are our clientele. Our education effort needs to build upon this strength, giving LGUs the focused attention their educational needs require.

Skilled, competent staff devoted to education: Staff trained in and specifically dedicated to education is key to our effort. While other BWSR staff, especially the board conservationists, have an important role to play in linking the education positions to LGUs, we need specific education staff that can provide quality LGU assistance as a primary focus.

Appendix E: BWSR's partnership with the University of Minnesota Extension Service

I. Purpose

Since 1992, the BWSR and the University of Minnesota Extension Service (Extension) have jointly funded a shared education position housed in the Duluth BWSR office and serving northern Minnesota. This partnership has provided a number of benefits to BWSR, including:

- increased local government awareness and use of Extension publications and services;
- increased coordination between local governments and Extension;
- increased respect in the educational arena, since Extension is viewed in Minnesota as the education expert;
- increased BWSR access to Extension resources; and
- increased coordination of BWSR, Extension and local government educational efforts.

Because of these benefits, the BWSR Education Committee has determined that it is in BWSR's best interest to generally consider filling any educational positions, even those solely funded by BWSR, through contracts with Extension. This provides BWSR with access to a well-qualified pool of candidates and the flexibility to hire people with specific expertise in various identified areas.

II. Education Coordinating Committee

Because of the mutual benefits gained through the BWSR/Extension partnership, an Education Coordinating Committee composed of the BWSR executive director; the BWSR assistant director; the Extension BWSR board member; the director of the Extension Service; and the director of the Extension Water Resources Center, will meet at least annually to discuss and evaluate the BWSR/Extension partnership.

DRAFT

Minnesota Board of Water and Soil Resources
One West Water Street, Suite 200
St. Paul, Minnesota 55107

DRAFT

In the Matter of an Amendment to the Order
Establishing the Brown's Creek Watershed District
in Washington County pursuant to Minnesota
Statutes Section 103D.225, Subdivision 4

**AMENDMENT TO
ORDER ESTABLISHING
BROWN'S CREEK
WATERSHED DISTRICT**

Whereas, the Board of Water and Soil Resources issued an order on October 22, 1997, establishing the Brown's Creek Watershed District pursuant to Minn. Stat. § 103D.225, and;

Whereas, Minn. Stat. § 103D.225, Subd. 4 (a) requires the term for the first board of managers of the watershed district appointed by the Board of Water and Soil Resources to be one year and until their successors can be appointed and qualified, and;

Whereas, Minn. Stat. § 103D.225, Subds. 4 (c) and (e) requires staggered terms of office for the first board of managers of the watershed district appointed by the county board;

Now Therefore, the Board hereby makes the following Order.

ORDER

That item number six on pages 16 and 17 of the order dated October 22, 1997, establishing the Brown's Creek Watershed District is amended to specify the term for the first board of managers appointed by the Board of Water and Soil Resources is one year and until their successors can be appointed and qualified, and the terms of office for the first board of managers appointed by the Washington County Board is one for a term of one year, two for a term of two years, and two for a term of three years.

Dated this ____th day of May, 1998.

MINNESOTA BOARD OF WATER AND SOIL RESOURCES

DRAFT

By: _____
Kathleen M. Roer, Chair

**Board of Water and Soil Resources
Executive Director Performance Appraisal**

Name: _____

Date: _____

Evaluator: _____ (Board Member)

Appraisal Period: From _____ To _____.

Listed below are ten performance responsibilities of the Executive Director for the Board of Water and Soil Resources. After each responsibility, performance indicators are listed. Rate each performance by circling the appropriate response and/or you may use the comment area below each responsibility to evaluate the director. Please feel free to use one or, preferably, both ways to evaluate.

Evaluation code: Use the number that best describes the extent of achievement.

- 1. Unacceptable performance
- 2. Improvement needed
- 3. Meets expectations
- 4. Very good performance
- 5. Outstanding performance
- UA Unable to answer

1. Has comprehension of and provides leadership and direction for the promotion and application of BWSR programs.

5 4 3 2 1 UA

2. Coordinates appropriate staff activities and education for the development and promotion of BWSR programs and delegates responsibility as appropriate to empower staff within their function.

5 4 3 2 1 UA

3. Maintains a good communication level with the Board and acts as a conduit for the flow of timely information, ideas, convictions, needs and desires that increases the Board's knowledge of the issues within their scope and thus their decision making capabilities.

5 4 3 2 1 UA

4. Understands the role of the Board in policy decision making and facilitates the staff implementation of Board directives.

5 4 3 2 1 UA

5. Coordinates the effective education of the Board by researching and providing information, background, potential arguments and solutions and/or options relative to specific issues.
- 5 4 3 2 1 UA
6. Communicates positively and effectively with other state agencies, local governments, special districts, the Governor's office and the media regarding Board policy, programs and partnership efforts - and does so as a part of the BWSR team, not as a solitary authority.
- 5 4 3 2 1 UA
7. Assures that the Board or appropriate members of the Board have knowledge of and/or are included in various meetings that would enhance their education and decision making capabilities.
- 5 4 3 2 1 UA
8. Maintains a good working moral and promotes a positive and open atmosphere in which real dialogue may occur.
- 5 4 3 2 1 UA
9. Acts as the chief liaison between the Board and the staff and thereby encourages and promotes collaboration and teamwork which utilizes the unique strengths of individual board members. Is responsive to Board members and chair.
- 5 4 3 2 1 UA
10. Is "visionary" and sees the "bigger picture" in management of resources.
- 5 4 3 2 1 UA

Return to:

**Kathleen Roer
2232 Tamarack Drive
Long Lake, MN 55356
Fax: 612-473-7123**



21-May-98

GEIS on Animal Agriculture Livestock Industry Environmental Steering Committee

	NAME	ORGANIZATION	CITY
1	Ken Albrecht	Nicollet County Citizen	No. Mankato
2	Gary Allen	Gar-Lin Dairy Farms Inc	Eyota
3	Brian Buhr	U of M - Economist	Chisago City
4	Tom Cochran	MN Agri-Growth Council	Eagan
5	Robert Ferguson	Jackson County Commissioner	Heron Lake
6	John Fraser Hart	U of M-Geography Dept	Minneapolis
7	Amy Fredregill	Izaak Walton League	St. Paul
8	Troy Gilchrist	MN Assoc of Townships	St. Michael
9	Roger Gilland	Cattleman's Association	Morgan
10	Ed Hegland	MN Soybean Growers Assoc <i>? feed</i>	Appleton
11	Patricia Henderson	University of Minnesota	Minneapolis
12	Suzanne McIntosh	Clean Water Action Alliance	Minneapolis
13	Helen Palmer	League of Women Voters Pres, Rochester	Rochester
14	Donna Peterson	MN Lakes Association	Richville
15	Dave Preisler	MN Pork Producers Assoc	N Mankato
16	George Raab	The Turkey Store Company	Faribault
17	Chris Radatz	MN Farm Bureau	St. Paul
18	Tina Rosenstein	Environmental Services Dept for Nicollet Cty	St. Peter
19	Mark Schultz	Land Stewardship Project	Minneapolis
20	Kristin Sigford	MN Center for Env Advocacy	St. Paul
21	Andy Steensma	MN Farmers Union	St. Paul
22	Tim Tracy	Farm Credit Services of Southern MN, ACA	Mankato

State Designees

MPCA, MDA

*no rep: human health, animal health
will be tech. advisory group*

*geographic distribution
issue? no one from north
(but reps from statewide orgs)*



Comprehensive Local Water Planning (MS 103B.301)

BWSR Program Plan 1998-2003



RELATIONSHIP TO BWSR'S STRATEGIC PLAN AND OTHER PROGRAMS

Local water planning is very much in keeping with the basic tenets of the board as identified in the strategic plan: implementing natural resource management at the local level, voluntarily, comprehensively and collaboratively.

Comprehensive local water planning is singled out in BWSR's strategies as the vehicle the board will use to plan for and implement water and soil resource protection strategies. It also states that BWSR will continue to assist local units of government to plan and implement their water resource management responsibilities using a watershed-based management approach.

Many of BWSR's programs look to local water planning as the means by which priority water and soil protection measures are identified. The Erosion and Sediment Control State Cost-Share Program funds are targeted to high priority problems identified in the plan. This BWSR/SWCD program, and others such as the like the Reinvest in Minnesota Reserve can also be used to carry out the goals identified in the comprehensive local water plan.

PARTNERSHIPS AND ADVISORY COMMITTEES

The 103B Technical Representatives Group consists of agency representatives from the Departments of Natural Resources, Agriculture and Health; Pollution Control Agency, MN Geological Survey, MN Planning and the Land Management Information Center. Early on their main function was to coordinate the implementation of the Comprehensive Local Water Planning Act. The representatives serve as the point of contact among their respective agencies for water planning issues.

The Local Water Planners Focus Group includes water planners from across the state and several BWSR staff members. The purpose of this group is to promote communication between BWSR staff and local

water planners. The representatives serve as a voice for planners across the state. They are also responsible for taking the information the focus group discusses back to water planners in their area.

1997-98 Local Water Planners Focus Group

Northwest:

Aaneson, Mark	Mahnomen Co
Grant, Brad	Becker SWCD
Parthun, Chris	Beltrami SWCD
Krystosek, Dale	BWSR - Bemidji

Advisory Members:

Allen, Scott	Rice Co.
Brigman, Kate	Le Sueur Co.
Block, Marybeth	BWSR-St Paul
Thomas, Doug	BWSR-St Paul

Northcentral & Northeast

Montonye, Joe	Grant SWCD
Noyes, Dick	Pine SWCD
Peterson, Lynda	Kanabec SWCD
Wettlaufer, Mark	Morrison County
Steward, Dan	BWSR - Brainerd
Waller, Peter	BWSR - Brainerd

Southwest

Bos, Doug	Rock County
Lawrence, Steve	Chippewa Co
Sill, David	BWSR- Marshall

Southcentral

Bovee, Terry	Le Sueur County
Rivers, Pam	Nicollet County
Hughes, Chris	BWSR- New Ulm

Southeast

Bram, Todd	Winona County
Gamm, Mark	Dodge County
Kells, Mary	BWSR- Rochester

Comprehensive Local Water Planning (MS 103B.301)

BWSR Program Plan 1998-2003



Program funding and technical support

Local water planning is successful in part because funds were appropriated by the state creating a partnership with counties to develop the plans and carry out protection strategies. Nearly a decade has passed since the original appropriation and there is a need to increase the level of funding from both the state and the counties. Increased funding would ensure counties can make progress implementing the strategies identified in the plans and it would create new water resources management opportunities.

Local water planning funding, including the challenge grant and other grants awarded through BWSR's Natural Resource Block Grant, require local government in-kind match. Documenting in-kind contributions is cumbersome and time consuming, and it detracts from accomplishing the goals and strategies set forth in the plan. In addition to receiving financial support, local water planners need access to technical support to help them carry out implementation activities.

Communication

Communication and networking are essential to maintaining the long-term success of water planning. No official association of local water planners exists but an annual conference for the group has been well attended and respected. The challenge is to keep communication flowing throughout the year. Water planners would be well-served if they were kept apprised of pertinent things such as legislative issues, projects, grants, meetings, tools (e.g., GIS) etc. There is also a distinct need to communicate the success and challenges of the program to state, federal and other conservation partners.

PROGRAM STRATEGIES & INITIATIVES

1. Support legislation in the 1999 session to increase base level & challenge grant funding.
2. Enter into cooperative agreements at the commissioner level with the DNR, MPCA, MDA, MDH and the USDA-FSA and NRCS to:

add CoE

- a) ensure that the strategies identified in the local annual work plans are accepted; b) attempt to discuss proposed mandates tied to local water plans with appropriate advisory committees whenever possible; c) encourage agencies to solicit and consider local recommendations when appointing a representative to the local task force; and d) to encourage local task force agency representatives compile all agency comments on the annual plan and the comprehensive plan updates.
3. Convene an ad hoc committee to review and draft options to the required in-kind matches of the Natural Resource Block Grant programs and the Local Water Planning Challenge Grant.
4. Work with MASWCD, AMC, MAWD and MAT to keep local water planners apprised of legislation that could provide opportunities or challenges for plan implementation at the local level.
5. Seek a legislative appropriation to establish a grant fund that would support the administrative activities of regional water planning groups or support water planning within the boundaries of the 81 major watersheds.
6. Establish a quarterly statewide newsletter and monthly e-mail updates.
7. Continue to hold an annual water planners conference.
8. Use the LGU Annual Reporting System (LARS) to track the progress in meeting resource management goals through the Comprehensive Local Water Planning Program.
9. Revise the Administrative Rules.
10. With guidance from the Local Water Planners Focus Group and the 103 Technical Representatives group, develop a process to review and evaluate the program administration and implementation at the local level.

Comprehensive Local Water Planning (MS 103B.301)

BWSR Program Plan 1998-2003



bring diverse experience and perspectives to the table, helping them to constructively assess the county's water resources, identify problems and threats to those resources, and develop and carry out protection strategies. Task forces ensure that the plans consistently reflect local priorities. They convene for plan updates every five to ten years. Water planning provides a framework to coordinate the variety of resource-related activities various government entities and other groups are performing.

The planning process has augmented local education efforts. It has heightened the awareness of the value of water, the threats facing it and the value in planning and managing water resources at the watershed level.

State and local coordination

In addition to enhanced local coordination, the program has forged strong state-local partnerships. Many state and federal programs have used the local water planning process as a delivery system for their water related programs. Local delivery is effective. When local resource managers are recruited to deliver state and federal programs there is local buy-in - a commitment to seeing that the programs are successful. Local government is the primary land use authority in the state and is closest to the private landowner. Local delivery is efficient because it combines human and financial resources of local, state and federal government and focuses them on implementing the local strategies. Local water planning also gives local government a mechanism to communicate its resource protection priorities to the state and federal agencies.

A local planning model

The accomplishments of local water planning have been widely recognized. In 1995 the Legislature requested a report assessing state environmental agencies and local government environmental special purpose districts' role in managing water resources. The resulting report, ***Crosscurrents: Managing Water Resources***

praises Comprehensive Local Water Planning as leading to great improves in coordination and cooperation among various levels of government and interested citizens and groups. The report goes on to say that the plans could form the basis for all environmental information in local sustainable development plans. Time and time again comprehensive local water planning is looked to as a model for locally managed programs.

PROGRAM CHALLENGES

While comprehensive local water planning has many strengths, there are also challenges. The following challenges were singled out as the most important to acknowledge and address.

Maintain local flexibility. Local emphasis and flexibility has been the cornerstone of local water planning's success. To protect these valuable characteristics state and federal governments must: respect the locally-identified priorities; recognize the priorities and strategies identified in the *annual work plans* in addition to those identified in the comprehensive plan; and resist adding additional requirements to the planning process (i.e., fashioning it to meet the needs of the state/federal agency rather than the local conditions).

Public and local government participation in plan revisions

Public and local government representation on the water planning task forces is essential to lending credibility to the identified priorities. Involvement from agricultural producers, lakeshore owners, wildlife and conservation clubs, commerce organizations, municipalities and township government is vital to the process. Water planning addresses natural resource management county wide regardless of jurisdictional boundaries, and to truly integrate and coordinate resource management the water planning process must have the involvement of as many local resource managers and users as possible. Just as local buy-in is important to carrying out state and federal programs, public and local government participation is important when it comes to successfully carrying out the activities identified in the local plans.

Comprehensive Local Water Planning (MS 103B.301) BWSR Program Plan 1998-2003



PROGRAM PURPOSE

The purpose of Comprehensive Local Water Planning is to develop and implement water management plans at the county level that protect and enhance surface water, groundwater and related land resources given the local conditions.

PROGRAM AUTHORITIES

The program was established in 1985 with the passage of Chapter 110B: The Comprehensive Local Water Management Act. The statutes have since been recodified to M.S. 103B.301- 103B.355. The act specifies that the plans include:

- ▶ a description of the existing and expected changes to the physical environment, land use and development in the county;
- ▶ information about the surface water, groundwater and related land resources of the county;
- ▶ objectives for future development, use and conservation of water and related land resources;
- ▶ a program for implementation of the plan along with plan objectives and a schedule for implementation; and
- ▶ a description of potential changes in state programs, policies and requirements considered important by the county to the management of its water resources;

Minnesota Rules Chapter 9300 contains the program's administrative procedures.

PROGRAM FUNDING

Companion legislation was adopted in 1989: Local Water Resources Protection and Management Program - 103B.3361-103B.3369. This program allows the BWSR to provide financial assistance to counties for activities that protect or manage water and related land quality. It also grants state agencies the authority to place priority on local requests for funding and technical assistance that are part of or responsive to a local water plan.

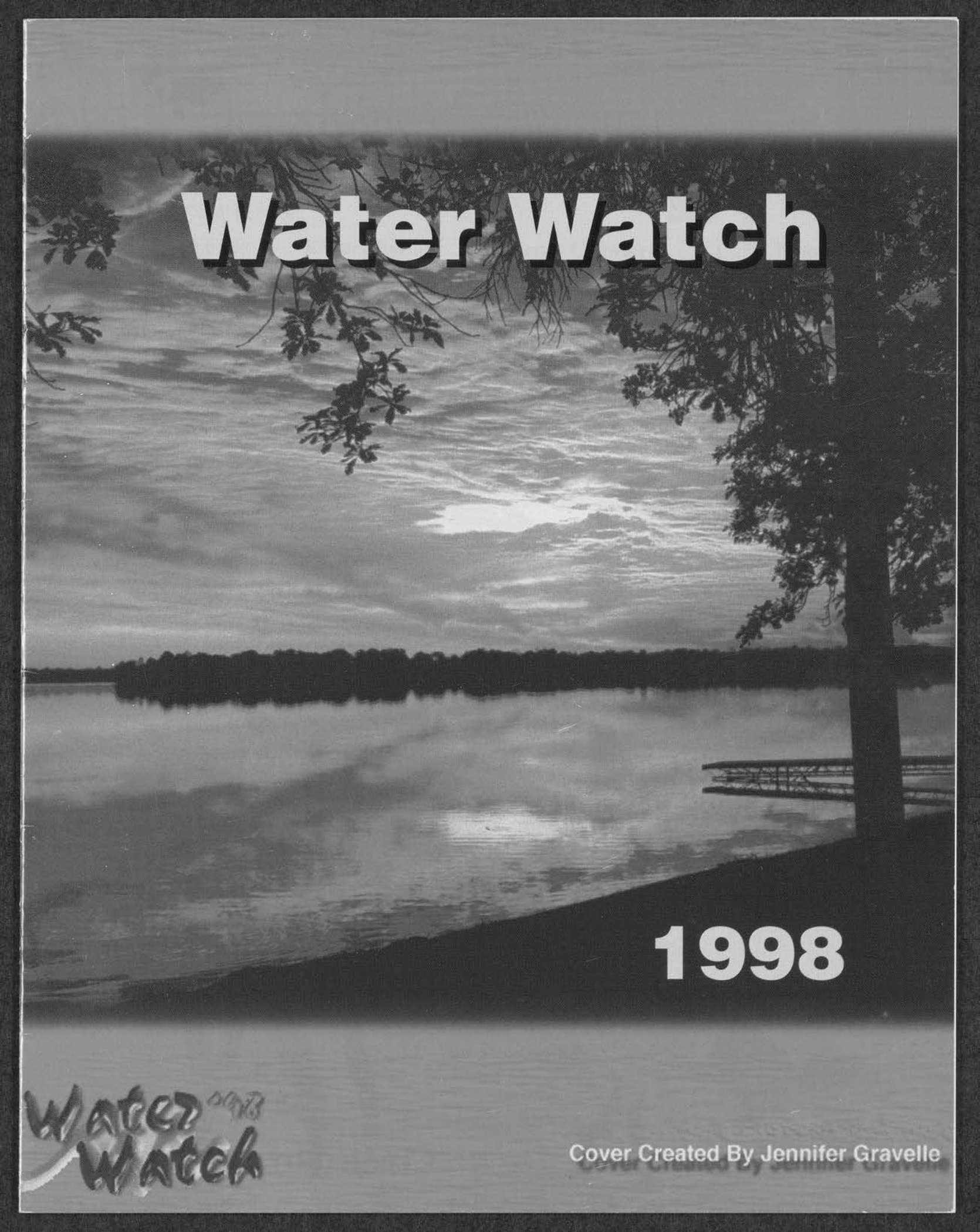
The program requires counties to levy a water implementation tax, based on tax capacity, to "match" the state base grant. The base grant plus the local levy must equal at least \$37,500. This unique formula, which recognizes a county's relative ability to pay, has been a major strength in building base implementation capacity in every county. In addition to the base grant, the counties can apply for a portion of the \$600,000 available biennially as competitive challenge grants.

PROGRAM STRENGTHS

The natural and human resources of the state have benefited from over a decade of water planning. Comprehensive local water planning builds local capability to manage water resources. All Minnesota counties developed water management plans that were approved by the state between 1989-1992, and many have recently completed the first of the required updates.

Coordination among local units of government

Perhaps the most profound accomplishment of the program has been its ability to foster coordination among local units of government. Water issues are a concern to counties, cities, townships, watershed districts and soil and water conservation districts. The local water plans provide an opportunity for these jurisdictions, along with concerned citizens and private groups, to get involved in managing the natural resources of the entire county. In all 80 non-metro counties, local task forces formed to develop the plans and many continue to meet to aid in plan implementation. The task force representatives

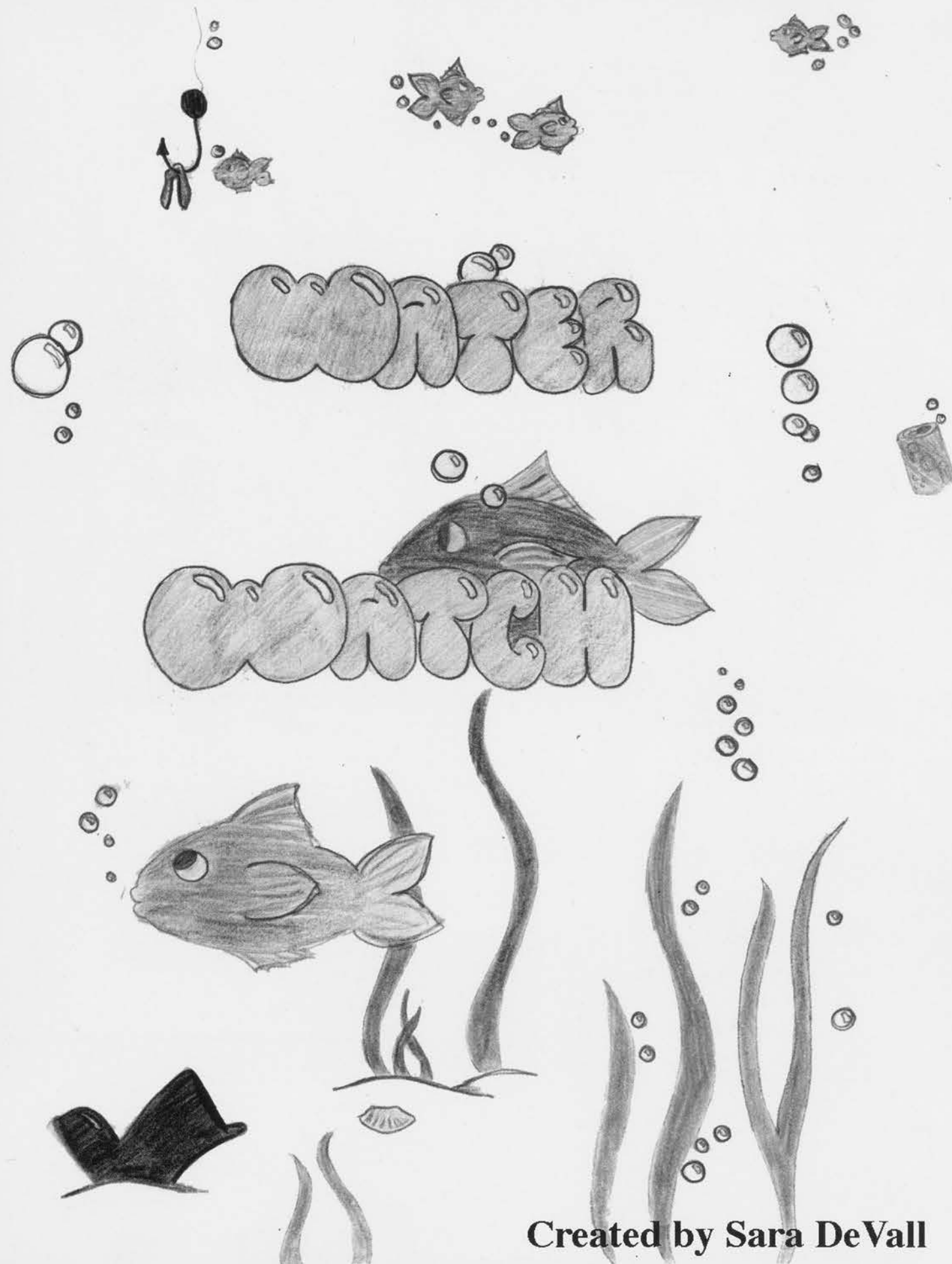


Water Watch

1998

Water Watch
1998

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Created by Sara DeVall

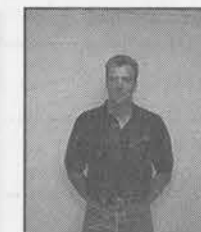
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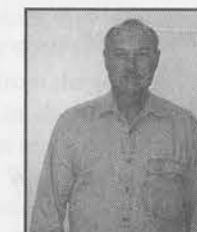
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Robert Indihar



Lorren Crawford



Linda Olson

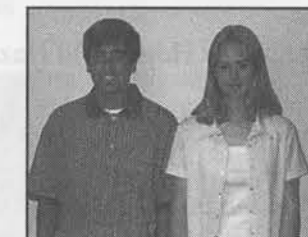


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Water Watch: Home, School, City



by Jessica Ammons

The human body is made up of approximately seventy percent water, proving that water is an essential element in daily life. Therefore, the practice of water conservation must be expanded and dealt with as a worldwide issue.

Detroit Lakes is an example of a city that uses and conserves water properly. Because of its abundant resources, Detroit Lakes is able to use water in many different ways. Two of these ways include for recreation and lawn and garden care. Other uses are for the kitchen, laundry room, bathroom, and other sanitary needs. Water is important throughout the community of Detroit Lakes and is used in the home, school, and city.

The city of Detroit Lakes receives its water from three 230 foot deep wells. These wells are located in People's Park, which is on

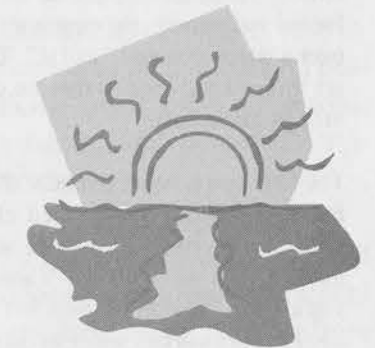
Summit Avenue. Because they are confined aquifer wells, the water is very pure. After being taken from the well, the water is then sent to the water treatment center. When it reaches this point, it is processed. While being processed, the iron is filtered out. Then fluoride and chlorine are added, as well as other chemicals.

Every day in Detroit Lakes approximately 1.1 million gallons of water are used. All of this water goes



through the purifying process. When the purifying process is completed, the water is sent to the Detroit Lakes' water tower. The uses for the water tower are to create water pressure and to serve as a water storage area. After the water is used, it drains into the underground sewer system and ends up at the Willow Street Sewage Center. The cleaning process is then repeated.

Recently new sewage pipes have been added to the waste water system. When systems like these are added, the residents in the affected area pay assessments to cover the cost of



construction. These ongoing efforts keep Detroit Lakes' water supply clean and safe.

Detroit Lakes is very fortunate to have this modern and efficient water system. In many parts of the world the equipment needed for purified water is not available. Many diseases are spread this way. Also much of the water is polluted as it is being used.

One way to conserve water is to fix broken or leaking pipes. An estimated 2000 gallons of water can be wasted every month because of this problem. Even as little as 30 drops of water per minute can waste about 54 gallons of water a month.

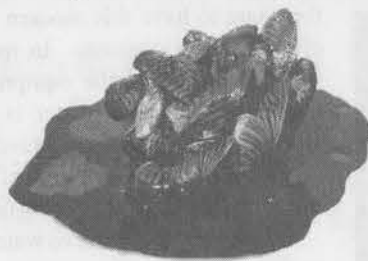
The community of Detroit Lakes has set a good example for the rest of the world. Our community cleans, conserves, and cherishes the water it has.



Attack of the Foreigners!

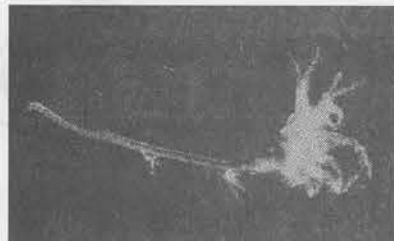
Many exotic species are attempting to invade Minnesota's lakes and rivers. These exotic species are bad for our waters and can sometimes take over a water area and "kill it." There are three exotic species that are common in Minnesota.

The first one is zebra mussels. Zebra mussels are fingernail-sized clams with yellowish or brownish shells marked with wavy bands. Their larvae are too small to be seen, but they live for weeks in any water left in your boat. As zebra mussels grow, they form clumps that can damage your boat motor, kill native clams, foul beaches with stinky razor-sharp shells, and clog water-intake pipes.



Next is the spiny water flea, or B.C. after its Latin name. Spiny water fleas are large zooplankton found in all the Great Lakes and several inland lakes. Although they are less than one-half-inch-long, B.C. compete with small fish for food and can disrupt the ecosystem. When B.C. collect on fishing line, they look like bristly gobs of jelly with black spots.

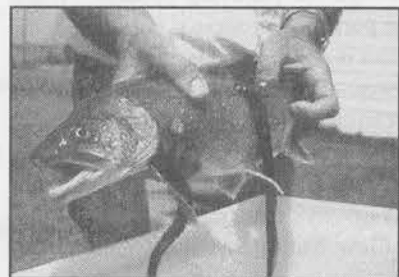
Eurasian water milfoil is a plant with



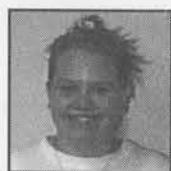
long, flexible stems and feather-like leaves attached in groups of four. This particular variety of milfoil grows and spreads so fast it quickly chokes out native plants, such as northern milfoil and changes fish habitats. It grows in thick mats, ruining lakes for boating, and swimming.



The sea lamprey are snake-like creatures that, like salmon, spawn in fresh water. The adult lamprey is 12 to 20 inches long and weighs 8 to 13 ounces. The characteristic coloring is a grey-blue back, with metallic violet sides, and a silver-white underneath. The common names are great sea lamprey, lake lamprey, lamprey, lamprey eel. They are found in all five Great Lakes. The lamprey is an aggressive parasite. It is equipped with a tooth-filled mouth that flares open at the end of its eel-like body. When attacking, the lamprey fastens onto its prey and rasps out a hole with its rough tongue. An anticoagulant



in the lamprey's saliva keeps the wound open for hours or weeks, until the lamprey is satiated or the host fish dies.



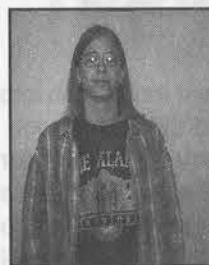
by Katie Ballard

What you can't see can hurt. Prevent the spread of these pests with a thorough inspection of your boat and fishing gear. Before you use your boat in another lake or river, clean your boat completely. Remove all mud and plant matter from your boat, trailer, propeller, live well and anchors before leaving the landing. Even canoes should be checked inside and out. Dry or wash your boat and fishing equipment. Drain live wells, bait buckets, and bilge areas. Let your boat and trailer dry in the sun for at least three days before you use it in another lake or river.

Another effective method to rid your equipment of these pests is to wash your boat and equipment with very hot water, at least 105 degrees F. Make sure tackle and fishing line are free of B.C. eggs. Remember, young adult mussels can be hard to see. A single leaf of milfoil can infest a lake. One spiny water flea egg can start a new population, even if you don't use your boat for months. It takes only one mistake to spread a pest and ruin a waterway. Don't be the one to make the mistake.

These exotic species and others are dangerous to Minnesota waters. It is the responsibility of boaters and citizens of Minnesota to clean up Minnesota waterways and lakes. Do your part: be sure to clean your boats and watch for the signs of these species attaching to your water craft.

APPLICATION OF PESTICIDES



by Aaron Berge

Since the beginning of time humans have farmed the land around them.

As time went on farms grew bigger and less abundant. With farms as big as five hundred acres, it was hard to keep various pests from ruining the crops. Weeds, bugs, and worms slowly ate up the farmer's fields, but what was the farmer supposed to do?

I'll bet that they never thought that applying a mixture of highly toxic chemicals, through erosion would eventually bring the waste into one of Minnesota's fresh water lakes? I don't quite think that's what they had in mind when they came out with such chemicals as Atrazine,



Carbofuran, or Ethyl Dibromide. Pesticides and herbicides were thought of as a revolution in the farming industry. I mean imagine a "safe" and economically efficient way to eliminate the pests on a farm the size of a city.

Not all pesticides are toxic. There are over 2,500 pesticides registered for use in Minnesota alone. Since not all pesticides are safe, there are ways to help prevent contamination without totally eliminating their use.

One way to prevent contamination is to practice proper application and loading of pesticides and herbicides. Usually pesticides will come packaged in a container which contains an information label displaying all necessary mixing instructions.

Another way to prevent contamination is to choose the brand and type of chemicals carefully. Also, applying on non-windy days will aid the prevention of contamination.

A barrier of trees can usually help stop wind from eroding pesticides.

New experiments are being developed to use sound waves to control pesticides. This is what Vice President Al Gore says about the effectiveness of pesticides; "Many pesticides do not cause the total number of pests to decline; they may do at first, but pests eventually adapt by mutation and the chemicals become useless."

Even though pesticides are hazardous, we need a way to protect our crops. If pesticides are the only way, then we will have to be more careful.



This deformed frog has an extra leg, a possible result of pesticides being mis-applied.

HERE ARE SOME THINGS THAT YOU CAN DO.

LABELS

Observe all directions, restrictions, and precautions on pesticide labels.. it is dangerous, wasteful, and illegal to do otherwise.

STORAGE

Store pesticides behind locked doors in original containers with label intact, separate from seed, fertilizer, and other pesticides.

DOSAGE

Use pesticides at correct dosage and intervals to avoid illegal residues or injury to plants and wildlife.

DISPOSAL

Dispose of used containers in compliance with label directions so that contamination of water and other hazards will not result.

CLOTHING

Always wear protective clothing when applying pesticides. At a minimum, wear a long sleeved shirt, long legged pants, rubber gloves, boots, eye protection, and a wide brimmed hat.

RINSING

Triple rinse a container that has been emptied into the spray tank. Never pour into any drains.

Since we can't totally remove pesticides from this earth, we can just try to be safe.

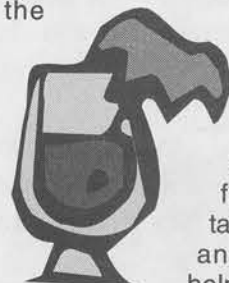
WHERE'S IT COMING FROM ??



by Sara DeVall

Non-point pollution means that nobody knows exactly where the problem is coming from or how much there is. In Minnesota non-point pollution is a major problem. From these lakes and rivers over half of Minnesotans are getting their drinking water and their other water supplies.

We have to find the spot where the trouble is coming from. One of the main reasons that no one can pin-point the problem is that it's mostly humans polluting the water and none of them want to admit it. It can't be dirty from things that belong in the water so obviously there is something in the water that shouldn't be there. If there isn't anyone throwing or putting things in the water, we have a serious problems. At least 70% of the Minnesota population throws away things in the water. I don't exactly know where the pollution is from so I'll take a guess and try and help you, the reader, keep from polluting Minnesota lakes. People who own farms



People who own farms

and have crops usually spray pesticides, right? Well, when it rains, the farms or fields that are close to lakes often run down into the water nearby. The pesticides and other chemicals that were sprayed on the field get into the lakes and kill the fish and contaminate the water. The farms and fields aren't the only thing that's letting poisonous chemicals in the water. It's also big factories. Factories are either dumping or slowly leaking their harmful waste into waters. These waters so being used are needed for people to supply them with water to drink, to bathe in, and to use for their food.

Each year Minnesota has thousands of tourists each like the other. I'm not saying that it's the tourists ruining the water. What I'm trying to say is that if you're in a different state, town/city, or home for that matter, you respect what the people are living there have. Each year during the summer Detroit Lakes ends up with the beaches polluted and full of filth. Year after year people visit D.L. because of its nice beaches and water. Well year after year people are

throwing more and more trash into the water and on the lake's front.

