

Minnesota Board of Water and Soil Resources. Minutes.

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Minnesota Board of Water & Soil Resources

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DATE: October 15, 1991

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

FROM: Ron Harnack, Executive Director

SUBJECT: October 23, 1991 BWSR Meeting

The Board of Water and Soil Resources meeting will be held in Room 112 (Senate Hearing Room) of the State Capitol. Parking is available in Lot Q (one block northeast of the State Capitol). The agenda for the meeting is attached for your review.

If you have any questions regarding the agenda or need additional information please feel free to contact me. I look forward to seeing you on the 23rd!

RDH:mja
Enc.

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South Central Region
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Southeast Region
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BOARD OF WATER AND SOIL RESOURCES
ROOM 112 STATE CAPITOL
75 CONSTITUTION AVENUE
ST. PAUL, MINNESOTA
OCTOBER 23, 1991

PRELIMINARY AGENDA

9:00 a.m.	1.	Call to Order
	2.	Adopt Agenda
	3.	Approval of Minutes of September 25, 1991
	4.	Reports - Chairman's Report - Jim Nielsen - Executive Director's Report - Ron Harnack - EQB/Water Resources Report - Ron Harnack - BWSR Committee Reports
9:30 a.m.	5.	Emergency Cost-Share Requests - Chuck Niska
	6.	1991 RIM Reserve Easement Allocations - Dave Behm - for decision
10:30 a.m.	7.	Nine Mile Creek Watershed District - Mel Sinn - for discussion
11:00 a.m.	8.	Comprehensive Update on Wetlands - Greg Larson - for discussion
noon	Lunch	
1:00 p.m.	9.	Regional BWSR Report - Brainerd Office
1:30 p.m.	10.	Water Management Organization Plan Approvals • North Cannon River WMO - Doug Thomas • Todd County Water Plan - Dan Steward • Swift County Water Plan - Dan Steward
2:30 p.m.	13.	Advisor Comments • John Sumption, MACDE • Franklin Denn, MAT • Gary Nordstrom, SCS • Howard Peterson, MAWD • Danny Potter, MASWCD • Pat Wulff, LMF
	14.	Board Issues - discussion, comments, action needed
3:00 p.m.	Adjourn	

BOARD OF WATER AND SOIL RESOURCES
ROOM 112 STATE CAPITOL
75 CONSTITUTION AVENUE
ST. PAUL, MINNESOTA
SEPTEMBER 25, 1991

Appointed Members in Attendance
Jim Nielsen
John Brooks, Jr.
Don Ogaard
Loren Harste
Howard Peterson
Don Warner
Dwain Otte
John Boulton
Jack Graba
Jim Rossman
Diane Jensen

Appointed Members Absent
Warren Rodning

Agency Members in Attendance
Wayne Anderson, Pollution Control Agency
Fred Bergsrud, University of Minnesota/Extension Service
Tom Lutgen, Department of Natural Resources
Paul Burns, Department of Agriculture

Others in Attendance
John Sumption, Minnesota Association of Conservation District Employees (MACDE)
Pat Wulff, Minnesota Lake Management Federation (MLMF)
D'Wayne DeZiel, Minnesota Association of Soil and Water Conservation Districts (MASWCD)
Franklin Denn, Minnesota Association of Townships (MAT)

Staff in Attendance
Ron Harnack
Jim Birkholz
Keith Grow
Brad Matlack
Darrell Apelgrain
Chuck Niska
Bruce Sandstrom
Chris Hughes
Mel Sinn
Mary Jo Anderson

Meeting Called to Order - Chairman Nielsen called the meeting to order at 9:10 a.m.

** 91-75 Adopt Agenda - Moved by Jensen, seconded by Ogaard, to adopt the agenda as presented. Affirmative: Ogaard, Boulton, Warner, Graba, Otte, Brooks, Jr., Harste, Peterson, Jensen, and Nielsen. Opposed: None. Carried.

** 91-76 Approval of Minutes of August 28, 1991 - Moved by Peterson, seconded by Otte, to approve the minutes of August 28, 1991, as circulated. Affirmative: Ogaard, Boulton, Warner, Graba, Otte, Brooks, Jr., Harste, Peterson, Jensen, and Nielsen. Opposed: None. Carried. Chairman Nielsen stated that a correction needs to be made on page four, last paragraph, regarding the Cost-Share Program work plans. It should read, "This project will be used to demonstrate how proper land use practices installed adjacent to sinkholes can protect the water resources of southeastern Minnesota." Howard Peterson stated that a correction needs to be made on page five regarding his MAWD report. It should read, "Howard Peterson reported that the MAWD Board of Directors will hold their quarterly meeting in Moorhead." Don Warner stated that the statement on page three regarding the Snake River update should read, "Pine County Commissioners were not represented at the meeting," rather than "Pine County was not represented at the meeting."

Chairman's Report - Chairman Nielsen reported that he has been in contact with agency heads this week to discuss the issue of nonvoting agency membership. This item will be discussed again in January.

Chairman Nielsen attended the Environmental Quality Board (EQB) meeting. The EQB established a lake management task force to better serve lake problems and also to help get the problems into the system for resolution. Doug Thomas and Dan Steward are the BWSR's staff representatives on that task force.

Chairman Nielsen commented on the fact of the unanimous vote on motions by the BWSR. He stated that perhaps members need to look at the BWSR's communications system to generate more discussion and become more involved in issues on the agenda.

Chairman Nielsen asked for a committee report by Don Ogaard, chair of the Environmental Education Advisory Board. Don reported that he met with Susan Tsakakis regarding the BWSR's initiative and that of other agencies regarding education. The BWSR's Education Committee will hold their first meeting next month. The committee will deal with the BWSR's training initiative as well. Fred Bergsrud stated that he is interested in being part of the education committee. If other agency members are interested in being on any of the BWSR's committees please contact Ron Harnack.

Executive Director's Report - Ron Harnack reported that an all-staff retreat was held last week. This was an excellent opportunity for staff to get together and discuss issues and concerns on BWSR programs. The agenda consisted of two informational sessions conducted by the Department of Employee Relations (DOER); a half-day session on

wetlands, and also a session on the staff organizational structure.

Ron reported that the staff has an I-Team, chaired by Jim Birkholz. This team of staff are working on the staff organizational structure and how to deal with a more integrated delivery approach to local units of government while maintaining generalists/specialists, the expertise of existing staff and adding 12 additional staff due to the Wetlands Act. This integration should result in a more positive delivery system.

Ron commented on the lake advocates initiative lead by the Department of Natural Resources. The BWSR's role in this initiative will be defined as it develops a focal point and grassroots component on each lake.

Ron indicated that he would be contacting members to meet individually with each BWSR member within the next few months. Chairman Nielsen suggested that it may be beneficial for the Board to hold a retreat with both a structured and non-structured agenda. After the first of the year seems most practical.

EQB/Water Resources Committee Report - Ron Harnack reported that the Blandin Foundation gave the Freshwater Foundation a grant for lake management. A "Milestones Meeting" will be held October 2 in Duluth, with the focus on environment and the State Water Plan; Ron and Jim Nielsen will attend. The LCMR/Environmental Trust Advisory Committee will hold an Environmental Congress on Saturday, September 28. Dave Behm is on the agenda to make a RIM presentation, and Ron will also be in attendance.

Wetlands Update - Ron Harnack briefly updated the BWSR on the wetlands law. He stated that Greg Larson will be making a detailed report on the wetlands moratorium approach at the October BWSR meeting. Ron reported that workshops will be held in January; he doesn't envision much public input due to the time elements. The draft rules deadline is September 1992, with the formal public meetings to be held in November 1992. Immediate efforts will focus on development of guidelines and process for the interim aspects of the wetlands law. These guidelines and process will be before the Board in December.

Jim Rossman entered the meeting at 9:50 a.m.

Update on Metro Rule Meetings - Bruce Sandstrom updated the BWSR on the six public meetings that were held. They now have the sixth draft of the metro water management rules. Copies of the rules have been mailed to 500 constituents. Bruce anticipates the seventh draft of the metro water management rules to be completed by October 31 when the advisory committee meets. They hope to bring the draft rule before the BWSR in December. Howard Peterson voiced concern about what he perceived as duplication in rules with respect to who, the WMO and the city, having to maintain and update the same base data. He will submit a formal written statement of concern to Bruce before the advisory committee meets again.

Minnesota Forestry Improvement Program (MFIP) Allocation for FY92 - Chuck Niska presented the staff recommendations for 17 SWCDs, totalling $75,307. He reported that 14 additional SWCDs whose requests were submitted after the application deadline have requested funding totalling $38,693 - recommendations on these requests will be brought to the BWSR at the October meeting. Moved by Warner, seconded by Boulton, to approve the staff recommendation for the FY92 MFIP allocations totalling $75,307. Affirmative: Ogaard, Boulton, Warner, Graba, Otte, Brooks, Jr., Harste, Peterson, Jensen, Rossman, and Nielsen. Opposed: None. Carried.

** 91-77

Chairman Nielsen called for a break in the meeting at 10:50 a.m. The meeting reconvened at 11:00 a.m.

Emergency Cost-Share Requests - Chuck Niska presented the West Polk SWCD's emergency request for $3200 to allow for a dormant seeding this fall and to reduce time delay of re-establishment of demonstration plots. Moved by Warner, seconded by Boulton, to approve the West Polk SWCD's request for $3200. Affirmative: Ogaard, Boulton, Warner, Graba, Otte, Brooks, Jr., Harste, Peterson, Jensen, Rossman, and Nielsen. Opposed: None. Carried.

** 91-78

Chuck presented the Morrison SWCD's emergency request for $10,000 due to construction problems that have increased the costs of the project. Discussion followed. It was stated that rules need to be set to minimize requests for funding due to construction problems in the future. Moved by Boulton, seconded by Warner, to approve up to $10,000 for the request with the condition the BWSR engineer look at the problem and design of this project, and concur this is the least cost approach to the problem. Affirmative: Ogaard, Boulton, Warner Graba, Otte, Brooks, Jr., Harste, Peterson, Jensen, Rossman, and Nielsen. Opposed: None. Carried.

** 91-79

Sunrise River WMO Plan Approval - Bruce Sandstrom introduced Vernon Boettcher, Frank Verda, Verna Vindorf, and Betty Simonson, representatives of the Sunrise River WMO Plan. Bruce gave a brief overview of the Sunrise River WMO Plan and recommends approval of the plan. Moved by Rossman, seconded by Otte, to approve the Sunrise River WMO Plan. Affirmative: Ogaard, Boulton, Warner, Graba, Otte, Brooks, Jr., Harste, Peterson, Jensen, Rossman, and Nielsen. Opposed: None. Carried.

** 91-80

Chairman Nielsen adjourned the meeting for lunch at 11:55 a.m. The meeting reconvened at 12:50 p.m.

Chuck Niska presented an emergency request that he received this morning from Lake SWCD. Don Warner briefly explained that three critical erosion control projects have recently developed due to the heavy rainfall the county received. The first project request is for $5,000 to reconstruct larger rock along the Knife River. The second project request is for $3,000 for an erosion problem on private property along Lake Superior. The third project request is for $3,800 to repair the Lax Lake Dam structure. Discussion followed.

It was decided that staff needs time to look into these project requests and also needs to communicate with the Department of Natural Resources and the Lake County Highway
** Department regarding the Knife River structure before the BWSR can take action. Moved
91-81 by Ogaard, seconded by Jensen, to table the Lake SWCD request so staff may follow the due process and report at the October meeting. Affirmative: Ogaard, Boulton, Graba, Otte, Brooks, Jr., Harste, Peterson, Jensen, Rossman, and Nielsen. Opposed: None. Abstained: Warner. Carried.

RIM Services Allocation for FY92 - Chuck Niska presented the staff recommendation for
** the RIM services allocation for FY92, totalling $750,000. Moved by Graba, seconded by
91-82 Otte, to approve the staff recommendation for the RIM services allocation for $750,000 for FY92. Affirmative: Ogaard, Boulton, Warner, Graba, Otte, Brooks, Jr., Harste, Peterson, Jensen,Rossman, and Nielsen. Opposed: None. Carried.

Meeker County and Rock County Water Plan Approvals - Chris Hughes introduced Ron Cutsky and Paul Ferdig, representatives of the Meeker County water plan. Chris gave a brief overview of the Meeker County comprehensive water plan and recommended approval of the plan. Meeker County representatives appreciated the action of the Board and
** commended Chris Hughes for his efforts. Moved by Boulton, seconded by Rossman, to
91-83 approve the Meeker County comprehensive water plan. Affirmative: Ogaard, Boulton, Warner, Graba, Otte, Brooks, Jr., Harste, Peterson, Jensen, Rossman, and Nielsen. Opposed: None. Carried.

Chris introduced Jim Lewis, Don Briggs, and Rick Dillon, representatives of the Rock County comprehensive water plan. Chris gave a brief overview of the Rock County
** comprehensive water plan and recommended approval of the plan. Moved by Harste,
91-84 seconded by Otte, to approve the Rock County comprehensive water plan. Affirmative: Ogaard, Boulton, Warner, Graba, Otte, Brooks, Jr., Harste, Peterson, Jensen, Rossman, and Nielsen. Opposed: None. Carried.

Regional BWSR Report by the Marshall Office - Keith Grow, board representative; Darrell Apelgrain, engineer; and Brad Matlack, feedlot specialist; briefly reported on the programs and activities they have been working on in southwestern Minnesota.

Advisor Comments

- Minnesota Association of Soil and Water Conservation Districts (MASWCD): D'Wayne DeZiel announced again that the MASWCD annual convention will be held December 1-3 in Duluth. Convention materials will be mailed this week. If anyone has questions or comments on the MASWCD resolutions, feel free to contact D'Wayne. D'Wayne reported that the insurance program ceased to exist as of August 1. The MASWCD policy subcommittee for the cost-share rules will meet on October 9 in St. Cloud.

- Minnesota Association of Conservation District Employees (MACDE): John Sumption reported that the MACDE will be promoting affiliate memberships at the annual convention

December 1-3. The MACDE will have a panel discussion at the convention dealing with various issues. The panel will consist of BWSR, SCS, AMC and MASWCD, on Monday morning. John announced that sweatshirts and t-shirts will be sold at the convention. Also a legislative forum will be held at the convention to discuss issues of importance. John briefly commented on the supervisors/staff roles on SWCD policy/agreements of SCS compliance plans. John reported that the loss of county funds is a concern.

- Minnesota Association of Townships (MAT): Franklin Denn reported that he recently returned from Washington, D.C. where he and others were lobbying for the Minnesota Association of Townships. They met with President Bush to discuss the issue of regulatory authority. Franklin also briefly commented on some of the water problems that exist in townships.

- Soil Conservation Service (SCS): Dave Benner briefly attended the meeting to comment on SCS activities. He reported that all SCS field offices will be computerized. He explained that SCS will be in contact with BWSR staff to discuss SCS's technical assistance.

- Minnesota Lake Management Federation (MLFM): Pat Wulff stated that the MLMF did not meet this month. She reminded everyone of their annual meeting on October 27-29 at the Arrowwood in Alexandria.

- Minnesota Association of Watershed Districts (MAWD): Howard Peterson reported that the Board of Directors held their quarterly meeting last week in Moorhead. The MAWD annual meeting will be held at Cragun's in Brainerd on December 6-7. Howard stated that he attended a dedication of the Robert E. Farms wildlife area, restoring Elm Lake.

Discussion of November and December BWSR Meetings - Ron Harnack announced that the November meeting is scheduled the day before Thanksgiving and the December meeting is scheduled for Christmas Day. It was decided to eliminate the November meeting and hold the December meeting on the 18.

The Dispute Resolution Committee will meet on October 24.

** 91-85 Moved by Warner, seconded by Boulton, to adjourn the meeting at 3:15 p.m. Affirmative: Ogaard, Boulton, Warner, Graba, Brooks, Jr., Harste, Peterson, Rossman, and Nielsen. Opposed: None. Carried.

Respectfully submitted,

D. James Nielsen
Chairman

OPERATION S.A.V.E.

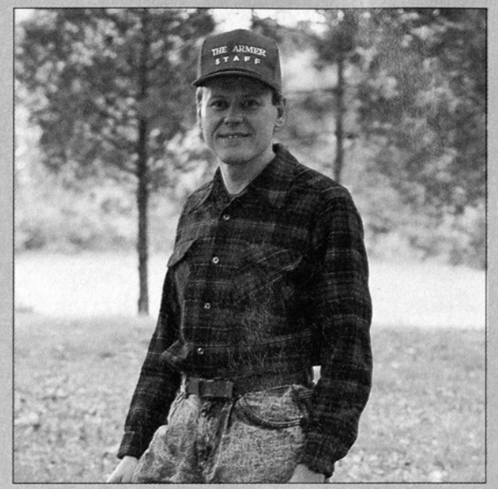
1991 Farmer's Directory

(Sustainable Agriculture/Voluntary & Economical)



THE FARMER THE DAKOTA FARMER

Defining Sustainability



Welcome to our second annual Operation S.A.V.E. Farmer's Directory.

In 1990, when we introduced S.A.V.E. – Sustainable Agriculture that's Voluntary and Economical – varying interests were competing to define the meaning of "sustainable agriculture." We decided to get into the act, too, by asking you, our readers, what sustainable agriculture meant.

We felt then, and we feel now, that farmers should define sustainable agriculture, not bureaucrats or environmentalists. We also think that any sustainable practice should be voluntarily adopted – and should be economically feasible.

Like our 1990 S.A.V.E. project, this year's effort looks at several issues critical to agriculture's sustainability, both environmentally and economically.

Those issues are wetlands and how to preserve them; nitrogen use and how to get top yields without wasting this valuable resource; and ridge-tillage, a practice that conserves valuable soil and moisture, and can produce top yields at reduced cost for row-crop farmers.

As we did a year ago, we talked with farmers across the region to glean ideas on these subjects. The results of some of those discussions are highlighted in the feature stories on the following pages.

Several things became clear as we visited with farmers. First, that many have moved from fear about a strange term called sustainability, to being invigorated by the challenge of taking a new look at how they farm.

It's also clear that there's still skepticism about sustainability, especially on whether regulations will eventually mandate how to farm. We think this skepticism is healthy, because farming is better off without excessive regulation.

But farmers are going beyond skepticism and taking charge of the issue by aggressively questioning past practices in light of the new environmental era. You have taken on the sustainable question with a vengeance, exploring new approaches to protecting the environment and improving profits. We believe this is agriculture's first and best defense against mandatory farming practices.

We owe special thanks to the farmers and others who worked with us on this project. Your interest in sustainable agriculture has truly made this project possible.

We also could not have completed this directory without the support of the following sponsors: the Minnesota Board of Water and Soil Resources with financial support from the Minnesota Association of Soil and Water Conservation Districts; the Minnesota Department of Agriculture and Fleischer Manufacturing. Each of these entities believes that sustainable practices will shape agriculture's future, and want to be a part of defining "sustainability." □

Editor

CONTENTS

SECTION 1: Nitrogen Management

Merchandising Manure . . . 6a
'Eye Opener' Soil Tests . . . 10a
Giving Manure More Credit . . . 11a
Making Precision Pay . . . 12a

SECTION 2: Wetland Restoration

Wetlands Not Just for Wildlife . . . 15a
Making Farming More Fun . . . 16a
Building Wetlands for People, Too . . 17a
Wetlands: Their Regulation and Restoration . . . 20a

SECTION 3: Ridge Tillage

Solid Soybeans on Ridges . . . 24a
Ridging Up to Bring Costs Down . . . 26a
Ridger Tells His Story . . . 27a
Refining Ridge Systems Is 'Routine' Practice . . . 28a
The Bottom Line on Tillage . . . 30a

On the Cover: The illustration is by Jim Buckels, 1985 (Untitled). Courtesy of the Soil and Water Conservation Society, Ankeny, IA.

The Operation S.A.V.E 1991 Farmer's Directory may be reprinted in whole or in part without payment or prior permission from ***The Farmer/The Dakota Farmer.***



Jerry Perkins uses a four-wheeler to spot spray perennial weeds that a low-tillage environment favors. He bases spray decisions on economics, not cosmetics.

Sustainable Change

Stay flexible, think 'system,' and ignore cosmetics, suggests Jerry Perkins.

If the name means anything, sustainable agriculture should do at least one thing – last a while.

To some, that may imply a changeless, ideal system capable of meeting environmental, economic and social demands for a long time to come.

But to Jerry Perkins, the search for the perfect, unchanging system in an era of rapid changes in technology, regulations and public attitudes is destined for a dead end.

The Worthington, MN, farmer chairs a project to evaluate sustainable agriculture approaches being tried by more than a dozen farmers. It's a research project of the Southwest Minnesota Farm Business Management Association.

Perkins offers several guidelines for developing a sustainable farming system that can weather change.

BY NORMAN SENJEM

Think 'System'

Perkins prefers what he calls a "systems approach" to sustainable agriculture, which he contrasts to an emphasis on specific practices. "People tend to dwell on practices," he says.

Changes in practices often cause secondary, system-wide changes with serious consequences, he points out. For example, farmers who begin leaving more crop residue on the soil surface soon discover the need for different chemicals and machinery suitable to high-residue conditions.

Looking at actual or potential interrelationships between systems helps to identify potential improvements.

Take a farm's energy system, for example: "I blow more hot air out the top of those bins than I use to heat my house," says Perkins, pointing to a row of grain storage bins. "And everybody is doing the same thing."

A systems approach also encourages farmers to include personal and family goals when evaluating sustainable systems. "I don't think it's sustainable to have farming the most hazardous occupation there is," says Perkins.

Stay Flexible

"We're living in an era in which things are changing so quickly that we're having trouble keeping up," says Perkins. As a result, production systems have to stay flexible, open to changes that can't be foreseen.

"That's particularly true of farming, where you're dealing with biological materials and processes," Perkins says.

As part of the group evaluation, Perkins is comparing no-till to his present system. But he doesn't see no-till or any other system as an end goal. "We're not peddling ridge-till or no-till; we're evaluating them," he says.

"If we start talking about an ideal system, we're missing the point. It needs to be evolutionary."

Those who become committed to a specific system, be it no-till, organic or something else, tend to become blind to good alternatives, says Perkins. He calls such farmers "dogmatic."

Ignore Cosmetics

A major obstacle to changes in crop farming: evaluating results according to cosmetics. Perkins calls them "windshield inspections."

A classic example is the farmer's love affair with the black, garden-smooth seedbed, and corresponding dislike for seeing crop residue at planting. "Too many times, that becomes such an obstacle that people give up," he says.

Another example is relatively harmless weed populations.

"We're trying to base our decision-making less on cosmetics," says Perkins. "That means learning what the economic thresholds are, while keeping in mind there are weeds we want to keep out entirely – cocklebur and velvetleaf, for example. We need to conduct weed control based on environmental impact and profitability. . . . That's what it's going to take to keep environmental integrity in farming." □

SECTION 1

Nitrogen Management

You can't buy a put option for a ton of cow manure on the Chicago Board of Trade. But down on the farm, in a variety of ways described in this section of Operation S.A.V.E., a market for manure is starting to take shape. It's an answer to the dilemma that livestock producers find themselves in when their operations grow beyond their land's capacity to fully use the by-product called manure. It's also a sign that economics and environmental protection are starting to move in the same direction.

OPERATION S.A.V.E.

This and other economic ideas for environmental protection are highlighted in this section. They range from accurate soil testing and use of realistic yield goals, to use of satellites and computerized soil maps for precision fertilizer application.

Many of these practices are referred to as Best Management Practices (BMPs) by groups with a role in environmental protection. For example, the Minnesota Department of Agriculture, sponsor of this Nitrogen Management section, is promoting the nitrogen BMPs outlined on pages 8a-9a.

All of which dovetails with the "voluntary, economical" approach to sustainable agriculture advocated by Operation S.A.V.E. This approach not only can and should work – it is working, as evidenced in the following stories. □

Merchandising Manure

Treating manure as a resource instead of a waste makes dollars and sense.

The smell of manure is the smell of money, according to an old farm adage. For an increasing number of people – those who sell the odorous by-product, consult with farmers on manure management, or collect fees for applying it – manure *makes* money.

Ed Zabel is compensated for the manure his dairy herd produces. His fertilizer dealer, Bruce Kahn, sells less product but more service, as he advises farmers on better use of their homegrown resource.

Bill Rothfork is paid for spreading turkey manure. And Bob and Marlyn Pankratz pump their hog manure two miles to area farmers who pay to have it spread on their fields.

All share a common understanding that better manure management makes dollars and sense.

Zabel, Plainview, MN, sees the results of his dairy herd's manure on fields he farms in partnership with a cousin, Dave. Their certified oat and soybean production business pays him for the nutrient value in the manure, just as it pays the two partners to rent cropland. If Zabel were farming only his own land, the manure from his 90-plus cow herd would be excessive for available cropland.

"He would get his phosphorus and potassium levels out of balance," explains Kahn, agronomy manager at Great Plains Co-op in Plainview. Kahn tests Zabel's manure for nutrients and advises him on its fertilizer value.

It is a service that Kahn increasingly offers his customers in concert with soil tests, even though it may mean lower overall fertilizer sales.

"I look at the total fertility package and try to fine-tune it," says Kahn. "I consider the crop rotation, the number of years the field is going into corn, P and K levels, and how best to utilize them."

Where N, P and K levels are too high, Kahn advises cutting back on manure application for a few years, or even renting some additional corn acres to better utilize the manure. In a few cases, he has convinced skeptical customers to eliminate additional N applications on fields that have been manured heavily for years.

"The first step is to convince them to cut back commercial nitrogen rates. Only then are they ready to try going without it all together," explains Kahn.

All these reductions translate directly to the co-op's sales column, but Kahn feels the lower sales are made up for by increased customer loyalty.

At the same time, the co-op is seeing a growth in a crop consulting service Kahn offers.

Kahn and Zabel cite new technology and environmental concerns as driving the interest in better utilization of manure. "Testing technology is getting better, and more research is being done in nutrient management," says Kahn.

"The big groundwater nitrate scare is causing people to look at it closer," adds Zabel. "People are handling manure as a resource instead of something to be disposed of."

While the bulk of his work is done with pit and lagoon manure, Kahn also advises farmers on the use of pen manure. Because high levels of straw or other bedding tie up N as it breaks down, little value is allowed for the N.

Kahn likes to see drier manure spread on low-fertility fields. "It raises fertility and soil texture as it builds organic matter," says Kahn.

Building Organic Matter

Building organic matter is one of the big reasons Bill Rothfork is delivering more turkey manure to area crop producers each year. The Melrose, MN, custom applicator compensates area turkey producers for their by-product as he hauls from 50 to 2,500 tons to customers within a 15- to 20-mile radius.

Rothfork charges for delivery and custom application, not for the manure itself.

"Probably half our customers are dairy farmers who use the turkey manure on fields they haven't spread manure on," says Rothfork. "The rest are crop farmers who have seen the advantage in crop quality and dollar savings."

He estimates his customers pay about 33¢ to get about $1 worth of commercial fertilizer equivalent, applying it to corn, soybean and even alfalfa ground. Corn ground gets the maximum load at 2 1/2-4 tons/acre, he adds.

"Most of our customers take it for the phosphorus and potassium content," he adds.

