



Minnesota Board of Water and Soil Resources.
Minutes.

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90 W. Plato Blvd.
St. Paul, Minnesota 55107
(612) 296-3767

September 21, 1988

TO: Board of Water and Soil Resources Members,
Staff, and Advisors

FROM: Jim Birkholz, Executive Director *J. Birkholz*

SUBJECT: September 28-29, 1988 BWSR Meeting and Retreat

Enclosed is the preliminary agenda and informational material for the Board meeting and retreat. There will be a short business meeting starting at 8:30 and conclude at 10:00 on Wednesday morning. The remainder of the meeting will consist of the Board and staff retreat and the tour and associated activities with MASWCD Area III.

Enclosed are maps showing location of the meeting, a listing of lodging reservations, and who will be attending the various functions. Please note that we have made arrangements for all meals to be served at the Forestry Center. These meals are being billed directly to the Board office. If you wish to make other meal arrangements you are on your own. If you have any last minute changes, please contact Mary Jo.

Following are some details on agenda items:

- Proposed Increase in the Number of Managers of the Pelican River Watershed District - Enclosed are the minutes from the August 26 hearing held at Detroit Lakes and a draft order and resolution for the Board's consideration.
- General Purpose Grants to Districts: Expenditures for Supplies and Services - Each year the Board must take action to set up the funds to provide these services to Soil and Water Conservation Districts. The attachment should be self-explanatory.
- Minnett-Krantz Partial Payment - This is the third partial payment for this flood control structure. The attachment should contain the needed information for Board action.
- Strategic Planning - Staff has continued to work on what the Board began two months ago on the strategic planning issues. Please review the enclosed material and decide which issues you want to participate in. Small group discussion will be used to complete work on the issues and prioritize the Board's strategies and tasks. The remainder of the retreat will be spent discussing techniques to achieve our goals which we have set for ourselves. Bring your thinking caps.

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218-755-3963

Northeast Region
Government Service Center
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Duluth, MN 55802
218-723-4752

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September 21, 1988

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Just today I learned that Cloquet will be the site of "CAPITOL FOR A DAY" on September 30, sponsored by the Governor's Office. The focus of the day's events will be on water resources. We are working to ensure the participation of our organization on this event. I will bring along details to you as they become available. If travel schedules permit, some Board members may wish to participate in activities in Cloquet on September 30.

If you have any additional agenda items or require more information please contact the Board office or Chairman Ogaard. I am looking forward to the Board and staff working together on a creative and successful retreat. See you there!

JB:mja
Enc.

BOARD OF WATER AND SOIL RESOURCES
Cloquet Forestry Center
175 University Road
Cloquet, MN 55720
September 28-29, 1988

PRELIMINARY AGENDA

Wednesday, September 28, 1988

8:30 a.m.	Start BWSR Business Meeting
	1) Call to Order
	2) Adopt Agenda
	3) Approve Minutes of August 28, 1988
	4) Chairman's Report - Donald Ogaard
	5) Executive Director's Report - Jim Birkholz
	6) EQB/Water Resources Committee Report - Loni Kemp
	7) Proposed Increase in Number of Managers of the Pelican River Watershed District - Mel Sinn
	8) Proposed Allotment for General Purpose Grants to Districts: Expenditures for Supplies and Services - Jim Birkholz
	9) Minett Krantz Structure Partial Payment - Greg Larson
10:00 a.m.	Conclude BWSR Business Meeting
	Break
10:15 a.m.	Begin BWSR/Staff Retreat
	- Small Group Break-outs
	Five natural resource issues:
	1) Nonpoint Source Pollution Control
	2) Water Quantity Management
	3) Land Use Management
	4) Groundwater Management
	5) Wetlands Management
11:30 a.m.	Reports to Large Group
12:00 - 1:00 p.m.	Lunch
1:00 - 3:00 p.m.	Large Group Discussion - Techniques for the BWSR to achieve its goals
3:00 p.m.	Break for Tour - Buses will leave from meeting site
6:00 - 8:00 p.m.	BBQ at location indicated on map
8:00 p.m.	Free Time

Thursday, September 29, 1988

8:30 a.m.	Discuss the tour and the resource management needs of northeastern Minnesota
9:30 a.m.	Basic philosophy and principles • how to work effectively with our primary local units of government • how to accomplish our goals through comprehensive local water plans
10:00 a.m.	Break
10:15	Continue discussion
Noon	Lunch with Area III MASWCD
1:30 p.m.	Adjourn



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STRATEGIC PLANNING

September 28 - 29, 1988

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BWSR STRATEGIC PLANNING WORKSHEET

MISSION STATEMENT

The Minnesota Board of Water and Soil Resources considers water and soil to be our most precious natural resources. It is the BWSR mission to provide leadership in managing policies and programs that encourage all citizens to be stewards of our irreplaceable land and water.

ISSUE: Nonpoint Source Pollution Control

- Description of Needs:
 - 1) Determine the mix of land use controls and incentives necessary to control NPS pollution.
 - 2) Determine and promote the local government role in implementing land use controls and incentives.
 - 3) Develop strategies to control NPS pollution in areas not likely to be part of organized clean water partnership projects.

BWSR GOAL: To provide protection of water resources by encouraging coordination of planning and implementation efforts through local governments.

BWSR STRATEGIES:

- Tasks to Accomplish:
 - 1) "Deliver" quality 509 and 110B, 112 and SWCD plans via an excellent process.
 - 2) Encourage local government officials to become issue generators and not merely program managers.
 - 3) Coordinate BWSR planning efforts with BWSR programs to minimize bias toward particular philosophies.
 - 4) Develop measurable accomplishments in the area of promotion so that budgetarily communication efforts can compete with land treatment efforts.

(attach additional pages as needed)

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ISSUE: Water Quantity Management

- Description of Needs:
 - Early, pro-active state participation in local planning and project development
 - Development and communication of coordinated and comprehensive state policy
 - Exchange of information and ideas among agencies and local governments
 - Expanded financial and technical assistance
 - Accelerated public information and education activities
 - Development of stronger local leadership and management capability
 - Promotion of strong conservation ethics
 - Improve local data collection and analysis

BWSR GOAL:

Develop true partnership between state agencies and local government in developing and implementing policies and projects that wisely manage water runoff, retention, use, and drainage.

BWSR STRATEGIES:

- Tasks to Accomplish:
 - Amend Chapter 112 to provide earlier MBWSR input on proposed projects
 - Publicize successful local projects and policies (e.g. Ducks Unlimited participation in wetland restoration)
 - Organize more field trips to view successful projects
 - Develop and communicate MBWSR project review guidelines
 - MBWSR serve as "broker" of state, federal, and private assistance programs
 - Provide state technical and financial assistance for comprehensive hydrologic data collection efforts

(attach additional pages as needed)

BWSR STRATEGIES: (Continued)

• Tasks to Accomplish:

- Provide model ordinances for use by local government
- Expand MBWSR role in water conservation information and education
- Publish drainage handbook for local officials
- Strengthen coordination between local-state-federal-private organizations on water quantity management issues
- Ensure watershed-wide coordination among 110B plans
- Prepare and distribute educational articles to media, magazines, etc.
- Facilitate neighborhood meetings on conservation issues
- Organize meetings between local units
- Produce educational videos on what individuals or groups can do to reduce flooding and flood damages
- Conduct leadership development workshops for local officials
- Get information to environmental/conservation groups about openings on WD and SWCD boards
- Amend Chapter 112 to require counties to follow an open appointments process in selecting WD managers
- Get BWSR to take strong positions on pertinent land and water management issues, including conservation ethics
- Provide every local official a copy of Aldo Leopold's "Sand County Almanac"
- Amend Chapter 106A to require stronger review of potential environmental effects
- Initiate pilot program to obtain streamflow readings, similar to the Rainfall Monitoring Program
- Expand observation well network
- Provide expertise to local government to help them develop hydrologic models
- Coordinate local data collection activities and coordinate among state and federal agencies

BWSR STRATEGIC PLANNING WORKSHEET

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ISSUE: LAND USE MANAGEMENT

- Description of Needs:

- 1) Communication of accomplishment, values, goals and benefits.
- 2) Improve management of private forestry resources.
- 3) Control erosion and sedimentation on urban development sites.
- 4) Protect sensitive areas from development (e.g. wetlands and bluffs).
- 5) Maintain and improve soil productivity for agricultural crop production.
- 6) Retire lands to wildlife uses if unsuitable for crop production.
- 7) Assist in developing a comprehensive natural resources inventory.

BWSR GOAL:

To manage the land for its best use including urban development, agricultural crop production, forests, fish and wildlife, native plant communities, resulting in an improved quality of life.

BWSR STRATEGIES:

- Tasks to Accomplish:

- 1) Provide and coordinate information and technical assistance to local, state and federal agencies and conservation groups.
- 2) Provide assistance, guidance and review of local water plan.
- 3) Provide programs to retire certain lands from agricultural crop production and convert to wildlife lands.

(attach additional pages as needed)

BWSR STRATEGIC PLANNING WORKSHEET

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ISSUE: Groundwater Management

- Description of Needs:

Quality protect and maintain

Quantity ensure availability to meet needs of citizens

Make existing information useable/available

Ongoing and new programs/efforts be consistent with nondegradation policy

Consistent data gathering and analysis

BWSR GOAL:

Ensure that groundwater protection/enhancement is efficiently met through completion of comprehensive local water plans with implementation through a state local partnership.

BWSR STRATEGIES:

- Tasks to Accomplish:

- 1) Education

- BWSR Education Specialist
- Establish water quality demonstration farms
- Develop local user information service

- 2) Use local water planning

- Develop better guidelines for groundwater components of plans as information becomes available
- Reduce ag chemical use

(attach additional pages as needed)

BWSR STRATEGIES: (Continued)

• Tasks to Accomplish:

- Provide staff assistance to local governments
 - Propose land use changes
 - Ensure local unit of government plan consistency with 110B/509 plans
 - Take advantage of various easement opportunities (RIM, FmHA, ...)
- 3) Grants
 - Develop Local Water Resources Protection and Management Program for local technical staff
 - Develop Well Abandonment Cost-Share Program in cooperation with MDH
 - Increase grants to SWCDs for monitoring and data collection
 - Increase opportunities to fund special/innovative projects
 - 4) Encourage collection of information and monitoring
 - Inventory abandoned wells
 - Monitor more observation wells
 - Encourage groundwater atlases
 - Coordinate local data bases
 - More focused role for BWSR?
 - 5) Expand existing programs
 - Expand RIM Reserve to cover susceptible groundwater areas
 - Expand state cost-share program
 - Add groundwater management throughout operational guides
 - 6) Maintain/enhance state/local/federal relationships
 - Monitor implementation of local water plans
 - Expand communication and coordination with Associations and their appropriate special committees
 - Cooperate fully with interagency coordinating entities
 - 7) Regular reports to governor and legislature
 - October 15 report every year
 - Annual report
 - 8) Improve conservation planning and application
 - Cooperate in development of groundwater component of farm plans
 - Use groundwater component in land use plan implementation of local governments
 - 9) Training
 - Train BWSR staff (so they can) train local staff
 - use of county well index info
 - develop manual
 - More background info for staff and Board
 - seminars
 - More training for local staff
 - Informational seminars for local decisionmakers
 - Sponsor inter-agency training for state and regional staffs
 - Provide for soils training in preparing surficial geology maps
 - Train staff
 - 10) Encourage more counties to begin preparing surficial geology maps

BWSR STRATEGIES: (Continued)

• Tasks to Accomplish:

- 11) Encourage development of statewide groundwater GIS
- 12) Computers in all local offices
- 13) Planning Guidelines
 - Ensure local unit of government consistency with local plans
- 14) Local government roles evolve
- 15) Reorganize state government
Recodification
- 16) Work for passage of federal groundwater funding
- 17) Expand staff capability to deal with groundwater issues
- 18) Develop groundwater districts
 - Refine how existing units of government deal with groundwater management

BWSR STRATEGIC PLANNING WORKSHEET

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ISSUE: Wetlands Management

- Description of Needs:
 - 1) Educate resource people and the general public about the positive values and functions that wetlands provide.
 - 2) Coordinate the management of wetlands between various local, state, and federal agencies and conservation groups.
 - 3) Implementation of wetland protection, enhancement, restoration, and creation options.

BWSR GOAL: MBWSR has recognized wetlands have values within themselves and it is our goal to protect, enhance, restore, and create wetlands so that a net gain of wetland acres is achieved in Minnesota.

BWSR STRATEGIES: MBWSR has determined that further drainage is no longer an appropriate use of wetland acres.

- Tasks to Accomplish:
 - 1) Education:
 - Educate resource personnel (staff, local units of government, special interest groups) about the many wetland management options available.
 - Educate the general public (land users) to make them aware of the values and functions of wetlands and the legacy which they create.
 - Educational Methods:
 - training sessions/workshops
 - news releases
 - publications
 - special events
- (attach additional pages as needed)

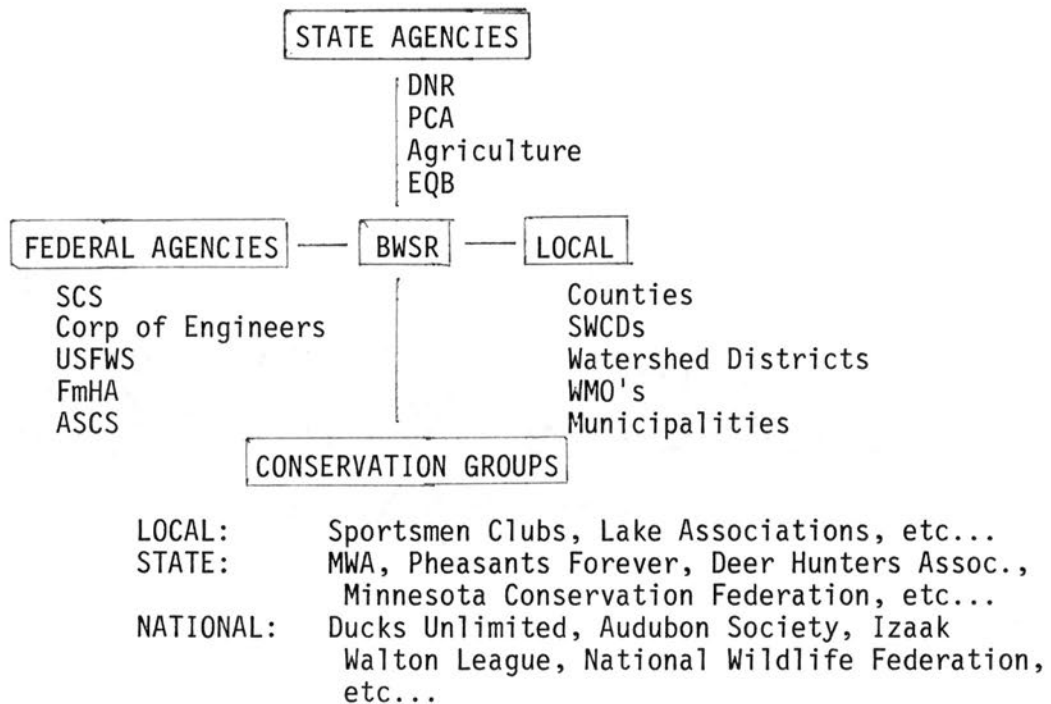
BWSR STRATEGIES: (Continued)

• Tasks to Accomplish:

- Definition of Wetland Values:
 - improve water quality
 - flood control and retention
 - groundwater recharge
 - fish and wildlife habitat (game and non-game)
 - reduce erosion and sedimentation
 - recreation and aesthetics
 - diversity of animal and plant life

2) Coordination of Goals and Policies through:

- news releases
- training sessions/workshops
- implementation options
- legislation
- publications
- special events



3) Implementation of options available for wetlands protection, enhancement, restoration, and creation:

- Plan and Project Review:
 - 110B (County)
 - 112 (Watershed Districts)
 - 509 (WMO)
 - 40 (SWCD)
 - RIM (SWCD)
- Legislation
 - creation and improvement of programs and laws which benefit wetlands management.

BWSR STRATEGIES: (continued)

- Tasks to Accomplish:



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TO: Board of Water and Soil Resources Members,
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FROM: Jim Birkholz, Executive Director

SUBJECT: September 28-29, 1988 BWSR Meeting and Retreat

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Cloquet Forestry Center
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September 28-29, 1988

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Noon	Lunch with Area III MASWCD
1:30 p.m.	Adjourn

MINUTES OF AUGUST 24, 1988
OF THE
BOARD OF WATER AND SOIL RESOURCES

Appointed Members in Attendance

Donald Ogaard
John Williamson
John Boulton
Eugene Kalmes
Douglas Bade
Don Warner
Lowell Moen
Natalie Haas Steffen
John Brooks, Jr.
Howard Peterson
William Cofell
Loni Kemp
Loren Harste
James Hoese
Ken Schellack

Appointed Members Absent

Jack Graba

Others in Attendance

Laurel Reeves, Minnesota Department of Natural Resources
Bruce Gerbig, Minnesota Department of Natural Resources
Jim Nichols, Minnesota Department of Agriculture
Herb Halvorson, Minnesota Department of Agriculture
Paul Burns, Minnesota Department of Agriculture
Mick Finn, Minnesota Department of Health
Gary Nordstrom, Soil Conservation Service
Al Dornfeld, Minnesota Association of Watershed Districts
Warren Wallgren, Minnesota Association of Watershed Districts
Franklin Denn, Minnesota Association of Townships
Tom Halbach, U of M, Extension Service
Dr. Bill Larson, U of M, Extension Service
Don Dinndorf, Chairman, RIM Coalition
Judy Erickson, Minnesota Association of Soil & Water Conservation Districts

Staff in Attendance

Jim Birkholz
Mel Sinn
Wayne Edgerton
Dan Steward
Denice DeFrates
Kim Benson
Tom Wenzel
Mary Jo Anderson

Call Meeting to Order - Chairman Ogaard called the meeting to order at 9:05 a.m., in Conference Room A, Department of Agriculture Building, 90 W. Plato Blvd., St. Paul, Minnesota

88-126 **Adopt Agenda** - Al Dornfeld, President, Minnesota Association of Watershed Districts, requested time on the agenda to address the Board. Moved by Boulton, seconded by Kalmes, to adopt the agenda as presented. Affirmative: Ogaard, Boulton, Williamson, Warner, Kalmes, Bade, Schellack, Moen, Hoese, Haas Steffen, Brooks, Jr., Harste, Kemp, and Cofell. Opposed: None. Carried.

Howard Peterson entered the meeting at 9:10 a.m.

88-127 **Approval of Minutes of July 27, 1988** - Chairman Ogaard mentioned some changes that need to be made to the minutes. On page 2, regarding the Chairman's Report, he attended a meeting at the Holiday Inn in Shoreview, rather than St. Paul. Also on page 2, when Chairman Ogaard reported on the meeting and tour he attended on July 13-14, it was stated that "MPCA was amazed at", that should be struck, and it should read "He reported that MPCA representatives were impressed with" the capability of local governments wishing to pursue a lake project, replacing a bridge with a dam using multiple funding sources. Chairman Ogaard also stated that correction needs to be made on page 10, striking the fourth paragraph, and replacing it with "Eugene Kalmes asked how the Board members felt about keeping the four short-term, two-year soil and water conservation districts representatives on the Board beyond their termination date. Williamson supports these four members to be reappointed for an indefinite time. Cofell certainly valued the four people. This issue should be brought up before the legislature this session. Chairman Ogaard suggested the associations initiate this issue, as it would be more acceptable coming from the associations rather than the BWSR. This issue will be properly mentioned in the report to the Governor". Moved by Williamson, seconded by Warner, to approve the minutes of July 27, 1988, as corrected. Affirmative: Ogaard, Williamson, Boulton, Warner, Kalmes, Bade, Schellack, Moen, Hoese, Haas Steffen, Brooks, Jr., Harste, Peterson, Kemp, and Cofell. Opposed: None. Carried.

Chairman's Report - Chairman Ogaard reported that the Dispute Resolution Committee had met earlier this morning and made a final decision on Winslow Holasek's appeal of a Coon Creek Watershed District repair levy on Anoka County Ditch No. 58. The Dispute Resolution Committee ruled in favor of Mr. Holasek. The Coon Creek Watershed District will, therefore, have to return all monies received to date on the 1987 assessment for the repair of Ditch No. 58. Chairman Ogaard reported that he attended the EQB meeting last month. The groundwater strategy is moving forward and has received considerable press. Chairman Ogaard said there has been good publicity statewide on the drought issue. He suggested that the Board make an effort in the future to provide a slide/tape presentation showing available water conservation technology. He felt that the Board could take the lead role on this and provide a good service. Chairman Ogaard suggested that Board members do an evaluation of the Board of Water and Soil Resources. He would like to see this done internally before the Board retreat in September. An evaluation form will be sent to Board members before the next meeting. Chairman Ogaard stated that the proposed increase in the number of managers of the Pelican River Watershed District will be the subject of a public meeting on Saturday, August 27, at 9:30 a.m. in Detroit Lakes. Chairman Ogaard asked for Board members to volunteer to attend this hearing, as Jack Graba had by-pass

surgery last week and is unable to attend as a representative of the Dispute Resolution Committee. Lowell Moen, John Brooks, Jr., Ken Schellack, and William Cofell will attend the hearing. A get-well card will be sent to Jack Graba from the Board.

Chairman Ogaard addressed the drainage law issue that the Board took action on at the July meeting. Chairman Ogaard proposed the following objectives for the "Metropolitan (Seven County) Drainage Law Review Panel":

- 1) Identify existing drainage law problems, i.e.: difficulty in administration.
- 2) Delineate workload in drainage ditch administration (county, W.D., Met Council, etc.), and concern for long-range planning and water management as an integral part of the process.
- 3) Evaluate the capability under Chapter 509 to address the drainage ditch issue as a part of, or solution to, identified concerns.
- 4) Suggest changes in Chapters 106A, 112, and 509 to provide expeditious solutions, outlined as problems or concerns.
- 5) Suggest a "plan of action" to facilitate changes envisioned.

Chairman Ogaard suggested the following five-member panel (with ex-officio member being the MBWSR Chair or a Board volunteer) and any other suggested by the Board:

- 1) Association of Counties (metro representative)
- 2) Metro Area Watershed Districts
- 3) Met Council
- 4) D.N.R. (name participant)
- 5) Non-affiliated interested citizen with legal expertise

Entities named have been or are being contacted to provide names of designated representatives (associations take time to reach). Natalie Haas Steffen suggested that the Metropolitan Inter-County Association (MICA) also be involved. She stated that the attorney she knows who volunteered to be on the panel will not be Chair, but will be involved on the panel. Chairman Ogaard will proceed with the general format on this.

Chairman Ogaard asked Board members to report on various happenings from their area of the state.

Bill Cofell reported that the ground is green in St. Joseph after they received rain and four inch hailstones. Unfortunately they received much hail damage to cars and roofs. His area is in need of another fifteen inches of rain to get a good crop next year. Bill has been involved in meetings with MPCA.

Loni Kemp reported that the southeastern part of the state has received some great rains. Although some fields look great, others look awful. Loni works with the Minnesota Project and they are getting much local experience in groundwater planning. Loni is chairperson of the Fillmore County Planning Committee for the comprehensive water plan. Loni has published information on farm chemicals and groundwater, after doing much research nationwide on non-profit organizations. Twelve non-profit groups will be coming to Minnesota regarding this effort.

Lowell Moen reported that crops in his area turned out excellent. Wheat and barley out-yielded last year's crop. The Norman County Soil and Water Conservation District purchased a computer for their district. A SWCD Manager was hired who has computer capabilities and feels another computer is needed. Lowell felt that this is good, the workload is there, and a good sign of the changing times.

James Hoes reported that he is involved with the Extension Committee and the Drought Board in his area. They toured the county and found that many farmers are looking for help. His area has had a good fourth cutting of hay this year. He felt that ditch systems seem to be a problem statewide. He has met with legislators on this groundwater concerns which will be a big issue this session.

Don Warner reported that they have received excessive rain in his area, even flooding problems. He has been working with Area 3 in planning for the BWSR meeting and tour in September.

Mick Finn reported that Department of Health is having problems with monitoring the water supply.

Doug Bade reported from his travels that the Foley and Pierz areas were the worst hit by drought. His district is moving ahead on groundwater plans. The Food Security Act has kept the staff in Carver SWCD very busy.

Ken Schellack reported that they will be getting about 40% of a normal crop this year. He stated that it's been a very trying year. His goal on the BWSR is to continue his efforts to promote soil and water conservation. He mentioned an article in "The Forum" regarding how quickly we forget about tillage. How do you control weeds? What is the right answer? You're wrong if you do and you're wrong if you don't.

John Boulton reported that he recommends the partial payment request for the Minette-Kranz structure in Study Area II, which will be completed soon. John explained that he was involved in the haylift program and reported his experience with that program.

Paul Burns reported that he wasn't involved in the haylift, but the Department of Agriculture has put a lot of time and effort into it so things would work out. Regarding the drought situation, his parents live in Watonwan County and they didn't have any water in their well.

Laurel Reeves reported that Ron Nargang, Director of Waters in DNR, has garnered much publicity from the drought issue for better drought contingency plans. She stated that a planning effort is needed to inventory groundwater sources rather than relying on information from irrigators. A metro area concern is that municipal contingency plans need to be in place, and long-range plans need to be evaluated.

Loren Harste reported that on September 10th, the Big Stone Lake/Whetsone River Control Works Project will be formally turned over to the local sponsor by the U.S. Army Corps of Engineers and dedicated. He invited Board members and everyone to attend. Invitations will be sent. He explained that this is a

clean water partnership type project with lakes in a restoration project. He stated that the lakes in his area are very low due to the drought situation. There is alot of irrigation in his area which is a big concern for groundwater. He was disturbed after reading an article in the Minneapolis "Tribune" regarding tillage. He's disappointed that people aren't understanding soil and water conservation practices.

Eugene Kalmes reported that the first crop of hay was excellent, the second was dry, and the third was very dry. The oats are short and the corn looks tough. He mentioned two big projects in Winona County: the Garvin Brook Rural Clean Water Project and the Whitewater Project with the Fish and Wildlife Service. He attended an incinerator tour in Winona County, which is a big issue in his area. 85-90% of the waste is coming from the city, this incinerator meets all emission standards.

Natalie Haas Steffen reported that Anoka County is a disaster area due to the drought. She stated that a few of the problems in her area are: marijuana growing so strongly this year; several fires; a tire dump; and an incinerator problem that is trying to get rid of hospital and animal waste. There are three potential landfill sites. She has spent many days working with DNR, the Army Corp of Engineers, and Coon Creek.

Howard Peterson reported that he is a Riley-Purgatory-Bluff Creek Watershed District representative. He's been working on a project of re-evaluating last year's heavy rainfall. He felt that conservation needs to be expanded upon. His feelings are, "don't take care of one problem by creating another". His goal on the BWSR is to foster conservation.

John Brooks, Jr. reported that he was fortunate to have good crops this year. He attended a meeting on abandoned wells, and feels education is needed on this issue. He felt farmers in his area would not voluntarily identify the locations of abandoned out of fear that the state will force them to spend money to seal them.

John Williamson reported that Kandiyohi County is generally green. The Kandiyohi SWCD is running the AgNPS computer model for watersheds draining to several lakes in the county.

Chairman Ogaard called for a break in the meeting at 10:45 a.m. The meeting reconvened at 10:55 a.m.

Executive Director's Report - Jim Birkholz stated that part of the Board's computer order has arrived. A networking system will be built into the central office, with the RIM staff being the first step, the remaining central office being the second step, and the regional staff the third step. Eventually SWCD and other local offices will be able to access the system, which will tie the whole networking system together. Jim stated that the Board and staff have been working to get information out on soil conservation needs regarding the drought issue. A documentary was made by the McNeil/Leehr reporting staff. A ten-minute segment was on Minnesota, of which Jim was interviewed. He felt that it was a good report done on soil conservation, and soil moisture. They interviewed an excellent conservation farmer, Myron Tank, and Howard Moechnig, from the Soil Conservation Service in Washington County. A good report was

done, and this was an excellent opportunity of getting information out. There has been good coverage and follow-up done to that. Denice DeFrates has been doing press releases on the drought.

Jim Birkholz introduced Dr. Bill Larson, U of M/Extension Service, who wished to address the Board on conservation tillage and the residue/moisture problem. He felt that we're set up for a real problem with this next spring. He stated that the University of Minnesota/Extension Service would like to work with the Board on this issue. Tom Halbach, Extension Service, was also introduced. He was concerned with the issue of how can farmers recharge the moisture that we do get. Jim Birkholz mentioned that the University of Minnesota/Extension Service, Soil Conservation Service and others need to continue working together on this issue and to accelerate efforts to get the conservation message out.

Jim Birkholz reported on the Board's staffing situation. The Assistant Director's position is being advertised and applications will be accepted until August 29. Jim asked for assistance from the Board's Personnel Committee when conducting interviews. Two members of the Personnel Committee will assist with the interview process. Jim reported that Dan Steward will be filling the hydrologist position in Brainerd. Letters have been sent out regarding the hydrologist positions in New Ulm and the central office. Interviews will be held soon on those positions. Dennis Pond's position is in the process of being reclassified as Accounting Director for the Board. The RIM Realty Specialist has just been filled by an excellent candidate, Steve Miller. Mr. Miller will be starting on September 6. Jim was just informed that Kim Benson has resigned and will be taking a hydrologist position with the Department of Agriculture/Agronomy Services Division. Jim reported that the strategic planning issue is absent from the agenda today, as the budget and legislative issues are of main concern at the present time. The strategic planning effort will be brought before the Board at the September meeting.

EQB/Water Resources Committee Report - Loni Kemp reported the Water Resources Committee met on August 4 to finalize their recommendations on LCMR water proposals. Two special meetings were held prior to that day in an attempt to consolidate the proposals. The paired ranking system was utilized. Greg Larson and Loni ranked the proposals. Three categories were formed to rank the proposals: 1) those on the top of the list; 2) those in the middle; and 3) those on the bottom of the list. All those in the top category were proposed to LCMR, two of those being this Board's local water management and drainage handbook proposals. Martha Brandt, Chair, of the EQB/WRC, presented these proposals to LCMR last week. Loni explained that they will now wait to hear from LCMR on the proposals. She stated that the groundwater strategy has gone through necessary agency approvals. Local programs were proposed. The strategy proposals are packaged for a groundwater bill, components will be discussed at the September 1 meeting. Loni reported that the pesticide strategy is on a slower track, with EQB final approval scheduled for October 7. Loni stated that Mel Sinn has been working on the 1989-91 Priorities Report paper on local water planning. Loni reported that in the final federal appropriations bill implementation funding for section 319, nonpoint pollution control, was zeroed out.

Reinvest In Minnesota Reserve Program - Policy Recommendations - Jim Birkholz reported that the 1989 Departmental Legislative Initiatives are due to the

State Planning Agency by Friday, August 26. Staff presented the following initiatives:

- 1) Reinvest In Minnesota Reserve Program - This legislation would transfer the authority for the RIM Reserve Program to the Board of Water and Soil Resources (BWSR) from the Commissioner of Agriculture. The BWSR is the implementing agency through local soil and water conservation districts. This role was inherited from the former Soil and Water Conservation Board which was a division of the Department of Agriculture. The fate of the legislation which created the BWSR in 1987 was unknown at the time the RIM Reserve program was reauthorized that same year. This legislation brings the delivery system and authority for the program into the same agency. Continuing the existing dichotomy is inefficient and ineffective for program implementation.
- 2) Office Space for the Board of Water and Soil Resources - Amend MS Ch 110B.35 Subd. 6 to remove the requirement that the Department of Agriculture provide office space for the Board of Water and Soil Resources. This would allow the BWSR to seek adequate office space if needed. The office space currently provided to the Board in the Department of Agriculture Building is charged to the Board in the amount of \$36,000 per year. This office space is inadequate. Remodeling costs are estimated at between \$25,000 and \$50,000. The department has indicated that they cannot pay the costs of remodeling. The building is also full. The Board needs to seek office space adequate for its functions at a reasonable cost. Reasonable cost options may not be available at the Department of Agriculture.

Commissioner Nichols was present at the meeting and responded that he supports both of these legislative initiatives. He felt that it would be cumbersome if the RIM staff stayed and the BWSR staff left the Department. Another option for office space would be to put a fourth floor onto the building which is being discussed. If built, the Board would be welcome there. He explained his point of view on the drought issue and releasing RIM lands for grazing. He expressed concern that there was a desperate need for forage, and there is a need to address the real problems. The CRP program states that lands must be released if you have a drought. This is a reserve program, as is RIM. There is a need to convince people now more than ever that a strategic forage reserve is needed. He commented that a good working relationship is needed, if you don't have that you don't have anything. Cooperation is needed with farmers if you're going to win the battle. He hasn't gained financially (from hay on his CRP land), as reported by some. He donated his hay for the haylift program. He stated that you need to make a choice for the highest need and prepare for next year. Chairman Ogaard thanked Commissioner Nichols for coming before the Board today.

Jim Birkholz stated that a fact sheet will be put out regarding the haying and grazing on RIM land. Wayne Edgerton reported that 40 applications were received for grazing. Of those four were not approved. This involved a total of 1,456.2 acres in twenty-one counties. Wayne stated that many of the landowners who participated in the program did not and would not want it to be grazed or mowed. This story also needs to be told. Jim Birkholz stated that the Board needs to work with the Attorney General's office of have lead time to make sure all authorities are covered with any program transfer.

88-128 Chairman Ogaard stated that an element of fairness and cooperation needs to be considered. Moved by Peterson, seconded by Bade, that staff be directed to proceed on the RIM Reserve Program legislative initiative. Affirmative: Ogaard, Boulton, Williamson, Warner, Kalmes, Bade, Schellack, Moen, Hoese, Haas Steffen, Brooks, Jr., Harste, Peterson, Kemp, and Cofell. Opposed: None. Carried.

Chairman Ogaard recessed the meeting for lunch at 12:05 p.m. The meeting reconvened at 1:05 p.m.