Minnesota is known for the 10,000 lakes. Those lakes won't be able to be used if we keep destroying them. The Mississippi starts here in Minnesota, close to D.L. It also starts out very nice but as it moves on, it gets nasty. People don't realize that the Mississippi is one of the largest rivers in the U.S.A and that we here in Minnesota are ruining it for everyone else. All that garbage we're dumping in, so much that we don't even know where it's coming from, is running down stream into other lakes and rivers and destroying the water life.

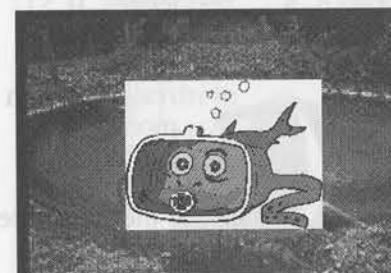
We can't find out where all this pollution is coming from. But, if we keep throwing things into the water, the problem's going to get worse. Little by little we can all help by walking over to a trash can and throwing away our garbage instead of into the lake. Our water is important for many things, so help out.



Total Solids: What do they mean to you?

What are Total Solids? Total Solids are the weight of all organic and inorganic solids, both dissolved and suspended, per unit volume of water. In English that means the combined number of "stuff" that is in a given amount of water.

The reader may well ask, "How are total solids important to me?" Well, they are. Total solids affect lakes and rivers. If total solids levels become too high, water can become cloudy, and sunlight can't get through. If that happens, plants can't grow, and the lakes or rivers slowly die.



There are many ways in which total solids levels can become too high. Pollution is one way. If someone dumps his/her trash into a river, the water will get cloudy.

Another way is if a lot of silt builds up in a certain area of a lake. All these things can lead to high total solids levels.

Another way is for pesticides and fertilizers get into the

water and either kill the fish, or cause the algae to overbloom.

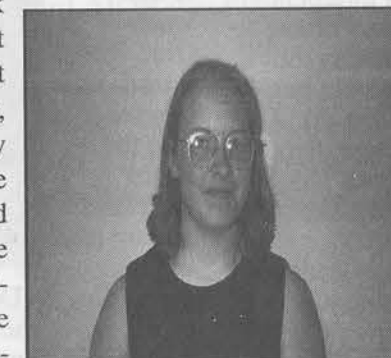
In science class we learned how to test for total solids. First we took a clean beaker. It was important that we didn't touch it, because body moisture would be transferred, and that changes the weight of the beaker. Then we weighed the beaker with a very sensitive scale (to the nearest .0001 grams). We swirled a gallon of water to be tested and the transferred a 100 mL sample into the 300mL beaker with a graduated cylinder. Next we evaporated the sample by placing it in an oven at 103 degrees Celsius overnight.

We then allowed the beaker to cool, then reweighed it. (It is important not to touch the beaker with the hands.) We subtracted the weight of the beaker (before the sample) from the weight of the beaker after the sample to obtain the weight of the residue in grams.

Keep our lakes like this.....

Finally, we multiplied our answer in grams by 10,000 to get our answer in mg/L.

So, if you're still wondering how Total Solids in a water system affect you, consider this: If there are too many total sol-



by Steph Dunkirk

ids in a lake, then organisms in the lake die, affecting everything. Our lakes will be unusable. Doesn't that affect you?

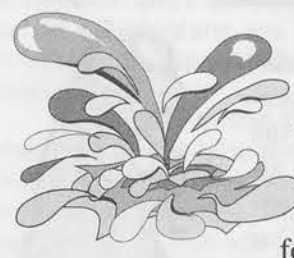


Swimming In Septic

by Mark Abraham and
Jennifer Gravelle

Floyd Lake is about 1,100 acres in size and is located 3 miles north of Detroit Lakes. The lake is independent of the city so it doesn't have to pay any taxes to the city, but it does not reap any of the benefits that city dwellers do. One such benefit is sewage disposal. Right now each of the 365 residences on Floyd Lake its own septic system.

First of all, to understand this issue, you have to know how a septic system works.



All the waste such as water, hair, small food scraps, and human waste that would normally go to the sewer-system from a single-residence, goes to a large metal or concrete container. This container can consist of one or two compartments. These are buried in the ground and store water until it flows into the drainfield. The drainfield is basically just a large area for water dispersal. While in the tank, solid wastes are decomposed by anaerobic bacteria, bacteria that do not require oxygen to survive. One waste product produced by this decomposition is a green and slimy residue. Also, sludge accumulates into large amounts after

several years and must be pumped out and disposed of.

The problem with the

current method of waste-water disposal is that water from the drainfield can seep into the water table and end up in the lake.

According to Dennis Kral, president of the Pelican River Watershed, there should a four foot height difference between the drainfields and the water level. Some houses do not have this four foot barrier, allowing sewage to seep into Floyd Lake polluting it. No one likes to live on a polluted lake.

As of now there are a few ideas on how to solve this problem. Probably the most practical is to be annexed into the city. The city is willing to take the sewage from the houses on the lake if the land becomes part of the city. According to the city authorities, annexation will not take place for at least five years. Some lake dwellers are afraid to join the city because they think their taxes

will go up. Kral believes the taxes will go up only a small amount, but Kral and others would be more likely to

agree to such a deal if the residents of Floyd Lake have the

right to remain independent for ten years instead of five.

Another idea is just to

enforce rules that would keep all drainfields four feet above the lake level, but this could



be difficult because of fluctuating water levels and the fact that some plots of land on the lake do not have any land that meets these requirements.

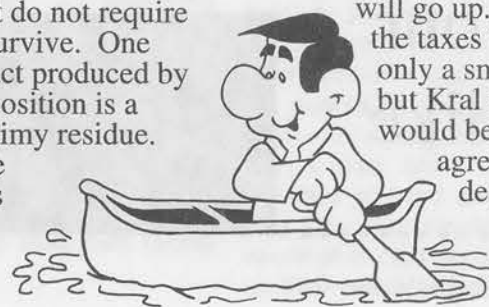
The third idea is to build a separate waste water treatment plant just for lake area residences. It

could be difficult to raise enough money to build one.

However, there may be state grants that would help land-owners pay part of the cost. As of

now the cost per lot is at about \$11,000. With grants, it could be much less.

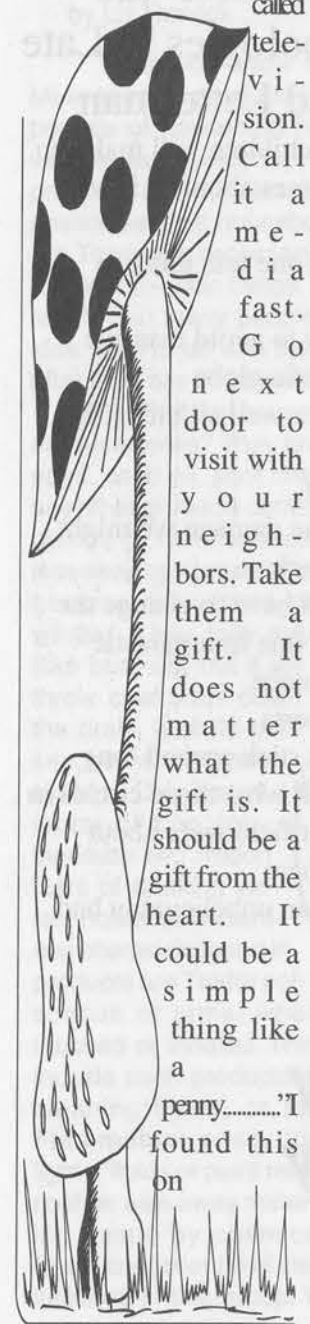
Many people are paying very close attention to this issue. Most of them agree that Floyd lake is one of the most beautiful lakes in the area. They also know in order to keep it clean, everyone must help. A solution to this sewage problem would be a great step in keeping Floyd Lake clean.



Will It Ever Be Earth Day Every Day?

by Shannon Harrison

"Perhaps on this day you call 'Earth' day, you might not read your newspaper or watch that thing



called television. Call it a media fast. Go next door to visit with your neighbors. Take them a gift. It does not matter what the gift is. It should be a gift from the heart. It could be a simple thing like a penny....."I found this on

the street today and I wanted to bring it to you for good luck." Sit down and talk for a while. Have drink of cold clean water and toast each others' good health and happiness. Now, that would be an "Earth" day. Imagine....." Mitchell Gold

Back in 1970 over two million people rallied together on college campuses to get involved in this first Earth Day. Earth Day was first conceptualized by Gaylord Nelson and organized by Denis Hayes. The events that took place on that day became known as the environmental movement and the first environmental legislation, the Clean Air and Clean Water Acts. In 1990, which is the 20th anniversary, Denis Hayes again led people from all around the world to support our environment. Now Earth Day is an annual event in April.

The international Earth Day is on

March 20th. National Earth Day is on April twenty-second. Earth Week is April 18th through the twenty-third. All of these days are observed by hundreds of local groups and by the media. Many people observe Earth Week and Earth Month and also the weekends before and after.

Pollution is the main reason why Earth Day is so important. On this day there are many people who go around and pick up garbage.

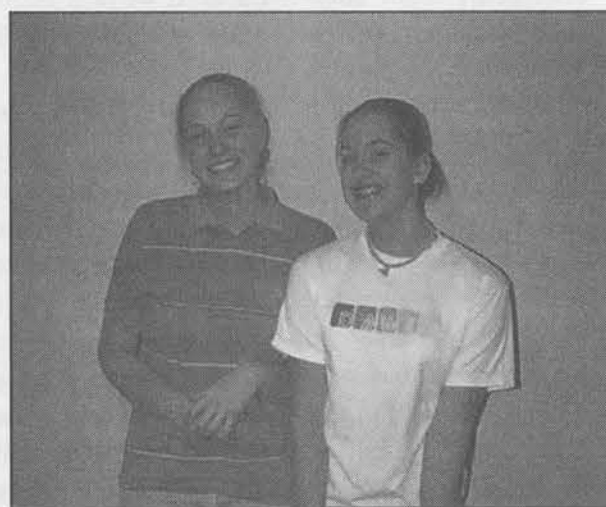
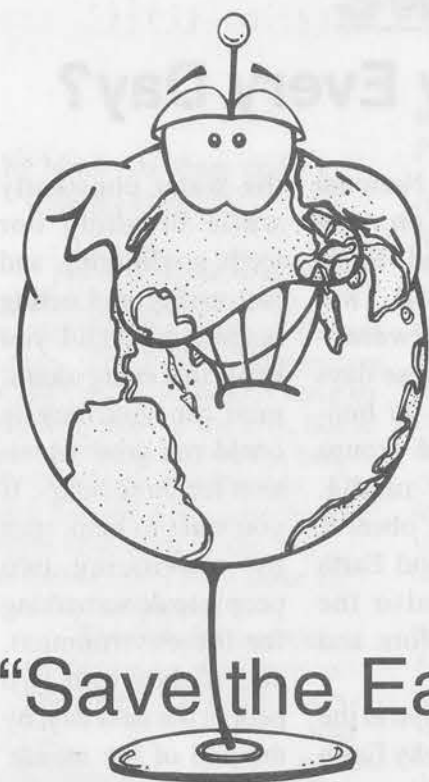
Air pollution is the worst. Smog covers basically any large city you can imagine. The chemicals from automobile exhaust (nitrogen oxides and hydrocarbons) are what cause smog. Smog is the dirty brown haze over most larger cities.

Since we're the ones who have caused the problem, we should be the ones to fix it. There are so many things that we can do to help that are so simple like not running

the water constantly while brushing our teeth, not littering, and just caring and acting responsibly. Did you know that every aluminum can you recycle could run your television for three hours. If you want to help, start by convincing two people to do something for the environment, and if they told two people the next day, by the end of the month, everyone in the United States would have done something to save the environment.

Not only today but tomorrow and the next month and the next year, people will be trying to save the Earth. If we don't continue to try, there will be nothing left for our children and their children. We are still doing so many things wrong. Minnesota spends over three million dollars a year just cleaning up litter. Each person in Minnesota throws away about two and a half pounds of garbage a day and about 700 pounds per





Shannon Harrison & Emilee Super

per year. What do you think could be done about this?

So how can we make it Earthday every day? Reduce, reuse, recycle, and care.

Top ten reasons to save the Earth.....with apologies to Late Night with David Letterman

10. Venutian school children will make up cruel nursery rhymes about us if we don't
9. it will give Sting one less thing to worry about
8. it is the only way to avoid massive layoffs in the plastic globe industry.....well all industries actually
7. we just painted it
6. if we repair all the damage we might get our deposit back
5. otherwise, they'll have to change the logo for the Big Nine Intergalactic basketball conference
4. we can still get parts
3. somebody has to stick around long enough to find out what those circles in the English wheat field were about
2. baby seals live there
1. the landlord has an unbelievably bad temper

Earth Day Every Day



How Dangerous Are Household Hazardous Wastes?



by Liz Horvick

Did you know that each Minnesotan produces 8 to 12 pounds of household hazardous wastes each year. Yep, they use products like oil, cleaning fluids, pesticides, and household cleaners. These are necessary because we need to clean things. The problem is that many people have no idea what to do with the products after they are done with them.

What are household hazardous wastes? They are left over paint, used oil, pool chemicals or any other products containing dangerous or harmful materials. Unless used up completely, they then become household hazardous wastes. They may not harm us (like burn us) but if we throw chemicals down the drain, it could pollute our whole water system. One liter of motor oil can contaminate two million liters of drinking water. Potential hazardous chemicals found in products are **Toxic**: poisonous or lethal when touched or inhaled. They could include such products as bleach, cleaning fluids, or rat poison. **Flammable**: easily ignites like lighter fluids or paint remover. **Corrosive**: eats away material and living tissue by chemical action. Oven and toilet bowl cleaners are included in this group. **Reactive**:

creates an explosive or produces deadly vapors. This could happen when bleach is mixed with ammonia-based cleaners. There are many dangers involving household hazardous wastes. Improper handling or disposal of hazardous chemicals can result in serious accidents. If you do not know how to avoid accidents or avoid harm, here are some ways:

1. Don't put chemicals in the bottom cupboards where children can reach them because children can be seriously harmed if they drink, eat, touch, or breathe in toxic chemicals.
2. Never throw away household hazardous wastes, or wash them down the drain or pour them on the ground.
3. Never leave hazardous household products within reach of children.
4. Buy products with less harmful ingredients.
5. Do not dispose products in the trash, on the ground, or in storm drains.
6. Do not remove product labels and do not remove products from their original containers.
7. Do not refill empty containers unless the label recommends it.

There are three questions you should ask yourself when you are shopping for the products that may be hazardous. They are the following: Do I **really** need this? The "new improved, miracle formula!" may be more hype than

help. Sometimes, the old fashioned methods are simpler and safer. Instead of using hazardous chemicals, you could practice organic gardening techniques. Do some research on companion planting.

How much I do **really** need? Try to buy just enough to finish the job. If you must buy a large quantity, share what is left with a friend or a community group.

How will I **dispose** of this when I'm finished?

Find out where the hazardous waste disposal facility is in your community and watch for special collection days. In the meantime store your collection of hazardous wastes out of the reach of children and pets.

The Detroit Lakes recycling bin is called **Becker County Household Hazardous Wastes Center** and it is located at **124 E Main, Detroit Lakes. It is open from April 1 to October 31. Every Tuesdays from Noon to 6 om and every 1st Saturday of each month from 9 am to 12 pm.** If you are interested in using it, **call this phone number: 847-9664.**



Give a Hoot; Don't Pollute

Minnesota has about 3.2 million square acres of lakes, over 90,000 miles of rivers, and many other wetlands. Protecting these waters is essential, especially in our own watershed. The Pelican River Watershed has ten lakes and many other waters.

Many pollutants and chemicals are entering our lakes. Nitrogen and phosphorus are the two main pollutants. Nitrogen enters the watershed through such things as lawn fertilizers and agricultural fertilizers. The main way phosphorus pollutes the watershed is from excess soil and sand washing into the water.

Littering is a serious problem where the Pelican River flows through Detroit Lakes.

Animal feed lots are also a small problem. The animals' waste contaminates the water. Although these chemicals are not very harmful, they are still a threat if they get out of control. The Pelican River Watershed is a fairly clean watershed, and if the pollution is controlled, it will remain this way.

When the lakes and rivers get polluted, everyone who uses these waters is affected. If the eutrophication of lakes accelerates, we will no longer have our lakes to enjoy. Many citizens and agencies are concerned about the lakes and rivers. They want future generations to be able



by Dan Wright & Kyle Imholte

to experience this beautiful and enjoyable region.

Fines for polluting are a serious issue in the watershed. There are large fines for people who attempt to ruin this watershed. The most frequent polluting fine is littering.

Individuals who are caught littering are fined a minimum fee of two hundred dollars. A more significant fine is imposed for feed lots that are contaminating. Improper drainage of a feed lot can result in a fine of five hundred dollars.

The water quality is affected many ways by pollution. Phosphorus and nitrogen are speeding the eutrophication process. Phosphorus, entering the lakes in the form of soil and sand, causes excess amounts of algae to grow. Too much phosphorus can change the water color and harm animals. Nitrogen comes from lawn fertilizers and is not good for the watershed.

Combining too much phosphorus and nitrogen will seriously harm the watershed in the long run.

Preventing and reducing

pollution is important. To help the Pelican River Watershed, we need to reduce the use of fertilizers and soil entering the watershed. We should pick up any garbage or litter floating in the water, and we should avoid using lawn fertilizer near water.

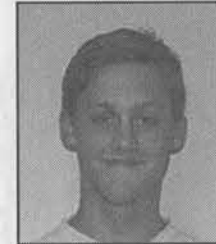
Many organizations are working hard to keep our watershed healthy. There are many ways to protect soil and pollutants from entering the waters. BMP, or Best Management Practice, is encouraged for farmers. Buffer strips, erosion control, landscaping, and sediment ponds are just a few of the many ways people are preventing erosion and pollution from entering the watershed.

Presently the Pelican River Watershed is relatively healthy. If we are educated about how it becomes polluted, we can prevent deterioration of our waters. Please try to prevent any pollutants, excess soil, or fertilizers from entering the watershed. Keeping our watershed clean and healthy is extremely important to all of us.



Restoring Wetlands

Wetlands



by Tony Jenson

Wetlands In Danger!

Restoring wetlands is important. They help us in many ways. Wetlands provide a good habitat for wildlife. Also, they keep flooding down in the spring, and the wetlands help filter our groundwater supply.

Everybody should care about restoring wetlands because wetlands are our future.

A wetland is a place of mostly hydric (wet) soil, which can support a prevalence of water-loving plants. Cattails, willow trees, rushes, some smartweeds, or other water-loving plants and trees are often present.

Wetlands are critical in improving water quality, recharging ground water supplies, and collecting water runoff which reduces soil erosion and downstream flooding. Wetlands are also essential for waterfowl production. By protecting wetlands, we are protecting the future and destiny of waterfowl in North America and our own future as well.

Wetlands are magnets for wildlife. They provide



cover for deer and are home to furbearers such as muskrats and mink. Many other animals use wetlands. There are 489 species of plants, 136 species of birds, 32 species of fish, 21 varieties of mammals, and 12 kinds of reptiles that are known to inhabit wetlands in our state.

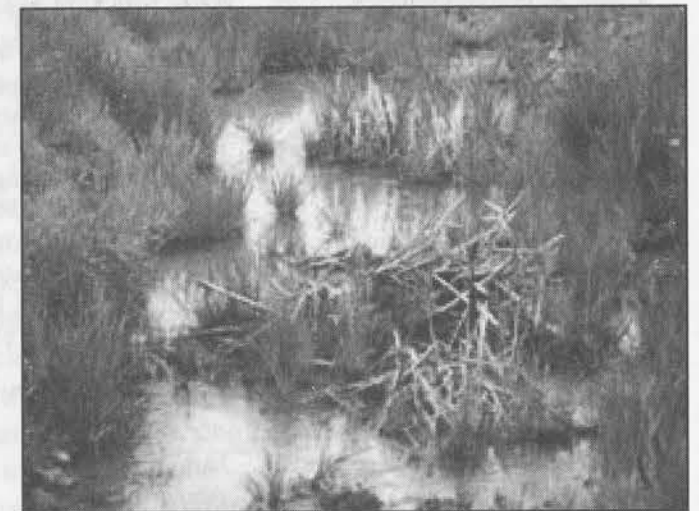
There are many wetlands in the Pelican River Watershed. Five percent of the Pelican River Watershed is covered by wetlands. That is about 3,550 acres.

We are losing wetlands rapidly. We lose about 1,000 acres of wetlands a day in the United States. That ends up being over 300,000 acres a year.

There are many ways to get paid for restoring wetlands. Seventy-five percent of the cost share can be paid for permanent easements for restoring wetlands. Most easements are on a ten or thirty year easement. Some organizations give one hundred percent reimbursement for restoring wetlands. Other state agencies and private conservation organizations may provide additional assistance.

Wetland replacement may be required at a 2-1 ratio (two acres of wetland must be restored or created for each acre lost). It could also be on a 1-1 ratio. The ratio depends on the county and the land use.

The United States and Canada seek to protect six million acres of im-



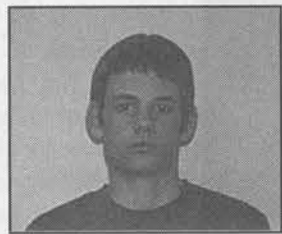
portant wetlands.

Some organizations that offer assistance are North American Waterfowl Management Plan (NAWMP), The Wetlands Reserve Program (WRP), Natural Resources Conservation Service (NRCS), and The Wetlands Easement Program.

If you are interested in restoring a drained wetland, you can contact the Wetland Management District Office in Detroit Lakes at (218) 847-4431.



Pelican River Watershed



by Aaron Lauinger

A watershed is a ridge or stretch of high land dividing the areas drained by different rivers or river systems, and a healthy watershed is a healthy community. Everyone lives in a watershed. There are 84 major watersheds in Minnesota and 18 in the U.S.

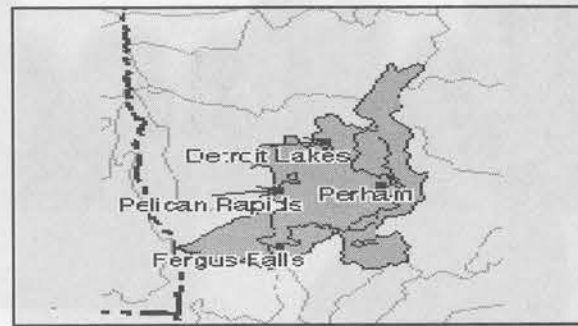
The Pelican River Watershed is a part of the the Otter Tail Watershed. There are other watersheds within the Pelican River Watershed such as the Detroit Lake Watershed and the Floyd Lake Watershed.

The climate around the Pelican River Watershed is relatively wet. In the winter our snowfall is 60" plus. In the spring it melts and in Detroit Lakes at the Industrial Park the river floods every year. As summer rolls around we get quite a lot of thunder showers, and in August it gets really humid. When fall comes, the weather turns cold really fast with about 6" of snow on the ground by Halloween.

The Pelican River Watershed's topographical region is very hilly caused by glaciers from a long time ago. At the start of the Pelican River Watershed, it's open fields with some trees, but the further you go down the watershed, the more forest is seen, starting at Detroit Lake.

The Pelican River Watershed starts at Big Floyd and goes through Little Floyd and out the river until it meets Detroit Lake where it follows the river to Muskrat then Sallie and Melissa. It also reaches Eunice, Maud, Fox, and Long Lake.

Pollution is clogging up 1/4 of



the U.S. lakes according to the U.S. Environmental Agency (EPA). More than 3 million of the 12 million acres of lake have been impaired. Water is impaired when it can no longer be used for its intended purpose like swimming, fishing, boating etc. The EPA says that 76% of the pollution is caused by agricultural run-off and 11% is caused by sewage and industrial run off, and the remaining 13% is natural. Minnesota has 236,845 acres of pollution-impaired lakes. The EPA said that the most noticeable and significant cause of lake impairment was by excessive plant growth from and algae high levels of nutrients in the water. About one

million Minnesotans get their drinking water from the Mississippi River, which federal surveys show is sometimes tainted with high levels of pesticides. Even with a good rainfall, polluted runoff will disrupt fish spawning and waterfowl nesting sites.

Watersheds affect us in many ways. One reason is watersheds provide us with drinking water. Watersheds also give us great recreation-everything from swimming and fishing to the source of wildlife for observation and hunting.

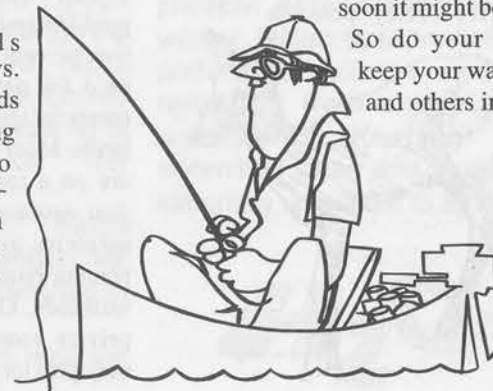
Many agencies from the city of Detroit Lakes to our federal government care about watersheds. The city of D.L. works hard to keep the beaches in order within its jurisdiction. The Minnesota Board of Water and Soil Resources cares about watersheds. They oversee operations of Watershed districts. The Minnesota Department of Natural Resources is responsible for meandered lakes. The DNR also has the responsibility to enforce municipal and shoreland ordinances.

The Minnesota Pollution Control Agency is another agency who cares. They try to prevent pollution and keep lakes clean.

The U.S. Fish and Wildlife Service helps with technical assistance for other groups previously mentioned.

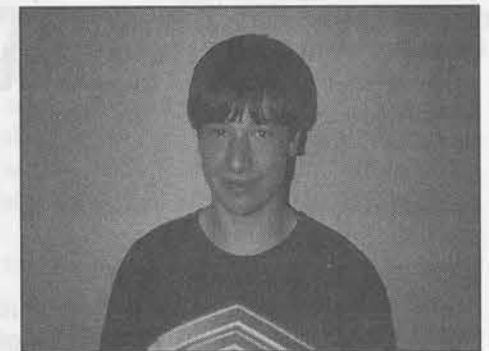
Next time someone mentions something about a watershed gone bad or going bad, remember you live in a watershed and that one bad watershed might lead to another and another and soon it might be yours.

So do your part to keep your watershed and others in clean.

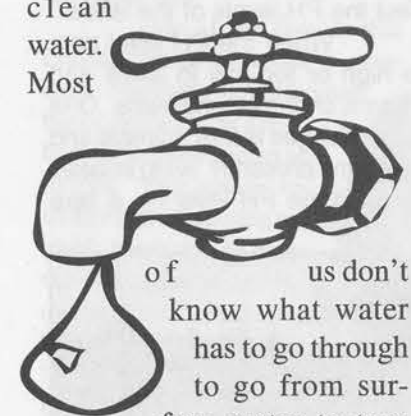


The City Water Cycle

by Devon Macheel



Most of us don't think about the process of changing green, slimy, chunky floating, and other disgusting objects that would make you sick and even kill you if you drank this on a daily basis into clean water.



Most of us don't know what water has to go through to go from surface water to turn into beautiful, crisp, clean, clear water that we are able to drink.

Water treatment plants are made to remove bacteria, organic compounds, color producing substances, tastes, odor, and other objects and substances that could cause sickness to humans.

Raw water (water from lakes or other bodies of water that hasn't been treated) goes through huge pipes with bars and screens made to remove microscopic substances.

Next the water goes through a gas-transfer operation. This is done to remove all the carbon dioxide, hydrogen sulfide, manganese, dissolved iron, oils, in general, to make sure the water has no tastes and odors.

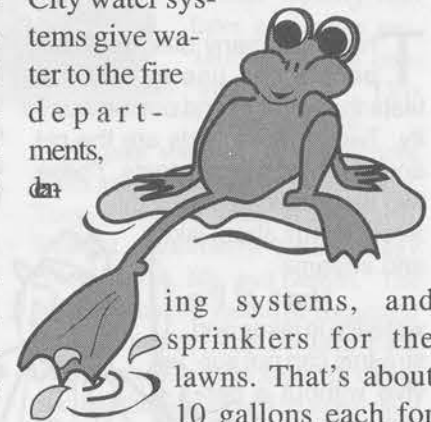
After the gas-transfer operation, the water goes into a flocculation. The purpose of this is to conglomerate particles into large clumps. The particles then settle in a tank, and then the water goes through sand to remove smaller particles.

Then the water goes to a chemical treatment. The water goes through to the chemical coagulation, disinfection, water softening, adsorptions, and oxidation.

These are all very important steps. For example, if you have iron levels higher than .3 mg/l, it can stain your laundry, hair, and fingernails and toenails. Sulfate concentrations greater than 250 mg/l, can be detected by a bad or unpleasant taste in the water.

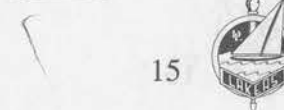
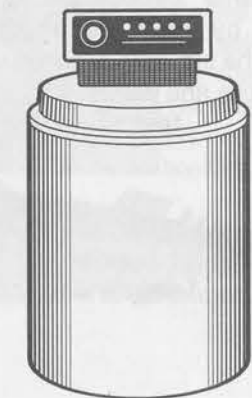
A person, on average, requires 70 gallons, or 260 liters of water a day for use in the home. Businesses, factories, and restaurants also use that much for each person.

City water systems give water to the fire departments,



ing systems, and sprinklers for the lawns. That's about 10 gallons each for city folks.

As you can see, water goes through a lot of treatment in order to reach your faucet. Just think of all the children who would get sick if there weren't any water treatment plants. Just think again about the stains that would occur to your laundry. I hope that you will use a little more thought before you waste water.



Two Indicators of Water Quality



by Jeanne Potvin

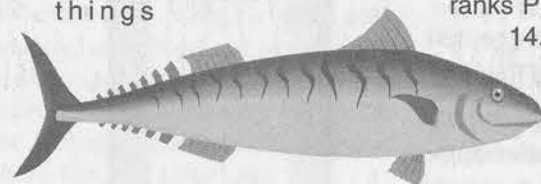
There are many different tests people can use in order to test the water to find out the quality. Two of those tests are the pH and dissolved oxygen tests. These two tests indicate many different things about lakes and streams.

Much of the waterlife in lakes and streams can not survive without a certain amount of dissolved oxygen. Fish, like pike and trout, need high dissolved oxygen levels. Rough fish like carp and suckers live with lower levels of dissolved oxygen.

There are various ways dissolved oxygen gets into lakes and streams. The most prevalent way dissolved oxygen enters lakes and streams is through the process of photosynthesis by algae and rooted plants.

It can also enter into lakes and streams through the atmosphere, by wave action, and through the tumbling action of water on rocks and plants.

A few things

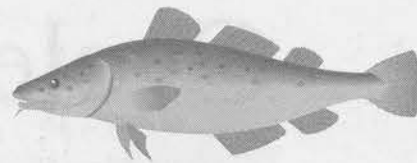


influence the level of dissolved oxygen in lakes. The sun is one of the influences. As the sun sets, oxygen levels decrease. This decrease is due to a decrease in photosynthesis. The lowest level of dissolved oxygen is right before dawn and the highest level is in mid afternoon.

Water temperature also has an influence on dissolved oxygen levels. The cooler the water is, the more dissolved oxygen present. This is due to the fact that oxygen condenses more easily in colder water. The volume of water has an impact on dissolved oxygen levels; more water, more oxygen; less water, less oxygen.

Human and animal factors such as sewage, livestock wastes and farmland runoff also have an effect. These organic wastes and runoff create bacteria which use oxygen and block sunlight.

Another indicator of the quality of water is PH. PH is the measurement of the concentration of hydrogen ions. The scale that ranks PH levels goes from 0 to 14. Pure water has a PH level of one. On the average, most lakes range from 6.5 to 8.5



on the scale.

The PH level in lakes can change in many ways. One way it is changing is through an increasing amount of nitrogen oxide and sulfur dioxide. These compounds come from automobile exhaust and coal powered emissions that enter the water through acid rain.

The types of rocks and minerals found in lakes can also affect the PH levels of the lakes.

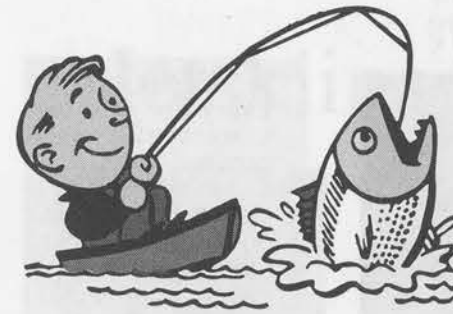
When the PH level gets too high or too low in lakes and streams, changes take place. One of the changes is that animals and organisms presently living in lakes will die if the PH level of a lake



changes ever so slightly. If lakes get above 9.6 or below 4.5 on the PH scale, most of the organisms in lake or streams will not survive.

Knowing the level of pH and dissolved oxygen in lakes and streams can help us understand our lakes and streams and can help us prevent danger in the future.

Let's educate ourselves so we may continue to enjoy our lakes and streams.



by Becky Schons

Fishing is one of the most popular recreational sports in Minnesota. Many people who fish bring home what they catch to eat. Fish have been thought of as a very healthy food. The thing that most people don't know is how safe fish actually are. Here are some health factors concerning eating fish.

One of the factors that is causing fish to be unsafe is **mercury**. Mercury moves through the environment as a result of both natural and human activities. The human activities that are causing too much mercury to enter the environment are industrial processes and burning mercury containing fuels. Mercury recycles between land, water, and air while entering into and exiting from plant and animal tissue. Mercury levels are slowly increasing in Minnesota because mercury is becoming a widely used product in industries. This is because of its diverse properties. One product containing mercury is latex paints, and there are many other household products. The more mercury that is used, the higher the mercury levels in water become.



There are some health factors to be concerned with when dealing with mercury. Once it enters the water it

FISH...ARE THEY SAFE TO EAT ?

can get into fish through the food chain very easily. Usually it takes months or even years of regularly eating contaminated fish to accumulate levels of **mercury** that are a health concern.

If person does ingest toxic levels of **mercury**, the first symptoms of poisoning include lack of coordination and burning of the fingers. As the **mercury** levels increase, the ability to walk, talk, see, and hear may all be affected.

The other main health factor concerning the edibility of fish is **PCB's**. Polychlorinated biphenyls, or **PCB's**, are synthetic oils that were banned in 1976 from being used in electrical transformers, for being used as cutting oils, and used in carbonless paper. These **PCB's** don't decompose easily and remain in the water and lake sediments for years. The **PCB** levels in Minnesota's waters are slowly decreasing. These oils are eventually decomposing and the amount of **PCB's** is going down.

There are also some health risks from **PCB's**. They can cause changes in human blood, liver, and immune functions. If the amount of **PCB's** is great enough, it can cause cancer. **PCB's** are also linked to developmental problems in infants whose mothers were exposed to **PCB's**.

There are some simple guidelines that can help reduce your chances of eating contaminated fish. First, keep the smaller fish for eating. Larger predator fish, such as walleyes or northern pikes, contain higher levels of contaminants.

Second, eat smaller meals when you eat big fish. Next, remove the skin from fillets and steaks. Skin is very

high in fat and contaminants. Also, trim off the fatty areas. These areas are along the back, the sides, and the belly. Lastly, broil or grill your fish instead of frying them. This allows some of the fat to drip off while cooking. Pan frying fish removes few, if any, contaminants.

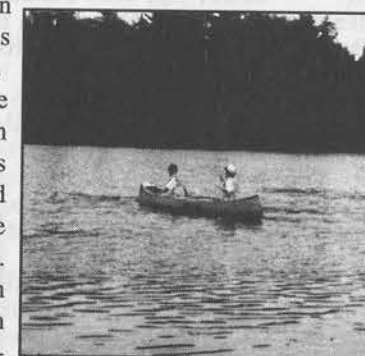


There are some lakes in or around Becker County that have advisories pertaining to fish consumption. This means that you

might take some of the precautions when eating fish from these lakes. These lakes are Toad, White Earth, Straight, Strawberry, Sallie, Many Point, Cotton, Ida, and Detroit. The main fish that we should be concerned with are walleye and northern pike. Eating fish from these lakes isn't a big risk, but the fish should be eaten only twice a week. Eating fish more often than this could result in health problems.

Minnesota has one of the most extensive fish monitoring programs in the U.S. This is because Minnesota has so many bodies of water. Because of its many lakes, Minnesota is one of the leading states in fish consumption advisories. The Minnesota Department of Health puts

out a booklet every year on fish consumption advisories. So if you are a person who enjoys fishing and who really enjoys eating the catch, you may want to get one of these booklets.



A free booklet is available calling 1-800-627-3529 or e-mail at info@dnr.mn.us.



Septic Systems

Septic systems are one of the best methods of waste water treatment. Properly designed septic systems can treat waste water better than most sewage treatment plants, and at a fraction of the cost, too.