Although the N content averages about 50 lbs/ton of material, much of it gets tied up until bedding, pine shavings and sunflower hulls break down. With P averaging 75 lbs/ton and K running as high as 50 lbs/ton, the applications supply plenty of both.

Rothfork acknowledges that his analysis is higher than generally allowed for turkey manure.

"We get our manure from finishing barns which have not been cleaned for one to two years," he explains. "The university's figures include manure from starter barns which are cleaned every four weeks."

This year Rothfork will spread 12,000-15,000 tons of high-quality turkey manure for $10-11/ton, delivered and spread. It is a business that is growing fast as interest in "natural" fertilizers continues to rise among both farmers and non-farmers.

"More and more, selling the service is just a matter of making a call to let customers know it is available," reports Rothfork, who recalls some difficulty in earlier days.

Rothfork operates a semi-truck equipped with an apron for dumping. Front-end loaders move the manure into modified lime spreaders mounted on floater trucks for final application. One such unit can cover about 8-10 acres per hour, he says.

While a few customers prefer to spread the manure themselves with standard spreaders, he advises against that. "It is too easy to spread it on too thick," he warns. Custom spreading also allows customers to concentrate on incorporating the material.

"Most people try to get it dug in a day or two after it is spread, while the larger operations are usually following the trucks with field equipment," he adds.

Piping Manure

Bob Pankratz also sells a manure delivery service to neighboring farmers. While some of the manure from the farm's lagoon is injected with a Terragator, the mainstay of the manure application is a 4"-diameter hose.

Liquid manure is pumped through the hose up to two miles from the 12,000-head confinement hog operation.

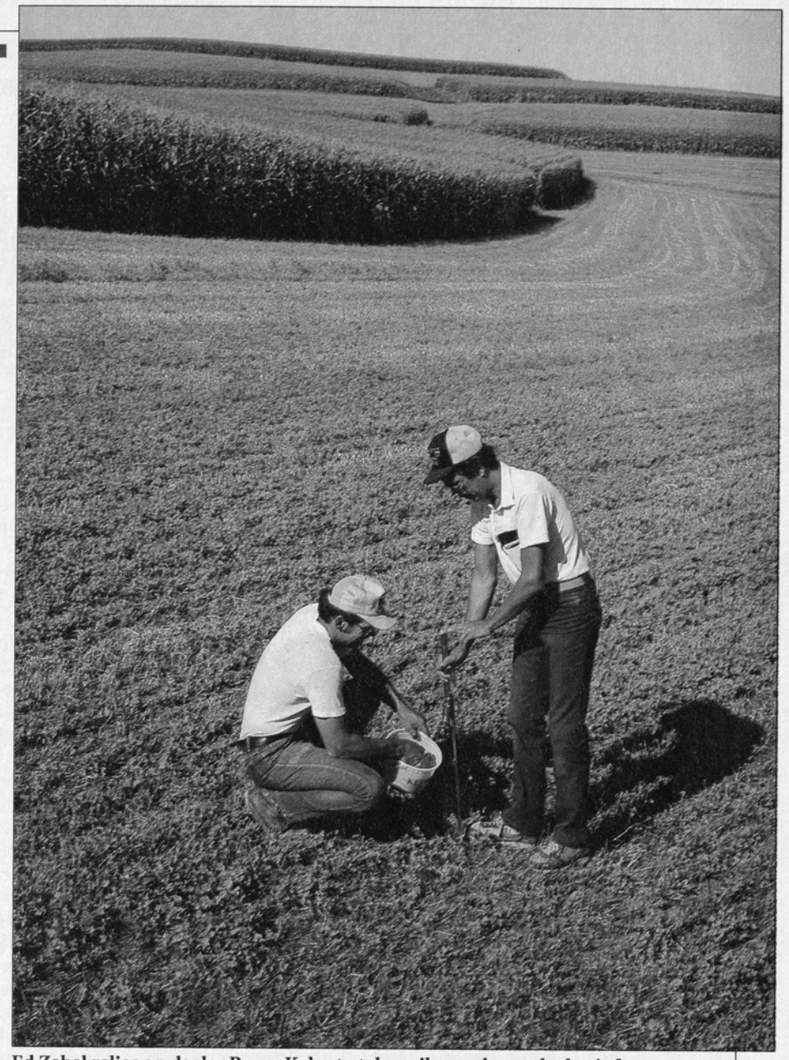
The highly liquid manure, which contains as little as 1% solids, is applied to the field through the hose, which is mounted on a skid pulled by a tractor.

"We pump out about 600-800 gallons per minute," explains Pankratz, who farms with his brother, Marlyn, near Mountain Lake, MN. "We try to saturate the ground without ponding. With the Terragator, we can put on about 7,000 gallons per acre with a single pass. We are going quite a bit higher with the hose and getting less compaction."

Depending on the amount of solids in the manure, nutrient levels per 1,000 gallons vary from 11 to 29 pounds of N, 1 1/2 to 17 lbs of P and 9 to 42 pounds of K.

The more concentrated material is delivered to neighbors, while the more liquid material goes on their own land.

Finding an alternative to applying everything on their farm was important because N rates were high and P levels were building up. They had emptied their 3-million-gallon lagoon twice a year on 300 acres of cropland for almost 20 years. P and K levels were testing at 55-95 lbs/a and 160-220 lbs/a, respectively.



Ed Zabel relies on dealer Bruce Kahn to take soil samples as the basis for manure application. Nutrient analysis also determines value of dairy manure.

The answer was to work with neighbors interested in having manure applied to their fields. For the time being, they pay only for the cost of application as all parties develop a better understanding of the manure's value, explains Pankratz.

While it is impossible to be precise applying the liquid material from a hose, Pankratz estimates volume applied per acre based on tractor speed and pumping rate.

"On our own fields, we know if we didn't get the end rows covered," says Pankratz. "We can see it. Properly spread, the manure takes care of all our crop nutrient needs."

While the liquid application works reasonably well, the brothers are looking for alternatives that would allow them to separate some of the water without removing the nutrients. They are also exploring use of artificial wetlands to trap nutrients and purify water without threatening the environment.

Environmental concerns are important to the Pankratz brothers. Marlyn serves on the Minnesota Pollution Control Agency's feedlot advisory committee. His exposure to pollution problems has sharpened the brothers' search for better solutions.

"More regulations are coming all the time, so we need to be looking at handling this manure as an asset rather than a liability," says Bob. □

BY JIM RUEN

The author is a free-lance writer from Eagan, MN.

ADOPTING NITROGEN BEST MANAGEMENT PRACTICES

BY RICK HANSEN

Six years ago, Roger Schoephoerster began working with his crop consultant to use Best Management Practices (BMPs) on his farm in west central Minnesota. Schoephoerster grows corn, soybeans, alfalfa and wheat near Hoffman.

Developing yield goals, keeping comprehensive field records and managing manure properly have convinced Schoephoerster on the value of using BMPs. "The first year paid for the next five years."

Such comments are not unusual from farmers using BMPs. Studies in northeastern Iowa show that farmers using BMPs were able to reduce nitrogen purchases, saving an average of $1,000 per year per farm.

Some of the voluntary BMPs Schoephoerster is using on his 240-acre farm are recommended for all Minnesota farmers by the Minnesota Department of Agriculture and the University of Minnesota Extension Service as effective ways to protect the environment and maintain profitability.

Setting realistic yield goals is a key BMP. Excessively high yield goals can result in overapplication of nitrogen, leading to reduced profitability and potential nitrogen loss to groundwater.

Schoephoerster sets his yield goals when determining what crop to plant, matching his goals with the fertility of the soils of his fields. He works with Centrol, using digitized soil survey maps to target applications, and follows up by making yield checks in the field where applications are made.

In one 80-acre field, Schoephoerster has five soil types, which he manages differently. He keeps a record of soil tests and what goes on each crop in each field and each soil type. More farmers are keeping accurate field records to help make crop management decisions.

Schoephoerster's son, Kurt, works with 52 farmers as an adult farm management coordinator in Dawson. "We do an enterprise analysis for the particular crops, calculating the amount of fertilizer applied per acre and the yield return," he said.

Before Roger started keeping records and setting yield goals, he routinely applied 125 pounds of nitrogen per acre to corn. The first year he began working with his crop consultant, the recommendation was no additional nitrogen application.

The net result? The same yields as he had been getting before. "I believed in it then," he added.

Mike Schmitt, a U of M extension soil scientist, also believes BMPs are catching on with farmers.

"I think people are becoming more aware of best management strategies for nitrogen," he said.

At the fall field day at the West Central Agricultural Experiment Station, Schmitt stressed the need to pay attention to nitrogen application rates. "We can get equal yields with low rates per acre," he said.

Adjusting nitrogen rates according to soil organic matter, previous crop and manure applications is necessary, Schmitt emphasized. "We need to pay the most attention to the rate."

As a western Minnesota farmer, Schoephoerster relies on soil nitrate tests as a tool in managing nitrogen for wheat and corn. He also rotates his alfalfa, wheat and soybeans on the fields below his terraces. On the level land corn is grown frequently.

He considers nitrogen credits for his alfalfa, in conjunction with the soil test, grass content and precipitation. His soils are also tested for phosphorus, potash, organic matter and micronutrients.

Manure management also is an important component in Schoephoerster's farm. Recently retired from dairy farming, he still feeds about 50 cattle. Manure is collected in a runoff pond, diluted and applied to his fields using a traveling irrigation gun at a rate of 3/4 inch per acre. On sloping soils, he applies the manure on stubble to prevent runoff. Following application, it is incorporated with a plow or is chiseled in, depending on the field.

Research studies show the organic nitrogen in manure is transformed to plant-available nitrogen over a period of several years. Between 33 and 50% of the organic nitrogen remaining will be converted to plant-available nitrogen each year after the manure is applied. However, storage and application methods, along with natural conditions, will greatly affect the overall nitrogen credits.

The University of Minnesota, farmers, industry and environmental groups and state agencies recommend a number of manure management practices:

1. Test manure for nutrient content.
2. Calibrate manure application equipment.
3. Apply manure uniformly throughout a field.

4. Inject manure when possible, especially on strongly sloping soils.
5. Avoid manure application to sloping, frozen soils.
6. Incorporate broadcast applications whenever possible.

Planning nitrogen application timing to achieve high efficiency of nitrogen use is another important BMP. On his medium-to-fine textured soils, Schoephoerster fall-applies anhydrous ammonia when the soil temperature is below 50 degrees.

"We wait until it is cold before we put on the anhydrous," he said.

Fall nitrogen application is a regional recommendation; it is not recommended in southeastern Minnesota or on coarse-textured soils throughout the state. The west-central region where Schoephoerster farms is characterized by lower average rainfall than the rest of the state. Therefore, fall applications have less potential to leach to groundwater than in other regions of the state.

Kurt Schoephoerster acknowledges the variability of soils in regions, as well as within farms or fields, as he works with farmers.

Nitrogen recommendations may differ by farm, by field and by soil. Said Roger Schoephoerster: "I don't see how a guy can stay in business anymore without using someone else's knowledge."

BMPs are designed to be practical and agronomically sound to enhance their adoption by the tremendous variety of farmers throughout the state. Nitrogen inputs to crop production must be managed to prevent degradation of Minnesota's water resources while maintaining farm profits.

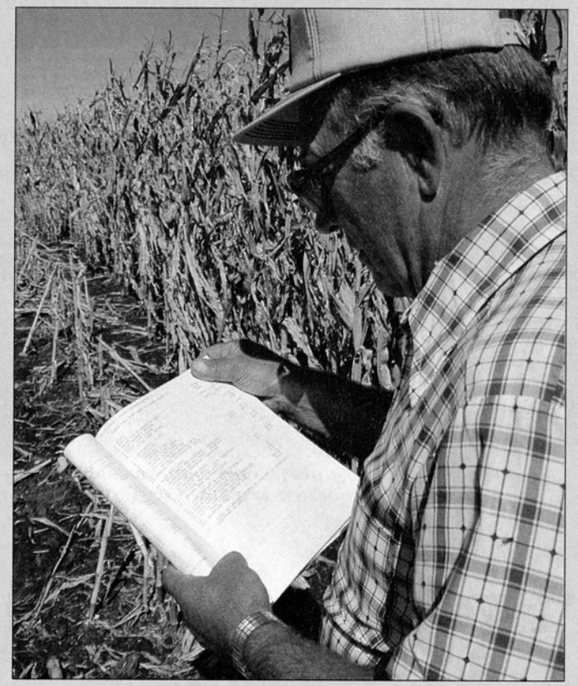
Schmitt believes the cooperative effort that developed the recommendations, as well as the statewide, regional and special-situation format, make the nitrogen fertilizer BMPs adaptable to individual farms.

The following eight BMP's, developed by farmers, the University of Minnesota, industry and environmental groups and state agencies, are recommended for statewide use by Minnesota farmers:

1. Develop realistic yield goals.
2. Develop and use a comprehensive record-keeping system to record specific information about each field.
3. Adjust nitrogen rates according to soil organic matter content, previous crop, and manure applications.
4. Use a soil nitrate test when appropriate.
5. Use prudent manure management to optimize nitrogen credit.
6. Credit second-year nitrogen contributions from alfalfa and manure.
7. Do not apply nitrogen fertilizer above recommended rates.
8. Plan nitrogen application timing to achieve high efficiency of nitrogen use.

Regional and special-situation BMPs provide more specific nitrogen recommendations appropriate for regional conditions.

For more information on nitrogen BMPs, contact the Minnesota Extension Service or the Minnesota Department of Agriculture at 612-297-7178. □



Good field records help Roger Schoephoerster manage nitrogen efficiently.

Atrazine BMPs

In addition to nitrogen fertilizer BMPs, atrazine BMPs have also been developed for Minnesota farmers. These voluntary BMPs involve herbicide choice, mixing and loading, application rates, use recommendations and container management.

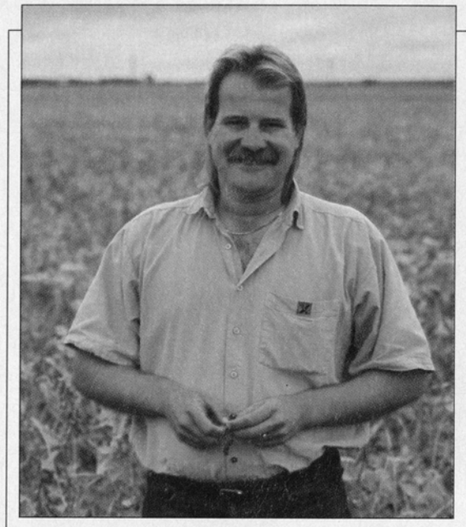
The atrazine BMPs are practical steps you can take with all herbicides containing atrazine, including Aatrex, Atrazine, Bicep, Bullet, Extrazine II, Laddock, Lariat, Marksman, Sutazine+ and other products with atrazine listed on the label.

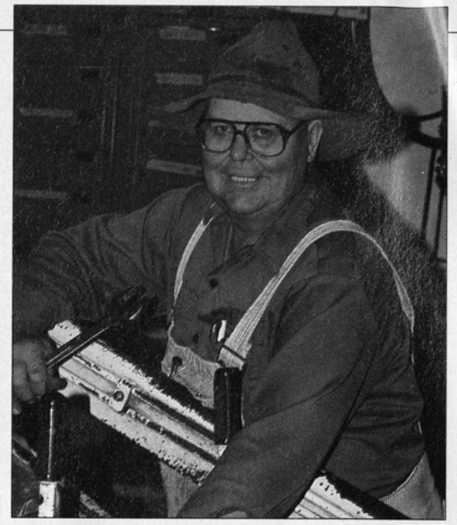
Use of Integrated Pest Management techniques is an important component of atrazine BMPs:

1. Scout fields to identify weeds present.
2. Assess population levels.
3. Determine whether herbicide treatments are merited. If so, which herbicides are appropriate.
4. Consider substitutes for atrazine that may have less potential impact on water resources.
5. Apply the least amount of herbicide necessary to control weeds, and only where weed problems exist or are anticipated.

Also, keep a field history that includes soil test results, crops, pest problems, pesticides used (including brand names, active ingredients and rates), along with application dates and results.

For more information on atrazine BMPs, contact the Minnesota Extension Service or the Minnesota Department of Agriculture at 612-297-7269. □





David Zehringer, far left, says top profits and a clean environment go hand in hand.

Richard Kleinjan, at left, became a strong believer in annual soil testing after cooperating in a water clean-up project.

'Eye Opener' Soil Tests

They're learning that fertilizer management can cut costs, protect the environment.

Richard Kleinjan is a soil testing convert.

At one time he didn't believe that it paid to soil test every one of his fields every year. Instead, like a lot of other farmers, he applied what he thought the crop would need.

And the Volga, SD, grain and hog producer certainly didn't have an inkling that soil testing had anything to do with the purity of nearby Oakwood Lake or the region's groundwater.

But after participating in the just-completed Oakwood Lakes-Poinsett Rural Clean Water Program, Kleinjan changed his mind on both counts.

The federal research and demonstration program paid him to soil test annually and to follow the recommendations.

The results were an "eye opener," Kleinjan says.

Soil tests showed nutrients varied greatly from field to field. On some ground, he didn't have to apply any additional fertilizer. Other fields needed more nitrogen than he had been applying.

The bottom line: He was spending 25-30% more money on fertilizer than was needed for top yields.

Now Kleinjan soil tests every field every year.

"It definitely pays," he says.

Careful soil testing also lowers environmental risk, says Charles Carlson, a South Dakota State University water resource specialist involved in the project. Excess fertilizer can and does run off into creeks, rivers and lakes or – in some circumstances – leach into the groundwater, he says.

Soil testing to avoid putting on too much fertilizer is one of the main ways to reduce this risk, Carlson says.

Kleinjan, who has served on his county's conservation board, takes such advice to heart.

He has always been concerned about the impact his farming practices have on the environment. He used reduced tillage to limit wind and water erosion long before it became a trend. Now he's no-tilling more corn into soybean stubble every year.

"We have a responsibility to maintain or improve our land," Kleinjan says. "If we're farming right, we'll keep the lake clean."

Evidence of the truth of that philosophy can be seen at Big Stone Lake on the South Dakota-Minnesota border. A 10-year-old clean-up project centering largely on agriculture is paying off.

The shallow lake doesn't stink anymore. The algae bloom is far lower than in the past. The water is noticeably cleaner.

"It's incredible. You can see your feet when standing in five feet of water," says Nancy Zehringer, an Ortonville, MN, farmer who is active in Citizens for Big Stone Lake, a group championing local involvement in the clean-up project.

Nancy and her husband, David, grow wheat and soybeans in the Big Stone Lake watershed. David was an early adopter of soil testing and reduced- and no-till practices.

Clean water and profitable dryland farming go hand in hand, he says.

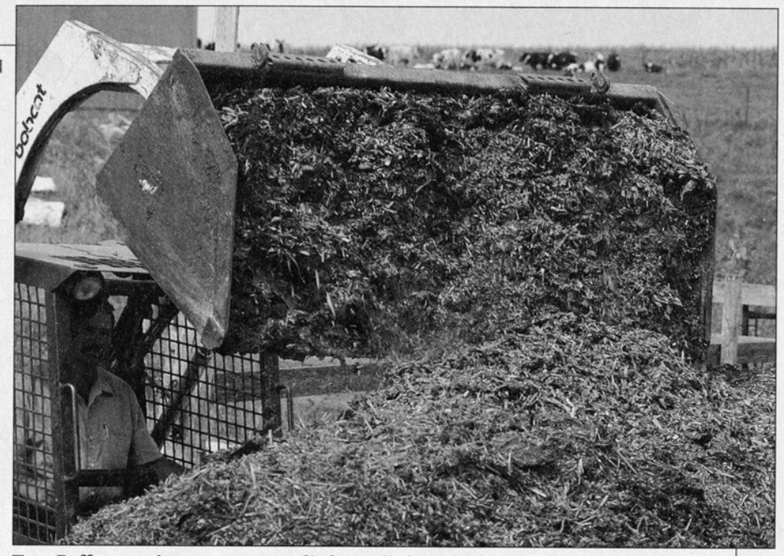
Maximum crop production at the lowest cost isn't possible if you're applying too much fertilizer or letting the topsoil blow away, he says.

"What makes good economical sense for agriculture here is good for the environment," David says. "You can't have low costs and high production if you're not taking care of the land." □

BY LON TONNESON

Manure Spreader Capacity	
Spreader Size	**Tons of Manure**
In Gallons:	
1,000	4
2,000	8
4,000	16
In Bushels:	
75	2.8
100	3.75
125	4.7
150	5.6
In Cubic Feet:	
100	3
200	6
300	9

1 gal manure = 8 lbs
1 bu manure = 75 lbs
1 cu ft manure = 60 lbs



Tom Pyfferoen gives pen manure little credit for nitrogen, while lagoon-stored manure gets up to a 75% nitrogen credit the year of application.

Giving Manure Credit

Accounting for manure differences helps maximize nutrient value.

Tom Pyfferoen likes to spread a good thing around.

So, when the Byron, MN, farmer pumps out his lagoon each fall, he puts on only a light manure application of 3,000 gallons/a. The manure provides a nutrient base for second-year corn, which he supplements with about 50 lbs/a or more of 28% nitrogen at planting.

"With this combination, I can get over more acres for a better balance of P and K," says Pyfferoen.

Brian Hazel's 70-cow dairy herd produces more than enough nutrients for about 80 of the 200 acres of corn he raises near Lanesboro, MN. Manure-fertilized corn has produced yields as high as 200 bu/a in check plots.

"Our analysis on the manure runs about 30-34 pounds of nitrogen per 1,000 gallons," says Hazel. "I give it a 100% credit the year after it is applied. A 6,000-gallon application gives us 180-200 pounds of N."

Pyfferoen and Hazel are two of 60 cooperators in a research and demonstration project with Tim Wagar, a southeastern Minnesota area extension agent. The project, to study economically and environmentally sound livestock waste management, is funded by the Minnesota Department of Agriculture.

Many farmers are finding that regularly manured fields need no additional nitrogen and are excessively high in phosphorus and potassium.

When Pyfferoen's lagoon was first installed, manure was injected on third-year alfalfa going into corn because it could be applied early in the fall. "Soil tests showed that wasn't the place for it. Those acres already had plenty of N, P and K," says Pyfferoen.

Today, manure is spread only on fields going into second-year corn.

The research and demonstration project shows that storage can have a big impact on manure fertilizer value. For example, the University of Minnesota has recommended only a 50% maximum credit from N manure. But under certain circumstances, covered pits such as Hazel's now get up to a 60% credit for available N.

Wagar suggests a three-step program to evaluate manure management.

"The first step is to establish what your soil fertility status is by soil tests," he says. "The second step is to establish the nutrient load status of your manure. The third step is to match the two."

Every farm is different, but the analysis of the manure from individual operations seldom varies from year to year.

Wagar recommends testing manure annually for several years to establish a base. Then test every two or three years unless the livestock system is changed.

Scrape-and-haul manure is more difficult to evaluate. Its nutrient analysis varies from season to season, and it typically isn't incorporated as it is applied.

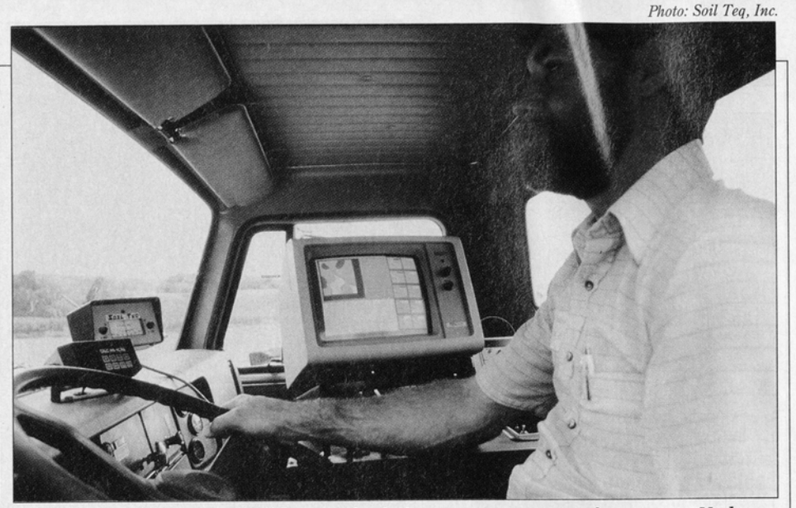
Wagar suggests analyzing manure samples taken at the same time of the year for several years running. A strong soil testing program may be the best way to determine if over- or under-application has taken place, adds Wagar. Tracking the number of loads dumped on a known acreage helps evaluate gallon or tonnage per acre.

Demonstrations at field days illustrate the difficulty in "eyeballing" applications. Farmers' estimates were a fourth to a fifth of actual rates. □

BY JIM RUEN

Photo: Soil Teq, Inc.





Malcolm Olson, left, compares an ear of corn from a check strip with a standard nitrogen rate to an ear from a zero-N plot. Above right, a computerized soil map varies rates on a fertilizer spreader.

Making Precision Pay

On-farm research could pinpoint the profit to mapping variable soils.

Malcolm Olson knows he overfertilizes, and doesn't like it. Like most farmers, he sets yield goals and fertilizes to reach them. Even when following university recommendations, the Becker, MN, farmer knows that some areas of his fields get too much nitrogen.

That's what comes from applying uniform N rates to fields with variable needs. For example, a 50-acre field of Olson's contains seven soil types, varying from coarse sand to loamy sand. Organic matter ranges from 0.5%-4.0%.

Until recently, there were few options to estimating crop N needs or to applying one rate per field. But today's technology can help farmers like Olson choose from several levels of accuracy in soil testing and fertilization.

When variable-soils fields are sampled in five- to 10-acre grids, for example, N, P and K recommendations can vary by a 2:1 ratio within a 40-acre field, says Tom McGraw, a Buffalo, MN, crop consultant. Within-field differences of 4:1 aren't unusual from fields with a heavy manure history, he adds.

Using simple flagging techniques to mark grids, a farmer can vary rates within a field using a conventional applicator, he says.

Still more accuracy is possible with computers that read digitized soil maps, and satellites that identify a fertilizer spreader's location in a field.

Computer-controlled application equipment marketed by Soil Teq, Inc., Waconia, MN, has shown that N application rates often vary between 50 and 225 lbs/a in southern Minnesota, says Soil Teq's Roger Knutson. Often, the rate falls off to zero, he adds.

But precision carries a price. So the question is, what degree of accuracy is most profitable?

University of Minnesota soil scientist Gary Malzer, in cooperation with Soil Teq, is trying to answer that and related questions through detailed tests on Olson's farm.

Soil Teq units are designed to precisely apply nutrients according to field soil maps laid out in grid patterns. As an applicator crosses the field, a computer processor matches location to soil condition and adjusts application accordingly.

Originally developed for on-the-go adjustment of dry fertilizer rates, Soil Teq's new units are being developed for the application of either anhydrous ammonia or liquid N fertilizer.

"Soil Teq wants to use soil maps as a base for nitrogen application rates," explains Malzer. "We want to find information that will complement that soil map, to put some quantitive numbers in place that will tell us how much we should change the rate."