88-129 **BWSR 1989 Legislation** - Jim Birkholz reported that another 1989 legislative initiative is the proposed Local Water Resources Protection and Management Program. It's major goal is to assist that local units of government exercise maximum initiative to protect water quality, including groundwater by using their planning, zoning, official controls, authorities, local knowledge, information and technical resources. MN Statutes Chapter 110B would be amended by adding new language for this program. The BWSR would implement the grant program. Local governments implementing water resource protection activities would continue to relate to the appropriate agency which has state responsibility for that activity. Loni Kemp suggested keeping this broad, which includes 509, and the summary needs to be clearer. Discussion followed. Moved by Schellack, seconded by Cofell, to proceed with the Local Water Resources Protection and Management Program legislative initiative. Affirmative: Ogaard, Williamson, Boulton, Warner, Kalmes, Bade, Schellack, Moen, Hoese, Brooks, Jr., Harste, Peterson, Kemp, and Cofell. Opposed: Haas Steffen. Carried.

88-130 **Sealing Improperly Abandoned Wells** - A cost-share program to properly seal high priority abandoned wells. This would be a cooperative program with the Department of Health. Cost-share funds would be provided through SWCDs by adding language to MS Ch 40. Technical oversight would be provided by the Department of Health through possible changes to MS Ch 156A. The Board of Water and Soil Resources would coordinate with the Department of Health in providing grant funds through SWCDs. Would require a local water plan to participate. Moved by Haas Steffen, seconded by Schellack, that this would be a cooperative effort for the Sealing of Improperly Abandoned Wells legislative initiative. Affirmative: Ogaard, Williamson, Boulton, Warner, Kalmes, Bade, Schellack, Moen, Hoese, Haas Steffen, Brooks, Jr., Harste, Peterson, Kemp, and Cofell. Opposed: None. Carried.

Comprehensive Local Water Plan Updates - This initiative would amend the Comprehensive Local Water Management Act (Chapter 110B) and the Metropolitan Water Management Act (Sections 473.875-473.883) by adding language requiring comprehensive local water plans to be updated at least every five years. The current laws each contain an open-ended plan amendment provision that allows plans to extend to any future year that is evenly divisible by five. Discussion followed. It should be stated that this addresses both 110B and 509. Cofell suggested making a plea for funding. Loni Kemp asked if the Board can agree on a policy, funding by state, implementing by locals. Cofell questioned a mill levy. Natalie Haas Steffen didn't agree with that. She suggested that cost-sharing should be refined. She felt that a trigger mechanism is needed regarding plan updates. If staff utilizes a tickler file, and contacts locals once a year an assessment of plan updates can be done. Jim Birkholz suggested not submitting this as a legislative initiative.

James Hoes and Natalie Haas Steffen left the meeting at 1:55 p.m.

88-131 Excessive Soil Loss - The proposed amendments are initiated to update the state's soil erosion and sediment control program with technically sound, state of the art conservation specifications to control soil erosion and sedimentation in urban development and agricultural areas. The proposed amendments would apply to Minnesota Statutes, Chapter 40.19 to 40.28. Wording would accommodate the current efforts taking place in Metro area counties. Discussion followed. Jim committed himself to deal with both urban and agricultural issues in the draft language. Moved by Schellack, seconded by Kalmes, to broaden the scope on the Excessive Soil Loss legislative initiative. Affirmative: Ogaard, Williamson, Boulton, Warner, Kalmes, Bade, Schellack, Moen, Brooks, Jr., Harste, Peterson, Kemp, and Cofell. Opposed: None. Carried.

88-132 Compensation for Board of Water and Soil Resources Members - Minnesota Statutes Ch. 15.0575, subd. 3 would be amended to allow members of state boards (the BWSR) to be compensated at up to \$75 per day. Discussion followed. Moved by Cofell, seconded by Warner, to proceed on the Compensation for BWSR members legislative initiative. Chairman Ogaard suggested addressing an increased chairmanship compensation in the future. Amendment made to the previous motion: Moved by Brooks, Jr., seconded by Cofell, to amend the previous motion to include the chairmanship compensation be established by the Department of Employee Relations. Affirmative: Ogaard, Williamson, Boulton, Warner, Kalmes, Bade, Schellack, Moen, Brooks, Jr., Harste, Peterson, Kemp, and Cofell. Opposed: 88-133 None. Carried. Retrocede to the previous motion: Moved by Cofell, seconded by Warner, to proceeding with the Compensation for BWSR members legislative initiative, including the amendment: Affirmative: Ogaard, Williamson, Boulton, Warner, Kalmes, Bade, Schellack, Moen, Brooks, Jr., Harste, Peterson, Kemp, and Cofell. Opposed: None. Carried.

88-134 Office Space of the Board of Water and Soil Resources - Amend MS Ch. 110B.35 subd. 6, to remove the requirement that the Department of Agriculture provide office space for the Board of Water and Soil Resources. This would allow the BWSR to seek adequate office space as space is getting quite tight in the MDA building. Moved by Brooks, Jr., seconded by Bade, to proceed with the Office Space for the BWSR legislative initiative. Affirmative: Ogaard, Williamson, Boulton, Warner, Kalmes, Bade, Schellack, Moen, Brooks, Jr., Harste, Peterson, Kemp, and Cofell. Opposed: None. Carried. Jim Birkholz stated that staff will do an area office rent survey in case a move needs to be considered.

RIM Summary of Legislative Initiatives:

Expand Water Quality Emphasis - MN Statutes Section 40.43 Subd. 2(1) Expand eligibility for enrollment. This change will be provided for enrolling lands in the program which presently pose high risk for groundwater contamination as well as lands adjacent to high amenity waters. Enrolling these areas will protect the waters from agricultural fertilizers, pesticides, and sediments and provide valuable wildlife habitat. Discussion followed. It was agreed that riparian lands should also be included.

Eliminate Cropping Requirement for Wetland Restoration - MN Statutes Section 40.43 Subd. 2(5). Currently many drained or partially drained wetlands are not eligible for the program because they were not cropped at least two years

between 1981 and 1985. The value of restoring these wetlands is immense. This proposal would eliminate the cropping requirement for drained wetlands to be enrolled in the program. Drained wetlands without a cropping history would be eligible for a lower payment rate consistent with the state Waterbank Program payments (50% of EMV for cropland). Bruce Gerbig, DNR/Waters, stated that the waterbank program doesn't have cropping history.

Eliminate the 20% Enrollment Limit - MN Statutes Section 40.43 Subd. 2(5). Currently there are two enrollment limits - the 20% limit and the \$50,000 limit. The 20% limit has caused problems in restoring some wetlands because the 20% cap is less than the restorable wetland acreage in many cases. It is recommended that the 20% limit be removed but the \$50,000 limit be retained and further defined.

Redefine \$50,000 Payment Limit - MN Statutes Section 40.43 Subd. 6(5) Exclude payments for conservation practices from the \$50,000 limit. The \$50,000 limit would cover only easement payments, not supporting practices. This initiative is being supported by the RIM Coalition.

88-135

Strengthen Violation Provisions - MN Statutes Section 40.03 Subd. 5(5) Strengthen violation provisions. Presently the law gives no guidance for the penalties to be assessed for individual violations. Language is being developed with the assistance of the Attorney General staff. Moved by Bade, seconded by Cofell, to approve the above stated RIM summary of legislative initiatives, with the inclusion of riparian lands to Expand Water Quality Emphasis. Affirmative: Ogaard, Williamson, Boulton, Warner, Kalmes, Bade, Schellack, Moen, Brooks, Harste, Peterson, Kemp, and Cofell. Opposed: None. Carried.

Moved by Williamson, seconded by Schellack, that RIM lands be released for haying and grazing in drought or emergency situations. Discussion followed. Jim Birkholz advised that people are really sensitive to this issue and the timing might be bad if we want to have a rational discussion of this issue. John Williamson asked that if the proper wordage and language could be developed to be used for legislation; can this situation be worked out? Jim Birkholz replied, that he will take this discussion to the RIM Coalition and see that it is discussed to see what wording can be worked out. John Williamson withdrew his motion, and Ken Schellack, withdrew his second.

88-136

Jim Birkholz reported to the Board that the University of Minnesota/Extension Service would like to be more involved with the Board of Water and Soil Resources activities, and they would like a person to represent them as a member of the Board. Discussion followed. Moved by Brooks, Jr., seconded by Williamson, that the BWSR supports the concept of adding a University of Minnesota/Extension Service non-voting representative to the Board. Affirmative: Ogaard, Williamson, Boulton, Warner, Kalmes, Bade, Schellack, Moen, Brooks, Jr., Harste, Peterson, Kemp, and Cofell. Opposed: None. Carried.

Al Dornfeld, President, Minnesota Association of Watershed Districts, reported on the recent tour of the \$5 million Project 1007 of the Valley Branch Watershed District. He reported that he was disappointed to read an article in the "Trout Unlimited" Newsletter in which they referred to wrong-doings in trout streams, but were misinformed regarding the watershed district's activities. He distributed a report for the Board's information regarding relationships between

the Watershed Districts and the BWSR. This report will be published in the next joint newsletter.

Gary Nordstrom, State Conservationist, Soil Conservation Service, reported that the National Endowment Award will be presented by the Governor on Friday at the State Fair. He stated that the CRP sign-up has been slow, the sign-up ends next week. SCS has fifteen soil scientists from out-of-state working on soil surveys and assisting on mapping in the northwestern part of the state. Gary reported that SCS will be moving to the Farm Credit Services Building sometime between December and February. He reported that a water quality specifications workshop will be held October 31-November 4 in Philadelphia. He invited a staff member from the Board to attend. On a more somber note, Gary reported that Don Ferren's wife suffered a heart attack last week, and has not gained conscienceness, and the prognosis is not good.

88-137

Farmers Home Administration Conservation Easements - Tex Hawkins, U.S. Fish and Wildlife Service, stated that he is stationed in Winona County and working on a pilot project with Winona SWCD. During the past six months he has been working on reviewing of FmHA properties that will be resold. DNR will request partial title on some easements that are riparian or eroded woodland areas. He asked the BWSR, on behalf of the U.S. Fish and Wildlife Service, to consider a resolution on FmHA important resource areas. Jim Birkholz suggested that the Board can act as a facilitator on this. Cofell asked if there is a need for SWCDs to hold an easement. Jim stated that SWCDs have this authority if the Board feels it is a good idea. Moved by Kemp, seconded by Kalmes, to support the concept of SWCDs holding certain FmHA easement responsibilities at the local level and staff should provide assistance to SWCDs. Affirmative: Ogaard, Williamson, Boulton, Warner, Kalmes, Bade, Schellack, Moen, Brooks, Jr., Harste, Peterson, Kemp, and Cofell. Opposed: None. Carried.

FY90-91 Budget Proposal/Consideration of Change Level Requests - Jim Birkholz reported that the Board's draft budget narratives are due in the Department of Finance by Friday, August 26, for review. The final budget proposal is due September 30. Jim briefed the Board on the budget summary request (see attached). The Board requested Jim to proceed on this.

88-138

Partial Payment Request - Minette-Kranz Structure - Jim Birkholz explained that the Board's share is \$18,031.02. Moved by Boulton, seconded by Bade, to approve the Minette-Kranz partial payment request for \$18,031.02. Affirmative: Ogaard, Williamson, Boulton, Warner, Kalmes, Bade, Schellack, Moen, Brooks, Jr., Harste, Peterson, Kemp, and Cofell. Opposed: None. Carried.

88-139

Minnesota Forestry Improvement Program FY89 Allocations - Jim Birkholz explained that this is a financial assistance program to assist Soil and Water Conservation Districts and landowners to work together on forestry practices on private lands. The DNR Division of Forestry provides technical assistance to the program. The total dollars available have been reduced for the coming year because of internal budget cuts within DNR Division of Forestry. The total FY89 allocation for the 24 SWCDs that participate in the program is \$66,500. Moved by Schellack, seconded by Warner, to approve the FY89 Minnesota Forestry Improvement Program Allocation of \$66,500. Affirmative: Ogaard, Williamson, Boulton, Warner, Kalmes, Bade, Schellack, Moen, Brooks, Harste, Peterson, Kemp, and Cofell. Opposed: None. Carried.

- 88-140 Bill Cofell suggested that SWCDs look at replanting of trees, as this is a critical issue due to the drought. Discussion followed. Moved by Warner, seconded by Cofell, that a resolution be sent to DNR/Division of Forestry, requesting prioritization for future funding. Affirmative: Ogaard, Williamson, Boulton, Warner, Kalmes, Bade, Schellack, Moen, Brooks, Jr., Harste, Peterson, Kemp, and Cofell. Opposed: None. Carried.

Loni Kemp left the meeting at 4:10 p.m.

September 28-29 Retreat - Jim Birkholz stated that staff would like Board members to return their reservation sheets to Mary Jo as soon as possible, so reservations can be made in Cloquet. Staff will then let Board members know as far in advance as possible regarding the final arrangements for the meeting.

- 88-141 Moved by Kalmes, seconded by Warner, to adjourn the meeting at 4:18 p.m. Affirmative: Ogaard, Williamson, Boulton, Warner, Kalmes, Bade, Schellack, Brooks, Jr., Harste, Peterson, and Cofell. Opposed: None. Carried.

Respectfully submitted,

Donald Ogaard
Chairman

BOARD OF WATER AND SOIL RESOURCES FY90-91 BUDGET REQUEST SUMMARY

Category	Appropriated		Request	
	FY88	FY89	FY90	FY91
	(\$3,789,500)	(\$3,787,300)		
1. <u>Operations</u> - All staff salaries, Board per diem, supplies, equipment, telephone, mail, and other administrative expense.	954,800 Suppl. 43,000 997,800	952,600 Suppl. 172,000 1,124,600	pending	pending
<u>FY90-91 Change Level Requests</u>				
<u>Water Planning and Management</u>				
• 110B water planning support (1 data mgmt. specialist and budget)			\$ 45,000	\$ 47,000
• Support for WMO implementation (1 engineer & budget)			\$ 55,000	\$ 55,000
<u>Implementing Minnesota's Groundwater Protection Strategies</u>				
• Local Water Resources Protection & Management Program (requires new legislation, see grants section)			\$ 50,000	\$ 160,000
• Well Abandonment Cost-Share Program (requires new legislation, completion of MDH Task Force) (see also grants section)			\$ 65,000	\$ 65,000
• Develop Local User Information Service (pilot program is proposed, see also grants section)			\$ 40,000	\$ 50,000
• Water Quality Demonstration Farms (see also grants section)			\$ 50,000	\$ 52,000
Education Specialist (1 staff and budget)			\$ 50,000	\$ 52,000
• to carry out BWSR responsibilities under Ch. 110B and groundwater strategies				
<u>Administration</u>				
• Increase per diem for BWSR members to \$75			\$ 25,000	\$ 25,000
• Increase clerical support for field staff			\$ 30,000	\$ 32,000
• Office remodeling			\$ 50,000	-0-
• RIM implementation			\$ 313,000	\$ 313,000
<u>Grants</u>				
<u>Existing</u>	<u>FY88</u>	<u>FY89</u>		
2. General Purpose Grants-in-aid to soil and water conservation districts	814,200	814,200		
<u>Change Level</u>				
Increase \$455,000/yr			\$1,269,200	\$1,269,200
• Increase in workload due to FSA				
• Respond to requests for water planning assistance				

Category	Appropriated		FY90	Request
	FY88	FY89		FY91
3. Grants to districts (SWCDs) for technical assistance, education and demonstrations of conservation tillage (TED).	152,300	152,300	\$252,300	\$252,300
Change Level				
Increase \$100,000/yr				
•Wind erosion resulting from drought has emphasized the need to promote innovative tillage techniques				
4. Grants to Watershed Districts and other local units of government in the southern Minnesota river basin study area 2 for floodplain management. (available until expended)	198,500	198,500	\$250,000	\$250,000
Increase \$51,500/yr				
5. Grants to Soil and Water Conservation Districts for cost-sharing contracts for erosion control and water quality management. (available until expended)	1,501,000	1,501,000	2,000,000	2,000,000
Increase \$499,000/yr				
•Respond to FSA implementation of conservation practices workload				
6. Grants-in-aid to soil and water conservation districts and local units of government to solve sediment and erosion control problems (SLR's)	158,700	158,700	500,000	500,000
Increase \$341,300/yr				
•Respond to implementation of local water plans				
•Increase needed to match available local funds				
7. SWCD participation in water permit review, groundwater monitoring and raingauge observation network	12,400	12,400	100,000	100,000
Increase \$87,600/yr				

<u>Category</u>	<u>Appropriated</u> <u>FY88</u>	<u>FY89</u>	<u>FY90</u>	<u>Request</u> <u>FY91</u>
8. RIM Reserve Programs			938,000	938,000
•Implementation grants to SWCDs	750,000	750,000		
•Easements			6,000,000	6,000,000
•Conservation Practices			250,000	250,000
Proposed New Grants for Water Protection Strategies				
Local Water Resources Protection & Management Program			-0-	2,000,000
•financial assistance to local government to maintain technical expertise (50:50 matching grant)				
9. Grants for Water Quality Demonstration Farms			200,000	200,000
•coordinate with U of M activities, MDA sustainable agriculture and pesticide program				
10. Develop Local User Information Service			52,500	52,500
•pilot program in seven local offices in priority groundwater protection areas				
11. Coordinated Inter-Agency Water Quality Monitoring			91,000	91,000
•grants to SWCDs to increase data collection				
12. Cost-Share Grants to Seal Abandoned Wells			pending	pending

DEPARTMENT : Board of Water and Soil Resources

STATE OF MINNESOTA

Office Memorandum

DATE : September 21, 1988

TO : MBWSR Members

FROM : Mel Sinn *MS*

PHONE : 612 - 297-2622

SUBJECT : Proposed Increase in the Number of Managers of the
Pelican River Watershed District

Enclosed are Bill Cofell's minutes of the public meeting held in Detroit Lakes on August 27, 1988 to gather local comments on the proposed increase in managers. The MBWSR gave preliminary consideration to this issue at the July meeting. The last page of the minutes reflect that the MBWSR members participating in the public meeting were all "...open to or in favor of enlarging the board of managers."

Also enclosed are a draft Order approving the proposed increase and a recommended MBWSR resolution for your consideration.

Encls.

SEPT 01 88

MINUTES OF INFORMAL HEARING OF PELICAN RIVER WATERSHED
DISTRICT HELD AT DETROIT LAKES, MINNESOTA SATURDAY, AUGUST
27, 1988.

Mr. Osaard called the meeting to order at 9:30 AM, August 27, 1988. Present for the Board of Water and Soil Resources were: Mr. Don Osaard, Mr. Lowell Moen, Mr. Kenneth Schellack, Mr. John Brooks and Mr. Bill Cofell. Mr. Mel Sinn was present for the staff.

There were at least 45 persons present by my count and a few more may have come in after the meeting started.

Don Osaard explained the history, organization and purpose of the Board of Water and Soil Resources. He stated the purpose of the hearing was to gather information on a petition to expand the membership of the Pelican River Watershed District Board of Managers from 5 to 7 persons.

He then asked the BWSR members and staff to introduce themselves and this was followed by introductions of Watershed District Board Members and the County Commissioners. Mr. Osaard saved his own introduction until later in the meeting.

Mr. Klamstad was granted the floor and gave information regarding the size of the district, the history of the events that led to present request for board enlargement. He explained the geographical, residential, occupational division of the district; the northern part of district being primarily agricultural and recently concerned about repair of ditches; and the residentially developed lakes and lakeshore. The recent appointments to the Watershed Board having left traditional interests unrepresented. An additional item introduced was a decision contemplated by the county commissioners to transfer the ditches within the watershed district to the district. Mr. Klamstad described the number and character of the lakes. There are ten major lakes and at least 50 smaller ones. The history of the organization of the district and the history of the appointment of managers was described. There had been one manager from Lake Floyd, and Lake Sallie and Lake Detroit and no representative from Lake Melissa. The Watershed district was originally organized to deal with lake problems and has been oriented toward improvement of the lakes. Mr. Klamstad stated that he thought representation should be by hydrologic basins.

Mr. Klamstad presented graphic information to the Board on population density, assessed valuation of land, and levy

raised by taxes by area. He stated that while adding members to the district board might increase the costs, he suggested that the additional cost was not a real problem.

People in the north have had no representation on the board in the immediate past and apparently little or no interest until they became concerned about ditch repair. There are few or no lakes in the northern agricultural area. He described the decision to turn ditches over to the watershed districts and one of the county commissioners present affirmed this. Mr. Klamstad expressed the fear that the board would be overloaded with agricultural interests and become ditch oriented to the neglect of lake improvement. He pointed out that there were people in the area who wanted ditches repaired and others want the ditches left as they are at present. He argued they should not have a board dominated by agricultural representation.

The lake people are fearful that lake interests will not be represented by farmer managers. Many of the lake people are non-resident land owners and seasonal residents and thus taxpayers in the region. The lakes are in an improved condition because of the work of the watershed district.

Mr. Klamstad introduced the economic argument that loss of lake people would make it difficult for a smaller population of permanent resident land owners to maintain the tax base to support schools, welfare and other services. The implication is that continuation of lake residency is related to continued lake improvement.

Question: How many ditch systems are there in the watershed? Answer: Fourteen ditches all within the boundaries of the district. They were constructed since 1913 and have not been repaired since. "Lot of people want ditches cleaned and some don't want them cleaned." He hopes there will be a way to clean ditches without further damage to lakes.

There has been a lot of testing of lake water and also other studies have been made.

Question: What have you done away from the lakes to improve lake water quality? Answer: It is hard to get involved away from the lakes. A good deal of effort toward getting Detroit Lakes to improve sewage disposal facilities. They have been involved with the MPCA and with the Clean Lakes Act grants. The district has been involved in a stream and lake flowage research project. They have been aided by the University Professor Heinz Stepan (sp) and his graduate students.

Mr. Klamstad described the Rice Lake Bed as plugged with sediment and debris. Also stated that the process of

redetermination of benefits for the ditch area had been done.

Question: Is there much changing in regard to land use in the area? Answer: Land in area in question is mostly marginal crop land. Area contributing water is all included in the boundaries. He stated that the boundaries were essentially correct as portrayed on the map.

Mr. Boyer: (county commissioner) We are going to turn the ditches over to the watershed district and "we are 100% for the enlargement of the board."

Jim Dixon: The Lake Sallie and Lake Melissa residents are mostly seasonal. They are at the mercy of local permanent residents in regard to taxation. The lakes have been heavily populated for years. They are downstream from the Detroit Lakes Municipal Sewage plant. They formed a lake association to pressure Detroit Lakes to improve sewage disposal. They have been involved in a precedent setting law suit. Improvement of sewage disposal did occur. He then gave some history of the organization of the watershed districts---initiated by Dr. Rosstad. (See Statement by James Dixon, dated Saturday, August 27, 1988.)

The some recent appointees are not on lakes and this is thought not to be in accord with the original purposes of the district--with expansion of membership they feel they will set at least one of two new members.

Mr. Dixon then described what they had done beside cooperation with Detroit Lakes Sewage improvement. They have developed a weed harvesting program in the lakes as part of the general effort to clean the lakes plus a way of collecting and transporting vegetative material away from the lake. Their present fear is they will lack input in making needed lake improvements.

Bill Jordan: The lake people are an important economic factor in the area. The maintenance of the value of buildings, boats and property are of concern. He asked the Lake Sallie residents to stand. I believe more than half of citizens present stood. He spoke of the value of the agricultural sector in his remarks but that the economic importance of the lake residents to the area should also be recognized. Mr. Jordan stated that a Mr. Roper had been a good manager for the district but had not been reappointed.

I had a question at this point: How did it happen that five members were appointed from the northern part of the district and none at the southern? Did not ask because someone from the audience asked it. Mr. Jordan responded: that he thought the county commissioners were under pressure.

Mrs. John Burnett made a statement that Lake owners deserved representation. She said that water quality of Lake Sallie and Melissa were better than they were but far away from the way they should be. She described a green algae bloom 15 to 20 feet from shore of the lake. It is difficult to get clean water.

Mr. Jordan responded and agreed that much was left to be done. What will happen if they drain old lake bottom. Too many nutrients in the lakes already. How will sewage residues be handled in the area. About \$140,000 has been spent on a study. Zoning efforts to make residents bring septic systems up to code. Mr. Jordan said a few had not complied, I think it was thirteen. He stated that further responses must be received by Sept. 7, 1988. Afterwards someone mentioned that while improvements had been made some septic systems were not performing properly. It was mentioned that Detroit Lakes would like to annex part of Lake View Township and put in sewage system. It was stated this would be very expensive.

Question: What is the number or percentage of full year residents on Lake Sallie and Lake Melissa? Answer between 10% and 15 %. The buildings are not winterproofed. The summer residents are mainly from the Fargo-Moorhead area.

Mr. Dennis Krawl (Sp) Spoke about Big Floyd Lake. He said efforts should be made to keep it in present condition or to improve it. He thought that most of the water coming from the agricultural lands (ditch repair area) will impact Floyd Lake first. Any effort to clean the ditches will impact Floyd Lake first then will impact Detroit Lake and the Chain of Lakes south.

Pollution Control Agency representative then read a letter supporting enlargement of the watershed district board of managers. He listed as reasons, size of watershed, the pollution problem, the activities of the lake residents and the clean lake problem.

Argument on activity in the district, the need for clean waters, lake water quality. Appointing a board that does not know problem of the lake area may alter effort to aid drainage. There appears to be a need for knowledge of alternatives. Drainage does not seem to be only solution to agricultural problem. There must be ways of draining to avoid impact on lake waters.

Mr. Krawl stated that about 50% of the Floyd Lake area people were year around residents.

Mr. Ogaard stated that it appeared to him that knowledge incorporating drainage and sediment control, wetland restoration and water and sewer control was needed. He

pointed out that managers do not represent an area of a district they are to represent the interest of the entire district.

Mr. Klamstad responded to a question about mill rates. He said the mill rate for the watershed was .00848 and brought in about \$54,000. They would be allowed to go to one mill. They have made assessments for purchase of the weed harvester and allied equipment. All shoreline owners had raised another \$30,000 for cleaning shores and hauling away weeds and debris collected and piled by residents. Development pays 1/2 and shoreline owner assessment pays 1/2.

Mr. Osaard mentioned use of Infra-Red scanning instruments to observe and check sources of pollution by visual presentation which apparently points out rather definitely source of pollution.

In regard to cleaning ditches he pointed out that it made a difference in running surveys, how a ditch is cleaned, the use of drop structures and sediment basins might alleviate prospective sedimentation and reduce nutrient loadings.

Meeting Adjourned 10:55.

After the meeting Chairman Osaard polled the Board Members present. Each one responded that they were open to or in favor of enlarging the board of managers.

*

Ideas for suggested statement:

Watershed district board members should not be appointed on the basis of any area representation within a watershed except where several counties are included in a Watershed district. Any person appointed to a board is to serve all citizens and the environmental needs in regard to management of water resources delegated to it. However, to insure that persons with best knowledge of areas such factors as population, assessments, valuation, nature and level of activity, determination of needs, awareness of certain environmental impacts, and experiences or knowledge of environmental management and in view of the multipurpose objectives that may arise in a watershed district can be considered and included in making appointments to the board and we believe provide justification for enlarging the board in this case.

From notes of hearing made by:

Bill Coffell
Bill Coffell

DRAFT

Minnesota Board of Water and Soil Resources
90 West Plato Boulevard
First Floor
St. Paul, Minnesota 55107

In the Matter of the Petition to
Increase the Number of Managers of
the Pelican River Watershed District
(Minn. Stat. Section 112.421)

FINDINGS OF FACT,
CONCLUSIONS OF LAW,
ORDER

On April 28, 1988 the Becker County Board of Commissioners and the Pelican River Watershed District (District) filed a petition seeking to increase the number of District managers from five to seven. The Board of Water and Soil Resources (MBWSR) conducted a public meeting on the petition in Detroit Lakes on August 27, 1988 to solicit public comment. The public meeting was attended by the MBWSR Chair and four other members, who recommended to the full MBWSR that the petition be granted.

Having considered the entire record of the proceeding, the MBWSR makes the following Findings of Fact, Conclusions of Law, and Order:

FINDINGS OF FACT

1. The District was established on May 27, 1988. The District includes approximately 120 square miles. Nearly all of the District is located in Becker County, except for approximately two and one-half square miles in Otter Tail County. The Order establishing the District prescribed a five-member board of managers, with all five managers residing in Becker County.

2. The District contains five major recreational lakes and many smaller lakes. The District's activities have focused on lake management since its inception. The District has been active in water quality management activities including the following areas: water quality testing, lake nutrient budget studies, upgrading septic systems, aquatic weed harvesting, acquisition of lakeshore for public recreation land, upgrading municipal wastewater treatment, and research projects involving lake water quality.
3. The District contains four public drainage systems that are currently under the jurisdiction of the Becker County Board of Commissioners. Becker County is currently redetermining the benefits on some of the systems. The Becker County Board of Commissioners has tentatively decided to transfer jurisdiction of the systems to the District following completion of the redetermination of benefits proceeding.
4. The District has traditionally had residents from both the Lakes Sallie-Melissa and Big Floyd Lake areas on the board of managers. When the terms of the two most current managers from these areas expired in May 1988, they were replaced by two new members more representative of the agricultural areas north and east of Big Floyd Lake in the northern one-third of the District.
5. There is a strong and widespread belief among lakeshore owners in the Sallie-Melissa and Big Floyd Lake areas that they need continued representation on the District's board of managers to maintain a high level of attention to lake protection and

management issues. There is a correlation between the quality of the lakes, surrounding property values, the local tax base, and the local economy. A representative of the Lakes Melissa-Sallie Improvement Association presented a 416 signature petition supporting the proposed increase in managers.

6. The Minnesota Pollution Control Agency submitted a letter supporting the proposed increase for the purpose of providing increased representation throughout the District and maintaining a high degree of lake interest on the board of managers in order to facilitate implementation of a Clean Lakes project in the District.
7. The Becker Soil and Water Conservation District submitted a letter opposing the proposed increase, stating that it would raise administrative costs, is not warranted based on the District's size, and would not better serve District residents.
8. An increase in the number of managers would provide for broader representation on the District's board of managers; would provide Becker County an opportunity to address the issue of fair distribution of managers by hydrologic areas; and would allow Becker County to resolve strong local concerns over representation on the District board, that if left unresolved, could hinder effective water management in the District.

CONCLUSIONS OF LAW

1. The petition to increase the number of managers of the District is valid in all respects. It meets the tests set forth in Minn. Stat. Sec. 112.421 (1986).

2. Due, timely and proper notice of filing of the petition was given. All other relevant requirements of law have been fulfilled. The MBWSR has jurisdiction to determine the issues herein.
3. The proposed increase in the number of District managers would serve the public welfare, public interest, and the purposes of the Minnesota Watershed Act.

IT IS THEREFORE ORDERED THAT

1. The number of managers of the Pelican River Watershed District is increased to seven.
2. The two additional managers shall be appointed by the Becker County Board of Commissioners.
3. The initial terms of the two additional managers shall begin on the dates of their appointment and shall both expire on May 26, 1989. Succeeding managers shall be appointed to three-year terms.

Dated this 28th day of September 1988, and effective immediately.

MINNESOTA BOARD OF WATER AND SOIL RESOURCES

Donald H. Ogaard
Chairman

RECOMMENDED RESOLUTION

TO APPROVE THE DRAFT ORDER INCREASING THE
NUMBER OF MANAGERS OF THE PELICAN RIVER
WATERSHED DISTRICT FROM FIVE TO SEVEN
MEMBERS.

**PROPOSED ALLOTMENT FOR GENERAL PURPOSE GRANTS TO DISTRICTS:
EXPENDITURES FOR SUPPLIES AND SERVICES**

Each year the Board withholds a small amount of the General Purpose Grants to provide certain centralized supplies and services to Soil and Water Conservation Districts. Board action is needed to allocate those funds to the appropriate object code. Following is the staff recommendation based on past history and Board policy established over the previous year.

1)	Processing of Social Security Information (Object 16)	\$ 500.00
2)	Training Funds (Object 29)	8,500.00
3)	Second Installment of Accounting Software Package (Object 17)	17,500.00
4)	Purchase of Raingauges and Envelopes (Object 30)	2,713.00
5)	Printing of Letterhead and Promotional Brochures (Object 14)	5,000.00
6)	Rental of Booth Space at Farm Fest, fairs, etc. and purchase of display materials	<u>4,500.00</u>
	TOTAL	\$38,713.00

This is the same total reallotment as was authorized a year ago.



90 W. Plato Blvd.
St. Paul, Minnesota 55107
(612) 296-3767

September 8, 1988

TO: Jim Birkholz - Director, B.W.S.R.

FROM: Darrell Apelgrain - Area II Engineer *Darrell A.*

SUBJECT: September Estimate, Minett-Krantz Reservoir,
State Share-\$40,886.93

Regional Offices

Northwest Region
1819 Bemidji Ave.
Bemidji, MN 56601
218-755-3963

Northeast Region
Government Service Center
320 W. 2nd Street
Room 603
Duluth, MN 55802
218-723-4752

West Central Region
611 Iowa Avenue
Staples, MN 56479
218-894-1692

South Central Region
Box 756
New Ulm, MN 56073
507-354-2196

Southeast Region
Friedell Bldg., Room 100
1200 S. Broadway
Rochester, MN 55904
507-285-7458

Southwest Region
Box 111
1400 E. Lyon Street
Marshall, MN 56258
507-537-7260

East Central Region
90 W. Plato Blvd.
St. Paul, MN 55107
612-296-3767

Enclosed find two Copies of Partial Estimate #3 for the Minett Krantz Reservoir. This is the third estimate since construction began. This project is almost complete. The Contractor, Bill Schmidt Construction Company from Redwood Falls, has done an excellent job. The fill installation will be complete next week and the seeding and final cleanup will be complete by October first. The State share of this estimate is \$40,886.93 and the County share is \$13,628.97. Please remit this amount to the Pipestone County Auditor when the payment is processed. The Contractor has used 40.3% of the contract time and has completed 83.2% of the monetary value of the work.