People who live in town have access to the sewers. If people don't have access to a sewer, then they will have an underground septic system. A septic system is like a personal waste treatment facility. The grey water (from the sink, bath, and showers) and the black water (from the toilet) is collected in a large, underground tank near the house. It is treated and absorbed into the ground through the field. The field is a system of pipes with drain holes that come out of the septic tank and allow liquids to escape into the ground. You can usually tell where the field is, just by looking. The grass is often greenest there.

When water and other materials enter the septic tank, the solids fall to the bottom of the tank. Liquids stay on top of the solids, and a layer of scum forms on top. The liquids/solids are treated and broken down into micro-organisms. The liquids and decomposed solids then flow into the field pipes and are absorbed into the ground. About half of the solids are not decomposed, so the septic tank must be pumped out every one or two years, depending on the size of the tank, and the amount of use. No additives are needed in

septic systems. Micro-organisms are naturally present.

Septic systems last an average of twenty-five years. A properly built system can last longer. An improperly taken care of system might only last up to two years or less. Replacing a faulty system can cost anywhere from three to ten thousand dollars, plus the one-hundred-fifty to two-hundred-fifty dollars it costs to have the system inspected and pumped.

There are many different reasons why a septic system may fail. They include: poor soil conditions, soil clogging the distribution box, faulty design or installation, high water table, roots getting too close, and physical damage from trucks or other heavy equipment passing over it.

A septic system consists of three main parts: the septic tank, a distribution box, and a leach field.

The concrete, or steel septic tank is buried in the ground a minimum of ten feet from the house. The top of the tank is located about one foot beneath the soil so it can still be opened for inspection and pumping.

The distribution box is much smaller than the septic tank. It is found about twenty feet from the house. The box is also located about a foot beneath the soil.

The leach field is located just beyond the distribution box. There are pipes leading to the leach field from the box. The wastes are distributed in trenches there. The pipes in the trenches have holes in them to allow the liquid to be evenly distributed. To keep the pipes from



being blocked with soil, they are laid in a bed of crushed rocks. Leach fields should be a minimum of one hundred feet from the nearest well or body of water. They may not be within ten feet of a property line, either. No part of the system should be under a porch or a driveway. The system may be broken easier if it is.

The size of a septic tank needed depends on the amount of liquid waste it must process. For a one, two, or three bedroom house, a minimum of a one thousand gallon tank must be used. For each bedroom after that, add two hundred and fifty gallons to the size of the tank. If you have a garbage grinder in the kitchen sink, it counts as an additional bedroom.

Many people are concerned about having septic systems too close to the lakes and other water sources. If they are too close, they will contaminate our water sources.

A septic system provides a "holding tank" where natural bacteria decompose human wastes into components that are environmentally acceptable. They should be allowed to do their work as efficiently as possible. Here are some do's and don'ts to help them with their work:

Septic do's:

- 1) Every one to three years have the solids pumped out.
- 2) Conserve water.
- 3) Use biodegradable, one-ply toilet paper.
- 4) Only have a licensed contractor make repairs.
- 5) Have a professional inspect it; the toxic gases could kill in minutes.
- 6) Flush only when necessary.
- 7) Limit the water flowing into the system. Space out usage- baths, laundry, etc.

Septic don'ts:

- 1) Don't put food scraps, coffee grounds, grease, or oils down the drains.
- 2) Don't pour harmful chemicals or cleansers into the system. They pollute the environment.
- 3) Don't use additives; they can harm it.
- 4) Don't allow ground water to seep in.
- 5) Don't plant trees within six feet. They clog it.
- 6) Don't drive or park on it.
- 7) Don't fence livestock over it.
- 8) Don't dig in or cover drainfield with concrete or asphalt, only grass.

If you treat your system well, it will treat you well for many years too.



by Crystal Stiyr

Jetskiing, Popular or Not?



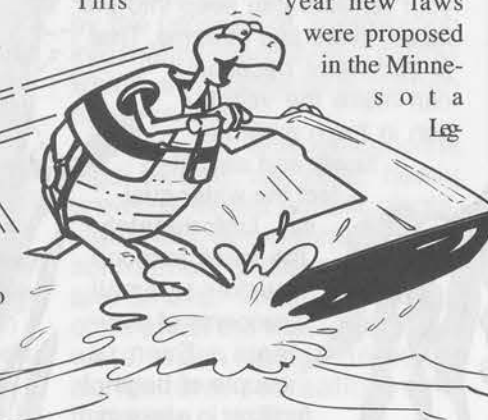
by Emilee Super

Did you know that there are over 12,000 personal watercraft owners in Minnesota? Yup, jet skiing is a pretty popular activity in the summer-time. It's fun to do and people of all ages enjoy it. Jet skis are kind-of loud though, so some people don't like them. Even though they're fun, they're somewhat hard to handle. So if drivers don't know what they're doing, they could end up hurting themselves or someone else. That's why Minnesota lawmakers proposed some new restrictions for jet skis.

Jet skiing is a growing activity. It started almost 25 years ago. The first popular jet ski was made by Kawasaki in 1974. It sold for about 2,000 dollars. To own a new "water toy" today, you'll have to fork over 4,000 to 6,000 dollars. There are two kinds of jet ski models - a sit-down

or a stand-up. With a sit-down, you can do most of the things a boater can do - like towing water skiers. Stand-up models are more popular because riders can do more tricks. Right now the United States is averaging 300 million dollars in sales on personal watercraft per year!

This year new laws were proposed in the Minnesota Legislature.



islature to regulate jet ski use. A lot of people think jet skis are a big threat to people on the lakes. They may have a reason to be - last year 127 of the 273 boating accidents involved jet skis. The new laws that have been proposed are as follows:

1) Providing a process for Minnesotans to file complaints after witnessing violations. Currently, a law enforcer officer must witness the violations.

2) Prohibiting the operation of the craft within 200 feet of an occupied shore for more than 30 consecutive minutes.

3) Increasing the no-wake zone from 100 feet to 200 feet from shores, docks, or swimmers.

4) Making riding jet skis backwards illegal.

5) Allowing operation on the lakes from 9:30 AM to 8:30 PM or one hour before sunset, whichever is earlier.

All of these laws have been proposed by Kris Hasskamp, a Minnesota Representative, but as of this time none of them have been passed. They were withdrawn earlier in the year because the changes to the laws were too drastic. Hasskamp figured that they didn't have a chance, so she took them back and revised them. So, there still might be new laws going into effect this year. Further restrictions will likely be proposed again next year, and the next.

A lot of people probably wish some of the laws that were proposed, would've gone through. Many lake property owners are getting fed up with the actions of some personal watercraft drivers. Since jet skis have a 2-cycle engine, they're slightly louder than most outboard motor boats. With the 2-cycle engine, it enables jet ski drivers to do more tricks and have a 42-55 horsepower ride. Usually, the noise doesn't really bother people as much during the day; it's the night, early morning, and evening riding that upsets the lake property owners. The evening riding often goes on after dinner and sometimes late at night. Since the 2-cycle engines are so loud, it's hard not to wake someone up! Even though I would be upset if someone woke me up from sleeping or interrupted me, I feel some people are overreacting.

In conclusion, jet skiing is tons of fun, but if some of the personal watercraft drivers were more responsible and considerate, lake property owners would respect them more and not object to jet skis.



Jungles Are Forming in Our Lakes!!

by Ross Tweten



Lawn fertilizer is any substance that replenishes the soil to help the grass grow more efficiently.

A question that people may ask is what do fertilizers consist of? Commercial fertilizers contain a combination of elements. That combination consists of nitrogen, phosphorous and potassium.

A bag of fertilizer can contain other ingredients such as herbicides or fillers. Some people who use fertilizers are not fully informed on what the numbers on a fertilizer bag actually mean. The three numbers indicate the relative amount of nitrogen, phosphorous, and potassium contained in the fertilizer. The higher the number, the greater the amount of that particular nutrient.

According to the Ohio State University Extension factsheet, if you have a high nitrogen number, it will give you good lawn growth.

A good lawn fertilizer may or may not contain phosphorous. This nutrient encourages healthy roots, shoots and the production of flowers. Too much phosphorous and your lawn will start to produce seed heads. Most of the time you do not need potassium in your lawn at home, but on open prai-

ries there may be some need for small amounts of potassium.

Fertilizers do affect the environment. If you are using fertilizers and you live next to lakes, rivers or wetlands, you might want to think twice. Sometimes your fertilizer can seep into the lakes, rivers and streams. That is bad news because it can make the vegetation in them grow profusely and also affect the water quality.

Unfortunately, the lakes respond quicker to small amounts of nutrients. Even a couple of bags of fertilizer in a lake can cause serious damage.

According to the booklet GreenLawns, Clean Lakes? Phosphorous is the biggest contributor to plant growth. Excessive plant growth such as algae blooms result in accelerated deterioration and premature aging of our lakes. Some things that you can do to keep fertilizer nutrients out of your lakes are

1. To obtain maximum control in application, use a drop spreader instead of a rotary one.
2. To build good root structures and minimize fertilizer runoff problems, apply nitrogen fertilizers in early autumn; never apply fertilizers to frozen ground.
3. Avoid applying fertilizers on sloping lawns or gardens, or in natural drainage ways. Use sod to establish a new lawn on slopes.
4. Fill and clean fertilizing equipment over lawn surfaces,

not in streets or driveways; sweep up, don't wash away fertilizer spills on hard surfaces.

5. Do not deposit grass clippings, leaves, brush or other material in wetlands, lakes or drainage ways.

6. And, if you have a septic tank, make sure it is built according to current standards, and that it is working properly; have your septic pumped regularly every two to three years, depending on use.

There are many advantages to using lawn fertilizer such as having a great lawn, and having a beautiful lawn even makes your house look better. Just as long as you follow the guidelines above, not only will your lawn be healthy, the lakes will also be just as beautiful and as much fun for everyone.



What the Heck's Up with This Green Water?

Eutrophication is the enrichment of rivers, lakes, and ponds with nutrients which causes the increased amount of plankton, algae, and other higher aquatic plants. Eutrophication deteriorates the quality of the water and results in the reduction in the value the entire ecosystem.

Eutrophic lakes have high nutrient concentrations and are very productive. Their waters are typically green with algae and cyanobacteria.

Oligotrophic lakes are the opposite of eutrophic lakes. They have low nutrient concentrations. Their waters are usually clear and they support low amounts of plankton and cyanobacteria.

Cultural eutrophication is man made eutrophication. This is caused by agricultural runoff, urban runoff, leaking septic systems, sewage discharges, and eroded stream banks.

Fortunately for us cultural eutrophication can be reversed. The chemical, physical, and biological processes are such that if the nutrient flow ceases, through time more nutrients will be locked away in the sediments than will be released into the water. Then the eutrophication process will be reversed with the lower level of the lake and the sediments in an aerobic state.

Natural eutrophication is caused by elements such as mercury, lead, cadmium,

selenium, copper, zinc, chromium, and vanadium. These elements in our water could cause serious problems for lakes. The addition of heavy metals can increase the hazard to aquatic life. Mercury and lead are the most dangerous to humans. Both of these elements can be transformed by the process of methylation into methyl-mercury and methyl which are dangerous human nerve poisons.

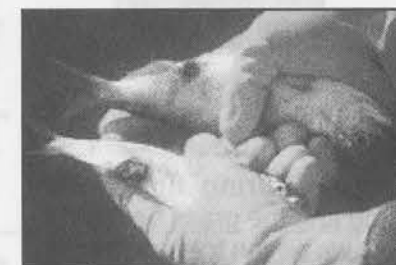
The result of eutrophication is algal blooms, red tides, heavy growth of rooted aquatic plants, algal mats, deoxygenation, and sometimes unpleasant odors and smells. These symptoms often affect the vital uses of the water such as for drinking, agriculture, recreation, and fisheries.

Cattail marshes and other wetlands can serve as "biological filters"; that is they absorb the nutrients before they reach the lakes. Thus they are extremely valuable to us.

After the amount of phosphorous entering a lake is decreased, it may take two to ten years to show signs of recovery. A larger, more polluted lake may take longer. Lake Erie is finally showing signs of recovery from intensive phosphorous pollution from the 50's and 60's. Water quality is improving and fisheries are recovering. But since 1972 the U.S. and Canada have invested 7.5 billion dollars on improving municipal waste facilities along Lake Erie's shore.

Phosphorous enters waters through inflows, precipitation, dry fallout, and from sediments. It can be removed by

sedimentation and through the outflow. A reduction in phosphorous would result in a greater reduction of algal growth. A reduction of nitrogen, without a reduction in



nitrogen/phosphorous ratio which favors the nitrogen nuisance algae without a reduction in algal biomass.

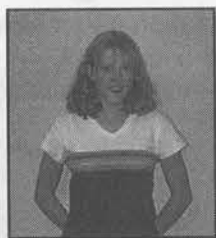
In any estuaries and bays, excessive amounts of nitrogen cause an overpopulation of plants and algae. When the plants and algae die, bacterial decomposers remove oxygen from the water killing fish and other marine animals.

Total phosphorous is considered the key variable in the eutrophication process. Urban sewage, certain industrial effluents, erosion runoff, and phosphorous leaching from forest and agricultural areas should be considered as top priorities in controlling the biological availability of phosphorous. We must all work together to keep our lakes from becoming the place of the green slime.

by Lucas Wandrie



THE DANGERS OF FERTILIZERS



by Markay Wolfe

As spring time rolls around and the grass becomes green, we began to want to tune up the mowers, rake all the left over leaves, and begin fertilizing. But wait, there are many things that people don't know about fertilizing.

First of all, not every lawn needs fertilizing; it's just a personal preference. It may make lawns greener and grow faster, but the use of fertilizer with high phosphorus is dangerous to our lakes.

Also, when many people buy fertilizer, they don't know what they are buying or what is actually in a regular bag of fertilizer. Most common bags consist of three major elements: phosphates, nitrogen, and potash. A high phosphate number (which is on the bag) is the cause of excessive weed growth in our lakes. When it is spread on a lawn, the nitrogen and potash sinks into the ground and the phosphates try to go to the closest body of water. Phosphates become the most harmful when near water

because of their production of weed growth, including algae blooms.

Fertilizer isn't the only way phosphates enter into our lakes. They can enter by runoffs, poorly functioning septic systems, water runoff during landscaping, surplus lawn watering and it can also be caused by rain water or ground water. There is a long list.

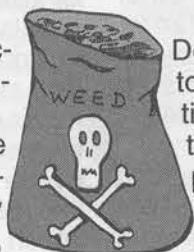
There are things that can be done to minimize phosphates entering our lakes.

* Don't apply fertilizers of any kind near lakes or on hard surfaces (streets, sidewalks) that carry runoff to storm sewers or streams.

* Always fill your fertilizer spreader on a hard surface so spills can be easily cleaned up.

* If you have a septic tank, make sure it is built according to current standards, and that it is working properly; you should have it checked every 2-3 years.

Excessive weed growth limits water activities such as swimming, boating, and fishing.



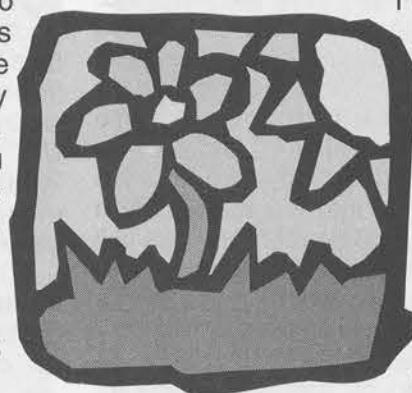
There is an ordinance in Detroit Lakes saying that in-town residents may use fertilizers containing no more than three percent phosphates, out-of-town residents don't have an ordinance.

Less phosphates does not mean less green in your lawn. The nitrogen is what makes it green.



There are three kinds of fertilizers: gas, dry, and organic. In-town residents usually use commercial and dry fertilizers. For agriculture use is commercial: pellets, gas, or liquid and also organic which is livestock waste.

Make sure to be careful when using fertilizer because it

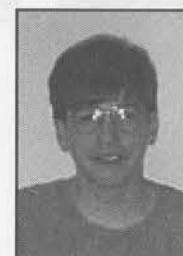


really harms our lakes. If we work together, we can continue to enjoy our lakes for many more years to come.

Summaries of the Lakes

in the

Pelican River Watershed



by Lucas Totland

ID#	LOCATION	DATE SAMPLED	TIME SAMPLED	SECCHI FT	TEMP F	DO MG/L	TN MG/S	TS MG/L
FL20	MUD LAKE	9/28/97	6:40 P.M.	4	59	0	0.02	150
FL30	BIG FLOYD	9/29/97	6:20 P.M.	8	59	9.7	0	210
FL40	LITTLE FLOYD	9/28/97	5:25 P.M.	5.5	50	9.4	0.01	194
DE20	BIG DETROIT	9/28/97	7:30 P.M.	9	64	10	0.04	167
DE50	LITTLE DETROIT	9/23/97	6:54 P.M.	7.6	59	9.2	0	214
LL10	LONG LAKE	9/27/97	7:25 P.M.	10.7	65	9.4	0.01	257
MO10	MONSON LAKE	9/23/97	6:55 P.M.	6.8	58	9	0.02	195
FO10	FOX LAKE	9/23/97	7:25 P.M.	9.5	54	9	0.169	0
SA20	SALLIE LAKE	9/28/97	5:40 P.M.	4	51.8	10.	0.02	285
ME10	MELISSA	9/23/97	5:00 P.M.	4	50	9.7	0	207

ID#	LOCATION	DATE SAMPLED	TPHOS MG/L	PH SU	%SAT %	BOD MG/L	COLFORM COLONIES
FL20	MUD LAKE	9/28/97	0.2	7.6	100	2.5	0
FL30	BIG FLOYD	9/29/97	0.12	8.1	96	2	110
FL40	LITTLE FLOYD	9/28/97	0.22	8.2	82	3	0
DE20	BIG DETROIT	9/28/97	0.08	8.2	110	1	14
DE50	LITTLE DETROIT	9/23/97	0.1	8.5	90	2.1	0
LL10	LONG LAKE	9/27/97	0.06	8.2	104	2.2	0
MO10	MONSON LAKE	9/23/97	0.1	8.5	89	3	0
FO10	FOX LAKE	9/23/97	0	7.7	83	2	0
SA20	SALLIE LAKE	9/28/97	0.32	7.7	98	3	0
ME10	MELISSA	9/23/97	0.1	8.4	86	1.9	0



THE DANGERS OF FERTILIZERS

of the
Lakes

Watershed

Water and ground are
contaminated by the wastes

The water in the
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Polluted River

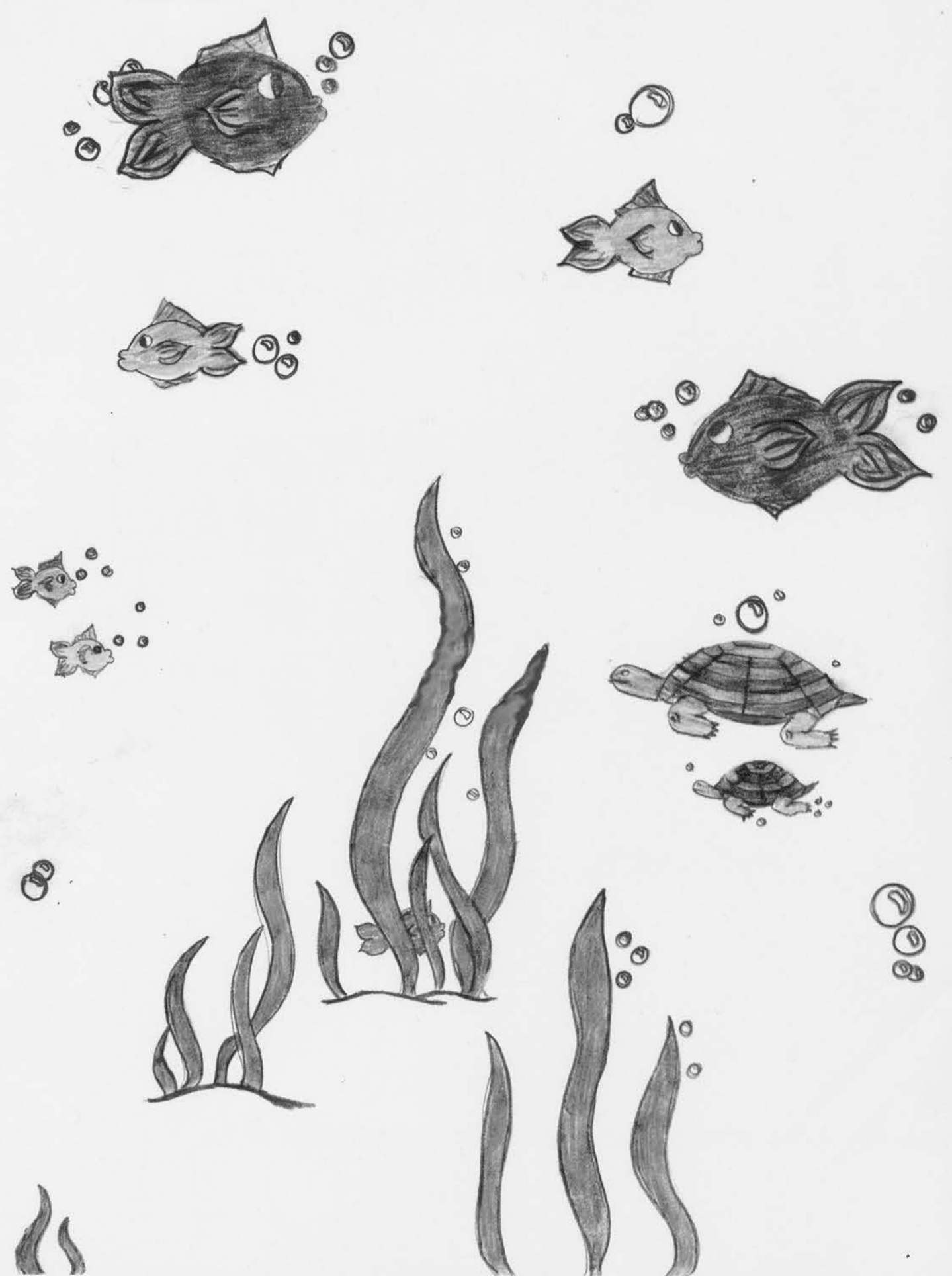
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Water Watch Class
Detroit Lakes High School

New Business #5

McLeod County Drainage Inventory Demonstration

Counties have various stages of incomplete inventories of their public drainage systems. In late 1996, BWSR announced applications from LGUs would be accepted for the "Drainage Inventory Pilot" program in order to determine what it would take to do a drainage inventory in various parts of the state. BWSR accepted applications totaling \$286,760 from eleven LGUs. In March of 1997, McLeod County's grant application to conduct a pilot drainage inventory was one of seven proposals approved for funding. The seven proposals received a total of \$176,099. Being approved for \$40,000, McLeod County contracted with OSM to conduct the inventory. Representatives from OSM and McLeod County will be on hand at the May 27 BWSR Board meeting to provide a thirty-minute demonstration of the final inventory product.



Board member Update

May 1998

Wetlands

WCA Permanent Rule Adoption

Wetland Conservation Act (WCA) Program Manager John Jaschke reports that the WCA rule amendment process is finalized for now with publication in the April 20th edition of the *State Register* of the Notice of Adoption. This means the existing exempt ("emergency") rules developed to incorporate the 1996 legislative changes became permanent rules on April 25th. A substantive WCA rule amendment that will address proposed improvements to the rule could begin in late 1998 or early 1999.

Wetland Regulatory Simplification

The goals of wetland regulatory simplification for Minnesota are threefold:

- to provide "one-stop shopping" for landowners (at the local level where possible) by

reducing regulatory duplication;

- to achieve agency efficiencies and workload management allowing agency/local staff more time to participate in on-site field reviews, training, and wetland planning efforts; and,
- to enhance wetland protection while accomplishing the above items without:

a.)any changes to federal and state regulations, and

b.)an increased workload for agency/local staff.

The St. Paul District Army Corps of Engineers (COE) has announced another proposal to provide regulatory simplification in the wetlands area. The Letter of Permission (LOP) concept would base permitting on project size--in contrast to the current system, which bases permitting on project activity--for the plethora of nationwide permits about to be reissued from the headquarters office in Washington, D.C. BWSR staff believe this idea has a great deal of merit and will achieve the goal of enhancing wetland protection without

The St. Paul District Army Corps of Engineers (COE) has announced another proposal to provide regulatory simplification in the wetlands area.

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any changes to federal and state regulations. However, *all* of the benefits listed above will be achieved only through implementation of the LOP (Letter of Permission) *in conjunction with* elements of a statewide General Permit (GP). Although the details are complex, the GP concept is simple: persons or project sponsors who are now required to get both WCA and Federal Clean Water Act wetland permits would only need to get the WCA approval if the federal agencies concur that the WCA approval meets or exceeds their requirements.

The *LOP with the GP* elements would:

- formalize coordination between locals/WCA and federal/state/WCA responsibilities and thus provide landowners with unified project decisions;
- share the workload among federal, state and local staff;
- maintain the COE's "gatekeeper" role as all replacement plan (permit) decisions under state law would be reviewed and either accepted, modified or rejected by the COE; and
- maintain the agency and public comment procedures.

Wetland Banking

An interagency report on wetland mitigation banking, as required by the 1996 Legislature, is finished and will be signed by the authoring agency leaders (DNR,

BWSR and Minnesota Department of Agriculture) as an addendum to the State Wetland Plan.

Some of the findings and recommendations from the report are:

A. The quality of wetland bank sites varied, and was generally related to construction method.

The highest quality sites were restorations of previously drained wetlands, surrounded by permanent upland vegetation. The poorest sites observed were wetlands that had been created through excavation. With the exception of the poorest quality created sites, the banked wetlands analyzed appeared to be reflective of the range of conditions observed in natural wetlands within the study areas.

Recommendations:

- Wetland replacement standards should be rigorously enforced.
- Additional quality goals, including guidelines for vegetative coverage and diversity, should be developed.
- Encourage the establishment of a wider range of wetland types, relative to the types of wetlands lost, for both banking and project-specific replacement.
- Encourage restoration of previously drained wetlands rather than wetland creation.
- Develop additional incentives for restoration of partially drained wetlands, based on an analysis of functions gained and lost.
- Establish incentives to encourage the highest quality banking

sites.

B. The location of wetland bank sites is seldom based on ecological/hydrological needs. Presently, the location of wetland bank sites is almost entirely dictated by the presence of landowners who are willing to undertake wetland creation or restoration projects. Wetland banking sites could address watershed needs much more effectively if the location of the sites was based on an analysis of identified problems as well as the presence of willing landowners. The second generation of local water planning provides an opportunity to properly analyze watershed needs and target areas for wetland restoration or creation.

Recommendations:

- Federal, state and local governments should collaborate on the identification of high priority sites for wetland restoration or creation that most effectively address watershed needs (water quality, flooding, habitat, recreation, etc.). Such sites should be identified in local surface water management plans.
- Agencies that have continuing, large scale wetland banking programs, such as the Minnesota Dept. of Transportation (MnDOT) and the Minnesota Board of Water and Soil Resources (BWSR) wetland banks associated with public transportation projects, should make a concerted effort to locate those banks in identified high priority areas.

C. Current wetland bank accounting/administration services are insufficient. Significant increases in the workload associated with wetland bank accounting and administration have occurred as use of the bank has increased and the responsibility for replacing impacts from public road projects was shifted to BWSR in 1996.

Recommendation:

- Establish a full time bank administrator position. The bank administrator would handle the project reviews, legal documentation, trend analysis, reporting, and accounting needs associated with maintaining the state's wetland banking system. Included in the duties of this position is the administration of the public road wetland replacement program.

D. Current monitoring and certification are inadequate. Compliance with WCA requirements to conduct post-project monitoring of wetland replacement sites, under both project-specific mitigation and wetland banking, was found to be inadequate. The fact that no post-project certification is required for project-specific replacement was found to be a problem. There are potential problems with WCA rules on banking as far as ensuring that wetland impacts do not occur until project applicants have obtained banking credits and the wetland bank is properly debited.

Recommendations:

- Assign responsibility for monitoring:
 - Put monitoring authority in the hands of a governmental

The location of wetland bank sites is seldom based on ecological/hydrological needs.

A number of government agencies maintain databases pertaining to some aspect of wetland activities in Minnesota, but there is currently no single source containing all the state's wetland information.

agency and remove the responsibility from the individual land owners; or,

- Keep land owners responsible for monitoring, but provide technical assistance.
- Establish a regional inter-agency audit team to conduct broad-based follow-up on all regulated activities pertaining to wetlands, including impacts to wetlands and wetland replacement

E. There exists a lack of comprehensive, easily-accessible data. A number of government agencies maintain databases pertaining to some aspect of wetland activities in Minnesota, but there is currently no single source containing all the state's wetland information.

Recommendation:

- Establish and maintain a central, joint database of wetland activities in the state. The database should contain current information available from federal, state, and local governments and should be easily accessible.

F. Public vs. Private Components and Cash Banking. In Minnesota there are currently two separate banking systems in operation: the entrepreneurial system which is used by private (and a few public) developers and the public system established in 1996 for public road projects.

This combination, although workable, leads to potential confusion among users and creates conflicts due to market influences of each system on the other. Based on the experiences of the public road replacement program and of some local government units, "cash banking" is a concept worth exploring to add simplicity and consistency to the wetland replacement/mitigation process. However, some of the drawbacks to cash banking may require that its use be limited to clearly defined situations.

Recommendations:

- An interagency team, including the Banking Study Committee, should continue to evaluate and improve/simplify the wetland banking process and evaluate the options that may be available using "cash banking" concepts.

Copies of the complete report or the executive summary are available by contacting John Jaschke at 612/297-3432.

Road Replacement Program

John Jaschke, along with wetland specialists Dan Eklund and Barbara Ohman (and with assistance from Steve Miller on appraisals, Tom Wenzel on design, Matt Seltzer on the contracts and legal interpretations, Mary Miller on the accounting and processing end, and the board conservationists), has been finalizing the appraisals, agreements and designs for the sites selected for replacement of the wetland impacts caused by public road authorities over the last two years. One project

is underway in Todd County and there are several more that will begin work this summer, including ones in Dodge County, Polk County and Anoka County, along with several more in the metro area.

Local Wetland Plans

Several Comprehensive Wetland Protection and Management Plans (CoWProMPs) in greater than 80 percent counties (Beltrami, Lake, Mille Lacs, St. Louis and Koochiching) are now underway. Tim Ogg, GIS specialist, has traveled to Koochiching County and will also visit Lake and Mille Lacs counties to provide them with assistance in accessing and managing the data elements needed to develop an inventory and classification system that is valid and practical. Meanwhile, Dan Eklund and the board conservationists (BCs) are working with policy and technical groups locally and with other agency representatives and interest groups to assure that the outcomes of the planning process are legally and technically sound.

On a related note, Dan Steward, BC in Brainerd, reports that Crow Wing County has adopted the WCA into its shoreland zoning ordinance and has an agreement with the Crow Wing SWCD to provide the technical work while the county processes a single permit for landowners. Regulatory simplification and improved customer service can be found working at the local level if it is given a chance.

Finally, following the lead of

Aitkin County, Itasca and Crow Wing counties have adopted a policy addressing wetland filling in the shore impact zone (one-half the building setback). The policy requires strict avoidance unless there is a demonstrated need for access to the water. In those cases, a narrow fill strip allowing foot traffic to the water will be allowed if all other factors (including mitigation) are addressed. This policy has helped staff and property owners understand the importance of protecting irreplaceable shoreland wetlands.

Northern Region

Program Information

Wetlands

Dale Krytosek, Bemidji BC, notes that spring has officially arrived, as evidenced by the fact that he is busy assisting local government units (LGUs) with five WCA violations. Dale has a hot one in Otter Tail County involving five acres of fill. Restoration is forthcoming. Becker SWCD is preparing to deny a replacement plan on a three acre wetland fill on lakeshore. He's got a couple violations cooking in Cass and

Several Comprehensive Wetland Protection and Management Plans (CoWProMPs) in greater than 80 percent counties (Beltrami, Lake, Mille Lacs, St. Louis and Koochiching) are now underway.

So far, the LGUs have been holding up their end of WCA and doing good work when violations occur.

one in Wadena that Sen. Dallas Sams has been asking about. So far, the LGUs have been holding up their end of WCA and doing good work when violations occur.

Duluth BC Mark Nelson reports that public hearings are now underway for the St. Louis County Comprehensive Wetland Protection and Management Plan (CoWProMP). Mark thinks the process to approve the CoWProMP could take longer than anticipated. Wildlife groups, ditching groups, and other special interest have been slow to find out about the plan and to comment on it. Assessing all the local feedback is important to get a plan that will ultimately work into the future. Dan Eklund has been assisting Mark mightily and has written at least three informal comment letters regarding the draft wetland plan.

Brian Dwight, Bemidji BC, also reports work on the Beltrami CoWProMP. Brian points out that a slow start has turned into a very conscientious process by both the technical and policy groups. They have finished the functional assessment and now will move to the value setting stage. Always plenty of challenges for our field staff to deal with.

RIM Reserve

Jim Lemmerman, forester, reports that a group of the Reinvest in Minnesota (RIM) Reserve Advisory Committee has met to discuss haying, grazing, and forest management on RIM Reserve lands. The group came up with

acceptable language that would allow haying, grazing, or forest management on RIM Reserve lands for the benefit or enhancement of the resource.

Water Planning

The Whitefish Lake Property Owners Association has proposed an inspection and upgrade project for the entire 14 Lake Whitefish Chain to the Crow Wing County Board. The project came in with a support recommendation from the local water planning task force. The county approved the project with a unanimous vote. The county will be applying to BWSR for a challenge grant to implement the project.

Education

Education Specialist Kamal AlSharif participated in the lake show sponsored by the Minnesota Lake Association in St. Cloud. Kamal helped out by staffing the Resource Room. This was a place where he could provide the attendees with copies of natural resources materials, or inform them of where they could get them.

Kamal also participated in the Pathways to Educational Partnerships meeting held in Mahanomen and Cass Lake. Kamal offered to teach the Project Water Education for Teachers (WET) Workshop this summer. This workshop will be open to anyone who is interested in youth education. Kamal is working with Extension in Mahanomen County to line up dates and times for these workshops.

Miscellaneous

Ron Shelito, northern regional supervisor, facilitated a public information forum in McGregor related to the Big Sandy Watershed Project. Some controversy has arisen as a result of some recent ditching activity in the watershed. The technical committee, made up of agency representatives, believed that a public forum to get all the issues out was needed. Ron S. was asked by the technical committee to facilitate the meeting. The meeting was well attended. Although there was some controversy, in the end many of the issues were addressed and the watershed project's technical committee agreed to do some follow-up as a result of the meeting. This will be an ongoing process, but with the commitment of the agencies and the locals we should be able to address most of the concerns so the project can continue to move forward.

Mark Nelson addressed the Lake County Board regarding the Lake Superior Shoreland Protection Program. This program is a joint effort between BWSR, the Lake Superior Association of SWCDs, and the Minnesota Pollution Control Agency (PCA). The purpose is to provide technical and financial assistance to landowners along the shore to do shoreline protection work. Currently, PCA has designated some State Revolving Fund (SRF) money to the project--this funding is being matched with grant moneys from the Great Lakes Commission and hopefully some BWSR Special

Project dollars. BWSR Shoreland Engineer Gene Clark has built a good reputation for BWSR along the shore as a result of the many shoreline protection projects he has designed.

Brian notes a point of interest in his work area--the SWCDs are experiencing a surge of staff turnover. At present there are three vacancies in SWCDs in Brian's work area. Some of the people leaving have been with the SWCDs for a long time.

Southern Region

Program Information

Local Water Planning

BCs Mary Kells and Dave Peterson provided assistance to the Southeastern Water Resources Joint Powers Board and county staff on developing a challenge grant proposal to address shoreland ordinance awareness and implementation of a buffer strip initiative in southeast Minnesota.

Wetland Conservation Act

Mary Kells has attended several technical evaluation panel (TEP) meetings this month to review delineations, sequencing, and replacement plans. Most WCA assistance provided this month has been near the developing areas of Rochester, Red Wing, and Chatfield.

*BWSR
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the shore as a
result of the
many
shoreline
protection
projects he has
designed.*

The BWSR recently received two new Great Lakes Commission grants.

General LGU Assistance

Mary Kells helped four SWCDs during the development of special cost-share applications, including one sinkhole/stormwater management project, two streambank stabilization projects, and one second-phase project that would install small erosion control structures on a second subwatershed of Wells Creek Watershed in Goodhue County.

Wells Creek Watershed Steering Committee has organized under a non-profit organization and will be formally known as the Wells Creek Watershed Partnership. Now the local partnership will be able to receive grants directly. The partnership will have decision-making authority for project implementation, with assistance and recommendations coming from a technical committee made up of local, state, and federal resource agencies.

Mary Kells and Dave Peterson were part of the presenter team for the Area VII Envirothon held on April 30. Mary and Dave also helped out at the State Envirothon, held May 20 in Whitewater State Park.