Olson's 50-acre irrigated corn field was divided into four duplications of 10 test strips of eight rows each. Each set of test strips consisted of five different rates of N, from 0 to 210 lbs/a.

Each soil sample was analyzed for ammonium and nitrate N availability, the potential organic N release index and for total N and total carbon.

Yield results from different N rates will be compared to the yield resulting from a standard, whole-field recommendation.

"These results will help show us what the optimum nitrogen rate should have been for each grid," says Malzer. "It will also help us determine what information was needed to indicate what that rate should be."

Olson is looking forward to using that information to fine-tune his fertilizer application on his variable, sandy soils. "We have made giant strides in equipment efficiency and in reducing passes over the field," he says. "Now we have to focus on controlling inputs such as seed and fertilizer." □

BY JIM RUEN

SECTION 2

Wetland Restoration

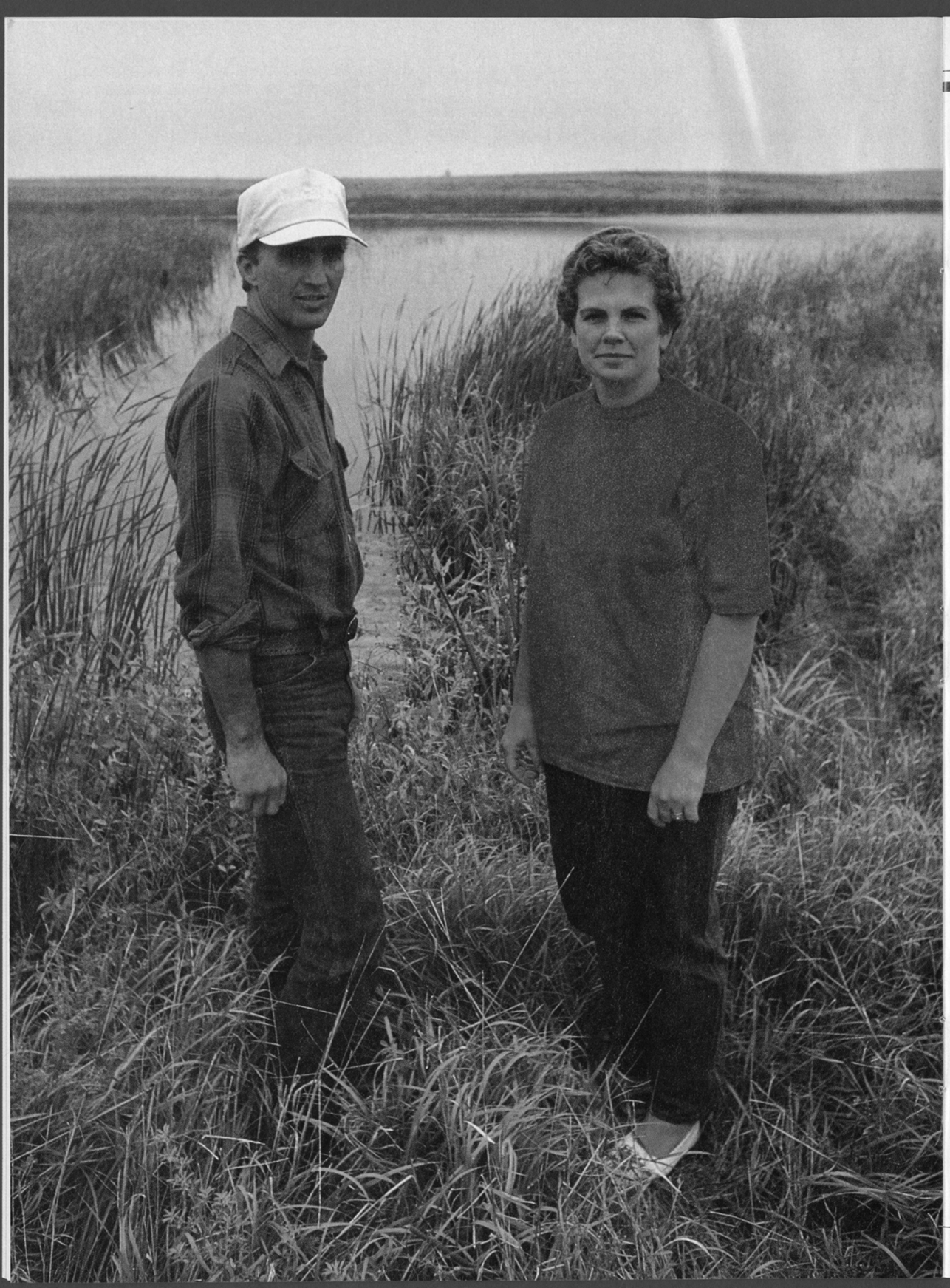
OPERATION S.A.V.E.

How times do change. Remember when staking tile lines or drainage ditches was a full-time activity at the local Soil Conservation Service office? Now, another federal agency, the Fish and Wildlife Service, is paying farmers to plug drainage lines – some of which were cost-shared by Uncle Sam, no less.

What happened? Public values made a sudden U-turn and took wetland laws along for the ride. Extensive drainage made wetlands more scarce – hence more valuable. Environmental amenities started to seem more precious than abundant food.

Growing numbers of government agencies and private organizations are willing to pay cash for wetlands. And growing numbers of farmers are finding that restored and improved wetlands add interesting and even profitable dimensions to their farms.

However today's debate over defining and regulating wetlands turns out, programs that provide funding and expertise to restore, preserve or improve wetlands are likely to increase in number and scope. This section provides an overview of those programs, as well as examples of farmers who have put them to good use. It is sponsored by the Minnesota Board of Water and Soil Resources, and funded by the Minnesota Association of Soil and Water Conservation Districts. □



Wetlands Not Just for Wildlife

BY LON TONNESON

This South Dakota family is building a business strategy around added water and grass.

Visit Dennis and Jean Fagerland and they won't drive you past their crops or cows.

Instead, they'll take you out to see their new wetlands.

There's one on Section 5, the one Dennis likes best, where he kicked up a four-point buck one day when he was checking on how the new grass was doing.

And there's the one Jean likes. It's tucked behind the folds of three hills, hidden completely from the road. It's always full of ducks.

Even the Fagerland kids are into wetlands. Thirteen-year-old Hope likes the wetlands in the winter because the the shallow waters freeze as smooth as glass – perfect for skating.

"We have wetland parties," she says.

The Fagerlands recently restored 23 wetlands on 800 acres of Conservation Reserve Program (CRP) ground. The wetlands total more than 80 acres.

But the Fagerlands didn't rebuild wetlands only because they like wildlife, or because they're rich and won't need the money from the land.

In fact, they restored wetlands precisely because they'll need to make a profit on the land in the future.

Wetlands on the Fagerland farm aren't just for deer, ducks and geese. They're at the heart of the Fagerlands' business strategy for the 1990s.

"Putting land in the CRP and restoring wetlands was the best thing we ever did," Dennis says.

He and Jean – who have five children ages 2 to 16 – say they were at a financial crossroads when CRP began three years ago. Cash grain profit margins were shrinking. They had to either farm more land or run more cows.

But with more cropland, they would have had to invest in bigger, newer machinery. The debt seemed immense.

Also, there was the question of the land itself. Located about 30 miles west of Sisseton, the farm is in the heart of the glacial lakes region of northeastern South Dakota. Potholes are part of most fields and, in some places, the topsoil is thin and stony.

"Some of our land shouldn't have been broken out of sod in the first place," Dennis says.

The Fagerlands have always taken good care of the land, though. Dennis is the fourth generation on the farm. Their land didn't qualify for CRP at first because the soil loss wasn't high enough. They hadn't been plowing and always used alfalfa in the rotation to keep the soil from blowing and washing away.

The other option, expanding the cow herd, presented problems, too. The Fagerlands didn't have enough pasture for more cows. And the land they could turn into pasture didn't have water.

That's where CRP and wetland restoration came in.

On the second round of CRP, land with potholes became eligible for the program. The Fagerlands put qualifying fields into CRP and reseeded them to grass.

Then they worked with the U.S. Fish and Wildlife Service to restore wetlands in the CRP fields. Restoration involved digging out the low spot in each wetland and depositing the soil across the outlet so the area would hold more water. The Fagerlands are required to keep the outlet blocked through the life of the CRP contract.

When CRP expires, they plan to fence most of the fields, keep them in grass and turn them into pastures. They'll leave the wetlands plugged so the cattle will have water. Should a wetland go dry during a drought, they'll pipe or haul water to the livestock.

The Fagerlands plan to further boost the farm's carrying capacity by installing cell grazing systems on the CRP ground. Two years ago they started cell grazing on their regular pastures. They built 40- to 80-acre paddocks and move cattle to new paddocks every 10 days.

Results have been impressive.

Grass stands have improved despite drought. Weed control costs are down because the cows are forced to graze everything before they are moved. Though they didn't increase stocking rates, a grazing specialist estimated they could boost rates 15% without hurting the grass.

The cell system seems to be easy on wildlife too. Due to the grazing rotation, some pastures are empty except for ducks during the nesting season.

Clearly, CRP and wetland restoration have been a winning combination.

Dennis and Jean are using CRP rents to pay off their land mortgage. By the time the program ends, they hope to be free of land debt.

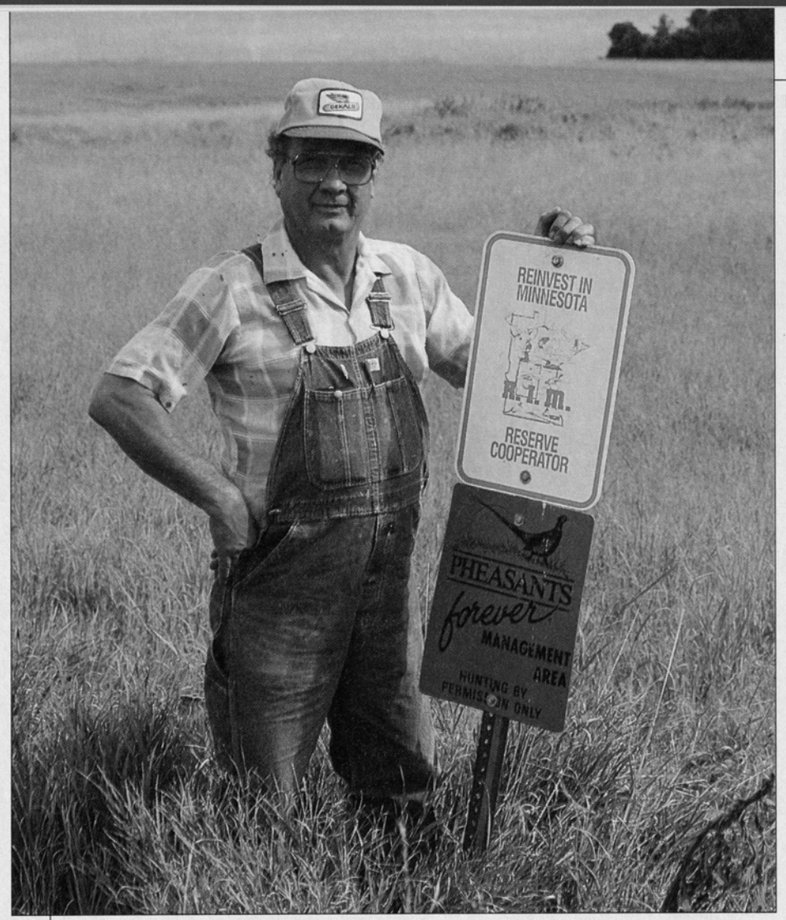
Also, there's more habitat for wildlife and definitely more wildlife around the farm. Sharp-tail grouse have come back. Pheasant numbers are up. Geese and ducks are abundant.

"In the spring, if you're not up at 5 am (because there are so many geese honking close by), there's something wrong with you," Dennis says.

And, in the future, there will be more water and grass for cattle.

"All around, CRP and wetland restoration is a good deal," Dennis says. "I wish we had done it sooner." □

Dennis and Jean Fagerland are using CRP and wetlands restoration to reposition their farming operation – and boost wildlife



David Hovda is spending more time enjoying the beauty and solitude his RIM land provides.

Making Farming More Fun

This RIM project offers refuge for humans as well as wildlife.

BY LON TONNESON

David Hovda admits it.

For years, he was a "drain them fast, square them off, push them down" kind of farmer.

After all, in west-central Minnesota, being a good producer has meant that you squared off fields, pushed down old farmsteads and shelterbelts, tiled heavy soils and drained sloughs. The world needed the food.

"Plant fencerow to fencerow," the 52-year-old Maynard, MN, farmer remembers then-Secretary of Agriculture Earl Butz saying.

But it bothered Hovda.

When he was a kid, the government dug miles of arrow-straight drainage ditches through the rolling prairie. Contractors tore up Hawk Creek, straightening the winding river so it could handle the huge drainage flow from the farmland to the north. Bulldozers scraped off native sod and toppled ancient cottonwoods, ash and oak trees.

Now Hovda is bringing some of it back.

"I've seen both sides of government conservation programs," he says. "I like this side better."

Hovda, who raises corn, soybeans and hogs, put 80 acres in the Reinvest in Minnesota (RIM) Reserve Program and restored a wetland on the property. He's seeded native grasses, primarily switchgrass, because it's the best for pheasant habitat. And he started new trees and allowed the U.S. Fish and Wildlife Service to build a dam to increase the wetland's size.

"This is a better use for unimproved land – aesthetically and economically," Hovda says.

To produce profitable corn or soybeans, the land really needed to be drained, cleared and fertilized heavily.

"Improvements would have cost more than the land was worth," he says.

Instead of fixing up unimproved land, Hovda is investing in improved property and his hog operation.

But conservation land isn't without potential. Hovda and his wife, Ann, think a bed and breakfast inn, with the area's wildlife reserves as a focal point for guests, could be successful.

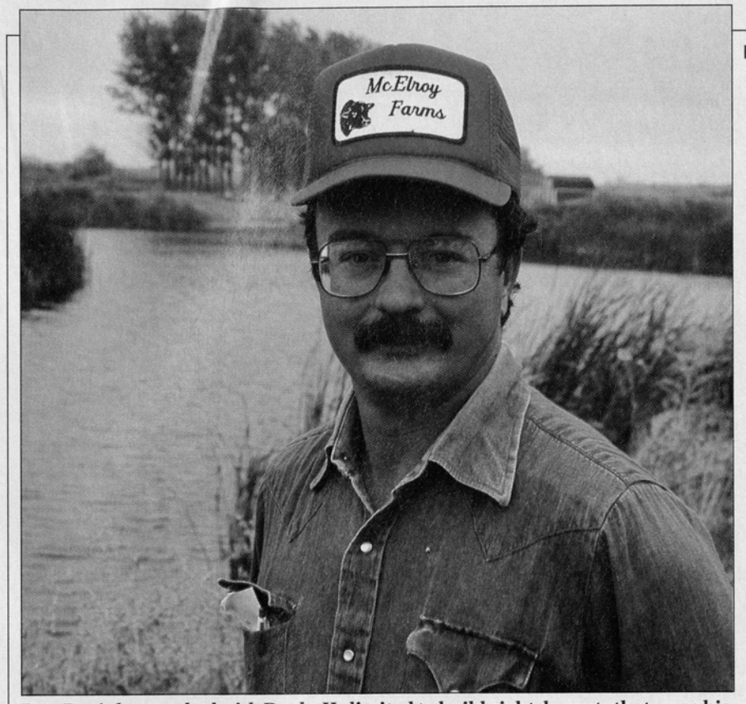
Hovda's and a neighbor's RIM and CRP land are contiguous, running three miles near Hawk Creek. Already, the land seems to be teeming with deer, pheasants and waterfowl.

Many people driving past his land just off the highway slow their cars to look more closely at the abundant preserve. Hunters regularly call for permission to enter the land, which Hovda routinely grants.

"It's for everybody," he says.

Hovda has found himself spending more and more time on his RIM land, even when he doesn't have to cut weeds or hoe around trees. It's a peaceful place where he can leave the pressure of modern farming behind.

"Places like this," says Hovda, perhaps remembering the tall cottonwoods along a winding Hawk Creek, "make farming more fun." □



Bart Davis has worked with Ducks Unlimited to build eight dugouts that serve his cattle operation – and wildlife.

Building Wetlands for People, Too

Temporary flooding benefits wildlife, stockmen and farmers.

BY LON TONNESON

When Bart Davis set out to improve water sources on 1,600 acres of pasture two years ago, he got help from an unexpected corner: Ducks Unlimited.

The national sportsman's club – which has often been at odds with farmers and ranchers over wildlife issues – built Davis eight dugouts that double as temporary wetlands for wildlife.

"It's been no hassle" to create these wetlands, Davis says.

Davis, a partner in McElroy Farms, Jamestown, ND, needed additional water sources for cattle because he was dividing the pasture into smaller units for a twice-over rotational grazing system.

At first, he considered digging traditional dugouts or drilling wells and laying pipes to get water where it was needed. Then Arnold Kruse, a U.S. Fish and Wildlife Service specialist, suggested he look at a new Ducks Unlimited program.

"I have always been interested in wildlife. They're part of what's good about farming," says Davis, who lives beside a prairie creek that is home to muskrats, beavers and many bird species. Davis also is developing a swimming hole in the creek for his family's recreation.

Ducks Unlimited proposed digging the dugouts more shallow than normal and adding a dam across each wetland outlet to increase the water holding capacity. A drain pipe was installed at the base of each dam. In the fall, Davis can pull the plug and lower the water so cattle can graze the slough. Up to 6' of water can be backed up over one to two acres of land surrounding each dugout.

Though there hasn't been enough spring runoff to fill the wetlands since they were built, Davis is pleased with the project.

Ducks Unlimited put water where he needed it. Since he can lower the water levels, there will be extra grass for fall grazing. And Ducks Unlimited was able to create additional habitat for waterfowl and other wildlife.

"Dugouts and pipes wouldn't have done much for ducks," Davis says. "This has great potential."

Ducks are likely to get a boost on the pasture due to the twice-over grazing scheme. Cattle won't be in 960 of the 1,600 acres during the prime nesting period. Last year, despite drought, wildlife specialists noted a 70% survival rate for ducks hatched in the pastures. That compared to almost zero in grazed pastures, Davis says.

Another type of temporary wetland on cropland is helping waterfowl and farmers.

Using interest from a wildlife trust fund set up through the Garrison Diversion Project, North Dakota Wetlands Trust builds drainage systems that farmers can close in the spring to impound runoff water. Holding runoff on the cropland can increase soil moisture and serve as a resting area for waterfowl as they migrate north.

The structures are a good investment for wildlife and farmers, says Cliff Issendorf, a Kramer, ND, farmer and wetlands trust board member.

The farmers put in the drainage plugs and the trust pays them $10/a for the acreage they can flood. In a dry year, holding water on the land can boost topsoil moisture enough to increase yields, Issendorf says.

Construction of temporary wetlands with public and private money is a good example of how farmers and ranchers and wildlife groups can work together.

"It's better than having the government buy the land for permanent wildlife refuges, because the land still makes a profit," Davis says. "We pay taxes on it, which helps everybody in the area. We want people to be able to live out here too, not just wildlife." □

FARMER'S GUIDE TO MINNESOTA'S WETLAND CONSERVATION ACT

For years, wetlands have been considered a nuisance: something to drain or fill to make way for crops or buildings.

Recently, however, people have become more aware of the importance of wetlands and the benefits they provide. As a response to this growing concern, the Minnesota Legislature in spring 1991 approved the Wetland Conservation Act of 1991.

This act provides farmers and other landowners with new options to enhance, maintain and restore wetlands. It also regulates the altering of wetlands.

The Minnesota Board of Water and Soil Resources (BWSR) is the lead state agency in carrying out many of the provisions of the act, although local governments and the Department of Natural Resources (DNR) are also heavily involved.

This article addresses landowner responsibilities as they apply to the portions of the act administered by BWSR.

According to the bill, a wetland is land that:

– has a predominance of hydric (wet) soil;

– is saturated at a frequency and duration sufficient to support a prevalence of hydrophytic (water-loving) vegetation; and

– normally supports mostly hydrophytic vegetation.

If you know you have a wetland on your property, what else do you need to know about the act? How does it affect you?

The interim prohibition

The first date in the law that you should be aware of is Jan. 1, 1992. On that day, an "interim" prohibition – effective through July 1, 1993 – on draining, burning or filling a wetland begins.

Following is a partial list of exemptions to the interim prohibition. An activity is exempt if:

– the proposed activity is in a wetland subject to federal farm program Swampbuster requirements;

– the wetland has a cropping history or was in "set-aside" six of 10 years prior to Jan. 1, 1991;

– the activity is in a wetland that was enrolled in the federal Conservation Reserve Program, was cropped six out of 10 years prior to enrollment, and has not been restored with public or private assistance;

– the activity is in a wetland that has received a commenced determination by the Agricultural Stabilization and Conservation Service (ASCS);

– the activity is in a Type 1 wetland on ag land, except for bottomland hardwood Type 1 wetlands;

– the activity is in a Type 2 wetland that is two acres or less located on agricultural land;

– the activity is in a wetland created solely as a result of beaver dam construction, or blockage of culverts through public or private roads;

– the activity is necessary to repair and maintain public or private drainage systems, as long as wetlands that have been in existence for more than 20 years are not drained;

– the activity is authorized under and in accord with a general permit issued by the U.S. Army Corps of Engineers under the 404 program, except for, in some cases, new roads; and

– the activity is related to development projects and ditch improvement projects that have received at least preliminary approval within five years before Aug. 1, 1991.

In addition, certain activities related to forest management, aquaculture, wild rice production, and routine maintenance of highways, streets and utilities are exempt.

The list of exemptions is long and complicated. Even if you believe you have an exempt wetland, contact your soil and water conservation district (SWCD). Beginning in January 1992, SWCDs should have more information on exemptions.

Remember: There are many different federal and state regulations affecting wetlands. Although your wetlands may be exempt under the Wetland Conservation Act, they may still be subject to regulation by the U.S. Army Corps of Engineers, the DNR, your city or watershed district, or others.

If you want to alter a wetland that is not exempt during the interim prohibition period, consult with your local SWCD or other permitting authority. If they certify that you will replace the lost wetland area, the wetland may be altered. Replacement must be completed prior to or concurrent with the alteration, unless acceptable security is provided to the local unit of government.



The permanent prohibition

After July 1, 1993, wetlands may not be drained or filled unless they are replaced by restoring or creating wetland areas of at least equal public value. All of the exemptions for the interim prohibition also apply to the permanent prohibition.

If, after July 1, 1993, you want to drain or fill a wetland that is not exempt from the prohibition, you will need to develop a replacement plan. For a wetland located on non-agricultural land, you will have to replace each acre of drained or filled wetland with two acres of replacement wetland. For a wetland on agricultural land, the replacement ratio is one-to-one. The designated local unit of government will need to approve this plan.

Again, replacement must be completed prior to or concurrent with the alteration, unless acceptable security is provided to the local unit of government.

The new options

The Wetland Conservation Act gives landowners three new options to preserve or enhance wetlands: the wetland preservation areas option, the permanent wetland preserves option, and the Wetland Establishment Restoration Program.

(The Reinvest in Minnesota (RIM) Reserve Program, which began in 1986, has been revitalized with new money and will continue to be available.)

The wetland preservation areas option and the Wetland Establishment and Restoration Program probably will not be available until July 1, 1993. This will allow BWSR time to establish administrative rules and procedures. The permanent wetland preserves option should be available in early 1992.

The permanent wetland preserves option allows owners of existing Types 1, 2 or 3 wetlands to apply to BWSR to have land designated as a permanent wetland preserve. If the application is approved, BWSR acquires a permanent easement on the land. The following payment rates apply:

– All Types 1, 2 and 3 wetlands on cropped land will be reimbursed at 50% of the market value of cropped land in the township; adjacent cropped upland and adjacent non-cropped upland in those areas will be reimbursed at 90% and 60%, respectively.

– Wetlands in the metropolitan area on non-cropped land will be reimbursed at 20% of the value of the land.

Under the Wetland Establishment and Restoration Program, the landowner applies to the designated local unit of government – either a county board, joint county board, water management organization, or watershed district – for the establishment or restoration of a wetland.

If the application is approved, the landowner is compensated by the local unit of government at the same rate as under the RIM Reserve Program – 90% of the value of cropped land and 60% of the value of non-cropped land. BWSR acquires a permanent easement on the land. Only wetlands in areas designated by both BWSR and in the local water plan as high-priority wetland areas are eligible.

Under the wetland preservation areas option, owners of any type of wetland may apply to the county to have land designated as a wetland preservation area. Again, only wetlands in areas designated by both BWSR and in the local water plan as high priority wetland areas are eligible. The land must be enrolled for a minimum of eight years, during which time it is exempt from property taxes.

There are other details you will need to know to participate in one of these programs. If you need more information, call your local SWCD. Or call BWSR at 612-296-3767, or 1-800-652-9747. □

Wetlands: Their Regulation and Restoration

Rules protecting wetlands are in flux; restoration programs are increasing.

Whether you want to know how wetland rules affect you, or how you can benefit from wetlands on your property, it pays to be familiar with the maze of prohibitions, programs and incentives affecting wetlands.

The first step is to appreciate, in general terms, what the term "wetland" means. How wetlands are defined determines how many, and which ones, will be subject to regulations and programs.

BY NORMAN SENJEM

Wetlands occupy that vague, ever-shifting territory where land meets water – which may be one reason why their definition arouses so much controversy.

According to current regulations, a piece of land is a wetland if it meets three criteria: 1) it has soils formed under saturated conditions; 2) it supports or could support wetland vegetation; and 3) it is saturated within the root zone – to 12-18" of the soil surface – for a minimum of seven consecutive days during the growing season.

Wetland Definition Changing

Under pressure from farm groups, land developers and others, the Bush administration is proposing a more restrictive standard for defining a wetland. Its proposed Federal Manual for Delineating Wetlands would extend the days of soil saturation from seven to 21 days. Ponding would have to occur for 15 of those days. If adopted, these guidelines could greatly reduce the number of wetlands subject to federal regulation.

However, the proposal also includes a "prairie pothole exemption" that would keep the previous standards for the vast majority of wetlands in Minnesota and the Dakotas.

It's unclear which guidelines will be adopted, and whether they will result in more or less regulation of wetlands. A decision is expected sometime in 1992.

Regardless of the outcome, however, the general definition of wetlands is unlikely to change. The federal manual describes them as "lands that are either inundated with surface water or saturated with groundwater long enough during the growing season to make it necessary for the vegetation to adapt to growing in saturated soil conditions."

The widely acknowledged benefits of wetlands range from soil moisture replenishment, to water purification, to providing wildlife habitat. These and other benefits have attracted a large and dedicated political constituency to support the enhancement, preservation and restoration of wetlands.

The political result is a handful of laws to preserve wetlands from conversion or destruction, and a multitude of programs to help private landowners and groups to preserve, restore and improve them.

Wetland preservation is regulated by two federal laws: the Clean Water Act and the farm bill.

The U.S. Army Corps of Engineers and the Environmental Protection Agency jointly administer Section 404 of the Clean Water Act, but the Corps is most directly involved with landowners. Section 404 prohibits "the discharge of dredged or fill material into waters of the United States," including wetlands.