Enclosure:

CONTRACT PAYMENT ESTIMATE

Sheet 1 of 2

Contract No.	Project Name	Estimate No. 3
104-113	Minett-Krantz Reservoir	Date Sep.1.1988
Sponsors Pipestone County Board of Commissioners, Pipestone, Mn.		

Total Amount Earned	This Period	\$54,515.90	To Date	\$110,737.70
Retained Percent(5%)				\$2,811.09
Previous Payments		\$0.00		\$53,410.71
Other Payments (return of retainage)				

	AMOUNT PAID THIS MONTH	AMOUNT PAID TO DATE
	\$54,515.90	\$107,926.61
STATE	\$40,886.93	\$80,945.75
COUNTY	\$13,628.97	\$26,981.66

TOTAL PAID THIS ESTIMATE \$54,515.90

ORIGINAL AMOUNT OF CONTRACT \$132,438.70

ADDITIONS DUE TO REVISIONS \$165.00

ADDITIONS WITHIN 25% \$478.80

TOTAL VALUE OF CONTRACT TO DATE \$133,082.50

Percent of work Completed 83.2%

Percent of Time Used 40.3%

I hereby certify that the above work has been completed according to the plans and Specifications to the best of my knowledge and that none of the work shown as done this month has been paid for previously.

Darrell E. Apilgren
Signature

Project Engineer. September 1, 1988
Date

Contract Payment Estimate

Contract No. 104-113			Estimate No. 3.		Date Sept.1.1988		Sheet 2 of 2	
Item No	Plan Quantity		Done this Month From May 26 thru August 31, 1988			Completed to Date From May 26 thru Aug. 31, 1988		
	Quant.	Unit	Quant.	Unit Price	Amount	Tot. Quant.	Tot. Amt	
1.	1.0	L.S.	0.0	\$950.00	\$00.00	1.0	\$950.00	
4.	1.0	L.S.	0.2	4,500.00	900.00	1.0	4,500.00	
6.	1.0	L.S.	0.2	2,500.00	500.00	1.0	2,500.00	
7.	7,681	C.Y	2,000	1.20	2,400.00	8,000	9,600.00	
8.	8,318	C.Y.	0	1.00	0.00	8,318	8,318.00	
9.	28,848	C.Y.	20,000	.90	18,000.00	26,000	23,400.00	
10.	72	C.Y.	80	12.00	960.00	80	960.00	
11.	23,543	S.Y.	5,000	.35	1,750.00	20,000	7,000.00	
12.	14.50	C.Y.	14.50	290.00	4,205.00	14.50	4,205.00	
13.	533	Lbs.	533	.70	373.10	533	373.10	
14.	158	L.F.	33	70.00	2,310.00	158	11,060.00	
15.	1.0	L.S.	0.5	4,176.00	2,088.00	1.0	4,176.00	
16.	124	L.F.	0	21.70	0.00	124	2,690.00	
16A*	22	L.F.	0	7.50	0.00	22	165.00*	
17.	28	L.F.	28	18.10	506.80	28	506.80	
18.	495	C.Y.	262	19.00	4,978.00	267	5,073.00	
19.	181	C.Y.	181	15.00	2,715.00	181	2,715.00	
20.	1.0	EA.	1.0	794.00	794.00	1.0	794.00	
21.	1.0	EA.	1.0	1,218.00	1,218.00	1.0	1,218.00	
22.	5,781	L.F.	5,400	1.55	8,370.00	5,400	8,370.00	
23.	1.0	EA.	1.0	240.00	240.00	1.0	240.00	
24.	38	L.F.	38	22.00	836.00	38	836.00	
25.	196	L.F.	196	7.00	1,372.00	196	1,372.00	
26.	1,500	L.F.	0	6.70	0.00	1,450	9,715.00	
TOTALS					\$54,515.90	\$110,737.70		

*Modification # 1 22 LINEAL FT AT \$7.50 L.F. = \$165.00

State of Minnesota
Department of Agriculture

Parking Permit Request Form
For
90 West Plato Boulevard

(Date)

(Your Name)

(Division or Agency)

(Telephone Number)

(Vehicle License Plate Number)

(Year and Make/Model of Your Vehicle)

(Vehicle Color)

Date Parking Sticker Assigned:

LODGING RESERVATIONS HAVE BEEN MADE AS FOLLOWS:

<u>Name</u>	<u>Facility</u>	<u>Date</u>
<u>Staff</u>		
Jim Birkholz	Forestry Center	September 27-28
Greg Larson	Forestry Center	September 28
Tom Wenzel	Forestry Center	September 27-28
Jeff Nielsen	Americinn-Cloquet	September 27-28
Mel Sinn	Golden Gate Motel	September 27-28
Mark Nelson	Royal Pines Motel	September 27-28
Hal Anderson	Forestry Center	September 27-28
Denice DeFrates	Americinn-Cloquet	September 27-28
Darrell Apelgrain & wife	Americinn-Cloquet	September 27-28
Dave Peterson	Royal Pines Motel	September 27-28
Wayne Edgerton	Forestry Center	September 27-28
Steve Miller	Forestry Center	September 27-28
Brian Dwight	Forestry Center	September 27-28
Mary Jo Anderson	Americinn-Cloquet	September 27-28
<u>Members</u>		
Don Ogaard & wife	Americinn-Carlton	September 27-28
Howard Peterson	Americinn-Cloquet	September 27-28
Eugene Kalmes & wife	Americinn-Cloquet	September 27-28
Loni Kemp	Americinn-Cloquet	September 27-28
Jack Graba & wife	Americinn-Cloquet	September 27-28
John Brooks, Jr. & wife	Americinn-Cloquet	September 27-28
Bill Cofell	Americinn-Cloquet	September 28
Doug Bade	Americinn-Carlton	September 28
Jim Hoesse	Americinn-Carlton	September 28

THOSE ATTENDING BWSR MEETING AND TOUR ON
SEPTEMBER 28-29, 1988

Registration (\$10.00)

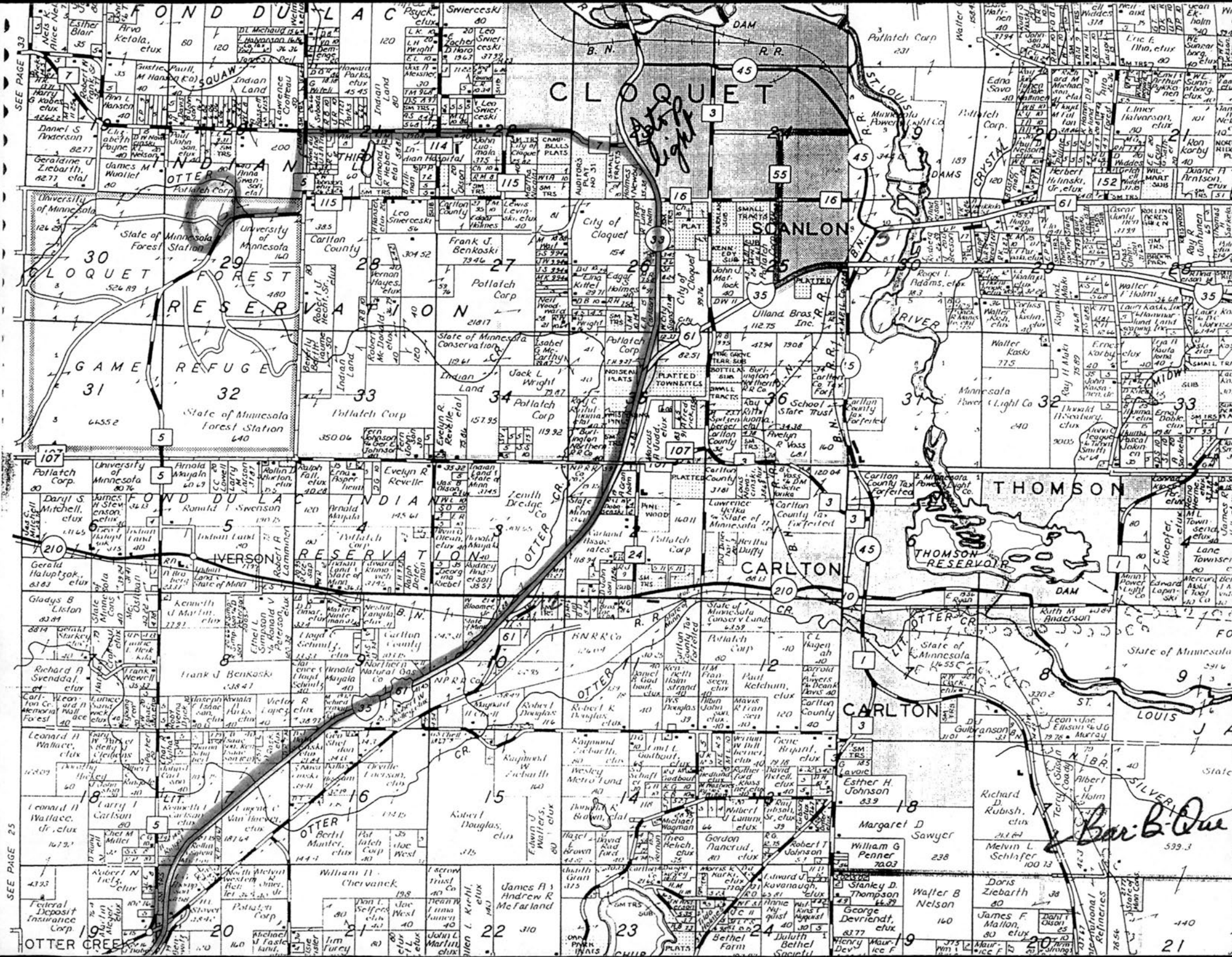
Jim Birkholz	Don Ogaard
Mary Jo Anderson	John Williamson
Greg Larson	John Boulton
Mel Sinn	Don Warner
Denice DeFrates	Loni Kemp
Mark Nelson	Eugene Kalmes
Wayne Edgerton	Doug Bade
Steve Miller	Jim Hoese
Tom Wenzel	Lowell Moen
Darrell Apelgrain	Bill Cofell
Chris Hofstede	Jack Graba
Brian Dwight	Howard Peterson
Hal Anderson	Loren Harste
Dave Peterson	John Brooks, Jr.
Jeff Nielsen	

Breakfast (\$4.00) and Lunch (\$5.00) and B-B-Q (\$5.00)

Jim Birkholz	Don Ogaard
Mary Jo Anderson	Don Warner
Greg Larson	Loni Kemp
Mel Sinn	Eugene Kalmes
Denice DeFrates	Doug Bade
Mark Nelson	Jim Hoese
Wayne Edgerton	Lowell Moen
Steve Miller	Bill Cofell
Tom Wenzel	Jack Graba
Darrell Apelgrain	Howard Peterson
Chris Hofstede	John Brooks, Jr.
Brian Dwight	John Williamson - Not BBQ
Hal Anderson	John Boulton - Not BBQ
Dave Peterson	
Jeff Nielsen	

Breakfast and Lunch - (September 29)

Jim Birkholz	Don Ogaard
Mary Jo Anderson	Don Warner
Greg Larson	Loni Kemp
Mel Sinn	Eugene Kalmes
Denice DeFrates	Doug Bade
Mark Nelson	Jim Hoese
Wayne Edgerton	Lowell Moen
Steve Miller	Bill Cofell
Tom Wenzel	Jack Graba - Not Lunch
Darrell Apelgrain	Howard Peterson
Chris Hofstede	John Brooks, Jr.
Brian Dwight	
Hal Anderson	
Dave Peterson	
Jeff Nielsen	

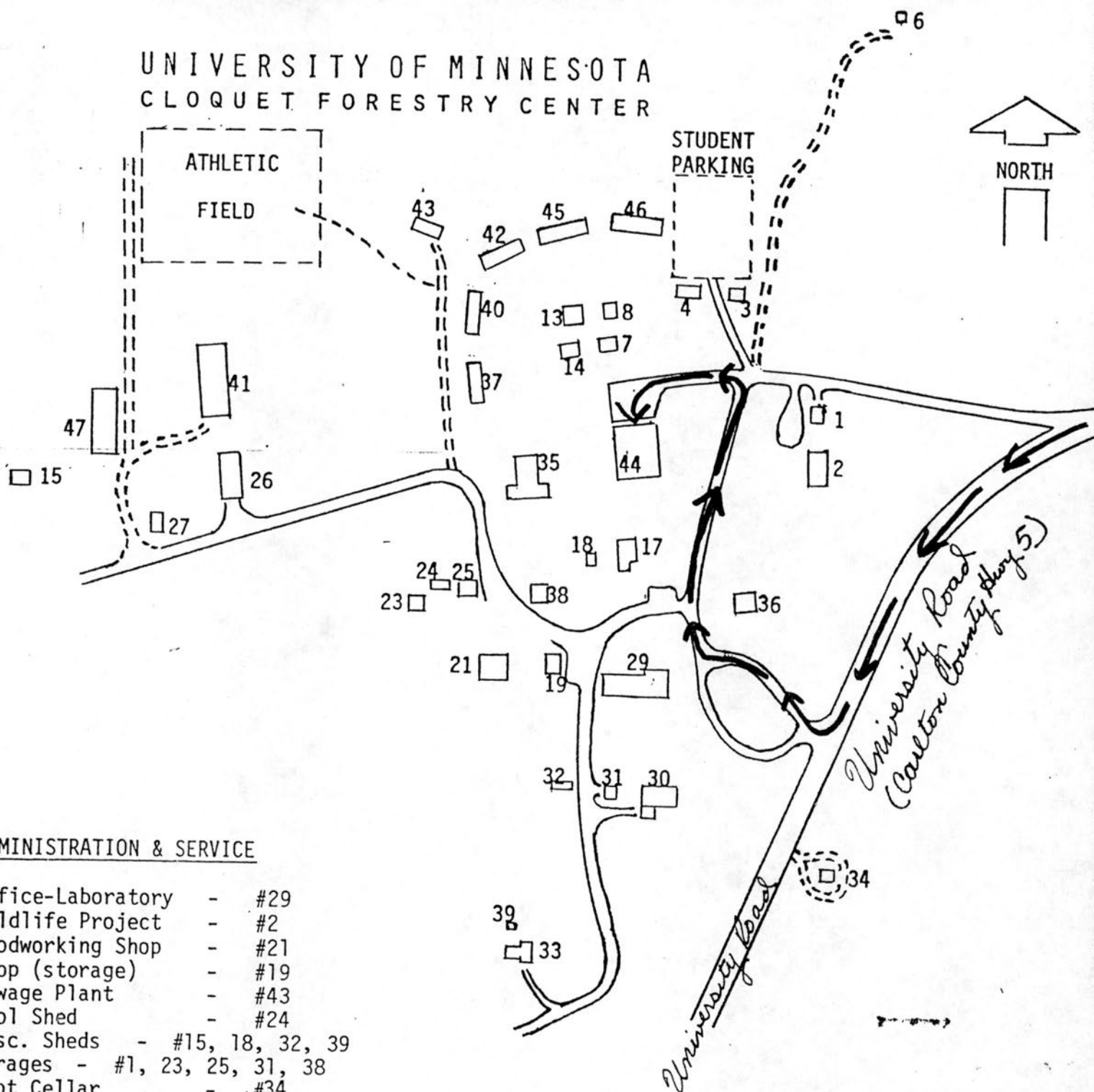
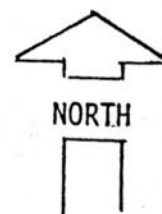


SEE PAGE 39

SEE PAGE 25

Bar-B-Que

UNIVERSITY OF MINNESOTA CLOQUET FORESTRY CENTER



ADMINISTRATION & SERVICE

Office-Laboratory	-	#29
Wildlife Project	-	#2
Woodworking Shop	-	#21
Shop (storage)	-	#19
Sewage Plant	-	#43
Tool Shed	-	#24
Misc. Sheds	-	#15, 18, 32, 39
Garages	-	#1, 23, 25, 31, 38
Root Cellar	-	#34
Bathhouse	-	#13

EDUCATIONAL

Classroom-Library	-	#44
Messhall	-	#35
Student Cabins	-	#37, 40, 42, 45, 46
Recreation Cabins	-	#7, 8, 14

MILL YARD

Machine Storage	-	#47
Planer	-	#26
Treating Plant	-	#27
Sawmill	-	#41

DWELLINGS

Log House	-	#17
Main House	-	#30
Faculty Cottage #1	-	#33
Faculty Cottage #2	-	#36

NURSERY

Seed Extractory	-	#3
Packing Shed	-	#4
Pump House	-	#6

State of Minnesota
Department of Agriculture
Parking Permit Request Form
For
90 West Plato Boulevard

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(Division or Agency)

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(Vehicle License Plate Number)

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Registration (\$10.00)

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John Brooks, Jr.

Breakfast (\$4.00) and Lunch (\$5.00) and B-B-Q (\$5.00)

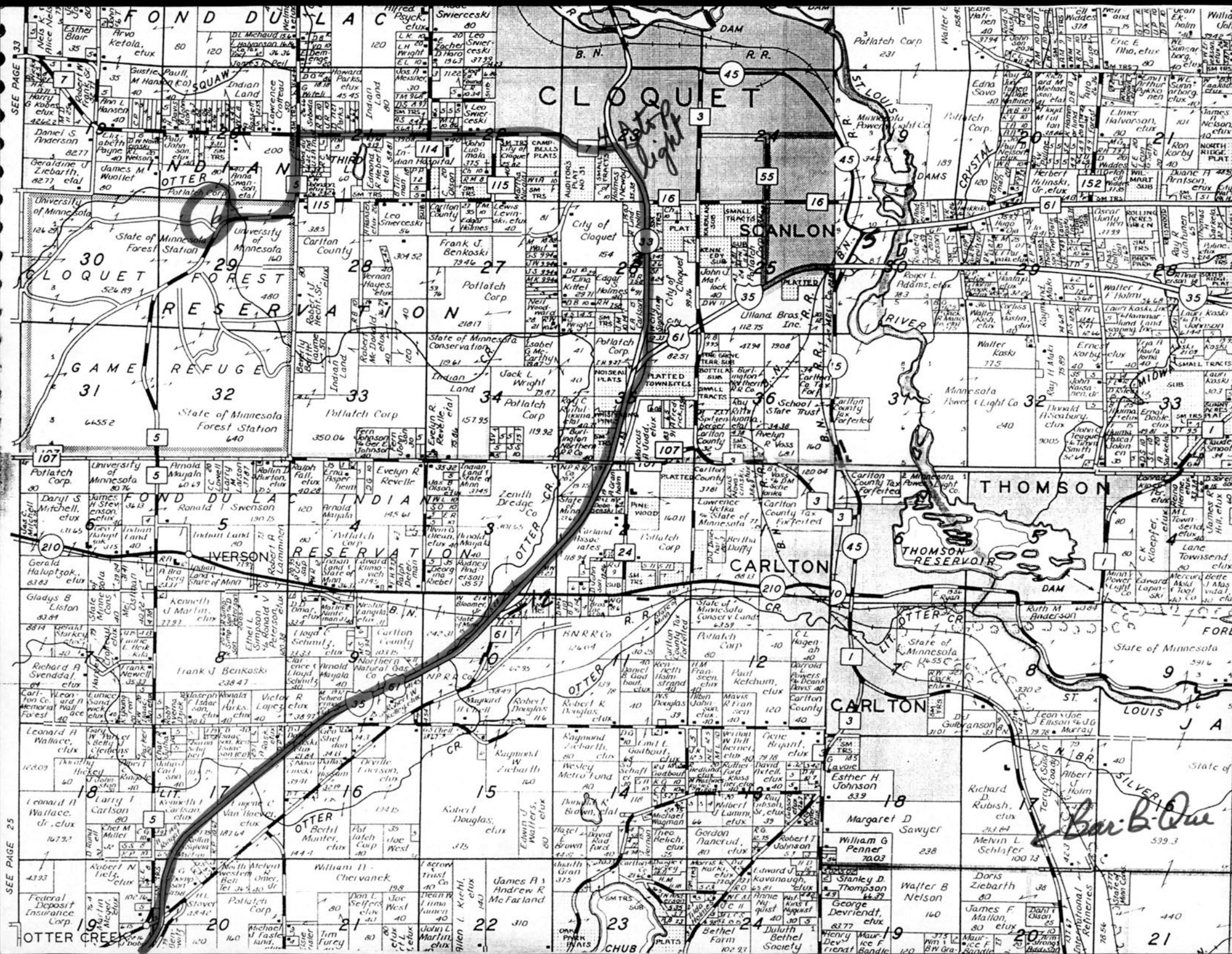
Jim Birkholz
Mary Jo Anderson
Greg Larson
Mel Sinn
Denice DeFrates
Mark Nelson
Wayne Edgerton
Steve Miller
Tom Wenzel
Darrell Apelgrain
Chris Hofstede
Brian Dwight
Hal Anderson
Dave Peterson
Jeff Nielsen

Don Ogaard
Don Warner
Loni Kemp
Eugene Kalmes
Doug Bade
Jim Hoese
Lowell Moen
Bill Cofell
Jack Graba
Howard Peterson
John Brooks, Jr.
John Williamson - Not BBQ
John Boulton - Not BBQ

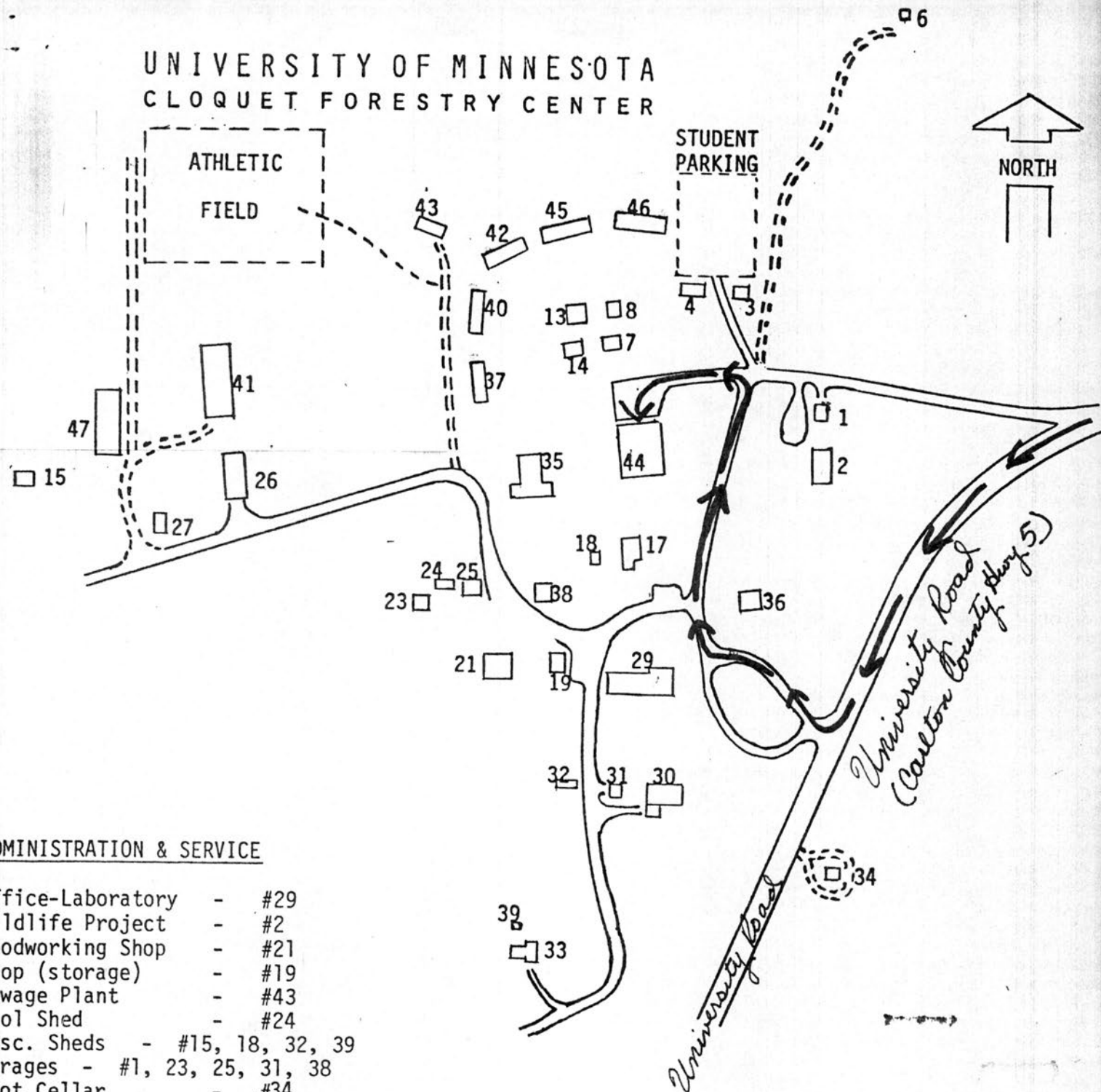
Breakfast and Lunch - (September 29)

Jim Birkholz
Mary Jo Anderson
Greg Larson
Mel Sinn
Denice DeFrates
Mark Nelson
Wayne Edgerton
Steve Miller
Tom Wenzel
Darrell Apelgrain
Chris Hofstede
Brian Dwight
Hal Anderson
Dave Peterson
Jeff Nielsen

Don Ogaard
Don Warner
Loni Kemp
Eugene Kalmes
Doug Bade
Jim Hoese
Lowell Moen
Bill Cofell
Jack Graba - Not Lunch
Howard Peterson
John Brooks, Jr.



UNIVERSITY OF MINNESOTA CLOQUET FORESTRY CENTER



ADMINISTRATION & SERVICE

Office-Laboratory	-	#29
Wildlife Project	-	#2
Woodworking Shop	-	#21
Shop (storage)	-	#19
Sewage Plant	-	#43
Tool Shed	-	#24
Misc. Sheds	-	#15, 18, 32, 39
Garages	-	#1, 23, 25, 31, 38
Root Cellar	-	#34
Bathhouse	-	#13

EDUCATIONAL

Classroom-Library	-	#44
Messhall	-	#35
Student Cabins	-	#37, 40, 42, 45, 46
Recreation Cabins	-	#7, 8, 14

MILL YARD

Machine Storage	-	#47
Planer	-	#26
Treating Plant	-	#27
Sawmill	-	#41

DWELLINGS

Log House	-	#17
Main House	-	#30
Faculty Cottage #1	-	#33
Faculty Cottage #2	-	#36

NURSERY

Seed Extractory	-	#3
Packing Shed	-	#4
Pump House	-	#6

BOARD OF WATER AND SOIL RESOURCES
Cloquet Forestry Center
175 University Road
Cloquet, MN 55720
September 28-29, 1988

AGENDA

Wednesday, September 28, 1988

- 8:30 a.m. Start BWSR Business Meeting
1. Call to Order
 2. Adopt Agenda
 3. Approve Minutes of August 24, 1988
 4. Chairman's Report - Donald Ogaard
 5. Executive Director's Report - Jim Birkholz
 6. EQB/Water Resources Committee Report - Loni Kemp
 7. Proposed Increase in Number of Managers of the Pelican River Watershed District - Mel Sinn
 8. Proposed Allotment for General Purpose Grants to Districts: Expenditures for Supplies and Services - Jim Birkholz
 9. Minett Krantz Structure Partial Payment - Greg Larson
 10. Coon Creek Watershed District Appeal of BWSR Decision in Holasek Case - Mel Sinn
- 10:00 a.m. Conclude BWSR Business Meeting
- Break
- 10:15 a.m. Begin BWSR/Staff Retreat
- Small Group Break-Outs
 - Five natural resource issues:
 - 1) Nonpoint Source Pollution Control
 - 2) Water Quantity Management
 - 3) Land Use Management
 - 4) Groundwater Management
 - 5) Wetlands Management
- 11:30 a.m. Reports to Large Group
- 12:00 - 1:00 p.m. Lunch

1:00 - 3:00 p.m.	Large Group Discussion - Techniques for the BWSR to achieve its goals
3:00 p.m.	Break for Tour - Buses will leave meeting site
6:00 - 8:00 p.m.	BBQ at location indicated on map
8:00 p.m.	Free Time

Thursday, September 29, 1988

8:30 a.m.	Discuss the tour and the resource management needs of northeastern Minnesota
9:30 a.m.	Basic philosophy and principles • how to work effectively with our primary local units of government • how to accomplish our goals through comprehensive local water plans
10:00 a.m.	Break
10:15 a.m.	Continue discussion
Noon	Lunch with Area III MASWCD
1:30 p.m.	Adjourn

MINUTES OF SEPTEMBER 28-29, 1988
OF THE
BOARD OF WATER AND SOIL RESOURCES

Appointed Members in Attendance

Donald Ogaard
John Williamson
John Boulton
Don Warner
Eugene Kalmes
Douglas Bade
John Brooks, Jr.
Loni Kemp
Howard Peterson
William Cofell
Loren Harste
Lowell Moen
Jack Graba

Appointed Members Absent

Natalie Haas Steffen
Ken Schellack
James Hoese

Others in Attendance

Paul Burns, Minnesota Department of Agriculture
Duane Johnson, Soil Conservation Service
Franklin Denn, Minnesota Association of Townships
Mary Peterson, Dwain Otte, Bob Pigeon, Clarence Gustafson, Danny Potter,
Ken Pedersen, and Jim Schafer; Minnesota Association of Soil and Water
Conservation Districts

Staff in Attendance

Jim Birkholz
Mel Sinn
Dan Steward
Greg Larson
Denice DeFrates
Tom Wenzel
Steve Miller
Mary Jo Anderson
Chris Hofstede
Dave Peterson
Hal Anderson
Mark Nelson
Jeff Nielsen
Darrell Apelgrain

Call Meeting to Order - Chairman Ogaard called the meeting to order at 8:30 a.m., at the Forestry Center in Cloquet, Minnesota. Chairman Ogaard welcomed everyone to the meeting in Cloquet. Jim Birkholz briefed the Board on what would be happening in the following two days as far as the agenda is concerned. There will be small group break-out sessions to focus on the five natural resource issues. Jim introduced Scott Reed, Director of the Forestry Center. Mr. Reed welcomed everyone to the Forestry Center. He gave a brief summary of the Forestry Center's history. The center was acquired from the Fond du Lac Indian Reservation. The facility provides teaching, research, and extension programs. The center is staffed by fourteen full-time employees. He stated that \$900 million has been committed to the forestry industry and timber supply in the northeastern area of Minnesota. A premiere television production to be shown on CBS has been partly initiated by Governor Perpich. This will be a documentary type program showing the Forestry Center. Mr. Reed made available to the Board various publications and brochures regarding the Forestry Center.

Chairman Ogaard welcomed Jack Graba back after having by-pass surgery.

- 88-142 **Adopt Agenda** - Moved by Moen, seconded by Bade, to adopt the agenda as presented. Affirmative: Ogaard, Williamson, Boulton, Warner, Kalmes, Bade, Moen, Brooks, Jr., Harste, Peterson, Graba, Kemp, and Cofell. Opposed: None. Carried.

- 88-143 **Approval of Minutes of August 24, 1988** - Douglas Bade stated that an addition needs to be made on page 4, fifth paragraph, regarding his report, "and Carver County" should be added after Pierz. Moved by Bade, seconded by Cofell, to approve the minutes of August 24, 1988, as corrected. Affirmative: Ogaard, Williamson, Boulton, Warner, Kalmes, Bade, Moen, Brooks, Jr., Harste, Peterson, Graba, Kemp, and Cofell. Opposed: None. Carried.

Chairman's Report - Chairman Ogaard reported that there was very good attendance and participation in Becker County at the Pelican River Watershed District public meeting on increasing the number of managers from five to seven in that district. Chairman Ogaard is also the Chairman of the Lower Red River Valley ^{inter-state} annual meeting held in Thief River Falls. ^{semi}Inter-governmental involvement in water management was the theme of the meeting. He stated that a hearing was held on a proposed Lower Minnesota River Watershed District boundary change. Chairman Ogaard reported that the Governor's Capital for a Day in Cloquet with water as a focus, has been scheduled for Friday, September 30. He invited Board members to attend if their schedules permitted.

Executive Director's Report - Jim Birkholz reported on the Board's staffing situation. Jim introduced Brian Dwight, Board Representative in Marshall. This is Brian's first attendance at a Board meeting since he joined our staff in May. Brian had previously been an employee of Cottonwood Soil and Water Conservation District. Jim also introduced Steve Miller, RIM Reserve Realty Specialist. Steve joined our staff on September 6th. Jim stated that two hydrologists will be starting on Monday, October 3rd. Chris Hughes will be located in New Ulm and John Fax will fill the groundwater hydrologist position in St. Paul. Jim and Greg Larson will have orientation

for these two new positions next week. The vacant Land Use Specialist position has been advertised and will be advertised an additional two weeks. The Assistant Director position interviews will be held in mid-October, and hope to fill that position by the end of October. Jim, along with Don Warner and Bill Cofell, and Howard Peterson as an alternate, will be doing the interviewing for that position. Jim reported that an organizational chart defining the new staff structure has been put together and sent to the Department of Employee Relations. Jim reported that a meeting will be held on October 7th, on the recodification of water laws, authored by Senator Gary DeCramer. The recodification is not a change of intent of the statute, clarity is the main issue. Policy issues may emerge as a result of the recodification though. Time will be available at the October Board meeting to discuss this issue. Jim reported that a training session for soil and water conservation district managers and watershed district administrators will be held at Cragun's Conference Center in Brainerd on October 18-20. This workshop will be co-sponsored with the Department of Employee Relations. Two topics will be addressed: "Supervision - Managing the Human Resource" and "Evaluation of Employee Performance". Jeff Nielsen and Brian Dwight have been working on setting this training session up. Staff will report to the Board on this at the October meeting. Jim reported on the potential relocation of the Board's office. There is a possibility that the office may be relocating across the street. Jim reported on the RIM Reserve sign-up. A map was distributed for the Board's information. A total of approximately 22,000 acres has been enrolled. \$2.4 million has been encumbered by the last sign-up. Remaining funds will be allocated at a subsequent sign-up.