Mary assisted Wabasha SWCD by being a presenter for the Soil Conservation Learning Station during their county fifth grade field day on May 5, 1998.

BC David Sill reports spending a day with the new Swift County WCA administrator, providing training and review of the WCA

Administrative Manual and rule.

Miscellaneous

The beginning of the southern region plan was discussed. Hopefully, this plan will help to remind staff what is and is not important for the region to be involved in as programs and opportunities continue to arise related and unrelated to BWSR's mission.

Engineering and Technical Services Section

Program Information

Lakeshore Engineering

Gene Clark, lakeshore engineer, continues to work with PCA and the North Shore Management Board to help set up the North Shore Clean Water Partnership implementation project for So. St. Louis, Lake and Cook counties. The project will focus on shoreline stabilization, septic systems and related shoreland best management practices (BMPs).

The BWSR recently received two new Great Lakes Commission grants. One (\$9,700) is for soil testing and phreatic surface investigations to improve current and future slope stability analyses that reduce shoreline stabilization construction costs. Eric Mohring, groundwater specialist, and Al Kean, chief engi-

neer, will team up with Gene to implement this project. The other grant (\$20,000) will help provide grant funds to piggyback with the North Shore Clean Water Partnership loan funds.

RIM Reserve

To date, the Reinvest in Minnesota (RIM) Reserve/Wetland Reserve Program (WRP) partnership has "saved" approximately \$800,000 of RIM funding that will be available for additional easements. The only down side of this partnership is the time it has taken to work out the details, while keeping the process as simple as possible for all involved. Program start-up is often challenging, particularly for partnerships.

Interest in the Conservation Reserve Enhancement Program (CREP) appears to be picking up around the state. We should have some hard numbers by next month. Federal practice limitations and associated policy interpretations continue to be a challenge, particularly for riparian forest buffers.

General LGU Assistance

In late April, Justin Jeffery, training and design engineer, delivered Feedlot Evaluation Model training to about 35 SWCD, Natural Resources Conservation Service (NRCS), PCA and county staff in Rochester. The partnership Schedule of Events on e-mail proved to

be an effective tool to get the word out about this training. Another session is scheduled for June 10 in Marshall.

We hear that two SWCD joint powers staff members will attend an upcoming NRCS construction inspection training in Lincoln, NE that has limited attendance from individual states. This type of training is high on the priority list of engineering training needs identified via the annual partnership training needs inventory. This is critical expertise for feedlot and many other engineering practices. Justin is working on developing a construction inspection training course at the state level, so that many more engineers and technicians can attend at a lower cost.

Justin continues to provide consultation to many of the SWCD joint powers and other staff regarding feedlot design questions. The new cost-share funding appropriated to the BWSR for small feedlots will likely keep those kinds of questions coming.

Gene and Brad Matlack, lakeshore engineering technician, have assisted SWCDs in the following ways during the past month:

- Helped So. St. Louis SWCD complete two of four project plantings that are part of a vegetation demonstration project funded by a Great Lakes Commission grant. The objective is to identify plant species and techniques that are effective for stabilizing or revegetating shoreline slumps.
- Worked with Aitkin SWCD to build and deploy 24 new wave breaks to protect nearshore aquatic plantings for shoreline

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protection.

- Provided assistance to North Shore SWCDs for bid package development and dissemination for several projects to be constructed this summer.

Hot Topics

Justin and Al have received a number of questions and concerns in recent months from front line technical assistance folks, both public and private, about feedlot technical assistance and permitting policies.

Justin and Al have received a number of questions and concerns in recent months from front line technical assistance folks, both public and private, about feedlot technical assistance and permitting policies. A particularly troublesome issue is the design of filter strips for feedlot runoff. Design requirements in the karst region of the state have also raised questions. Al and Justin have helped facilitate discussions with PCA and NRCS staff about these issues. A task force has been reestablished to develop current design standards and guidance for filter strips. Another coordination meeting has also been scheduled for early June at the BWSR office. PCA staff recently updated their guidelines for manure storage in the karst region. Substantial discussion between technical assistance and regulatory folks occurred last year regarding these guidelines.

Al recently attended a couple of meetings with the Corps of Engineers (COE) regarding the COE getting more involved in watershed planning for environmental restoration, flood damage reduction and water quality improvement. One of its proposals is in

response to interest by Congressman David Minge to address interstate issues in the upper Minnesota River basin. The other proposal is in regard to the entire Minnesota River basin. The Minnesota River Joint Powers Board, DNR, PCA, NRCS, State of South Dakota and others were invited to a recent meeting. With all that is currently going on in the Minnesota River basin, the COE will need to do more homework with LGUs and others to define the COE's complementary niche.

The U.S. Geological Survey (USGS) and the U.S. Fish and Wildlife Service (USFWS) are also looking for support and funding assistance for a watershed management modeling proposal in the Red River basin. Al will attend a related meeting in Fargo on May 27.

May 1998



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Feedlots: Summary of 1998 Legislation

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Introduction

Feedlots were a hot issue during the 1998 Legislative Session. Numerous bills addressing the environmental, economic, and social aspects of feedlots were introduced and debated in depth by legislators, agencies and interest groups alike.

The governor recommended a statewide study of the feedlot industry to the 1998 Legislature. Legislators raised a variety of feedlot topics, including a proposed moratorium on the feedlot industry; increased feedlot regulation; increased public input on feedlot decisions; and increased financial assistance for getting feedlots into compliance with environmental laws. Legislators, working with the Minnesota Pollution Control Agency (MPCA), Minnesota Department of Agriculture (MDA), Environmental Quality Board (EQB) and key interest groups reached agreement on feedlot policy and funding changes in early April. The Governor signed the bills into law on April 21, 1998. This fact sheet explains these 1998 legislative changes.

Statewide Study of Feedlots

In recent years, there has been increasing controversy regarding animal feedlots in Minnesota. Many of the concerns focused on the potential for contamination of the air, surface water and ground water as well as the economic and social impacts of animal agriculture. While these issues are addressed in individual feedlot permit decisions, it has become obvious that social and economic issues are beyond the scope of existing state and federal feedlot regulation.

Minnesota Laws 1998, Chapter 366 (Government Operations Supplemental Budget Bill, Price/Rukavina, SF 3354), directs the EQB to conduct a statewide study or "Generic Environmental Impact Statement (GEIS)" on feedlots. The EQB is made up of the commissioners of the Department of Natural Resources (DNR), MPCA, MDA, Minnesota Department of Health (MDH), Board of Water and Soil Resources (BWSR), Office of Environmental Assistance (OEA), Minnesota Department of Transportation (MDOT), Department of Trade and Economic Development (DTED), Public Service, Minnesota Planning and five citizen members.

A GEIS will include a review of the environmental issues related to feedlots as well as the broader social and economic issues associated with trends in animal agriculture. A study of these feedlot issues can assist state and local policy makers as they establish goals and make decisions affecting our rural communities and natural resources. The statewide feedlot study is expected to take approximately three years to complete.

The 1998 law provides \$1.2 million to the EQB for the first year of the feedlot GEIS. The law further directs the EQB to establish an advisory committee ("livestock industry environmental steering committee") to advise the EQB on the feedlot GEIS. Finally, the law suggests topics that the GEIS scoping document might include. Approximately \$1.5 million will be sought in 1999 to complete the study.

Financial Assistance for Farmers

The 1998 Legislature recognized that thousands of smaller feedlots are out of compliance with environmental laws. The Legislature also recognized the need to help these small farmers bring their feedlots into compliance. Toward this end, the 1998 laws provide:

- an additional \$2 million per year to Board of water and Soil Resources (BWSR) in fiscal year (FY) 1999 for grants to Soil and Water Conservation District (SWCD) to be used as cost share dollars to farmers for bringing feedlots into compliance. (\$1 million of this cost share funding will continue beyond FY 1999.) Priority must be given to feedlot operators who have received a notice of violation and for feedlots in counties that are conducting or have completed a level 2 or level 3 feedlot inventory.
- an additional \$9 million for MDA's agricultural best management practices (AgBMP) program to be used by counties or groups of counties as low interest loans to farmers. As a requirement, AgBMP will include feedlot pollution abatement.

Feedlot Policy Changes

The 1998 Legislature ~~did~~ not place a broad moratorium on the feedlot industry. However, the 1998 Legislature made changes to further ensure that feedlots will be consistently regulated and current law vigorously enforced during the three-year feedlot study and beyond. Minnesota Laws 1998, Chapter 401 (Environment and Natural Resources Supplemental Budget Bill, Morse / Osthoff SF3353), makes feedlot policy changes as follows:

- **Local Government Role**

The law reinforces that a strong partnership with counties is the key to long-term success of any feedlot program. The 1998 law encourages more counties to become "delegated" counties by providing an additional \$350,000 a year for the county feedlot grant program. The law reinforces that county feedlot ordinances may be more stringent than the state.

- **Submittal of Animal Feedlot Ordinance**

The law requires counties and towns that currently have adopted ordinances related to animal feedlots to submit copies of these ordinances to the MDA by no later than August 1, 1998. All future feedlot-related ordinances shall be submitted to the Department within 60 days of adoption through the year 2001.

- **Federal Feedlot Permitting**

The law encourages a feedlot permit process that allows for ample public input in a reasonable time frame. The federal National Pollutant Discharge Elimination System (NPDES) permit is designed to eliminate discharges of pollutants to waters. The United States Environmental Protection Agency requires that feedlots greater than 1,000 animal units be issued an "individual" or a "general" NPDES permit. Previously, the MPCA had determined that large feedlot facilities didn't need NPDES permits since they do not discharge to state waters. A state permit, as protective or more protective than the federal permit, was issued instead.

Now, the 1998 law requires that feedlot owners with more than 1,000 animal units apply to the MPCA for a NPDES permit. This became effective on April 22, 1998. Distinction is made between when an "individual" or a "general" NPDES permit is needed. The 1998 law provides \$300,000 a year to the MPCA for this expanded NPDES permitting. The required schedule is as follows:

- April 22, 1998: Feedlots with more than 2,000 animal units must apply for an "individual" NPDES permit. The MPCA will coordinate with the required Environmental Assessment Worksheet for these same facilities.
- January 1999: MPCA will work with the Feedlot Manure Management Advisory Committee (FMMAC) and other interested parties to develop environmental criteria to determine whether a feedlot facility between 1,000 and 2,000 animal units should apply for a "general" or "individual" NPDES permit.
- January 1999: Feedlots between 1,000 and 2,000 animal units prioritized by the MPCA and using the agreed-to criteria, must apply for an individual NPDES permit.
- October 1999: Feedlots between 1,000 and 2,000 animal units not prioritized by the MPCA under the agreed-to criteria must apply for a "general" NPDES permit.
- January 2001: Feedlots with more than 1,000 animal units that were permitted by April 22, 1998, must apply for a "general" NPDES permit.

The 1998 law also directs the MPCA to coordinate public hearings for state and local feedlot permits and /or environmental assessment worksheet under the state's environmental review law, if appropriate.

- **MPCA Refusal of Permits**

The 1998 law adds authority to current solid waste law, allowing the MPCA to refuse a feedlot permit when a history of "bad actor" behavior exists.

- **Manure Applicator Licensing**

The 1998 law requires commercial manure applicators to be licensed by March 2000. The law further directs MDA to report to the Legislature by January 1999 on the need for noncommercial manure applicator licensing in the state.

- **Research on Alternatives**

The Legislature discussed the need for information on different animal agriculture options for the future. The 1998 law provides funding to the University of Minnesota at Morris to conduct research on alternative hog production technologies.

- **Rules**

The law requires that the MPCA's feedlot rules be revised and implemented in the next year. The law requires the MPCA submit a copy of the proposed feedlot rules to the Legislature by March 1, 1999, and for the rules to be effective no later than June 1, 1999.

- **Concrete Construction Standards for Feedlot Facilities**

The Legislature discussed the integrity of concrete structures containing liquid manure. As part of the feedlot debate, the law requires that a registered professional engineer prepare or approve plans for these liquid manure storage facilities. This section of law became effective on April 22, 1998, and will be repealed when the new feedlot rules are in effect. Pits under 500,000 gallons can be permitted by counties.

- **Public Input on Feedlot Decisions**

The law addresses the need for more public input on feedlot decisions in a variety of ways. First, feedlots greater than 1,000 animal units are required to apply for a NPDES permit. These Clean Water Act permits require a 30-day public notice period. Second, counties not delegated by the year 2001 will be required to hold a public meeting prior to issuance of any local or state permit for feedlots with more than 300 animal units. Third, a public notice must precede any state or local feedlot inventory.

- **Lagoon Ban**

The 1998 law places a two-year ban on new swine-only open-air, earthen or flexible-membrane-lined waste lagoons, effective April 22, 1998.

- **Environmental Review Considerations**

"Connected actions" are defined by EQB environmental review rules to be interdependent parts of a larger whole project, and are required to be considered as one single project when applying the rules. This has resulted in hog farrowing, nursery and finishing sites being considered part of the same project even though they may be physically separated by considerable distances. If individual sites were not treated as one project, fewer feedlot projects would require mandatory environmental assessment worksheets. The EQB is required by 1998 law to examine this situation through rulemaking. The EQB is required to report to the Legislature by March 1, 1999, on the results. The revised rules must be effective no later than June 1, 1999.

- **Hydrogen Sulfide (H₂S) and Worker Health**

The 1998 law directs the Department of Labor and Industry to work with the Department of Health and the MPCA to report to the Legislature by January 1999 on the need for revised worker health standards for H₂S in confined feedlot facilities.

- **Animal Waste Liability**

The 1998 law directs the MPCA to report to the Legislature by January 1999 on the need for an animal waste liability account, improved reporting and the need for a contingency action plan.

- **Manure Digester Grants**

The 1998 Legislature appropriated \$200,000 in fiscal year 1999 to the MDA revolving loan program for farm manure digester projects. Manure digester projects are waste treatment systems designed to reduce the amount of manure as well as its byproducts through the use of natural decomposition. The zero interest loans may be made to any resident of the state for demonstration projects of farm manure digester technology.

For Further Information

For further information on the 1998 Legislative changes related to feedlots, contact one of the following agency representatives:

Susan Schmidt, MPCA (612) 297-7573

Paul Burns, MDA (612) 296-1488

Mike Sullivan, EQB (612) 296-9027

Al Kean, BWSR (612) 297-2907

For a complete copy of the 1998 laws related to feedlots, contact House Index at (612) 296-2314 or Senate Information at (612) 296-0504 or 1 (888) 234-1112. The related feedlot 1998 laws are as follows: Minnesota Laws 1998 Chapter 401, Minnesota Laws 1998 Chapter 366, and Minnesota Laws 1998 Chapter 404. For copies of these bills as passed by the 1998 Legislature, go to www.leg.state.mn.us site on the internet. For the governor's veto messages related to these bills, go to www.gov.state.mn.us/index.html.

McLeod County Drainage Inventory
Demonstration

OSM & Associates

May 27, 1998



MC LEOD COUNTY DRAINAGE INVENTORY

In January, 1996, McLeod County's Engineer, Rick Kjonaas, asked OSM and Associates for some help with its ditch maps. The County Commissioners are responsible for overseeing the ditches in their respective districts, and the County Auditor, Cindy Schultz, needed a better way to keep track of the maps, manage the assessments, and respond to questions from the Commissioners and individual land owners.

- There are about 70 ditch systems in the County stored as paper maps, most of them one-of-a-kind.
- Maintenance records are scattered in various files and in people's heads.
- There are more miles of ditches than miles of County road.
- The maps date back to 1916.
- The map quality varies: some hand drawn, some drafted, some are reverse images.
- The map size and scale varies: from 20x20 inches to 40x60 inches.

This project was a solution to a problem, using geographic information systems (GIS). This was not a GIS project, but GIS was the tool used to help solve the problem.

Implementing the project was not simple. It required consensus among the County Department Heads that this was a step in the right direction. With this consensus, the County Board was shown the value of the project and supported it.

But one issue remained: how to pay for it. The BWSR grant program provided partial funding. The local match was provided by an assessment against properties that benefit from the ditch system. After a one and a half year planning period, including a public hearing, the project was finally underway.

OUTLINE OF THE PROJECT

The objective of the project was to organize the ditch information so that it was more securely stored and could be accessed and analyzed more efficiently. The following describes the major tasks of the project:

1. Scan the ditch maps. This provided an electronic means of storing the maps and accessing them by computer instead of digging through large map file drawers.
2. Scale and register the maps to a known coordinate system, allowing them to be viewed simultaneously with the digital orthophotographs (DOQ's) from USGS. The maps provided general location information for the ditches. The DOQ's showed the location of the ditches more accurately.

3. Digitize the wetlands shown on the original ditch maps.
4. Digitize the ditches by correcting the hydrography layer from the TIGER files to show the more accurate location of the ditches and other hydro features within the ditch watersheds. Road locations from TIGER were also corrected within the ditch watersheds. Roads provide an important reference framework for the ditch systems. TIGER provided feature names, and other jurisdictional information.
5. Digitize the watershed boundary from the maps.
6. Create a quarter-quarter section line reference grid. This provides the public land survey system (PLSS) framework. Each section of grid has its respective township, range, section, quarter and quarter-quarter section numbers as attributes. This grid was created by using existing section and quarter-section points located by the County with Global Positioning Systems (GPS), supplemented by the physical features appearing on the DOQ. Most of the GPS points coincided very closely (within 7-10 feet) of road intersections, thus demonstrating the value of the DOQ's for inexpensive, yet relatively accurate base map information. Someday, when the County has its parcel map completed, the current property owner's name could also be part of the system.
7. Using the quarter-quarter section line grid, digitize the historical parcels based on what was shown on the ditch maps.
8. Intersect the parcel map with the ditch map and the ditch watershed map to add PLSS and parcel data to them.

THE DITCH INFORMATION SYSTEM IN OPERATION

The last step in the project was to customize the ArcView software to allow the County Auditor, Cindy Schultz, to access the information with only a minimum amount of training. The following describes a typical way the system will be used:

1. A ditch map index is the tool used to get into the system. A ditch can be selected by pointing to the map or selecting it from a list.
2. After selecting a ditch, the ditch map and other themes appear in the Table of Contents for selection and viewing.
3. The view can be printed out using a standard layout. Examples of maps are included in your packet.
4. Any of the maps can be queried for attributes, such as:

Ditches: segment length, PLSS data (township, section, range, quarter, and quarter-quarter section), ditch name, date of map, historical property owner on the left and right, and TIGER information, such as the feature

name, the mcd on the left and right, the census feature classification code (CFCC).

Other Hydro: length, TIGER information.

Roads: TIGER information.

Ditch watersheds: area, perimeter, ditch name, and map date.

Parcels: area, perimeter, PLSS data, owner name, acreage, ditch number, and map date.

5. Maintenance data can be accessed from a text file using a "hot link".

RELATIONSHIP TO THE BIGGER PICTURE

McLeod County's ditch map information system can be viewed in relationship to regional and statewide issues. For example, the major watershed map prepared by DNR can be viewed relative to the watershed boundaries on the County's maps.

The Digital Raster Graphics (DRG) maps, which are scanned images of the USGS quad sheets can also be viewed in relationship to the ditch maps. The contour lines from the quad sheet could be used to correct ditch watershed boundaries and assessment areas.

The soil map for McLeod County can also be analyzed relative to the ditch system.

SUMMARY

This project was a solution to the problem of managing ditch information in the County. It was not a GIS project, GIS was merely the tool used to help solve the problem. The project has enough value to stand on its own.

However, the fact that the information is now stored in a GIS system, opens up the possibilities for expanding into other areas on need in the County. The consensus of the other County Department Heads in supporting the project showed that they could see beyond just this project. The next project will be to capture rural address information now stored on paper maps in the Sheriff's Department.

The BWSR grant helped to not only fund a project that in itself was valuable, but also to initiate an effort at improving overall information management in the County.

For more information, contact:

Dr. Linda K. Tomaselli, GIS Services Manager (612) 595-5634
Mark Wald, GIS Coordinator (612) 595-5638



News Release

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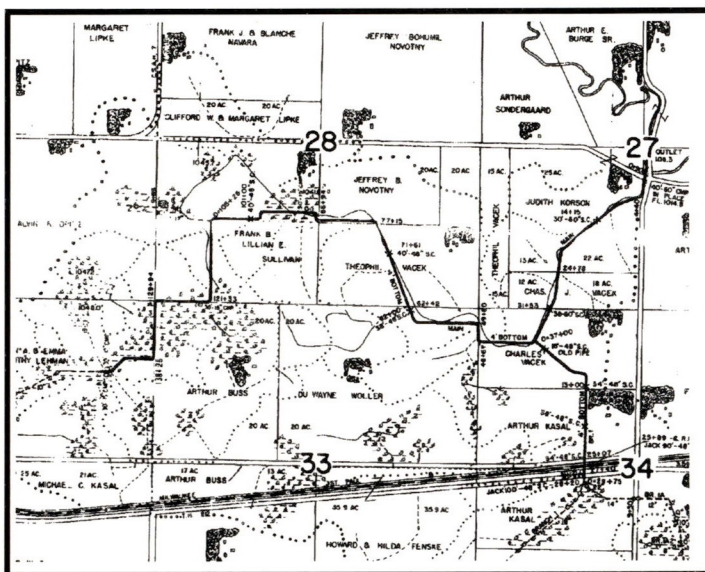
December 1, 1997

OSM Integrates Ditch Data Into Geographic Information Systems (GIS)

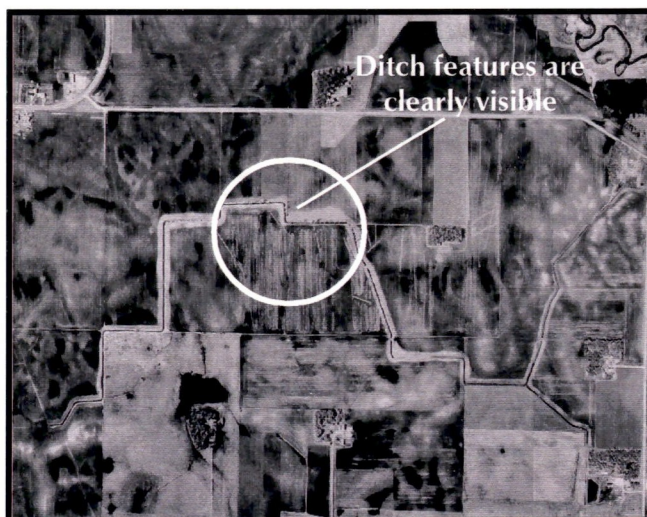
Orr-Schelen-Mayeron & Associates, Inc. (OSM), Minneapolis, was selected by McLeod County to integrate data pertaining to county ditches into a geographic information system (GIS). Integration of this data is extremely beneficial to county officials.

McLeod County has more miles of county ditches than miles of county roads. Ditches facilitate the drainage of farmland during wet periods so that farming can take place. County officials have been faced with many problems dealing with ditches:

- Single paper copies of ditches stored in file cabinets
- Maps of different scales and qualities
- Maps dating back to the very early 1900's
- No accurate composite map showing locations of ditches
- Maintenance records stored in paper files in various locations in the county



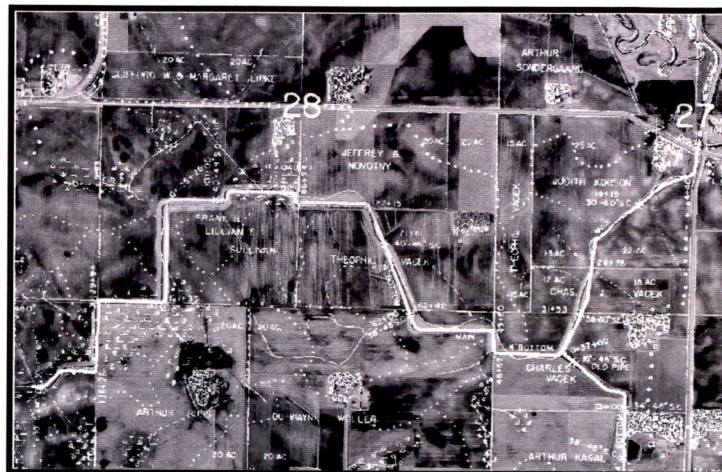
Scanned Image of a County Ditch Map



Digital Orthophotography

300 PARK PLACE EAST, 5775 WAYZATA BOULEVARD, MINNEAPOLIS, MN 55416-1228
(612) 595-5775, 1-800-753-5775, FAX 595-5774

This project was designed to address the problems listed above. The final product will be digital air photos showing the land, ownership patterns, roads and ditches, along with other geographic data. Superimposed on the photos will be scanned images of the original ditch maps, scaled and positioned to fit the photo. The ditch features will also be captured as lines in a computerized map. A database of information will be linked to each line segment, so that maintenance information can be stored and retrieved in combination with the photo.

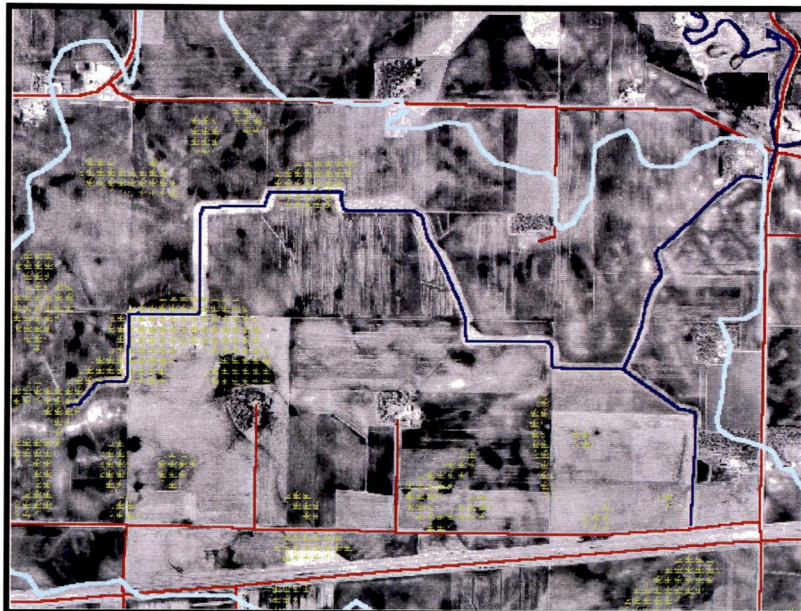


According to Cindy Schultz, McLeod County Auditor, "this system will take information stored in many paper documents, map drawers and in my own head, and put it into one location. We will have the information at our fingertips, so we can conveniently and effectively deal with ditch issues in a timely manner."

The idea of using the Digital Orthophoto Quad (DOQ) maps from the United States Geological Survey (USGS) was that of County engineer, Rick Kjonaas. According to Rick, **"With a GIS, it is simple to view the ditch maps with the DOQs in the background. This visual reference will be helpful for when a land owner has a question about a certain piece of property."**

- DOQs for McLeod County were obtained by the County
- Each county ditch map was scanned
- The DOQs and scanned ditch map images were then registered to match the map projection of the county's other geographic data

- Existing TIGER hydrography and roads data layers were edited, so that they would correctly align with the DOQ basemap
- Public Land Survey (PLS) section line coverages were created using DOQs and GPS points as a reference. The GPS points were supplied by the county. The accuracy of the DOQ's, as stated by USGS, is +/- 33 feet. However, OSM is finding most of McLeod County's GPS points coming within about 10 feet of where one would guess them to be from the DOQ. This means the DOQ's are an excellent reference source for a base map in other counties when no GPS work has been done
- PLS quarter section line coverages were computed and edited using DOQs and GPS points as a reference. From these, quarter-quarter section line coverages will be computed and created
- Using the scanned ditch maps as a reference, the quarter-quarter section coverage will be edited to create a land ownership coverage with attributes describing the owner's name, acreage and PLS information



Hydrography (blue), Roads (red), Wetlands (green) and Ditch Watershed Boundaries (lt. blue) over Digital Orthophotography

In addition to addressing ditch map issues, this project will have long term benefits for the County. Using the TIGER road coverage, rural addresses can be added as attributes and used by the County Sheriff for 911. The air photos can be used by the planner and the assessor to determine the locations of structures in the County. The quarter-quarter section line coverage can provide a framework for parcel mapping on an interim basis until more accurate parcel maps are created.

Firm Background

Orr-Schelen-Mayeron & Associates (OSM), Inc. is an established provider of a complete spectrum of engineering and architectural services. Since establishment of the firm in 1922, our focus has been on providing quality design, effective leadership and innovative solutions with a commitment to exceeding the expectations of clients. OSM has, over the years, broadened its professional capabilities to our current status as a "full service" firm. This has been achieved through continual, managed growth as required to meet the needs of our clients. With a dedicated staff of over 120 engineers, architects, technicians and field service personnel, OSM is today a single source of professional planning, design, and construction observation services in a broad range of service areas and disciplines. Services include:

<i>Civil Engineering</i>	<i>Geographic Information Systems (GIS)</i>
<i>Traffic and Transportation Engineering</i>	<i>Surveying</i>
<i>Environmental Engineering</i>	<i>Water Resource Engineering</i>
<i>Landscape Architecture</i>	<i>Structural Engineering</i>
<i>Mechanical Engineering</i>	<i>Electrical Engineering</i>
<i>Lighting Design</i>	<i>Master Planning</i>
<i>Site Analysis/Evaluation and Selection</i>	<i>Land Planning</i>
<i>Computer Aided Design/Drafting</i>	<i>Energy Conservation</i>
<i>Equipment Planning</i>	<i>Life Cycle Costing</i>
<i>Value Engineering</i>	<i>Construction Administration</i>
<i>Operational Modeling</i>	<i>Building/ADA Surveys</i>
<i>Facility Evaluations</i>	<i>Feasibility Reports</i>
<i>Architectural Design</i>	<i>Interior Design</i>

FOR MORE INFORMATION, CONTACT:

Dr. Linda K. Tomaselli, GIS Services Manager

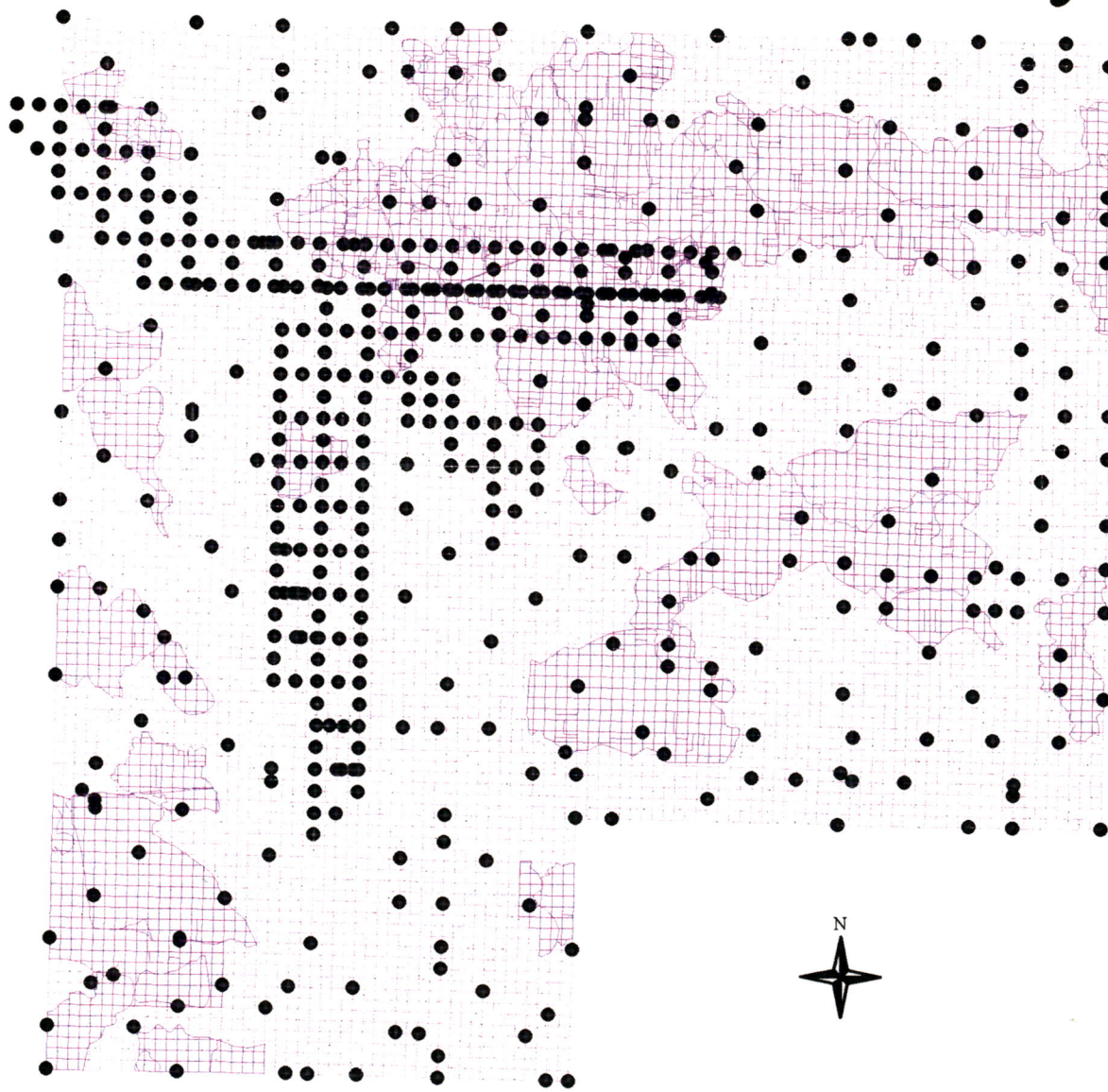
(612) 595-5634

Mark Wald, GIS Planner/Coordinator

(612) 595-5638

**300 PARK PLACE EAST, 5775 WAYZATA BOULEVARD, MINNEAPOLIS, MN 55416-1228
(612) 595-5775, 1-800-753-5775, FAX 595-5774**

McLeod County Basemap

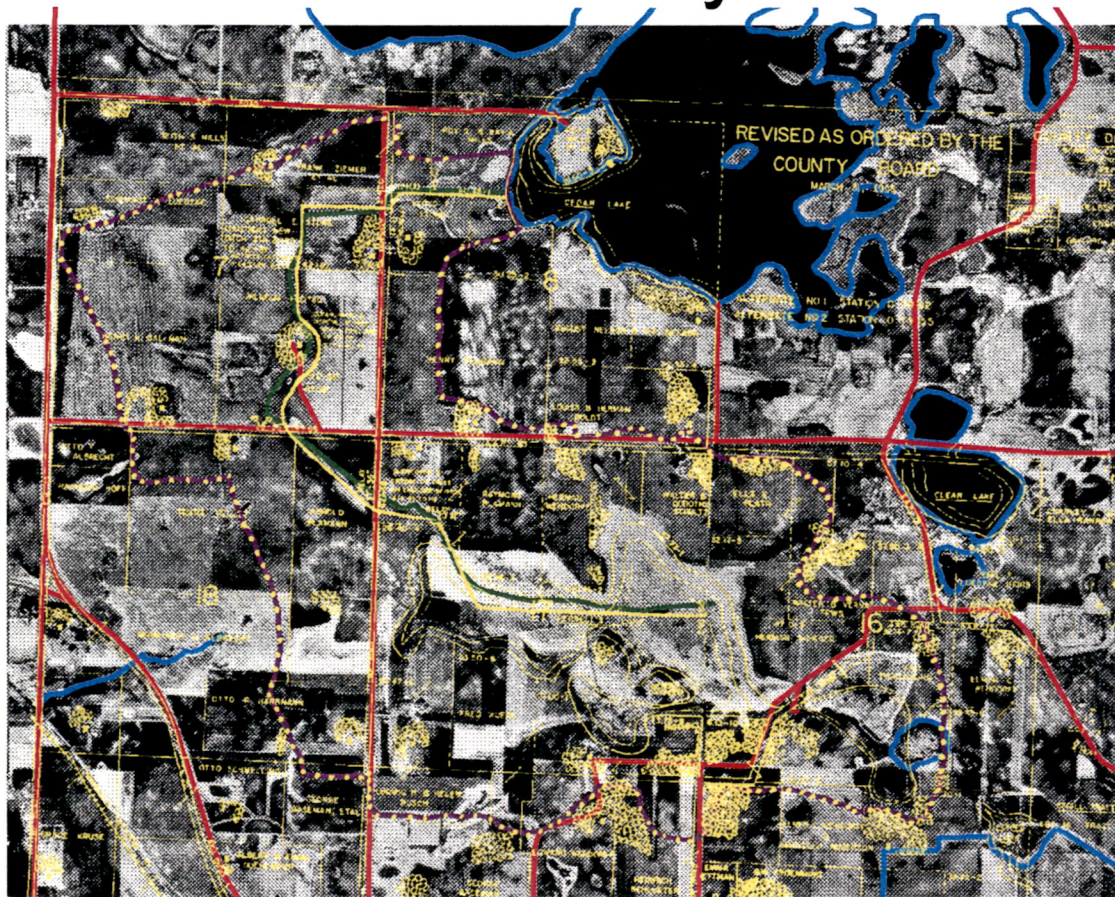


- Historic Parcels
- Quarter Quarter Sections
- GPS Points

Hutchinson



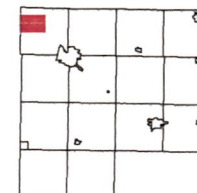
County Ditch #3



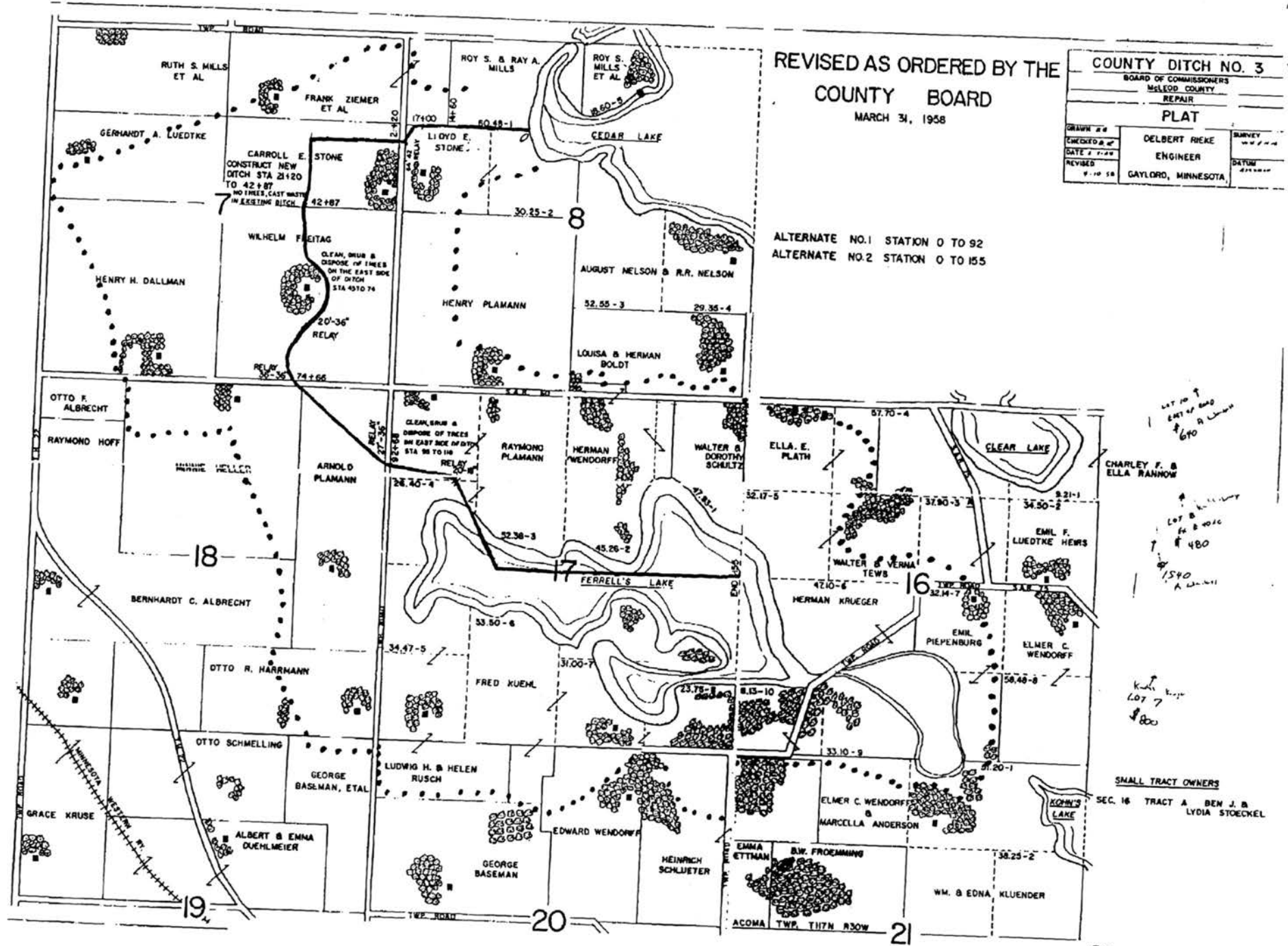
-  Watersheds
-  Roads
-  Ditches
-  Hydro