The Soil Conservation Service (SCS) is responsible for enacting the "Swampbuster" provisions of the federal farm bill. It prohibits draining or otherwise degrading wetlands on acreage enrolled in the farm program.

Clean Water Act

Section 404 of the Clean Water Act applies to all wetlands. Prohibited activities include anything resulting in any degree of filling in of a wetland. Thus, wetland drainage is not prohibited, except to the extent that it entails "the discharge of dredged or fill material" into a wetland. Tile drainage installed with a vibrating plow, for example, may not violate Section 404.

Also, activities related to an ongoing commercial farming operation are exempt from Section 404. These range from tillage to the construction of field roads and livestock watering ponds, according to Mike O'Keefe, an ecologist with the Army Corps' St. Paul Army district office. Cleaning out a drainage ditch to its originally designed depth also is allowed.

However, activities that alter the use of a wetland, such as land-leveling, are prohibited. Those found in violation of Section 404 are required to restore the wetland at their own expense. Fines may be levied if the landowner refuses.

It's possible for farmers enrolled in the federal farm program to be found in violation of the Clean Water Act and Swampbuster, says O'Keefe.

The Army Corps of Engineers can grant permits to authorize prohibited activities, if these would cause only minimal adverse environmental effects.

SCS and Swampbuster

Under the Swampbuster provision, farmers who drain, dredge or fill wetlands identified on their land become ineligible for all farm program benefits.

SCS is in the process of identifying wetlands, determining their boundaries, and classifying them into different types. Identified wetlands can be farmed, but not altered by drainage, filling or other methods.

The wetland determination process has been put on hold until the federal government agrees on a new set of standards for identifying and classifying wetlands.

In addition to federal laws, wetland regulations are being developed in Minnesota and North Dakota to support a "no net loss" policy.

Minnesota's Wetland Conservation Act of 1991, broadly supported by farm and conservation groups, is comprehensive in scope, but was drafted to avoid duplicating federal laws. It is described in the advertisement on pages 18a-19a.

The law requires landowner compensation in exchange for land-use restrictions, and includes incentives for restoring wetlands or creating new ones to replace drained wetlands.

North Dakota's State Water Commission operates a "wetlands bank" to ensure no net losses of wetlands. Each acre of restored wetland is counted in a state bank. Wetland drainage will be allowed only if the bank contains enough acreage to replace it.

Wetland Restoration Programs

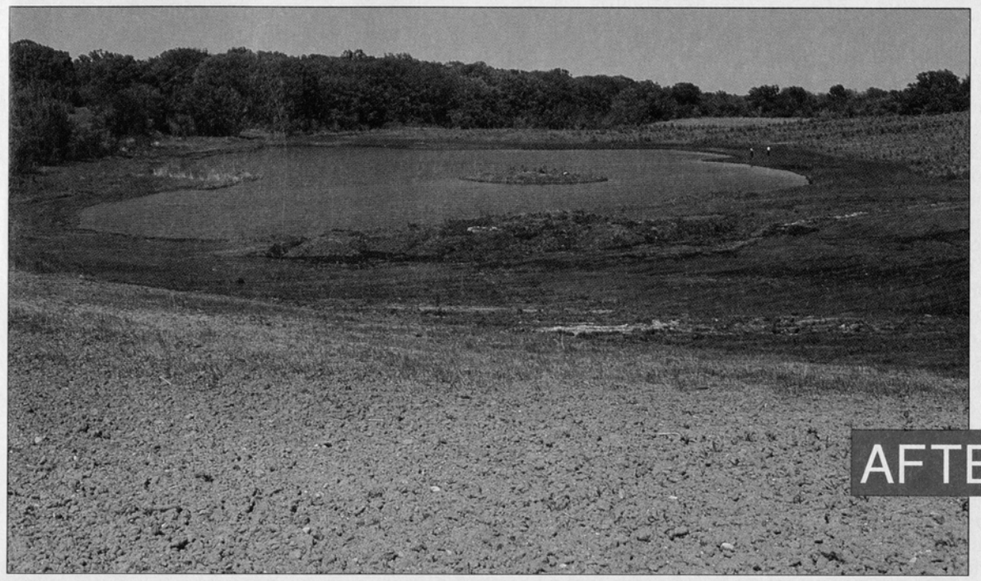
A full slate of programs is available to farmers, other landowners and organizations interested in the restoration of wetlands or the creation of new ones.

At the national level, the Fish and Wildlife Service (FWS) of the U.S. Department of the Interior is heavily involved in wetland restoration projects, either directly with private landowners, or in cooperation with other organizations.

SCS will step up its restoration in-



Through programs offered by private groups and governments, converted or farmed wetlands such as the one at right...



...can be restored to wetlands performing a variety of functions for wildlife, livestock and water quality.

volvement after the recently passed national wetland easement program receives funding.

In addition, private organizations, such as Ducks Unlimited, Pheasants Forever and the Nature Conservancy, may cooperate with a federal agency in funding or designing a wetland restoration project.

State government bodies also provide assistance to landowners wishing to restore wetlands.

The lead agency in South Dakota is the Department of Game, Fish and Parks. In North Dakota, it's the Department of Game and Fish.

In Minnesota, the Board of Water and Soil Resources and the Department of Natural Resources play the lead roles in wetland restoration, with several other agencies playing lesser roles.

Locally, soil and water conservation districts, sportsmen's clubs and conservation trusts may be active in wetland restoration, too.

Those interested in wetland restoration or conservation should contact the local or regional offices of relevant agencies and organizations. Generally speaking, people who work on wetland restoration are aware of the full range of programs, expertise and funding available.

Here are the main programs available in Minnesota and the Dakotas:

- **Wildlife Extension Program.** Through this FWS program, also referred to as the Private Lands Program, FWS officials design wildlife habitat improvements that leave the owner as well or better off economically. It includes wetland creation and restoration, together with cell grazing or haying of both wetland and upland acreage. FWS covers costs.
- **Wetland Easement Program.** Through this program, FWS buys a long-term or perpetual easement from the landowner. The easement becomes attached to the property title. Wetlands within its scope are protected from drainage, filling or burning – although permits may be granted for occasional burning of wetlands to control the spread of cattails. The program is financed by duck stamp funds.
- **Wetland Acquisition Program.** Through this program, FWS purchases land in waterfowl production areas, offering landowners the appraised market value of their property. This land becomes property of the U.S. Government, and is managed for optimal waterfowl production.
- **Adopt a Pothole Program.** FWS coordinates this program, funded by the National Fish and Wildlife Foundation through private contributions. It applies to landowners with an actual or converted wetland that can be restored. For every acre of wetland, three acres of adjoining upland are converted to grass. The program pays $30/a annual rent for upland acres, and $5/a annual rent for wetlands. FWS helps cover restoration costs.
- **North American Waterfowl Management Plan.** This program results from an agreement between the United States, Canada and Mexico to restore waterfowl populations to levels of the mid-1970s. Funded by Congress, the program aims to protect and improve wildlife habitat. FWS acts as the coordinating agency.
- **Conservation Reserve Program**. Farmers may enroll land classified as wetland or farmed wetland in the 10-year CRP if land meets cropland eligibility requirements. Cost-share assistance is available from FWS to restore wetlands, and from ASCS to re-establish native vegetation on the enrolled acreage.
- **Wetland Reserve Program.** Authorized by the 1990 farm bill, but not yet funded by Congress, this program would pay farmers to retire up to a million acres of wetlands. Stay tuned for developments. SCS and ASCS will administer the program. Eligible lands include restorable cropped wetlands and adjacent buffer areas.
- **FmHA Conservation Easement.** Perpetual conservation easements may be placed on existing or drained wetlands, floodplains and endangered species habitat. The program is solely for land in FmHA inventory.
- **FmHA Debt Restructuring.** FmHA clients facing insolvency can restructure their debt for the value of a wetland or floodplain easement. It also applies to lands in FmHA inventory.
- **Federal Waterbank.** This program authorizes 10-year contracts with landowners to preserve drainable wetlands. Agreements require landowners not to drain, burn, fill or otherwise destroy the wetland. It's administered by ASCS.
- **Create a Wetland Program.** The Wetlands Trust initiated by North Dakota's Garrison Diversion Project sponsors this program. In typical projects, water-control structures are used to inundate cropland until late spring or early summer. After water is released, the land can be grazed or farmed. The program is limited to North Dakota so far, but could spread to other states, FWS officials say.
- **Private Lands Program.** Offered by the North Dakota Game and Fish Department, this program pays landowners to develop wetland and upland habitat suitable to resident wildlife species, such as deer and grouse.
- **Pheasants for Everyone.** Offered by the South Dakota Department of Game, Fish and Parks, this program pays the cost of plugging a drain to restore a wetland, and provides a one-time payment of $10/a for each acre of wetland restored. The department also works with Ducks Unlimited on its private lands program.
- **Wetlands Tax Exemption Program.** This Minnesota program exempts eligible wetlands from taxation, and provides credit on wetland acres enrolled. Wetlands must be feasible, legal and economically practical to drain.
- **Habitat Development Program.** This Minnesota Waterfowl Association program provides construction cost-sharing to landowners to restore or create shallow wetlands and other forms of habitat. The program includes short-term and perpetual easements and land purchases.
- **Private Lands Wildlife Habitat Improvement Program.** This Minnesota Department of Natural Resources (DNR) program provides technical and cost-share assistance to landowners to create or restore small wetlands. DNR also offers wetland restoration support through the following programs: Flood Damage Reduction; Wildlife Land Acquisition; and the RIM Critical Habitat Matching Grant Fund.
- **Reinvest in Minnesota (RIM) Reserve Program.** Administered by the Board of Water and Soil Resources (BWSR), this Minnesota program offers perpetual easements, plus up to 100% cost-sharing, for establishing conservation practices. Eligible land must be privately owned and must contain a drained or altered wetland that is restorable.
- **Permanent Wetland Reserve.** Also administered by BWSR, this new Minnesota program offers perpetual easements on types 1, 2 and 3 wetlands. Rules are being written. Another new program, the Wetland Preservation Areas Program, will exempt the area enrolled from taxation. The planned introduction date is 1993. □

SECTION 3

Ridge Tillage

Ridge-tillers started more than a revolution in farming when they started redefining the limits of minimum tillage a decade or two ago. Whether out of necessity, convenience or just a need to make speed along the learning curve, ridge-till clubs and associations started popping up all over the countryside.

OPERATION S.A.V.E.

To this day, access to a group of peers for support and new knowledge has helped to keep ridge-till farmers at the cutting edge of change. Although the basic method is unchanged, a series of inventions and modifications has made continual improvement a way of life for many ridgers.

Which is good for everybody – farmers, their rural neighbors, and urban cousins. Because ridge-tillage is a way of farming where economics goes hand in hand with environmental protection. And, as the examples in this section of Operation S.A.V.E. demonstrate, it's a system that seems to keep getting better.

Just ask Harvey and Lauren Harder of Mountain Lake, MN: "Ridge-till works better every year," is their conclusion after 10 years of experience. Specific benefits claimed by ridge-tillers vary all over the map – from time-saving and herbicide reduction to less rock-picking and improved soil texture. The practices used to achieve those and other results are described in this section, which is sponsored by Fleischer Manufacturing, makers of the Buffalo Till line of ridge-till equipment. □



Elton Goeman measures ridge height at 2-3" after 1990's no-till soybeans. He's uncertain whether flattened ridges will reduce corn yields, but the experiment will continue this year.

Solid Soybeans on Ridges?

Last year, Elton and Larry Goeman tried the unusual, and came up 6 bu/a winners.

One thing used to be pretty clear about ridge-tillage: You planted on ridges.

But last year, Elton and Larry Goeman seeded soybeans on ridge tops, sides and valleys. And they harvested higher yields as a result.

The Goemans' experiment began when they rented a neighbor's soybean drill to solid-seed two 10-acre test plots on ridged fields. The plots were part of an on-farm "sustainable" practices project conducted by the Southwest Minnesota Farm Business Management Association.

This year, stimulated by a 6 bu/a yield advantage, the Jeffers, MN, brothers solid-seeded most of their beans.

But they're still cautious, since they don't know whether corn yields will take a hit from being planted on the 2-3" ridges the test left, 2-3" lower than normal.

"We're about a year too early to get too excited," Elton Goeman says.

But solid-seeded no-till bean yields of 54¼ bu/a – compared with 48½ bu/a yields in rows – are hard to ignore.

"If they'd gone (only) a bushel more, we wouldn't have tried it again," Goeman says.

Higher yields, plus slightly lower production costs from avoiding two cultivations, resulted in a $2.89/bu cost for the solid beans. The row beans cost $3.51/bu.

Shortly after emergence, the solid beans didn't look especially impressive. Beans were planted with the ridges, but their variable placement from top to bottom of the ridges resulted in uneven emergence. Stand problems were most noticeable in the valleys.

To help compensate, the drilled beans were planted at a rate of 80 lbs/a. The row beans were planted at 55 lbs/a.

Besides seeding rates and cultivation, management was similar. Weeds were controlled with Lexone at 0.5-0.6 lb/a, and Fusilade at 0.0625 gal/a in both plots.

At harvest, the Goemans noticed that solid beans compensated for the ridge-and-valley planting. Those in the valleys podded higher than those on ridge tops, so combining wasn't a problem.

Drilled vs. Row Beans

Planting Method	Yield/a	Net Returns/a
30" Rows	48½	$109
Drilled	54¼	$155

This year, the Goemans continued the practice with a used 15' no-till drill. Its openers have gauge wheels, which they hope will hug the ground better and keep seed depth more uniform.

They plan to compare no-till soybean yields with row beans cultivated once, twice and not at all to see if root pruning from cultivation had anything to do with last year's lower row bean yields.

They'll also see if corn yields are hurt by lower ridges, which could be slower to dry out and warm up. □

BY JIM HOUTSMA

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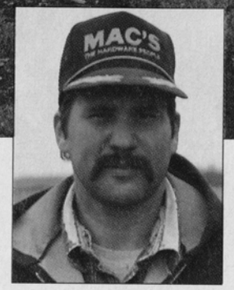
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By combining planting, fertilizing and spraying operations, Randy Henderson's pull-behind cart cuts down on wheel traffic and compaction.



Refining Ridge Systems Is 'Routine' Practice

Farmers continue to strive for reduced wheel traffic, precise fertilizer placement.

BY JIM HOUTSMA

Ridge-tillers like Randy Henderson and Bob and Jim Sorenson aren't content to rest on their laurels. Instead, they're continually fine-tuning the ridge systems they implemented in the early to mid-1980s.

For Henderson, Beresford, SD, the focus of refinements is adding more operations to the fertilizer-herbicide rig he pulls behind his planter in order to cut down on wheel traffic, compaction and expense.

For the Sorensons, Madelia, MN, the focus is on a more precise method of deep banding granular fertilizers.

Practices such as these were among the most frequently discussed topics at the recent National Ridge Till Conference in Sioux City, IA.

Controlling wheel traffic is important because it reduces compaction. It's especially important to ensure no row is compacted on both sides, notes Dwayne Beck, manager of the Dakota Lakes Research Farm near Pierre, SD.

Here's how Henderson and the Sorensons are meeting the challenges of ridge-tillage.

Henderson

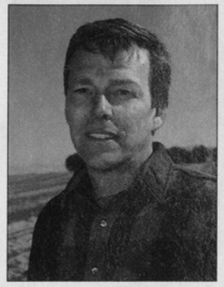
Combining planting, fertilizing and preemergence spraying operations last year kept Randy Henderson's fuel use, excluding harvest, to a scant 0.9 gal/a, for a cost of about $1/a.

That was on 1,500 acres of corn and soybeans (600 acres of his own; the rest was custom work).

Besides saving big bucks in fuel – and herbicides – Henderson has accomplished something else since he began ridge tilling in the early 1980s.

"There's a big increase in the earthworm population, and you don't find the (compaction-related) crop stunting," notes Henderson.





Soil maps and a homemade fertilizer application gauge help Bob Sorenson, at left, and his brother, Jim, to apply P and K more accurately.

"Anyone who combines so many operations cuts down on wheel traffic and compaction," notes Dale Sorensen, manager of South Dakota State University's Southeast Experiment Farm near Beresford.

The key is the fertilizer-herbicide cart Henderson pulls behind his White eight-row planter. The cart's 76" axle width tracks in the same 38" row as Henderson's front-wheel-assist International 7120 tractor, his planter, cultivator and postemergence herbicide sprayer.

Originally, the farm-built cart was intended only for fertilizer application, but soon a herbicide tank was added. It "just keeps evolving," Henderson says.

For example, last year the rig enabled him to add nozzles to the planter for applying Prowl in a 20" band ahead of his ridge cleaners on some soybean fields.

Because the ridge cleaners threw soil into the middle of the row, Henderson figured he'd get the effect of broadcasting for the price of banding.

At corn planting, 8 gal/a of 10-34-0 fertilizer are applied in the furrow as a pop-up, the standard recommendaton. That's followed with a 10" band of Dual over the row. In addition to the Prowl setup, the rig is set to apply Dual and Sencor at half rates in 10" bands over the row.

Hooked to the planter with a 14' bridge hitch, Henderson's cart has a 5 x 10' frame made of 2 x 6" tubing. It weighs about 10,000 pounds when its rear 300-gallon herbicide tank and forward 500-gallon fertilizer tank are full.

A 12-volt diaphragm pump delivers fertilizer and a four-roller pump delivers herbicides through more than 300' of 3/8" plastic tubing.

"It sounds kind of complicated," Henderson says, "but coming up with $2,000 or $3,000 for herbicides can be pretty complicated, too."

The Sorensons

Like Henderson, Bob and Jim Sorenson are true believers in intensive soil sampling.

They've used it since they switched to ridge-till in 1985. That's the same year they began using a 12-row air system to knife in granular P and K fertilizer, typically in a 50-50 ratio, 4-6" deep into their 30" rows in the fall. (Anhydrous ammonia is sidedressed at cultivation).

But last fall, they went a couple of steps further.

First, they had more comprehensive maps drawn of their fields, which have a wide variety of soil types, topography and manure history. Then they added a simple device to their five-ton Tyler fertilizer cart that lets them adjust rates on-the-go, according to the maps they carry in the tractor.

Although it isn't as sophisticated as some commercial units that also allow changing fertilizer ratios, their method is a big improvement over consistently applying 200 lbs/a to entire fields.

"Anybody could do it. It's just a matter of putting your mind to it," says Bob Sorenson of the brainstorm.

Bob, and his brother, Jim, attached a hydraulic cylinder to the cart's metering gate.

A steel brace welded to the cart's frame holds one end of the cylinder. The other end of the cylinder adjusts the metering gate. A rod attached to the cylinder points to fertilizer rates on a homemade gauge.

With the cylinder, flow of fertilizer through the gate can be increased or decreased from the tractor cab.

Rates are changed when color-coded maps prepared by their consultant, Maggie Alms, show a variation in nutrient levels.

The maps were drawn from soil samples taken just before corn silking. One sample was taken every 15 or 20 acres with 15 probes per sample. Probes were taken 6" deep 2-4" from the row to avoid variations caused by sampling too close to the previous band.

Maps also included analysis of tissue samples of corn leaves opposite the ear. Also done just before silking, leaves from a minimum of 20 plants per 15 or 20 acres were collected and analyzed for nutrient deficiencies.

The combination of the invention and field maps allowed them to lower rates to 150 lbs/a of fertilizer on many fields last year.

Still, the system isn't foolproof, Bob Sorenson admits.

"I forget to change (rates) once in a while," he says. "But that's still better than overapplying the whole field." □



Roland, left, and Ryan Ulstad's most recent ridge-till innovation is a front-mounted fertilizer bar that allows them to apply dry fertilizer as they apply anhydrous ammonia.

Ridging Up to Bring Costs Down

Fuel, fertilizer and herbicide use has fallen 33-67% since they switched to ridges.

BY LON TONNESON

Are you spending less on fuel, fertilizer and machinery than 10 years ago?

Roland and Ryan Ulstad are.

The father and son, of Madison, MN, are using 40% less fuel to produce corn and soybeans than they were a decade ago. They're putting 33% less fertilizer on corn. And their machinery costs – well, the bottom seems to have dropped out of that category.

"We used to have a 220-hp four-wheel-drive Steiger tractor. Now our biggest tractor is a 140-hp John Deere," Ryan says.

The Ulstads ridge-till corn and soybeans. Field operations for corn are limited to applying fertilizer, planting, one or two cultivations and combining.

Soybeans are grown by chopping stalks once, planting, cultivating and combining. In both crops, herbicides are banded at planting.

The Ulstads, whose western Minnesota farm has medium to heavy loam soils, began ridge-tilling nine years ago, mainly to reduce moisture loss.

"We always seemed to be short of moisture," Roland says.

Ridging helped conserve precious soil moisture. But they also got a bonus – reduced costs.

Fuel use dropped when they cut field trips from eight to three or four. Corn fertilizer costs fell a third when they switched from broadcasting to banding. Herbicide costs fell two-thirds when they replaced broadcast applications with 10" bands over the ridge.

"As we kept fine-tuning the ridge-till system, we found we could keep reducing our costs without reducing yields," Ryan says.

The Ulstads' latest piece of "fine-tuning" is a front-mounted fertilizer bar that bands dry material on the ridges.

Like many early ridge-tillers, the Ulstads found it difficult to apply fertilizer efficiently. At first they put down starter fertilizer with the planter.

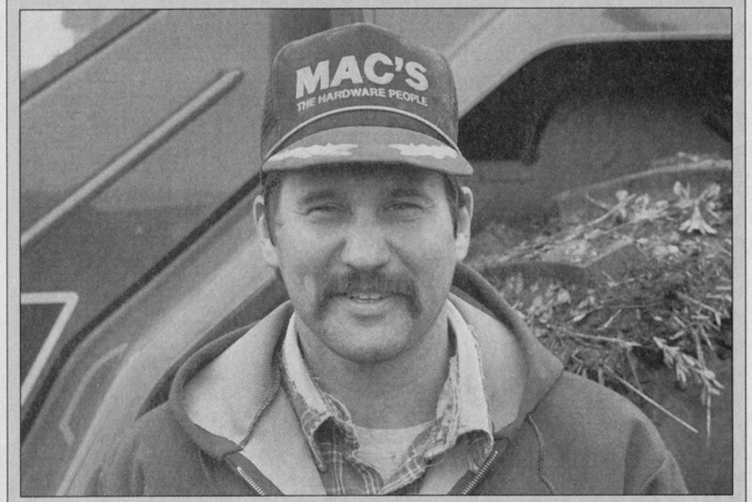
But when soil brought up to the surface by the fertilizer coulters was wet, it would stick to the planter depth-control wheels, lifting the seed openers. Improper seed placement, poor germination and spotty stands resulted.

The obvious solution was to fertilize and plant separately. But the Ulstads didn't want to have to make a separate field trip. So they focused on getting more use out of the separate field pass to apply anhydrous ammonia. They had a three-point hitch built for the front of their tractor and attached a tool bar with fertilizer boxes and coulters.

With the front-mounted bar, they apply starter fertilizer 2" to the side of the middle of the ridge, while knifing anhydrous ammonia between the rows from behind. The fertilizer rig is run an hour or two ahead of the planter to give soil brought up by the fertilizer coulters time to dry out before planting.

The front fertilizer bar has given the Ulstads an idea for another improvement. They plan to mount a rotary hoe ahead of the tractor. In wet years, they will run the hoe over the ridges to dry them out before planting.

"We've always tried to reduce our costs and increase our flexibility," Ryan says. "We've got ridge-tilling working for us so well that we wouldn't want to switch." □



Randy Henderson, Centerville, SD, shares his ridge-till experience.

Ridger Tells His Story

A veteran ridge-tiller spells out how much energy each phase of his ridge-till operation takes.

I have been farming ridge-till since 1986, when I put all our acres to ridges. I have experimented with many fertilizer programs and found state recommendations to be more than adequate. I now use 80 pounds of 10-34-0 per acre and sidedress 80 pounds of anhydrous during the first cultivation. This fertilizer program has been used on my landlord's land for 33 years and soil tests indicate that, during this time, phosphorus levels have actually increased slightly by 2 ppm. This farm has also been ridged since 1958.

My dad and landlords have used 1/2-3/4 label rates for grass control since herbicides were first introduced. I presently use Dual at 1/2-3/4 rate in a 10" band in wide rows. This translates to 1/8-1/6 broadcast. I use full rate only under extreme conditions. This, along with two timely cultivations, has worked well for decades and will continue to work.

I combine trips to conserve fuel, horsepower and machinery as much as possible. Field operations are: planting and two cultivations and spray corn, if needed, at a combined cost of 0.9 gal/a of fuel up to combining time. Harvesting costs 1.1 gal/a plus an estimated 0.4 gal/a for trucking, for a total of 2.5 gal/a for the year.

My long-term goal is to eliminate herbicides altogether and eliminate one cultivation to conserve residue. But there is a catch. To eliminate a trip, I would have to use more herbicide. To eliminate herbicide, I would have to use some type of tillage, and in my area, moisture conservation is absolutely essential!

Major drawbacks: Management – needs to be top-notch; timing – is critical; and the hardest one of all, PATIENCE – don't get on those seed beds when it's too wet!

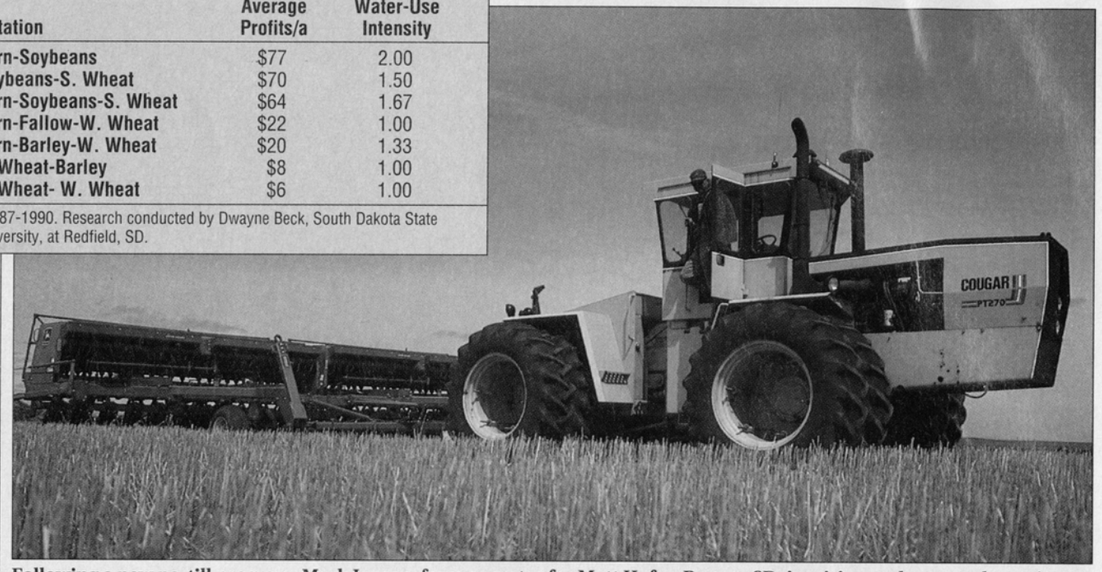
While this approach is very common among ridge-tillers, banding worked well in the '60s under conventional tillage, and mulch-till during the '70s.