Paul Burns, Department of Agriculture, entered the meeting at 9:15 a.m.

Jim distributed copies of "A Strategy for the Wise Use of Pesticides and Nutrients" for the Board's information. Comments on the strategy need to be given to the EQB Water Resources Committee by October 17. Jim stated that LCMR has gone through the elimination process regarding legislative proposals. The Board had three active projects in the final round: The Red River of the North wind erosion project and the Minnesota Drainage Code Handbook were cut. The Comprehensive Local Water Planning effort was cut but support for a general fund request was stated. Unfortunately, none of the Board's projects were funded.

EQB/Water Resources Committee Report - Loni Kemp reported that the final version of the groundwater strategy is now out. PCA is coordinating the legislative strategy. Drafts were due in September. Loni reported that Senator Morse from Winona and Gerry Willet from PCA, met to discuss legislative strategies. The consensus was to have a comprehensive groundwater management bill. Loni reported that the Minnesota Corngrower's Association has put out a flyer regarding this bill. She felt that the flyer is very inflammatory, with a lot of misinformation. She wanted to inform the Board of this and asked that the Board members know what the bill contains. Loni stated that all agencies will share their bills and coordinate to support a comprehensive groundwater bill. Two policy issues regarding the biennial priorities report were discussed at the EQB/WRC meeting. One item was regarding the BWSR establishing rules or guidelines for 509 and 112 plans.

The final version will support state funding for plan updates required by any rules which may be promulgated. The other policy issue discussed was sealing abandoned wells. This was unresolved. Loni also stated that another issue discussed was that in 1991 all new and some existing state programs providing assistance to local governments will require an approved local water plan - should this be loosened or be a prerequisite? Board member comments followed: John Brooks, Jr., as a county commissioner, feels that the county would like to see the local soil and water conservation districts involved in the funding for sealing of abandoned wells. Loren Harste felt that the Corngrower's Association should receive the correct answers and correct information as to the wrong statements they are making. Loni asked staff to answer those organizations who are making wrong accusations. Paul Burns stated that those organizations have received the correct information from the Department of Agriculture. There is simply some mistrust of state agencies. John Brooks, Jr., liked the way the water plans are working with county commissioners and soil and water conservation districts. This is a very good cooperative effort; a much closer working relationship is what is needed. Chairman Ogaard felt that a cooperative effort is needed on managing chemicals used in agriculture.

Proposed Increase in Number of Managers of the Pelican River Watershed District

- Mel Sinn stated that excellent testimony was given at the public meeting at Detroit Lakes on August 27. A copy of the draft order was included in Board members packets for their review and consideration. Don Ogaard, Bill Cofell, John Brooks, Jr., Ken Schellack, and Lowell Moen were in attendance at the public meeting and supported the proposed increase. Moved by Cofell, seconded by Moen, that the Board approve the draft order increasing the number of managers of the Pelican River Watershed District from five to seven members. Affirmative: Ogaard, Williamson, Boulton, Warner, Kalmes, Bade, Moen, Brooks, Jr., Harste, Peterson, Graba, Kemp, and Cofell. Opposed: None. Carried.

Proposed Allotment for General Purpose Grants to Districts: Expenditures and Supplies and Services

- Jim Birkholz explained that each year the Board withholds a small amount of the General Purpose Grants to provide certain centralized supplies and services to Soil and Water Conservation Districts. Board action is needed to allocate those funds to the appropriate object code. Following is the staff recommendation based on past history and Board policy established over the previous year.

1) Processing of Social Security Information (Object 16)	\$ 500.00
2) Training Funds (Object 29)	8,500.00
3) Second Installment of Accounting Software Package (Object 17)	17,500.00
4) Purchase of Raingauges and Envelopes (Object 30)	2,713.00
5) Printing of Letterhead and Promotional Brochures (Object 14)	5,000.00
6) Rental of Booth Space at Farm Fest, fairs, etc. and purchase	4,500.00
TOTAL	\$ 38,713.00

Jim explained that this is the same total reallocation as was authorized a year ago. Moved by Williamson, seconded by Peterson, to approve the proposed allotment for General Purpose Grants to Districts: Expenditures

for Supplies and Services for a total of \$38,713.00. Affirmative: Ogaard, Williamson, Boulton, Warner, Kalmes, Bade, Moen, Brooks, Jr., Harste, Peterson, Graba, Kemp, and Cofell. Opposed: None. Carried.

88-146

Minett Krantz Structure Partial Payment - Darrell Apelgrain, staff engineer, explained that the Board's share for the third partial payment is \$40,000.00. This project has been completed except for clean-up, measurements, and final inspection. Darrell felt that the contractor has done an excellent job. The Board's share for the fourth partial payment is \$13,492.27. Darrell also stated that an additional cost-overrun would be approximately \$7,500.00. Moved by Boulton, seconded by Warner, to approve the third and fourth partial payments for the Minett Krantz Structure. Affirmative: Ogaard, Williamson, Boulton, Warner, Kalmes, Bade, Moen, Brooks, Jr., Harste, Peterson, Graba, Kemp, and Cofell. Opposed: None. Carried.

88-147

Coon Creek Watershed District Appeal of Decision in Holasek Case - Chairman Ogaard stated that the Coon Creek Watershed District is appealing the Dispute Resolution Committee's decision in the Holasek case to the Appeals Court. Chairman Ogaard asked if the Board supports the decision of the Dispute Resolution Committee. Mel Sinn stated that he and Paul Strandberg, Attorney General's office, agreed that the Dispute Resolution Committee did not make an administrative decision in the case, but rather acted like a court in deciding the dispute, and, therefore, was not a "party" to the case. Mel summarized the background of the Coon Creek appeal for the Board's information. The records must go to the Appeals Court by October 21. The Dispute Resolution Committee found that the Coon Creek Watershed District did not follow the correct statutory procedures in making a ditch levy. Chairman Ogaard emphasized that the Appeals Court relies on what is brought before it, and if important information is not presented, it is not considered. Moved by Peterson, seconded by Williamson, that the Board is empowered to take discretionary action as appropriate in regard to the Coon Creek Watershed District appeal. Discussion followed. Moved by Brooks, Jr., seconded by Cofell, to table the action on the Coon Creek appeal until tomorrow when the Board has more time to give this matter some thought. Howard Peterson and John Williamson who had made the previous motion concurred to table the action until tomorrow. Affirmative: Ogaard, Williamson, Boulton, Warner, Kalmes, Bade, Moen, Brooks, Jr., Harste, Peterson, Graba, Kemp, and Cofell. Opposed: None. Carried.

Chairman Ogaard asked that Board members submit their evaluations they received in an earlier mailing.

Chairman Ogaard called for a break in the meeting at 10:20 a.m. The meeting reconvened at 10:45 a.m.

Chris Hofstede explained the schedule for following day and a half, and explained that he would be available to comment on his Area 3 report on an individual or group basis (see attached).

Small group break-out assignments were made for the following five natural resource issues:

Land Use Management - Paul Burns, Gene Kalmes, Bill Cofell, Steve Miller, Wayne Edgerton, Franklin Denn, and Don Warner.

Water Quantity Management - Mel Sinn, Jack Graba, Brian Dwight, Darrell Apelgrain, and Dave Peterson.

Nonpoint Source Pollution - Greg Larson, Loni Kemp, Howard Peterson, Lowell Moen, and Duane Johnson.

Groundwater Management - Mark Nelson, John Williamson, Doug Bade, Tom Wenzel, and Hal Anderson.

Wetlands Management - Dan Steward, John Boulton, Denice DeFrates, John Brooks, Jr., Loren Harste, and Jeff Nielsen.

Small groups of both staff and Board members met and discussed these issues until Chairman Ogaard dismissed the meeting for lunch at 12:00 p.m. The meeting reconvened at 1:05 p.m.

Large group discussion took place to exchange ideas, opinions and techniques for dealing with the five natural resource issues. Loni Kemp suggested that Board Representatives consider their clientele more equally. Don Warner suggested that two Board Representatives attend the monthly Board meetings and report on the activities in their region. Chairman Ogaard suggested tailoring state programs to each unique area. Chris Hofstede suggested that Board Representatives bring recommendations to define and consolidate grants to the Board. Loni Kemp felt that there is a need to work toward flexible resource funding to implement local water plans. She also felt that the clean water partnership program needs to be integrated with what the BWSR is doing. Greg Larson asked how we can keep peace between all groups wanting our assistance without alienating some of them.

Loni Kemp stated that the legislature needs to be convinced that more resources and cost-share type funding needs to be made available. Hal Anderson suggested that education and public information are important, and we should shift or acquire new resources for education. Howard Peterson felt that whatever the Board chooses, that we focus and give it an all-out effort. Eugene Kalmes felt that staff should be given more authority to go ahead with things. Board and staff then discussed philosophy regarding where we focus our efforts and how the BWSR serves all the demands and needs of local governments.

Bill Cofell suggested using the media more effectively, as the Big Stone Lake project did by cooperating with educational television. Chris Hofstede stated that it is phenomenal what Lake County has done in working with their youth program. He suggested a more proactive idea exchange between local units of government. Loni Kemp suggested developing an explicit system for the Board to listen to local units, including formal time with Board members, staff, and locals, with written staff reports. Jeff Nielsen suggested that two or three Board members meet with staff in informal small

group sessions to discuss issues in each area. Chris Hofstede felt that everyone has the same problems in one way or another, statewide. He suggested using annual conventions to exchange ideas. John Boulton believes that communication has been successful in his area by using the right person who is interested in that type of thing. Loren Harste suggested giving annual reports verbally to the Board. Loni Kemp suggested visiting the watershed districts that are having problems. Howard Peterson suggested that the Board make a policy format for reporting functions. Chris Hofstede felt that watershed districts should be visited just like soil and water conservation districts are. Although, he stated that there are no watershed districts in his area.

Chairman Ogaard asked if the Board wishes to break the tradition and take a one-on-one approach with the watershed districts. Loren Harste felt that we don't want to waste the time of a part-time watershed district staff person to make an elaborate report for us. John Brooks, Jr., felt that it would benefit the watershed district if they reported to the Board.

Chairman Ogaard called for a break in the large group discussion at 2:50 p.m. The Board then took a bus tour of various areas of northeastern Minnesota.

Thursday, September 29, 1988

Members present: Donald Ogaard, Lowell Moen, Eugene Kalmes, Bill Cofell, John Brooks, Jr., Don Warner, Doug Bade, Howard Peterson, Loni Kemp.

Members absent: John Williamson, John Boulton, Loren Harste, Ken Schellack, James Hoes, Natalie Haas-Steffen, and Jack Graba.

Others present: Duane Johnson, Soil Conservation Service; and Franklin Denn, Minnesota Association of Townships.

Staff present: Jim Birkholz, Mel Sinn, Greg Larson, Wayne Edgerton, Steve Miller, Tom Wenzel, Mark Nelson, Denice DeFrates, Chris Hofstede, Dave Peterson, Jeff Nielsen, Brian Dwight, Darrell Apelgrain, and Mary Jo Anderson.

Chairman Ogaard called the meeting to order at 8:40 a.m. Chairman Ogaard thanked the Carlton Soil and Water Conservation District, Chris Hofstede and others for organizing the tour and appreciated the opportunity of being able to tour northeastern Minnesota.

Jim Birkholz discussed with the Board the resource management needs of northeastern Minnesota. He stated that the cost-share program, private forest management, and streambank, lakeshore and roadside erosion programs had been used on several projects we saw on the tour. He stated that Carlton County is working on a comprehensive local water plan with no outside funding.

Following is a list of potential ideas for BWSR efforts in northeastern Minnesota:

- Pre-road construction involvement in red clay areas, etc...
Solution:
 - erosion control as part of construction
 - make right of way wider
 - more technical specifications
 - coordination between all units of government
- Grants
 - timing a problem
 - consolidated
- Support taxing authority?
 - use of special levy
- Tax issues/tax base and ability to finance resource management programs
- Erosion problem on Great Lakes
 - BWSR on Great Lakes Commission
- Forest Land Management
- SWCD more involved with County
 - formal/informal
 - county board
 - county staff
- Change perception of SWCD program
 - water quality
 - tourism/tax base protection
- Add "miles of shoreland" as grant program criteria
- Coordinate shoreland management efforts
 - BWSR/DNR cooperative effort on grants
- Encourage cooperation through comprehensive local water plans

Don Warner asked for ten minutes on the October Board meeting agenda to show the Board a slide presentation on the Lake Superior shoreline erosion problems.

Staff was asked to contact Ron Nargang, Director, DNR/Division of Waters, regarding the shoreland management efforts DNR.

Chairman Ogaard called a break in the discussion at 10:05 a.m. The meeting reconvened at 10:40 a.m.

The Coon Creek Watershed District appeal of the decision in the Holasek case was brought to the table again. Loni Kemp stated her opposition to active Board involvement in the appeal because she felt that the Dispute Resolution Committee had completed its job and it was now up to the two parties to argue before the Appeals Court. The Board should not have to actively defend the decision of the Dispute Resolution Committee. Chairman Ogaard asked the Board if it supports the Dispute Resolution Committee's decision and if it is willing to defend the findings of the administrative law judge? As stated in the previous motion, moved by Peterson, seconded by Williamson, that the Board is empowered to take discretionary action as appropriate on the Coon Creek Watershed District appeal. Affirmative: Ogaard, ~~Williamson, Boulton,~~ Warner, Kalmes, Bade, Moen, Brooks, Jr., Peterson, and Cofell. Opposed: Loni Kemp. Carried.

Next, discussion on comprehensive local water management as a focal point of the Board's actions:

- Develop formal plan approval guidelines to complement the State Planning Agency handbook
 - involve people involved in planning
- Influence of federal farm programs
- Land use/erosion control
- Plans focus on needs, not available programs.

Ed Beck, Carlton SWCD; Steve Hughes, Aitkin SWCD; and Chuck Niska, Itasca SWCD, reported on 110B planning in their counties.

The Board next discussed its own informational needs:

- More information on DNR activities
 - informal
 - one-on-one
- Interaction with other organizations and other states
- Staff to develop choices for Board to choose from on policy issues (to stimulate discussion)
- Agenda in hands of Board members one week before meeting
- Specify issue information from agencies at Board meetings

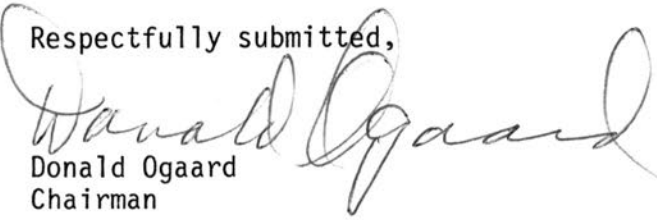
88-149

John Brooks, Jr., commended the staff on keeping the Board informed, as they have done an excellent job. Moved by Cofell, seconded by Brooks, Jr., to send a vote of appreciation for the staff in doing an excellent job. Affirmative: Ogaard, Warner, Kalmes, Bade, Moen, Brooks, Jr., Peterson, Kemp, and Cofell. Opposed: None. Carried.

88-150

Moved by Kalmes, seconded by Brooks, Jr., to adjourn the meeting at 12:10 p.m. Affirmative: Ogaard, Warner, Kalmes, Bade, Moen, Brooks, Jr., Peterson, Kemp, and Cofell. Opposed: None. Carried.

Respectfully submitted,


Donald Ogaard
Chairman



ASSESSMENT OF BOARD OF WATER AND SOIL RESOURCE PROGRAMS IN RELATION TO NORTHEAST MINNESOTA

COST-SHARE PROGRAM

Northeast Minnesota does not have a lot of agricultural land. Thus, the cost-share program is only moderately effective in addressing the needs of northeast Minnesota. The opening up of the Cost-Share Program to include the SLR practice was of much benefit to northeast Minnesota. Many of the northeast counties are large counties and have much road and small populations, thus the tax base is not there to fund proper conservation road work. Several of the projects that do occur in the area are not of the nature that would require large financial expenditure, however the dollars are few and far between and any assistance that the districts can offer is greatly appreciated by the county or the state whichever might be applicable. The addition of this practice to the cost-share program has greatly improved relations between Soil & Water Districts, townships, counties, and state government.

SLR PROGRAM

The SLR Program is right on target as far as addressing the needs of northeast Minnesota. There are many stream bank, lakeshore and roadside problems in northeast Minnesota.

The problem with the SLR program is that it is severely under funded. The lakeshore and stream bank problems that occur in northeast Minnesota, even though they have a severe impact on public waters, are rated low because they are on private lands. Costs are excessively high, oftentimes, the 50% cost-share rate puts many of the projects out of the realm of possibility for a private land owner.

The second problem with this program is the standards and specifications that are required. Present program guidelines allow standards and specifications that are "generally recognized" can be used, however, there are few engineering firms or agencies other than Soil Conservation Service that are willing to provide the often timely engineering that is necessary for the stream bank and lake shore projects. Because of the nature of many of the lakeshore and roadside issues in northeast Minnesota, (watersheds for these projects are quite large) SCS engineering is required to go through several engineering approval steps. Oftentimes engineering takes an excess of two years, simply for the design end of the project. After two years when the project estimates come in and are given to the

90 W. Plato Blvd.
St. Paul, Minnesota 55107
(612) 296-3767

Regional Offices

Northwest Region
1819 Bemidji Ave.
Bemidji, MN 56601
218-755-3963

Northeast Region
Government Service Center
320 W. 2nd Street
Room 603
Duluth, MN 55802
218-723-4752

West Central Region
611 Iowa Avenue
Staples, MN 56479
218-894-1692

South Central Region
Box 756
New Ulm, MN 56073
507-354-2196

Southeast Region
Friedell Bldg., Room 100
1200 S. Broadway
Rochester, MN 55904
507-285-7458

Southwest Region
Box 111
1400 E. Lyon Street
Marshall, MN 56258
507-537-7260

East Central Region
90 W. Plato Blvd.
St. Paul, MN 55107
612-296-3767

landowner, the costs are generally so high that the project is killed. Thus we are not only not solving the problem of the erosion, we are also wasting engineering time and money. I believe the biggest improvement to this program would lie in financial assistance to local units for technical assistance both in the planning phase and in the technical phase. It has been demonstrated that adjustments based on availability of materials, manpower and reducing practice life to less than 40 years, can often cut costs in excess of 90%. Along with this financial assistance in the planning and technical phase should be funds for monitoring so that an analysis can be made of new and innovative techniques for treatment of stream and lakeshore erosion.

MINNESOTA FORESTRY INCENTIVE PROGRAM (MFIP)

Another grant program that is widely used in northeast Minnesota is a Minnesota Forestry Incentive Program (MFIP). This program is made available by the legislature through a Department of Natural Resources and administered by the BWSR. At the local level districts are contacted by the Department of Natural Resources private Forest managers who have had or know of landowners who have a particular forestry related problem such as tree planting, gopher control, access roads, etc. This program is very beneficial to MN Forestry resource and well liked by SWCDs.

Where SWCDs have used mass media to advertise the program there has only been enough dollars to address approximately 10% of landowners' requests. There are three issues that if addressed would greatly improve the program.

1. Reducing the time lag between legislative appropriation of the funds and notification to SWCDs to encumber funds for specific projects. Oftentimes the time delays limit the landowner to 2 months construction time.
2. A great improvement to this program would be additional funding and technical assistance. Additional funding should be sought at a level to be able to honor 75% of landowners' requests.
3. Technical Forestry assistance is presently being talked about in a couple of northeast Districts. Funding be shared by the SWCD, BWSR and the Minnesota Department of Natural Resources. An employee would be brought on as a Forestry/Conservation technician who would have his technical responsibilities in the areas of forestry under the direction of DNR forester and other activities under the direction of the district manager.

OTHER GRANTS

The State also administers a General Service Grant and a Technical Education Grant (the TED grant). These 2 grants are certainly well used by many districts but the accountability of the grants is not of highest standards. It would be beneficial not only to the districts but to the state if these grants were administered on a basis of effectiveness. For instance, districts that have an effective

education plan would be eligible for additional funding. The same logic could be used with the General Service Grant, that district meeting high standards of innovative character, would be eligible for more funding. Conversely the districts that were mediocre in their approach would be in a sense penalized.

SPECIAL PROJECTS

The District Manager Program was aimed at providing funding for the SWCD to hire a district manager where none previously existed. The objective was to demonstrate to the district the value of such a position. Three districts in northeast Minnesota, North St. Louis, Kanabec, and Mille Lacs have participated in the program. In all three cases the districts realize the value and are seeking a permanent source of funding. Although these districts are well aware of the effectiveness of good management in dealing with the resource needs, the counties have been suffering financial hardships and find it difficult to fund manager positions at this time.

A special project within the Cost-Share program was a cooperative effort between the US Forestry Service, Department of Natural Resources, St. Louis County and the North St. Louis SWCD. The project consists of identifying logging skid areas where excessive erosion would take place for several years after the logging operation. In the past, treatment of these areas did not take place because seeding standards and specifications required extensive site preparation (i.e. removal of stumps, brush, etc. to create a uniform seed bed). This project gets around the site preparation issue by broadcast seeding and fertilizing. The objective was to determine what percentage of seed cover or protection would take place on these sites with minimal site preparation. The results of this program have been outstanding not only from the erosion control standpoint, but the creation of prime wildlife habitat. I strongly recommended that this practice be included in the cost-share docket on a permanent basis.

Recent interpretation of cost-share rules make it impossible to use cost-share funds for a special projects that do not strictly meet Soil Conservation Service standards and specifications. Perhaps the greatest improvement to the cost-share program would be to liberalize the cost-share rules and regulations so that it would be open to experimental standards and specifications.

On behalf of Northeast Minnesota, Aitkin and Itasca SWCD applied for and received SLR funds for a special project dealing with lake shore stabilization. The project is aimed at developing uniform methods for dealing with small cut (less than 3') lake shore erosion. At this time success or failure is unknown but it is a success in the sense that we have the opportunity to go beyond present standards to find better ways to deal with our resource concerns.

ENVIRONMENTAL EDUCATION DISSEMINATION SYSTEM

In spite of the large sums of money that are spent protecting and managing our natural resources, we are making little headway in the area of citizen stewardship of our natural resources. Emphasis in the area of natural resources over the past 40 years has primarily been aimed at the resource while little energy has been spent on the consumer. As urbanization and mass marketing have grown, environmental ethics have waned. With a strong environmental ethic instilled in our future decision makers/consumers, natural resource agencies/organizations will not have to sell wise conservation.

THE PRESENT NATURE OF ENVIRONMENTAL EDUCATION

There are several excellent environmental education programs and materials, however, they are not always easy to locate or they are not readily integrated into required curriculums. Because of this, programs such as Project Learning Tree, Ag. Stravaganza, Project Wild, etc. are not being used to their full extent by educators.

THE OBJECTIVE

Development of a cross-referencing catalog (the Hofstede Dissemination System) would enable teachers to find environmental education materials that are adapted as support materials for major required curriculum and establish a system for publishing, delivering and training on the use of the Hofstede catalog.

THE PROJECT

The Board of Water and Soil Resources has been soliciting environmental education materials both nationally and internationally for about four years. In the past year we have begun the process of cataloging environmental materials by their required topic category and target age group. Environmental materials exist for all age levels and range from Acid Rain to Zoophyte Propagation. The next step is to arrange these age categories of major curriculum areas (math, English, social studies, etc.) in a format most usable by educators.

STATE ORGANIZATION AND FUNDING

Inappropriate funding and inconsistent formatting have been the primary factor in a less than optimal environmental education program on both the state and federal level.

Education efforts have been funded through the organization perceived as appropriate (ie: agriculture/USDA or MNDA, ground water issues/MPCA, etc.). Each agency or organization chooses it's preferred method of education. This approach leads to the development of much excellent material in inconsistent formats that are all too often not usable to the teacher.

Environmental education is a long range activity and as periods of short money supply occur, long range issues are put off to deal with

immediate needs. Agency funding often relates to their recordable accomplishments. Education is difficult or impossible to record in "units accomplished per dollar" leaving environmental education as an agency issue incapable of producing immediate returns in terms of funding.

A major portion of the various agencies' (DNR, MNDA, MPCA, BWSR, etc.) education funds should be routed to an agency whose primary responsibility is environmental education. Agencies and legislation requiring education activities would be given time from the Environmental Education Agency rather than money. The Environmental Education Agency would be charged with the development of an environmental ethic in Minnesota. This would be done by disseminating the environmental topics directed by the environmental agency and legislature into required curriculum areas (acid rain would be taught through examples in math, science, history, etc.). By using this method, the state would benefit by being able to dovetail most agencies' issues into a statewide dissemination system that would be backed by a statewide delivery system.

LOCAL DELIVERY

To insure consistent and ongoing local delivery, each school district should have a teacher designated as the environmental education coordinator. This individual should be provided adequate release time and funding to provide fellow teachers with both inservice training and one-on-one assistance.

DEMONSTRATION PROJECT/TESTING

Systems similar but less comprehensive to the Hofstede Dissemination System have been employed by the U.S. Department of Education and other states and proven exceptionally successful. In order to insure optimum effectiveness, a three year demonstration project in Minnesota should be implemented. The first step is to complete the Dissemination catalog. The catalog, at present, consists of 24 three inch volumes arranged by the major curriculum (math, English, art, etc.). Additional materials need to be cataloged into the system and a complete table of contents developed for each grade. This first step would require one and one half staff years of an education specialist (preferably from UMD under the direction of the department chairman and the Board of Water and Soil Resources).

The second step in a demonstration project should be a two year delivery and testing program in three school districts. Results would evaluate acceptance of the Dissemination catalog by teachers and absorption of environmental issues by students. At the end of two years results would be measured by comparison to pretest levels. Again, step two testing could be administered through the UMD graduate education program.

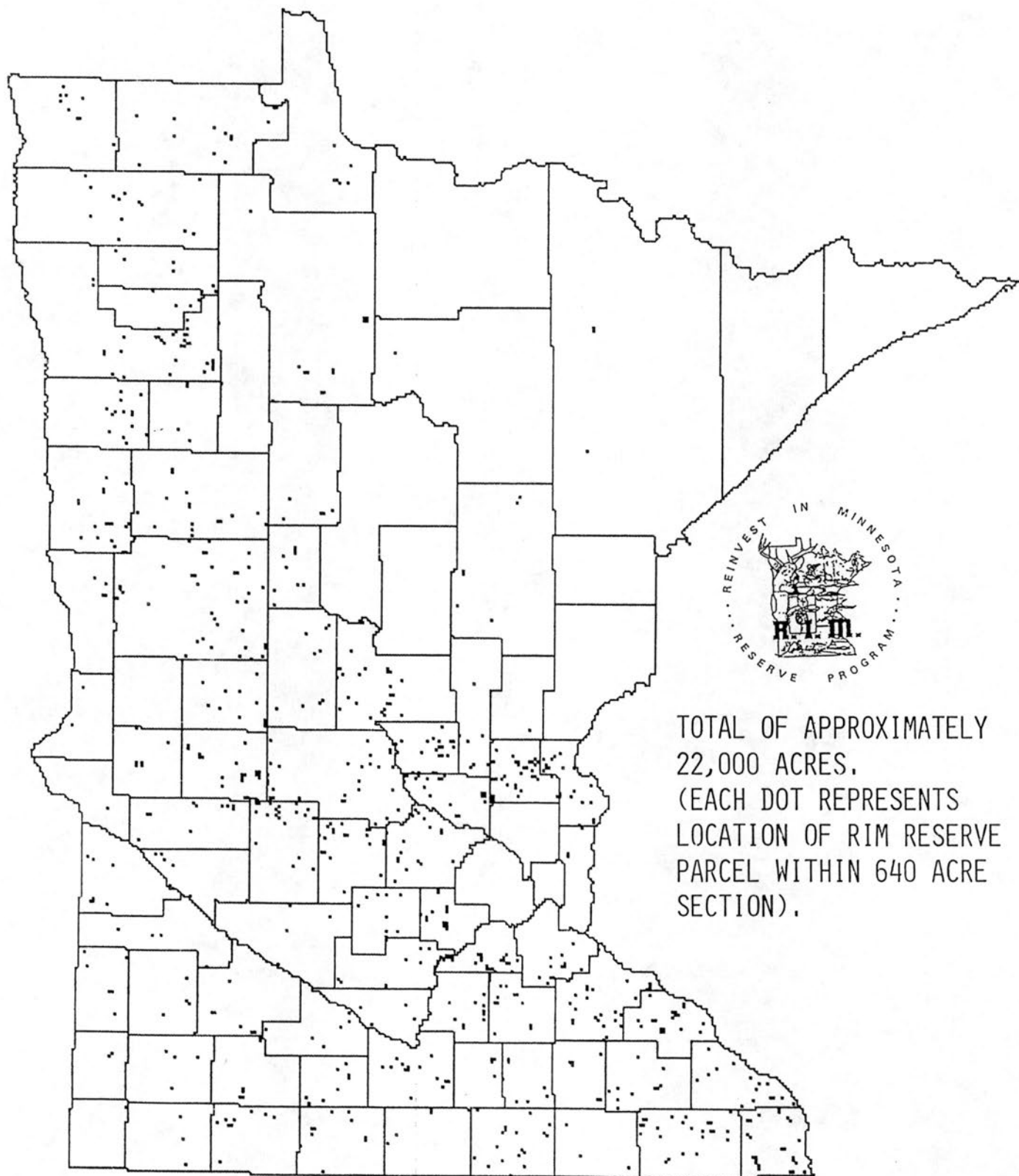
BOARD OF WATER AND SOIL SUPPORT:

Both Watershed Districts and Soil and Water Districts need an increased level of regional staff support.

The board representative position was created in the mid 70's, a time when the board had only one Cost-Share Program and very few district employees to work with. Now in the late 80's, districts can have as many as 8 Cost-Share Programs, 3 to 10 employees, audit responsibilities, as well as a wide range of local issues to deal with. I believe we are doing our primary clientele a disservice by offering new programs, added report requirements and not being able to provide them with regional staff assistance. Districts look to the regional staff for guidance and leadership, a function we are all too often not available to provide due to lack of time.

Now that we are about to enter the 90's, we should at least be staffed to address the needs of the 80's.

LOCATION OF RIM RESERVE ACRES ENROLLED (1986 AND 1987 SIGN-UPS)



TOTAL OF APPROXIMATELY
22,000 ACRES.
(EACH DOT REPRESENTS
LOCATION OF RIM RESERVE
PARCEL WITHIN 640 ACRE
SECTION).

A Strategy for the Wise Use of Pesticides and Nutrients

September 1988

EQB Water Resources Committee

Preface

This document was prepared by the Environmental Quality Board (EQB) Water Resources Committee (WRC) as part of its ongoing efforts to ensure that the state's water resources continue to serve the present and future needs of Minnesotans. It represents the combined efforts of the WRC and WRC Technical Committee. The strategy could not have been prepared without the valuable input provided by the Minnesota Extension Service, University of Minnesota Center of Agricultural Impacts on Water Quality, US Department of Agriculture Soil Conservation Service, Minnesota Plant Food and Chemicals Association, and other organizations and individuals who participated in public meetings and provided comments.

Special thanks is extended to the EQB Advisory Committee on Ground Water Protection for their review and evaluation of the policy directions for the strategy and of the options the state should pursue in addressing contamination associated with the use of pesticides and nutrients. Their insights and unanimous recommendations have guided the development of this proposed strategy and are reflected throughout the document.

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Protecting Minnesota's Waters: A Strategy for the Wise Use of Pesticides and Nutrients

EXECUTIVE SUMMARY

Pesticides and nutrients are widely used throughout society for the control of plant and animal pests and promotion of healthy vegetative growth. The benefits of their use are evident in agricultural production, landscape management, noxious weed control and health protection. These same substances, however, have the potential to contaminate water resources if they are not managed wisely.

Contamination of surface and ground waters resulting from the use of pesticides and nutrients has been observed throughout the United States and in Minnesota. Sources of contamination include spills and leaks, mishandling during application, improper disposal, and use in vulnerable areas. Once contaminated, waters can be difficult and costly to cleanup, making prevention of contamination the most prudent course of action.

Minnesota has a strong history of environmental protection, and has many authorities and programs which serve to prevent contamination of our water resources. These include the pesticide control, safe drinking water, and water pollution control laws and programs. These authorities provide the framework for the state's efforts to address pesticide and nutrient contamination.

As part of its continuing efforts to evaluate state water resources problems and develop policies for dealing with those problems, the Environmental Quality Board (EQB) has prepared a strategy outlining the actions which should be taken to protect water resources from pesticide and nutrient contamination. The ultimate goal of the strategy is to safeguard the health of Minnesotans while ensuring that economic development and environmental protection objectives are met.

Policy Directions

The policy directions were developed to define the course of action to be taken to achieve the strategy goals. These policies call for an integrated approach, recognizing that education, research, monitoring, incentives, regulation and coordination are all necessary, and for reliance on existing authorities and programs. They further emphasize the role of individual behavior and actions in resource protection and the need to focus on overall resource sustainability. Finally, they establish prevention of contamination as the cornerstone of the state's efforts, and nondegradation as the long-term goal toward which program, research and other efforts would be geared.

Initiatives

Specific methods and approaches to be taken to promote the wise use of pesticides and nutrients and protect water resources have been structured around three initiatives.

Information, education and incentives. Wise use of pesticides and nutrients can best be achieved by ensuring that individuals are provided with the necessary education and information to make informed management decisions and to understand the consequences of mismanagement. Specific recommendations include: 1. establishing a water resources education advisory committee to coordinate the development and dissemination of educational materials; 2. Improving and expanding public information and education efforts and training programs; 3. expanding the use of demonstration projects; and, 4. developing financial incentives.

Resource evaluation and research. Additional efforts are needed to improve our knowledge of pesticide and nutrient contamination problems, prevention practices and alternative management approaches, and, therefore, our ability to prevent contamination and advise individuals on wise management. Efforts recommended include: 1. developing and implementing a coordinated monitoring plan to better characterize contamination problems; 2. establishing an interagency and academic technical committee to identify research needs, examine practices and disseminate research results; 3. increasing efforts to identify best management practices; and, 4. continuing research efforts.