From the office of
Cindy Schultz, County Auditor
May 22, 1998 11:47 AM



0.5 0 0.5 1 1.5 2 2.5 Miles



June 1998

DRAFT DRAFT DRAFT

BOARD OF WATER AND SOIL RESOURCES AMERICINN, CONFERENCE ROOM MORA, MINNESOTA JUNE 25, 1998

BOARD MEMBERS PRESENT: Kathleen Roer, Barb Uppgaard, Darrell Bruggman, Dwain Otte, Lee Coe, Allan Oehlke, Glenn Annexstad, Paul Krabbenhoft, Jim Anderson, Rod Sando, Ginny Imholte, Marv Tripp

BOARD MEMBERS ABSENT:

Barb Cobb
Jim Dahlvang
Kelli Johnson, Department of Health
Sharon Clark, Department of Agriculture
Rod Massey, Pollution Control Agency

OTHERS PRESENT:

Darla Riley, on behalf of Sharon Clark, Department of Agriculture
Greg Gross, on behalf of Rod Massey, Pollution Control Agency
Jon Voz, Mower SWCD
Dick Zelenak, Minnesota Lakes Association
Lloyd Marier, Pokegama Lake Association
Bob Pigeon, Pine SWCD
Christie Nixon, Department of Natural Resources
Mary Herbst, Quad Lakes
Billie Jean Borchardt, Pine SWCD
Lynda Peterson, Kanabec SWCD
Dwight Wilcox, Department of Agriculture

STAFF PRESENT: Jim Birkholz, Doug Thomas, Keith Grow, Ron Shelito, Wayne Zellmer, Al Kean, Chris Hughes, Mary Jo Anderson

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Page Two

Chair Roer called the meeting to order at 9:00 a.m., and welcomed everyone to Mora.

98-38 **Adopt Agenda** - Moved by Lee Coe, seconded by Marv Tripp, to adopt the agenda as presented. Motion passed on a voice vote.

98-39 **Minutes of May 27, 1998** - Chair Roer stated that a change is needed on page four, in reference to the Amendment to Order Establishing the Brown's Creek Watershed District, second line should read "amendment" rather than establishment order. On page five, in reference to Area II Work Plan, Darold Neperman is the correct spelling of his name. Moved by Ginny Imholte, seconded by Barb Uppgaard, to approve the minutes of May 27, 1998, as corrected. Motion passed on a voice vote.

Reports

Chair Roer reported that the Minnesota Environmental Quality Board Citizens Advisory Committee for the Generic Environmental Impact Statement on Animal Agriculture will hold its first meeting today in St. Paul. Chair Roer has been in contact with Mike Sullivan, EQB; Peder Larson, MPCA; and D'Wayne DeZiel, MASWCD, to have additional representation on the committee. Chair Roer reported that a round table meeting "Setting the Course for Minnesota's Future" regarding sustainable development has been scheduled for July 9, at the History Center in St. Paul. Chair Roer reported that the Wetland Heritage Advisory Committee will meet tomorrow at the BWSR office in St. Paul.

Executive Director - Jim Birkholz reported that he's attending the meeting today on behalf of Ron Harnack, who is on vacation. Jim gave an update on staffing issues. The southern education position in partnership with the University of Minnesota Extension Service (MES) will be hired as an unclassified position rather than contractual. The metro education position will be contracted with MES; optimistic that these two positions will be filled in the next few weeks. Jim stated that CREP in the Minnesota River basin is at a standstill until programmatic details regarding width of buffer strips eligible for the program are worked out with the FSA state committee. Rod Sando stated that it's a key time for decision-making with federal/state agencies; he will talk with Governor Carlson about this issue. Jim reported that Congressman Minge has scheduled a Minnesota/South Dakota border conference on soil and water for July 1, at the Lac Qui Parle High School in Madison, Minnesota. Representative Minge hopes to establish an ongoing dialogue between residents and leaders of both states to address environmental issues that affect individuals on both sides of the border. He wants to promote development of a comprehensive plan of action that reduces redundancy and possible conflicts.

Jim reminded board members to review their "Board Member Update" to be kept informed of ongoing BWSR activities. Jim reported that a new BWSR publication, "BWSR Update" will be distributed soon regarding electronic communication/information resource management. Jim reported that a summary of applications for grants to local governments to assist natural resource

BWSR Meeting Minutes

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decision-making was distributed to board members for their information. A priority list will be established by board conservationists to focus on the LGU proposals which will be brought before the Board for action at the July BWSR meeting.

Dispute Resolution Committee (DRC) - Marv Tripp reported that there are two pending appeals before BWSR at this time. Both appeals are WCA appeals and involve the same wetland in Scott County in the metro area. The DNR appealed an LGU exemption determination. Then, after a technical evaluation panel (TEP), the LGU reversed its decision. Now the landowner has appealed the latest LGU action. No hearing date has been set as of this time.

Wetlands Committee - Darrell Bruggman reported that the Wetland Heritage Advisory Committee will meet in St. Paul tomorrow. Darrell stated that the 1996 wetland report will be distributed next week. Darrell distributed an article for board members information that was in the Minneapolis StarTribune regarding wetland regulations.

Administrative Advisory Committee - Chair Roer reported that the administrative advisory committee met last night to review the information from the retreat in reference to the MAD recommendations. Chair Roer asked if any board members are interested in attending the MASWCD Leadership Session, they should let her know.

Agency Reports

Jim Anderson, University of Minnesota Extension Service (MES) reported that Barb Luikkonen is taking a one-year leave of absence, effective August 3, to work with the Minnesota Rivers Council.

Darla Riley, Department of Agriculture (MDA), is attending the meeting today on behalf of Sharon Clark. She reported that the MDA division directors are working on legislative initiatives as well as tracking LCMR projects. The Department will have representation at Congressman Minge's conference on July 1 in Madison. MDA is interested in involvement on the drainage round table. Darla introduced Dwight Wilcox, also attending the meeting today.

Greg Gross, Pollution Control Agency, (PCA) is attending on behalf of Rod Massey. Greg reported that PCA is under a new organizational structure; the PCA building will reorganize on August 3; with a shut down ~~August 30 through September 2~~ *July 30-31*. There will be 200 staff in the central office with 600 staff statewide.

Rod Sando, Department of Natural Resources (DNR) reported that DNR is involved in the Red River mediation process. There have been two meetings held thus far. The mediation process is to get a better understanding and positive interest in resolving flood control issues in the Red River. Rod stated that he will be attending the EQB GEIS meeting today; there are additional public meetings scheduled statewide. Rod stated that a conflict continues regarding forest

BWSR Meeting Minutes

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resource management. He stated that Senator Bob Lessard is looking at fish stocking.

New Business

Review of Tour and Public Issues Forum - Chair Roer thanked Lynda Peterson, Wes Cashman, Keith Grow, Ron Shelito, Snake River citizens advisory committee, county commissioners, state representatives, and all the local folks that explained issues in natural resources management in this part of the state; it was a very educational tour. Chair Roer thanked everyone for the tour and their hospitality. There is a concern in this area of the state regarding the state revolving fund loan program and the lack of lenders available to disburse funds. Dwight Wilcox explained the state revolving fund process and the federal requirements for loans as it refers to Impact 6. Discussion followed. Chair Roer appreciated the assistance of Dwight Wilcox on this issue.

Quad Lakes Restoration Project Plans - Chris Hughes introduced representatives of the quad lakes area: Bob Brush, Mary Herbs, Hugh Valliant, and Christie Nixon. The quad lakes area of south central Minnesota include Lura Lake, Bass Lake, Minnesota Lake, Rice Lake (Wells) and Rice Lake (Winnebago). Bob Brush explained the restoration project plans and the assistance they have received in getting projects completed. Chair Roer stated that this is a terrific example of coordinated involvement in working together. A letter has been received from the Faribault SWCD requesting \$500,000 for the quad lakes implementation program. Jim Birkholz explained that the request is for approval of the legislative work plan, funding for these projects is provided through a \$200,000 FY98 general appropriation and \$300,000 of FY99 capital appropriation.

98-40 Moved by Allan Oehlke, seconded by Glenn Annexstad, to accept and approve the work plan and release of funds to the Faribault SWCD for the quad lakes implementation program. Motion passed on a voice vote.

FY99 SWCD Grants - Wayne Zellmer gave a brief overview of the five SWCD grants and allocations: 1) Cost-Share Base Grants \$1,373,063; 2) Special Projects \$393,000; 3) General Services Grant \$1,838,291; 4) RIM Reserve Service Grant \$748,780; and 5) Special Minnesota River Basin Grants \$607,000. Wayne, on behalf of the staff and the BWSR cost-share committee, requests approval of the FY99 SWCD grants and allocations as presented. Moved by Ginny Imholte, seconded by Lee Coe, to approve the FY99 SWCD grants as presented. Motion passed on a voice vote. Board members were reminded that in the future the SWCD general services grant may not be divided equally.

98-41

Lakeshore Easements - Ron Shelito explained the preliminary work plan for pilot lakeshore easements. The proposal is for permanent easements in the northern counties to protect soil and water resources, preserve pristine shoreline environments, protect fish and wildlife habitat and improve overall quality of life by retiring lakeshore areas that could otherwise be developed into more intensive uses. LCMR has approved the work plan, but not yet the funding for \$250,000. Discussion followed.

BWSR Meeting Minutes

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98-42

Feedlot Water Quality Management Grants - Wayne Zellmer explained that the 1998 legislature appropriated \$2 million to BWSR to allocate funds to SWCDs for cost-sharing on water quality management grants for feedlots. Wayne stated that the BWSR Cost-Share Committee and staff recommend approval of these grants. Dwain Otte thanked Wayne, Ron Harnack, and Doug Thomas for their time and assistance on this grant process to fund 19 counties. Allan Oehlke commended staff for their sincere efforts on this. Moved by Allan Oehlke, seconded by Dwain Otte, to approve the Feedlot Water Quality Management Grant allocation. Discussion followed. Motion passed on a voice vote. Dwain Otte thanked Wayne Zellmer and Barb Cobb for their minutes of the cost-share committee meeting on June 17. Discussion followed regarding the violation status of landowners with feedlots who apply for cost-share assistance. Chair Roer thanked the cost-share committee for their work on this.

Chair called for a break in the meeting at 10:55 a.m. The meeting reconvened at 11:05 a.m.

98-43

Tornado Technical Assistance - Wayne Zellmer explained the "tornado alley" that has come through Minnesota again and affected reforestation and farmstead windbreaks. Technical assistance is needed to work with other agencies and landowners. The Tornado Forestry Committee has recommended an action plan that would commit dollars to contracting for plan development this year so implementation could begin in the spring of 1999. A financial commitment of \$10,000 from BWSR has been requested for staff to plant trees in the spring. Moved by Glenn Annexstad, seconded by Barb Uppgaard, to approve the request and provide \$10,000 for technical assistance out of the general fund appropriation. Discussion followed. Motion passed on a voice vote.

Drainage Round Table - Jim Birkholz explained the concept for a drainage round table. Discussion followed. Suggested specifics for the drainage round table include:

- ongoing meeting process over the next twelve to fourteen months
- meetings to be held statewide
- possibly divide the state in two -- northern and southern, as they *differ regarding* farm drainage issues
- identify participants
- establish ground rules
- a citizens advisory group for each region
- BWSR wetlands committee to assist
- ditch viewers should be invited
- this would be a biennial budget issue
- coordinate efforts regionally and statewide
- invite key legislators
- by the year 2000 everyone would be poised to deal with the drainage issue

It was the consensus of the Board that this is a wonderful opportunity to cooperate with other agencies. MDA, DNR, and MES committed to the drainage round table. Moved by Barb

BWSR Meeting Minutes

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98-44**

Uppgaard, seconded by Ginny Imholte, that BWSR will convene a drainage round table to address the statewide drainage problems, efforts will be coordinated regionally and statewide. Motion passed on a voice vote.

Mower SWCD - NRCS Wetlands Administration - Jim Birkholz introduced Jon Voz, resource specialist with Mower SWCD. Jon explained the partnership proposal for SWCDs to provide technical assistance in administering federal wetland compliance provisions. This will promote a stronger and better coordinated wetland conservation delivery system to the landowners of Minnesota and encompass both state and federal wetland regulations. Jon requested BWSR's support for this proposal, as well as a request to make a phone call to Bill Hunt. Jim Birkholz stated that one-stop-shopping has been an emphasis as a service to the community, this proposal addresses that issue. Chair Roer stated that this proposal shows that the local/federal process can be done together. Jon said that NRCS formally endorses this proposal, and Chief Pearlie Reed also supports this proposal. It was the consensus of the Board to support and endorse this proposal.

Advisory Comments

-Lynda Peterson, MACDE, stated that she is the Area III MACDE Director. The MACDE held their summer training session last week at Cragun's in Brainerd. Lynda stated that the training sessions were very good and well attended.

Upcoming Meetings

The next BWSR meeting is July 22 in St. Paul. Chair Roer stated that the Water Planning Conference is scheduled during this time in Crookston; if you know that you won't be at July BWSR meeting, let Mary Jo know as soon as possible.

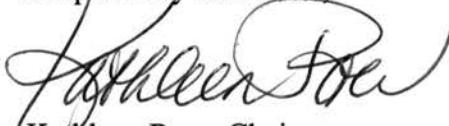
Chair Roer stated that Ron Harnack has been in contact with agencies from other states and has invited them to attend our September BWSR meeting to discuss alternative organization for water management. The length of the September meeting will be indicated at the August BWSR meeting.

The October BWSR tour and meeting will be held October 28-29 in Lanesboro, southeastern Minnesota.

Chair Roer reminded board members to get your expense claims in.

Chair Roer adjourned the meeting at 12:00 p.m.

Respectfully submitted,



Kathleen Roer, Chair

Nothing is as constant as **CHANGE**

Soon, the MPCA will be reorganizing agency operations to anticipate dynamic changes in the way environmental protection and improvement will be achieved in the 21st century. **The MPCA Central Office in St. Paul will have limited service on July 30 -31, 1998 on moving day**, so we request that our valued customers call only with urgent matters on those days and avoid drop-in visits to the agency.

Things you need to know about the restructuring, which is effective on August 3, 1998, are:

- All MPCA staff will have the **same phone numbers before and after the change**, so don't throw anyone out of the Rolodex.
- Transition of projects from one MPCA staff member to another **will take place gradually**. You will be fully informed if we anticipate any effects on you or your projects.
- Packages of **information will be available** on August 3 in our offices and on our web site <<http://www.pca.state.mn.us>> outlining who's who in the new MPCA.

If you have any difficulties connecting with the appropriate MPCA staff or getting your questions answer, we've got **a handy directory of phone numbers** on the reverse side of this flyer.



Minnesota Pollution Control Agency

A message from MPCA staff serving Minnesota from offices in Brainerd, Detroit Lakes, Duluth, Mankato, Marshall, Rochester, and St. Paul.

Who're you gonna **CALL?**

First, **contact the MPCA staff member you usually work with** at their usual phone number. If you don't reach your party, many staff have voice mail. MPCA support staff also will relay your message to the appropriate person or work group.

Second, **contact the general information numbers** at each of the agency's offices. Helpful staff in these locations will connect you with the MPCA service you need.

MPCA Information Center, St. Paul

(651) 296-6300

toll-free or TDD (800) 657-3864

MPCA Northeast Region, Duluth

(218) 723-4660

MPCA North Central Region, Brainerd

(218) 828-2492

MPCA Northwest Region, Detroit Lakes

(218) 847-1519

MPCA Southwest Region, Marshall

(507) 537-7146

Southeast Region, Rochester

(507) 285-7343

For **emergency situations only**, such as spills, call the State Duty Officer at (651) 649-5451 in the Twin Cities Metro and (800) 422-0798 in Greater Minnesota.



Minnesota Pollution Control Agency

Copied on recycled paper with at least 20% postconsumer waste.

BOARD OF WATER AND SOIL RESOURCES
ATTENDANCE ROSTER

	NAME	AFFILIATION	PHONE #
1.	John Voz	Mower S.W.C.D	507-433-8268
2.	Dick Zelenak	MLA	612-774-2593
3.	LLOYD J. MARIER	BORECAWALAKE ASSN	320-629-7015
4.	Bob Pigeon	SWCD	320-629-2445
5.	Christie Nixon	DNR	507-362-4223
6.	GREG GROSS	MPCA	612-296-7472
7.	Dana Riley	MDA	612-282-5140
8.	Mary Herbst	Quad Lakes	507-462-3424
9.	Bill Jean Borchardt	SWCD	(218) 372-3620
10.	Chris Hughes	BWSR	507-359-6076
11.	Ron Shelke	"	
12.	Lynda Peterson	Kanabec SWCD	(320) 629-3982
13.			
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Board member Update

June 1998

Engineering and Technical Services Section

Program Information

For the past few years, June has been the month when EPA 319 grant proposals are due. Gene Clark, lakeshore engineer, is submitting a proposal to extend our part-time lakeshore engineering technician position for another year. Brad Matlack currently serves in that half-time position, which is 319 grant-funded. Gene has been coordinating with Pollution Control Agency (PCA) staff, Al Kean, chief engineer, Mark Nelson, board conservationist, and a number of North Shore local government unit (LGU) staff, to focus the proposal to be most successful. Because a Lake Superior Clean Water Partnership project was recently funded for Phase II implementation, and we've received several more Great Lakes Commission (GLC) grants,

we're proposing to increase the technician position to 3/4 time. An additional focus of the position will be on exploring needs and opportunities for use of Geographic Information System (GIS) software for planning, design and monitoring of projects involving soil and water conservation districts (SWCDs), counties, other LGUs and state agencies involved in the Lake Superior watershed. Our lakeshore engineering assistance program continues to grow and get stronger, providing SWCDs with substantial technical assistance on increasing numbers of projects.

Gene, Al and Eric Mohring, groundwater specialist, are teaming up to implement a GLC grant we recently received for soil testing and phreatic surface monitoring at landslides on the North Shore. This project should enable better slope stability analysis, with related savings in shoreline stabilization project costs. Identification of sites, equipment needs and methodologies to use has begun.

The Management Analysis Division (MAD) of the Department of Administration has been hired to conduct a process analysis for our conservation

Gene, Al and Eric Mohring, groundwater specialist, are teaming up to implement a GLC grant we recently received for soil testing and phreatic surface monitoring at landslides on the North Shore.

In recent years, there has been much concern about the effectiveness of filter strips for feedlots, based on some bad experiences, particularly in Wisconsin.

easement programs. It has been about five to six years since the last major analysis and update of the process. Since that time, the number of conservation easement programs and overall program funding has increased several fold. This analysis will involve BWSR, SWCD, title agent and other potential outside vendor roles. It will start in early July and be completed by mid-September. An activity-based cost analysis will be part of the methodology employed to evaluate and potentially redefine roles for increased efficiency. A number of SWCD staff involved in our easement programs will be asked to participate in this process analysis.

The Non Point Engineering Assistance Program has had a few staffing gains, losses and continued searches of late. SWCD Joint Powers Area (JPA) 10 (south central Minnesota) recently hired technician Tony Abrahamson away from JPA 9 (southwest Minnesota). JPA 10 continues trying to find a qualified engineer (this will be about the third job announcement period). Technician Brian Malone recently left JPA 1 (northwest Minnesota) and went to work for Pennington SWCD. JPA 1 is looking for a new technician.

Tom Wenzel, design engineer, and West Ottertail SWCD staff have been coordinating with the Bois de Sioux Watershed District and a couple of landowners in Grant County to collaborate on easement acquisition for a large wetland restoration with associated flood water storage. We are hopeful that a funding partnership and cooperative landowners will result in a

win-win deal.

General LGU Assistance

Al and Justin Jeffery, training and design engineer, recently hosted a task force involving PCA, the Natural Resources Conservation Service (NRCS) and BWSR staff that has been created to develop coordinated policies and guidance for use of vegetated filter strips for treatment of feedlot runoff. In recent years, there has been much concern about the effectiveness of filter strips for feedlots, based on some bad experiences, particularly in Wisconsin. A couple of monitoring projects are being conducted in Minnesota, with mixed results to date. Front line technical assistance staff in Minnesota are asking for clarification of what is and isn't acceptable from design and permitting perspectives. We intend to help develop clearer and more consistent guidance and get technical assistance and regulatory folks singing from the same song sheet.

Justin presented another Feedlot Evaluation (FLEval) model training session on June 10 in Marshall. About 30 people attended. NRCS area engineer Paul Bridgland handled all the local arrangements. We continue to promote attendance of county feedlot officers, PCA staff, SWCD staff (including joint powers) and NRCS staff to help get everyone on the same page in terms of how to best utilize the FLEval model. Justin has another session scheduled for July 14 in Detroit Lakes. He expects to follow-up with on-site consultation in the use and interpretation of FLEval results.

Justin continues to develop an in-state construction inspection course

for early next year. He's expecting the course to be up to four days in length, in order to cover all the material. Two SWCD joint powers staff recently attended an NRCS national construction inspection course in Lincoln, Nebraska. We'll try to use some of their input to help tailor an in-state course.

Tim Fredbo, easement program manager, recently attended the Minnesota Association of Conservation District Employees (MACDE) annual training conference to present an update on the Reinvest in Minnesota (RIM) Reserve/Wetlands Reserve Program (WRP) partnership. Joe Wiltsey, BWSR/NRCS training coordinator, also attended the MACDE conference to present an update on the partnership training initiative.

Gene recently gave a presentation to a Great Lakes Network conference of Sea Grant Specialists. He spoke about state programs and associated BWSR/soil and water conservation district roles that address coastal erosion and water quality issues on private lands. Some of the other great lakes states are surprised about the extent of state and local government partnering with private landowners in Minnesota.

Hot Topics

Al and Board Conservationist Brian Dwight attended a recent meeting of the Red River Water Management Board to present an overview of legislation authorizing a pilot program for flood storage easements and to initiate coordination. Our conservation easement

appropriation for fiscal years (FY) 1999-2000 authorizes the use of up to \$250,000 for this pilot. Three watershed districts have expressed interest in the pilot (Red Lake, Wild Rice and Roseau River). The catalyst for this pilot came from Red Lake Watershed District and legislative support from Senator Stumpf. Al and Brian are leading start-up efforts.

Congressman David Minge has scheduled a Minnesota/South Dakota Border Conference on Soil and Water for July 1 at Madison, Minnesota. Rep. Minge hopes to establish an ongoing dialogue between residents and leaders of both states to address environmental issues that affect individuals on both sides of the border. He wants to promote development of a comprehensive plan of action that reduces redundancy and possible conflicts. He has invited a broad cross-section of people and agencies. Al plans to attend.

*Congressman
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Conference on
Soil and Water
for July 1 at
Madison,
Minnesota.*

Southern Region

Program Information

The local water planning front has been quiet as board conservationists (BCs) work with LGUs as they investigate or generate individual or cooperative challenge grant proposals. Challenge grant proposals are due to BCs by July 1.

In Wetland Conservation Act (WCA) activity, New Ulm BC Tom Fischer participated in a Meeker County case where a landowner drained an approximately 30 acre Type 3 (PEMCD) wetland. DNR received a telephone

BWSR received six applications--requesting over \$1.1 million--for the FY 1999 special Minnesota River Basin Cost Share grants. FY 1999 available funds are \$607,000.

call "tip" about the drainage activity. A DNR wetland enforcement officer (WEO) visited the site and issued a Cease and Desist Order. With the assistance of the WEO, the WCA LGU then organized a committee to address this violation. The committee consists of the McLeod SWCD and Planning and Zoning Department, the WEO, the DNR area hydrologist, BWSR (BC Tom Fischer, Wetland Specialist Barbara Ohman), and the U.S. Army Corps of Engineers. This group met on-site with the landowner to conduct its investigation/site review. The group met again to finalize enforcement procedures. The U.S. Army Corps of Engineers and the SWCD issued restoration orders. The landowner has had previous violation activities with the DNR and the U.S. Army Corps of Engineers.

Rochester BC Dave Peterson's technical evaluation panel activity included public transportation projects and a wetland bank deposit review.

BWSR received six applications--requesting over \$1.1 million--for the FY 1999 special Minnesota River Basin Cost Share grants. FY 1999 available funds are \$607,000. A committee consisting of BCs Tom Fischer, Tabor Hoek, Pete Waller, and Chris Hughes, and southern region supervisor Jeff Nielsen, met to review and discuss a summary report of the applications and make funding recommendations. The committee's funding recommendation was presented to the Grants Team in June for their approval.

Final funding recommendation will be presented to the BWSR board at its June 1998 meeting for board action.

BWSR received applications from SWCDs state-wide for Cost Share Program Special Projects funding. FY 1999 funds available are \$393,000. The 38 applications requested over \$613,000. Each BC reviewed and evaluated applications submitted from within their work area. The Grants Team reviewed these in early June, and the team's funding recommendation will be presented to the BWSR board at its June 1998 meeting for board action.

Area II received \$500,000 for flood control related practices this past legislative session. One major project in Area II this summer is a 357 acre lake bed restoration which the U.S. Fish and Wildlife Service (USF&WS) will be purchasing. Area II will be providing \$45,000 in development funds to secure one foot of bounce during run-off events as flood control. This was an excellent opportunity as someone else did almost all the work and the flood control was added with minimal costs.

General LGU Assistance

The Mower SWCD has developed a proposal to allow willing districts to perform federal wetland determinations for NRCS. At the district's request, BC Dave Peterson met with the district and NRCS Area Conservationist John Nicholson to explain the proposal and get input.

BC David Sill recently met with staff and managers from the Upper Minnesota River Watershed District as they begin the process of revising their overall watershed management plan. This is an excellent group, and David looks forward to working with them on their plan update!

Hot Topics

The 1998 tillage transect field data has been collected by local government representatives. The surveys are being forwarded to Merle Anderson, BWSR transect coordinator, for processing. Although two counties missed the survey, we should still end up with 43 counties participating. Plans are to expand the survey coverage into the Red River Valley as well as southeastern Minnesota by adapting the survey process to fit regional needs. BWSR is providing \$400/county to participate for two years in the survey. We will provide the results of the survey once Merle has had a chance to process them. This is the fourth year of the statewide tillage survey initiative.

Other

BC Tom Fischer coordinated a presentation that McLeod County and OSM & Associates gave to the BWSR board on May 27. The presentation was on the recently completed McLeod County drainage inventory, which was funded by a BWSR grant. The presentation offered the board an opportunity to learn what it took to complete the inventory and see what types of information can be pro-

vided.

With the recent additional feedlot cost-share dollars becoming available and the feedlot challenge grant opportunity, BC David Sill continues to challenge, encourage, and question local governments—SWCDs and counties (board and staff)—in his work area at every opportunity on what their strategy is in this arena. David has been stressing the importance of local inventories to help assess workload and determine funding needs and priority areas. There continues to be some hesitancy by many to jump into this arena—although at the same time there is a great opportunity to serve landowner needs.

Metro Region

Program Information

Staff have been very busy with WCA activities ever since March, with only a few weeks that could be considered slow in that program area. Development in the Metro Area continues at a rapid pace with no end in sight. Each week brings a new challenge or new twist that requires BC assistance. Barbara Ohman, wetland specialist, and John Jaschke, wetland program manager, have been providing valuable and much appreciated assistance to the Metro Region this spring.

Staff continues to implement our policy of trying to “get out in front of the planning process” and have had some successes. Metro BC Doug Snyder and student intern Bill Sands recently made a presentation to the Carver County watershed planning

With the recent additional feedlot cost-share dollars becoming available and the feedlot challenge grant opportunity, BC David Sill continues to challenge local governments on what their strategy is in this arena.

Because the consultant was able to use the SWCD and county data, the consulting fee was only about \$9,000, instead of the approximately \$40,000 it would have cost if the consultant had collected the data.

group on assessing the functions and values of wetlands using the GIS method developed by Doug. The study was on a subwatershed basis and has inspired the county staff to pursue it on a county-wide basis. A consultant working for the county just finished a hydrologic model for the same subwatershed by working in partnership with the SWCD and county staff, who provided cross-section and survey data. Because the consultant was able to use the SWCD and county data, the consulting fee was only about \$9,000, instead of the approximately \$40,000 it would have cost if the consultant had collected the data. This is a great example of how public and private sectors can work together at a cost savings to the taxpayer.

General LGU Assistance

Metro BCs Phil Belfiori, Matt Moore, and Metro Secretary Char Sokatch have developed and been testing some professional-looking informational brochures that can be customized for individual watershed planning efforts. In presenting the information to watershed management organizations (WMOs), they are stressing the importance of citizen involvement and are focussing on ways to make sure citizens are involved. A continuing challenge is to keep ordinary citizens interested and active in a public planning process that always takes more time than it should.

Phil has provided considerable assistance to the Scott County

water planning effort to date. Phil has been working directly with the County Public Works Director (who is in charge of the effort). Phil has been given access to a desk and phone in the public works facility. Phil's up-front assistance has been primarily in providing guidance in developing a sound planning process.

Washington County has selected a consultant to lead them in their "Aquarius Study." The purpose of the study is to assess the current governance structure for surface and ground water management in the county and attempt to come up with a better mousetrap. They intend to let no stone go unturned and have even stated that they will seek special legislation if needed to implement the recommendations that come out of the study. The study will be guided by a steering committee and work group. The work group will be represented by all LGUs in the county, state agencies, and the Met Council. Bruce is on the steering committee and Matt is representing BWSR on the work group.

Other

BWSR and the University of Minnesota Extension Service (Extension) will be interviewing for the metro education specialist on July 7. We hope to have that position and contract consummated by the end of July. Tim Thoreen has been hired as an unclassified planner for about five months in order to help put the final wraps on a Met Council-funded project the metro region has been working on.



BWSR Update

Information Resource Management



June 1998

***READERS:** As the BWSR and its clientele strive to wisely manage water and soil resources, it is important to seek out efficient ways of doing business. To that end BWSR is employing various means, including working to improve how we manage our information resources to meet the needs of our agency and the local government units (LGUs) we serve. We hope to simplify processes and enhance the ability to provide good service. Achieving that will depend on open, straight forward and timely communication and interaction between BWSR and LGUs. Periodically we will mail updates to keep you apprized of what's happening with computers, databases, web site and other information resources at BWSR. We hope you will share the information with your board members, managers, supervisors and commissioners.*

Unification

With the rather curious title of unification, this project seeks to connect BWSR and its clientele via an accessible, user-friendly information system. **The goal** is to develop databases that will allow data sharing among our programs and grants, and to develop new applications for input, retrieval and maintenance of data. **The desired outcomes** are:



- accessible information on programs;
- enhanced service to LGUs (e.g., simplified reporting);
- faster, more accurate responses to information requests;
- geographically displayed information;
- more effective policy making; and
- consistent application and enforcement of regulations.

The challenge will be identifying the relationships between data and having the foresight to anticipate future relationships so we can collect and enter the data to serve many functions, for many users for many years to come. "Key it in once."

The project will entail three phases. We are currently in the requirements phase which involves identifying what we need and want. The next phase is systems design - deciding how we structure the relationship of the data. The final phase is constructing and delivering the databases and applications. The BWSR has

hired Sufficient Systems (a consulting firm) to design and construct the system. BWSR staff and LGU representatives are assisting the consultants. Several LGU staff participated in identifying work flow processes for various BWSR programs. LGUs will also be heavily involved in testing prototypes of the databases.

The BWSR is committed to educating and involving the staffs and boards of the local governments we serve in this process. The simple fact is we are an information society. To stay current, knowledgeable and effective in our line of work BWSR and LGUs must manage information effectively. There is little doubt that the electronic format is fast becoming the most popular and efficient means of managing information.

BWSR fully intends to conduct its business **electronically** in the not too distant future.

The era of sending hard copy communication such as this is rapidly coming to a close. BWSR fully intends to work towards conducting business electronically - receiving and disseminating information via the information highway. We plan on designing the vehicle with you and offering drivers' training to those who want it. We hope you are up for the ride!

Computer Specs

Many LGUs are purchasing new computer equipment. With the disclaimer that technology is progressing swiftly and likewise systems requirements rapidly change, we offer the following guideline:

	<u>Minimum</u>	<u>Recommend</u>	<u>Best</u>
Hardware			
Monitor	14" color	15" color	17" color
V. Graphics Card	n/a	yes	yes
CDROM	24X	Fastest	Fastest
Mouse	yes	yes	yes
Keyboard	yes	yes	yes
Printer			
- Laser	600dpi	600dpi	600dpi
- Ink Jet	600dpi	600+dpi	600+dpi
RAM	32	32	64
Hardrive	4gb	6gb	8gb
CPU*	Pent I - 200	Pent II - 233	Pent II - 433
MMX	yes	yes	yes
Fax / Modem	33.6K	56K	56K
Operating System	Windows 95	Windows 95	Windows95

*CPU=Computer Processing Unit

Pent.=Pentium

=MGZ

BWSR Web Site

The BWSR is in the process of developing a web site. Once operational we plan to use the web site to receive and disseminate information. It will contain reference material such as BWSR handbooks and the BWSR/LGU Directory. It will contain useful information on programs - for example you could access the number and location of wetland banking credits. Board minutes and newsletters will also be accessible.