The system has stood the test of time. It is sustainable economically as well as agronomically. **– by Randy Henderson, Centerville, SD** □

Table 1: Net Profitability and Water-Use Intensity of No-Till Rotations*

Rotation	Average Profits/a	Water-Use Intensity
Corn-Soybeans	$77	2.00
Soybeans-S. Wheat	$70	1.50
Corn-Soybeans-S. Wheat	$64	1.67
Corn-Fallow-W. Wheat	$22	1.00
Corn-Barley-W. Wheat	$20	1.33
S. Wheat-Barley	$8	1.00
S. Wheat- W. Wheat	$6	1.00

*1987-1990. Research conducted by Dwayne Beck, South Dakota State University, at Redfield, SD.



Following a new no-till program, Mark Jensen, farm operator for Matt Hofer, Bryant, SD, is raising soybeans and corn in rotation with spring wheat.

The Bottom Line on Tillage

Weed control costs, moisture savings are keys to tillage system economics.

Recent field trials of tillage systems point to the need to look beyond average cost and returns data – to farm-specific factors such as weed control costs, the value of preserved soil moisture, and new equipment requirements.

Plus, tillage categories once considered cut and dried are starting to merge together.

For example, Elton Goeman, Jeffers, MN, is testing a practice that blurs the distinction between ridge-till and no-till. He compared soybeans planted on ridges in 30" rows with soybeans drilled on ridges. The result: A 6 bu/a yield hike and a gain of almost $50/a in net returns.

Nevertheless, tillage system innovators like Gene Metz, Lismore, MN, say university cost and return comparisons, such as those shown in table 2, are "a good place to start" in comparing one system against another. But check each line item against your own numbers, if you have them, he adds.

BY NORMAN SENJEM

For example, University of Minnesota data show no-till's pesticide costs outweighing its advantage in equipment operating and ownership costs. Thus, ridge-till retains its place on top of the economic heap.

However, on-farm trials by Metz, Goeman and seven other farmers from the Southwest Minnesota Farm Business Management Association suggest that no-till may be closing the gap on ridge-till. In the first two years of a multi-year study, funded by the Agricultural Utilization Research Institute, the group has found that weed-control costs, which vary widely, often determine which system delivers top returns.

Fields devoted to slot-tillage, a close relative of no-till, are turning in rock-bottom weed control costs. Slot tillage involves planting into standing crop stubble, and may include cultivating and rotary hoeing.

Group chairman Jerry Perkins, a Worthington, MN, farmer, tested slot-tillage corn following soybeans and using several herbicide programs (see table 4). He found that a $4.51/a Marksman/Banvel post treatment, plus two cultivations, gave the cheapest weed control.

Perkins says that weed control costs with slot-tillage are as low as those for ridge tillage, without having to buy new machinery. A regular cultivator can be used on slot-till soybeans following corn if stalks are chopped, he says.

Metz compared five weed control programs on relatively clean ridge-tilled fields (see table 3). He found that cultivating twice, with no herbicide or rotary hoe operation, was most profitable.

That doesn't mean Metz is abandoning herbicides. On the contrary, the availability of more post-emergence products is convincing him to substitute costly pre-emergence treatments with "rescue" treatments as needed.

And low-cost weed control options, combined with 4-12 bu/a yield increases for soybeans in initial no-till experiments, is encouraging these farmers to take a closer look at that system.

No-till researcher Dwayne Beck, of the Dakota Lakes Research Farm in Pierre, SD, says the herbicide costs of well-managed no-till fields are about the same as for conventional production. He says crop rotation, competition and sanitation are required to keep no-till weed control costs low.

Matt Hofer has two years' experience with two no-till rotations patterned after Beck's research near Redfield, SD. He raises corn and soybeans near Bryant, SD, and wheat and soybeans to the west near Carpenter, SD.

The two areas are only 20 miles apart. But climate and weed pressure differences give no-till soybeans an advantage near Carpenter.

Near Bryant, Canada thistle pressure forces up herbicide costs in soybeans by $6-12/a – the cost of one or two Basagran treatments in addition to an early preplant application.

Herbicide costs in no-till corn are $5-10/a higher than conventional corn production.

Plus, soil moisture supplies usually aren't limiting near Bryant, says Hofer. So moisture saved with no-till hasn't yet produced higher corn or soybean yields. Eventually, however, improved soil tilth from no-till might raise yield potential in the area, he adds.

But, near Carpenter, where moisture is critical, wheat stubble has caught enough snow to add 3-5 bu/a to the soybean yield each of the past two years, says Hofer.

Cost of a fall burn-down treatment of Roundup and Banvel just equals the chisel-plow trip it replaces. The added cost of a early preplant soybean herbicides is covered by just one of the extra 3-5 bushels of yield under no-till, he adds.

Hofer's no-till wheat yields about 3 bu/a more than minimum-tilled fields near Carpenter, and costs less to produce.

According to Beck, farmers reap the full benefits of no-till only if their crop rotations put the saved moisture to work producing bushels.

He constructed a water-use intensity index (see table 1) to help plan rotations. "No-till rotations on soils with moderate to good water-holding capacity will require a water-use intensity rating of at least 1, even in dry areas," he says. "Areas with climates comparable to Redfield, SD, and wetter, will do best with ratings close to 2." □

Table 2: Tillage System Costs and Returns for Corn and Soybeans

	Corn							Soybeans		
	MB Plow	Chisel-Till		No-Till		Ridge-Till				
	After Beans	After Beans	After Corn	After Beans	After Corn	After Beans	After Corn	Conventional	No-Till	Ridge-Till
Returns/Acre										
Yield/Acre	155.00	155.00	135.00	155.00	135.00	155.00	135.00	45.00	45.00	45.00
Price/Unit	$2.15	$2.15	$2.15	$2.15	$2.15	$2.15	$2.15	$5.65	$5.65	$5.65
Gov't. Crop Program Value	42.00	42.00	37.00	42.00	37.00	42.00	37.00	–	–	–
Total Returns	375.25	375.25	327.25	375.25	327.25	375.25	327.50	254.25	254.25	254.25
Cash Expense/Acre										
Fertilizer and Lime	28.55	28.55	27.90	28.55	34.90	28.55	31.40	11.80	11.80	11.80
Pesticides	22.45	22.45	39.64	34.60	48.04	15.60	30.04	26.40	34.20	10.25
Fuel	10.87	10.01	10.01	7.82	7.82	9.64	9.64	8.12	6.66	7.57
Other Cash Expenses*	60.85	58.77	57.36	57.71	60.24	58.38	56.80	22.89	22.37	21.99
Total Cash Expenses	122.72	119.79	134.92	128.67	150.99	112.16	128.08	69.21	75.03	51.61
Allocated Overhead Costs/Acre										
Family & Hired Crop Labor	24.88	23.14	22.81	18.26	17.93	21.38	21.05	18.41	15.09	16.65
Machinery Ownership Costs	49.54	45.22	45.22	39.55	39.55	45.55	45.55	33.75	30.32	33.32
Other Overhead Charges**	120.29	120.29	118.00	120.29	118.00	120.29	118.00	110.17	110.17	110.17
Total Overhead Charges	194.71	188.65	186.03	178.10	175.48	187.21	184.59	162.32	155.58	160.14
Total of Costs Considered	317.42	308.44	320.95	306.77	326.47	299.38	312.67	231.53	230.61	211.74
Returns Over Total Costs	57.83	66.81	6.30	68.48	0.78	75.87	14.58	22.72	23.64	42.51
Returns Over Cash Expense	252.53	255.46	192.33	246.58	176.26	263.09	199.17	185.04	179.22	202.64

*Other cash expenses include seed and plants ($24.50/a), crop drying ($12.42-$14.26/a), repairs and maintenance ($8.38-9.24/a for soybeans, $13.93-17.66/a for corn), and interest on cash expense ($1.86-5.61/a).
**Other overhead costs include land interest charge ($92.22/a), land taxes ($10.32/a), other non-cash costs ($6.75-7.75), crop loss or insurance ($7.63-10/a).

Source: University of Minnesota

Table 3: Net Returns to Alternative Weed Control Programs Under Ridge Tillage*

Herbicide Program	Cultivation	Rotary Hoe	Yield	Weed Population/a	Net Returns
Lasso/Banvel	2x	No	136.20	0	$86.85
Bladex/Banvel	2x	No	135.40	871	91.71
Bladex/Banvel	2x	1x	133.90	436	83.80
None	2x	1x	132.00	290	90.85
None	2x	No	138.90	2,759	109.46

*Field plots located on the Gene Metz farm, Lismore, MN.

Table 4: Alternative Herbicide Programs for Slot-Till Corn*

Herbicides	Herbicide Cost	Yield (bu/a)	Net Returns
Marksman/Banvel, Dual Broadcast	$19.95	148.75	$105.85
Marksman/Banvel, Dual Banded	10.51	149.30	118.18
Marksman/Banvel	4.51	148.73	123.31

*Field trials on the Jerry Perkins farm, Worthington, MN, 1989. Two cultivations and one rotary hoe operation were included in each treatment.

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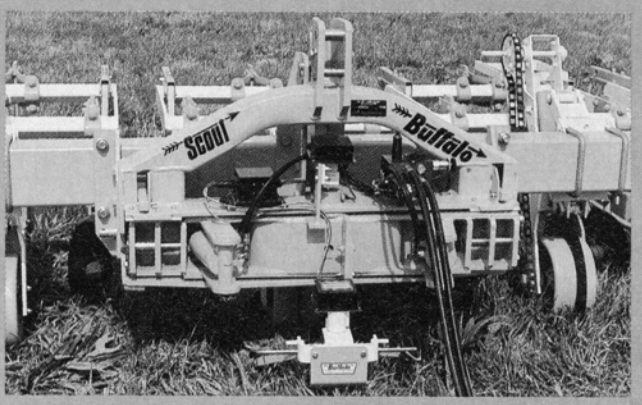
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FEMA

BOARD OF WATER AND SOIL RESOURCES
ROOM 112 STATE CAPITOL
75 CONSTITUTION AVENUE
ST. PAUL, MINNESOTA
OCTOBER 23, 1991

AGENDA

9:00 a.m.	1.	Call to Order
	2.	Adopt Agenda
	3.	Approval of Minutes of September 25, 1991
	4.	Reports • Chairman's Report - Jim Nielsen • Executive Director's Report - Ron Harnack • EQB/Water Resources Report - Ron Harnack • BWSR Committee Reports
9:30 a.m.	5.	MFIP Final Allocation Recommendation - Chuck Niska - for decision
	6.	1991 RIM Reserve Easement Allocations - Dave Behm - for decision
10:00 a.m.	7.	Nine Mile Creek Watershed District - Mel Sinn - for discussion
11:00 a.m.	8.	Comprehensive Update on Wetlands - Greg Larson - for discussion
noon	Lunch	
1:00 p.m.	9.	Regional BWSR Report - Brainerd Office
1:30 p.m.	10.	Water Management Organization Plans - for decision • North Cannon River WMO - Doug Thomas • Todd County Water Plan - Dan Steward • Swift County Water Plan - Dan Steward
2:30 p.m.	13.	Advisor Comments • John Sumption, MACDE • Franklin Denn, MAT • Gary Nordstrom, SCS • Howard Peterson, MAWD • Danny Potter, MASWCD • Pat Wulff, LMF
	14.	Board Issues - discussion, comments, action needed
3:00 p.m.	Adjourn	

BOARD OF WATER AND SOIL RESOURCES
ROOM 112 STATE CAPITOL
75 CONSTITUTION AVENUE
ST. PAUL, MINNESOTA
OCTOBER 23, 1991

Appointed Members in Attendance
Jim Nielsen
John Brooks, Jr.
Don Ogaard
Loren Harste
Howard Peterson
Don Warner
Dwain Otte
John Boulton
Jack Graba
Jim Rossman
Diane Jensen
Warren Rodning

Agency Members in Attendance
Fred Bergsrud, University of Minnesota/Extension Service
Tom Lutgen, Department of Natural Resources (DNR)
Kim Benson-Johnson, Department of Health
Wayne Anderson, Pollution Control Agency (MPCA)
Doug Wise, Department of Agriculture (MDA)

Others in Attendance
Pat Wulff, Minnesota Lake Management Federation
Dave Benner, Soil Conservation Service
D'Wayne DeZiel and Bob Pigeon, Minnesota Association of Soil and Water Conservation Districts (MASWCD)
Helen McLennan, Minnesota Association of Conservation District Employees (MACDE)
Bill Clapp, III, Attorney General's Office

Staff in Attendance

Ron Harnack	Ron Shelito
Jim Birkholz	Doug Thomas
Mel Sinn	Dan Steward
Greg Larson	Bruce Sandstrom
Chuck Niska	Mary Jo Anderson
Dave Behm	

Meeting Called to Order - Chairman Nielsen called the meeting to order at 9:00 a.m.

** 91-86 **Adopt Agenda** - Moved by Brooks, Jr., seconded by Otte, to adopt the agenda as presented. Affirmative: Ogaard, Boulton, Warner, Graba, Otte, Brooks, Jr., Harste, Rodning, and Nielsen. Opposed: None. Carried.

** 91-87 **Approval of Minutes of September 25, 1991** - Moved by Otte, seconded by Warner, to approve the minutes of September 25, 1991, as circulated. Affirmative: Ogaard, Boulton, Warner, Graba, Otte, Brooks, Jr., Harste, Rodning, and Nielsen. Opposed: None. Carried.

Chairman's Report - Chairman Nielsen attended the "Minnesota Milestones" meeting on October 2 in Duluth. The focus of this meeting was to set forth ideas for the state's environmental future. A major "milestone" was environmental education.

Chairman Nielsen attended the Environmental Quality Board/Water Resources Committee meeting. The focus of this meeting was how to better coordinate water resources issues and eliminate redundancy.

Executive Director's Report - Ron Harnack updated the board on the Morrison SWCD emergency cost-share request for $10,000. Darrell Apelgrain, BWSR engineer, looked at the project and concluded that Morrison SWCD's proposal for the project is the most cost-effective approach to the problem. He also estimated that the cost may be $8,000 - $9,000 rather than $10,000. Darrell has also been in contact with John Brach, Soil Conservation Service. Darrell felt that the BWSR's action was appropriate.

Howard Peterson entered the meeting at 9:07 a.m.

Ron Harnack reported that he facilitated one session at the "Minnesota Milestones" meeting. Two elements of concern relating to education were; 1) the need for a greater understanding of natural resources; 2) how to work with the school system on their curriculum relating to natural resources.

Ron attended the Senate Finance Committee legislative tour of southeastern Minnesota on October 15-16. The tour included review of BWSR program issues including feedlots, sinkholes, RIM, cost-share and soil erosion. Legislative reception was very good.

Ron reported on personnel issues. Contracts have been extended for the 319 dollars for Brad Matlack's position and for an extension of the contract for the Minnesota River Assessment Project for Mary Mueller's position. The Department of Employee Relations has approved the coastal engineer position in Duluth and also the data systems management position.

Diane Jensen entered the meeting at 9:20 a.m.

BWSR Committee Reports - Don Ogaard reported that the Education Committee met for the first time October 22. The committee discussed the meaning of education in the context of the board strategic plan; dealing with clientele; and training versus education. A survey will be sent out to local units of government regarding their interests and concerns on education. Don stated that the staff as well as committee members are committed to education. The committee hopes to develop meaningful items for the full board to consider, including establishment of a full-time position for education.

Jim Rossman entered the meeting at 9:23 a.m.

Jack Graba reported that the Dispute Resolution Committee will be meeting tomorrow.

Ron Harnack briefly updated the board on the proposed Snake River Watershed District. The stipulation agreement has been drafted and circulated that would put the petition on hold subject to completion of local water plans. The deadline to receive comments is October 25.

Minnesota Forestry Improvement Program (MFIP) Final Allocation Recommendation - Chuck Niska explained the staff recommendation for a total of $38,693. Discussion followed. Moved by Boulton, seconded by Warner, to accept the staff recommendation to approve the MFIP allocation of $38,693 as presented. Affirmative: Ogaard, Boulton, Warner, Graba, Otte, Brooks, Jr., Harste, Rodning, Peterson, Jensen, Rossman, and Nielsen. Opposed: None. Carried.

** 91-88

Don Warner stated his concern for the SWCDs not receiving any administrative funding with the increased workload they have on this program. Chairman Nielsen directed staff to put together a report on the grant programs and amount of funding going to administration for local government and BWSR.

1991 RIM Reserve Easement Allocations - Dave Behm explained the staff proposal and summary of proposed allocations. He stated that this does not include funding for sensitive groundwater, applicants who applied under sensitive groundwater were qualified for marginal ag land. Discussion followed. Moved by Harste, seconded by Ogaard, to accept the staff recommendation to approve the RIM allocations of $2,616,868.68. Affirmative: Ogaard, Boulton, Warner, Graba, Otte, Brooks, Jr., Harste, Rodning, Peterson, Jensen, Rossman, and Nielsen. Opposed: None. Carried.

** 91-89

Chairman Nielsen called for a break in the meeting at 10:20 a.m. The meeting reconvened at 10:25 a.m.

Nine Mile Creek Watershed District - Mel Sinn introduced Aileen Kulak, Helen McClelland, and LuAnn Tolliver, managers of the Nine Mile Creek Watershed District. Mel reported that on September 4, 1991, the Nine Mile Creek Watershed District requested BWSR to approve its Watershed Management Plan. Mel emphasized that, while the BWSR

has the responsibility to review the overall plan, a number of issues raised during the plan review process remain unresolved. Staff suggested that the plan be treated as a discussion item rather than an action item. Mel stated the following four key unresolved issues: 1) lack of written responses to specific review agency comments; 2) lack of a complete inventory of natural water storage and retention systems, and an identifiable protection strategy; 3) lack of a substantive water quality management strategy; and 4) lack of standards for local water plan content and lack of a schedule for local water plan adoption.

Chairman Nielsen called on agency representatives to comment on the Nine Mile Watershed District Overall Plan. John Pauley, Department of Natural Resources, stated that the DNR hasn't received a written response yet from the watershed district. Wayne Anderson, Pollution Control Agency, commented that PCA also has not yet received a written response and the watershed district is not meeting the 509 requirements. Marcel Jouseau, Metropolitan Council, stated that the watershed district has a collection of documents, not a water plan, and that water quality problems have not been addressed.

Aileen Kulak, on behalf of the Nine Mile Creek Watershed District, requested BWSR approval of their plan and gave a chronological summary of the watershed district and the establishment of their plan. Helen McClelland also commented on the plan and was upset that more than $120,000 has been spent on this issue and the plan is still not approved. Discussion followed. Tom Lutgen, Department of Natural Resources, stated that a meeting was held in September or October and DNR didn't feel that the issues had been resolved.

** 91-90 Moved by Boulton, seconded by Brooks, Jr., that Chairman Nielsen appoint a committee to review the plan and come before the full BWSR in January with a recommendation of approving or denying the plan, with the report delivered to Chairman Nielsen prior to the January meeting. Affirmative: Ogaard, Boulton, Warner, Graba, Otte, Brooks, Jr., Harste, Rodning, Peterson, Jensen, Rossman, and Nielsen. Opposed: None. Carried. Chairman Nielsen appointed the following committee: Diane Jensen, chair; Howard Peterson, Loren Harste, and Don Ogaard.

Chairman Nielsen adjourned the meeting for lunch at 11:35 a.m. The meeting reconvened at 12:35 p.m.

Update on Wetlands - Greg Larson distributed copies of "Operation S.A.V.E."; a wetlands brochure, and the Wetland Conservation Act of 1991 Summary of Exemptions for the Board's information. Greg gave a brief but thorough update on wetlands. He will come before the board in December seeking approval of the interim guidelines and process.

Water Management Organization Plans

• North Cannon River WMO Plan - Doug Thomas introduced Bob Linn, John Dudley, John Forest, Eric Evenson, and Barb Oman, representatives of the North Cannon River WMO Plan. Doug gave a brief overview of the North Cannon River WMO Plan and recommended approval of the plan.

** 91-91 Moved by Otte, seconded by Rossman, to approve the North Cannon River WMO Plan. Affirmative: Ogaard, Boulton, Warner, Graba, Otte,

Brooks, Jr., Harste, Rodning, Peterson, Jensen, Rossman, and Nielsen. Opposed: None. Carried.

Chairman Nielsen called for a break in the meeting at 2:10 p.m. The meeting reconvened at 2:20 p.m.

• Todd County Water Plan - Dan Steward introduced Leroy Williams, Todd County extension agent, representing the water plan. Dan gave a brief overview of the Todd County water plan. Tom Lutgen, DNR, stated that DNR has not had adequate time to review the response from Todd County and asked that the plan approval be tabled until next month. Dan recommends approval of the plan. Discussion followed. Moved by Graba, seconded by Otte, to carry over the Todd County Water Plan until December to allow DNR an opportunity to review the response letter. Affirmative: Ogaard, Boulton, Warner, Graba, Otte, Brooks, Jr., Harste, Rodning, Peterson, Jensen, Rossman, and Nielsen. Opposed: None. Carried. Leroy Williams commended Dan Steward for his excellent assistance on the plan.

** 91-92

• Swift County Water Plan - Dan Steward introduced Tom Anderson, representing the Swift County Water Plan, and asked the board for approval of the plan. Dan gave a brief overview of the Swift County Water Plan and recommended approval. Tom Lutgen, DNR, stated that John Pauley of his staff has not adequately reviewed this but would recommend approval. Discussion followed. Moved by Boulton, seconded by Harste, to approve the Swift County Water Plan. Affirmative: Ogaard, Boulton, Warner, Graba, Otte, Brooks, Jr., Harste, Rodning, Peterson, Jensen, Rossman, and Nielsen. Opposed: None. Carried.

** 91-93

Chairman Nielsen stated that 16 water plans are up for approval at the December meeting. He suggested having two panels of board members review and pre-approve the plans before the December meeting. He appointed the following panels: 1) Howard Peterson, Diane Jensen, Loren Harste, Warren Rodning, Jim Rossman, and Jim Nielsen; 2) John Boulton, Dwain Otte, Don Ogaard, Don Warner, John Brooks, Jr., Jack Graba, and Jim Nielsen. The panels will submit their recommendations to the full board at the December meeting. Agency members will be notified so they may be present at the panel meeting as well. Chairman Nielsen directed staff to organize and schedule the panel meetings prior to the December 18 BWSR meeting.

Chairman Nielsen appointed a wetlands committee (John Brooks, Jr., Jim Rossman, Loren Harste, Dwain Otte, and Jim Nielsen) for the rulemaking process.

Chairman Nielsen stated that an issue of reimbursement for board members attending meetings will be discussed at the January meeting and a policy will be formulated at the time. John Boulton felt that it's important for members to attend annual meetings of MAWD, MASWCD, AMC, and MAT.

Howard Peterson requested a quarterly financial summary of the BWSR to be presented by

staff.

** 91-94 Moved by Warner, seconded by Harste, to adjourn the meeting at 3:25 p.m. Affirmative: Ogaard, Boulton, Warner, Graba, Otte, Brooks, Jr., Harste, Rodning, Peterson, Jensen, Rossman, and Nielsen. Opposed: None. Carried.

Respectfully submitted,

D. James Nielsen
Chairman

BOARD OF WATER AND SOIL RESOURCES
SENATE HEARING ROOM 112
STATE CAPITOL BUILDING
75 CONSTITUTION AVENUE
ST. PAUL, MINNESOTA 55155
OCTOBER 24, 1990

Appointed Members in Attendance
Donald Ogaard
John Williamson
John Boulton
Don Warner
Diane Jensen
William Cofell
Howard Peterson
Jack Graba
Natalie Haas Steffen
John Brooks, Jr.
Loren Harste
James Hoese

Agency Members in Attendance
Paul Burns, Department of Agriculture
Tom Lutgen and Ron Nargang, Department of Natural Resources
Wayne Anderson, Pollution Control Agency
Kim Benson-Johnson, Department of Health
George Foster, University of Minnesota

Others in Attendance
Gary Nordstrom and Dave Benner, Soil Conservation Service
John Sumption, Minnesota Association of Conservation District Employees
Franklin Denn, Minnesota Association of Townships
D'Wayne DeZiel, Minnesota Association of Soil and Water Conservation Districts
Tom Peterson, Ramsey Soil and Water Conservation District
Pat Rudolph, Anoka Soil and Water Conservation District

Staff in Attendance
Jim Birkholz
Mel Sinn
Greg Larson
Dave Behm
Ron Shelito
Wayne Edgerton
Dan Steward
Chris Hughes
Doug Thomas
Steve Miller
Mary Jo Anderson

Meeting Called to Order - Chairman Ogaard called the meeting to order at 9:00 a.m.

** 90-95 Adopt Agenda - Moved by Warner, seconded by Harste, to adopt the agenda as presented. Affirmative: Ogaard, Williamson, Boulton, Warner, Graba, Harste, Cofell, Hoese, and Peterson. Opposed: None. Carried.

Brooks, Jr.

Approval of Minutes of September 26, 1990 - Howard Peterson stated that corrections need to be made on page 2 of the September minutes. Under the Chairman's Report, it should read, "Chairman Ogaard "attended" the EQB/Water Resources Committee retreat on August 28. Also under the Chairman's Report, the next paragraph, last sentence, should read, "The cost "to" the Board for hearings and legal fees will be high." On page four, the fourth paragraph, last sentence should read, "The Mayor of Grand Marais was also introduced and "made" a few comments." Moved by Cofell, seconded by Williamson, to approve the minutes of September 26, 1990, as corrected. Affirmative: Ogaard, Williamson, Boulton, Warner, Graba, Brooks, Jr., Harste, Cofell, Hoese, and Peterson. Opposed: None. Carried.

** 90-96

Natalie Haas Steffen and Diane Jensen entered the meeting at 9:10 a.m.

Chairman's Report - Chairman Ogaard commented on the excellent tour last month in Grand Marais. It was very interesting to see the timber harvesting operation, as well as the unique topography in this part of the state. He suggested that the very interesting GIS forestry presentation that was given by John Gebhart be shown to the EQB.

Chairman Ogaard suggested that someone from the Department of Agriculture make a presentation at a future BWSR meeting on the "Nitrogen Fertilizer Task Force Report."

Chairman Ogaard introduced Diane Jensen, newly appointed Board Member. Diane expressed appreciation to have a seat on the Board.

Executive Director's Report - Jim Birkholz submitted a letter of resignation from the position of Executive Director of the Board. He is requesting to return to the Assistant Director position, of which he is currently on an unclassified service leave. Jim stated that the reasons for submitting his resignation are strictly personal, and he looks forward to serving the Board as Assistant Director. Discussion followed. Moved by Graba, seconded by Steffen, that the resignation be accepted to be effective when a new executive director is hired and that the Personnel Committee be activated to serve in the hiring process of the Executive Director. Affirmative: Ogaard, Williamson, Boulton, Warner, Graba, Steffen, Brooks, Jr., Harste, Cofell, Hoese, Peterson, and Jensen. Opposed: None. Carried.