Preventive planning and regulatory efforts. Existing authorities and programs directly or indirectly influence the use of pesticides and nutrients and the prevention or mitigation of impacts on water resources. Wise use and prevention of contamination can be fostered through better coordination, application and modification of these efforts. Specific recommendations include: 1. adopting a nondegradation goal and numerical limits and factoring these into existing programs; 2. expanding drinking water protection efforts, including enforcement of the water well construction code; 3. developing a state pesticide management plan to guide prevention efforts and delineate actions to be taken when contamination occurs; 4. integrating pest and nutrient management into existing efforts, including government uses of pesticides and nutrients; and, 5. enhancing control efforts in such areas as the application of fertilizers through irrigation systems and the disposal of wastes.

Funding

Expanding our efforts to prevent contamination of water resources and promote the wise use of pesticides and nutrients requires increased resources and stable funding. Enforcement efforts related to the state Pesticide Control Law are currently supported by fees, and should continue to be so supported.

Funding for overall, nonregulatory efforts such as education, research and monitoring should be broad based, since all users of water, pesticides and nutrients benefit. General fund dollars derived from income and sales taxes, including a possible tax on pesticides and nutrients, should be used for these purposes. Moneys from dedicated funds should also be pursued.

Finally, methods of funding cleanup and pesticide and container disposal should be developed.

Preamble

Water resources are precious and vital to Minnesota's high quality of life and sense of place or identity. The name Minnesota evokes images of abundant streams and lakes and the host of recreational and aesthetic opportunities they provide. These surface water resources are integrally entwined with our abundant ground water resources, which provide drinking water to three quarters of Minnesota's citizens and inflow to our streams and lakes. Together, our surface and ground waters supply us with the water for drinking, swimming, fishing, farming, boating, and industrial processing that we have come to expect.

To fulfill our needs and expectations, our waters must be of high quality. One threat to this quality comes from the widespread use of pesticides and nutrients. Contamination with pesticides and nutrients can impair the uses of our waters and render them unsafe for human consumption. Contamination can also lead to such problems as habitat destruction, overenrichment of lakes, and fish kills. Once contaminated, waters can be difficult and costly to clean up, requiring long-term commitments of resources and disrupting both the environment and human lives.

Minnesotans, however, have come to rely upon these same pesticides and nutrients to maintain agriculture, to control nuisance and health-threatening pests, and to control weeds and promote growth of landscape vegetation. Agriculture and related industries, together with the rural communities which they support, are also key to the state's economic vitality, quality of life and sense of place. Any efforts to influence the use of pesticides or nutrients must be compatible with the well-being of the state's agriculture.

The state has an obligation to ensure that Minnesota's waters are adequate for the economic well-being of future generations, and that they continue to provide for the high quality of life we have come to expect. The state recognizes that its ability to act is greatly influenced by federal actions, including federal farm policies and programs and environmental protection action or inaction. However, we can not afford to rely totally on federal actions, and must reserve the right to both act in the face of federal inaction and be more stringent in our actions when necessary for the good of the state.

Minnesotans have a right to clean, safe water. They also have the responsibility to conduct their activities in a manner that will prevent contamination of water resources. Preserving our quality of life and water resources is the responsibility of all Minnesotans.

The purpose of this document is to set forth a course of action for preventing contamination of water resources due to the use of pesticides and nutrients which will preserve and enhance both our waters and our economy.

Introduction

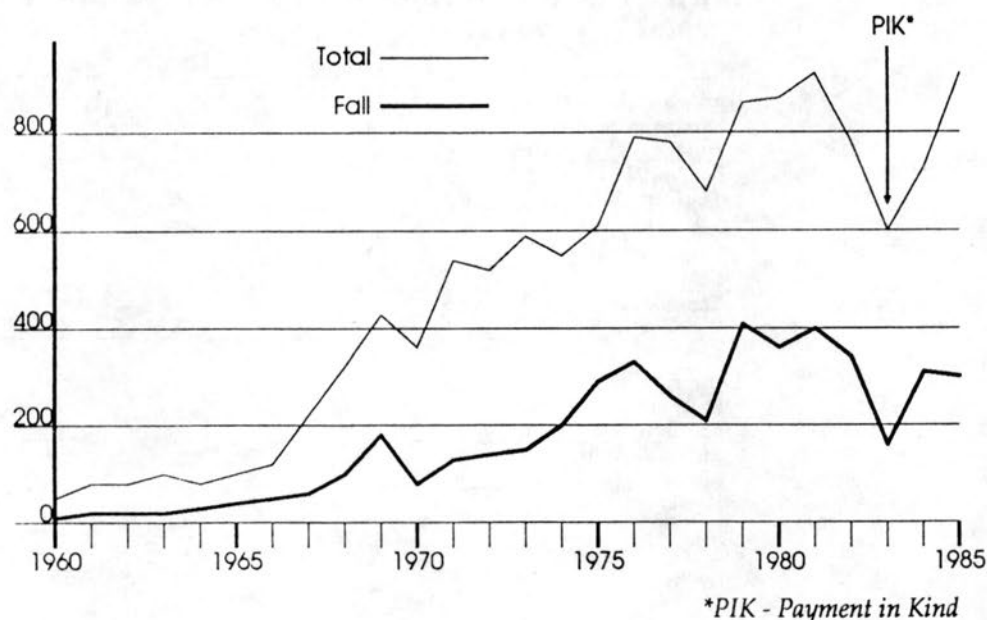
Pesticides and nutrients are used widely in today's society. They are used on cropland and rangeland, on residential lawns, golf courses and parks, on highway and utility rights-of-way, and on nurseries and gardens. To a large extent, we have come to rely on pesticides and nutrients to maintain our agriculture as a major economic factor, to control nuisance and health-threatening pests and organisms, to control noxious weeds, and for cosmetic control of weeds and growth of landscaping vegetation.

Nationally, it is estimated that we are using three times more pesticides today than we did in 1964, with agricultural uses accounting for 79 percent of all uses. The Minnesota Crop and Livestock Reporting Service conducted surveys of pesticide use in Minnesota from 1969 to 1984. These surveys, which did not cover non-farm uses, showed that in 1960, about 72 percent of the corn acreage harvested was treated for weed control, while in 1984, about 97 percent was treated. They further estimated that pesticides were applied at least once to over 16 million acres of cropland.

Urban and other non-farm uses of pesticides are not well documented. Resources for the Future, a Washington D.C.-based research group, developed estimates of pesticides use nationwide for agricultural and selected nonagricultural uses, specifically urban applicators and nurseries. They estimated that 40-45 million pounds of pesticides were applied in Minnesota. Applications to field corn and soybeans dominate the national totals.

Annual Nitrogen Use in Minnesota

In thousands of tons



Minnesota fertilizer use has likewise increased, according to information compiled by the Minnesota Department of Agriculture from sales records. Nitrogen fertilizer use increased from approximately 50,000 tons in 1960 to 850,000 tons in 1985. This increase can be attributed in small part to a 13 percent increase in cropland over the same period, as well as to emphasis on higher yielding, and, therefore, more nutrient-demanding, crop varieties.

The Problem

While the societal benefits of pesticide and nutrient use are many, some of these same chemicals are now being detected in surface and ground waters, posing a potential threat to the use and health of our water resources. Pesticides vary considerably in their toxic effects on humans and other non-target organisms, and have the potential to cause chronic health effects including cancer and birth defects. Some can cause these effects when levels in drinking water are in the parts per billion range. Phosphorus can lead to increased algal populations and weed growth in surface waters, and nitrate in drinking water can cause methemoglobinemia or "blue baby syndrome" in infants, and may be associated with other human and livestock health effects. Further chronic health effects and effects of mixtures of substances are still to be ascertained.

Water resources can become contaminated at any point in the life cycle of a pesticide, including manufacturing, distribution, storage, use and disposal. Contamination can result from spills and leaks at manufacturing or bulk storage and handling facilities, from mishandling during application, and from improper disposal of waste products and unrinsed containers.

Potential Sources of Pesticide and Nutrient Contamination of Water Resources

	Manufacturers/ Formulators	Dealer	User
Spills and Leaks			
Storage areas	X	X	X
Storage Tanks/Pipelines	X	X	X
Loading/Unloading	X	X	X
Transport Accidents	X	X	X
Disposal			
Process Waste	X		
Off-specification material	X		
Cancelled Products	X	X	X
Containers	X	X	X
Rinsate			X
Land Application			
Leaching and runoff			X
Backflow to Irrigation Wells			X
Run-in to Wells, Sinkholes			X
Mixing/Loading Areas			X
Feedlots			X

Contamination may also result from normal pesticide use. Specific properties of a pesticide, together with the specific characteristics or vulnerability of the site at which it is used, determine how easily it can be transported to ground water. For some pesticides and sites the potential is quite low, while for others it is quite high. In addition, pesticides can be transported by surface runoff into streams and lakes, and into ground water through sinkholes and improperly abandoned or constructed wells.

Surface or ground water contamination can likewise result from the use of nutrients, including fertilizers and animal wastes. In addition to site vulnerability, surface runoff transport and other factors associated with pesticide contamination, the time and rate of application are probably the most important determinants. Studies in Minnesota by the Minnesota Pollution Control Agency and University of Minnesota have clearly shown that nitrate losses increase as fertilizer application rates exceed the amount that the crop can use.

The extent of pesticide and fertilizer contamination of surface and ground waters in the nation and state is not well defined. Prior to the late 1970's, it was generally believed that ground waters were protected from pesticide contamination. Consequently, pesticide monitoring was minimal, and was focused on surface water and urban drinking water supplies.

Pesticide monitoring capabilities and efforts have increased in recent years, but have focused on a limited number of pesticides in specific geographic areas. The U.S. Environmental Protection Agency reported that by 1986, 19 different pesticides had been detected in ground water in 24 states, with the contamination most probably resulting from agricultural application rather than spills or other handling problems. Included in the 24 are Minnesota, Iowa and Wisconsin.

Occurrence of Pesticides

MDH/MDA Water Well Pesticide Surveys

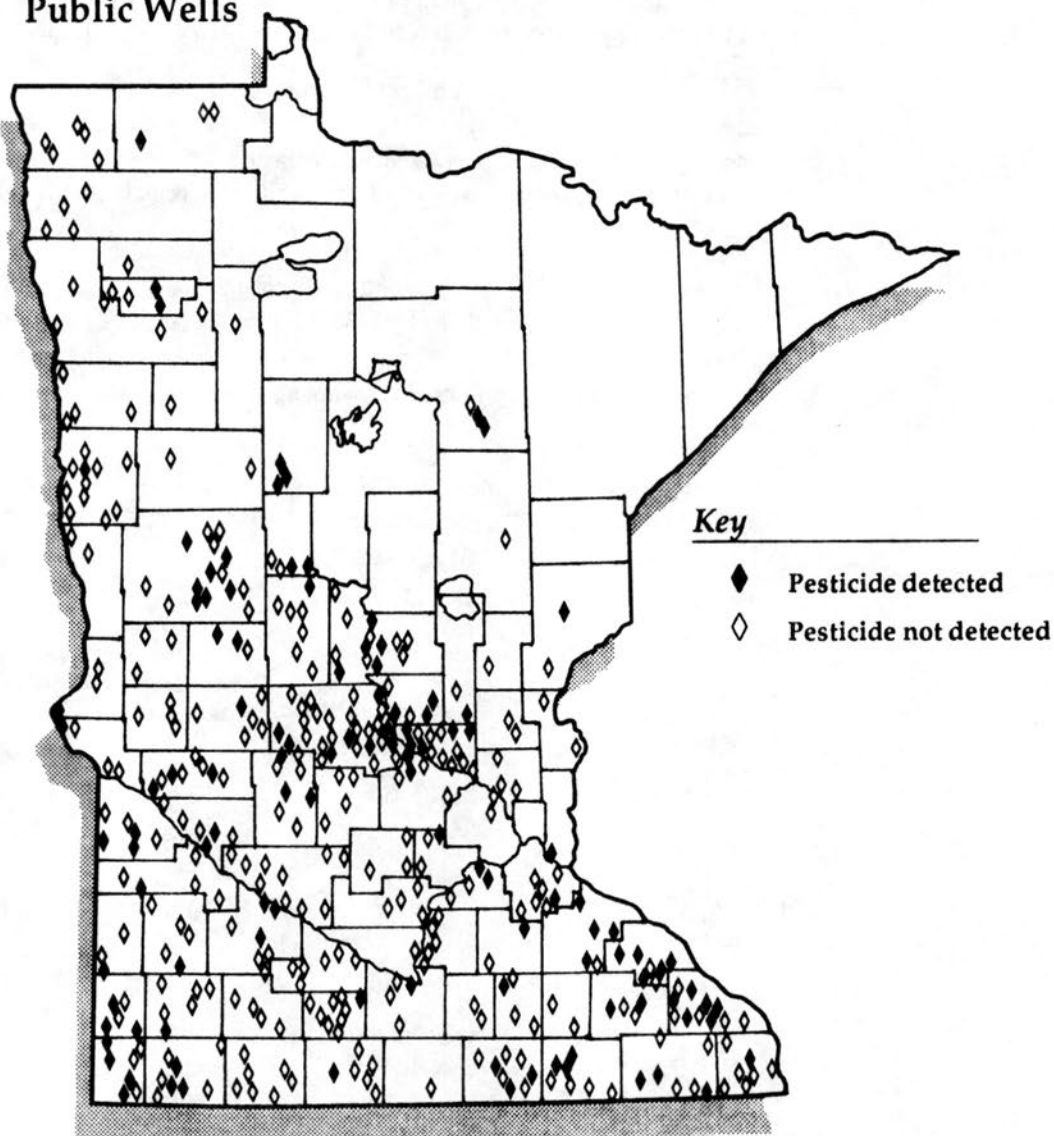
Pesticide	Wells with Detections*	Maximum Concentration (parts per billion)	Recommended Drinking Water Limit (parts per billion)
atrazine	266	42.40	3.0
alachlor	40	9.76	6.0
2,4-D	13	5.70	70.0
metribuzin	8	1.05	175.0
metolachlor	8	2.40	10.0
dicamba	7	2.10	9.0
picloram	7	0.63	490.0
propachlor	6	0.52	92.0
cyanazine	5	2.90	9.0
pentachlorophenol	3	0.64	220.0
aldicarb	2	30.60	9.0
MCPA	2	2.20	3.6
2,4,5-TP	2	0.26	10.0
EPTC	1	0.33	35.0
simazine	1	2.58	35.0
2,4,5-T	1	0.21	21.0

*One or more pesticides were detected in 281 (39%) of the 725 wells sampled

Between July 1985 and June 1987 a cooperative Minnesota Department of Health (MDH) and Department of Agriculture (MDA) survey was conducted in an effort to develop baseline information on the extent of agricultural pesticide contamination in the state's ground water. Over 700 wells were tested, including observation wells located near farm fields and public and private drinking water wells. Wells were generally chosen in places where local hydrogeology made the ground water especially susceptible to contamination.

Pesticides were detected in 39 percent of the wells tested, generally at levels below current guidelines for drinking water. Long-term health implication of ingesting low levels of

Occurrence of Pesticides in Public Wells



pesticides are not known. Sixteen drinking water wells, however, did have pesticide levels higher than the limits currently recommended by the Department of Health.

Pesticides were most commonly found in wells in parts of the state considered to be hydrogeologically vulnerable to contamination. These were wells completed in 1) the karst formations in southeastern Minnesota; 2) the shallow, outwash sand and gravel aquifers in central Minnesota; and, 3) the shallow, alluvial sand and gravel aquifers in southwestern Minnesota. These efforts provide a "snap shot" of our pesticides in ground water situation, and must be expanded and combined with surface water efforts to provide a full picture of the impacts on Minnesota's waters. In addition, urban and other non-farm use areas must be evaluated.

Nitrate contamination has also been observed. In the above survey, MDH and MDA found that 42 percent of 199 private drinking water wells and 7.1 percent of 395 public water supply wells had nitrate concentrations in excess of drinking water standards (10ppm). Data from Winona and Olmsted counties indicate that nitrate contamination is increasing in deeper aquifers.

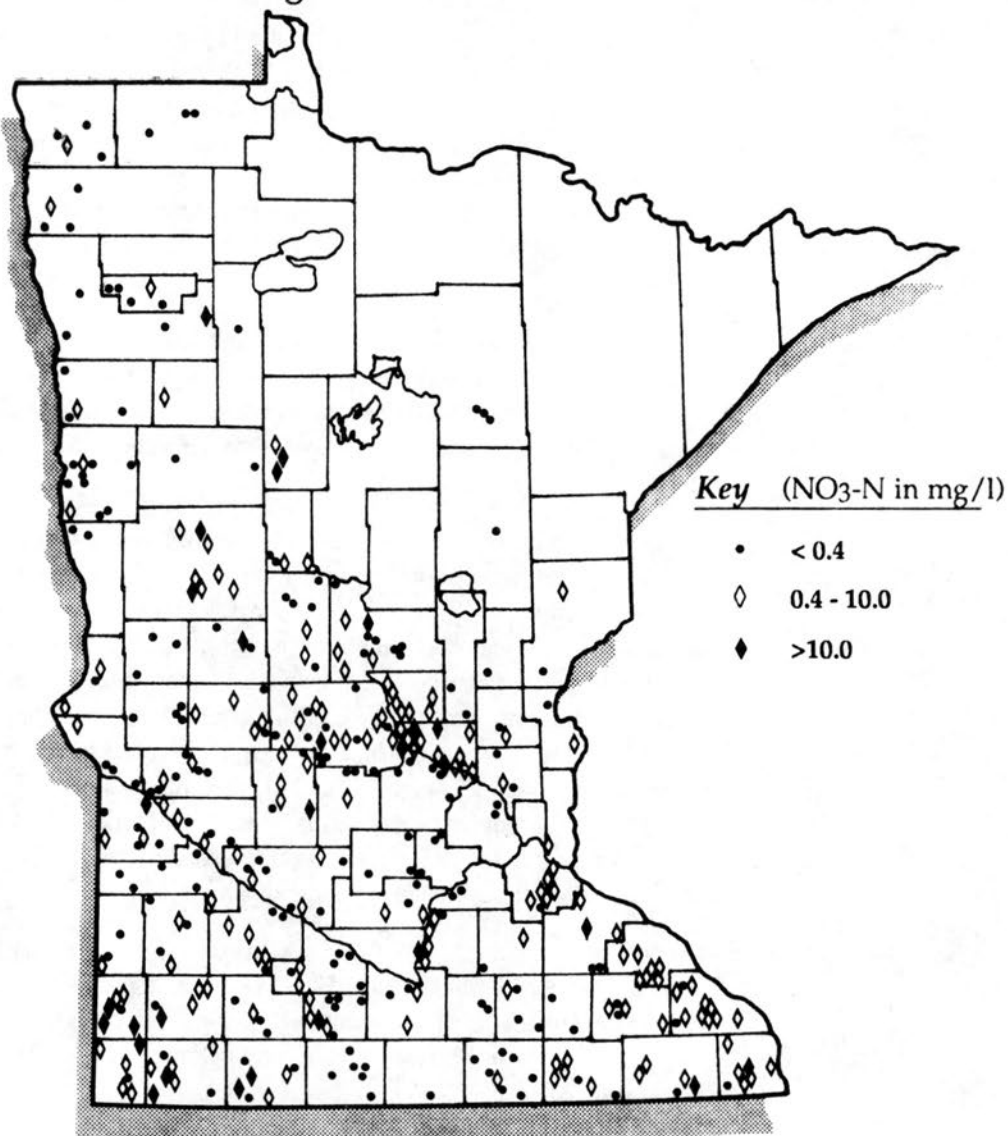
Nitrate contamination is not new to Minnesota, and was observed in an investigation of water supplies which were reported to be, or suspected of being, involved in cases of methemoglobinemia in the late 1940's. The investigation followed indications that the condition was widespread in certain rural parts of the United States. None of the wells investigated had nitrate concentrations below the current drinking water standard, and none of the wells was both constructed and located satisfactorily, as judged by Minnesota Health Department standards. Problems included locating too close to barnyards and cesspools. A comparison of rural school wells and similarly constructed nearby farm wells indicated that nitrate content of school well water was less than that of farm wells, further highlighting the importance of location. At this same time, 3.1 percent of the 514 municipal supplies in the state were found to contain 10ppm or more of nitrate.

The Minnesota Pollution Control Agency, using data collected primarily by the PCA and U.S. Geological Survey between 1978 and 1986, compared ground water quality in surficial sand aquifers in limited, moderate and intense agricultural counties. Analysis showed elevated levels of nitrate in the moderate and intense agricultural areas, as compared to the limited agricultural areas.

Additional studies by the USGS have also explored influences of land use practices on ground water quality in surficial sand aquifers in several Minnesota counties. In one study, they found that 1. nitrite plus nitrate nitrogen levels had increased in local agricultural areas when comparing 1978 and 1979 data with that from the mid to late 1960's; 2. high concentrations of agricultural chemicals were found following major recharge events; and 3. concentrations of nitrite plus nitrate nitrogen increased significantly downgradient from major agriculture and irrigation areas. In other studies, USGS found concentrations of nitrate to be higher in irrigated and residential areas as compared to non-irrigated cultivated and undeveloped areas.

Surface water impacts have also been noted by the PCA. Through their routine monitoring program, PCA has noted increasing concentrations of nitrate and suspended solids over the

Occurrence of Nitrate-Nitrogen in Public Drinking Water Wells



past twelve years, particularly in areas of intensive and extensive agricultural activity and urban development. In addition, based on monitored and evaluated data, nutrients were found to be the only pollutants causing nonsupport of designated uses of Minnesota's lakes.

The Programs

Recognition of the importance of environmental protection to our economic and physical well being has been an evolutionary process. As the demands we placed on the environment increased through increased population and increased use of the land and its natural resources, we came to realize that the bounty of the land was not limitless. We could no longer move on to a new spot when the waters or lands became despoiled with our wastes, because the new spots were already occupied. We were forced to face the consequences of our impacts on the environment and devise ways to minimize those impacts.

This evolutionary process was furthered by an increased understanding of the magnitude of our impacts. Increased efforts to monitor our environment continue to increase our knowledge of the extent of our impacts. Enhancement of analytical techniques has enabled us to detect contaminants that we previously had thought were being kept out of the environment. Increased research in toxicology and environmental health has led to a better understanding of the links between what we eat, drink and breathe and our health. Finally, we have gained a better understanding of the interrelationship of organisms within a community and how impacts on one member can impact the whole.

State and federal laws and programs have developed and expanded along with our identification and understanding of contamination problems. They began as efforts to address overall nuisance and sanitation, and have evolved to form the basis of our efforts to ensure that our waters are suitable for aquatic habitat, recreation, and consumption. These current programs provide an excellent framework for increased efforts to protect water resources from contamination caused by the use of pesticides and nutrients. Our efforts to address these impacts have evolved along with our overall water resource protection efforts.

Federal Efforts

Federal efforts to address water resource contamination issues began primarily in the early 1970's. This period saw the passage of three major pieces of legislation that form the basis for our efforts to protect water resources from pesticide and nutrient impacts: the Federal Water Pollution Control Act (Clean Water Act), the Safe Drinking Water Act, and the amendments to the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). Solid and hazardous waste efforts were also advanced by the end of the decade with passage of the Resource Conservation and Recovery Act covering the tracking of hazardous wastes from cradle to grave and solid waste disposal requirements, and the Comprehensive Environmental Response, Compensation and Liability Act (Superfund) dealing with releases of hazardous wastes.

The primary agency for pesticide management and regulation of water quality impacts of pesticides and nutrients at the federal level is the US Environmental Protection Agency (EPA). Pesticides are regulated by EPA through the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA). First enacted in 1947 to primarily deal with issues of interstate commerce, it was amended in 1972 to include issues related to potential chronic health effects, adverse ecological effects and environmental fate. More recently, EPA has begun to address ground water concerns and to evaluate the potential of pesticides to leach.

The act covers classification, registration, sale, use and disposal of pesticides, and provides that pesticides must be registered and must have labels detailing how the product may be used. It also establishes certification requirements for persons desiring to use pesticides.

Through FIFRA, EPA must evaluate pesticides to determine if benefits of use outweigh risks. Many pesticides in use today, however, were in use prior to the current FIFRA requirements. These must be reevaluated to determine necessary restrictions. The process is slow, however, and products may continue to be used during this reevaluation.

Pesticides and nutrients are also regulated by EPA through the Safe Drinking Water Act, which provides for regulation of public drinking water supplies and requires monitoring of those supplies to ensure compliance. The act was passed in 1974, to replace a previous program governing standards for water use in interstate commerce. Surveys in the early 1970's had shown that many water supplies were not meeting these standards.

Through the Safe Drinking Water Act, EPA sets drinking water standards and requires specific treatment technologies. Currently, there are standards for only six pesticides; however, 1986 amendments to the act require the regulation of an increased number of parameters by 1989, including over 20 pesticides. The amendments further call for development of wellhead protection areas around wells in public drinking water systems.

Regulation is also afforded through the Clean Water Act, which covers such areas as water quality standards, feedlot regulation and the control of point and nonpoint sources of pollution, such as agricultural runoff. While amended in 1977 to cover nonpoint source pollution control and the development of strategies for ground water protection, the main emphasis was on surface water and control of point sources of pollution through permit and grant programs.

Progress toward the act's goal of restoring and maintaining the chemical, physical and biological integrity of the nation's waters has been significant. In Minnesota, control of point source discharges has led to major water quality improvements in streams and lakes. However, there is a growing recognition that further improvements and attainment of the goals will require control of nonpoint sources. Amendments to the act in 1987 call for the development of nonpoint source management programs to address surface and ground water.

EPA efforts to address issues of pesticide and nutrient contamination have also extended to development of strategy and guidance documents. These have included: 1. "Protecting Ground Water: Pesticides and Agricultural Practices", which presents an evaluation of impacts of various agronomic, irrigation and pesticide application practices; and, 2. "Agricultural Chemicals in Ground Water: Proposed Pesticide Strategy", which presents EPA's approach for addressing the pesticides in ground water concern. EPA intends to develop a proposed approach for addressing fertilizer and ground water concerns in the near future.

The US Department of Agriculture is also involved in pesticide and nutrient management, and offers educational programs and financial and technical assistance for nonpoint source pollution control. Past environmental protection efforts within USDA have emphasized

erosion control and soil conservation. However, water quality has been recognized as a priority issue and is becoming an integral part of ongoing efforts.

USDA research efforts, and cooperative efforts with state extension services and universities, provide on-site evaluation of management practices, the results of which are conveyed through publications and field days. Water quality is also becoming more integral to these efforts. State extension services are also instrumental in developing materials for use in pesticide applicator training sessions.

State Efforts

Environmental protection is a long-standing tradition in Minnesota. The state's first law to prevent pollution of rivers and other sources of water supply was enacted in 1885, and the first law to require dischargers to obtain permits was enacted in 1945. These efforts, which focused on surface waters and point sources of pollution, were augmented over the years as new information on threats to our water resources became evident.

Recognition of problems and potential impacts has led to creation of the Pollution Control Agency in 1967, passage of the water well construction contractor licensing law in 1971, passage of the pesticide control law in 1976, and passage of the safe drinking water act in 1977, to name but a few. We now have laws, programs, rules or guidelines that cover many of the threats to our waters.

There are four principal agencies in the state involved in protecting our waters from pesticide and nutrient contamination: the Departments of Agriculture (MDA), Health (MDH), and Natural Resources (DNR), and the Pollution Control Agency (PCA). These agencies are responsible for implementing state legislation and also take an active role in the implementation and enforcement of federal legislation.

MDA is the lead agency for regulation of pesticides in Minnesota. It has authority through delegation from EPA under FIFRA and through the state Pesticide Control Law. MDA is responsible for the regulation of the distribution, use, storage, handling and disposal of pesticides, rinsates and containers. It administers the state's certification, licensing and training programs and has the authority to deny, cancel or restrict the use of products.

Amendments to the state Pesticide Control Law in 1987 significantly enhanced MDA's enforcement abilities and expanded its ground water protection responsibilities. The amendments further established a pesticide regulatory account and imposed fee increases to ensure that funding for administration and enforcement of the law was adequate. The law prohibits pesticide use that will cause unreasonable adverse impacts on the environment.

DNR becomes involved when pesticides are applied to public waters. DNR maintains a list of aquatic herbicides and algicides that it approves of, and issues permits for the use of pesticides in public waters. MDA provides financial support to DNR for its enforcement efforts, and DNR assists MDA with training and testing of aquatic pesticide applicators. DNR is also responsible for the state's efforts to control the proliferation of purple loosestrife.

The Programs

Pesticide management and regulation of water quality impacts of pesticides and nutrients resides primarily with four state agencies.

Minnesota Department of Agriculture

- Lead agency for regulation of pesticides
- Regulates distribution, use, storage, handling and disposal of pesticides, rinsates and containers
- Administers certification, licensing and training programs
- Can deny, cancel or restrict the use of a pesticide
- Regulates the registration, storage and handling of fertilizers

Minnesota Department of Health

- Regulates public drinking water supplies
- Administers the state's well construction/abandonment requirements
- Issues drinking water standards
- Develops health advisories where no standards exist

Minnesota Department of Natural Resources

- Approves registration of aquatic pesticides
- Issues permits for use of pesticides in public waters

Minnesota Pollution Control Agency

- Overall regulation of surface and ground water quality
 - Classifies waters and sets standards
 - Regulates feedlots, disposal of wastes, storage facilities and nonpoint source pollution
-

MDA also has authority to regulate the registration, storage and handling of fertilizers. This includes the requirement that commercial applicators maintain records of amounts applied. No agency has authority over the rate of application of fertilizers. Application rates for animal wastes are only regulated in connection with PCA feedlot permits. Manure management plans are required with these permits, and must provide for the application of manure at agronomic rates.

MDH has authority under the federal and state safe drinking water acts to regulate public drinking water supplies for protection of public health. This includes adoption of drinking water standards and protection relative to pesticide and nutrient contamination. MDH also is responsible for enforcement of the state's water well construction and abandonment code and develops health advisories for contaminants in situations where no standards exist.

PCA's authorities derive through the federal Clean Water Act and state statutes, and cover broad overall regulation of surface and ground water quality. Its authorities include classifying waters and setting standards for all parameters, and extend to regulation of discharges from municipal and industrial facilities, feedlots, disposal and management of solid and hazardous wastes, storage facilities and nonpoint source pollution control.

Current PCA rules regarding ground water stress nondegradation, or prevention of contamination. The rule allows for such activities as the use of septic systems and agricultural chemicals and fertilizers, provided that such use does not pose a significant pollution problem.

PCA is also responsible for preparing the state's ground water protection strategy and nonpoint source management plan. They administer the state's Clean Water Partnership

program which, together with the cost-share programs of the Board of Water and Soil Resources, provide funding to address nonpoint source problems.

Relationship of Strategy to Other Efforts

This strategy and its policies and recommendations are directed toward the wise use of pesticides and nutrients. While necessary, these policies and recommendations are not adequate in and of themselves to ensure that our water resources are protected. They must be coupled with other state, federal and local efforts to control sources of water pollution. These include efforts related to septic systems, municipal and industrial discharges, waste disposal, and even air emissions that lead to deposition of pollutants on our land and in our waters. These other efforts must be continued and enhanced as well.

The strategy builds upon past state water planning efforts, including EQB's "Protecting Minnesota's Waters: An Agenda for Action in the 1987-1989 Biennium". It is part of EQB's continuing efforts to evaluate state water resources problems and develop policies for dealing with those problems.

The strategy was developed in conjunction with development of the state's "Ground Water Protection Strategy" and "Nonpoint Source Pollution Management Program" and is intended to expand upon the recommendations of those efforts in the area of pesticide and nutrient use. The state's strategies and water resources programs and efforts will continue to be reevaluated through the interagency and citizen forum provided by the EQB in order to ensure that they continue to address Minnesota's current and future needs.

The Strategy

Goal of the Strategy

To safeguard public health and protect water resources from pesticide and nutrient contamination, while maintaining a strong economy.

Policy Directions

In considering how to address problems associated with the contamination of Minnesota's water resources due to the use of pesticides and nutrients, the Environmental Quality Board Water Resources Committee proposes nine basic policies. These policies define the course of action to be taken to achieve the overall goal of protecting Minnesota's water resources from pesticide and nutrients contamination. These policies build upon the framework established in the Minnesota Ground Water Protection Strategy.

1. ***An integrated approach must be pursued.*** No single effort or initiative can be expected to alone achieve the desired results. Education, research, monitoring, incentives, regulation and coordination are all vital parts.
2. ***Individual behavior and actions must be modified.*** Changing the ways in which pests and nutrients are managed requires changing individual behavior and actions. These modifications in turn require that individuals have the necessary information to make wise management decisions. Individuals must be better educated in the consequences of use and misuse of pesticides and nutrients, and alternatives to existing approaches. In addition, motivations and incentives should be provided as a means for changing behavior and actions and encouraging the use of best management practices.
3. ***Land stewardship and resources sustainability must be emphasized.*** Pest control and nutrient management decisions can have an influence on water resources that extends beyond the geographical and temporal framework in which the decisions are made. The citizens of Minnesota have a responsibility to be good custodians of the state's water resources and to ensure that actions taken today do not jeopardize the health and welfare of future Minnesotans. Education and policy efforts should, therefore, stress an overall land stewardship ethic, and emphasize resource sustainability and long-term profitability. Research efforts should emphasize alternative pest control strategies and optimizing pesticide and nutrient use.
4. ***Prevention must be the cornerstone.*** The cleanup of water contaminated by pesticides and nutrients can be costly and technically complex, and with respect to widespread contamination of ground water, may be economically and technologically infeasible. In addition, provision of alternative water supplies or treatment, where cleanup is not feasible, is also costly and may be impractical where contamination is widespread. Consequently, contamination of water resources by pesticides and nutrients must be prevented to the maximum extent possible.
5. ***Nondegradation must be the goal.*** Nondegradation, meaning prevention of further contamination, must be the policy goal of the state in dealing with potential sources of

contamination. This means that impacts should be prevented to the maximum extent practicable even in situations where waters have already been impacted by human activities. All programs, research and other efforts must be geared toward attainment of this goal. This will lead to the development of better and better practices, taking us ever closer to the nondegradation goal. We should be striving to keep the pesticides and nutrients we use on target and out of our waters.