You can't be a good web citizen without links to other sites so we'll provide links to other agencies and associations.

We're hopeful the web site will be up and running by the fall. We'll keep you posted!

Meet a BWSR IRM Staff Member. . . John Lenarz is the Manager of BWSR's Information Resources Unit (IRU). John received his BS and MS degrees in forestry in the early '80's from the University of Minnesota along with a certificate of Information Systems Analysis and Design. John has worked as a computer person for the state for 15 years. He was a programmer and network manager at the DNR, and a programmer/analyst at the Dept. of Human Services before coming to BWSR in February of this year. As the manager of the IRU his responsibilities include everything from writing the Information Resource Plan for the agency to writing and purchasing orders for new PCs. His vision is to create information resources that enable and empower the BWSR's staff and clientele to conveniently and effectively do their jobs. The ultimate goal is to further the cause of conserving Minnesota's land and soil resources. John lives with his wife Sonya and the five year old son Randy on an 80 acre farm in Spring Valley WI. Down on the farm they do a few of their own conservation projects - and a bit of computing.



Minnesota Board of Water and Soil Resources
One West Water Street, Suite 200
St. Paul, MN 55107

MARY JO ANDERSON
BWSR
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ST. PAUL, MN 55107

SUMMARY OF APPLICATIONS GRANTS TO LOCAL GOVERNMENTS TO ASSIST NATURAL RESOURCE DECISIONMAKING

<u>Board Conservationist</u>	<u>LGU/Proposal</u>	<u>Amount</u>
Northern Region		
Dan Steward	Aitkin Co.-- Comprehensive ditch inventory	\$50,000
	Crow Wing Co.--Developing wellhead protection plans and a Regional groundwater model to assist local units of Governments in directing sustainable growth and development In Crow Wing County	\$50,000
	Itasca Co.--Mapping of aggregate (gravel) resources in Itasca County	\$22,750
Dale Krystosek	Clay Co./Clay SWCD--Glacial Lake Agassiz Beach Ridge critical sites; establish wellhead protection for Buffalo Aquifer, and, Clay County drainage system inventory	\$30,000
	Cass Co.--Purchase ArcView 3-D Analyst software and develop ISTS design and inspection software	\$6,000
	East Otter Tail SWCD--Develop GIS for groundwater protection and add full-time technician	\$35,000
Mark Nelson	Carlton & S. St. Louis SWCD--Assist three North Shore communities with their GIS needs at low cost to help produce efficient and sustainable development To help protect the Lake Superior Basin	\$72,395.20
	Carlton SWCD--Digitize the soil survey of Carlton County for use in GIS	\$40,000
	Pine SWCD--Inventory, evaluation, education and corrective action for non-conforming ISTS in Pine Lake Township	\$7,000
Pete Waller	Douglas Co.--GIS mapping of shoreline bluffs, wetlands and sensitive areas to guide re-zoning for protection of sensitive areas	\$37,895
Keith Grow	Chisago SWCD--Develop and maintain a county-wide GIS	\$40,000

<u>Board Conservationist</u>	<u>LGU/Proposal</u>	<u>Amount</u>
Metro Region		
Doug Snyder	Middle Mississippi River WMO--Regional storm water management and brown field Remediation for the Southeast Minneapolis Industrial Area	\$40,000
	Hennepin SWCD--Completion of a comprehensive wetland inventory of Hennepin County	\$50,000
	Carver Co. Planning & Zoning--Expand GIS based wetland assessment county-wide	\$7,500
Phil Belfiori	Scott SWCD--Create and maintain a Development in Review Team (DIRT) to review development proposals with developers	\$10,000
	City of Savage--Develop a comprehensive wetland management plan	\$21,380
Matt Moore	Washington SWCD--Using GIS as a decision making tool for Brown's Creek trout stream habitat preservation by creation of a water natural resource data base and monitoring network	\$35,000
	Carnelian-Marine WD--Aerial lake analysis of lake shorelines and environmental assessment overflight	\$30,000
Southern Region		
Tom Fischer	Kandiyohi Co.--Enhance GIS capabilities for feedlots and other land use issues	\$60,000
Mary Kells	Olmsted Co.--Model zoning and platting controls for the focused groundwater recharge area within the Rochester-Zumbro aquifer-shed	\$50,000
	Houston Co.--Enhanced GIS for land use planning and township scale pilot demonstration	\$40,000
Dave Peterson	Mower SWCD--Updated GIS land use/land cover layer (1:660')	\$15,000
David Sill	Lincoln SWCD--Develop and implement a county-wide GIS	\$30,000
	Swift SWCD--Hire a District Coordinator	\$20,000
Brian Dwight	Roseau Co.--Warroad area sewer expansion planning project	\$50,000
	Beltrami SWCD--Develop and implement a natural resource assessment model for the Bemidji area to manage development	\$25,000
Tabor Hoek	Murray Co.--Design several sewer and water systems within the Shetek Area Water and Sewer District	\$50,000
	Rock Co.--Land use plan enhancement	\$8,000
Chris Hughes	Martin Co.--Conduct a land use survey as part of developing a comprehensive land use plan	\$12,588
TOTAL--29 applications		\$945,508.20

Mpls S.T.

6-21-98

*** STAR TRIBUNE • PAGE B5

Farmers surveyed on land use issues

Associated Press

WASHINGTON, D.C. — Among the hottest farm issues of recent years has been the impact of regulations on private property. A new study indicates that the often-heated rhetoric may not reflect most landowners' views.

The American Farmland Trust, a nonprofit land-conservation advocacy group, found in the survey of farmers, ranchers and landowners that 71 percent reported no loss traced to such regulations as zoning, erosion control or wetlands protection.

And two-thirds said they are willing to shoulder some costs of environmental protection as long as they are shared with the general public.

The survey results come as Congress considers nine bills that are intended to require government compensation if regulations result in a "taking" that reduces value or restricts value of private property.

Trust president Ralph Grossi, whose family runs a cattle ranch near San Francisco, said the poll shows most landowners favor common-sense approaches to protecting the environment and don't want government to be forced to choose between regulation and paying landowners.

"A combination of reasonable regulation and compensatory financial incentives to landowners is the best way to save farmland and encourage good environmental stewardship," Grossi said. "Often, this debate seems ill-informed."

The telephone survey of 1,729 farmers, ranchers and others owning at least 5 acres in 42 states was conducted from June through November 1997 by J. Dixon Esseks, professor of public administration at Northern Illinois University. It has a

margin of sampling error of plus or minus 3 percentage points.

Farmers in five Minnesota counties were included in the survey: Aitkin, Houston, Morrison, Nobles and Steele.

Some of the findings:

➤ More than two-thirds say they suffered no loss of property value from regulations; only 8.3 percent reported a large loss. Westerners were more than twice as likely to report large losses.

➤ Fifty-eight percent said they favored mandatory regulations rather than voluntary incentives to protect farms from development. The rest had no opinion, favored incentives or wanted no policy.

➤ Landowners were split over regulations to protect wetlands: 45 percent favored voluntary incentives, and almost 40 percent supported regulations. But to protect endangered species, four times as many landowners favored public or private incentives as supported regulations.

➤ Between 70 and 95 percent favored some government role in conservation of natural resources.

➤ Sixty percent said landowners and the public should share the costs of regulation, a third favored public compensation, and 3 percent said landowners should bear the burden.

The report recommends that Congress and state legislators work toward policies that share responsibility for protecting the environment and slowing urban sprawl and that more money should be provided for incentives that encourage landowners to take conservation steps.

— Angela Greiling of the Star Tribune's Washington Bureau contributed to this report.

**FARIBAULT SOIL AND WATER CONSERVATION DISTRICT**

415 S. Grove St.
Suite #8
Faribault County Ag. Center
Blue Earth, Minnesota 56013
(507) 526-2300
FAX (507) 526-2508

**MINNESOTA
SOIL AND WATER CONSERVATION DISTRICTS**

June 23, 1998

TO: BWSR BOARD OF DIRECTORS

FROM: FARIBAULT COUNTY SWCD

The Faribault County Soil and Water Conservation District would like to request \$500,000.00 for the Quad Lakes Implementation Program.

This money will be dispersed for high priority projects in the Quad Lakes watersheds or areas that have an adverse impact on these watersheds.

Faribault County SWCD will use accepted accounting practices to implement this project.

A small amount of the interest accrued will be used to reimburse the District for fiscal agent responsibilities. Any excess interest will be used in the local school system to enhance or start local environmental programs related to lakes and water quality.

This project will be modeled after the state cost-share program using state cost-share forms.

We would like to thank you for your efforts on behalf of the Quad Lakes Association.

A handwritten signature in black ink, appearing to read "Jan Willette".

Jan Willette
Chairman, Faribault County SWCD

Date of Report: June 3, 1998
Date of Work Plan Approval:
Date of Next Status Report: March 1999
Project Completion Date: June 30, 2000

LCMR Work Program FY 99

I PROJECT TITLE: LAKESHORE EASEMENTS

Project Manager: Ron Shelito
Affiliation: North Region Supervisor, Board of Water and Soil Resources (BWSR)
Mailing Address: 217 south Seventh Street
 Brainerd, Minnesota 56401
Telephone Number: (218) 828-2604
E-mail Address: ron.shelito@bwsr.state.mn.us

	<u>Appropriation</u>	<u>Balance</u>
<u>1998 Work Program</u>		
98 General Fund	\$250,000	\$250,000

Legal Citations

1998 Session Law
 CH 404, 1998 Appropriation Language
~~RS 3873~~ sec. 10, subd. 5, Lakeshore Easements \$250,000
 This appropriation is for acquiring conservation easements
 for sensitive shoreland and riparian areas on lakes.

II. & III. PROJECT SUMMARY AND RESULTS

Financial summary and anticipated results of item requested for approval for use of the 1998 general fund appropriation - \$250,000.

\$250,000 to acquire lakeshore conservation easements allocated as follows:

Personnel (10%)

\$ 25,000 For professional services in acquiring lakeshore easements and for technical assistance to landowners. These services will be provided by the County and/or Soil and Water Conservation District (SWCD).

Title Insurance (1%)

\$ 2,000

Acquisition (%89)

\$ 223,000

To make payments to landowners for acquiring conservation easements on sensitive lakeshore areas.

Purpose and Scope

This is a new initiative that allows up to \$250,000 to be used to acquire conservation easements on sensitive shoreland and riparian areas on lakes. This year, sensitive areas may be defined as lakeshore parcels that have a predominance of native vegetation remaining, or parcels on lakes subject to heavy development pressure. We propose to accept only permanent easements in the 1,000 foot shoreland zone. In addition, we will establish a minimum parcel size based primarily on length of shoreline involved in the easement. BWSR will involve DNR fish and wildlife, forestry, and waters staff; MPCA lakes staff, and local government staff in the final development of these criteria.

Procedures

BWSR proposes to allocate the \$250,000 to one county. Within that county, we will try to acquire a minimum of two easements in different landscape settings. Examples of different settings might be a predominately agricultural area versus a forested area. BWSR field staff will consult with other state resource agencies to select the participating county. Local capability in managing conservation programs, location in the state, and willingness to take conservation easements at the local level will be used as criteria in selecting the pilot county. We propose to allocate the funds directly to the Soil and Water District in the county. Most SWCDs have experience in dealing with conservation easements through the popular RIM program. The SWCD will be responsible for setting up a screening committee to develop local criteria, set payment rates, coordinate the application process, and prioritize the easement requests. BWSR will provide ultimate approval authority for the parcels selected, however local units of government will be encouraged to hold the easements.

Results

Results may be hard to measure this first year due to the extreme variability in the physical features of the lakeshore that may be acquired, and the variability of the costs for acquiring lakeshore. Market value for lakeshore ranges anywhere from \$50 per foot on a remote, low recreation use lake to \$1,000 per foot on Minnesota's premier recreation lakes. We expect that one result will be a better understanding of the costs associated with acquiring easements on different types of lakeshore.

Estimated front feet of lakeshore to be acquired with \$198,000 are as follows:

At \$100 per foot	2,230 feet.
At \$300 per foot	743 feet
At \$500 per foot	466 feet
At \$1,000 per foot	223 feet

IV Context

A. Significance: Lakeshore Easements will protect the states soil and water resources, preserve pristine shoreline environments, protect fish and wildlife habitat, and improve overall quality of life by retiring lakeshore areas that could otherwise be developed into other, more intensive uses.

B. Time: Funds will be encumbered (easement applications approved) within one year.

Easements will be conveyed within two years.

C. \$250,000 in new funding. This is the first year of this program.

V. **Location:** Ecological classification is statewide.

VI. **Reporting Requirements:** The BWSR will provide semi-annual work program update reports by March 15 and September 15 of each year.

DRAINAGE ROUNDTABLE

Purpose: The purpose of the roundtable is to bring the diverse drainage interests together for a few days in a facilitated discussion of drainage issues, concerns and relationships. The objective is to get the interests discussing their perspective on what is and is not working with the current drainage process and begin to discuss ways and means to address the weakness in the system. The roundtable will provide a forum for the sharing of perspectives and begin to identify where there are common issues and concerns and where interests differ. Some issues are scientific while others are policy. Both elements deserve discussion and review. Lastly to use the roundtable as a way to gauge the interest in continuing the roundtable process over the next 12-14 months with the expectation of developing a consensus on legislative changes for the 2000 legislative session. During the year the roundtable and committees of the roundtable would educate themselves on the scientific and policy issues and options and develop alternatives that would address the issues.

In the last few years the conflicts relating to drainage decisions has significantly escalated. The courts are being called on more and more frequently to address the conflict, resulting in "win-lose" outcomes and a significant expenditure of resources that could better be expended to achieve mutual resource objectives. We can ill afford to have the debate and conflict continue as it has. There needs to be a shared responsibility and accountability for the management of the state's agricultural and natural resources that results in a win-win outcome. The roundtable is a means to begin that process.

I have talked with a number of the interests from state agencies, federal agencies, local government (county, watershed district, soil and water district), farm organizations, conservation groups and farmers and believe that all would welcome and commit to participation in this roundtable process. Although I do not have a specific commitment, I believe that the agencies and interests are also willing to commit to having staff serve as technical support to an on-going roundtable process.

Partnership Proposal

for Minnesota Soil & Water Conservation Districts
to Provide Technical Assistance
in Administering Federal Wetland Compliance Provisions

Purpose:

The proposal is to establish a uniform mechanism to formulate cooperative working agreements with individual / multi Minnesota Soil & Water Conservation Districts to assist the NRCS in making wetland determinations. This will promote a stronger and better coordinated wetland conservation delivery system to the landowners of Minnesota and encompass both state and federal wetland regulations.

Summary

Historically the Natural Resources Conservation Service in Minnesota has not received adequate consideration in funding to administer technical assistance relative to wetland provisions of the Federal Farm Bill. Since 1985, funding for technical assistance has been geared toward the non wetland compliance provisions, even in those states with sufficient wetland workloads. In addition the Minnesota NRCS staff have struggled to meet the demand of other farm bill obligations.. The 1998 NRCS Minnesota budget reflected a 1.5 million dollar deficit and could result in 11 more staff being cut in 1999. All this when Minnesota continues to generate the largest amount of annual wetland compliance workload in the entire United States.

This proposal is to provide wetland technical assistance to the NRCS on a state wide basis for the federal wetland compliance program. Funding will be sought for districts to provide technical assistance for wetland compliance issues in heavy wetland workload areas. A pilot program has been implemented the last three years in a county with a high wetland workload. This district provided a 1/2 time technical staff person to the NRCS with the remainder of his time on existing SWCD programs. The result(s) of the pilot effort were viewed as very successful by the SWCD board and staff, landowners, contractors, and the NRCS. One of the most significant features is that one single wetland "expert" worked with all clients through the maze of state and federal wetland provisions. This resulted in a high level of consistency between programs and lead to increased client satisfaction.

Minnesota Districts have increased their capacity and currently exceed NRCS staff. Districts have knowledgeable staff that can assist landowners in regards to federal, state, and local regulations. They are known as the "one stop shop" outlet for conservation compliance programs. Since 1990 district staff have received extensive training in identifying wetlands and use the same manual as the Natural Resource Conservation Service. More importantly districts understand the Federal Farm Swampbuster provisions and have a working knowledge of assisting landowners in their efforts to utilize and manage natural resources in their counties. Districts have the staff and can spend the time needed to assist landowners which will increase customer service.

Methods

The current "PARTNERSHIP" agreement between the Natural Resource Conservation Service and the Districts throughout the United States has affirmed the commitment in supporting the efforts of districts as the primary mechanism to put conservation on the ground.

The Mower County Soil & Water Conservation District has been assisting the NRCS with wetland determinations for the past three years. This is a extremely cost effective program that provides increased program delivery without adding full time federal staff. The funding required to hire one full time federal employee could be dispersed through several districts for program implementation. This program is financially practical and cost effective.

Following are some of the agreed to items for the pilot program in Mower County SWCD. Individual SWCD agreements may vary to some degree as flexibility is needed to address local concerns / issues / workload.

The district agrees to:

- Provide the qualified personnel, equipment and other resources necessary to assist NRCS in carrying out its responsibilities according to USDA and NRCS policies, standards and specifications, program content, and landowner need.
- Send district staff to applicable training as needed.
- Provide agreed upon documentation to NRCS which substantiate payments.

NRCS agrees to:

- To serve as liaison to review work completed by the district, to monitor adherence to standards and specifications, USDA and NRCS policies, program content, and landowner need.
- To provide reimbursement to the district for work completed as outlined.

It is mutually agreed :

- That the district will provide up to a 1/2 time position.
- The agreement remain in effect for the federal fiscal year from Oct. 1st to Sept. 30.
- Personnel employed by the district are not to be considered Federal employees.

This working model demonstrates the efforts of both agencies to build new alliances which enhances a strong conservation delivery system.

Proposal

To expand beyond the pilot effort in Mower County to allow several Minnesota Districts to provide the technical assistance to NRCS in making wetland determinations. District staff will provide up to a 1/2 time position that could be encouraged to assist neighboring counties. A combination of federal, state and local dollars could be used to fund the proposal. District participation would be voluntary and the program would target areas throughout the state with the greatest wetland related workload.

Budget

Funding would be a result of a collaboration of federal, state and local dollars. Pursuit of these funds will proceed if sufficient interest warrants the effort. This proposal is not meant to compete for federal NRCS dollars but is being developed pursuant to new partnerships and funding allocations

OVERVIEW OF THE FREEBORN COUNTY COMPREHENSIVE
WATER MANAGEMENT PLAN UPDATE 1997-2005

INTRODUCTION AND PHYSICAL DESCRIPTION OF THE COUNTY

Freeborn County is located in south central Minnesota. Albert Lea is the county seat. The county's industrial economy is centered on agricultural processing. Freeborn County includes several small communities that are economically tied to the highly productive agricultural base which predominates land use in the county.

Most of Freeborn County is nearly level to rolling till plain with highly productive soils. The county is situated in the prairie pothole terrain. The county contains several large lakes and numerous pothole wetlands. A substantial portion of agricultural land has been drained to enhance crop production. Ditch systems were developed for agricultural drainage outlets where natural streams were not adequate for depth, capacity or location.

PLAN ACCOMPLISHMENTS

Freeborn County implemented many activities identified in the 1990 Plan. These included programs for groundwater protection, environmental education, inventories of feedlots and ditches, regulations for sewage and wastewater, floodplains and shoreland, land use plan and watershed projects for Albert Lea and Bear Lakes.

STAFF REVIEW

The Plan Update is a complete revision of the original plan adding updated information to the assessments section which is organized to include the Goals, Objectives, Actions, Implementation Strategy and Priority for each of the topics examined. The required additions of Well Head Protection, Sensitive Groundwater Protection, Stormwater Control and Wetland Prioritization are all included in the Plan Update. The Plan Update also includes an extensive and thorough watershed assessment and management strategy section.

The Freeborn County Comprehensive Water Management Plan Update was submitted for final review on May 7, 1998.

TO : Board Members

FROM : Wayne Zellmer

SUBJECT : **FY 99 Soil and Water Conservation District Grants**

At the June 1998 Board Meeting, Members will be requested to approve FY 99 Soil and Water Conservation District Grants for five BWSR grant programs. These grant programs are:

- A) Regular Statewide Cost Share Base Grants
- B) Special Projects
- C) General Services
- D) RIM Reserve Services
- E) Special MN River Basin

A brief summary of each of these programs follows with highlights and topics of concern for this year.

A) Regular Statewide Cost Share Base Grants - \$1,373,063 - These base grants are for the installation of conservation practices. These grants are allocated using a complex formula involving factors relating to physical conditions in the SWCD. These conditions include critical sedimentation, high priority feedlots within shoreland areas, and AG erosion needs. Legislative appropriations and individual SWCD allocations have remained unchanged since 1987.

FY 99 Regular Statewide Cost Share Base Grant allocation recommendations are listed on the enclosed spreadsheet.

B) Special Projects - \$393,000 - This Program amount is a provision of FY 99 State Cost Share Policy. These grants are to address erosion, sediment control, water quality protection, or improvement measures. Innovative and unique projects are given highest priority. Applications are competitive and are accepted annually from SWCDs. Fifty-one applications were received requesting \$964,241. A brief synopsis of the highest statewide priority applications is included in the Board Packet. These applications were review by the Board Conservationist and the BWSR Grants Team. FY 98 Special Project funding recommendations are listed on the enclosed spreadsheet.

C) General Services Grant - \$1,838,291 - This base grant is for expenditures necessary to the operations of the district. It is noncompetitive. The legislature increased the FY 99 appropriation \$227,000. The allocated total also includes \$76,000 that was carried over from FY 98. At the April 1998 Meeting, the BWSR decided to allocate this total amount equally among the 91 SWCDs. These FY 99 proposed grants are listed on the enclosed spreadsheet.

D) RIM Reserve Service Grant - \$748,780 - This grant is allocated to SWCDs as compensation for local delivery of the RIM Reserve Program and the conveyance of easements. The grant amount is calculated by a Board approved formula and reflects the amount of RIM Reserve activity in the SWCD. These FY 99 proposed grants are listed on the enclosed spreadsheet.

E) Special Minnesota River Basin Grants - \$607,000 - This annual grant is to be used in the Minnesota River Basin for the accelerated application of water quality improvement practices. This \$500,000 grant Program includes \$107,000 of roll-over funds. Applications are competitive and may be received from single SWCDs or SWCD groups. The BWSR administers these grants via the State Cost Share Program. Six applications were received requesting \$1,127,500. FY 99 Application and funding recommendation summaries are included in the Board mailing packet.

**FY 1999 GRANTS TO SOIL AND WATER CONSERVATION DISTRICTS
(PROPOSED)**

SWCD	COST	SHARE	GRANTS	SERVICE GRANTS		GRANT TOTALS
	BASE GRANTS	SPECIAL PROJECTS	SPECIAL MN RIVER	GENERAL SERVICES	RIM SERVICES	
AITKIN	\$5,703			\$20,201	\$1,467	\$27,371
ANOKA	\$12,600			\$20,201	\$1,217	\$34,018
BECKER	\$28,659			\$20,201	\$4,467	\$53,327
BELTRAMI	\$11,131			\$20,201	\$1,467	\$32,799
BENTON	\$10,731			\$20,201	\$8,217	\$39,149
BIG STONE	\$16,310			\$20,201	\$8,217	\$44,728
BLUE EARTH	\$23,080	\$14,850		\$20,201	\$13,217	\$71,348
BROWN	\$14,320			\$20,201	\$8,217	\$42,738
CARLTON	\$5,556			\$20,201	\$1,217	\$26,974
CARVER	\$21,975			\$20,201	\$13,217	\$55,393
CASS	\$8,105	\$13,750		\$20,201	\$1,467	\$43,523
CHIPPEWA	\$12,325			\$20,201	\$13,217	\$45,743
CHISAGO	\$12,963			\$20,201	\$1,467	\$34,631
CLAY	\$21,490	\$9,750		\$20,201	\$8,217	\$59,658
CLEARWATER	\$9,538			\$20,201	\$4,467	\$34,206
COOK	\$3,292			\$20,201	\$1,217	\$24,710
COTTONWOOD	\$17,345			\$20,201	\$8,217	\$45,763
CROW WING	\$6,654			\$20,201	\$1,217	\$28,072
DAKOTA	\$26,263	\$11,406		\$20,201	\$1,467	\$59,337
DODGE	\$12,725			\$20,201	\$1,467	\$34,393
DOUGLAS	\$20,133	\$20,000	\$95,000	\$20,201	\$13,217	\$168,551
EAST OTTER TAIL #	\$19,659			\$20,201	\$4,467	\$44,327
EAST POLK	\$12,404			\$20,201	\$4,467	\$37,072
FARIBAULT	\$15,514			\$20,201	\$13,217	\$48,932
FILLMORE	\$28,017	\$20,000		\$20,201	\$1,467	\$69,685
FREEBORN	\$19,974			\$20,201	\$8,217	\$48,392
GOODHUE	\$29,848	\$16,000		\$20,201	\$8,217	\$74,266
GRANT	\$12,519			\$20,201	\$4,467	\$37,187
HENNEPIN	\$13,043			\$20,201	\$23,717	\$56,961
HUBBARD	\$7,071			\$20,201	\$1,467	\$28,739
ISANTI	\$8,322			\$20,201	\$1,467	\$29,990

**FY 1999 GRANTS TO SOIL AND WATER CONSERVATION DISTRICTS
(PROPOSED)**

SWCD	COST	SHARE	GRANTS	SERVICE GRANTS		GRANT TOTALS
	BASE GRANTS	SPECIAL PROJECTS	SPECIAL MN RIVER	GENERAL SERVICES	RIM SERVICES	
ITASCA	\$6,115			\$20,201	\$1,217	\$27,533
JACKSON	\$18,701			\$20,201	\$23,717	\$62,619
KANABEC	\$7,210			\$20,201	\$4,467	\$31,878
KANDIYOHI	\$17,345			\$20,201	\$23,717	\$61,263
KITTSO	\$7,132	\$14,058		\$20,201	\$4,467	\$45,858
KOOCHICHING	\$3,406	\$5,550		\$20,201	\$1,217	\$30,374
LAC QUI PARLE	\$25,551			\$20,201	\$8,217	\$53,969
LAKE	\$5,319	\$20,000		\$20,201	\$1,217	\$46,737
LAKE OF THE WOODS	\$4,285	\$20,000		\$20,201	\$1,217	\$45,703
LE SUEUR	\$19,974		\$90,000	\$20,201	\$23,717	\$153,892
LINCOLN	\$14,479			\$20,201	\$4,467	\$39,147
LYON	\$18,223	\$20,000		\$20,201	\$23,717	\$82,141
MAHNOMEN	\$8,825			\$20,201	\$1,217	\$30,243
MARSHALL	\$10,730			\$20,201	\$13,217	\$44,148
MARSHALL-BELTRAMI	\$6,120			\$20,201	\$1,467	\$27,788
MARTIN	\$25,471		\$175,000	\$20,201	\$13,217	\$233,889
MC LEOD	\$16,628	\$20,000		\$20,201	\$4,467	\$61,296
MEEKER	\$20,688			\$20,201	\$13,217	\$54,106
MILLE LACS	\$9,938			\$20,201	\$1,467	\$31,606
MORRISON	\$25,308			\$20,201	\$4,467	\$49,976
MOWER	\$10,576			\$20,201	\$23,717	\$54,494
MURRAY	\$14,874			\$20,201	\$8,217	\$43,292
NICOLLET	\$10,885			\$20,201	\$13,217	\$44,303
NOBLES	\$27,452			\$20,201	\$8,217	\$55,870
NORMAN	\$17,504			\$20,201	\$4,467	\$42,172
NORTH ST. LOUIS	\$4,434			\$20,201	\$1,217	\$25,852
OLMSTED	\$37,009	\$20,000		\$20,201	\$4,467	\$81,677
PENNINGTON	\$11,312			\$20,201	\$1,217	\$32,730
PINE	\$11,131	\$16,725		\$20,201	\$4,467	\$52,524
PIPESTONE	\$15,909			\$20,201	\$1,467	\$37,577
POPE	\$24,515	\$20,000		\$20,201	\$36,217	\$100,933

**FY 1999 GRANTS TO SOIL AND WATER CONSERVATION DISTRICTS
(PROPOSED)**

SWCD	COST	SHARE	GRANTS	SERVICE GRANTS		GRANT TOTALS
	BASE GRANTS	SPECIAL PROJECTS	SPECIAL MN RIVER	GENERAL SERVICES	RIM SERVICES	
RAMSEY	\$10,102			\$20,201	\$0	\$30,303
RED LAKE	\$7,150	\$16,500		\$20,201	\$1,467	\$45,318
REDWOOD	\$11,849		\$140,000	\$20,201	\$23,717	\$195,767
RENVILLE	\$11,606			\$20,201	\$36,217	\$68,024
RICE	\$18,292			\$20,201	\$8,217	\$46,710
ROCK	\$16,457			\$20,201	\$8,217	\$44,875
ROOT RIVER	\$22,597			\$20,201	\$13,217	\$56,015
ROSEAU	\$12,167			\$20,201	\$1,467	\$33,835
SCOTT	\$20,529		\$25,000	\$20,201	\$8,217	\$73,947
SHERBURNE	\$5,069	\$7,911		\$20,201	\$1,217	\$34,398
SIBLEY	\$13,572			\$20,201	\$23,717	\$57,490
SOUTH ST. LOUIS	\$7,923	\$20,000		\$20,201	\$1,217	\$49,341
STEARNS	\$45,382			\$20,201	\$8,217	\$73,800
STEELE	\$10,735			\$20,201	\$8,217	\$39,153
STEVENS	\$22,937			\$20,201	\$13,217	\$56,355
SWIFT	\$11,900			\$20,201	\$13,217	\$45,318
TODD	\$22,124			\$20,201	\$4,467	\$46,792
TRAVERSE	\$7,551			\$20,201	\$1,467	\$29,219
WABASHA	\$21,637	\$20,000		\$20,201	\$8,217	\$70,055
WADENA	\$6,512	\$20,000		\$20,201	\$4,467	\$51,180
WASECA	\$10,658			\$20,201	\$23,717	\$54,576
WASHINGTON	\$13,282	\$20,000		\$20,201	\$4,467	\$57,950
WATONWAN	\$9,301	\$10,500		\$20,201	\$8,217	\$48,219
WEST OTTER TAIL	\$24,691			\$20,201	\$4,467	\$49,359
WEST POLK	\$19,257			\$20,201	\$1,217	\$40,675
WILKIN	\$11,691			\$20,201	\$13,217	\$45,109
WINONA	\$17,820			\$20,201	\$23,717	\$61,738
WRIGHT	\$18,689			\$20,201	\$4,467	\$43,357
YELLOW MEDICINE	\$17,267	\$16,000	\$82,000	\$20,201	\$8,217	\$143,685
ALLOCATED TOTALS	\$1,373,063	\$393,000	\$607,000	\$1,838,291	\$748,780	\$4,960,134

**FY 1999 GRANTS TO SOIL AND WATER CONSERVATION DISTRICTS
(PROPOSED)**

	COST	SHARE	GRANTS	SERVICE GRANTS		
SWCD	BASE	SPECIAL	SPECIAL	GENERAL	RIM	GRANT
	GRANTS	PROJECTS	MN RIVER	SERVICES	SERVICES	TOTALS

NOTES:

Cost Share Program Violations – East Otter Tail \$3,900

H:FY99SWCD

FY 1999 SPECIAL MINNESOTA RIVER BASIN STATE COST SHARE APPLICATIONS
SUMMARY / FUNDING RECOMMENDATION

Reviewed 5/12/98 by Tom Fischer (G-Team member), Chris Hughes, Tabor Hoek, Pete Waller, and Jeff Nielsen.
Committee recommendation made by Tom Fischer to the G-Team on 6/3/98. G-Team adopted committee recommendation.

AVAILABLE FUNDS

500,000 MN River Fund (up to 20% may be used for Technical/Administrative from this amount)
107,000 Roll-over Funds (NO Technical/Administrative use allowed from this amount)
607,000 Total Available Funds

	FUNDING REQUEST PROJECTS, T/A, TOTAL	BWSR G-TEAM FUNDING RECOMMENDATION
<u>BLUE EARTH RIVER BASIN INITIATIVE</u>	240,000	104,000
"Implementation of Conservation Practices"	<u>60,000</u> (20%) 300,000	<u>26,000</u> (20%) 130,000 plus 45,000 Roll-over = 175,000

* Water Quality Problem: Sediment, nutrients-nitrates, phosphorous and bacteria. Watershed is about 20% of MN River Basin.

* Project Objectives/Solutions: Reduce the amounts of sediment and nutrients entering the Blue Earth River through implementation of conservation projects; provide technical assistance to find solutions/design/complete projects; provide financial incentives to landowners. Areas of priority are within 1000 feet of surface water or floodplain, within 1000 feet of tile intake, or local priority.

* Public Benefit: Improved water quality in the Blue Earth River; better fish and wildlife habitat and recreational opportunities; sediment reduction; reduction of nitrogen and phosphorous; improved drinking water for 50,000 Mankato/North Mankato residents. Improved water quality is local, state and national objective.

Note: BERBI specifies that 1/2 of the Technical/Administrative (T/A) funds to be divided equally among the Blue Earth, Cottonwood, Martin, Waseca, Watonwan SWCDs...the remainder will be utilized between BERBI clerical and fiscal agent. Jackson and Steele SWCDs will be eligible to apply for C-S funds only (agreeable to all)...all available project funds encumbered with 117 projects completed, 30 projects encumbered and/or in progress towards completion. Received \$281,620 for FY94; \$230,000 for FY95; \$221,145 for FY96; \$150,000 for FY97; \$180,000 for FY98. Application stated they would accept partial funding, but less practices would be completed.

<u>SWCDs IN REDWOOD RIVER WATERSHED</u>	200,000	80,000
"Redwood River Watershed Project"	<u>50,000</u> (20%) 250,000	<u>20,000</u> (20%) 100,000 plus 40,000 Roll-over = 140,000

* Water Quality Problem: Estimated that 140,000 tons of sediment annually carried down Redwood River to Redwood Lake...factors contributing to this include drained wetlands, drainage activities, inadequately protected highly erodible lands, feedlot runoff, sediment and nutrient transport accelerated by the 900 feet elevation drop from river source to outlet at MN River.

* Project Objectives/Solutions: Primary objectives include restore 5,000 acres of wetlands with emphasis on sites within one mile of each side of river; permanent buffer established (1 rod on public ditches, 100 feet on streams and rivers); minimum till and no-till practices on 90% of the cropland in the designated corridor; 40 ag-waste management systems. Secondary objectives include develop county policies to promote/set standards for minimum tillage, nutrient management, buffer strips, livestock management; demonstration, education, restoration, monitoring, information activities; institute property tax credits for lands meeting conservation criteria. Solutions are found in four major elements: BMPS, monitoring/evaluation, information/education, administration.

* Public Benefit: The general public is intended to be the principal beneficiary; six year project goals established in sediment/nutrient reduction, fisheries and recreation, hydrology.

Note: Five prior grants approved. Completion of projects hinges on weather conditions and contractor availability...56 projects completed, 18 projects encumbered and/or in progress towards completion. Received 185,000 for FY94; 220,000 for FY95; 184,287 for FY96; 60,000 for FY97; 130,000 for FY98; with a balance of 82,112. Application stated they would accept partial funding, but less practices would be completed.

	FUNDING REQUEST PROJECTS, T/A, TOTAL	BWSR G-TEAM FUNDING RECOMMENDATION
<u>CHIPPEWA, DOUGLAS, POPE, SWIFT SWCDs</u>	200,000	68,000
"Chippewa River Watershed"	<u>50,000</u> (20%)	<u>17,000</u> (20%)
	250,000	85,000 plus 10,000 Roll-over = 95,000

* Water Quality Problem: 2.080 sq. mile watershed, intensive agriculture; bacteria, sediments, nutrients and oxygen demanding substances traced back to land-use practices; improperly controlled runoff; >2T erosion; feedlots; drainage activities which have reduced the number of wetlands. MPCA study cites Chippewa River as having habitat quality well below tributary average for the MN River Basin and having the lowest macro-invertebrates of any tributary in the basin.

* Project Objectives/Solutions: To help fund the third year of a long-term plan to improve water quality in the river and tributaries; encourage landowners to increase conservation practices that address sediment and nutrient amounts; application of BMPs on agricultural lands with emphasis on committee established priority areas.