** 90-97

Jim reported on the establishment of an advisory committee to comment on the development of metro water planning rules. At least 50 people have been invited to a meeting on November 1st, at McGuires Inn in Arden Hills to discuss the rule drafting process. Because they are decision-makers for submitting a final draft rule, Board members are not included as members of the advisory committee, however, Board members will receive notices of the rule meetings and the Board will have ongoing discussion at upcoming Board meetings regarding the rule drafting process.

On a related note, Jim reported that he met with the General Advisory Committee of the Metropolitan Waste Control Commission to discuss the status of metropolitan water planning and nonpoint source pollution control issues.

Jim gave an update on the Flood Bay project in northeastern Minnesota. Bids will not be
** opened until October 25. Discussion followed. Moved by Steffen, seconded by Cofell, that
90-98 the Board expend up to $25,000 on the Flood Bay project if the total is $50,000. Affirmative: Ogaard, Williamson, Boulton, Warner, Graba, Steffen, Brooks, Harste, Cofell, Hoese, Peterson, and Jensen. Opposed: None. Carried. The status of the Flood Bay project will be discussed at the November meeting.

Jim briefed the Board on the status of the proposed Snake River Watershed District. They have just finished the sixth day of hearings, with several additional hearings to be held. Chairman Ogaard stated that the hearing process for this has become extremely expensive and frustrating. The Board is obligated to the expense (which is currently in the $50,000 range), but has no control over the hearing which is presided over by the administrative law judge. Don Warner recommended that the Board appoint a committee to make a change in the process and submit it to the legislature regarding this matter. Jim will notify the funding committee in the legislature as they need to be aware of the Board's deficiency from this case.

Jim made a recommendation to the Board that the Minnesota Lake Management
** Federation be invited to serve in an advisory capacity to the Board. Moved by Peterson,
90-99 seconded by Steffen, that the Lake Management Federation be invited to be an advisor to the Board. Affirmative: Ogaard, Williamson, Boulton, Warner, Graba, Steffen, Brooks, Jr., Harste, Cofell, Hoese, Peterson, and Jensen. Opposed: None. Carried.

<u>West Central Administrative Area Report</u> - Ron Shelito, Board Representative in Brainerd, briefed the Board on his background and distributed a summary report of his activities since he was hired in February of this year. He discussed the conservation issues in west central Minnesota with the Board. John Boulton suggested that each Board Representative meet with county boards and townships. Jim stated that the hydrologists have been the BWSR's main contact with county boards through the water planning process. Chairman Ogaard thanked Ron for the excellent report.

Red Lake Watershed District Overall Plan - Following a presentation and discussion, Mel Sinn recommended approval of the draft Order prescribing the revised plan for the Red Lake Watershed District. Moved by Brooks, Jr., seconded by Warner, to approve the Red Lake Watershed District revised overall plan. Affirmative: Ogaard, Williamson, Boulton, Warner, Graba, Steffen, Brooks, Jr., Harste, Cofell, Hoese, Peterson, and Jensen. Opposed: None. Carried.

** 90-100

Francis Remerowski Appeal of Yellow Medicine Watershed District Decision - Jim reported that staff has been working with Mr. Remerowski to mediate the issue of a permit for drainage tile. At this time it doesn't look like an agreement can be reached. The Board's Dispute Resolution Committee may need to retain an administrative law judge and proceed with a hearing on this if the situation cannot be resolved. John Boulton updated the Board on the issue. County commissioners will be meeting next week. Moved by Harste, seconded by Steffen, that if this issue is not resolved by November 15, then the Dispute Resolution Committee will meet with an administrative law judge to proceed with the hearing process. Affirmative: Ogaard, Williamson, Boulton, Warner, Graba, Steffen, Brooks, Jr., Harste, Cofell, Hoese, Peterson, and Jensen. Opposed: None. Carried.

** 90-101

FY92-93 Biennial Budget Request - Jim Birkholz reviewed the Board's general fund budget plan, and proposed a base reallocation. Moved by Cofell, seconded by Boulton, that the Board concurs with staff's proposed base reallocation and staff be directed to proceed. Affirmative: Ogaard, Williamson, Boulton, Warner, Graba, Steffen, Brooks, Jr., Harste, Cofell, Hoese, Peterson, and Jensen. Opposed: None. Carried.

** 90-102

FY91 First Quarter Budget Report - Jim reported that the FY91 budget is very tight. In order to manage within the existing budget, staff has proposed a moratorium on travel from December 10 - January 11; that the Board consider canceling the December Board meeting. The December staff meeting has been cancelled and several other budget management initiatives are being implemented. Discussion followed. Moved by Steffen, seconded by Williamson, to eliminate the December Board meeting. Affirmative: Ogaard, Williamson, Boulton, Warner, Graba, Steffen, Brooks, Jr., Harste, Cofell, Hoese, Peterson, and Jensen. Opposed: None. Carried.

** 90-103

Policy Recommendations for October 15 Report - Jim Birkholz referred to the summary sheet in the packet for the Board's review and comment of the recommendations to the legislature for the October 15 Report. Staff will proceed to communicate these issues.

Natalie Steffen commented on the "House Research Information Brief" regarding the Environmental and Natural Resources Trust Fund. She stated that additional information and background on the trust fund should have been included.

RIM Easement Allocations - Wayne Edgerton reported on the results of the 1990 sign-up. Just over $4 million in applications were received for perpetual easements only. $2,150,000

is available to fund easements. He stated that staff recommends funding of the 1990 RIM Reserve sign-ups based on the following: 1) highest priority to sensitive groundwater area applications (required by legislation); 2) second priority was given to wetland restoration applications. Staff suggests a change this year to include both wetlands with a cropping history and wetlands without a cropping history as second priority applications; and 3) the remaining priority listing was based on the BWSR 1989 perpetual easement priorities for riparian lands, third; marginal agricultural land, fourth; and pastured hillside, fifth. With these funds all sensitive groundwater, wetland restoration, and a few of the riparian applications would be funded. Staff recommends the applications falling below the $2,150,000 line be put on a temporary pending list to be accepted, in order, as approved applications may be canceled. The concept of developing a pending list is new this year and is being suggested due to the fact that all applications are for perpetual easements. The list was ranked based on application category, size, and SWCD priority. Moved by Harste, seconded by Cofell, to accept the staff recommendation and approve the 1990 RIM Reserve Allocations as presented. Affirmative: Ogaard, Williamson, Boulton, Warner, Graba, Steffen, Brooks, Jr., Harste, Cofell, Hoese, and Peterson. Opposed: None. Carried.

** 90-104

Advisor Comments

Franklin Denn, Minnesota Association of Townships (MAT), reported that their annual meeting is scheduled for November 16-17 in Rochester. The MAT had a successful annual meeting in Washington in September. The MAT is in support of lifting the levy limit for counties. Mr. Denn stated that D'Wayne DeZiel, Executive Director of the Minnesota Association of Soil and Water Conservation Districts, made a presentation at a MAT meeting regarding the relationship between SWCDs and townships. He stated that more cooperation between local units of government is needed.

Dave Benner, Soil Conservation Service, reported again that there is a potential furlough of employees, with a shut-down at midnight tonight. The State Conservation Engineer position has been filled by John Brach, effective in two weeks. There has been no word yet on the selection of Chief of USDA-Soil Conservation Service.

John Sumption, Minnesota Association of Conservation District Employees (MACDE), will be exploring district employee training sessions with Wisconsin, Michigan, North Dakota and South Dakota. The MACDE will be holding meetings throughout the MASWCD Annual Convention and welcomed Board members to attend their meetings.

D'Wayne DeZiel, Minnesota Association of Soil and Water Conservation Districts (MASWCD), reported that he's been attending the proposed Snake River Watershed District hearings. The hearing process has been long and tedious. The MASWCD has just mailed copies of the first issue of their newsletter. D'Wayne stated that's he's looking forward to seeing everyone at the MASWCD Annual Convention in December.

Howard Peterson stated that the Minnesota Association of Watershed Districts (MAWD) will hold their Annual Convention on December 7-8, at the Arrowwood in Alexandria.

Cost-Share Program Rules Report - Greg Larson updated the Board on the history and background of the cost-share program. He stated that all discussion to date has been informal and that there will be a 30-day comment period for all interested parties on the proposed draft rule once it is submitted to the formal process. The current rule promulgated in 1985, is in effect now, and will remain in effect until replaced by any new rule.

Chairman Ogaard asked the Personnel Committee to meet at 12:50 p.m. Chairman Ogaard recessed the meeting for lunch at 12:10 p.m. The meeting reconvened at 1:15 p.m.

Senator Roger Moe welcomed the Board to the Capitol. He addressed the Board on the Environmental Trust Fund issue and is hopeful the amendment will pass. He commented on the State's budget reserve, and stated that Minnesota does not have a deficit at this time.

Comments from Meeting Attendees on the Cost-Share Program Rules - Tom Peterson, District Manager from Ramsey SWCD and also representing the Association of Metropolitan SWCDs, disagrees with the cost-share allocation formula. He objects to what he refers to as inequitable allocations. Pat Rudolph, District Manager from Ankoa SWCD, suggests that the Board study the formula and make changes. John Sumption, District Manager from Cass SWCD, asked the Board to examine the cost-share allocations. He suggested that allocations not be used to prop up weak districts and that funds should be allocated on a regional basis. Staff will forward the SWCD written comments to Board members. Discussion followed. Chairman Ogaard recommended that the present cost-share formula be discussed and deliberated at the November Board meeting, with staff to propose options to be discussed at the January Board meeting.

Agricultural Land Preservation Program - Paul Burns and Doug Wise, Minnesota Department of Agriculture, gave a presentation and showed a video on the Agricultural Land Preservation Program. The goals of the programs are: 1) preserve and conserve agricultural land, including forest land, for long-term agricultural use in order to protect the productive natural resources of the state, maintain the farm and farm-related economy of the state, and assure continued production of food and timber and agricultural uses; 2) preserve and conserve soil and water resources; and 3) encourage the orderly development of rural and urban land uses. The law requires the Minnesota Department of Agriculture, as the state agency responsible for the implementation of the law, to report to the legislature on January 1 of each year on activities occurring under this law. Informational brochures and materials were distributed for the Board's review. Paul stated that he would be happy to go before county boards to inform them of this program. Chairman Ogaard thanked them for the informative presentation.

Comprehensive Local Water Plans - Dan Steward gave a chronological overview of the Crow Wing County 110B Plan. Dan introduced Bill Maucker, Dennis Slayton, and Sandra Holm, representing Crow Wing County. Staff recommends approval of the Crow Wing County Comprehensive Local Water Plan. Mr. Maucker thanked Dan for his fine efforts in assisting the county with the plan, they are eager to begin implementation. Moved by Cofell, seconded by Warner, to approve the Crow Wing County Comprehensive Local Water Plan. Affirmative: Ogaard, Williamson, Boulton, Warner, Graba, Steffen, Brooks, Jr., Harste, Cofell, Hoese, Peterson, and Jensen. Opposed: None. Carried.

** 90-105

Dan Steward gave a chronological overview of the Carlton County 110B Plan. Dan introduced Ed Beck, Carlton County District Manager. Mr. Beck thanked Dan and Doug Thomas and Jeff Stewart, Carlton County District Conservationist, for their assistance on the plan. Chairman Ogaard gave credit to Mr. Beck and to the Carlton SWCD for going through the process without any assurance of state plan funding, and for starting the process on their own. Staff recommends approval of the Carlton County 110B Plan. Moved by Williamson, seconded by Warner, to approve the Carlton County Comprehensive Local Water Plan. Affirmative: Ogaard, Williamson, Boulton, Warner, Graba, Steffen, Brooks, Jr., Harste, Cofell, Hoese, Peterson, and Jensen. Opposed: None. Carried.

** 90-106

Chris Hughes distributed a summary of the Nicollet County 110B Plan for the Board's information. Chris gave a chronological overview of the plan. Chris introduced Pam Rivers and John Mitchell, representing Nicollet County. Ms. Rivers thanked Chris for his invaluable assistance on the plan. Staff recommends approval of the Nicollet County 110B Plan. Moved by Warner, seconded by Steffen, to approve the Nicollet County Comprehensive Local Water Plan. Affirmative: Ogaard, Williamson, Boulton, Warner, Steffen, Brooks, Jr., Harste, Cofell, Peterson, and Jensen. Opposed: None. Carried.

** 90-107

Chris Hughes distributed a summary of the Freeborn County 110B Plan for the Board's information. Chris gave a chronological overview of the plan. He introduced Dick Hoffman, representing Freeborn County. Mr. Hoffman thanked Chris for his assistance on the plan. Chris commended Freeborn County for their efforts during this past year on the plan. Staff recommends approval of the Freeborn County 110B Plan. Moved by Boulton, seconded by Harste, to approve the Freeborn County Comprehensive Local Water Plan. Affirmative: Ogaard, Williamson, Boulton, Warner, Steffen, Brooks, Jr., Harste, Cofell, Peterson, and Jensen. Opposed: None. Carried.

** 90-108

The Personnel Committee decided that the Executive Director position would be advertised for two weeks in the Department of Employee Relations newsletter, selectively advertised elsewhere and the 1988 candidates would be notified of the vacancy. The Board will accept Jim's resignation as Executive Director when the new Executive Director has been hired, and Jim will then make the transition to Assistant Director.

** 90-109 Moved by Warner, seconded by Steffen, to adjourn the meeting at 3:55 p.m. Affirmative: Ogaard, Williamson, Boulton, Warner, Steffen, Brooks, Jr., Harste, Cofell, Peterson, and Jensen. Opposed: None. Carried.

Respectfully submitted,

Donald Ogaard

Donald Ogaard
Chairman

October 24, 1990

Mr. Donald Ogaard, Chairman
MN Board of Water and Soil Resources
155 S. Wabasha St., Suite 104
St. Paul, MN 55107

Dear Chairman Ogaard:

I hereby submit my resignation from the position of Executive Director for the Board of Water and Soil Resources. In accordance with M.S. 43A.07, subdivision 5, I also request to return to the position of Assistant Director of the Board of Water and Soil Resources. I am currently on an unclassified service leave from that position.

My reasons for submitting this resignation are strictly personal. I have the highest respect and appreciation for the Board and for yourself as its Chairman. I am indebted to the Board for affording me the opportunity to function as its Executive Director. I believe we have accomplished a lot together these past few years. I look forward to continuing to serve the Board as its Assistant Director. In my mind, there is no finer organization within state government.

I am committed to achieving a smooth transition. You may continue to rely on me to provide overall staff leadership until a successor is named. I will also provide any assistance needed by you and the Board so that the process of finding an Executive Director does not become a burden.

Sincerely,

Jim Birkholz

WEST CENTRAL REGION
BOARD REPRESENTATIVE REPORT
OCTOBER 24, 1990

SWCD Board Meetings

2/26 E. Otter Tail
2/28 Crow Wing
3/7 Wadena SWCD Banquet
3/8 Clay
3/12 Douglas
3/12 W. Otter Tail
3/13 Cass
3/13 Pope
3/14 Wadena
3/15 Todd
3/20 Morrison
3/21 Becker
4/3 Wilkin
4/18 Stevens
5/3 Traverse
7/3 Grant SWCD C-S Audit Mtg.
7/3 W. Otter Tail C-S Audit Mtg.

Water Planning Meetings

2/13 Crow Wing Task Force Meeting
3/29 BWSR Winter Meeting
4/26 Water Plan Work Plan Meeting Fergus Falls
7/23 Otter Tail County, Perham
7/27 Douglas Task Force
8/14 Crow Wing Task Force
8/28 Otter Tail Task Force Meeting Fergus Falls

Watershed District Meetings

4/26 Sauk River Watershed District
5/22 Bois De Sioux Watershed Dist.
6/25 Buffalo Red River Watershed Meeting

Training Meetings for Clientele

3/6 Area II & III Cost-Share Training in McGregor
4/4 Area II All Employee Meeting in Wadena
6/20 New Employee Training - Wilkin SWCD
7/13 Area II Accounting/Bookkeeping Training - Alexandria
7/17 Area II 1990 RIM Training
7/18 Area II Cost-Share Rules Information Meetings
8/20 & 21 Area II & III All Employee Training - Walker

Tours

6/19 Lower Red River Watershed Board Tour
6/27 Grant SWCD Ag Education Conservation Tillage Tour
8/1 Rosholt Research Farm Field Day
9/7 Morrison SWCD Legislative Tour

Cost-Share Audits

5/3 Grant SWCD
5/4 Traverse SWCD
5/21 W. Otter Tail SWCD
5/30 Crow Wing SWCD
6/1 Wadena SWCD
6/4 E. Otter Tail SWCD
7/27 & 8/30 Douglas SWCD
8/2 Clay SWCD
8/3 Becker SWCD
8/30 Wadena SWCD
9/10 Todd SWCD
9/24 Wilkin SWCD
9/6 Crow Wing SWCD

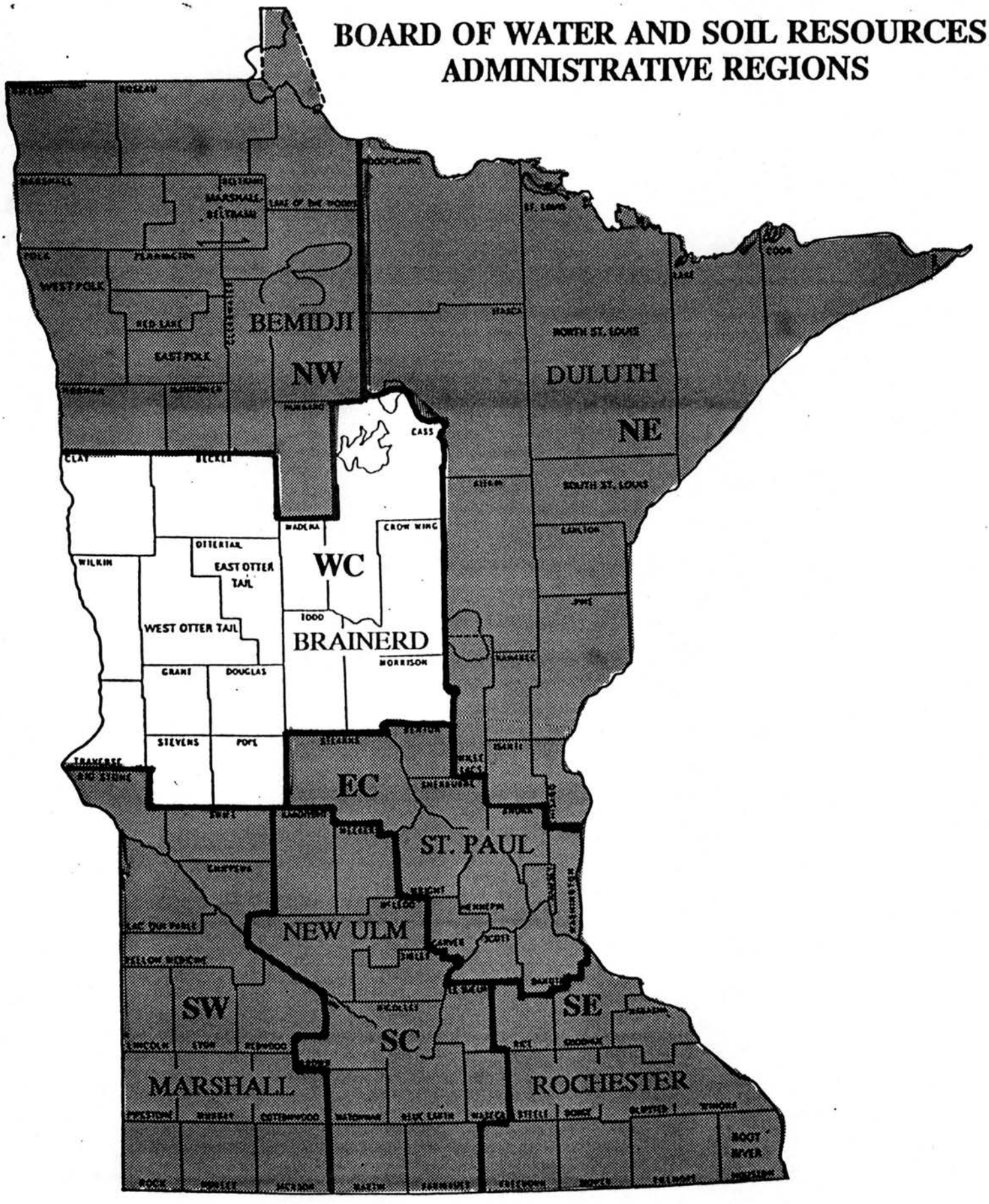
MASWCD Area II Meetings

3/23 Planning Meeting
6/28 Area II Meeting

SLR Reviews

3/20 Morrison SWCD
3/30 Cass SLR Project Review
4/3 Traverse SWCD
6/1 Wadena SWCD

BOARD OF WATER AND SOIL RESOURCES
ADMINISTRATIVE REGIONS



Minnesota Board of Water & Soil Resources

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An Equal
Opportunity Employer

September 15, 1990

TO: BWSR Members

FR: Mel Sinn

SU: Red Lake Watershed District Revised Overall Plan

Recommended Action The Red Lake Watershed District revised overall plan is ready to be acted on at your October meeting. I recommend approval of the attached draft Order prescribing the revised plan for the District.

Background In 1984 the District began the process of revising its overall plan by submitting a revised overall plan outline for review and comment. Upon passage of the Comprehensive Local Water Management Act in 1985, the District took the initiative to submit a local water planning grant proposal to the LCMR on behalf of all Red River Valley counties. That proposal was funded in 1987, and eight of the District's ten counties initiated comprehensive water planning in October of 1987. The District completed work on its own revised overall plan early in 1988, and transmitted it to the BWSR and affected local units of government for review. I informed the District (in the same manner as I had Middle Des Moines, which you acted on last month) that by law the BWSR was responsible for ensuring consistency between watershed district overall plans and county 110B plans. I said it would be preferable for the District to wait until the counties had completed their plans before bringing the District's draft revised overall plan before the BWSR for approval.

The District's eight planning counties completed their plans in late 1989, and had them approved by the BWSR in 1990. The District participated in the county water planning process, shared their draft revised overall plan with the counties, and had input into decisions concerning county water plan content.

On October 11, 1990 the District's board of managers decided to submit additional information for inclusion in their revised overall plan on 1) proposed projects, and 2) erosion control activities. I will be receiving this material in the mail later this week. This addendum material can be mailed out along with the BWSR's final Order, so the revised overall plan should not need to be reprinted.

Attached are the final four pages of the plan.

CC: Red Lake Watershed District; Selected BWSR Staff

Minnesota Board of Water and Soil Resources
155 South Wabasha Street
Suite 104
Saint Paul, Minnesota 55107

In the Matter of Prescribing a Revised Overall Plan for the Red Lake Watershed District (Minn. Stat. 1988, Sec. 112.46)

ORDER PRESCRIBING OVERALL PLAN

The board of managers of the Red Lake Watershed District (District) filed a proposed revised overall plan with the Minnesota Board of Water and Soil Resources (BWSR) and the BWSR issued a Notice of Filing of Revised Overall Plan. The BWSR received no requests for hearing in response to its Notice of Filing.

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

Findings of Fact

1. The District was established on January 25, 1969.

2. The District's initial overall plan was prescribed on November 10, 1972.

3. The District filed a proposed revised overall plan outline on December 14, 1984, pursuant to Minnesota Statutes 1984, section 112.46, subd. 4. The former Water Resources Board transmitted recommendations concerning the revised overall plan outline to the District's board of managers on February 11, 1985.

4. Early in 1986, the District submitted a comprehensive local water planning grant proposal to the Legislative Commission on Minnesota Resources on behalf of seventeen counties in northwestern Minnesota. This proposal and eight others around the state were approved by the LCMR, and funded by the 1987 Legislature.

5. On July 19, 1988 the District transmitted copies of its proposed revised overall plan to the BWSR; affected counties, cities, and soil and water conservation districts; and to the Minnesota Department of Natural Resources (DNR). The BWSR recommended that action on the proposed revised overall plan not be taken until the county water planning process was completed. The District supported and actively participated in the comprehensive county water planning process from 1987 through 1990.

6. On June 1, 1990 the BWSR issued a Notice of Filing of Revised Overall Plan

pursuant to Minnesota Statutes 1988, sections 112.46, subdivision 5, and 112.401, subdivision 2. The Notice of Filing was published in the Blackduck American in Beltrami County, The Leader-Record in Clearwater County, the Thief River Falls Times in Pennington County, the Crookston Daily Times in Polk County, and the Red Lake Falls Gazette in Red Lake County on June 20 and 27, 1990; in the Grygla Eagle in Marshall County on June 21 and 28, 1990; and in the Northome Record in Koochiching County on June 26 and July 3, 1990. The Notice was also mailed to each affected county, city, and soil and water conservation district; the Director of the Division of Waters of the DNR; the District; and other interested parties. The Notice briefly summarized the content of the proposed revised overall plan, invited written comments on the plan, and stated that any person could request a public hearing on the plan. No written comments or requests for hearing were received by the BWSR.

7. On September 24, 1990 the BWSR received comments on the proposed revised overall plan from the DNR Division of Waters.

8. On October 11, 1990 the District's board of managers considered comments received on the draft plan. The District filed plan addendums with the BWSR on October 16, 1990 regarding proposed projects and erosion control efforts.

Conclusions of Law

1. All relevant, substantive, and procedural requirements of law have been fulfilled. The BWSR has proper jurisdiction in the matter of prescribing an overall plan for the District.

2. The proposed revised overall plan states existing water and water-related problems in the District, possible solutions, and the general objectives of the District. The proposed revised overall plan conforms with the requirements of the Minnesota Watershed Act.

Order

1. The BWSR prescribes the attached plan as the revised overall plan for the Red Lake Watershed District.

Dated this 24th day of October 1990.

Minnesota Board of Water and Soil Resources

_____

Donald H. Ogaard
Chairman

Chapter 9

POLICIES GOVERNING BOARD OF MANAGERS

The Board of Managers of the Red Lake Watershed District will operate under the following policies:

1. The Board of Managers will uphold all commitments and responsibilities of the Red Lake Drainage and Conservancy District which have been assumed by the Red Lake Watershed District as the successor organization of the Red Lake Drainage and Conservancy District.

2. The Board of Managers will grant audience to any individual or group seeking information or aid in solving any problem pertaining to the management or use of water and related resources.

3. Petitions pertaining to the management or use of water and related resources will be accepted, studied, and evaluated by the Board of Managers.)

4. The Board of Managers will not approve any petition for a project unless it meets the following requirements:

   - That it is in conformity with the Overall Plan.

   - That the benefits are greater than the total estimated cost.

   - That the proposed project is for the public interest and welfare as defined by the Minnesota Watershed Act.

   - That the proposed project is in compliance with the provisions and purposes of the Minnesota Watershed Act.

5. The Board of Managers, on matters of mutual concern, will cooperate with:

   - Adjacent Watershed District's Board of Managers
   - State Board of Soil & Water Resources
   - Department of Natural Resources, State of Minnesota
   - Minnesota Pollution Control Agency
   - Soil Conservation Service, U.S. Department of Agriculture
   - County, State, and Federal Units of Government.
   - Units of local government, private and public corporations, or with individuals
   - Red Lake Indian Tribal Council

6. The cost of approved projects which have been properly petitioned for, may be paid from assessments upon benefitted lands and municipalities or by other means.