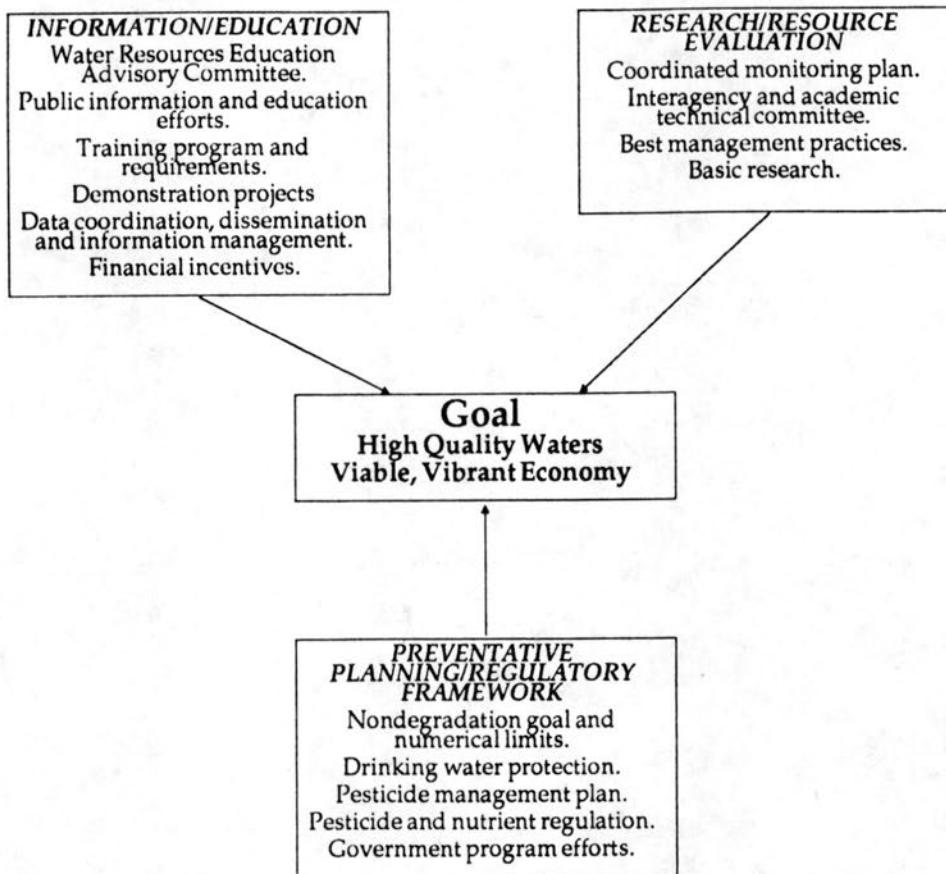
Synthetic pesticides are not a naturally occurring constituent in waters. In addition, while nitrates are found naturally in waters, elevated levels can be induced by human activities. The presence of pesticides in surface or ground waters or of nitrates beyond natural background levels is considered to have lowered or degraded the quality of those waters.

6. ***Degradation must be met with action.*** Due to the potential problems of environmental and health risks, and the difficulties associated with cleanup, instances of degradation can not be disregarded. All instances of degradation must be met with appropriate actions to prevent further degradation. These actions may include investigations, evaluations, education, enforcement actions, land use and land management changes, active cleanup, and/or environmental correction or restoration.
7. ***Actions must be geared toward environmental and health protection.*** The particular actions appropriate in instances of degradation must be determined, and priorities for taking action must be established. State priorities for action and the levels of cleanup required must be based on acute and long-term or chronic health risks, environmental protection and maintenance of other beneficial water resource uses. Health and environmental protection based numerical limits must serve as the upper limit for activities and as cleanup levels.
8. ***Existing framework should be retained.*** Minnesota has a strong history of environmental protection, and has developed excellent agencies and programs to protect our water resources. We should build upon this existing framework of agencies and programs when increasing our efforts to protect water resources from contamination caused by the use of pesticides and nutrients.

Specific methods and approaches to be taken in protecting water resources from contamination by the use of pesticides and nutrients have been structured around three initiatives:

- I. To provide the public, decision-makers, regulators and the regulated community with necessary information, education, and incentives.
- II. To enhance the current body of knowledge of pesticide and nutrient contamination problems, prevention practices and alternative management approaches.
- III. To enhance preventive planning, corrective actions, and regulatory efforts.

Preventing Pesticide and Nutrient Contamination



Initiative I

To provide the public, decision-makers, regulators and the regulated community with necessary information, education and incentives.

The USEPA has suggested in its 1988 report entitled "Protecting Ground Water: Pesticides and Agricultural Practices", that ground water can be protected from pesticide contamination through measures aimed at: 1. preventing spills or eliminating pathways of contaminant entry into ground water; 2. avoiding application when conditions are most likely to promote leaching; 3. using products with less potential to leach; and 4. reducing the quantities of pesticides used. Measures include careful timing of application relative to climate, crop economic thresholds and pest cycles; crop rotation; proper maintenance and calibration of application equipment; and mechanical cultivation. These sorts of measures, and corollary measures for addressing surface water and nutrient contamination issues, to a large extent rely upon voluntary actions of individuals.

Wise, responsible and reduced usage of pesticides and supplemental nutrients can best be achieved by ensuring that individuals are provided with the necessary education and information to make informed management decisions and to understand the consequences of mismanagement. Overall environmental and stewardship education and information is necessary, as well as specific efforts geared toward pest control and nutrient management. In addition, incentives can be a useful tool to promote and reinforce desired behavioral changes.

Overall Environmental Protection Recommendations

Environmental protection requires voluntary actions by individuals. Such voluntary actions, however, can only be expected if individuals understand the consequences of their actions and the importance of environmental protection to the future quality of life and economic vitality of Minnesota. Efforts to foster environmental awareness and stewardship of the land and resources will have positive impacts on preventing pesticide and nutrient contamination problems, as well as overall environmental benefits.

Support and expansion of the recommendation of the "Minnesota Ground Water Protection Strategy" and "EQB Task Force on Environmental Education" dealing with environmental education will serve to foster this overall awareness.

Recommendations

1. The Legislature should enact a Statement of Policy establishing information and education as a vital component of overall environmental protection, and commit funding to environmental stewardship and ground water information and education programs.
2. The Minnesota Environmental Education Board (MEEB) should establish a Water Resources Education Advisory Committee to coordinate the development and dissemination of environmental education information. This would include efforts related to ground water, pesticides, nutrients and overall environmental stewardship. The committee should be broadly based and should provide for input from state agencies, MnExt, the University of Minnesota and other educational institutions, and private and

public specialists in education, information and technical fields. The committee's activities should be coordinated with those of the Environmental Quality Board (EQB), and should be performed consistent with EQB priorities and policies.

Specific tasks should include: a) identifying informational needs, b) seeking ways to obtain information, c) ensuring that environmental/health aspects of pest and nutrient management are integrated into educational programs, d) ensuring that research is factored into educational materials quickly, and e) recommending deletion of obsolete materials.

3. The Water Resources Education Advisory Committee should develop and disseminate curriculum and in-service training for teachers at both the primary and secondary education level.
4. Education/training sessions should be conducted for all agencies' staffs on overall state and federal pollution control regulations. These should be offered on a regular basis as part of the state's training efforts, and should be part of the orientation program for new employees. Department of Employee Relations should work with appropriate state agencies to prepare these sessions.

Pesticide and Nutrient Management Recommendations

Issue	<i>Improve and expand public educational and informational efforts.</i> State agencies (including MDA, Pollution Control Agency (PCA), and Minnesota Department of Health (MDH)), federal agencies, local agencies (including counties and soil and water conservation districts), and the Minnesota Extension Service (MnExt) are actively involved in training efforts within the state. MnExt is the primary source of information and training for the public on pest control and nutrient management. By building upon and coordinating the work of these agencies we can improve and focus our efforts.
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Recommendations ***General Public Education and Information:***

Pesticides and nutrients are widely used throughout Minnesota on such areas as farms, lawns, lakeshore property, parks, forests, and highway rights-of-way. Broad-based general educational efforts are required in order to reach all potential users. Educational efforts should promote overall stewardship; should focus on reducing and optimizing fertilizer and pesticide use and on alternatives; and should be updated regularly to reflect the most recent research and practice identification efforts. MDA, MDH and MnExt, in cooperation with the MEEB Environmental Education Committee, should expand general information and education efforts on fertilizer use and pest control. They should:

1. Develop general public information/education materials on safety precautions, overall environmental concerns, integrated pest management, and alternatives for such uses as advertising in farm journals, TV spots, billboards and pamphlets in stores.
2. Develop educational and informational materials, to be available for free at dealerships and

stores and for display, to help users understand label restrictions and be aware of safety and environmental concerns and precautions.

3. Increase risk communication efforts by developing materials to inform the public of the risk of exposure, comparative risks and risk avoidance techniques.
4. Foster development of courses and course materials on pest and nutrient management through such avenues as UM Continuing Education, Department of Conferences and Professional Development, and community colleges.

General education should also be fostered through continued legislative encouragement for establishment of the Sustainable Agriculture Chair or a Sustainable Agriculture Center at the University of Minnesota, and urging for the integration of sustainable agriculture principles throughout the university system, including MnExt and Experiment Stations.

Target Group/Issue Specific Education and Information:

Significant responsibility rests with the user of a pesticide or nutrient in determining when, where and how to use a particular product, and how and where to dispose of any waste products and containers. The U.S. Environmental Protection Agency (EPA), in its "Agricultural Chemicals in Ground Water: Proposed Pesticide Strategy", has suggested that as more restrictions on use of pesticides are developed relative to hydrogeologic sensitivity, users will be relied upon to determine when these restrictions apply. Any assistance that can be provided to users in making such decisions should benefit both the individual and the public at large. The following efforts should be undertaken in cooperation with the MEEB Water Resources Education Advisory Committee:

1. ***Develop and expand information systems and programs to assist pesticide and nutrient users.*** Efforts should be expanded to ensure that accurate and consistent information is available at the local level on recommended application rates and possible environmental impacts. This specifically includes:
 - a) Implementation of the soil laboratory certification program by MDA;
 - b) Requiring that information on the harmful results of mismanagement or overuse be included with all soil test results;
 - c) Encouraging completion and implementation of a system for providing landowners with pesticide and nutrient recommendations and information on hydrogeologic sensitivity through SCS and SWCD offices. SCS is currently developing a procedure through UM that will allow landowners to receive pesticide and nutrient recommendation through SCS and SWCD offices consistent with those given by MnExt. This procedure should be completed and implemented.

In addition, the procedure should be expanded into an overall information system to provide landowners with information on hydrogeologic sensitivity. The system would assist landowners in determining if particular future product label restrictions, such as depth to water, apply to their situation, and in selecting best management practices.

The system should include such information as soils, depth to water, depth to bedrock, and

presence of sinkhole and wells. It should be based on integrated, automated data bases, and be compatible with existing data management systems. Methods of involving dealers and private organizations in such a system should also be explored. The effort should be cooperative and draw on PCA sensitivity assessments, UM and MGS hydrogeologic efforts, SCS systems development, and ARS modeling efforts. SPA should be involved in system design to ensure overall compatibility with existing data management systems.

System development should be pursued in priority areas identified through the state nonpoint source pollution control plan and pesticide management plan, and in conjunction with demonstration farms or watersheds.

2. ***Intensify promotion of soil and manure testing.*** The Minnesota Department of Agriculture (MDA) and MnExt should prepare promotional materials and conduct promotional campaigns to show the importance of soil and manure testing and encourage it as a routine practice. Campaigns should be conducted in conjunction with agricultural field days and county fairs and should be targeted to priority areas, as delineated in the pesticide management plan and nonpoint source pollution control plan, and to demonstration project areas. Effort should include providing information on the environmental and economic costs of having used amounts above recommended levels and providing tests at reduced rates.
3. ***Expand pest survey.*** Surveys undertaken by MDA and MnExt to determine the levels of pest populations and dissemination of information so that actions to control pests are taken at appropriate times are integral to an effective integrated pest management (IPM) program. While these efforts received increased funding through the '88 legislative session, consistent sustained funding is required. Necessary efforts should be delineated in the state IPM Approach, recommended in Initiative III, and should be coordinated and integrated with efforts of private pest consultants.
4. ***Develop informational brochures on disposal and handling.*** MDA, PCA and MnExt should cooperatively develop brochures for the various container types covering the regulations and procedures which apply to pesticide and container storage, handling and disposal, and the options users have in complying with those regulations. Emphasis should be placed on the environmental and economic problems associated with current pesticide and container disposal practices, and should include information on storage to prevent waste generation and contamination, disposal practices on private land, and triple rinsing. Brochures should be made available to pesticide users at time of sale and through MnExt offices. Brochures should also be distributed to landfill owners to increase awareness of triple rinse and disposal requirements.
5. ***Develop brochures for homeowner and urban users.*** MnExt, in cooperation with MDA and DNR, should develop informational materials directed specifically at homeowner and urban users of pesticides and fertilizers. Materials should emphasize safety, disposal, alternatives, and potential environmental impacts, including lake eutrophication. Materials should be made available to municipalities for distribution through water bills and other local mailings, and to state and local agencies.

6. ***Develop informational materials on alternatives and sustainable agriculture.*** MnExt should develop additional materials on alternatives for agricultural, home and other uses of pesticides. These should include organic agriculture, gardening and landscape maintenance, and sustainable agricultural systems. Materials should be updated regularly based on research results.
7. ***Develop a water quality assessment system.*** Efforts are currently underway within the PCA, USDA and MnExt to evaluate or devise ways to evaluate the water quality impacts of management practices. The Center for Agricultural Impacts on Water Quality should promote and coordinate these efforts to finalize and implement a water quality assessment system for evaluating practices. The system should be based on existing models and should be used by SCS and SWCD personnel in developing conservation plans, evaluating practices, and working with landowners to upgrade conservation plans. Emphasis should be placed on application in priority areas and demonstration projects.

Issue

Expand and enhance training programs and requirements. Training programs are established by MDA, in cooperation with MnExt, to ensure that users of pesticides in the state maintain a sufficient level of competency and ability to use pesticides properly and safely. Commercial applicators of pesticides, dealers of bulk and restricted use pesticides and other applicators of restricted use pesticides are required to attend these training courses, or to demonstrate competency through examination. These training programs offer an important opportunity to educate users of pesticides on the latest information on risks and environmental impacts.

In addition, the numerous rules and programs that impact or influence pest and nutrient management are contained within different agencies and different divisions within agencies. In order to serve the public and promote sound management, agencies' staffs must be informed on overall rules, programs and findings.

MDA and MnExt training efforts should be coordinated with the MEEB Water Resources Education Advisory Committee.

Recommendations

1. ***Enhance and expand training and certification requirements.*** MDA, through its ongoing responsibility, should improve the content requirements of applicator and dealer training courses. Improvements should be developed in cooperation with MnExt, PCA, MDH and other appropriate agencies, and should emphasize environmental and health aspects of pesticide use and alternatives.

Possible improvements to consider should include a) providing for regional differentiation of training courses, b) more rigorous testing, c) developing ground water training modules focusing on vulnerable sites, d) pesticide and fertilizer application through irrigation systems, and e) increasing emphasis on integrated pest management, disposal and storage.

2. ***Enhance cooperative workshops.*** MDA and MnExt should enhance their cooperative workshops and training programs for pesticide users and dealers by involving other state, local and federal agencies and the chemical industry in course design.
3. ***Conduct inter-agency workshops.*** The MDA and MnExt, in cooperation with other

appropriate agencies, should sponsor joint training workshops throughout the state on pest and nutrient management to ensure that staff from all relevant agencies are providing the most up-to-date information to clients.

Issue

Institute and expand on the use of demonstration projects as a direct method to promote change. Demonstration projects provide an important addition to general educational efforts. They provide the means for the individual to personally gain from the experiences of others, thus eliminating some of the reluctance toward adoption of new practices. Due to the diverse physical and environmental character of the state, results of projects from one area cannot always be transferred to other parts of the state. Consequently, projects are needed in many different locations. Current demonstration efforts of MnExt, USDA-ARS and others have proved beneficial, and should form the basis for expanded efforts. Efforts here should be tied to the current grant program for sustainable agriculture discussed under financial incentives.

Recommendations

1. ***Establish demonstration farms and demonstration watersheds.*** The Board of Water and Soil Resources (BWSR) and MDA, in cooperation with the University of Minnesota and the MEEB Water Resources Education Advisory Committee, should promote the establishment and publicizing of farm-based and watershed-based demonstration projects on best management practices for reduced chemical use, alternatives to chemical use or added nutrients and sustainable agriculture. These must be coordinated with the demonstration project efforts of MnExt, ARS and PCA Clean Water Partnership, and must draw upon their expertise for project design and evaluation and communication of results.

Demonstration farms and watersheds should: a) be pursued in the priority areas identified through the state nonpoint source pollution control plan and pesticide management plan, b) stress the overall environmental and economic costs and benefits, and c) be based upon comprehensive soil and water conservation farm plans.

As part of the educational efforts carried on in conjunction with demonstration farms and watersheds, the state should pursue subsidizing well-water analyses for area residents. This would be used to make residents more aware of how their practices may be impacting their own wells. Tests should be conducted at state certified laboratories.

2. ***Expand research-based demonstration plots.*** The Center for Agricultural Impacts on Water Quality, in cooperation with other departments of the University of Minnesota, USDA-SEA, MDA and other appropriate agencies, should expand research-based plot studies to document risks and benefits of different approaches to pest and nutrient management. Efforts should be pursued at established experiment stations and research sites, and results should be routinely conveyed to the public.
3. ***Establish ties between demonstration projects.*** Demonstration projects are currently being conducted by several private organizations as well as state and federal agencies. In addition, projects are ongoing in other states that could provide beneficial information for Minnesota. BWSR and MDA, in cooperation with MnExt, should work to establish ties between private and public demonstration projects and between Minnesota projects and those of neighboring states in order to derive the maximum benefit. These efforts should also be tied with recommended efforts to coordinate research.

Issue

Promote better data coordination, dissemination and information management. Data of value in pest and nutrient management are gathered by various state, federal and local agencies as well as through research efforts. Management efforts within Minnesota could benefit by improving access to these data and by coordinating efforts prior to monitoring to promote efficiency and ensure compatibility of techniques.

Recommendations

1. **Develop a data management system.** The Environmental Quality Board (EQB), through the Systems for Water Information Management Committee, should continue to facilitate development of interagency data management systems for handling water quality data, including data on the occurrences of pesticides in water resources. The system should include federal, state, local and university efforts and address accessibility to all parties. The system must be tied with overall data management systems through EQB, as recommended in the "Minnesota Ground Water Protection Strategy".
2. **Evaluate data systems.** Different computerized data systems are used by the various agencies that gather and maintain information that could be used for pest and nutrient management. This includes information on soils, hydrogeology, and land use and management. In order for this information to be readily available, the data systems must be compatible. SPA should evaluate the computerized data systems in use by federal, state and local governments and make recommendations regarding uniformity.
3. **Promote information repository.** Efforts are being conducted at the federal level and in other states that could provide data of use to Minnesota in its pest and nutrient management efforts. Keeping abreast of these efforts, however, is difficult and time consuming. SPA should explore the possibility of EPA serving as a repository for and distributor of this information. Local repositories are also needed and ties of local information/data to the rest of the system.

An information repository on education materials, resources and speakers is also needed. Development of such a system should be explored by the MEEB Water Resources Education Advisory Committee.

Issue

Develop financial incentives. Pest and nutrient management activities primarily involve actions of individuals on private land. One way to influence these actions is through providing cost-sharing, loans or other financial incentives. These incentives are provided to ease the transition to new management practices, and to encourage or reinforce appropriate activities.

Incentives and financial assistance are also needed for proper well abandonment and are addressed in the "Minnesota Ground Water Protection Strategy". Efforts in this area will benefit pesticide and nutrient contamination efforts.

Recommendations

The state should encourage sound pest and nutrient management, including manure management, and protection of water sources through direct cost-sharing with landowners/users for water resource protection best management practices. Such cost-sharing should be concentrated in and coupled with demonstration farms and watersheds and priority

areas, as identified through the nonpoint source pollution control plan and pesticide management plan. Specifically, the state should:

1. Retire areas for water quality purposes through purchase or long-term easements. This should be pursued by adding ground water protection as an eligibility consideration under the Re-Invest in Minnesota Program.
2. Develop pest and nutrient management and ground water protection practices for use in state erosion and water quality cost-sharing programs, including the Clean Water Partnership. These should include consideration of startup cost-sharing for adoption of integrated pest management (IPM) practices for use in the state's programs (similar to startup cost-sharing for establishment of conservation tillage). Cost-sharing would cover such activities as scouting for pests. Practices should be developed and revised to reflect the latest research findings on water quality protection.
3. Continue grant and loan programs for sustainable agriculture with an overall environmental protection emphasis. Current programs funded in the 1988 legislative session for MDA and the Agricultural Utilization Research Institute should be continued. Interest-share loan programs should also be considered for necessary equipment purchases.

In addition, the state should encourage the establishment of cost-sharing similar to those mentioned above within existing federal Agricultural Stabilization and Conservation Service cost-share programs.

Initiative II

To enhance the current body of knowledge of pesticide and nutrient contamination problems, prevention practices and alternative management approaches.

Current efforts to prevent contamination are hampered by information gaps. These include lack of information on the extent, nature and magnitude of contamination problems, lack of accurate data on pesticide use, and needs in the area of basic research on the actions of contaminants in the environment. In addition, further identification is needed of management practices that both achieve pest and nutrient management and environmental protection goals.

Overall Environmental Protection Recommendations

Research and monitoring are currently being conducted by numerous educational and governmental entities. While the focus and intent of these efforts may often be different, all parties could gain by coordinating efforts, having better access to each other's results and exchanging information on areas within their respective disciplines regarding future needs. Recommendations of the "Minnesota Ground Water Protection Strategy" address this need.

Recommendations

1. ***Develop and implement a coordinated statewide monitoring plan.*** The EQB should coordinate development of a statewide interagency ground water monitoring plan, with biennial reports on the nature and quality of ground water in the state and recommendations for modification of the monitoring plan.
2. ***Establish an interagency and academic technical committee.*** EQB should establish an ongoing inter-agency and academic committee to identify research priorities; to examine practices and needs for state regulatory programs; and to disseminate research results through existing channels such as Minnesota Extension and MDA certification and training programs. This effort should be coordinated with and provide input to the efforts of the university, such as those of the Water Resources Research Center, Limnological Research Center, and Center for Agricultural Impacts on Water Quality, and research funding entities, such as the Legislative Commission on Minnesota Resources (LCMR) and dedicated research funds.

The committee should also work to foster coordination of research efforts between neighboring states, and discussion and exchange of research ideas and findings. The committee should be combined with the Ground Water Technical Committee recommended in the Ground Water Protection Strategy.

Pesticide and Nutrient Management Recommendations

Issue

Monitoring. Information from monitoring efforts forms the basis for our understanding of the scope of water resources problems and trends in those problems. The soundness of decisions and actions and the degree to which public health and water resources are protected are directly related to the soundness of the data used. Although various state and local agencies

monitor for pesticides and nutrients, the monitoring is limited. Minnesota has no interagency, coordinated monitoring program which tests for pesticides, pesticide breakdown products, and nutrients on a regular basis. Efforts must be increased and coordinated if sound information for decision making is to be obtained.

Recommendations

1. ***Develop and implement a coordinated monitoring program.*** As part of the efforts to develop an overall ground water monitoring plan, the EQB should facilitate development of a coordinated inter-agency monitoring program which tests for pesticides, pesticide breakdown products and nutrients on a regular basis. At a minimum, the following major monitoring programs should be considered:
 - a) Ambient ground and surface water monitoring for pesticides should be conducted to establish water quality baselines and trends.
 - b) Public drinking water systems should be monitored for pesticides and pesticide breakdown products on a regular basis.
 - c) Selected private drinking water wells should be monitored for pesticides and pesticide breakdown products. While fiscal resources are not available to sample all of the estimated 300,000-400,000 private wells in the state, private wells located near known or suspected pesticide contamination sites should be sampled. In addition, certain private wells should be selected for sampling based on representative conditions, such as source aquifer, well depth/construction, soils or hydrogeological conditions, area pesticide use, land use, geographic location, intended water use, etc. Some private wells should also be randomly selected and sampled.
 - d) Soil and ground-water monitoring efforts should be increased near bulk pesticide storage and handling facilities, especially those facilities with historically poor handling practices which are located in hydrogeologically sensitive areas. Partial responsibility for this monitoring should be born by the facility.
 - e) Intensive, area-specific pesticide monitoring should be conducted with special emphasis on hydrogeologically vulnerable areas with potential contaminant sources. Joint industry/state pesticide monitoring studies should also be pursued.
 - f) Fish tissue, aquatic impacts, soil and unsaturated zone monitoring should be conducted for commonly used pesticides in Minnesota.
 - g) Monitoring of state uses of pesticides, including highway, forest, and park applications.
2. ***Develop laboratory procedures.*** Analyzing for pesticides can be difficult, due to the procedures involved and the dilute nature of the sample, and can yield erroneous results. Public and private laboratory capabilities must be improved for detecting trace amounts of commonly used pesticides and their breakdown products. MDH and MDA should work jointly with the University of Minnesota to develop standard laboratory procedures for use in Minnesota through the MDH Laboratory Certification Program.
3. ***Enhance pesticide use information.*** Pesticide use surveys were conducted in Minnesota from 1962 through 1984 by the Minnesota Agricultural Statistics Service. These surveys yielded crop-specific acreage treated with major pesticides on a statewide basis. No county or sub-county data is or was available, and no quantification of urban use has been

made. Accurate pesticide use information is needed to effectively and efficiently target water quality monitoring efforts.

MDA should pursue the gathering of accurate pesticide use information through a statistically designed pesticide use survey aimed at major crops and substate units. Additional more detailed surveys may be necessary in priority areas. Such a survey must be conducted on established intervals and must be coupled with separate efforts to gather information on urban uses and speciality crop uses. In addition, state government uses should be routinely compiled. Data management systems should be compatible with existing state systems so that information is readily available for other state agency and local water planning efforts.

Issue

Increase efforts to identify best management practices. Efforts to identify alternatives to current pest and nutrient management practice must be increased in order to promote preventative actions and minimize disruption if practice modifications are necessitated by contamination. Our goals should be to identify economically feasible management practices which 1. maximize efficiency of uptake and use; 2. minimize leaching, runoff and water quality impacts; and, 3. employ nonchemical approaches. Research on alternatives should be encouraged within the university system and U.S. Department of Agriculture, and should be an integral part of MDA and PCA efforts to identify management practices to prevent contamination. In addition, evaluation of existing practices is needed in order to ensure that they are compatible with ground water protection.

Recommendations

1. ***Support biological control and establish biological control agents.*** The state, through MDA, should continue the long-term process of establishing effective biological control agents. Biological control can offer an alternative means of pest control. MDA is currently developing a biological pest control program, with the assistance of the University of Minnesota and a grant from the Legislative Commission on Minnesota Resources; however, continued funding is necessary. The state should provide consistent, sustained support for establishment of the biological pest control organism laboratory and program, in order to increase our pest control options. This effort must include evaluation of impacts of control on the food chain and of costs.
2. ***Enhance IPM research.*** Additional research on integrated pest management techniques is needed, specifically with regard to Minnesota applications. These include research on alternative management strategies relative to weed threshold levels, cultural weed controls, effective green manure crops for Minnesota, and efficient crop rotations.
3. ***Increase research on alternatives.*** Increased emphasis should be directed toward chemical free farming, reduced chemical farming, and alternatives to current uses and use patterns for pesticides and nutrients. Research goals should be oriented toward maximizing profits versus yields and protecting resources. The research needs identified in the 1980 USDA "Report and Recommendations on Organic Farming" should be reviewed and pursued as appropriate.
4. ***Evaluate existing practices.*** Some existing practices were not developed with pesticide use and water quality impacts in mind. These practices should be evaluated to ensure that

impacts on water resources are positive or neutral. The state should neither fund nor promote practices with negative water resources impacts. Application rates for pesticides and fertilizers through irrigation systems should also be reviewed, as should rinsate recycling systems and other spill prevention techniques.

Issue

Continue and enhance research efforts. Many questions remain to be answered concerning the actions of pesticides and nutrients in the environment. Further research in the area of basic environmental processes is needed in order to develop wise, informed management recommendations.

Recommendations

1. *Conduct needed research.* Basic research is needed to resolve questions related to:
 - a) the transport and fate of pesticides and nitrate-nitrogen in the environment, including transport processes in soil and nonaquifers;
 - b) formation, transport, and health/environmental effects of breakdown products;
 - c) cumulative and synergistic health/environmental effects;
 - d) pesticide and breakdown product leaching characteristics and mechanisms;
 - e) aquatic impacts;
 - f) site vulnerability; and
 - g) effectiveness of management practices for ground and surface water quality protection.
 - h) refinement of pest damage thresholds
 - i) development of more accurate techniques for assessing nitrogen content of soils
2. *Increase funding and water quality assessments.* State agricultural research funding should be increased to ensure that the research priorities and needs of the state are met. The state should encourage the incorporation of water quality components in appropriate research and require that a water quality impact assessment be incorporated into each research project which receives state funding, as appropriate.

Initiative III

To enhance preventive planning, corrective actions and regulatory efforts.

Pesticide and nutrient contamination of water resources is regulated through the provisions of the state Pesticide Control Law and other state laws dealing with waste disposal, storage, pollution control, and water use. In addition, numerous state, federal and local programs directly or indirectly impact pesticide and nutrient contamination. Our ability to manage pesticide and nutrient use and prevent or mitigate impacts on water resources could be greatly enhanced through better coordination and direction of existing programs, application and modification of existing statutes and rules, and more aggressive enforcement and implementation efforts. In addition, existing statutes and rules should be reviewed regularly in order to identify those that have become outdated and to recommend changes.

Overall Environmental Protection Recommendations

In addition to efforts directed specifically at pest and nutrient management, pesticide and nutrient contamination of ground water can be prevented or minimized through overall ground water protection efforts recommended in the state's "Ground Water Protection Strategy". Specific recommendations include:

Goals and Priorities for Water Quality Protection

Pesticide and nutrient contamination issues can be addressed through overall efforts to achieve the nondegradation goal for ground water and enforce standards and guidelines in dealing with existing and proposed pollution sources and contamination. Specific recommendations of the "Ground Water Protection Strategy" should be supported and expanded as they relate to pesticide and nutrient contamination issues.

1. Adopt a nondegradation goal for prevention of pesticide and nutrient contamination. Nondegradation, meaning the prevention of further contamination, should be the policy goal of the state in dealing with potential sources of pesticide and nutrient contamination. This means that impacts should be prevented to the maximum extent practicable. While further contamination cannot currently be prevented in all situations of pesticide and nutrient use today, having nondegradation as the state's goal will provide the impetus for the continued development and refinement of management practices which protect water resources. All state efforts, including research, management practice development and programs should be geared toward this goal. As we strive to develop and implement even better management practices that both protect our water resources and achieve our pest control and nutrient management needs, we will come ever closer to achieving our nondegradation goal.
2. Adopt health and environmental protection numerical limits. Numerical limits are needed to serve as the upper limit on the allowable impacts of practices in those situations where impacts cannot currently be avoided. Practices which cause impacts greater than the

numerical limits would not be allowed. Limits are also needed to serve as goals for cleanup actions. The PCA should establish criteria which would be used to develop numerical limits, and adopt specific numerical limits as appropriate. Limits should be based on impacts to human health, aquatic life and wildlife, and should be incorporated into existing programs. These limits should be used to define "unreasonable adverse effect on the environment" in the state's Pesticide Control Law.

Drinking Water Protection

Ground water serves as a drinking water source for the majority of Minnesotans. However, if not properly constructed, these same wells that extract ground water can provide pathways for pollutants on the surface of the land to enter our aquifers. They can also allow for the transport for pollutants between aquifers. Enhancement of efforts to ensure that wells are constructed, maintained, and abandoned properly, will help keep all pollutants out of our aquifers, including pesticides and nutrients. Protecting the land areas where surface infiltration provides the recharge waters for our aquifers is also important.

1. Water Supply Planning - MDH should develop a state Wellhead Protection program, where the recharge areas of public water supply wells are delineated and special protective land use restrictions enacted.
2. Enforcement of Water Well Construction Code - Enforcement should be enhanced through increasing MDH enforcement staff and regulatory authorities, and through delegation agreements with interested counties.
3. Sealing of Unused Wells - A pilot program for inventorying and sealing unused, unsealed wells should be developed to demonstrate the effectiveness of a county government program.
4. Wells and Property Transfers - Testing of domestic water supplies and registration on the property deed of all drilled wells should be required at the time of property transfer.
5. Local Assumption of the Water Well Construction Program - Counties should be encouraged to adopt water well programs.

Development of Local Programs

Protection and prevention efforts often involve land use controls and individual actions that can most effectively be addressed at the local level. The state should promote local control efforts, including local water planning, wellhead protection, feedlot regulation, and water well code enforcement. The BWSR should establish a grant mechanism through the counties which would help local governments develop and implement environmental programs to address problem areas identified in the comprehensive local water planning process.

Such local efforts must conform to state guidelines and regulations, and not duplicate existing fee structures. In addition, state review and monitoring of such efforts will be necessary to ensure adequacy and conformity.

Pesticide and Nutrient Management Recommendations

Issue

Develop a state pesticide management plan. In order to be used within Minnesota, a pesticide must be registered with the Environmental Protection Agency (EPA) and the state Department of Agriculture (MDA). Through the state Pesticide Control Law, MDA has the authority to approve, deny, cancel or impose state use restrictions on a pesticide. In addition, MDA may specifically take actions necessary to prevent pesticide contamination of ground water.