* Public Benefit: Savings of public dollars through reduction of sediments and nutrients; public costs are real when addressing maintenance of private and public drainage ways; a typical terrace will reduce sediment by 7-10 tons per year, ag-waste system will eliminate nutrient runoff into water sources.

Note: Requesting funds for the third year of a multi-year program...12 projects completed, 13 projects encumbered and/or in progress towards completion. Received 143,000 for FY97; 65,000 for FY98; with a balance of 83,095. Application stated they would accept partial funding, but less practices would be completed.

<u>LAC QUI PARLE / YELLOW MEDICINE SWCDs</u>	170,000	56,000
"Lac qui Parle River Subbasin Project"	<u>42,500</u> (20%)	<u>14,000</u> (20%)
	212,500	70,000 plus 12,000 Roll-over = 82,000

* Water Quality Problem: The Coteau des Prairies forms a plateau of up to 1,000 feet higher than the region's lower plains; flash floods due to escarpment slope drops of 380 feet in 4.9 miles, some areas the drop is as much as 100 feet in a mile followed by flat, glacial outwash sections of less than 5 feet per mile; sheet, rill and wind erosion exceeding T on nearly 314,000 acres (60% of the watershed); ephemeral gully erosion on 158,000 acres; 37,000 acres having wind erosion in excess of 10T/A/Y; water quality impacts to streams and lakes; River delivers 87,600 tons of sediment annually. Information obtained from 639 Study of the sub-basin.

* Project Objectives/Solutions: Promote the use of BMPs to reduce the amounts of sediment and pollutants entering ditches, streams and main body of the Lac qui Parle River sub-basin; install 20 acres of waterways, 15,000 feet of terraces, diversions, sediment control basins, 10,000 feet of field windbreaks, 2 ag-waste systems.

* Public Benefit: Improve the water quality in the MN River by reducing sediments and nutrients entering the river; improve fish and wildlife habitat; improve river water quality within LQP State Park.

Note: This request is for a third year of a four-year project...11 projects completed, 9 projects encumbered and/or in progress towards completion. Received 115,000 for FY97; 70,000 for FY98; with a balance of 935. Application stated they would accept partial funding, but less practices would be completed.

FUNDING REQUEST
PROJECTS, T/A, TOTAL

BWSR G-TEAM
FUNDING RECOMMENDATION

SCOTT SWCD

"John Francis Streambank Stab. Demo. Project"

22,500
2,500 (10%)
25,000

22,500
2,500 (10%)
25,000

* Water Quality Problem: Four actively eroding streambank sites identified by SWCD/Met Council study. Serious erosion and sloughing causing loss of property, threatening private bridge. Problem sites located in Sand Creek, identified as a high priority watershed by the SWCD and Met Council. Sand Creek is tributary of MN River.

* Project Objectives/Solutions: Eliminate the erosion and sediment problem, demonstrate a variety of products for streambank protection, and protect personal property from degradation. Restore two of the four sites using a combination of rip-rap, jacks, and bio-engineering practices.

* Public Benefit: Reductions of sediment and phosphorous entering Sand Creek and MN River. Estimated sediment generated from the sites is 22 tons annually; annual phosphorous loading is estimated at 100 pounds (Met Council model).

Note: This application will address correcting two of the four identified sites. SWCD will submit application next year for remaining two sites. Application stated they would not accept partial funding...using minimum structural measures to keep cost down as well as only requesting 10% (rather than the allowed 20%) for T/A.

LESUEUR SWCD

"Middle & Lower MN River Conservation Practices"

75,000
15,000 (16.7%)
90,000

75,000
15,000 (16.7%)
90,000

* Water Quality Problem: One-half of LeSueur County surface waters flow through the Lower MN River watershed. State Cost-Share Program funds are not adequate to address the demands for conservation practices due to drastic cuts in federal cost-share assistance. Dozens of landowner requests for State Cost-Share are turned down each year.

* Project Objectives/Solutions: To install 16,000 feet of terraces and sediment basins, 1,000 feet of grass waterways, 3 grade stabilization structures, 2 ag waste control structures which will reduce the sediment and phosphorous entering the MN River.

* Public Benefit: Reduction of sediment and phosphorous entering county lakes and streams and eventually the MN River.

Note: Applicant would accept less funding than requested which would mean less practices completed.

TOTALS

- - - -

FUNDING REQUESTED

907,500 Project \$\$s
220,300 T/A (19.5%)
1,127,500

BWSR G-TEAM

FUNDING RECOMMENDATION

405,500 Project \$\$s (81.1%)
94,500 T/A \$\$s (18.9%)
500,000 plus 107,000 Roll-over = 607,000

SPECIAL MINNESOTA RIVER COST SHARE...FUNDING SUMMARY

	FY 1997		FY 1998		FY 1999	
	Requested	Funded	Requested	Funded	Requested	Recommended
BERBI	240,000 <u>60,000</u> (20%) 300,000	100,000 <u>25,000</u> (20%) 125,000 <u>25,500</u> no T/A 150,500	240,000 <u>60,000</u> (20%) 300,000	120,000 <u>30,000</u> (20%) 150,000 <u>30,000</u> no T/A 180,000	240,000 <u>60,000</u> (20%) 300,000	104,000 <u>26,000</u> (20%) 130,000 <u>45,000</u> no T/A 175,000
SWCDs in Redwood R	200,000 <u>50,000</u> (20%) 250,000	40,000 <u>10,000</u> (20%) 50,000 <u>10,000</u> no T/A 60,000	200,000 <u>50,000</u> (20%) 250,000	88,000 <u>22,000</u> (20%) 110,000 <u>20,000</u> no T/A 130,000	200,000 <u>50,000</u> (20%) 250,000	80,000 <u>20,000</u> (20%) 100,000 <u>40,000</u> no T/A 140,000
Chippewa, et al SWCDs	200,000 <u>50,000</u> (20%) 250,000	102,400 <u>25,600</u> (20%) 128,000 <u>15,000</u> no T/A 143,000	200,000 <u>50,000</u> (20%) 250,000	40,000 <u>10,000</u> (20%) 50,000 <u>15,000</u> no T/A 65,000	200,000 <u>50,000</u> (20%) 250,000	68,000 <u>17,000</u> (20%) 85,000 <u>10,000</u> no T/A 95,000
LQP/Yellow Med SWCDs	170,000 <u>42,500</u> (20%) 212,500	80,000 <u>20,000</u> (20%) 100,000 <u>15,000</u> no T/A 115,000	170,000 <u>42,500</u> (20%) 212,500	44,000 <u>11,000</u> (20%) 55,000 <u>15,000</u> no T/A 70,000	170,000 <u>42,500</u> (20%) 212,500	56,000 <u>14,000</u> (20%) 70,000 <u>12,000</u> no T/A 82,000
Scott SWCD	NA		NA		22,500 <u>2,500</u> (10%) 25,000	22,500 <u>2,500</u> (10%) 25,000
LeSueur SWCD	NA		NA		75,000 <u>15,000</u> (16.7%) 90,000	75,000 <u>15,000</u> (16.7%) 90,000
Scott SWCD	20,000 <u>4,000</u> (16.7%) 24,000	20,000 no T/A	78,000 no T/A	- 0 -		
Scott SWCD	NA		63,750 no T/A	- 0 -		
Brown/Cttinwood SWCDs	NA		80,000 <u>10,000</u> (11%) 90,000	62,300 <u>7,700</u> (11%) 70,000		
Lincoln SWCD	NA		151,200 <u>28,800</u> (16%) 180,000	46,200 <u>8,800</u> (16%) 55,000 <u>5,000</u> no T/A 60,000		
Sibley SWCD	NA		20,000 <u>5,000</u> (20%) 25,000	8,000 <u>2,000</u> (20%) 10,000		
TOTALS	912,500 <u>221,500</u> (19.5%) 1,134,000	404,900 <u>95,100</u> (19%) 500,000 <u>85,000</u> no T/A 585,000	1,202,950 <u>246,300</u> (17%) 1,449,250	408,500 <u>91,500</u> (18.3%) 500,000 <u>85,000</u> no T/A 585,000	907,500 <u>220,000</u> (19.5%) 1,127,500	405,500 <u>94,500</u> (18.9%) 500,000 <u>107,000</u> no T/A 607,000

FY 99 SPECIAL PROJECT ALLOCATIONS

Total Applications Received: 51 Total Funds Requested: \$964,241 Available Funds: \$393,000

Proposed Highest Statewide Priority Projects					
Applicant	Project Title	Requested Funds	Recomm. Funds	Accum. Funds	Project Description
Sherburne	Orono lakeshore cemetery stabilization	\$7,911	\$7,911	\$7,911	Lake shoreline stabilization
Olmsted	Kalmar Township Gabion	\$20,000	\$20,000	\$27,911	Streambank stabilization project
Yellow Medicine	Yellow Medicine River streambank stabilization	\$20,000	\$16,000	\$43,911	Streambank stabilization project
Dakota	Vermillion River streambank bioengineering	\$11,406	\$11,406	\$55,317	Proposed demonstration project using multiple bioengineering techniques
Wadena	Wahoo Valley erosion control	\$20,000	\$10,500	\$65,817	Wahoo Valley erosion control
S. St. Louis	Lake Superior shoreline stabilization	\$20,000	\$20,000	\$85,817	Lake Superior shoreline stabilization
Lake	Lake Superior shoreline stabilization	\$20,000	\$20,000	\$105,817	Lake Superior shoreline stabilization
Watsonwan	Watsonwan Riverbank stabilization	\$19,600	\$20,000	\$125,817	Streambank stabilization
Pope	Lake Minnewaska riprap	\$20,000	\$20,000	\$145,817	Prevent erosion of shoreline on lake
Douglas	Shoreline protection of public Right-of-Way	\$20,000	\$20,000	\$165,817	Protect shoreline along public R.O.W., prevent erosion and nutrient loading to lake
Fillmore	City of Wykoff sinkhole/stormwater discharge	\$20,000	\$20,000	\$185,817	Protect groundwater resources by sealing the sinkhole
Blue Earth	Le Sueur River Wing Dam - Section 3	\$7,500	\$6,600	\$192,417	Rip-rap wing dams to reduce erosion of streambanks
Blue Earth	Le Sueur River Wing Dam - Section 18	\$9,375	\$8,250	\$200,667	Rip-rap wing dams to reduce erosion of streambanks
Clay	Hawley Public Golf Course Club Riverbank Stabilization	\$9,750	\$9,750	\$210,417	Redirect streamflow and bank stabilization
Lake/Woods	Rebena erosion control	\$20,000	\$20,000	\$230,417	Eliminate erosion and establish a sediment basin to improve water quality
Washington	Willernie sewer and erosion control	\$20,000	\$20,000	\$250,417	Gully erosion/channel stabilization
Lyon	Douledue Redwood River streambank	\$20,000	\$20,000	\$270,417	Streambank stabilization
Goodhue	Wells creek watershed	\$20,000	\$16,000	\$286,417	Reduce gully erosion and trap sediment
McLeod	City of Stewart stormwater control system	\$20,000	\$20,000	\$306,417	Stormwater control system
Wabasha	West Newton chute streambank stabilization	\$20,000	\$20,000	\$326,417	West Newton chute streambank stabilization
Pine	Kroon Sinkhole remedial action	\$16,725	\$16,725	\$343,142	Reduce or eliminate surface water contamination from feedlot runoff and ISTS discharges
Red Lake	CSAH 11 erosion control	\$16,500	\$16,500	\$359,642	Stabilize gully erosion
Cass	HWY 137 erosion control	\$13,750	\$13,750	\$373,392	Road ditch re-shaping and erosion control
Koochiching	Warner shoreline protection	\$5,550	\$5,550	\$378,942	Stabilize eroding shoreline
Kittson	Hallock Township riverbank repair	\$20,000	\$14,058	\$393,000	Riverbank erosion control
Dakota	Santag sediment retention, erosion and water control	\$13,592	\$13,592		Control conveyance of surface water to control erosion
Anoka	Rice Creek streambank erosion	\$20,000	\$20,000		Stabilize erosion prone stream banks on public lands, thereby reducing sediment load to channel and Locke Lake.

FY 99 SPECIAL PROJECT ALLOCATIONS

Total Applications Received: 51 Total Funds Requested: \$964,241 Available Funds: \$393,000

Proposed Highest Statewide Priority Projects					
Applicant	Project Title	Requested Funds	Recomm. Funds	Accum. Funds	Project Description
Ramsey	Street sweeping	\$19,500	\$19,500		Field test street sweeping effectiveness
Todd	Ridgeway water and sediment control	\$12,245	\$12,245		Install sediment basins on irrigated land
Lyon	City of Marshall Rewood River streambank	\$20,000	\$20,000		Streambank stabilization
Blue Earth	Watonwan River/Garden City Township	\$15,000	\$15,000		Grade stabilization and pipe structure installed to stop sloughing of road embankment/ditch
Lyon	Carr Redwood River streambank	\$20,000	\$20,000		Streambank restoration to reduce erosion
Washington	Square Lake Trail erosion control	\$8,350	\$8,350		Stabilize swales
Crow Wing	Bay Lake Township erosion control	\$1,500	\$1,500		Road way erosion control
Red Lake	Thurbert-Mack Group Outlet Structure	\$15,000	\$15,000		Stabilize gully erosion
Murray	Lake Wilson outlet control structure	\$20,000	\$20,000		Establish a control outlet to reduce erosion and flood damage
Hennepin	Dolejsi shoreline stabilization	\$20,000	\$20,000		Stabilize shoreline along public and private channel
Pipestone	Johnson water and sediment control basin	\$10,237	\$10,237		Construct basin to control water outlet and reduce erosion
Total		\$613,491		\$393,000	

Quad Lakes Restoration Project
Phase II A

Introduction:

This Phase II Quad Lakes Restoration Project proposal builds upon FY97 Quad Lakes Restoration Project (\$150,000), the FY 98 Conservation Partners Grant (\$10,000), and the FY 99 Quad Lakes Restoration Project Capital Appropriation (\$300,000).

Funds available to the Quad Lakes Initiative will be used to complement, not replace or enlarge, existing agency programs. In other words, if a standard program is available to pursue a valid ecological theme, a wetland restoration, for example, the program funds will be utilized first.

Agency programs and other resources will be aligned in a coordinated way so that they support ecological themes (objectives) i.e. so that they fly in formation. For example, if naturalistic restoration of the Lura Lake shoreline is the objective, many programs and resources can be brought to bear to achieve the desired result: USFWS (riparian program, technical expertise), MPCA (dump removal), DNR (prairie restoration, tree planting, technical expertise), NRCS (CRP as riparian buffer), and County Comprehensive Water Planning and SWCD's (RIM, Best Management Practice implementation).

In this regard, the relationship between the Quad Lakes Initiative and the agency programs may be thought of as a partnership between mortar and bricks: the Quad Lakes funding may be thought of as mortar - more flexible than the bricks and able to fill in around them where coverage is needed, but needing the bricks to provide a structural framework.

Funds will be disbursed according to standard agency guidelines: easements will be paid at standard agency rates, for example. No "topping up" of standard programs will occur.

Goals:

1. To provide high-quality outdoor recreation
 - provide access
 - provide high recreational value fish communities and stabilize the habitat
 - preserve and restore aesthetics: a treed horizon when on the lake for example.
 - other natural features: we need a compelling argument here for protection of remaining fragments of oak savannah, aesthetic value at least
2. To restore and protect the aquatic ecosystem within the present-day framework of necessary agricultural drainage.
 - protect, restore natural vegetative cover along undeveloped lakeshore and stream bank.
 - stabilize stream flow by means of water retention, the more naturalistic the better: strategic wetland restoration, with restoration to be done to restore

hydrologic function as well as other values for waterfowl, fish spawning, diverse wetland vegetation, and others.

3. Projects will occur in the watersheds of the following five lakes:

<u>Lake</u>	<u>Management category</u>	<u>DOW Number</u>
Bass Lake	Warmwater gamefish	22-0074
Lura Lake	Warmwater gamefish	07-0079
Minnesota Lake	Wildlife	22-0033
Rice Lake (Winnebago)	Wildlife	22-0075
Rice Lake (Wells)	Prairie gamefish	22-0007

Figure 1 will orient you to their location in the state, Figure 2 to their location relative to one another in the Faribault and Blue Earth counties.

BASS LAKE (DOW 22-0074)

Background

Bass Lake is a 199-acre basin located in sections 9 and 16 of Delavan Township in Faribault County, four miles northwest of Delavan. Its maximum depth is 20 feet and it is classified by DNR Fisheries as a class-38 lake, meaning that it is a regularly shaped lake with a relatively large littoral zone and turbid, hard water, that would typically support a bass-panfish fish community. The Bass Lake watershed is relatively small at 282 acres exclusive of the lake itself, although the watershed was artificially enlarged in the 1930s by means of a tile installed to drain water from neighboring Rice (22-0075) to Bass. The purpose at the drought-afflicted time was to maintain the water level in Bass. This tile was permanently sealed around 1987. Much residential development has occurred along the Bass Lake shoreline, 41 homes or cottages being counted in the most recent Fisheries lake survey.

Fisheries lake surveys or assessments were done in 1941 (a seine haul) and in more-standardized format in 1947, 1954, 1986, 1991, 1992, 1993, 1994 and 1996. These assessments have documented fish abundance and some have recorded water clarity, plant abundance and other features.

It appears that Bass Lake has been a fairly stable habitat for fish during the fifty-year period of record, although winter mortality caused by oxygen depletion has been documented twice, in 1977-78 and again in 1978-79. The composition of the fish community changed substantially as a result of these winter kill events: many small black bullheads were observed in 1978 and what appeared to be a single year class of this species dominated subsequent samples through 1986.

Prior to these late-1970s winter kill events, it appears that the composition of the fish community varied more than would have been predicted based on the Fisheries lake class, with the abundance of several species fluctuating considerably over the years: seining in 1941 produced a sample consisting entirely of carp, bigmouth buffalo and

quillbacks. Bluegills and crappies were described as abundant by the authors of the 1947 and 1954 surveys, but it appears likely that immigration of carp, buffalo and other species from the Maple River had a significant impact on the composition of the Bass Lake fish community in these earlier years.

Bass was reclaimed with rotenone in 1988 and the fish community, as represented by recent fish samples, is now comprised entirely of bluegills, black crappies, largemouth bass, yellow perch, walleyes, northern pike and channel catfish. Carp have not been documented in post-reclamation samples, and black bullheads were not sampled until spring 1998 – they are not likely to achieve their former abundance unless winter kill occurs again.

The abundance of submerged vegetation appears to have varied considerably over time. In July, 1947, the secchi reading was 42 inches and submerged vegetation was described as being almost non-existent. By 1954, sago pondweed (*Potamogeton pectinatus*) and other unidentified macrophytes were deemed to be moderately abundant. A lakeshore resident expressed concern in 1956 that the submerged vegetation had recently disappeared and advised that a local group was planting sago, white water lily (*Nymphaea spp.*), wild celery (*Vallisneria americana*) and coontail (*Ceratophyllum demersum*), apparently with little success. The exotic curled pondweed (*Potamogeton crispus*) was not documented at Bass until the 1986 survey, at which time it made up 100% of the submerged vegetation sample. Permits to apply Diquat were being issued at least as early as 1978, however, suggesting that submerged plants, quite likely *P. crispus*, had achieved nuisance abundance some time prior.

Water clarity usually increases significantly for a few years, sometimes more than a few, following lake reclamation, due to elimination of the internal phosphorus-loading effect of fish species like carp. This phenomenon may have been at least partly overwhelmed in Bass by the curled pondweed, with secchi readings of 10 feet in June, 1991 but only 2 feet in August, 1992, after the plant had undergone its usual seasonal decline.

Objectives

Figure 3 shows Bass Lake and its watershed, and notes some of the potential projects that exist there.

Six recommendations for maintaining and improving water quality came from the 1993 Lake Assessment Program (LAP) done by MPCA. These recommendations will figure into the prioritization and selection process for projects on the lake. Briefly, they are:

- 1) Continue participation in the Citizens Lake Monitoring Program
- 2) Use construction best management practices (BMP's) during new development, protect existing shoreline vegetation and educate landowners regarding the impact of developed area (lawn fertilizer) on lake water quality
- 3) Wetland restoration
- 4) Educate lakeshore homeowners on septic system codes and maintenance
- 5) Encourage a more diverse aquatic plant community by exploring mechanical harvesting as an alternative to non-selective chemical treatment of curled pondweed

- 6) Form a lake association, thus providing a vehicle for addressing water quality issues and disseminating information.

Most important, given that the number of lakeshore residences has increased from 16 to 41 during the past 50 years and that a limited amount of undeveloped shoreline now remains, consideration might be given to protection of at least some natural vegetative cover along what remains of undeveloped shoreline. Such protection can be done by means of conservation easement, for example, if landowners and other stakeholders are supportive. Any action of this type would be consistent with recommendation 2 in the 1993 MPCA LAP report.

Second, the nutrient-loading and sediment-transporting effect of the watershed will be minimized to the greatest extent possible by means of wetland restoration. This initiative is consistent with recommendation 3 in the LAP report.

Other ideas that could be worth reviewing include the protection of remaining areas of natural deciduous cover (oak savannah) in the watershed by means of easement or acquisition, in cooperation with landowners. Such protection could protect both water-quality and aesthetics.

The focus of these Phase II project funds will be on:

- Permanent protection of deciduous cover that surrounds most of the lake – probably by easement. 20 acres @ \$868.60 = \$17,372

TOTAL: \$17,372

LURA LAKE (07-0079)

Background

Lura Lake is a 1,224-acre basin located primarily in southeastern Sterling Township in Blue Earth County, but also occupying part of section 30 of Mapleton Township, Blue Earth County and also parts of sections 2 and 3 of Delavan Township in Faribault County. The maximum depth is nine feet and it is classified by DNR Fisheries as a class-41 lake, meaning that it is a very large, shallow basin that would typically support a fish community characterized by walleye, carp, black bullhead, black crappie, and yellow perch. The original, natural outlet was apparently blocked by road construction on the west side of the lake in 1919. There are now two outlets, both draining west to Rice Creek and thence north to the Maple River. One of these is located at the southwest corner of the lake, in Faribault County; the other, Blue Earth County Ditch 1, is a tile installed in 1972 in section 35, Sterling Township, Blue Earth County. This second outlet was constructed as a cooperative effort between the two counties following overflow of the lake across section 35 in 1971. The Lura Lake watershed is relatively small at 1450 acres exclusive of the lake itself.

The Section of Wildlife surveyed Lura in 1955 and the first morphometric map was drawn at that time. The first Fisheries survey was done in 1972, followed by Fisheries

assessments done annually from 1981 through 1987 and every year since 1991. Water clarity at the time the 1955 survey was done was less than a foot and the lake was reported to have a large black bullhead population. Limited water clarity and abundant black bullhead, carp and bigmouth buffalo have been pretty much characteristic until recently.

For much of the period of record, Fisheries management of Lura consisted of occasional stocking of game fish following winter kill events. An aeration system was installed in 1976 as a means of stabilizing Lura as a habitat for fish, and the lake was then stocked almost every year, mostly with walleye, for the next decade or so. This approach was just moderately successful, providing the typical few weeks of spring and fall angling that this management approach usually generates. A partial winter kill occurred in 1990-1991 and this event led to reclamation of the lake in 1994.

Objectives

Figure 4 shows Lura Lake and its watershed, and notes some of the potential projects that exist there.

Six recommendations for maintaining and improving water quality came from the 1994-96 LAP done by MPCA. These recommendations will figure into the prioritization and selection process for projects on the lake. Briefly, they are:

- 1) Continue participation in the Citizens Lake Monitoring Program
- 2) Protect existing shoreline vegetation and educate landowners regarding the shoreline and shoreland protection
- 3) Wetland protection, use construction BMP's, continue representation on land management boards that deal with county shoreland regulations
- 4) Work with MDNR Section of Fisheries to maintain a healthy fish community
- 5) Continue to foster a working relationship with agricultural land owners in the watershed
- 6) Avoid or minimize harvest or other disturbance of aquatic plants

First, maintenance of a high-value fish community. The reclamation project done in 1994 allowed the fish community to be converted from a carp-black bullhead mix to a much higher-value assemblage dominated by northern pike, walleyes, yellow perch, largemouth bass, black crappies and bluegills. Some black bullheads survived the treatment and future projects should probably be done later in the fall to get longer duration of toxicity and a more-complete kill of this species. Also, one each of adult carp and bigmouth buffalo were captured during the 1996 assessment and it is suspected that these fish were able to ascend Blue Earth County Ditch 1 when it partially collapsed in 1995. These fish have subsequently reproduced and their presence, along with the black bullheads, may shorten the lifespan of the project. CD 1 has since been replaced, but the effectiveness of its fish barrier is still not known with complete certainty. It appears that no further immigration has occurred.

Second, shoreline restoration. According to a 1995 report prepared by the Blue Earth County SWCD, 38% of the Lura Lake shoreline, some 26,000 feet, was eroding and in

need of stabilization at the time the report was written. As described elsewhere in this report, some of this has been addressed and this effort will continue.

Third, dump removal. The aforementioned report identified 13 small dump sites. To date, two of these have been dealt with.

Fourth, watershed. The Lura watershed is small and much of the land is cultivated. Consequently, opportunities to effect positive change in the watershed may be limited. Measures such as establishment of lakeshore buffer strips will continue to be pursued, however, consistent with MPCA recommendation 3. Any wetland-restoration opportunities will be given high priority.

The focus of these Phase II project funds will be on:

- Enlarge and improve access on NW shore. \$20,000
- Perpetual easement on Conrad woods. \$17,700
- Expand aquatic vegetation beds (bulrush) near Dobie Farm. \$2,000
- Install and maintain dusk nesting structures on shoreline at Bonnet Farm. \$2,000

TOTAL: \$41,700

MINNESOTA LAKE (22-0033)

Background

Minnesota Lake is a 1914-acre basin located in sections 4-9 of Minnesota Lake Township in Faribault County. The city of Minnesota Lake is on the east shore of the lake. Maximum depth is 5 feet and average depth is 4 feet at normal water level. The lake is designated by the DNR as a wildlife lake, and is most heavily used as a resting and staging area for waterfowl during the spring and fall migrations. Waterfowl production is currently low because of inadequate food and nesting habitat. The Minnesota Lake watershed is 3522 acres exclusive of the lake itself. Numerous tile lines, three open ditches, and the storm sewer from the town flow into the lake, and an outlet on the west side flows to the Maple River. Lake turbidity is caused by carp and bulhead activity, and by wind and wave action on unvegetated shores and substrate. The lake does not support sport fishing activity.

Water levels have been consistent since the installation of a control structure in 1934. A new control structure was installed in 1997. Only 5-10 percent of the basin has supported emergent vegetation except during the drought years of the 1930's when emergent vegetation dominated the basin. In 1946, Sago pondweed (*Potamogeton pectinatus*) abundance was listed as occasional. No submerged plants were found in the lake during the 1968 and 1987 surveys. In 1987, only a thin band of emergent vegetation existed in the shallow water around the lake. The lake could be improved considerably in terms of habitat and support for recreational uses by the re-establishment of native submerged aquatic plants and the improvement of the existing emergent plants. A drawdown to

consolidate the sediment and encourage emergent vegetation to re-establish is currently underway, and will be conducted periodically.

Objectives

Figure 5 shows Minnesota Lake and its watershed, and notes some of the potential projects that exist there.

At present, the lake is heavily used as a recreational lake for waterfowl hunting, but improved opportunities for waterfowl hunting and birding activities should be provided. Objectives of this project are to improve the lake for waterfowl and nongame production, as well as resting and staging areas for migratory waterfowl and nongame birds.

The focus of these Phase II project funds will be on:

- Provide another access. \$15,000
- Construct and maintain artificial nesting structures for waterfowl. \$15,000
- Aerate storm sewer basin, so it may be managed as kid's fishing pond. \$1,000
- Dredge a channel to lake from storm sewer pond that inlets into the lake on the east, so that pond may be drawn down. \$1,000
- Construct post-drawdown berm with overflow channel. \$1,000
- Clean up and shoreline stabilization of this pond. \$8,000
- Construction of a rock jetty into this pond to provide fishing access. \$3,000
- Purchase lands for a core Wildlife Management Area adjacent to the lake, to enhance waterfowl production and increase recreational opportunities. \$250,000 total cost. Estimated cost to grant is less based on anticipated contributions from local groups.
- Provide two wildlife viewing platforms. \$6000

TOTAL: \$50,000 + \$250,000 easement/acquisition totals

RICE LAKE (22-0075)

Background

Rice Lake is an approximately 1000-acre basin located in sections 16, 20, 21, 29, 30, 31, and 32 of Delavan Township in Faribault County. The Bass Lake watershed is adjoining to the north. Maximum depth is 6 feet and average depth is 3.5 feet. The lake is currently managed by the DNR as a wildlife lake. Six county ditches outlet into the basin, as well as numerous tile outlets. The outlet on the east side flows to the Maple River. The outlet has a water control structure which allows periodic drawdowns.

A game lake survey in 1947 indicated the lake was in poor biological condition. The survey indicated a desire to plant hardstem bulrush to provide emergent cover, food, and nesting areas. Aquatic vegetation was limited to a scattered beds of coontail, sago pondweed, white and yellow water lilies, duck potato, cattail, and river bulrush. Carp and bullhead were common, and contributed to the lack of vegetation in the lake. Turbidity from suspended silt was high, with a secchi disc measurement of only 4 inches.

Impacts of 1989 and 1995 drawdowns were not documented, but it appears that problems similar to those of 1947 persist to this day.

Objectives

Figure 6 shows Rice Lake and its watershed, and notes some of the potential projects that exist there.

Rice Lake is currently used primarily as a waterfowl hunting area, by landowners and the general public. The primary objective is to improve the lakeshore waterfowl production. Nesting sites are not present due to the grazed shoreline and the lack of emergent vegetation. Food supply, number of loafing sites, and brood cover are also inadequate.

The focus of these Phase II project funds will be on:

- Acquire or gain easement on 120 acres on NW shore of lake. Potential for oak savannah restoration, and for use of buildings and land as environmental learning area. Will be a public use area of some type. \$88,966 cost after contribution from LCMR grant. Estimated cost to grant is less, based on anticipated contributions from local groups.
- Pursue cattle fencing projects on JD17, a tributary on the SW side of the lake. \$5,000
- Provide a core Wildlife Management Area for nesting waterfowl and increased recreational opportunities. \$200,000 total cost. Estimated cost to grant is less, based on anticipated contributions from local groups.

TOTAL: \$5,000 + \$288,966 easement/acquisition totals

RICE LAKE (22-0007)

Background

Rice Lake is a shallow, 266-acre basin located in sections 8, 16 and 17 of Foster Township, Faribault County, six miles south of Wells. The Rice Lake watershed is relatively small at approximately 700 acres exclusive of the lake itself. There is a fixed-crest weir structure at the outlet, date of construction unknown, which determines the level of the lake.

Rice Lake has never been intensively managed as fish or wildlife habitat and consequently only a few surveys have been done over the years. The DNR Section of Wildlife carried out surveys in 1946 and 1959, while the Section of Fisheries did an assessment in 1988 and the first complete lake survey in 1990.

Rice has a long history of instability as a habitat for fish, not surprising given the fertility and lack of depth. The lake has been characterized by occasional winter kill combined with periodic fish immigration from downstream, resulting in a fish fauna usually dominated by black bullheads and carp. Other, higher recreational-value species have achieved some degree of abundance from time to time, occasionally providing some fishing opportunity. To this end, Fisheries used to stock the lake with bullheads and

panfish between winter kill events, doing so 14 times between 1955 and 1988. The last stocking, in 1990, was of walleye fry.

Objectives

Figure 7 shows Rice Lake and its watershed, and notes some of the potential projects that exist there.

There has been a longstanding local interest, with letters in the DNR Fisheries file dating back to the 1950s, in managing Rice more intensively for fish and wildlife values. Its potential as a fish habitat is limited by the lack of depth, however. With a maximum depth of only a few feet, it is definitely on the margin of what can be done in terms of fish habitat stabilization and the lack of depth is the reason that resource managers have responded to local expressions of interest with some degree of caution. In other respects, however, Rice is ideally suited for such management. It is in a good strategic location, with few other angling opportunities nearby; it is a headwater basin and its watershed is manageably small; a barrier at the outlet to prevent undesirable immigration is feasible; the infrastructure needed to support use, in the form of Pihl's County Park, is in place; and the local community has expressed much interest in proceeding.

Consequently, the lake will be reclaimed in 1998 and a higher-value fish community will be introduced the following year. An aeration system will also be installed in 1999 so as to stabilize the lake as fish habitat as much as possible. It remains to be seen to what extent the habitat can be stabilized in this regard. The lake seems to have a history of dropping below the runout level in drier years and we may end up exploring the limits of what can be managed for fish. This is not a predictable situation, however. It will have to be worked through to establish some sort of track record.

Other issues that may be explored, in cooperation with stakeholders: there may be opportunities for wetland restoration in the watershed and any feasible situations should be pursued. The lakeshore is relatively undeveloped, with only nine residences documented in the 1990 Fisheries survey, but protection of undeveloped shoreline by means of conservation easement may be worth considering, for aesthetic, wildlife-habitat and water-quality reasons. Opportunities for establishment of a riparian buffer along the watercourse upstream of the lake will be reviewed.

Increasing the depth of the lake, by means of either raising the water level or lowering the substrate by dredging, has been suggested from time to time. Of these two alternatives, the latter would appear to have less negative environmental impact, in terms of lakeshore erosion, for example. It is proposed, however, that the aforementioned fish community modification be carried out first without any alteration of the lake depth. It is quite possible that an acceptable amount of recreation can be generated using the existing lake morphometry, minimizing the perturbation of other environmental values.

The focus of these Phase II project funds will be on:

- Construct a fish barrier at the outlet. \$500

- Install a culvert near the outlet, allowing drawdown. This installation would best be done at the time the local highway department replaces the deteriorating bridge at the outlet. \$2,000

TOTAL: \$2,500

GRAND TOTAL: \$116,572 + \$538,966 easement/acquisition totals to which the grant may contribute

FISCAL MANAGEMENT

Faribault Soil and Water Conservation District will be the fiscal agent, using accepted accounting procedures. A summary of grant expenditures will be provided at the end of the project. The administrative committee described below will determine exact use of the funds. . The Association will meet at least monthly to approve projects before they commence, and to approve payment on completed work.

ADMINISTRATION

Project will be administered by the Quad Lakes Association in consultation with MN DNR and Faribault SWCD. An annual LARS report will be provided. MN DNR will provide required written reports.

Date of Report: June 8, 1998

Date of Workprogram Approval:

Project Completion Date: June 30, 2000

Date of Next Status Report: December 15, 1998

LCMR Workplan Program 1998

I. PROJECT TITLE: Quad Lakes Restoration, Phase IIB

Project Manager: Chris Hughes

Affiliation: Board of Water and Soil Resources

Mailing Address: 261 Highway 15 South
New Ulm, MN 56073-8915

Telephone Number: (507) 359-6074

E-Mail: chris.hughes@bwsr.state.mn.us

FAX: (507) 359-6018

Total Project Budget:

	<u>Appropriation</u>	<u>Balance</u>
1) 1997 General Fund	\$150,000	\$ 98,298.73
2) 1998 Conservation Partners Grant	10,000	0
3) 1998 General Fund	200,000	200,000
4) 1999 Capital Appropriation	300,000	300,000

A. Legal Citations and Appropriation Language:

- 1) MS 1997 Ch. 216, Sec 6. \$150,000 the first year is for a grant to the Faribault soil and water conservation district for the quad-lakes restoration project in Faribault and Blue Earth counties.
- 2) M.L. 1997, Ch. 216, Sec. 15, Subd. 4(c), (4). \$600,000 for a statewide conservation partners program to encourage private organization and local governments to cost share improvements of fish, wildlife, and native plant habitat and research and surveys of fish and wildlife. This grant was \$10,000 to CP97-4.08. Upland Habitat and Water Quality Improvement.
- 3) MS 1998 Ch. 216, Sec. 15, Subd. 4 (c), (4). \$200,000 in fiscal year 1998 is for a grant to the Faribault County soil and water conservation district for the quad-lakes restoration project in Faribault and Blue Earth counties and is available until expended.
- 4) Approval is requested for a \$300,000 grant. MS 1998, Ch. 404, Sec. 16B.335, Subd. 4. For a grant to the Faribault County soil and water conservation district for the quad-lakes restoration project in Faribault and Blue Earth counties.

B. Status of Match Requirement:

- 1) No match required
- 2) \$22,000 match required and spent
- 3) No match required

4) No match required

II. PROJECT SUMMARY AND RESULTS: Funds available to the Quad Lakes Initiative will be used to complement, not replace or enlarge, existing agency programs. In other words, if a standard program is available to pursue a valid ecological theme, a wetland restoration, for example, the program funds will be utilized first.