7. The Board of Managers shall not permit the use of ditches, streams, rivers, or lakes for the disposal of sanitary effluent or other wastes unless the project meets the requirements of and is approved by the State Department of Health and other authorized agencies.

8. The Board of Managers shall recommend that the protection of fish, waterfowl, and other game species and the protection of their habitat be considered as part of proposed projects.

9. The Board of Managers will cooperate with the State of Minnesota and all counties and municipalities within the District in all land, water planning, and zoning activities carried on by such public corporations, pursuant to the authority of Minnesota Statues, Sections 394.21 through 394.37 or any other legislative authority.

The Board of Managers shall manage and conserve the surface and underground waters within the District for the beneficial use of all people.

10. Proper land use has long been stressed as a vital key in controlling soil and water erosion. The Board of Managers will support and encourage the use of soil and water conserving practices.

11. The Board of Managers will cooperate with the Regional Development Commissions.

Chapter 10

SUMMARY

This Overall Plan, prepared by the Board of Managers in consultation with landowners, civic organizations, government officials, and interested parties, provides a description of the District; enumerates the important problems; contains proposals for their solutions, and states its objectives.

The Board of Managers will not solicit nor initiate projects to be paid by assessment, but will evaluate, and carry out projects properly petitioned for in conformity with this Overall Plan and as the law provides.

The Red Lake Watershed District Board of Managers purpose is to compile projects that will address water quantity and the completion of the Moose River, Black River, Lost River Impoundment and Maple Lake. Will show accomplishment in the area of managing the water quantity. Other examples of the District meeting their goal are future projects such as Maple Lake, Elm Lake, Burnham Creek, Good Lake, Pine Lake, Walker Brook, and several other potential projects will begin in the next 10 years. Also, the ongoing projects of stream gaging, hydrological analysis, flood control, and water quality are examples that the Red Lake Watershed District is fulfilling its purpose as a local unit of government dedicated to water management.

The Board of Managers requests the cooperation of all landowners, municipalities, and other interested organizations to help implement this Overall Plan. The management and utilization of water and other natural resources of this District is the responsibility and concern of every citizen living within the Red Lake Watershed District.

RECOMMENDATIONS TO LEGISLATURE INCLUDED IN OCTOBER 15 REPORT

Area II Program:

Area II should provide assistance to southwestern counties implementing comprehensive county water plans so that flood reduction, wetland management and erosion control efforts can be coordinated and accelerated.

Animal Waste Management Assistance Program:

Federal funding for the feedlot specialist position should be continued with the cooperation and shared financial support of state and local governments.

RIM Reserve Program:

A stable and adequate source of funds must be established.

The program should be expanded to allow it to include special cost share projects that protect or enhance critical fish and wildlife habitat on private lands.

A RIM education project should be funded to disseminate information on the need to better manage private land to provide for fish and wildlife habitat and to meet state nonpoint pollution control goals.

Comprehensive Local Water Planning Program:

Grant funding for counties should be increased so that all counties that qualify for special levies and base grants can participate.

At the discretion of county boards, counties should receive additional levy authority for plan implementation purposes.

Cost-Share Program:

Funding should be increased to encourage further conservation efforts.

Metropolitan Water Planning Program:

The BWSR should be given increased funding for plan follow-up activities and assistance by BWSR staff.

Local units of government should have access to increased local levies and state grants to finance implementation of metropolitan water management efforts.

Special Assistance to Soil and Water Conservation Districts:

The existing forestry position and accounting positions should become classified positions through additional general fund appropriations.

Streambank, Lakeshore and Roadside:

The program should be given increased funding to meet the growing number of requests.

General Legislative Recommendations:

Minnesota should adopt a no net loss law regarding wetlands.

Board membership should be changed to include a member representing municipalities in 1991 and a member representing townships in 1992.

The state should adopt a soil loss program including a policy of reducing soil loss limits to an acceptable level by the year 2000 and an incentives package to make the policy more palatable to local units of government and individual landowners.

The Agricultural Environmentalist Program should receive a staff complement and budget to ensure adequate administration and information dissemination.

July 1990

HOUSE RESEARCH

Information Brief

John Helland, Legislative Analyst
296-5039

1990 Constitutional Amendment Question:

Environment and Natural Resources Trust Fund Revenue

On November 6, 1990, Minnesotans will vote on an amendment to the state constitution. The amendment concerns the dedication of state lottery proceeds to the Environment and Natural Resources Trust Fund (created by constitutional amendment two years ago).

This information brief answers frequently asked questions on the constitutional amendment.

For more detailed information on how the Trust Fund operates, see **Environment and Natural Resources Trust Fund Proposal: Questions and Answers** by John Helland, August 1988.

1. What is the Environment and Natural Resources Trust Fund?

The Environment and Natural Resources Trust Fund is a fund in the state treasury. The Trust Fund was established by a constitutional amendment approved by the voters in November 1988. Money appropriated to the Trust Fund is invested and the investment earnings of the Trust Fund are used to finance the protection, conservation, preservation, and enhancement of the state's air, water, land, fish, wildlife, and other natural resources. The principal of the Trust Fund is perpetual and inviolate forever, except that, until 1997, up to 25 percent of the annual revenue deposited in the Trust Fund may be expended. Also, up to 5 percent of the principal of the Trust Fund, after it reaches $200 million, can be loaned for water system improvements.

These provisions regarding the use of the money in the Trust Fund can only be changed by constitutional amendment, except that the $200 million amount for water loans can be changed by the Legislature.

2. What does the amendment say?

The proposed amendment states: "Shall the Minnesota Constitution be amended to dedicate not less than 40 percent of the net proceeds from the state lottery to the Minnesota environment and natural resources trust fund for environment, natural resources, and wildlife purposes until the year 2001?"

3. What vote is needed to pass the amendment?

Like all constitutional amendments, the lottery proceeds dedication amendment requires a *majority of all persons voting in the November 6, 1990 election.*

4. What will the amendment do if it is approved?

If the amendment is approved, at least 40 percent of the net proceeds of the state lottery will be placed in the Environment and Natural Resources Trust Fund until the year 2001, and can only be used for environment, natural resources, and wildlife purposes.

5. What happens if the amendment is not approved?

If the amendment is not approved, the proceeds of the lottery will be used as provided by law. Current law designates that 40 percent of the proceeds be placed in the Trust Fund, just as the amendment would provide. However, the law providing for distribution of the lottery proceeds can be changed by future legislatures. There is no guarantee that at least 40 percent will be placed in the Trust Fund each year until 2001, as the constitutional amendment would require. The amendment would guarantee this distribution until 2001, and this could only be changed by the adoption of another constitutional amendment.

6. What happens to the other 60 percent of lottery proceeds?

1990 law distributes lottery proceeds as follows.

- 40 percent to the Trust Fund
- 28.3 percent to pay for debt service on state bonds issued for capital improvements at state institutions for higher education
- 6.7 percent to pay for debt service on state bonds issued for capital improvements to develop or protect the state's environment and natural resources
- 25 percent to the Greater Minnesota Corporation

At present none of the distribution of lottery proceeds is governed by a specific constitutional provision. All of the distribution is governed by state law, which can be changed by the Legislature at any time.

7. If the amendment passes, how much money will accrue to the Trust Fund?

According to the State Lottery Office, 40 percent of the net lottery revenue will amount to almost $21 million from fiscal year 1990 to fiscal year 1991. If this revenue figure continues, $231 million will accumulate in the principal of the Trust Fund by 2001.

Minnesota Board of Water & Soil Resources

Southbridge Office Building
155 South Wabasha St., Suite 104
St. Paul, Minnesota 55107

(612) 296-3767
Fax (612) 297-5615

DATE: October 18, 1990

TO: Board Members, Staff, and Advisors

FROM: Jim Birkholz, Executive Director

SUBJECT: Supplemental Information for October 24th BWSR Meeting

Please note that this is supplemental information for the October 24th meeting. Please take time to read through the material and bring this information with you to the meeting. Thank you.

Regional Offices

Northwest Region
1106 Paul Bunyan Drive, NE
Bemidji, MN 56601
218-755-3963

Northeast Region
394 South Lake Avenue
Room 402
Duluth, MN 55802
218-723-4752

West Central Region
503 Washington Street
Brainerd, MN 56401
218-828-2604

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
Southbridge Office Building
155 South Wabasha Ave., Suite 104
St. Paul, MN 55107
612-296-3767

An Equal
Opportunity Employer

NOTICE

This is a supplemental mailing for the October 24th BWSR Meeting. Attached you will find the staff recommendation for funding of the 1990 RIM Reserve sign-ups. We make this recommendation based on the following:

1. highest priority to Sensitive Groundwater Area applications (required by legislation),

2. second priority was given to wetland restoration applications based on state emphasis on wetland areas and previous BWSR priority (1989). A change staff has made this year is including both wetlands with a cropping history and wetlands without a cropping history as second priority applications.

3. the remaining priority listing was based on the BWSR 1989 perpetual easement priorities for riparian lands, 3rd; marginal agricultural land, 4th; and pastured hillside, 5th.

Each of the categories were then ranked by size and SWCD priority. The staff recommendation is based on $2,150,000 available to fund over $4 million in applications. With these funds we would be able to fund all the sensitive groundwater, wetland restoration, and a few of the riparian applications.

We recommend the applications falling below the $2,150,000 line be put on a pending list to be accepted, in order, as approved applications may be cancelled. The concept of developing a pending list is new this year, and is being suggested due to the fact that all applications are for perpetual easements. A pending list is also enclosed for your review. This list was ranked based on application category, size, and SWCD priority.

Please feel free to call Wayne Edgerton at 296-0880 if you have any questions prior to the meeting.

STAFF RECOMMENDATIONS
1990 EASEMENT ALLOTMENT REQUESTS FOR FUNDING
REVISED 10/16/90
PERPETUAL EASEMENTS ONLY – $2,150,000 AVAILABLE FUNDING

COUNTY	EASEMENT NUMBER	LANDOWNER NAME	SWCD PRIO-RITY	BWSR FUNDING	WET. RESTOR. CROP PERP acres	WET. RESTOR. N/CROP PERP acres	SENSITIVE GRD WATER PERP acres	RIPARIAN LAND PERP acres	TOTAL EASM'T ACRES	EASEMENT DOLLARS REQUESTED	PRACTICE DOLLARS REQUESTED	TOT. REQUEST INCL.$200 TITLE WORK
BLUE EARTH	7 - 3 - 90 - 1	DUCA, STEPHEN	1	X			11.8		11.8	$10,982.97	$1,840.00	$13,022.97
CLAY	14 - 3 - 90 - 1	HOUGH, JOSEPH	3	X			32.0		32.0	$12,662.40	$3,200.00	$16,062.40
CLAY	14 - 4 - 90 - 1	ERDMAN, ARNOLD	4	X			12.4		12.4	$7,103.84	$1,240.00	$8,543.84
COTTONWOOD	17 - 8 - 90 - 1	SAVAGE, NICHOLAS	3	X			40.0		40.0	$31,541.60	$4,000.00	$35,741.60
COTTONWOOD	17 - 7 - 90 - 1	LOHMEYER	4	X			32.0		32.0	$25,233.28	$4,700.00	$30,133.28
DAKOTA	19 - 1 - 90 - 1	SWOBODA, HARVEY	3	X			15.0		15.0	$11,129.40	$1,900.00	$13,229.40
DAKOTA	19 - 4 - 90 - 1	KNUTSEN, ELMER	4	X			5.0		5.0	$4,793.85	$2,000.00	$6,993.85
GOODHUE	25 - 8 - 90 - 1	STIEHL, JAMES	1	X			34.8		34.8	$19,737.86	$4,680.00	$24,617.86
GOODHUE	25 - 6 - 90 - 1	WITGERT, JOHN	6	X			16.1		16.1	$10,905.01	$1,800.00	$12,905.01
GRANT	26 - 1 - 90 - 1	HOFFMAN, JUDITH	1	X			13.0		13.0	$8,110.96	$1,300.00	$9,610.96
ISANTI	30 - 2 - 90 - 1	BIRKLAND, A	2	X			16.3		16.3	$7,440.95	$1,630.00	$9,270.95
JACKSON	32 - 6 - 90 - 1	TROUTH, GORDON	3	X			16.0		16.0	$16,707.36	$1,600.00	$18,507.36
MEEKER	47 - 6 - 90 - 1	VENTURES LIMITED	4	X			56.0		56.0	$36,559.60	$5,600.00	$42,359.60
MEEKER	47 - 1 - 90 - 1	PETERSON, B	5	X			24.2		24.2	$16,934.68	$2,420.00	$19,554.68
MORRISON	49 - 6 - 90 - 1	STEINBRECHER, DERALI	1	X			51.0		51.0	$15,363.75	$7,800.00	$23,363.75
POPE	61 - 15 - 90 - 1	GUSTAFSON, DAVID	4	X			13.5		13.5	$5,554.31	$3,350.00	$9,104.31
POPE	61 - 10 - 90 - 1	BORRELL, GARY	5	X			27.0		27.0	$9,502.92	$2,700.00	$12,402.92
POPE	61 - 18 - 90 - 1	JOST, RONALD	7	X			29.6		29.6	$10,990.48	$2,960.00	$14,150.48
POPE	61 - 13 - 90 - 1	THORKELSON, DOUGLAS	8	X			69.0		69.0	$24,285.24	$8,900.00	$33,385.24
POPE	61 - 4 - 90 - 1	SCHMITZ, AUGUST	9	X			7.6		7.6	$3,395.53	$760.00	$4,355.53
REDWOOD	64 - 7 - 90 - 1	EWERT, B	4	X			18.7		18.7	$17,484.50	$1,870.00	$19,554.50
REDWOOD	64 - 4 - 90 - 1	GEIS, D	6	X			35.8		35.8	$33,473.00	$4,480.00	$38,153.00
SCOTT	70 - 2 - 90 - 1	CARLSON, RANDALL	2	X			5.0		5.0	$4,068.25	$800.00	$5,068.25
SWIFT	76 - 9 - 90 - 1	STRUXNESS, DONALD	9	X			24.5		24.5	$13,924.09	$3,650.00	$17,774.09
WABASHA	79 - 1 - 90 - 1	BREUER, RALPH	1	X			5.0		5.0	$2,944.25	$2,000.00	$5,144.25
WRIGHT	86 - 3 - 90 - 1	WESTRUM, D	3	X			20.0		20.0	$20,856.00	$2,900.00	$23,956.00
BIG STONE	6 - 3 - 90 - 1	ZIERKE, B(02-06)	1	X	3.5				3.5	$9,550.98	$2,300.00	$12,050.98
CARVER	10 - 2 - 90 - 1	SIMON, FRANK	1	X	8.0				8.0	$1,524.25	$1,050.00	$2,774.25
CHIPPEWA	12 - 2 - 90 - 1	SCHWAPEKO PROPERTIE	1	X	21.6				21.6	$49,742.00	$9,080.00	$59,022.00
DAKOTA	19 - 2 - 90 - 1	MOORE, JAMES	2	X	28.0				28.0	$6,944.05	$830.00	$7,974.05
DOUGLAS	21 - 1 - 90 - 1	RUSSELL, DANIEL	2	X	54.0				54.0	$11,584.73	$2,160.00	$13,944.73
DOUGLAS	21 - 5 - 90 - 1	MRNAK, GARY	3	X	25.0				25.0	$38,701.21	$6,744.00	$45,645.21
KANDIYOHI	34 - 1 - 90 - 1	RAU, ERWIN	1	X	7.3				7.3	$7,124.96	$2,400.00	$9,724.96
KANDIYOHI	34 - 2 - 90 - 1	RAUENHORST, T (02-05)	2	X	65.0				65.0	$20,085.84	$11,290.00	$31,575.84

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KANDIYOHI	34 - 4 - 90 - 1	RAUENHORST, G(02-05)	2	X	39.5				39.5	$50,345.76	$8,900.00	$59,445.76
KANDIYOHI	34 - 5 - 90 - 1	BRYANT, D (02-05)	2	X	1.1				1.1	$12,086.62	$4,560.00	$16,846.62
KANDIYOHI	34 - 3 - 90 - 1	RAUENHORST, R(02-05)	2	X	40.4				40.4	$17,697.90	$4,900.00	$22,797.90
LE SUEUR	40 - 1 - 90 - 1	QUIRAM, WAYNE	1	X	47.0				47.0	$30,798.38	$8,200.00	$39,198.38
LE SUEUR	40 - 2 - 90 - 1	WONDRA, LEONARD	2	X	28.3				28.3	$22,935.13	$5,330.00	$28,465.13
LE SUEUR	40 - 3 - 90 - 1	MINES, CHARLES	3	X	47.0				47.0	$22,386.24	$21,100.00	$43,686.24
LINCOLN	41 - 1 - 90 - 1	CHRISTENSEN, K	1	X	23.0				23.0	$17,088.00	$4,000.00	$21,288.00
MARSHALL	45 - 1 - 90 - 1	HJELLE, CLAYTON	1	X	76.5				76.5	$21,941.84	$3,227.20	$25,369.04
McLEOD	43 - 2 - 90 - 1	BALLARD, G (MEEKER)	1	X	41.0				41.0	$27,286.39	$3,200.00	$30,686.39
McLEOD	43 - 6 - 90 - 1	WARNKE, ROBERT	6	X	5.8				5.8	$12,119.73	$6,990.00	$19,309.73
MEEKER	47 - 2 - 90 - 1	ANDERSON, H	1	X	41.3				41.3	$61,830.60	$16,700.00	$78,730.60
MEEKER	47 - 5 - 90 - 1	BALLLARD, G (McLEOD)	2	X	18.8				18.8	$1,044.70	$330.00	$1,574.70
NORMAN	54 - 2 - 90 - 1	SLININGER, BURTON	2	X	40.0				40.0	$12,273.58	$2,680.00	$15,153.58
POPE	61 - 12 - 90 - 1	LINDOR, LESLIE	2	X	23.3				23.3	$33,326.40	$4,000.00	$37,526.40
POPE	61 - 16 - 90 - 1	NOVAK, JAMES	11	X	40.0				40.0	$38,430.10	$11,320.00	$49,950.10
REDWOOD	64 - 6 - 90 - 1	HILLESHEIM, C&B	1	X	53.2				53.2	$37,573.90	$11,850.00	$49,623.90
RENVILLE	65 - 2 - 90 - 1	KRAMER, DELLA	2	X	40.0				40.0	$6,648.16	$3,240.00	$10,088.16
RENVILLE	65 - 3 - 90 - 1	DILLON, JAMES	3	X	31.7				31.7	$29,443.15	$3,619.00	$33,262.15
SIBLEY	72 - 4 - 90 - 1	ECKSTRAND, K.	1	X	53.0				53.0	$8,529.25	$5,000.00	$13,729.25
SWIFT	76 - 6 - 90 - 1	HARSTE, LOREN	1	X	33.0				33.0	$31,561.47	$6,310.00	$38,071.47
WRIGHT	86 - 4 - 90 - 1	DURDAHL,P	4	X	24.4				24.4	$20,287.14	$3,440.00	$23,927.14
WRIGHT	86 - 6 - 90 - 1	FLANNERY, M	6	X	10.0				10.0	$3,186.99	$1,740.00	$5,126.99
YELLOW MED	87 - 1 - 90 - 1	TIMM, RICHARD	1	X	14.0				14.0	$4,555.03	$580.00	$5,335.03
YELLOW MED	87 - 2 - 90 - 1	DOOSE, DAROLD	3	X	10.8				10.8	$7,957.90	$2,000.00	$10,157.90
YELLOW MED	87 - 5 - 90 - 1	GUBRUD, PATRICIA	4	X	5.8				5.8	$17,871.20	$6,080.00	$24,151.20
BENTON	5 - 1 - 90 - 1	DONOVAN, JAMES	1	X	18.0	25.0			43.0	$19,051.32	$9,300.00	$28,551.32
BIG STONE	6 - 4 - 90 - 1	HANSON, C(02-06)	1	X	3.4	1.9			5.3	$2,018.55	$930.00	$3,148.55
BIG STONE	6 - 5 - 90 - 1	BOMSTAD,S(02-06)	1	X	10.5	1.5			12.0	$4,993.37	$2,100.00	$7,293.37
BIG STONE	6 - 2 - 90 - 1	ZIERKE, B(02-06)	1	X	64.9	9.0			73.9	$28,830.11	$20,070.00	$49,100.11
CARVER	10 - 1 - 90 - 1	HEDKE, CARL	2	X	6.1	1.0			7.1	$6,108.27	$910.00	$7,218.27
DAKOTA	19 - 3 - 90 - 1	KNUTSEN, ELMER	1	X	8.0	11.1			19.1	$13,964.48	$2,900.00	$17,064.48
DOUGLAS	21 - 2 - 90 - 1	UNDEM, DALE	3	X	29.6	10.4			40.0	$16,329.63	$14,960.00	$31,489.63
DOUGLAS	21 - 3 - 90 - 1	NOELDNER, LARRY	4	X	13.9	15.5			29.4	$9,939.01	$6,040.00	$16,179.01
FARIBAULT	22 - 7 - 90 - 1	MURPHY, RAYMOND(89)	2	X	3.0	12.0			15.0	$12,298.68	$2,900.00	$15,398.68

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FARIBAULT	22 - 6 - 90 - 1	MURPHY, HAROLD(89)	3	X	5.3	0.0			5.3	$4,720.18	$1,500.00	$6,420.18
LYON	42 - 1 - 90 - 1	WICHMANN, LEON(02-03	1	X	45.0	7.0			52.0	$22,671.90	$15,400.00	$38,271.90
LYON	42 - 2 - 90 - 1	WENDLAND, TROY(01-03	2	X	1.2	2.8			4.0	$1,521.55	$1,000.00	$2,721.55
NORMAN	54 - 3 - 90 - 1	JOHNSON, EDWIN	1	X	112.0	8.0			120.0	$40,053.56	$11,200.00	$51,453.56
POPE	61 - 17 - 90 - 1	RONNIE, ARNOLD	1	X	8.0	4.1			12.1	$5,240.14	$2,030.00	$7,470.14
RENVILLE	65 - 1 - 90 - 1	OLINGER, ELVIRA	1	X	43.5	60.7			104.2	$45,363.90	$11,800.00	$57,363.90
RICE	66 - 2 - 90 - 1	BECHTUM, JUDITH(01-03	1	X	10.9	1.1			12.0	$8,114.47	$3,600.00	$11,914.47
SIBLEY	72 - 3 - 90 - 1	BUSSE/BRUESELOFF	2	X	2.0	5.0			7.0	$4,213.40	$1,900.00	$6,313.40
STEELE	74 - 1 - 90 - 1	KAPLAN, GARY	1	X	40.5	10.5			51.0	$35,761.12	$7,100.00	$43,061.12
WRIGHT	86 - 1 - 90 - 1	ADAMS, M (TCCP-1)	1	X	16.4	5.5			21.9	$12,481.79	$3,290.00	$15,971.79
WRIGHT	86 - 5 - 90 - 1	DAVIS,R (TCCP-1)	5	X	12.5	21.5			34.0	$15,040.39	$7,380.00	$22,620.39
YELLOW MED	87 - 3 - 90 - 1	OFTEDAHL, PERRY	2	X	22.7	6.1			28.8	$19,369.91	$7,710.00	$27,279.91
BIG STONE	6 - 6 - 90 - 1	HANSON, G(02-06)	1	X		2.5			2.5	$4,375.80	$3,000.00	$7,575.80
FARIBAULT	22 - 4 - 90 - 1	McCUE, VIOLA	1	X		7.5			7.5	$8,602.10	$7,800.00	$16,602.10
FARIBAULT	22 - 5 - 90 - 1	PERRIZO, TIMOTHY	7	X		35.0			35.0	$3,632.80	$2,400.00	$6,232.80
HENNEPIN	27 - 2 - 90 - 1	BRADLEY, ROBERT	1	X		15.0			15.0	$707.70	$750.00	$1,657.70
HENNEPIN	27 - 3 - 90 - 1	GODE, THOMAS	2	X		9.0			9.0	$1,589.35	$1,050.00	$2,839.35
ISANTI	30 - 1 - 90 - 1	LEAF, D	1	X		26.0			26.0	$6,532.50	$4,500.00	$11,232.50
ISANTI	30 - 3 - 90 - 1	BECKLIN, D(07)	3	X		30.0			30.0	$5,382.68	$1,000.00	$6,582.68
ISANTI	30 - 7 - 90 - 1	BECKLIN, Wm.(03)	3	X		22.0			22.0	$6,030.00	$2,700.00	$8,930.00
ISANTI	30 - 4 - 90 - 1	BOETTCHER, R	4	X		21.0			21.0	$7,237.23	$4,290.00	$11,727.23
ISANTI	30 - 5 - 90 - 1	LEWIS, G	5	X		3.0			3.0	$12,608.73	$15,300.00	$28,108.73
LYON	42 - 3 - 90 - 1	WENDLAND, W.(01-02)	3	X		1.5			1.5	$2,429.28	$1,440.00	$4,069.28
LYON	42 - 7 - 90 - 1	JOREGENSON, HAROLD	7	X		26.0			26.0	$8,374.88	$800.00	$9,374.88
MEEKER	47 - 7 - 90 - 1	LUTHENS, D	3	X		17.0			17.0	$9,925.50	$9,000.00	$19,125.50
MILLE LACS	48 - 3 - 90 - 1	HANENBURG, JEROME	1	X		10.0			10.0	$6,435.22	$6,600.00	$13,235.22
MORRISON	49 - 5 - 90 - 1	BLONIGEN, ROBERT	2	X		51.0			51.0	$491.24	$150.00	$841.24
MORRISON	49 - 3 - 90 - 1	JOHNSON, DENNIS	3	X		51.0			51.0	$10,622.79	$15,300.00	$26,122.79
POPE	61 - 7 - 90 - 1	THORNBURGH, HERBERT	10	X		106.2			106.2	$6,320.79	$6,300.00	$12,820.79
RICE	66 - 3 - 90 - 1	CHLAN, JOHN(01-02)	1	X		3.5			3.5	$877.53	$900.00	$1,977.53
RICE	66 - 1 - 90 - 1	BLANCO, MANUEL(02-03	1	X		8.0			8.0	$25,119.15	$10,500.00	$35,819.15
RICE	66 - 4 - 90 - 1	SPITZACK, DAVID(05)	2	X		4.8			4.8	$6,503.38	$2,700.00	$9,403.38
RICE	66 - 5 - 90 - 1	SPLITZACK, JEFFERY(04)	2	X		14.3			14.3	$12,897.48	$20,700.00	$33,797.48
WRIGHT	86 - 2 - 90 - 1	DeGROSS, N (TCCP-1)	2	X				37.3	37.3	$17,343.59	$3,660.00	$21,203.59

STAFF RECOMMENDATIONS
1990 EASEMENT ALLOTMENT REQUESTS FOR FUNDING
REVISED 10/16/90
PERPETUAL EASEMENTS ONLY – $2,150,000 AVAILABLE FUNDING