EPA has suggested, in its "Agricultural Chemicals in Ground Water: Proposed Pesticide Strategy", that states take a more active role in determining necessary actions to protect ground water from pesticide contamination through development of state management plans. EPA has further suggested the possibility of federally imposed state product bans for states deciding not to prepare such plans. The plan would guide Minnesota's efforts in preventing and responding to pesticide contamination, including those relating to the development and imposition of Minnesota use restrictions.

Recommendations

1. **MDA should develop a State Pesticide Management Plan.** MDA should develop a management plan which is both prevention oriented, delineating what to do to foster nondegradation, and action oriented, delineating what to do when problems or issues arise. The plan should be framed around the concept of nondegradation and the policies and direction of this strategy, and should include:

- a) Designating special protection areas where more stringent protection measures are required. Areas should be designated based on PCA's delineation of hydrogeologic sensitivity and nonpoint source problem areas, MDH's delineation of wellhead protection areas, and levels of pesticides detected in water.

The plan should specify actions to be taken within the special protection areas by federal, state and local entities. These should include increased educational efforts, increased compliance inspections, including of private applicators' storage and disposal operations and application equipment, and increased enforcement efforts.

- b) Initiating specific management plans for a pesticide following detection. Criteria for triggering a response should be developed that distinguish between sporadic detections and patterns. Actions taken should be commensurate with the severity of the problem.
- c) Delineating the roles of federal, state and local governments. The roles of government entities and ties with other programs should be delineated, including the role of SCS and SWCD's in applying farm planning standards. In addition, MDA should facilitate more effective working relationships between state resource agencies and local units by developing model state-local delegation agreements covering pesticide management.

2. **Plan development should be coordinated through the EQB.** The plan must be developed through the Environmental Quality Board (EQB) to ensure an interagency and interprogram focus and coordination with other state plans, particularly the state "Ground Water Protection Strategy", state Nonpoint Source Pollution Control Plan and this

strategy. In addition, environmental organizations, farm groups and industry should be involved in plan development.

Issue

Integrate pest and nutrient management and overall land stewardship and sustainable agriculture principles into existing government programs and planning efforts.

Many state, federal and local programs directly or indirectly impact the way pests and nutrients are managed. In order to ensure that the impacts of these programs are positive for pest control, nutrient management and water quality, the programs should be evaluated and modified as necessary. Programs should foster overall resource sustainability and land stewardship, to ensure that Minnesota's land and water resources continue to provide for a high quality of life and economic vitality.

Wise, responsible and reduced usage of pesticides and supplemental nutrients can be promoted by fostering the use of integrated pest management and integrated farm management or sustainable agriculture, together with the best management practices for water quality protection identified through our research efforts. With integrated pest management, ecological principles are combined with management techniques and biological and chemical control methods to maintain pest populations at tolerable levels. The IPM approach can be readily applied to all pest control situations, from the city lawn to the northern forest. With integrated farm management or sustainable agriculture, long range, comprehensive planning is used in order to promote the viability of the entire farm system and its supporting community.

Recommendations

1. ***Foster overall land stewardship approach in government efforts.*** Programs and priorities at all levels have often been geared toward specific short-term problems or issues. The land stewardship approach, on the other hand, stresses long-term and overall impacts, cherishing our land and resources, and striving to leave them in a better condition for future generations. This approach is necessary for sound pest and nutrient management, and should be fostered by government. State agencies and local units of government should adopt an overall land stewardship approach in applicable plans, including the Pesticide Management Plan, the state Nonpoint Source Pollution Control Plan, and comprehensive local water plans.

The state should ensure that pest and nutrient management are built into new and ongoing programs, such as the Clean Water Partnership, the Community Health Services program, the Soil Loss Limits program, the Board of Water and Soil Resources (BWSR) Cost-Sharing Program, the feedlot control program, and the Wellhead Protection program. It should further ensure that research results identifying improved practices are regularly factored into all efforts.

Finally, government entities, such as highway and parks departments, universities, and state facility maintenance departments, should adopt Integrated Pest Management in their management programs, and should explore and adopt planting regimes that minimize the need for pesticides.

2. ***Support continued development and implementation of the Nonpoint Source Pollution Control Plan.*** Development of a Nonpoint Source Pollution Control Plan is mandated by

both the federal Clean Water Act and state statute. This plan is intended to identify priority areas and guide the efforts of federal, state and local agencies in preventing and correcting nonpoint source pollution problems. The EQB member agencies should work together with the PCA to ensure that the plan: 1. promotes the recommendations of this strategy and the "Ground Water Protection Strategy"; 2. is consistent with overall state policy and the State Pesticide Management Plan recommended to be prepared by the MDA; and 3. is used for program development, priority setting and local level plan development. In addition, the state should continue to support development, refinement and implementation of the plan.

3. ***Better integrate principles into SWCD plans.*** SWCD's should ensure that the policies and recommendations of this strategy, the "Ground Water Protection Strategy", the Pesticide Management Plan and Nonpoint Source Pollution Control Plan are factored into their annual and long-range plans. Plans should contain a strategy to protect water quality from pesticide and nutrient impacts, should be based on sustainability principles and should be keyed to ground and surface watersheds or systems within the district.
4. ***Continue development of comprehensive local water plans.*** Comprehensive local water plans can be a valuable tool in delineating problems and priorities, and directing resources. Local governments should be encouraged to continue developing plan elements and updates necessary to:
 - a) Reflect and incorporate appropriate elements of the state's Nonpoint Source Pollution Control Plan and Pesticide Management Plan.
 - b) Guide soil and water conservation districts in setting priorities for cost-sharing and other resource protection programs.
 - c) Provide background information to help guide ASCS County Committee cost-share priorities.
 - d) Guide the development of MnExt county program plans.
5. ***Encourage USDA to adopt an overall sustainability focus.*** The state should encourage USDA to evaluate all of its programs with respect to a) impacts on water quality, pest and nutrient management, sustainable agriculture, and integrated pest management (IPM), and b) need for modifications, including adoption of pest and nutrient management practices. Best management practices for pest and nutrient management and water quality protection should be regularly evaluated and revised to reflect current research results. The state should work with USDA, private groups and our Congressional delegation to foster changes to federal farm legislation and programs to deemphasize production and promote sustainable principles.
6. ***Develop state IPM approach and state support for IPM efforts.*** Efforts to promote integrated pest management (IPM) are underway within MDA, MnExt other agencies and the private sector. These efforts, however, are not guided by an overall state approach and therefore have not always received the priority warranted. MDA, in cooperation with EQB and the university, should develop an overall state approach or memoranda of understanding for the promotion of IPM which would delineate the roles of the state, the

university, the extension service and the private sector; establish information and data exchange and integration systems; define a procedure for identifying research needs and reviewing and preparing informational materials; outline educational needs; and, include procedures for factoring IPM into all government uses of pesticides.

Issue

Enhance state pesticide and nutrient control efforts. In most instances, existing state statutes provide the framework for pesticide and nutrient contamination control efforts. There are situations, however, where authorities are lacking or unclear, or program support is inadequate. Specific needs relate to irrigation regulatory programs, container and product disposal, spills, and aquatic nuisance control.

Recommendations

1. ***Expand and enhance irrigation regulatory programs.*** State law establishes authority for developing requirements for application of pesticides through irrigation systems, including the requirement of obtaining a permit from MDA. Such a permitting program does not exist for controlling the application of fertilizers through irrigation systems, even though this practice is more widespread and requires similar precautionary measures. The Department of Natural Resources (DNR) issues permits for the appropriation of water for irrigation and must consider in that process the impacts of the use of the water. To address these areas:
 - a) MDA should be authorized to develop requirements to control fertilizer applications through irrigation systems. This should be undertaken in cooperation with farm chemical industry, commodity grower's groups and irrigators association. Requirements should be distinct from those governing pesticide application through irrigation systems, and should be geared toward best management practices for protecting the environment.
 - b) DNR should develop agreements/procedures with MDA, PCA and MDH for reviewing, revoking and denying appropriations permits and requiring monitoring where ground water contamination is present or is a concern.
2. ***Improve container/product disposal practices and compliance.*** Options for managing the disposal of unused, unwanted or banned pesticides and empty containers are limited, difficult, and in some cases expensive. Disposal is governed by both waste and pesticide management rules, and liability is a major concern. Traditional disposal options which are widely used, such as burying at the farm site, disposal at sanitary landfills, and open burning, are becoming prohibited or unavailable.

Currently, the state is addressing some of these issues through PCA's Waste Pesticide Collection Pilot Project. Container issues are also being studied by MDA through an EPA grant. Based on results of these efforts to date, disposal practices and compliance for non-household waste pesticides and containers should be improved through:

- a. Clean sweep program. Banned and cancelled products, which are estimated by PCA to constitute 25 percent of current waste or about 133,000 gallons, should be collected through "clean sweep" programs.
- b. Alternative disposal options. In order to deal with the remaining waste, alternative disposal options should be researched to determine the most promising options for the

state. Options should then be field tested to determine limitations and necessary enhancements for full application.

- c. **Manufacturer return.** Waste pesticides and container disposal problems could be greatly reduced through the use of either bulk or returnable containers with one-way valves, whereby the unused products are returned to dealers. Such an approach would minimize waste generation, take advantage of existing distribution systems, and require that users pay only for the amount of product actually needed. This should be pursued through implementation of financial incentives in the form of a tax on pesticide products sold in non-returnable containers. The state should also consider prohibiting the sale of products in non-returnable containers by a specific date in the future.
 - d. **Incentives for proper disposal.** Other incentives for pesticide users to properly dispose of their wastes and containers should be pursued, particularly in priority or sensitive areas. These include: increasing enforcement of existing storage and disposal regulations; increasing research into practical waste reduction activities and providing technical assistance on waste minimization; and developing more effective education programs on the importance and specifics of proper disposal.
3. ***Enhance spills prevention and response efforts.*** The impact of pesticide and nutrient spills can be significant due to the volumes, types and concentrations of chemicals involved. Cleanup can be difficult, particularly in situations where leaks have gone undetected for long periods and in hydrogeologically sensitive areas, making prevention and early detection the most viable course of action. This objective can be met in the following ways:
- a) MDA and PCA should evaluate the spills log to ascertain the causes of spills and develop better prevention programs.
 - b) MDA should increase surveillance/enforcement efforts at bulk storage facilities, including increasing inspection and developing procedures and criteria for determining when further requirements such as monitoring should be imposed.
4. ***Better ensure that aquatic nuisance control activities do not result in undesirable consequences.*** Pesticides are used in the management of the aquatic environment, most notably to control mosquitoes, blackflies and nuisance growths of aquatic plants. Use of herbicides to control aquatic plants in public waters is regulated through a DNR permit program in addition to the labeling and use requirements imposed by MDA. In recent years, the number of permit applications has increased to the point where timely review is difficult. Information on pesticide sales suggests that use without permits may be occurring. The permit fees have increased to the point where they may encourage illegal activity. This is particularly of concern in situations where the waters to which pesticides are applied are used for body contact recreation or for providing fish for consumption.
- Mosquito and blackfly control is carried out on public waters primarily by the Metropolitan Mosquito Control District. There is increasing interest in nuisance insect control on public waters, primarily by resorts and local units of government.

- a) Improve enforcement of permit requirements. DNR enforcement efforts must be improved in order to ensure that individuals are not applying pesticides to public waters without permits and that the necessary state review of permits takes place. This should be accomplished by increasing the level of effort and staffing assigned to the aquatic nuisance control program to ensure that all permits receive adequate review, on-site inspections and enforcement. In addition, information on requirements for permits should be posted and made available at places of sale and distributed with mail order products. The feasibility of requiring signatures by purchasers of aquatic herbicides should be investigated.
- b) Clarify statutory language concerning state control over nuisance insect control operations. These control operations should be subjected to adequate state agency review in order to ensure that overall state environmental and health protection goals are achieved. The Attorney General should review existing statutory language covering control activities and make recommendations for changes to clarify state review and/or permit requirements, especially on public waters.

Specific pesticides are approved by the EPA for use in managing the aquatic environment, most notably to control mosquitos and blackflies, and nuisance growths of aquatic plants. The use of these chemicals in public waters of Minnesota is regulated by the DNR through a permit program as set forth in Minnesota Statutes Section 84.092, Subd. 1, Part 3. Additionally, Section 18.121, Subd. 2 states that the commissioner shall approve or modify mosquito abatement plans to protect public water, animals and natural resources. It is unclear whether the statute authorizing the Metropolitan Mosquito Control District (MMCD) under Chapter 399 (repealed in 1975 and now found in Sections 473.701 to 473.71) supercedes or was intended to supercede review as put forth in Section 18.121. The scope of section 84.092, Subd. 1, Part 3 is also subject to interpretation. Permits are clearly required for the control of nuisance aquatic plants, however, only an experimental permit has been issued to the MMCD for the control of blackflies in streams and rivers, and currently no permits are issued for mosquito control, the majority of which occurs in public waters. Without clear permitting or review authority for the use of pesticides in public waters, state agencies cannot regulate or monitor the use of these chemicals.

- c) Better integrate aquatic plant and algae controls into overall lake management. Addressing such control in the absence of overall lake management can result in solutions to one set of problems that actually cause additional problems. In addition, aquatic plant problems may be due to influxes of nutrients from the lake's watershed, and thus would return if the influxes themselves are not addressed. Evaluating a lake's needs based on overall management objectives and problem assessments would alleviate these concerns.

The legislature should establish the goal of requiring that control efforts be part of an overall comprehensive lake management plan. Such plans must take into account overall management objectives for the lake as well as problems within the watershed that preclude achievement of those objectives. Plans must be prepared by the DNR and should be consistent with comprehensive local water plans. DNR must provide for input of affected local units of government and interested parties in plan development.

Specific requirements for comprehensive lake plans and the time frame for implementation should be established by DNR through the EQB Comprehensive Lake Management Policy to be completed in 1989. Control activities on lakes for which plans have not been developed would not be affected by this requirement.

Funding

Implementation of the recommendations of this strategy will require funding at both the state and local level. The precise amount of funding required will be dependent upon the level of program effort desired and the speed with which we wish to pursue the recommendations. For example, numerous recommendations could be pursued: 1) in designated high priority areas only; 2) uniformly statewide; or 3) statewide with added emphasis in priority areas.

In addition, funding of the recommendations in the overall "Minnesota Ground Water Protection Strategy" are necessary for full realization of our protection goals for pesticide and nutrient use.

Regardless of the level of funding and effort desired, the following approaches to funding, which are based on the recommendations of the EQB Advisory Committee on Ground Water Protection, are recommended:

Stable program funding must be provided for monitoring, incentives, education, information, enforcement, and research. Past funding for environmental programs, including those associated with pesticides and nutrients, has been subject to instability. This has hampered efforts to evaluate and track problems, to provide adequate enforcement and education, and to maintain research efforts. If the state's pest and nutrient management efforts are to be improved, stable funding must be obtained.

The establishment of dedicated accounts for these efforts should be considered. This should include consideration of an overall water resources fund for specific program efforts, with allotments from the fund being made by the Legislature on a biennial basis.

Pesticide regulatory controls and enforcement efforts should be supported by fees. Fees and penalties associated with product registration and applicator and dealer licenses are currently levied through state regulatory control statutes and credited to a pesticide regulatory account. Funds from this account are then made available for administration and enforcement of these laws. This includes water quality monitoring to assist in enforcement and to assess the adequacy of regulations. This system of supporting the regulatory function through fees imposed on the regulated community should be continued. As increased funds are needed, changes in fee structures should be considered, such as basing fees on the amount of product sold.

Funding sources for overall, nonregulatory efforts should be broad-based. Every user of water should pay the costs of general, statewide resource efforts, such as coordination, education, monitoring and research, since every user benefits. Taxes or broad-based fees should be used as the main source of funds for these efforts.

Fees further serve to influence behavior and underscore the relationship between specific activities and problems or benefits. Currently, pesticides and fertilizers used for producing products for retail are exempt from state sales tax. One option is to partially or totally eliminate this exemption so that all users of these products, urban and rural alike, contribute to overall efforts and are made aware of the connection between the use of such products and

potential problems. A pollution control tax or fee that could be noted on products is another option.

Methods for funding cleanup efforts should be developed. The costs of cleanup of contamination can be substantial, and in many cases may be higher than the person who was responsible for causing the contamination is able to pay. In other cases, persons responsible for the contamination may not be readily identifiable. Consequently, methods for dealing with the funding of cleanup must be identified in order to protect the state's water resources. Methods to be evaluated should include: 1) a pesticide superfund; and, 2) a reduced liability cleanup program similar to the Underground Storage Tank program.

Funding for pesticide and container disposal should be developed. Proper disposal of pesticides and containers can be costly and difficult. Methods must be identified to ensure that the funds needed for disposal are available. The state should explore creation of a fund, either through public monies, a tax on pesticide manufacturers, a tax on non-returnable containers, or other sources which would provide a subsidy for disposal efforts.

Legislative Actions and Concepts

Implementation of this "Strategy for the Wise Use of Pesticides and Nutrients" will require actions on the part of the legislature, governmental units and agencies, industry, and individuals. While actions in some areas require new authorities, implementation primarily requires the commitment of resources and changes in our approach to both our water and land and our use of pesticides and nutrients.

Overall Environmental Protection Recommendations

The recommendations and legislative actions of this strategy are intended to complement and build upon those of the "Minnesota Ground Water Protection Strategy". In many cases, implementation of the ground water recommendations is crucial to the success of any efforts to protect water resources from pesticide and nutrient contamination. Critical legislative actions include:

1. ***Prevention of Contamination*** - The legislature should a) adopt nondegradation as the policy goal of the state in the regulation of all potential sources of contamination, b) authorize the promulgation of criteria for the development of numerical limits to serve as the upper limit for activities and a goal for cleanups, and c) acknowledge the need for applying special protection measures in sensitive areas and authorize the development of criteria defining sensitivity.
2. ***Drinking Water Protection*** - The legislature should a) direct MDH and DNR to work more closely with public water utilities in water supply planning; b) direct MDH to develop guidelines for wellhead protection; c) require testing of all domestic wells at the time of property transfer; d) develop a pilot program to demonstrate the effectiveness of counties in dealing with the issue of unused, unsealed wells; and e) increase MDH staff and regulatory authorities for water well code enforcement.
3. ***Ground Water Information and Education*** - The legislature should enact a statement of policy establishing information and education as vital components in water resource protection programs, and should fund a) MEEB for overall coordination of water resource education efforts and development and dissemination of curricula, b) state agencies for dissemination of information on programs and resources, c) MnExt for specific information for target groups on impacts of activities and alternative practices, and d) EQB for information exchange and training for decision-makers.
4. ***Enhancement of Local Government Participation*** - The legislature should a) establish a grant program to help local governments develop and implement environmental programs and local water plans, b) encourage counties to assume responsibility for the water well construction program, and c) provide state agencies with funds necessary for the technical assistance staff to aid local governments.
5. ***Water Resource Evaluation, Monitoring and Research*** - The legislature should increase funding for a) accelerated delineation of aquifers and determination of aquifer

characteristics, b) baseline monitoring to determine existing, background ground water conditions, and c) EQB establishment and administration of an interagency and academic technical committee. The legislature should further require that data be managed electronically in a format compatible with other state data collections and that the EQB Water Resources Committee coordinate preparation of the statewide interagency monitoring plan and biennial publication of results.

Pesticide and Nutrient Management Recommendations

In addition to the legislative action for overall environmental protection, specific legislative actions are needed related to pesticides and nutrients in order to implement this strategy.

They include:

1. **Statement of Legislative Intent** - The legislature should endorse the policy directions of this strategy as the appropriate direction for Minnesota to take in protecting water resources from contamination due to the use of pesticides and nutrients.
2. **Information, Education and Incentives** - The legislature should provide increased funding for a) expanded general information and education efforts on fertilizer use and pest control and impacts on water resources; b) informational materials on disposal, handling, home and urban uses, alternative management practices, and sustainable agriculture; and, c) workshops and other training opportunities for users. Stable funding for surveys of pest populations should also be provided.

The legislature should also provide funding for development and expansion of information systems and programs for pesticide and nutrient users, to ensure that accurate and consistent information is available at the local level on recommended application rates and possible environmental impacts. Funding should also be provided for the continued development of data management systems.

The legislature should provide increased funding for demonstration projects, including farm, watershed and plot studies on best management practices for reduced chemical use, alternatives and sustainable agriculture.

Finally, the legislature should provide increase funding for incentives and cost-share efforts. This should include continuation of grants and loans for sustainable agriculture; adding funds for cost-sharing for pesticide and nutrient management and ground water protection practices to existing erosion and water quality cost-share programs, and providing funds and eligibility for ground water protection under the Re-Invest in Minnesota Program.

3. **Resource Evaluation and Research** - The legislature should provide funding for regularized surveys of pesticide use in the state, and require that these be conducted and the results compiled, together with information on state government uses.

The legislature should further provide funding for monitoring of pesticides and nutrients in the environment, and ensure that the necessary funds are available for the development of standard laboratory procedures for sample analysis.

The legislature should also provide funding for a) continued biological control efforts and establishment of biological control agents, b) research on integrated pest management and alternatives to current pesticide use practices, c) evaluation of existing practices, and d) basic research efforts.

4. ***Preventive Planning and Regulatory Efforts*** - The legislature should require and fund preparation of a State Pesticide Management Plan to guide state efforts in preventing and responding to contamination. The legislature should further require that a state approach to the promotion of integrated pest management be developed, and support implementation of the approach.

The legislature should urge adoption of an overall land stewardship approach in all government efforts and programs, and require the use of integrated pest management and planting regimes that minimize the need for pesticides and nutrients by state government. The legislature should further urge the federal government and congress to incorporate resource sustainability and protection into federal farm programs and amendments to the federal farm bill.

The legislature should authorize a) establishment of a program to regulate the use of fertilizers in irrigation systems, and b) a waste pesticide "clean sweep" program, incentives for use of returnable containers, and development of alternatives for waste pesticide management. Finally, the legislature should clarify the statutory intent regarding aquatic nuisance control permitting requirements, increase funding for overall aquatic nuisance control enforcement efforts, and establish the goal of having all lake management activities be guided by comprehensive plans.

5. ***Funding Mechanisms*** - The legislature should ensure that stable funding mechanisms are provided for strategy implementation. They should reaffirm the use of fees to support administration and enforcement of the Pesticide Control Law, and should ensure that all persons who benefit from the use of pesticides and nutrients contribute to the costs of protection efforts by imposing taxes or fees on products and non-returnable containers. Finally, they should establish funding mechanisms for cleanup efforts and disposal of waste products and containers.

Appendix A: Abbreviations and Definitions

ASCS	USDA Agricultural Stabilization and Conservation Service
BWSR	Minnesota Board of Water and Soil Resources
EQB	Minnesota Environmental Quality Board
EPA	U.S. Environmental Protection Agency
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
IPM	Integrated Pest Management
LCMR	Legislative Commission on Minnesota Resources
MDA	Minnesota Department of Agriculture
MDH	Minnesota Department of Health
DNR	Minnesota Department of Natural Resources
MnExt	Minnesota Extension Service
MPCA	Minnesota Pollution Control Agency
SCS	USDA Soil Conservation Service
SWCD	Soil and Water Conservation District
USDA	United States Department of Agriculture

Integrated Pest Management

Integrated pest management, or "IPM," means use of a combination of approaches to keeping pests below levels where they do economic damage to crops.

IPM is an approach which emphasizes use of natural pest controls. It stresses finding and taking advantage of the weak links in life cycles of pests. It utilizes man-initiated actions only when it is likely that a pest population will cause economic losses. This requires regular field scouting of pests, maintaining conditions which are unfavorable to pests, and routine analyzing of potential pest problems, based on knowledge of each pest and its natural enemies.

Pesticides may be used in IPM, but only after systematic monitoring of pests and the success of other control factors indicate a need. The point is not to completely eliminate pests, but rather to keep them below the threshold where they do economic damage.

Sustainable Agriculture

Sustainable agriculture is agriculture designed to be self-reliant, resource-conserving and productive in both the short and long term. To be sustainable, agriculture must be ecologically sound and economically viable, taking into account hidden costs such as those associated with ground water contamination. It also must recognize social values like the

need for fair wages, a safe working and home environment, and stewardship of the land. Sustainable agriculture must be tailored to each locality.

Land Stewardship

An approach to the management of our lands which recognizes that the same land that is now in one person's care will soon pass on to care by others, and that the present owner, therefore, has a responsibility to society for the way the land is used and the care it receives. This approach acknowledges the need to leave land in as good or better condition as when received, and to manage land in such a way as to assure that it will continue to provide benefits over the long run.

Appendix B: Bibliography

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Appendix C: Strategy Development Process

This "Strategy for the Wise Use of Pesticides and Nutrients" is the result of a one and one-half year planning effort of the Environmental Quality Board (EQB) Water Resources Committee (WRC). Input was provided by numerous agencies and individuals in its development.

The EQB Water Resources Committee

In November 1985, the Environmental Quality Board (EQB) established the EQB Water Resources Committee (WRC) to examine state water resources issues and develop a comprehensive state water resources strategy to safeguard the public health and preserve the quality of life for present and future generations. As part of that process, WRC developed a twelve-point water program, "Protecting Minnesota's Waters", containing recommendations for actions needed in the period from 1987 to 1989. These recommendations acknowledged the need for continued interagency efforts to address issues associated with protecting water resources from all toxic substances, including pesticides and nutrients.

Following from these recommendations and amid emerging reports on the occurrence of pesticides and nitrates in ground and surface waters in Minnesota, the WRC resolved to lead an interagency effort to develop a strategy to ensure that pesticides and nutrients are used in a manner that safeguards Minnesota's water resources.

Developing the Strategy

WRC's approach in developing a water resources strategy for the wise use of pesticides and nutrients has thus far involved five main steps:

1. Identifying and evaluating current state and federal responsibilities and authorities related to pesticides and nutrients;
2. Evaluating other states' efforts to deal with pesticide and nutrient contamination issues;
3. Delineating the major pesticide and nutrient contamination and management issues facing Minnesota;
4. Developing possible options available for addressing the major issues, and the basic policies to direct the strategy; and,
5. Developing a proposed strategy, based on the input received on the options.

The WRC Technical Committee, an interagency technical advisory committee comprised of representatives of key state agencies, assisted WRC in carrying out these steps. Work products of these efforts included two reports ("Pest and Nutrient Management and Water Resources: Federal and State Authorities" and "Pest and Nutrient Management and Water Resources: Programs of Other States"), a paper identifying twelve issue areas requiring further exploration, and individual papers delineating the options available to address the problems associated with the twelve identified issue areas.

The twelve issue areas identified for further exploration were: education/ information, integrated pest management/biological control, irrigation, local restrictions/local controls, spills, environmental review, coordination/integration, risk assessment/standards, monitoring, fate/practice impacts, aquatic environment use, container and unused/unwanted products.

In March 1988, a report describing the identified options was completed. The purpose of the report, "Water Resources Strategy for the Control of Pests and Management of Nutrients: Public Review Draft, the Options" (options report), was to solicit public input in selecting options for the strategy. The comment period on the report ran through the end of May.

Based on the comments received and subsequent discussions at WRC, WRC Technical Committee, and EQB meetings in June, July and August, the proposed strategy was prepared. The strategy will be presented to EQB for consideration in October. Once the strategy is adopted by EQB, it will be used as a guide for the development of state programs and proposed legislation.

Public Involvement

Steps taken to involve the public in development of the strategy included 1. creating of a special interests mailing list, 2. holding public meetings throughout the state, and 3. forming a special Advisory Committee on Ground Water Protection. In addition, press releases and notices concerning the strategy and options report were issued to newspapers throughout the state and placed in the "EQB Monitor".

A list of over ninety interested parties was created, with the assistance of the Minnesota Department of Agriculture. The individuals and organizations on this list were solicited for ideas on the issues to be explored and received notices of the public meetings, availability of draft documents, and review periods.

Public meetings were held in cooperation with the PCA in April 1988 in eight cities: Rochester, Mankato, Marshall, Morris, Grand Rapids, Detroit Lakes, St. Cloud and St. Paul. The purpose of the meetings was to give the public an opportunity to hear about the strategy development efforts, to voice opinions and concerns, and to obtain a copy of the options report. Over 600 people attended these meetings.

In addition to the comments received at the public meetings, WRC received recommendations and comments on the options identified from 35 individuals or organizations. These included comments from environmental groups, governmental entities and a compilation of comments jointly submitted by sixteen agricultural organizations. WRC also received over 400 general letters from citizens urging continuation of efforts to protect ground water from contamination.

EQB Advisory Committee on Ground Water Protection

The EQB appointed an Advisory Committee on Ground Water Protection in January 1988 to review the draft "Ground Water Protection Strategy" and the pesticide and nutrient management options report, and advise EQB on adequacy, policy choices and directions. The

committee was composed of a diverse membership representing farmers, industry, local governments, researchers, and citizen groups.

The committee adopted unanimous recommendations, which were presented to EQB in June. The committee's deliberations and recommendations have been instrumental in shaping the proposed "Strategy for the Wise Use of Pesticides and Nutrients". Their recommendations are contained in "Report of the Environmental Quality Board Advisory Committee on Ground Water Protection", and are summarized in a memorandum to EQB contained in this appendix.

Environmental Congresses

Finally, the proposed strategy will be one of the subjects of discussion at a series of Environmental Congresses being held by EQB in September and October in five Minnesota cities. These congresses will give the public a further opportunity to comment on approaches to protecting the state's water resources, and will help to shape the final strategy and legislative directions.

June 16, 1988

To: Environmental Quality Board

Fr: EQB Advisory Committee on Ground Water Protection

Re: Committee Report

The Report of the EQB Advisory Committee on Ground Water Protection is attached. Our Committee recognizes the importance of the Ground Water Protection Strategy and the Strategy for the Control of Pests and the Management of Nutrients and offers its support for passage of the legislative package needed to carry them out.

We would like to highlight our major recommendations. The Committee:

- Strongly supports implementing these strategies. Members are concerned about problems resulting from the control of pests and management of nutrients, as well as contamination from other sources, such as improperly constructed wells or leaking storage tanks.
- Recommends that there be a preamble to the two strategies that provides a context for the two strategies. In addition, this preamble should provide highlights of both strategies, and convey a sense of urgency for implementation.
- Recommends that prevention of further contamination be the cornerstone of Minnesota's ground water protection efforts. In addition, cleanup of appropriate areas should continue to be an important part of Minnesota's efforts.
- Supports Minnesota having nondegradation (meaning prevention of further contamination) for a goal in order to have continued movement toward improvement of ground water quality.
- Supports Minnesota revising and updating the current framework that establishes the degree of actions required. This framework would include numerical limits, or a process for developing them, as a way of gaging the severity of contamination, identifying appropriate preventive actions, and defining clean-up requirements.
- Recommends applying water quality protection to all ground water. It does not support "writing off" any aquifers. Special protection should also be given in areas sensitive to ground water contamination.
- Recommends that the strategies need to be carried out as a whole, since no single effort, whether it be education, research, monitoring, incentives, coordination, or regulation can alone achieve the desired results.
- Recommends the creation of a Joint Legislative Commission on Water. This Commission would create a focus at the legislature for water issues and programs and complement the coordinating function of the Environmental Quality Board. This Commission could also evaluate the present state structure for its effectiveness in carrying out the strategies.
- Recommends that the Environmental Quality Board (EQB) continues its strong role relating

to water issues. The EQB should also take a lead role in ensuring that state programs, rules, and other activities recommended in the strategies are communicated to local government.

- Recommends that the state significantly increase funding for local water management activities, since local government has an essential role in protecting ground water.
- Recommends that the funding needed to carry out the strategies be a combination of broad based (all potential beneficiaries) and those related to specific impacts on water. Every user of water should pay the costs of general, statewide functions, such as coordinating, education, and research. Special taxes or fees should be used to underscore the relationship between specific activities and problems or benefits.
- Recommends the state obtain information to characterize aquifers in terms of quantity and quality. To do this, the state must establish clear goals for information needs that outline the purpose, scope, value, and coordination efforts.
- Recommends that state ensure water resources data compatibility between agencies and with local government. It should have clear goals that outline the purpose, scope, value, and coordination efforts of its monitoring programs. Water testing should be required at real estate transfers.
- Recommends that in considering the Strategy for the Control of Pests and Management of Nutrients, the state must recognize the significant role the federal farm programs play in shaping agriculture practices, and work to impact the direction of the new federal farm program as it is drafted in 1989 or 1990.
- Recommends a research project to better evaluate the number of abandoned wells, the priorities for sealing, and the methods and process for sealing.

The enclosed Committee Report contains more information about each recommendation as well as a number of specific recommendations about portions of the strategies.

Appendix D: EQB Advisory Committee on Ground Water Protection

Committee Members

Thomas Anding, Committee Chair

Center for Urban and Regional Affairs University of Minnesota

Calvin Alexander Jr.