The Quad Lakes Project is a watershed-restoration project intended to protect, restore and improve aspects of the aquatic ecosystem in an area of southern Minnesota bounded, approximately, by the communities of Winnebago, Mapleton, Wells and Blue Earth. It developed as a result of longstanding local community interest in improving the quality of the natural environment in the area. A 1994 fish reclamation at Lura Lake added some momentum to this interest and the scope expanded from Lura to include four lakes (hence the project name), the other three being Bass, Minnesota and Rice (near Winnebago). Recently, the Rice Lake located south of Wells was added to the list of lakes, bringing the total to five. These five lakes and their watersheds represent the primary geographic focus of the project, although other lake basins in the area, local streams and associated watershed features will be considered for project activity if such activity is locally supported and technically valid.

Improving the quality of outdoor recreation is a major goal of the Quad Lakes initiative. This project, however, also presents a tremendous opportunity to achieve locally supported and locally driven environmental improvement on a watershed scale, with water-quality and aquatic-ecosystem goals that are consistent with county water plans, agency recommendations and a great deal of other widely accepted guidance regarding the need to restore the Minnesota River and its watershed.

Funds will be disbursed according to standard agency guidelines: easements will be paid at standard agency rates, for example. No "topping up" of standard programs will occur.

The four grants cited throughout this document will be applied toward this restoration initiative.

III. SIX MONTH WORK PROGRAM UPDATE SUMMARY: Six month program updates will be provided for capital appropriation only and are not applicable for initial submission.

IV. OUTLINE OF PROJECT RESULTS:

Result 1:

1) Quad Lakes Improvement Project (Phase I) Grant. Thus far, 1 ¾ miles of shoreline protection on Bass Lake and Lura Lake have been completed, with more stabilization projects on Lura and Minnesota Lakes in progress. Purchased, along with Pheasants Forever, 36 acres of riparian woodland in the Rice Lake (Winnebago) watershed. \$76,701.27 of the \$150,000 granted has been committed.

- 2) Lura Lake Upland Habitat and Water Quality Improvement Conservation Partners grant. Dump clean-up and shoreline stabilization on Lura Lake. \$22,000 local contribution was matched to the \$10,000 grant – all has been committed.
- 3) Approval is being requested from the BWSR for \$200,000 for implementation of projects in each of the five watersheds as proposed below (Quad Lakes Restoration Project Phase IIA). Cost for projects detailed are \$116,572, plus \$538,966 easement/acquisition totals to which the grant may contribute.

High Priority Projects

Status as of June 1998

Bass Lake: \$17,372

Permanent protection of deciduous cover that surrounds most of the lake – probably by easement.

20 acres @ \$868.60 = \$17,372

Identifying sites

Lura Lake: \$41,700

Enlarge and improve access on NW shore

\$20,000

Site identified

Perpetual easement on Conrad woods

\$17,700

Site identified

Expand aquatic vegetation beds (bulrush) near Dobie Farm

\$2,000

Site identified

Install and maintain dusk nesting structures on shoreline at Bonnet Farm

\$2,000

Site identified

Minnesota Lake: \$50,000 plus \$250,000 easement/acquisition totals

Provide another access

\$15,000

Identifying site

Construct and maintain artificial nesting structures for waterfowl

\$15,000

Identifying sites

Dredge a channel to lake from storm sewer pond that inlets into the lake on the east, so that pond may be drawn down

\$1,000

Ready to construct

Construct post-drawdown berm with overflow channel

\$1,000

Ready to construct

Clean up and shoreline stabilization of this pond

\$8,000

Ready to construct

Construction of a rock jetty into this pond to provide fishing access

\$3,000

Ready to construct

Aerate storm sewer basin, so it may be managed as kid's fishing pond

\$1,000

Awaiting other phases

Purchase lands for a core Wildlife Management Area adjacent to the lake, to enhance waterfowl production and increase recreational opportunities.

\$250,000 total cost. Estimated cost to grant is less based on anticipated

contributions from local groups

Identifying site

Provide two wildlife viewing platforms

\$6000

Ready to construct

\$6000

Beginning construction

Rice Lake (Winnebago): \$5,000 plus \$288,966 easement/acquisition totals

Acquire or gain easement on 120 acres on NW shore of lake. Potential for oak savannah restoration, and for use of buildings and land as environmental learning area. Will be a public use area of some type.

\$88,966 (after contribution from LCMR grant). Estimated cost to grant is less, based on anticipated contributions from local groups. Site identified

Pursue cattle fencing projects on JD17, a tributary on the SW side of the lake

\$5,000

Identifying sites

Provide a core Wildlife Management Area for nesting waterfowl and increased recreational opportunities.

\$200,000 total cost. Estimated cost to grant is less, based on anticipated contributions from local groups. Identifying site

Rice Lake (Wells): \$2,500

Construct a fish barrier at the outlet

\$500

Site identified

Install a culvert near the outlet, allowing drawdown. This installation would best be done at the time the local highway department replaces the deteriorating bridge at the outlet.

\$2,000

Talking with road authority

4) Approval is being requested for implementation of projects in each of the five watersheds as proposed below (Quad Lakes Restoration Phase IIB). If additional funds are leveraged, costs will decrease and similar projects will be undertaken.

Budget:	\$300,000	Balance:	\$300,000
Match:	None required	Match balance:	N/A
Completion date: On or before June 30, 2000			

High Priority Projects

Status as of June 1998

Bass Lake: \$30,734

Acquisition of or easement on a 45 acre drained wetland basin in the NE ¼ of Section 17, Delavan Township, followed by wetland restoration. Area is SW of the lake. The money identified here will supplement that identified for this easement in the Quad Lakes Improvement Project (Phase I) grant.

\$29,484

Site identified

Provide seed and monetary incentive to farmers to plant tile buffers in the fields west of the lake, where most of the watershed lies.

5 @ \$250 = \$1250

Identifying sites

Lura Lake: \$132,800

Follow MPCA's recommendations to make Daly Park more "lake friendly" by replacing some of the mowed area with prairie.

10 acres @ \$500/acre = \$5,000

Talking to county park board

200 feet of shoreline protection at Nass Farm. Fall 1998.	
\$3,000	Ready to construct
3960 feet/0.75 miles of shoreline protection at Miller Farm, Fall 1998.	
\$59,400	Ready to construct
3700 feet/0.70 miles of shoreline protection at Proehl Farm, Fall 1998.	
\$55,400	Ready to construct
1000 feet/0.20 miles of shoreline protection on island, Winter 1998-99.	
\$10,000	Ready to construct

Minnesota Lake: \$14,882

Provide seed and monetary incentive to farmers to plant tile buffers in the fields north of the lake, from which drainage is pumped into the lake .	
5 @ \$250 = \$1250	Identifying sites
Provide for a 200-foot grassland or tree buffer around as much of the lake as possible, to improve water quality and provide habitat.	
10 acres @ \$1,363.32 = \$13,632	Identifying sites

Rice Lake (Winnebago): \$67,584

Restore wetlands in the watershed south of the lake, primarily in JD10 ditchshed.	
\$15,000	Landowner negotiations
Provide an access on the south portion of the lake.	
\$10,000	Prelim design
Provide seed and monetary incentive to farmers to plant tile buffers in the watershed.	
5 @ \$250 = \$1250	Identifying sites
Acquire or gain easement on 120 acres on NW shore of lake. Potential for oak savannah restoration, and for use of buildings and land as environmental learning area. Will be a public use area of some type. The money identified here will supplement that identified for this easement in the Quad Lakes Improvement Project (Phase IIA) grant.	
\$41,334 contribution from this grant.	Site identified

Rice Lake (Wells): \$54,000

Follow MPCA's recommendations to make county parks more "lake friendly" by replacing some of the mowed area with prairie.	
10 acres @ \$500 = \$5,000	Talking to county park board
Build a boat access in the county park.	
\$10,000	Prelim design
Permanent protection of deciduous cover that remains on lakeshore. Of particular interest is the west shore point directly opposite the county park.	
\$39,000	Identifying sites

TOTAL = \$300,000

Result 2: Consolidation of the innovation of local government, citizens, and schools with the technical and financial assistance of state and federal agencies to improve the land and water resources in the Quad Lakes watersheds.

Budget:	\$0	Balance:	\$0
Match:	\$0	Match Balance:	\$0
Completion Date: Ongoing during project period.			

Goals

- To provide high-quality outdoor recreation
 - provide access
 - provide high recreational value fish communities and stabilize the habitat
 - preserve and restore aesthetics: a treed horizon when on the lake for example.
 - other natural features: we need a compelling argument here for protection of remaining fragments of oak savannah, aesthetic value at least
- To restore and protect the aquatic ecosystem within the present-day framework of necessary agricultural drainage.
 - protect, restore natural vegetative cover along undeveloped lakeshore and stream bank.
 - stabilize stream flow by means of water retention, the more naturalistic the better: strategic wetland restoration, with restoration to be done to restore hydrologic function as well as other values (e.g. waterfowl, fish spawning, diverse wetland vegetation).

Prioritization Factors

- Participation of local sponsors
- Funding provided is complementary to existing agency programs, not a replacement or enlargement
- Hydrograph stabilization
- Shoreland protection
- Water quality improvement
- Preservation of open space for public use and enjoyment

Projects and expenditures will be selected and approved by the Quad Lakes Association citizens' board. Technical, administrative, and financial assistance will be provided by Faribault County SWCD, Faribault County, Blue Earth County SWCD, Blue Earth County, MN DNR, MN PCA, and the USFWS.

Dissemination: Both technical and administrative activities undertaken as parts of these projects will be discussed and presented at professional meetings and meetings of citizen groups. Citizen activists, as well as agency professionals, will be making these presentations.

Many of the project sites are highly visible and expect heavy use, since they are under public ownership or can be easily accessed from public property. Many under private ownership are and will also be open for viewing, after making arrangements with the landowners.

V. CONTEXT:

- A. Significance:** The Quad Lakes Association has been very successful at organizing on-the-ground conservation projects outside the framework of traditional agency programs. Supporting their effort with this funding and with continuing agency cooperation and assistance will multiply the benefit to the resource, and further the restoration of the respective watersheds.

This project is needed to maintain the restoration momentum that exists in the area. In progress projects pique the interest of other potential cooperators and supporters, and quality finished products convince them to sign on. The projects completed and ongoing under the previous grants have created a demand for more of the same types of project, and an environment under which others (e.g. large wetland restorations, protection of riparian vegetation) are possible.

The relationship between the Quad Lakes Restoration Project and agency programs may be thought of as a partnership between mortar and bricks: the Quad Lakes funding may be thought of as mortar - more flexible than the bricks and able to fill in around them where coverage is needed, the bricks to provide a structural framework.

- B. Time:** Future funding for watershed restoration in the Quad Lakes area will be sought as current projects are successfully completed and follow-on projects are identified.

- C. Budget Context:** The following grants have been awarded previously for work in this area:

	<u>July 96-June 98</u>	<u>July 97-June 99</u>	<u>July 98-June 00</u>
1. LCMR	0	0	0
2. Other State	\$150,000	\$210,000	\$300,000 (Cap. App.)
3. Local Contribution		\$ 22,000	
TOTAL	\$150,000	\$232,000	\$300,000

Varying portions of funding or in-kind work for individual projects have been contributed by counties, SWCD's, landowners and other organizations in the project areas.

BUDGET:

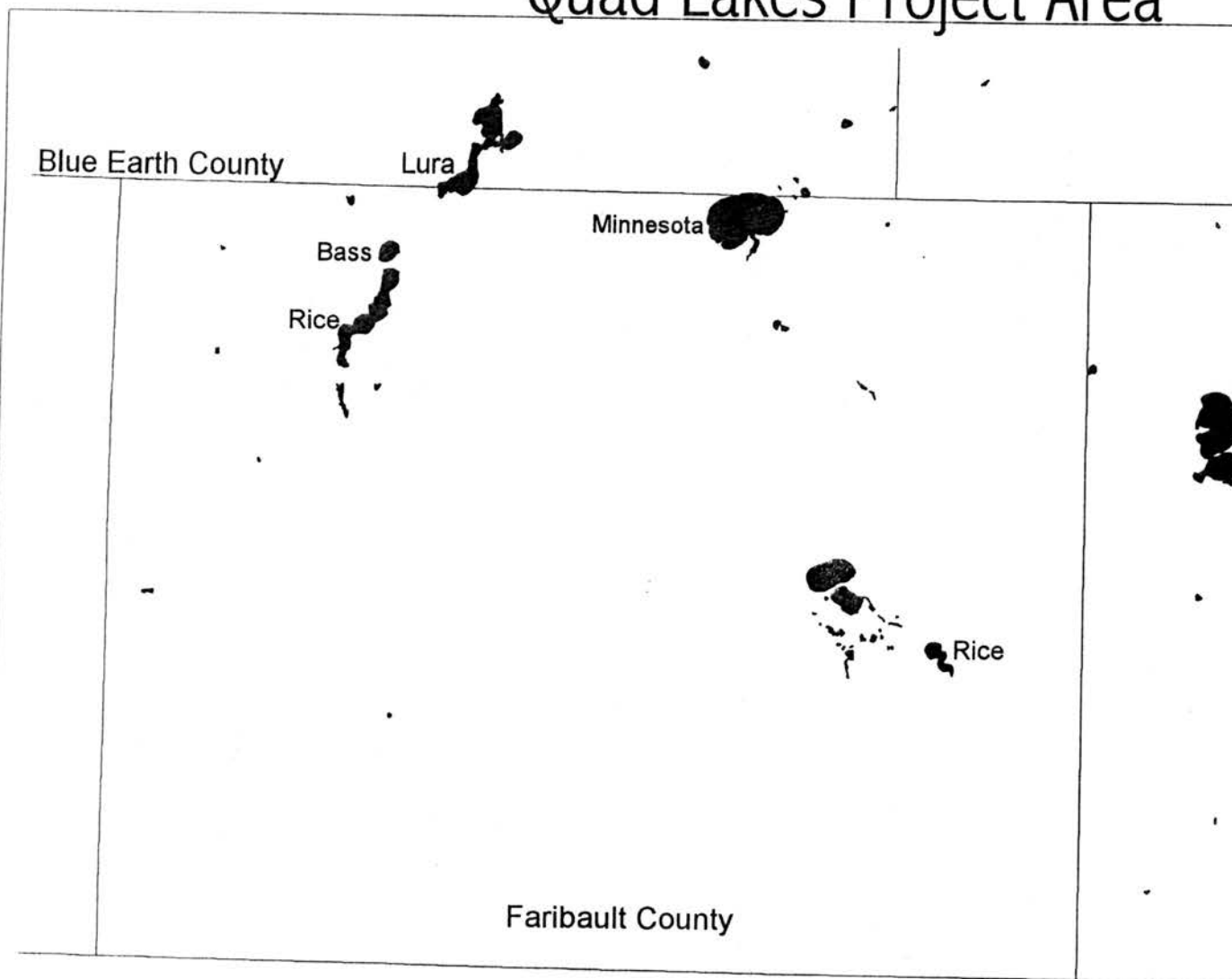
Personnel:	\$0
Equipment:	\$0
Acquisition:	\$133,450
Development:	\$166,550
Other:	\$0
Total:	\$300,000

VI. COOPERATION: The following local, state, and federal government agencies are cooperators for various aspects of project implementation, including prioritization, design, on-site technical assistance, construction and funding:

- Faribault County SWCD
- Blue Earth County SWCD
- Blue Earth County Environmental Services
- County highway departments
- Blue Earth River Basin Initiative (BERBI)
- MN Pollution Control Agency
- MN Department of Natural Resources
- US Fish and Wildlife Service
- Faribault County

VII. LOCATION: Ecological classification location: Minnesota River Prairie Subsection

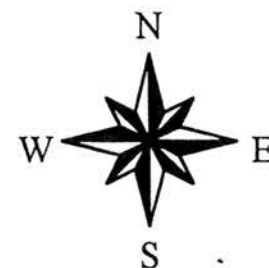
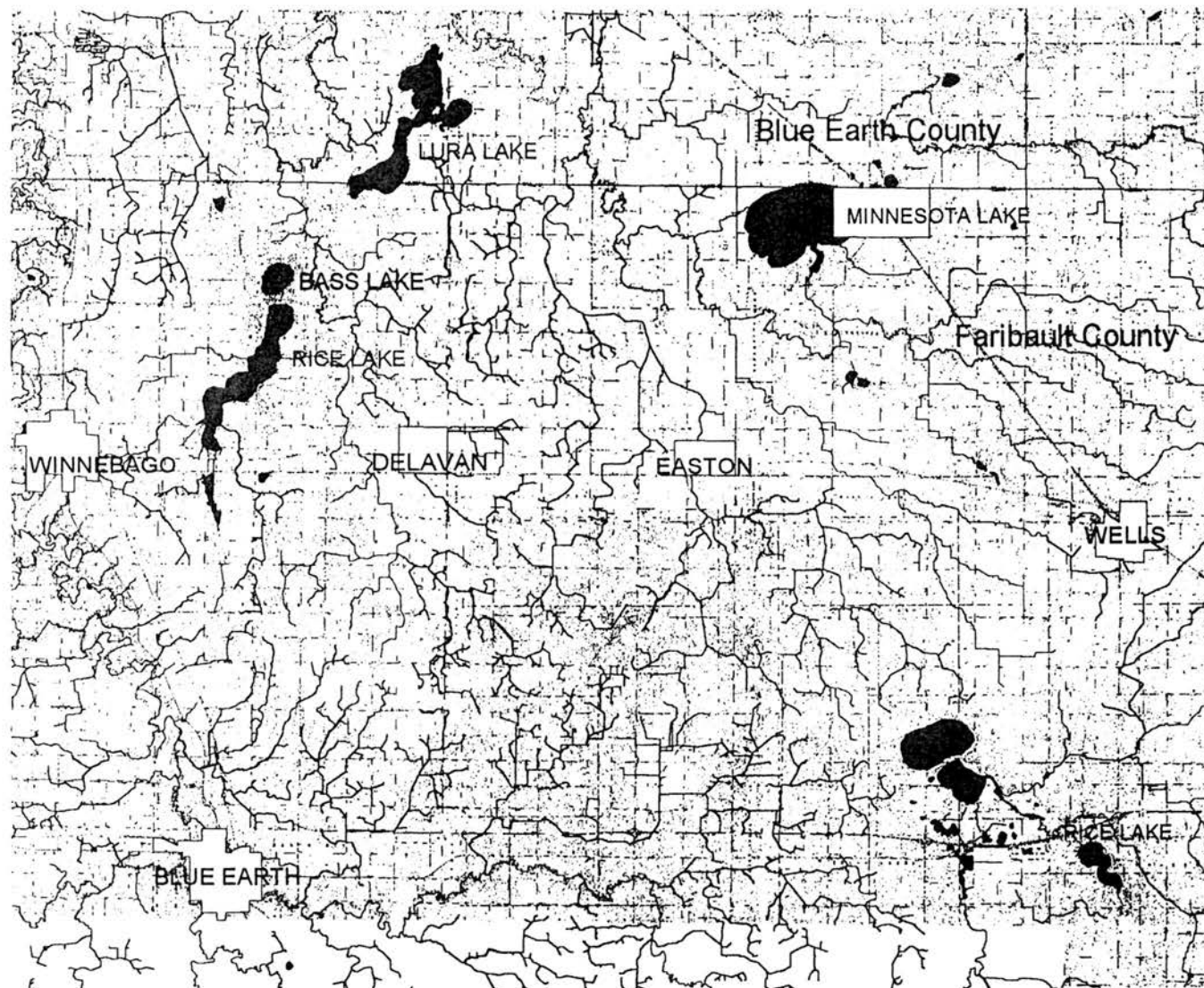
Quad Lakes Project Area



6/2/98
5lakes.apr
cln, Waterville Fisheries



Quad Lakes Project Area



6/8/98
5lakes.apr
cln, Waterville Fisheries

Bass Lake

Lake = 199 acres
Watershed = 481 acres
Ratio = 1.4/1



🏠 New housing development

⚓ Public access

▭ Watershed



Lura Lake

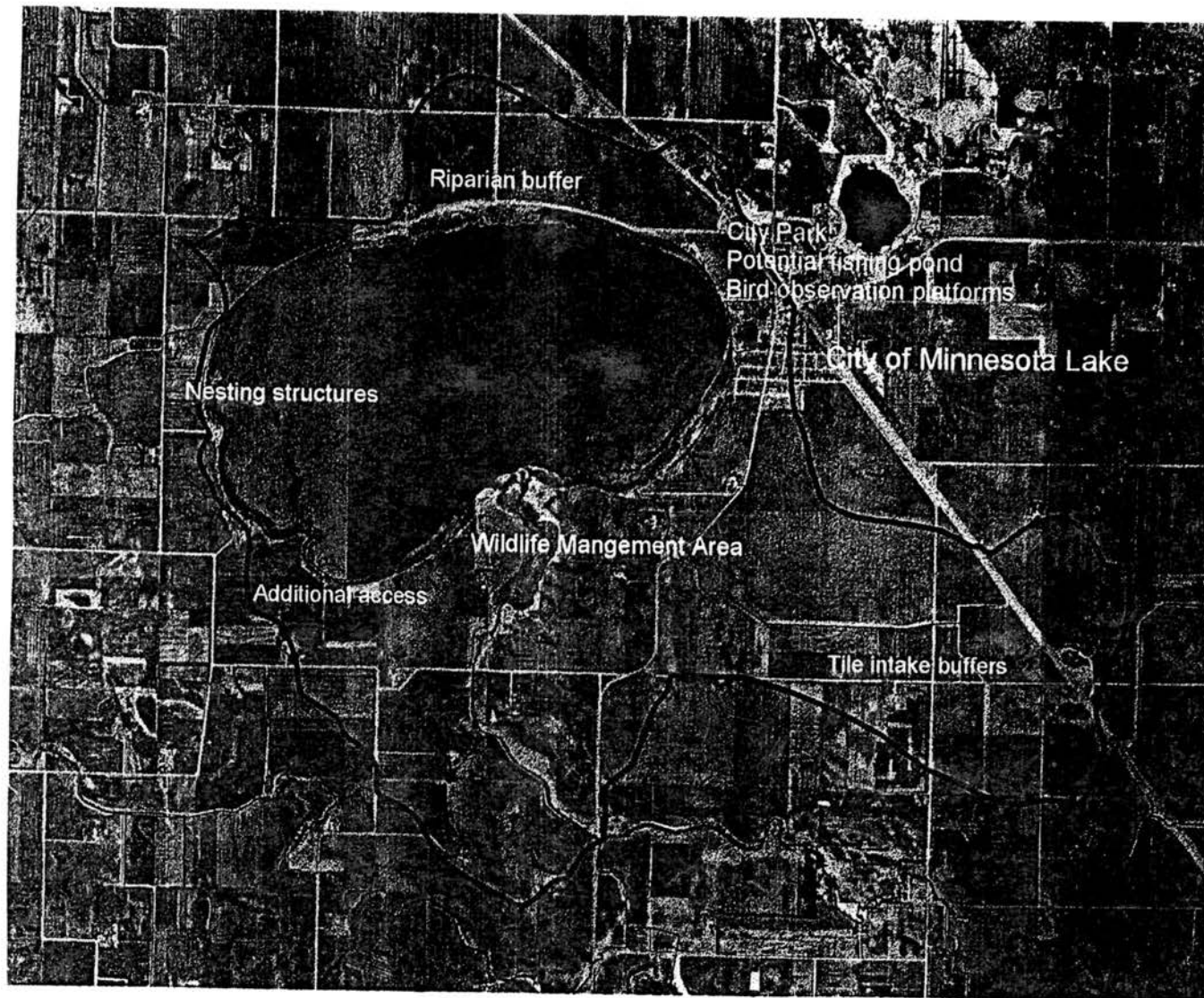
Lake = 1296 acres
Watershed = 2744 ac.
Ratio = 1.1/1



6/9/98
5lakes.apr
cln, Waterville Fisheries

Minnesota Lake

Lake = 1914 acres
Watershed = 5436 ac.
Ratio = 1.8/1



6/9/98
5lakes.apr
cln, Waterville Fisheries

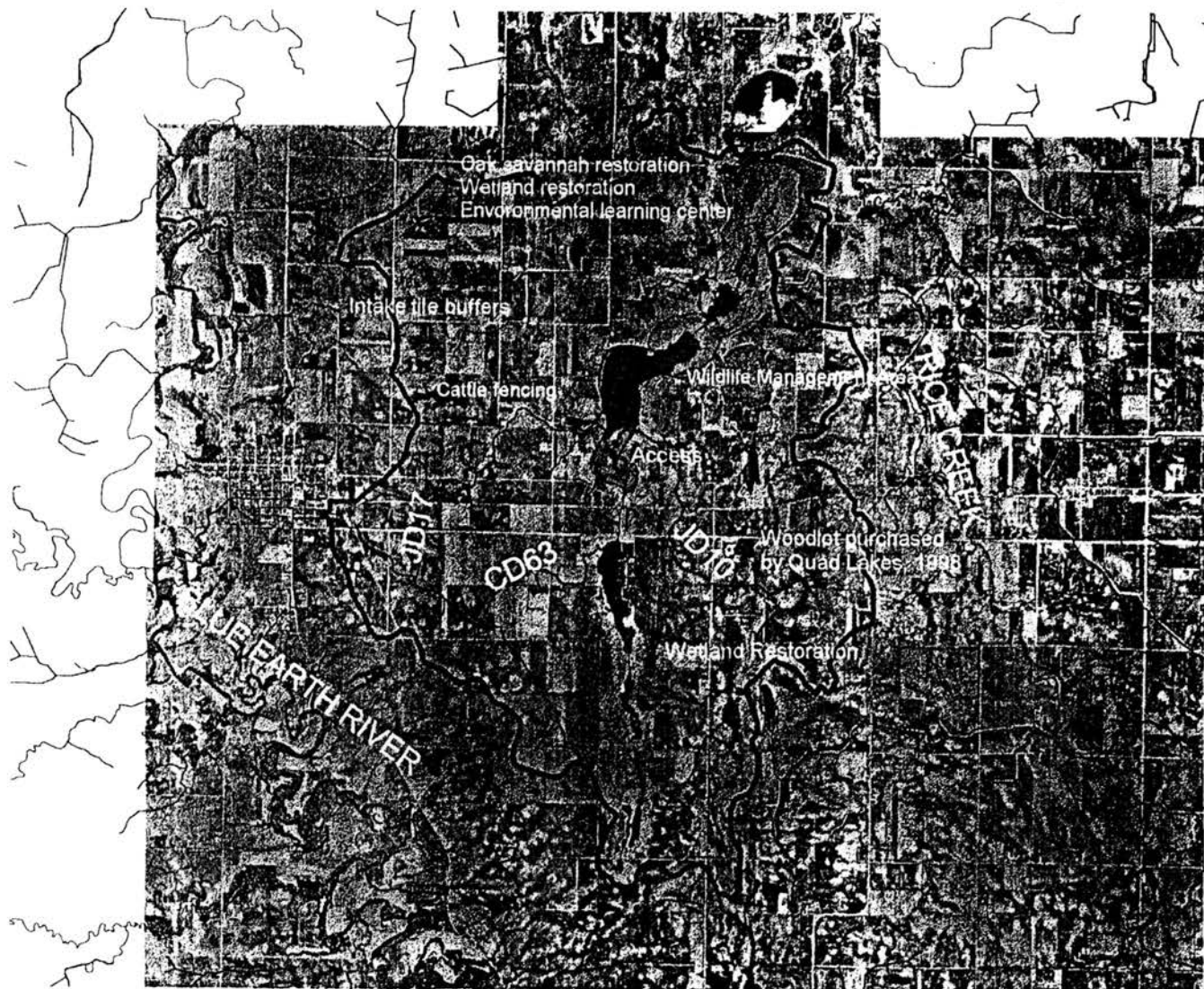
Rice (Wells)

Lake = 257 acres
Watershed = 982 ac.
Ratio = 2.8/1



6/9/98
5lakes.apr
cln, Waterville Fisheries

Rice (Winnebago)



Lake = 982 acres
Watershed = 14,938 ac.
Ratio = 14.2/1



6/9/98
5lakes.apr
cln, Waterville Fisheries



United States
Department of
Agriculture

Natural
Resources
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To <u>WANE ZILMER</u>	From <u>JIM LEMMERMAN</u>
Co./Dept.	Co.
Phone #	Phone #
Fax #	Fax #

SUBJECT: TORNADO DAMAGE ASSESSMENT
UPDATE FOR ECP

DATE: MAY 14, 1998

TO: WILLIAM HUNT, State Conservationist
St. Paul, MN

FILE CODE: 330

On May 12, 1998, the FSA National office notified us that the use of ECP funds was approved for replacement of Farmstead Shelterbelts and Field Windbreaks damaged and/or destroyed in the St. Peter area tornado. The following is a revised estimate, by county, of the farmstead shelterbelts damaged and the ECP cost share required for replacement.

These following numbers were provided by state and local field staff responsible for damage assessment.

TORNADO DAMAGE ASSESSMENT

County	No. of Sites	Sites Completely Destroyed	Total \$	ECP \$
LaSueur	56	30	135,866	86,955
Nicollet	22	20	61,582	39,412
Brown	170	120	441,350	282,464
Blue Earth	12	12	34,680	22,195
Cottonwood	50	15	109,535	70,102
Nobles	6	6	17,340	11,098
Rice	0			
Total	316	203	\$800,353	\$512,226

DETAILED WINDBREAK RESTORATION ESTIMATE

TYPICAL FULL SITE REPLACEMENT ESTIMATE	TOTAL	\$2890.00
AT 64% COST SHARE RATE		\$1849.00

In the 6 Counties there is a need for 203 full replacement sites or

FULL SITE COST ESTIMATE	\$586,670.00
FULL SITE ECP COST SHARE NEEDED AT 64% RATE	\$375,459

TYPICAL PARTIAL SITE REPLACEMENT ESTIMATE	TOTAL	\$1891.00
AT 64% COST SHARE RATE		\$1210.00

In the 6 Counties there is a need for 113 partial replacement sites

The Natural Resources Conservation Service,
formerly the Soil Conservation Service, works
hand-in-hand with the American people to
conserve natural resources on private lands.

AN EQUAL OPPORTUNITY EMPLOYER

PARTIAL SITE COST ESTIMATE \$213,683.00

PARTIAL SITE ECP COST SHARE NEEDED AT 64% RATE \$136,757

TOTAL NEEDS ALL SITES \$800,353

TOTAL ECP COST SHARE NEEDS, ALL SITES AT 64% RATE \$512,226

RECOMMENDATIONS

The total amount of ECP funds requested should represent the total needs based on the damage assessment. The requested amount of ECP funds should not be reduced based on the use of other programs or that some producers may choose not to replace their windbreak. The total estimated needs to replace or restore all windbreaks is \$800,353 and the total ECP requested should be 64% or \$512,226. These estimates are based on the use of "Not to Exceed Rates" shown on the attached EC-7 docket.

With the ability to use ECP cost share funds there may be very little need and reason to use EQIP funds. There is precedent from the 1993 flood to combine both ECP and State of MN cost share to provide producers 100% cost share. To use 100% cost share both the FSA State Committee and BWSR would have to waive existing policy provisions.

Recent discussions with BWSR staff have indicated that existing policy provisions may not allow the use of State of MN cost share funds on shelterbelts. If state funds are not available it may be possible to combine ECP and EQIP to provide 100% cost share. We should continue to pursue the possibility of providing 100% cost share.

In this revised proposal the programs we now intend to utilize for windbreak restoration are ECP and CRP. The State of MN and EQIP funds can be utilized to raise the cost share percentage above that provided by either ECP or CRP. There is still a percent of producers and sites where windbreak restoration would best be served through the Continuous CRP or combining the CRP with another program. Use of the Continuous CRP and the strong possibility that the total number of sites where windbreaks will be restored is less than the number damaged will reduce the amount ECP and/or EQIP/State of MN cost share funds necessary for restoration.

Paul Flynn

Paul Flynn
NRCS State Staff Forester

cc: Tim Koehler, ASTC, St. Paul, MN
Ron Hardesty, ASTC, St. Peter, MN

EC-7 COST SHARE DOCKET FOR FARMSTEAD SHELTERBELTS

EC-7 RESTORING WINDBREAKS AND SHELTERBELTS

PURPOSE:

The purpose of this practice is to restore by replacement or renovation the windbreaks and shelterbelts which suffered storm damage.

PRACTICE POLICY

Apply this practice to farmland that has suffered serious storm damage to shelterbelts and windbreaks and which needs protection against; 1) wind erosion and, 2) energy loss from exposure.

COST SHARE POLICY

<u>If the component is</u>	<u>And it is</u>	<u>Then it is</u>
Removal of damaged trees	needed to restore or establish windbreaks and or shelterbelts	authorized
Planting trees and or shrubs	needed to control erosion protect farmsteads	authorized
Weed Control	needed for establishment of windbreaks and shelterbelts	authorized but *

* - limited to measures performed during the 24 months after planting

COST SHARE RATES:

<u>COMPONENT</u>	<u>C/S RATE</u>
A. Restoration, Removal and Disposal of damaged trees and shrubs within Farmstead Shelterbelts	64% NTE \$480/Acre
B. Site Preparation	
a. Chemical/Mechanical	\$98.00 per acre
b. Chemical	\$61.00 per acre
c. Mechanical	\$43.50 per are
C. Trees and Shrubs and Planting	
a. Bared root trees and shrubs	\$64 per hundred planted
b. Where MCIA stock is used	\$70.40 per hundred
c. Container conifers	\$4.50 each

d. MCIA stock

\$4.80 each

Note - MCIA stock is certified by the MN Crop Improvement Association

D. Weed Control

- a. Mechanical - up to 3 cultivations
- b. Chemical - one application per year
- c. Tree Mats
 - 1. Roll
 - 2. Square

\$4.60/hundred ft of row
\$1.55/hundred ft of row

\$25.60/hundred feet
\$1.00 each

LIFESPAN:

The practice shall be maintained for at least 10 years after the calendar year of installation.

SPECIFICATION

The practice must be carried out according to NRCS standards 380, Windbreak/Shelterbelt Establishment and 650, Windbreak Renovation. The tree and shrub species used will be in accordance the MN FOTC Section II-N and the NRCS standards.

TECHNICAL RESPONSIBILITY:

Technical responsibility is assigned to NRCS.

Feedlot Water Quality Management Grants

Background

The 1998 legislature appropriated \$2 million in new funds to the BWSR for the purpose of allocating funds to SWCDs to cost share on water quality management grants for feedlots. One million dollars of this amount is a one-time appropriation. The other million will be added to BWSR's base legislative funding and is expected to be an annual appropriation.

Grant funds must be used for waste management systems for small feedlots (less than 500 animal units) to benefit water quality. Grant funds may not be used for new or expansion feedlot projects. The State Cost Share Program will be used to administer and implement this appropriation. SWCDs may request that up to ten percent of project funds be used for technical and administrative costs.

The appropriation language for these funds directs that funding priority be given to:

- ▶ Feedlot operators who have received a notice of violation
- ▶ feedlots in counties that are conducting or have completed a level 2 or level 3 feedlot inventory

The BWSR will also give additional funding priority to:

- ▶ Feedlot operations where FLEVAL indicates a high pollution potential
- ▶ Feedlots in riparian locations
- ▶ Practices that will be applied in 1998

Twenty-eight SWCDs submitted applications requesting \$5,211,822 for 140 projects.

Issues

- 1) Twenty-two of these 28 applications stated that they had a level 2 or 3 inventory completed or in progress in their county. Eight of these 22 counties do not have a level 2 or level 3 inventory verified by the MPCA.
- 2) A "notice of violation" is the first "formal" MPCA level of enforcement. The BWSR staff agree that a "letter of enforcement", which is considered an "informal" level of enforcement, meets the legislative intent to assist producers who have been cited.
- 3) The federal EQIP program and the AG BMP SRF loan program both have maximum funding levels of \$50,000. Twenty-three requests have been submitted for \$70,000 or more per project. This appropriation will be administered via the State Cost Share Program which requires projects of \$50,000 or more to be recorded on property title. An allocation cap of \$50,000 (\$49,999) per project is suggested by M - Team.
- 4) Current BWSR policy "*Feedlot Cost-Share When Enforcement Action In*

Process", April 28, 1993, applies to these grants. BWSR staff will provide MPCA project information from grant applications and remind grant recipients to coordinate with MPCA. MPCA will inform SWCDs regarding their enforcement actions.

5) When a SWCD cancels a project, can funds be re-encumbered on another project not funded by BWSR?

6) BWSR staff are recommending that \$1.8 million of this amount be allocated at this time. The remaining \$200,000 of this amount is proposed to be allocated in August 1998 as Non Point Engineering Assistance Challenge Grants to provide additional technical assistance that is anticipated to be needed to turn these funds into conservation practices.

As these policy issues have direct impact on the allocation of these funds, the Cost Share/Soil Conservation Committee will be meeting on June 17 to provide allocation policy recommendations on the above issues and allocation recommendations.