Department of Geology and Geophysics, University of Minnesota

Jack Anderson

Irrigators Association of Minnesota

Stephen Bloom

Martin County Coordinator

William Bryson

Freeborn Soil and Water Conservation District Supervisor

Marianne Curry

Minnesota Chamber of Commerce and Industry

Dick Eischens

New Prague Farmer

Terry Gips

International Alliance for Sustainable Agriculture

Verne Jacobsen

North Central Section, American Water Works Association

Diane Jensen

Clean Water Action Project

Linda Lehman

Minnesota Ground Water Association

Christine Olsenius

Freshwater Foundation

Richard Post

Kandiyohi County Commissioner, member of the Association of Minnesota Counties

Physical Development Committee

Newell Searle

Cargill, Minnesota Business Partnership

Lois Yellowthunder

Citizens League

Committee Administrator

Marilyn Lundberg

State Planning Agency

EQB Water Resources Committee Members and Alternates

Martha Brand

Chair
Water Resources Committee
Leonard, Street & Deinard

Robert Dunn

Vice Chair
Water Resources Committee

Joe Alexander

Commissioner
Department of Natural Resources

Ron Nargang

Director
Waters Division, Department of Natural Resources

Sister Mary Madonna Ashton

Commissioner
Department of Health

Michael Finn

Assistant Commissioner
Department of Health

Jim Nichols

Commissioner
Department of Agriculture

Bill Bulger

Director
Agronomy Division, Department of Agriculture

Gerald Willet

Commissioner
Minnesota Pollution Control Agency

Mike Robertson

Deputy Commissioner
Minnesota Pollution Control Agency

Donald Ogaard

Chair
Board of Water and Soil Resources

Loni Kemp

Board of Water and Soil Resources

Dr. Donald McNaught

Director
Sea Grant Program, University of Minnesota

Dr. Patrick Brezonik

Director
Water Resources Research Center

Joseph Pavelich

Waste Management Board

EQB Members

Jack Ditmore

EQB Chair

Governor's Representative

Joseph Pavelich

Waste Management Board

Joe Alexander

Commissioner

Department of Natural Resources

Leonard Levine

Commissioner

Department of Transportation

Lani Kawamura

Commissioner

State Planning Agency

Gerald Willet

Commissioner

Pollution Control Agency

James Nichols

Commissioner

Department of Agriculture

Sister Mary Madonna Ashton

Commissioner

Department of Health

Anton Perpich

Commissioner

Department of Public Service

Donald Ogaard

Board of Water and Soil Resources

Dr. Edward Buchwald

Citizen Member

Martha Brand

Citizen Member

Leonard, Street & Deinard

Barbara Hughes

Citizen Member

American Lung Association of Ramsey County

Robert Dunn

Citizen Member

Robert Tonra

Citizen Member

EQB WRC Technical Committee

John Wells

Chair

State Planning Agency, Environmental Division

Roman Kanivetski
Minnesota Geological Survey

Gary Englund
Minnesota Department of Health

Frank Pafko
Department of Transportation

Marcel Jouseau
Metropolitan Council

Joe Gibson
Department of Natural Resources

John Betcher
Waste Management Board

Mel Sinn
Board of Water & Soil Resources

Paul Burns
Department of Agriculture

Susanne Maeder
Planning Information Center

Linda Bruemmer
Pollution Control Agency

RECOMMENDED RESOLUTION

TO APPROVE THE DRAFT ORDER INCREASING THE
NUMBER OF MANAGERS OF THE PELICAN RIVER
WATERSHED DISTRICT FROM FIVE TO SEVEN
MEMBERS.

DEPARTMENT : Board of Water and Soil Resources

STATE OF MINNESOTA

Office Memorandum

DATE : September 21, 1988

TO : MBWSR Members

FROM : Mel Sinn *MS*

PHONE : 612 - 297-2622

SUBJECT : Proposed Increase in the Number of Managers of the
Pelican River Watershed District

Enclosed are Bill Cofelli's minutes of the public meeting held in Detroit Lakes on August 27, 1988 to gather local comments on the proposed increase in managers. The MBWSR gave preliminary consideration to this issue at the July meeting. The last page of the minutes reflect that the MBWSR members participating in the public meeting were all "...open to or in favor of enlarging the board of managers."

Also enclosed are a draft Order approving the proposed increase and a recommended MBWSR resolution for your consideration.

Encls.

SEP 01 88

MINUTES OF INFORMAL HEARING OF PELICAN RIVER WATESHED
DISTRICT HELD AT DETROIT LAKES, MINNESOTA SATURDAY, AUGUST
27, 1988.

Mr. Osaard called the meeting to order at 9:30 AM, August 27, 1988. Present for the Board of Water and Soil Resources were: Mr. Don Osaard, Mr. Lowell Moen, Mr. Kenneth Schellack, Mr. John Brooks and Mr. Bill Cofell. Mr. Mel Sinn was present for the staff.

There were at least 45 persons present by my count and a few more may have come in after the meeting started.

Don Osaard explained the history, organization and purpose of the Board of Water and Soil Resources. He stated the purpose of the hearing was to gather information on a petition to expand the membership of the Pelican River Watershed District Board of Managers from 5 to 7 persons.

He then asked the BWSR members and staff to introduce themselves and this was followed by introductions of Watershed District Board Members and the County Commissioners. Mr. Osaard saved his own introduction until later in the meeting.

Mr. Klamstad was granted the floor and gave information regarding the size of the district, the history of the events that led to present request for board enlargement. He explained the geographical, residential, occupational division of the district; the northern part of district being primarily agricultural and recently concerned about repair of ditches; and the residentially developed lakes and lakeshore. The recent appointments to the Watershed Board having left traditional interests unrepresented. An additional item introduced was a decision contemplated by the county commissioners to transfer the ditches within the watershed district to the district. Mr. Klamstad described the number and character of the lakes. There are ten major lakes and at least 50 smaller ones. The history of the organization of the district and the history of the appointment of managers was described. There had been one manager from Lake Floyd, and Lake Sallie and Lake Detroit and no representative from Lake Melissa. The Watershed district was originally organized to deal with lake problems and has been oriented toward improvement of the lakes. Mr. Klamstad stated that he thought representation should be by hydrologic basins.

Mr. Klamstad presented graphic information to the Board on population density, assessed valuation of land, and levy

raised by taxes by area. He stated that while adding members to the district board might increase the costs, he suggested that the additional cost was not a real problem.

People in the north have had no representation on the board in the immediate past and apparently little or no interest until they became concerned about ditch repair. There are few or no lakes in the northern agricultural area. He described the decision to turn ditches over to the watershed districts and one of the county commissioners present affirmed this. Mr. Klamstad expressed the fear that the board would be overloaded with agricultural interests and become ditch oriented to the neglect of lake improvement. He pointed out that there were people in the area who wanted ditches repaired and others want the ditches left as they are at present. He argued they should not have a board dominated by agricultural representation.

The lake people are fearful that lake interests will not be represented by farmer managers. Many of the lake people are non-resident land owners and seasonal residents and thus taxpayers in the region. The lakes are in an improved condition because of the work of the watershed district.

Mr. Klamstad introduced the economic argument that loss of lake people would make it difficult for a smaller population of permanent resident land owners to maintain the tax base to support schools, welfare and other services. The implication is that continuation of lake residency is related to continued lake improvement.

Question: How many ditch systems are there in the watershed? Answer: Fourteen ditches all within the boundaries of the district. They were constructed since 1913 and have not been repaired since. "Lot of people want ditches cleaned and some don't want them cleaned." He hopes there will be a way to clean ditches without further damage to lakes.

There has been a lot of testing of lake water and also other studies have been made.

Question: What have you done away from the lakes to improve lake water quality? Answer: It is hard to get involved away from the lakes. A good deal of effort toward getting Detroit Lakes to improve sewage disposal facilities. They have been involved with the MPCA and with the Clean Lakes Act grants. The district has been involved in a stream and lake flowage research project. They have been aided by the University Professor Heinz Stepan (sp) and his graduate students.

Mr. Klamstad described the Rice Lake Bed as plugged with sediment and debris. Also stated that the process of

redetermination of benefits for the ditch area had been done.

Question: Is there much changing in regard to land use in the area? Answer: Land in area in question is mostly marginal crop land. Area contributing water is all included in the boundaries. He stated that the boundaries were essentially correct as portrayed on the map.

Mr. Boyer: (county commissioner) We are going to turn the ditches over to the watershed district and "we are 100% for the enlargement of the board."

Jim Dixon: The Lake Sallie and Lake Melissa residents are mostly seasonal. They are at the mercy of local permanent residents in regard to taxation. The lakes have been heavily populated for years. They are downstream from the Detroit Lakes Municipal Sewage plant. They formed a lake association to pressure Detroit Lakes to improve sewage disposal. They have been involved in a precedent setting law suit. Improvement of sewage disposal did occur. He then gave some history of the organization of the watershed districts---initiated by Dr. Rosstad. (See Statement by James Dixon, dated Saturday, August 27, 1988.)

The some recent appointees are not on lakes and this is thought not to be in accord with the original purposes of the district--with expansion of membership they feel they will set at least one of two new members.

Mr. Dixon then described what they had done beside cooperation with Detroit Lakes Sewage improvement. They have developed a weed harvesting program in the lakes as part of the general effort to clean the lakes plus a way of collecting and transporting vegetative material away from the lake. Their present fear is they will lack input in making needed lake improvements.

Bill Jordan: The lake people are an important economic factor in the area. The maintenance of the value of buildings, boats and property are of concern. He asked the Lake Sallie residents to stand. I believe more than half of citizens present stood. He spoke of the value of the agricultural sector in his remarks but that the economic importance of the lake residents to the area should also be recognized. Mr. Jordan stated that a Mr. Roper had been a good manager for the district but had not been reappointed.

I had a question at this point: How did it happen that five members were appointed from the northern part of the district and none at the southern? Did not ask because someone from the audience asked it. Mr. Jordan responded: that he thought the county commissioners were under pressure.

Mrs. John Burnett made a statement that Lake owners deserved representation. She said that water quality of Lake Sallie and Melissa were better than they were but far away from the way they should be. She described a green algae bloom 15 to 20 feet from shore of the lake. It is difficult to get clean water.

Mr. Jordan responded and agreed that much was left to be done. What will happen if they drain old lake bottom. Too many nutrients in the lakes already. How will sewage residues be handled in the area. About \$140,000 has been spent on a study. Zoning efforts to make residents bring septic systems up to code. Mr. Jordan said a few had not complied, I think it was thirteen. He stated that further responses must be received by Sept. 7, 1988. Afterwards someone mentioned that while improvements had been made some septic systems were not performing properly. It was mentioned that Detroit Lakes would like to annex part of Lake View Township and put in sewage system. It was stated this would be very expensive.

Question: What is the number or percentage of full year residents on Lake Sallie and Lake Melissa? Answer between 10% and 15 %. The buildings are not winterproofed. The summer residents are mainly from the Fargo-Moorhead area.

Mr. Dennis Krawl (Sp) Spoke about Big Floyd Lake. He said efforts should be made to keep it in present condition or to improve it. He thought that most of the water coming from the agricultural lands (ditch repair area) will impact Floyd Lake first. Any effort to clean the ditches will impact Floyd Lake first then will impact Detroit Lake and the Chain of Lakes south.

Pollution Control Agency representative then read a letter supporting enlargement of the watershed district board of managers. He listed as reasons, size of watershed, the pollution problem, the activities of the lake residents and the clean lake problem.

Argument on activity in the district, the need for clean waters, lake water quality. Appointing a board that does not know problem of the lake area may alter effort to aid drainage. There appears to be a need for knowledge of alternatives. Drainage does not seem to be only solution to agricultural problem. There must be ways of draining to avoid impact on lake waters.

Mr. Krawl stated that about 50% of the Floyd Lake area people were year around residents.

Mr. Ogaard stated that it appeared to him that knowledge incorporating drainage and sediment control, wetland restoration and water and sewer control was needed. He

pointed out that managers do not represent an area of a district they are to represent the interest of the entire district.

Mr. Klamstad responded to a question about mill rates. He said the mill rate for the watershed was .00848 and brought in about \$54,000. They would be allowed to go to one mill. They have made assessments for purchase of the weed harvester and allied equipment. All shoreline owners had raised another \$30,000 for cleaning shores and hauling away weeds and debris collected and piled by residents. Development pays 1/2 and shoreline owner assessment pays 1/2.

Mr. Ogaard mentioned use of Infra-Red scanning instruments to observe and check sources of pollution by visual presentation which apparently points out rather definitely source of pollution.

In regard to cleaning ditches he pointed out that it made a difference in running surveys, how a ditch is cleaned, the use of drop structures and sediment basins might alleviate prospective sedimentation and reduce nutrient loading.

Meeting Adjourned 10:55.

After the meeting Chairman Ogaard polled the Board Members present. Each one responded that they were open to or in favor of enlarging the board of managers.

*

Ideas for suggested statement:

Watershed district board members should not be appointed on the basis of any area representation within a watershed except where several counties are included in a Watershed district. Any person appointed to a board is to serve all citizens and the environmental needs in regard to management of water resources delegated to it. However, to insure that persons with best knowledge of areas such factors as population, assessments, valuation, nature and level of activity, determination of needs, awareness of certain environmental impacts, and experiences or knowledge of environmental management and in view of the multipurpose objectives that may arise in a watershed district can be considered and included in making appointments to the board and we believe provide justification for enlarging the board in this case.

From notes of hearing made by:

Bill Coffell
Bill Coffell

DRAFT

Minnesota Board of Water and Soil Resources
90 West Plato Boulevard
First Floor
St. Paul, Minnesota 55107

In the Matter of the Petition to
Increase the Number of Managers of
the Pelican River Watershed District
(Minn. Stat. Section 112.421)

FINDINGS OF FACT,
CONCLUSIONS OF LAW,
ORDER

On April 28, 1988 the Becker County Board of Commissioners and the Pelican River Watershed District (District) filed a petition seeking to increase the number of District managers from five to seven. The Board of Water and Soil Resources (MBWSR) conducted a public meeting on the petition in Detroit Lakes on August 27, 1988 to solicit public comment. The public meeting was attended by the MBWSR Chair and four other members, who recommended to the full MBWSR that the petition be granted.

Having considered the entire record of the proceeding, the MBWSR makes the following Findings of Fact, Conclusions of Law, and Order:

FINDINGS OF FACT

1. The District was established on May 27, 1988. The District includes approximately 120 square miles. Nearly all of the District is located in Becker County, except for approximately two and one-half square miles in Otter Tail County. The Order establishing the District prescribed a five-member board of managers, with all five managers residing in Becker County.

2. The District contains five major recreational lakes and many smaller lakes. The District's activities have focused on lake management since its inception. The District has been active in water quality management activities including the following areas: water quality testing, lake nutrient budget studies, upgrading septic systems, aquatic weed harvesting, acquisition of lakeshore for public recreation land, upgrading municipal wastewater treatment, and research projects involving lake water quality.
3. The District contains four public drainage systems that are currently under the jurisdiction of the Becker County Board of Commissioners. Becker County is currently redetermining the benefits on some of the systems. The Becker County Board of Commissioners has tentatively decided to transfer jurisdiction of the systems to the District following completion of the redetermination of benefits proceeding.
4. The District has traditionally had residents from both the Lakes Sallie-Melissa and Big Floyd Lake areas on the board of managers. When the terms of the two most current managers from these areas expired in May 1988, they were replaced by two new members more representative of the agricultural areas north and east of Big Floyd Lake in the northern one-third of the District.
5. There is a strong and widespread belief among lakeshore owners in the Sallie-Melissa and Big Floyd Lake areas that they need continued representation on the District's board of managers to maintain a high level of attention to lake protection and

management issues. There is a correlation between the quality of the lakes, surrounding property values, the local tax base, and the local economy. A representative of the Lakes Melissa-Sallie Improvement Association presented a 416 signature petition supporting the proposed increase in managers.

6. The Minnesota Pollution Control Agency submitted a letter supporting the proposed increase for the purpose of providing increased representation throughout the District and maintaining a high degree of lake interest on the board of managers in order to facilitate implementation of a Clean Lakes project in the District.
7. The Becker Soil and Water Conservation District submitted a letter opposing the proposed increase, stating that it would raise administrative costs, is not warranted based on the District's size, and would not better serve District residents.
8. An increase in the number of managers would provide for broader representation on the District's board of managers; would provide Becker County an opportunity to address the issue of fair distribution of managers by hydrologic areas; and would allow Becker County to resolve strong local concerns over representation on the District board, that if left unresolved, could hinder effective water management in the District.

CONCLUSIONS OF LAW

1. The petition to increase the number of managers of the District is valid in all respects. It meets the tests set forth in Minn. Stat. Sec. 112.421 (1986).

2. Due, timely and proper notice of filing of the petition was given. All other relevant requirements of law have been fulfilled. The MBWSR has jurisdiction to determine the issues herein.
3. The proposed increase in the number of District managers would serve the public welfare, public interest, and the purposes of the Minnesota Watershed Act.

IT IS THEREFORE ORDERED THAT

1. The number of managers of the Pelican River Watershed District is increased to seven.
2. The two additional managers shall be appointed by the Becker County Board of Commissioners.
3. The initial terms of the two additional managers shall begin on the dates of their appointment and shall both expire on May 26, 1989. Succeeding managers shall be appointed to three-year terms.

Dated this 28th day of September 1988, and effective immediately.

MINNESOTA BOARD OF WATER AND SOIL RESOURCES

Donald H. Ogaard
Chairman

**PROPOSED ALLOTMENT FOR GENERAL PURPOSE GRANTS TO DISTRICTS:
EXPENDITURES FOR SUPPLIES AND SERVICES**

Each year the Board withholds a small amount of the General Purpose Grants to provide certain centralized supplies and services to Soil and Water Conservation Districts. Board action is needed to allocate those funds to the appropriate object code. Following is the staff recommendation based on past history and Board policy established over the previous year.

1)	Processing of Social Security Information (Object 16)	\$ 500.00
2)	Training Funds (Object 29)	8,500.00
3)	Second Installment of Accounting Software Package (Object 17)	17,500.00
4)	Purchase of Raingauges and Envelopes (Object 30)	2,713.00
5)	Printing of Letterhead and Promotional Brochures (Object 14)	5,000.00
6)	Rental of Booth Space at Farm Fest, fairs, etc. and purchase of display materials	<u>4,500.00</u>
	TOTAL	\$38,713.00

This is the same total reallocation as was authorized a year ago.



90 W. Plato Blvd.
St. Paul, Minnesota 55107
(612) 296-3767

September 8, 1988

TO: Jim Birkholz - Director, B.W.S.R.

FROM: Darrell Apelgrain - Area II Engineer

D. Apelgrain

SUBJECT: September Estimate, Minett-Krantz Reservoir,
State Share-\$40,000.00

Regional Offices

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1819 Bemidji Ave.
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218-755-3963

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West Central Region
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South Central Region
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New Ulm, MN 56073
507-354-2196

Southeast Region
Friedell Bldg., Room 100
1200 S. Broadway
Rochester, MN 55904
507-285-7458

Southwest Region
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1400 E. Lyon Street
Marshall, MN 56258
507-537-7260

East Central Region
90 W. Plato Blvd.
St. Paul, MN 55107
612-296-3767

Enclosed find two Copies of Partial Estimate #3 for the Minett Krantz Reservoir. This is the third estimate since construction began. This project is almost complete. The Contractor, Bill Schmidt Construction Company from Redwood Falls, has done an excellent job. The fill installation will be complete next week and the seeding and final cleanup will be complete by October first. The State share of this estimate is \$40,000.00 and the County share is \$13,333.33. Please remit this amount to the Pipestone County Auditor when the payment is processed. The Contractor has used 40.3% of the contract time and has completed 83.2% of the monetary value of the work.

Enclosure:

AREA II

MINNESOTA RIVER BASIN PROJECTS, INC.

1401 Peterson Street • Marshall, MN 56258 • 507-537-1324

BLUE EARTH
Courthouse
Mankato, MN

September 27, 1988

BROWN
Courthouse
New Ulm, MN

COTTONWOOD
Courthouse
Windom, MN

TO: Jim Birkholz - Director, B.W.S.R.

FROM: Darrell Apelgrain - Area II Engineer

D. Apelgrain

LAC QUI PARLE
Courthouse
Madison, MN

SUBJECT: Semi-final Estimate, Minett-Krantz Reservoir,
State Share-\$13,492.97

LINCOLN
Courthouse
Ivanhoe, MN

LYON
Courthouse
Marshall, MN

Enclosed find two Copies of Partial Estimate #4 for the Minett Krantz Reservoir. This is the semi-final estimate for the Project. This project is almost complete except for the final cleanup, measurements, and final inspection. The Contractor, Bill Schmidt Construction Company from Redwood Falls, did an excellent job. The seeding and mulching was completed on September 14. The States share of this estimate is \$13,492.97. The County share is \$4,497.65. The final cost of the construction part of this project will be approximately \$134,000.00 or within 2% of the engineers estimate. The final Estimate will be ready by the October board meeting.

MURRAY
Courthouse
Slayton, MN

PIPESTONE
Courthouse
Pipestone, MN

REDWOOD
Courthouse
Redwood Falls, MN

YELLOW MEDICINE
Courthouse
Granite Falls, MN

Enclosure:

The Minnesota Board of Water and Soil Resources (BWSR)

Mission Statement

INTRODUCTION

The Minnesota Board of Water and Soil Resources is a unique organization whose membership and structure enable it to deal directly with local government and citizens, permitting the most direct and effective process for two-way communication and project administration.

The BWSR approaches resource problems from a holistic perspective, recognizing the inter-relationship between surface water, groundwater, people and land.

MISSION STATEMENT

The Minnesota Board of Water and Soil Resources considers water and soil to be our most precious natural resources. It is the BWSR mission to provide leadership in managing policies and programs that encourage all citizens to be stewards of our irreplaceable land and water.

The mission is accomplished in the following ways:

Policy Development: The BWSR seeks, through legislative initiative, policies favorable to water and soil resource management. The BWSR also serves as a forum for policy development relating to water and soil resource management and encourages public agencies and citizens to become involved through local units of government.

Service to Local Units of Government: The BWSR provides local governments with guidelines, training, and technical assistance in developing, implementing, and administering water and soil resource management plans. It offers leadership training to local officials and provides local government with educational materials on resource management issues.

Coordination: The BWSR uses its plan-approval authority guidelines, rules and staff assistance to ensure effective management of natural resources and to foster communication and understanding among the various units of government involved in natural resource protection.

Education: The BWSR develops information and education programs to increase awareness of local water and soil resource problems and to promote opportunities for individual action and local government involvement. The BWSR's information and education programs stress creative problem solving and prevention.

Funding: The BWSR advocates funding for water and soil management activities. It provides funding to local units of government to help them accomplish their resource management goals. Funding includes financial incentives to landowners.

Conflict Resolution: The BWSR acts as a mediator in resolving conflict between people and agencies, and recommends procedures to avoid future conflict.

BWSR STRATEGIC PLANNING WORKSHEET

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ISSUE: Nonpoint Source Pollution Control

- Description of Needs:

- 1) Determine the mix of land use controls and incentives necessary to control NPS pollution.
- 2) Determine and promote the local government role in implementing land use controls and incentives.
- 3) Develop strategies to control NPS pollution in areas not likely to be part of organized clean water partnership projects.

BWSR GOAL: To provide protection of water resources by encouraging coordination of planning and implementation efforts through local governments.

BWSR STRATEGIES:

- Tasks to Accomplish:

- 1) "Deliver" quality 509 and 110B, 112 and SWCD plans via an excellent process.
- 2) Encourage local government officials to become issue generators and not merely program managers.
- 3) Coordinate BWSR planning efforts with BWSR programs to minimize bias toward particular philosophies.
- 4) Develop measurable accomplishments in the area of promotion so that budgetarily communication efforts can compete with land treatment efforts.

(attach additional pages as needed)

- integrate
- BWSR work as a forum
- cause a change of perspectives
- information pipeline to local govt
- develop info/education program w/public

- develop marketing strategy

BWSR STRATEGIC PLANNING WORKSHEET

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ISSUE: LAND USE MANAGEMENT

- Description of Needs:

- 1) Communication of accomplishment, values, goals and benefits.
- 2) Improve management of private forestry resources.
- 3) Control erosion and sedimentation on urban development sites.
- 4) Protect sensitive areas from development (e.g. wetlands and bluffs).
- 5) Maintain and improve soil productivity for agricultural crop production.
- 6) Retire lands to wildlife uses if unsuitable for crop production.
- 7) Assist in developing a comprehensive natural resources inventory.

8) *Protect ag lands*
9) *Protect*
10) *drought impact*

BWSR GOAL:

To manage the land for its best use including urban development, agricultural crop production, forests, fish and wildlife, native plant communities, resulting in an improved quality of life.

BWSR STRATEGIES:

- Tasks to Accomplish:

- 1) Provide and coordinate information and technical assistance to local, state and federal agencies and conservation groups.
- 2) Provide assistance, guidance and review of local water plan.
- 3) Provide programs to retire certain lands from agricultural crop production and convert to wildlife lands.

4) *education*
a)
b)
c)
d)
e)

(attach additional pages as needed)

5) wetland

BWSR STRATEGIC PLANNING WORKSHEET

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ISSUE: Water Quantity Management

- Description of Needs:
 - Early, pro-active state participation in local planning and project development
 - Development and communication of coordinated and comprehensive state policy
 - Exchange of information and ideas among agencies and local governments
 - Expanded financial and technical assistance
 - Accelerated public information and education activities
 - Development of stronger local leadership and management capability
 - Promotion of strong conservation ethics
 - Improve local data collection and analysis

BWSR GOAL:

Develop true partnership between state agencies and local government in developing and implementing policies and projects that wisely manage water runoff, retention, use, and drainage.

BWSR STRATEGIES:

- Tasks to Accomplish:
 - Amend Chapter 112 to provide earlier MBWSR input on proposed projects
 - Publicize successful local projects and policies (e.g. Ducks Unlimited participation in wetland restoration)
 - Organize more field trips to view successful projects
 - Develop and communicate MBWSR project review guidelines
 - MBWSR serve as "broker" of state, federal, and private assistance programs
 - Provide state technical and financial assistance for comprehensive hydrologic data collection efforts

(attach additional pages as needed)

BWSR STRATEGIES: (Continued)

• Tasks to Accomplish:

- Provide model ordinances for use by local government
 - Expand MBWSR role in water conservation information and education
 - Publish drainage handbook for local officials
 - Strengthen coordination between local-state-federal-private organizations on water quantity management issues
 - Ensure watershed-wide coordination among 110B plans
 - Prepare and distribute educational articles to media, magazines, etc.
 - Facilitate neighborhood meetings on conservation issues
 - Organize meetings between local units
 - Produce educational videos on what individuals or groups can do to reduce flooding and flood damages
 - Conduct leadership development workshops for local officials
 - Get information to environmental/conservation groups about openings on WD and SWCD boards
 - Amend Chapter 112 to require counties to follow an open appointments process in selecting WD managers
 - Get BWSR to take strong positions on pertinent land and water management issues, including conservation ethics
 - Provide every local official a copy of Aldo Leopold's "Sand County Almanac"
 - Amend Chapter 106A to require stronger review of potential environmental effects
 - Initiate pilot program to obtain streamflow readings, similar to the Rainfall Monitoring Program
 - Expand observation well network
 - Provide expertise to local government to help them develop hydrologic models
 - Coordinate local data collection activities and coordinate among state and federal agencies
-
- *Better link programs.*
 - *Promote bridge crossings*

BWSR STRATEGIC PLANNING WORKSHEET

MISSION STATEMENT

The Minnesota Board of Water and Soil Resources considers water and soil to be our most precious natural resources. It is the BWSR mission to provide leadership in managing policies and programs that encourage all citizens to be stewards of our irreplaceable land and water.

ISSUE: Groundwater Management

- Description of Needs:
 - Quality protect and maintain
 - Quantity ensure availability to meet needs of citizens
 - Make existing information useable/available
 - Ongoing and new programs/efforts be consistent with nondegradation policy
 - Consistent data gathering and analysis

BWSR GOAL:

Ensure that groundwater protection/enhancement is efficiently met through completion of comprehensive local water plans with implementation through a state local partnership.

BWSR STRATEGIES:

- Tasks to Accomplish:
 - 1) Education
 - BWSR Education Specialist
 - Establish water quality demonstration farms
 - Develop local user information service
 - 2) Use local water planning
 - Develop better guidelines for groundwater components of plans as information becomes available
 - Reduce ag chemical use

(attach additional pages as needed)

BWSR STRATEGIES: (Continued)

• Tasks to Accomplish:

- Provide staff assistance to local governments
 - Propose land use changes
 - Ensure local unit of government plan consistency with 110B/509 plans
 - Take advantage of various easement opportunities (RIM, FmHA, ...)
- 3) Grants
 - Develop Local Water Resources Protection and Management Program for local technical staff
 - Develop Well Abandonment Cost-Share Program in cooperation with MDH
 - Increase grants to SWCDs for monitoring and data collection
 - Increase opportunities to fund special/innovative projects
 - 4) Encourage collection of information and monitoring
 - Inventory abandoned wells
 - Monitor more observation wells
 - Encourage groundwater atlases
 - Coordinate local data bases
 - More focused role for BWSR?
 - 5) Expand existing programs
 - Expand RIM Reserve to cover susceptible groundwater areas
 - Expand state cost-share program
 - Add groundwater management throughout operational guides
 - 6) Maintain/enhance state/local/federal relationships
 - Monitor implementation of local water plans
 - Expand communication and coordination with Associations and their appropriate special committees
 - Cooperate fully with interagency coordinating entities
 - 7) Regular reports to governor and legislature
 - October 15 report every year
 - Annual report
 - 8) Improve conservation planning and application
 - Cooperate in development of groundwater component of farm plans
 - Use groundwater component in land use plan implementation of local governments
 - 9) Training
 - Train BWSR staff (so they can) train local staff
 - use of county well index info
 - develop manual
 - More background info for staff and Board
 - seminars
 - More training for local staff
 - Informational seminars for local decisionmakers
 - Sponsor inter-agency training for state and regional staffs
 - Provide for soils training in preparing surficial geology maps
 - Train staff
 - 10) Encourage more counties to begin preparing surficial geology maps

BWSR STRATEGIES: (Continued)

• Tasks to Accomplish:

- 11) Encourage development of statewide groundwater GIS
- 12) Computers in all local offices
- 13) Planning Guidelines
 - Ensure local unit of government consistency with local plans
- 14) Local government roles evolve
- 15) Reorganize state government
Recodification
- 16) Work for passage of federal groundwater funding
- 17) Expand staff capability to deal with groundwater issues
- 18) Develop groundwater districts
 - Refine how existing units of government deal with groundwater management

BWSR STRATEGIC PLANNING WORKSHEET

MISSION STATEMENT

The Minnesota Board of Water and Soil Resources considers water and soil to be our most precious natural resources. It is the BWSR mission to provide leadership in managing policies and programs that encourage all citizens to be stewards of our irreplaceable land and water.

ISSUE: Wetlands Management

- Description of Needs:

- 1) Educate resource people and the general public about the positive values and functions that wetlands provide.
- 2) Coordinate the management of wetlands between various local, state, and federal agencies and conservation groups.
- 3) Implementation of wetland protection, enhancement, restoration, and creation options.

BWSR GOAL: MBWSR has recognized wetlands have values within themselves^{and are important to everyone in the State} and it is our goal to protect, enhance, restore, and create wetlands so that a net gain of wetland acres is achieved in Minnesota.

BWSR STRATEGIES: MBWSR has determined that further drainage is no longer an appropriate use of wetland acres.

- Tasks to Accomplish:

- 1) Education:

- Educate resource personnel (staff, local units of government, special interest groups) about the many wetland management options available.
- Educate the general public (land users) to make them aware of the values and functions of wetlands and the legacy which they create.
- Educational Methods:
 - training sessions/workshops
 - news releases
 - publications
 - special events

(attach additional pages as needed)

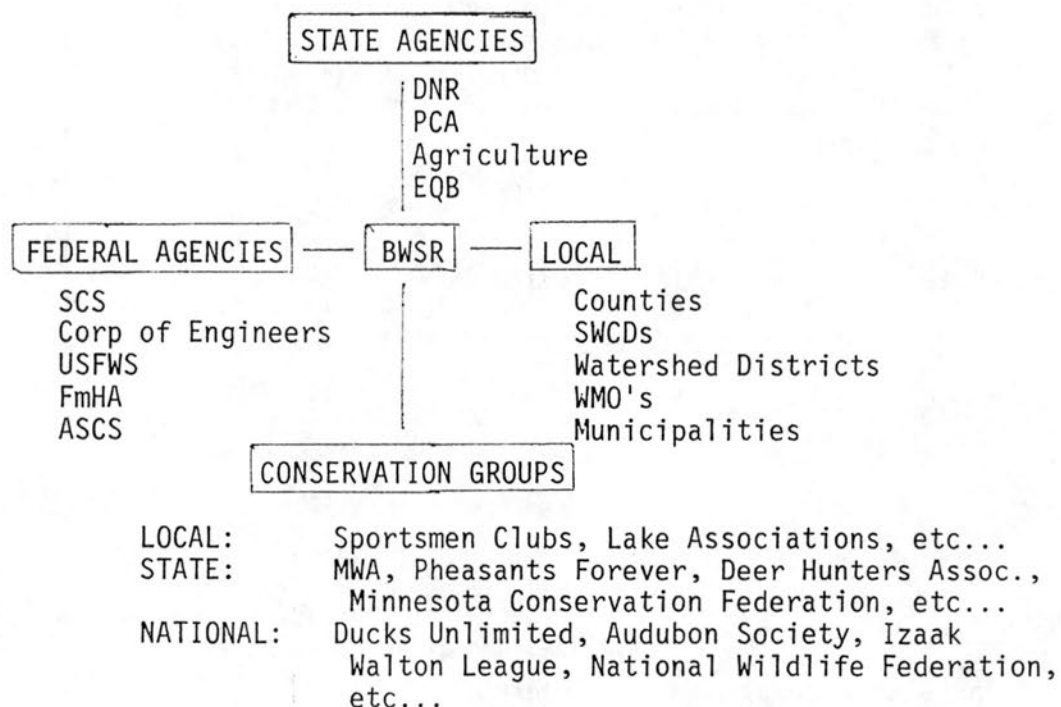
BWSR STRATEGIES: (Continued)

- Tasks to Accomplish:

- Definition of Wetland Values:
 - improve water quality
 - flood control and retention
 - groundwater recharge
 - fish and wildlife habitat (game and non-game)
 - reduce erosion and sedimentation
 - recreation and aesthetics
 - diversity of animal and plant life

2) Coordination of Goals and Policies through:

- news releases
- training sessions/workshops
- implementation options
- legislation
- publications
- special events



3) Implementation of options available for wetlands protection, enhancement, restoration, and creation:

- Plan and Project Review:
 - 110B (County)
 - 112 (Watershed Districts)
 - 509 (WMO)
 - 40 (SWCD)
 - RIM (SWCD)
- Legislation
 - creation and improvement of programs and laws which benefit wetlands management.

BWSR STRATEGIES: (continued)

- Tasks to Accomplish:



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STRATEGIC PLANNING

September 28 - 29, 1988

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