COUNTY	EASEMENT NUMBER	LANDOWNER NAME	SWCD PRIO-RITY	BWSR FUNDING	WET. RESTOR. CROP PERP acres	WET. RESTOR. N/CROP PERP acres	SENSITIVE GRD WATER PERP acres	RIPARIAN LAND PERP acres	TOTAL EASM'T ACRES	EASEMENT DOLLARS REQUESTED	PRACTICE DOLLARS REQUESTED	TOT. REQUEST INCL.$200 TITLE WORK
MURRAY	51 - 1 - 90 - 1	KLEIN, THOMAS	1	X				29.2	29.2	$21,614.72	$2,920.00	$24,734.72
SCOTT	70 - 1 - 90 - 1	RENNE, WILLIAM	1	X				12.0	12.0	$10,207.04	$1,200.00	$11,607.04
GRAND TOTALS				AC.	1,478.7	684.0	631.3	78.5	2,872.5	$1,600,096.87	$524,210.20	$2,145,107.07
				NO.	75		26	3	104			

STAFF RECOMMENDATIONS
1990 EASEMENTS REQUESTS FOR PENDING FUNDING STATUS
REVISED 10/16/90
PERPETUAL EASEMENTS ONLY TO BE FUNDED FROM CANCELLATIONS

COUNTY	EASEMENT NUMBER	LANDOWNER NAME	SWCD PRIO-RITY	PENDING BWSR FUNDING	MARGINAL AG. LAND PERP acres	HILLSIDE PASTURE PERP acres	RIPARIAN LAND PERP acres	TOTAL EASM'T ACRES	EASEMENT DOLLARS REQUESTED	PRACTICE DOLLARS REQUESTED	TOT. REQUEST INCL.$200 TITLE WORK
JACKSON	32 - 3 - 90 - 1	KRUSE, LLOYD	1	1			36.0	36.0	$33,146.64	$4,200.00	$37,546.64
BROWN	8 - 1 - 90 - 1	MUNSELL, WILLIAM	1	2			34.8	34.8	$37,855.44	$3,380.00	$41,435.44
REDWOOD	64 - 3 - 90 - 1	ALCORN, C	2	3			26.8	26.8	$19,699.61	$2,680.00	$22,579.61
JACKSON	32 - 1 - 90 - 1	HARTBERG, WILBUR	2	4			10.0	10.0	$8,946.30	$1,000.00	$10,146.30
GOODHUE	25 - 12 - 90 - 1	FREDRICKSON, DUANE	2	5			4.8	4.8	$3,793.82	$680.00	$4,673.82
REDWOOD	64 - 2 - 90 - 1	MUNSELL, W	3	6			70.0	70.0	$62,498.80	$7,000.00	$69,698.80
McLEOD	43 - 4 - 90 - 1	ULRICH, TIMOTHY	3	7			11.5	11.5	$9,142.39	$2,300.00	$11,642.39
LYON	42 - 4 - 90 - 1	JOREGENSON, HAROLD	4	8			16.6	16.6	$24,728.02	$3,200.00	$28,128.02
RENVILLE	65 - 6 - 90 - 1	SIMMONS, ARTHUR	6	9			13.3	13.3	$6,770.55	$830.00	$7,800.55
RENVILLE	65 - 8 - 90 - 1	AHRENS, GARY	8	10			6.0	6.0	$4,023.75	$500.00	$4,723.75
WEST POLK	60 - 1 - 90 - 1WP	WEILAND, JOHN	1	11	137.0			137.0	$52,714.86	$17,700.00	$70,614.86
DOUGLAS	21 - 4 - 90 - 1	PAULIN, DONALD	1	12	28.2			28.2	$11,690.60	$4,500.00	$16,390.60
NICOLLET	52 - 1 - 90 - 1	FITZNER, MARLIN	1	13	21.4			21.4	$19,337.89	$2,140.00	$21,677.89
TODD	77 - 1 - 90 - 1	KENT, MELVIN	1	14	19.0			19.0	$7,215.44	$4,750.00	$12,165.44
CLAY	14 - 1 - 90 - 1	STRANDLIEN, MILFORD	1	15	10.6			10.6	$3,706.18	$620.00	$4,526.18
WATONWAN	83 - 1 - 90 - 1	HIEBERT, GEORGE	1	16	9.6			9.6	$9,950.21	$3,840.00	$13,990.21
E OTR TAIL	56 - 1 - 90 - 1EOT	ENGER, WAYNE	1	17	5.1			5.1	$1,426.62	$1,440.00	$3,066.62
McLEOD	43 - 3 - 90 - 1	HORSTMANN, THOMAS	2	18	41.0			41.0	$31,816.82	$8,200.00	$40,216.82
NICOLLET	52 - 2 - 90 - 1	BODE, FRANK	2	19	13.5			13.5	$12,905.33	$1,350.00	$14,455.33
BENTON	5 - 2 - 90 - 1	TEFF, JEROME	2	20	9.2			9.2	$4,039.90	$2,760.00	$6,999.90
E OTR TAIL	56 - 2 - 90 - 1EOT	PINE LK. FARMS	2	21	7.5			7.5	$2,000.18	$3,000.00	$5,200.18
WABASHA	79 - 2 - 90 - 1	MEED, SCOTT	2	22	3.8			3.8	$1,884.91	$1,140.00	$3,224.91
JACKSON	32 - 2 - 90 - 1	TROUTH, GORDON	3	23	44.7			44.7	$46,678.18	$5,370.00	$52,248.18
POPE	61 - 8 - 90 - 1	NYBAKKE, KEITH	3	24	43.9			43.9	$13,317.94	$5,170.00	$18,687.94
LINCOLN	41 - 2 - 90 - 1	DUUS, D	3	25	5.9			5.9	$2,450.03	$590.00	$3,240.03
WINONA	85 - 7 - 90 - 1	GAPPA, RICHARD	3	26	3.3			3.3	$1,598.16	$530.00	$2,328.16
RICE	66 - 6 - 90 - 1	WAGENBACH, GARY	3	27	2.3			2.3	$1,871.28	$230.00	$2,301.28
FARIBAULT	22 - 1 - 90 - 1	LOVEALL, TOM	4	28	55.0			55.0	$56,575.20	$5,500.00	$62,275.20
RENVILLE	65 - 4 - 90 - 1	LUDOWESE, NICHOLAS	4	29	37.2			37.2	$21,495.59	$2,360.00	$24,055.59
GOODHUE	25 - 7 - 90 - 1	FROYUM, WALTER	4	30	16.2			16.2	$12,169.28	$2,660.00	$15,029.28
McLEOD	43 - 5 - 90 - 1	REHMANN, IRVIN	4	31	11.8			11.8	$9,157.04	$1,180.00	$10,537.04
JACKSON	32 - 5 - 90 - 1	COOK, STEVEN	4	32	5.0			5.0	$4,847.50	$500.00	$5,547.50
REDWOOD	64 - 1 - 90 - 1	BEYER,M	5	33	25.0			25.0	$23,375.00	$2,500.00	$26,075.00
McLEOD	43 - 1 - 90 - 1	VASKO, ROBERT	5	34	21.9			21.9	$16,643.12	$2,190.00	$19,033.12

STAFF RECOMMENDATIONS
1990 EASEMENTS REQUESTS FOR PENDING FUNDING STATUS
REVISED 10/16/90
PERPETUAL EASEMENTS ONLY TO BE FUNDED FROM CANCELLATIONS

COUNTY	EASEMENT NUMBER	LANDOWNER NAME	SWCD PRIO-RITY	PENDING BWSR FUNDING	MARGINAL AG. LAND PERP acres	HILLSIDE PASTURE PERP acres	RIPARIAN LAND PERP acres	TOTAL EASM'T ACRES	EASEMENT DOLLARS REQUESTED	PRACTICE DOLLARS REQUESTED	TOT. REQUEST INCL.$200 TITLE WORK
RENVILLE	65 - 5 - 90 - 1	LANNING, PAUL	5	35	18.3			18.3	$14,489.21	$1,830.00	$16,519.21
GOODHUE	25 - 10 - 90 - 1	O'KANE, HUGH	5	36	14.9			14.9	$11,776.66	$2,100.00	$14,076.66
COTTONWOOD	17 - 4 - 90 - 1	DUROE,C. R.	5	37	11.0			11.0	$8,673.94	$4,400.00	$13,273.94
POPE	61 - 1 - 90 - 1	JACKSON, DARWIN	6	38	42.5			42.5	$18,966.48	$6,250.00	$25,416.48
LYON	42 - 6 - 90 - 1	JOREGENSON, HAROLD	6	39	28.0			28.0	$10,774.68	$500.00	$11,474.68
MURRAY	51 - 3 - 90 - 1	VAN DYKE, JOHN	6	40	16.0			16.0	$13,597.76	$1,600.00	$15,397.76
ISANTI	30 - 6 - 90 - 1	BANELLO, D	6	41	8.1			8.1	$4,122.90	$810.00	$5,132.90
WRIGHT	86 - 7 - 90 - 1	YURCZYK, P	7	42	26.0			26.0	$20,677.29	$9,600.00	$30,477.29
RENVILLE	65 - 7 - 90 - 1	STEFFEL, ERNEST	7	43	14.0			14.0	$14,417.62	$1,400.00	$16,017.62
GOODHUE	25 - 13 - 90 - 1	REISNER, DENNIS	7	44	4.8			4.8	$3,434.54	$680.00	$4,314.54
WRIGHT	86 - 8 - 90 - 1	TESKE, T	8	45	12.2			12.2	$10,024.01	$3,050.00	$13,274.01
GOODHUE	25 - 1 - 90 - 1	LUNDE, RUSSELL	14	46	35.8			35.8	$26,042.71	$4,180.00	$30,422.71
COTTONWOOD	17 - 6 - 90 - 1	LARSON, DALLAS(05)	1	47	14.7			14.7	$13,078.88	$2,970.00	$16,248.88
COTTONWOOD	17 - 5 - 90 - 1	LARSON, DALLAS(06)	1	48		17.1		17.1	$9,889.27	$0.00	$10,089.27
FILLMORE	23 - 6 - 90 - 1	HORIHAN, FREDRICK	1	49		59.0		59.0	$20,269.45	$0.00	$20,469.45
ROOT RIVER	28 - 6 - 90 - 1	DETERS, MERRILL	1	50		30.0		30.0	$12,233.40	$1,200.00	$13,633.40
WINONA	85 - 6 - 90 - 1	GAPPA, RICHARD	1	51		20.8		20.8	$6,547.63	$380.00	$7,127.63
STEARNS	73 - 1 - 90 - 1	WELLS, S	1	52		16.6		16.6	$9,926.47	$50.00	$10,176.47
CLAY	14 - 1 - 90 - 1	STRANDLIEN, MILFORD	1	53		10.0		10.0	$2,272.70	$0.00	$2,472.70
BIG STONE	6 - 1 - 90 - 1	GIBSON, JERALD	2	54		90.5		90.5	$26,673.97	$9,050.00	$35,923.97
LINCOLN	41 - 3 - 90 - 1	TROUTMAN, L	2	55		76.0		76.0	$19,607.24	$7,600.00	$27,407.24
SWIFT	76 - 7 - 90 - 1	MAHONEY, DAVID	2	56		67.7		67.7	$24,681.22	$6,920.00	$31,801.22
FILLMORE	23 - 2 - 90 - 1	PAUS, RUSSEL	2	57		59.0		59.0	$21,953.31	$0.00	$22,153.31
WINONA	85 - 2 - 90 - 1	BROWN, RICHARD	2	58		55.0		55.0	$12,872.75	$1,000.00	$14,072.75
CLAY	14 - 2 - 90 - 1	STOUTENBURG, JAY	2	59		43.0		43.0	$11,495.19	$0.00	$11,695.19
COTTONWOOD	17 - 9 - 90 - 1	WALKLIN, DARRELL	2	60		40.0		40.0	$27,094.80	$1,500.00	$28,794.80
OLMSTED	55 - 2 - 90 - 1	COLLINS, MICHAEL	2	61		35.0		35.0	$19,875.00	$0.00	$20,075.00
MURRAY	51 - 6 - 90 - 1	GEIS, DAVID	2	62		29.0		29.0	$13,114.38	$2,900.00	$16,214.38
ROOT RIVER	28 - 1 - 90 - 1	KEEFE, KEVIN	2	63		26.0		26.0	$9,359.74	$750.00	$10,309.74
CHIPPEWA	12 - 1 - 90 - 1	WILLIAMSON, LEROY	2	64		24.2		24.2	$11,334.80	$3,020.00	$14,554.80
STEELE	74 - 2 - 90 - 1	JACOBSON, DARRELL	2	65		10.0		10.0	$5,052.50	$0.00	$5,252.50
FILLMORE	23 - 1 - 90 - 1	BUSSMAN, LAWRENCE	3	66		59.0		59.0	$22,328.55	$1,800.00	$24,328.55
ROOT RIVER	28 - 3 - 90 - 1	RAY, KEVIN	3	67		56.0		56.0	$19,830.72	$500.00	$20,530.72
SWIFT	76 - 4 - 90 - 1	KOOSMANN, BERTHOD	3	68		47.7		47.7	$17,005.06	$0.00	$17,205.06

STAFF RECOMMENDATIONS
1990 EASEMENTS REQUESTS FOR PENDING FUNDING STATUS
REVISED 10/16/90
PERPETUAL EASEMENTS ONLY TO BE FUNDED FROM CANCELLATIONS

COUNTY	EASEMENT NUMBER	LANDOWNER NAME	SWCD PRIO-RITY	PENDING BWSR FUNDING	MARGINAL AG. LAND PERP acres	HILLSIDE PASTURE PERP acres	RIPARIAN LAND PERP acres	TOTAL EASM'T ACRES	EASEMENT DOLLARS REQUESTED	PRACTICE DOLLARS REQUESTED	TOT. REQUEST INCL.$200 TITLE WORK
MURRAY	51 - 2 - 90 - 1	VAN DYKE, JOHN	3	69		28.0		28.0	$15,467.48	$2,800.00	$18,467.48
GOODHUE	25 - 2 - 90 - 1	COOPER, DOUGLAS	3	70		26.2		26.2	$10,069.97	$2,620.00	$12,889.97
NICOLLET	52 - 3 - 90 - 1	BODE, FRANK	3	71		19.0		19.0	$10,571.03	$0.00	$10,771.03
WABASHA	79 - 3 - 90 - 1	POST, DENNIS	3	72		15.0		15.0	$4,861.95	$2,500.00	$7,561.95
OLMSTED	55 - 3 - 90 - 1	KOENIG, KENNETH	3	73		15.0		15.0	$8,518.00	$0.00	$8,718.00
FILLMORE	23 - 4 - 90 - 1	VREEMAN, JOSEPH	4	74		59.0		59.0	$20,168.55	$1,200.00	$21,568.55
ROOT RIVER	28 - 8 - 90 - 1	DENSTAD, LEE	4	75		35.0		35.0	$13,982.85	$0.00	$14,182.85
SWIFT	76 - 8 - 90 - 1	RIEPPEL, MARLIN	4	76		31.7		31.7	$11,928.08	$0.00	$12,128.08
MURRAY	51 - 5 - 90 - 1	REHBORG, CALVIN	4	77		20.0		20.0	$7,955.20	$2,000.00	$10,155.20
OLMSTED	55 - 4 - 90 - 1	McDOUGALL, HELEN	4	78		17.5		17.5	$11,397.00	$0.00	$11,597.00
WABASHA	79 - 4 - 90 - 1	JUDGE, LESTER	4	79		15.0		15.0	$5,545.95	$0.00	$5,745.95
JACKSON	32 - 4 - 90 - 1	GARBER, PETER	5	80		59.0		59.0	$67,087.13	$5,900.00	$73,187.13
ROOT RIVER	28 - 11 - 90 - 1	DIERSEN, LAVAINE	5	81		56.0		56.0	$20,159.44	$0.00	$20,359.44
FILLMORE	23 - 3 - 90 - 1	HOLGER, MORRIS	5	82		46.0		46.0	$16,594.96	$0.00	$16,794.96
WABASHA	79 - 5 - 90 - 1	MORATH, MICHAEL	5	83		45.0		45.0	$23,431.50	$3,000.00	$26,631.50
LYON	42 - 5 - 90 - 1	HANSON, EVERETT	5	84		26.0		26.0	$8,828.78	$0.00	$9,028.78
SWIFT	76 - 5 - 90 - 1	SCHLIEMAN, RODNEY	5	85		23.3		23.3	$8,300.53	$0.00	$8,500.53
WABASHA	79 - 6 - 90 - 1	ROLSCH, WILLIS	6	86		54.0		54.0	$17,503.02	$1,500.00	$19,203.02
MEEKER	47 - 3 - 90 - 1	JONES, E	6	87		52.0		52.0	$20,662.20	$0.00	$20,862.20
FILLMORE	23 - 5 - 90 - 1	SHIPTON, GLENN	6	88		48.0		48.0	$16,408.32	$600.00	$17,208.32
SWIFT	76 - 1 - 90 - 1	ARNOLD, MARK	6	89		25.8		25.8	$8,544.19	$0.00	$8,744.19
ROOT RIVER	28 - 2 - 90 - 1	KINNEBERG, GLEN	6	90		9.0		9.0	$3,670.02	$0.00	$3,870.02
ROOT RIVER	28 - 7 - 90 - 1	HORIHAN, FRED	7	91		40.0		40.0	$15,448.00	$0.00	$15,648.00
SWIFT	76 - 2 - 90 - 1	LOKKEN, BARRY	7	92		10.0		10.0	$2,788.70	$1,080.00	$4,068.70
WABASHA	79 - 7 - 90 - 1	BREUER, RALPH	7	93		2.0		2.0	$765.50	$400.00	$1,365.50
ROOT RIVER	28 - 5 - 90 - 1	PETERSEN, JOHN	8	94		56.0		56.0	$19,627.84	$0.00	$19,827.84
WABASHA	79 - 8 - 90 - 1	HEIL, GEORGE	8	95		54.0		54.0	$17,410.68	$0.00	$17,610.68
GOODHUE	25 - 11 - 90 - 1	NORD,CRAIG	8	96		26.7		26.7	$12,624.83	$3,000.00	$15,824.83
LYON	42 - 8 - 90 - 1	JOREGENSON, HAROLD	8	97		10.4		10.4	$2,601.35	$0.00	$2,801.35
SWIFT	76 - 3 - 90 - 1	SCHLEIMAN, HAROLD	8	98		9.8		9.8	$3,599.34	$0.00	$3,799.34
ROOT RIVER	28 - 12 - 90 - 1	McCORMICK, DOROTHY	9	99		50.0		50.0	$18,179.50	$0.00	$18,379.50
WABASHA	79 - 9 - 90 - 1	McNALLAN, JOHN	9	100		46.0		46.0	$17,590.86	$0.00	$17,790.86
GOODHUE	25 - 4 - 90 - 1	REISNER, DENNIS	9	101		30.4		30.4	$14,138.74	$3,000.00	$17,338.74
WRIGHT	86 - 9 - 90 - 1	STOCKHAM, J	9	102		10.8		10.8	$5,582.84	$1,380.00	$7,162.84

STAFF RECOMMENDATIONS
1990 EASEMENTS REQUESTS FOR PENDING FUNDING STATUS
REVISED 10/16/90
PERPETUAL EASEMENTS ONLY TO BE FUNDED FROM CANCELLATIONS

COUNTY	EASEMENT NUMBER	LANDOWNER NAME	SWCD PRIO-RITY	PENDING BWSR FUNDING	MARGINAL AG. LAND	HILLSIDE PASTURE	RIPARIAN LAND	TOTAL EASM'T ACRES	EASEMENT DOLLARS REQUESTED	PRACTICE DOLLARS REQUESTED	TOT. REQUEST INCL.$200 TITLE WORK
					PERP	PERP	PERP				
					acres	acres	acres				
ROOT RIVER	28 - 4 - 90 - 1	PAUS, BROTHERS	10	103		56.0		56.0	$21,627.20	$0.00	$21,827.20
WABASHA	79 - 10 - 90 - 1	LEE, LUCILLE	10	104		54.0		54.0	$18,871.92	$0.00	$19,071.92
GOODHUE	25 - 9 - 90 - 1	CLEMENTSON, KEITH	10	105		35.5		35.5	$16,510.70	$3,550.00	$20,260.70
WABASHA	79 - 11 - 90 - 1	NIHART, DAVID	11	106		54.0		54.0	$12,944.34	$0.00	$13,144.34
ROOT RIVER	28 - 9 - 90 - 1	HARTLEY, JOSEPH	11	107		40.0		40.0	$12,719.60	$0.00	$12,919.60
GOODHUE	25 - 5 - 90 - 1	PETERSON, OLAF	11	108		20.5		20.5	$9,693.22	$2,050.00	$11,943.22
WABASHA	79 - 12 - 90 - 1	VOGT, ARTHUR	12	109		54.0		54.0	$12,702.96	$3,000.00	$15,902.96
GOODHUE	25 - 14 - 90 - 1	STIEHL, JAMES	12	110		13.2		13.2	$4,866.44	$1,320.00	$6,386.44
WABASHA	79 - 13 - 90 - 1	C & M FARMS	13	111		54.0		54.0	$12,702.96	$0.00	$12,902.96
GOODHUE	25 - 3 - 90 - 1	LUNDE, RUSSELL	13	112		12.2		12.2	$5,768.65	$1,220.00	$7,188.65
WABASHA	79 - 14 - 90 - 1	DYKES, CONNIE	14	113		54.0		54.0	$16,937.10	$1,500.00	$18,637.10
WABASHA	79 - 15 - 90 - 1	McNALLAN, EDWARD	15	114		45.0		45.0	$16,637.85	$0.00	$16,837.85
WABASHA	79 - 16 - 90 - 1	MOHLER, DARREL	16	115		13.1		13.1	$4,246.10	$0.00	$4,446.10
GRAND				ACRES	824.4	2,448.7	229.8	3,502.9	$1,701,210.78	$225,650.00	$1,949,860.78
TOTALS				NUMBER	37	68	10	115			

COSTS

Two potential costs exist for those who choose to participate in the program:

- The county may charge an application fee of no more than $50 to cover administrative expenses.
- The owner of the property must agree to follow sound soil and water conservation practices.

FUNDING

Any county that participates in the program will charge an additional $ fee on every mortgage and deed recorded or registered in that county. The county retains half the proceeds from these fees in a special county account and forwards the remaining half to the Minnesota Conservation Fund. Money from the county account will first be used to pay for the property tax credits received by farmers participating in that county. The state fund reimburses the counties for property tax credits that exceed the amount of funds in the county account.

QUESTIONS?

Contact your County Planning Office or the:

Minnesota Dept. of Agriculture
90 West Plato Boulevard
St. Paul, Minnesota 55107
(612) 296-7686

MINNESOTA DEPARTMENT OF
agriculture
90 W. PLATO BOULEVARD, ST. PAUL, MN 55107

FARMLAND PRESERVATION PROPERTY TAX CREDITS

THE 1984 AGRICULTURAL LAND PRESERVATION POLICY ACT

FARMLAND PRESERVATION PROPERTY TAX CREDITS

The 1984 Agricultural Land Preservation Policy Act

The 1984 Agricultural Land Preservation Policy Act makes it possible for some farmers to receive property tax credits of $1.50 per acre per year, and other benefits as well, in return for agreeing to preserve their farms for long-term agricultural use.

In order to receive the property tax credits, eligible farmers must place a restrictive covenant on their land, limiting its use to only agriculture or forestry. These covenants are designed to preserve agricultural land, to help farmers feel more confident in making long-run decisions, and also to avoid some of the problems associated with the uncontrolled development of farm and forest lands.

Limiting non-farm rural development helps preserve farmland for future generations and helps keep down public service costs paid by all taxpayers for such things as increased road maintenance and police and fire protection. Such limitations also decrease the likelihood of conflicts between farmers and non-farm residents over noise, dust and odors produced by farming operations.

Thus, by participating in the program farmers not only receive the property tax credit and other direct benefits, but several indirect benefits as well.

ELIGIBILITY

Farmers don't qualify for the program, their land does. In order to be eligible, the following conditions must be met: 1) the county in which the land is located must submit to the Commissioner of Agriculture an agricultural land preservation plan complete with official controls for implementing the plan, and 2) the farm must be located in a part of the county zoned for long-term agricultural use.

APPLICATION

Once the commissioner approves the plan and ordinance, and the county adopts them, a farmer with eligible land can apply with the county for the creation of an "exclusive agricultural use zone" (restrictive covenant) on his or her property.

DURATION

This restrictive covenant remains in effect until either the owner of the property or the county initiates termination proceedings, and eight years elapse. Following termination proceedings, the land may not be put to non-agricultural use until zoning regulations are also changed.

BENEFITS

Owners of land in exclusive agricultural use zones receive the following benefits:

- A $1.50 per acre per year property tax credit for as long as the land remains under the restrictive covenant or the owner files for termination.
- Annexation proceedings affecting exclusive agricultural use zones are limited and must meet certain additional criteria.
- Eminent domain proceedings are limited and subject to public and administrative review.
- Local governments may not enact ordinances or regulations that restrict normal farm practices unless these ordinances are directly related to public health and/or safety.
- Public water, sewer, and drainage projects are prohibited unless the owner chooses to use and will benefit from such projects. However, an assessment for some public projects may be deferred for property within an exclusive agricultural use zone. If the zone is later terminated, the deferred assessment plus interest are payable within 90 days after the restrictive covenant expires.

MINNESOTA AGRICULTURAL LAND PRESERVATION PROGRAM

STATUS REPORT

NOVEMBER 1989

MINNESOTA DEPARTMENT OF AGRICULTURE
90 WEST PLATO BOULEVARD
ST. PAUL, MINNESOTA 55107

TABLE OF CONTENTS

	INTRODUCTION	1
I.	SUMMARY OF MAJOR PROVISIONS OF CHAPTER 40A	2
II.	SIGNIFICANT EVENTS IN 1988-89	5
III.	PARTICIPATION RATES	7
IV.	MORTGAGE AND DEED SURVEY	8
V.	REVENUE/FEES	10

INTRODUCTION

Chapter 40A of Minnesota Statutes is entitled "Agricultural Land Preservation Program." This law provides for a pilot county agricultural land preservation program, a statewide agricultural land preservation program (counties outside the Twin Cities Metropolitan area), private "agricultural preserve" farmland restrictive covenants and property tax incentives for their creation, an agricultural land preservation and conservation awareness program, and a state-level agricultural land preservation and conservation assistance program. The goals and methods of this law are as follows:

> (M.S.40A.01)"Subdivision 1. Goals...:
> (1) preserve and conserve agricultural land, including forest land, for long-term agricultural use in order to protect the productive natural resources of the state, maintain the farm and farm-related economy of the state, and assure continued production of food and timber and agricultural uses;
> (2) preserve and conserve soil and water resources; and
> (3) encourage the orderly development of rural and urban land uses.
> Subd. 2. Methods. The goals contained in subdivision 1 will be best met by combining state policies and guidelines with local implementation and enforcement procedures and private incentives."

Section 40A.17 requires the Minnesota Department of Agriculture, as the state department responsible for the implementation of the law, to report to the Legislature on January 1 of each year on activities occurring under this Chapter. This report covers implementation activities undertaken between July 1988 and November 1989.

Summary of Major Provisions of Chapter 40A

40A.03 Pilot County Program

The Commissioner of Agriculture is directed to select up to seven pilot counties, based on for selection criteria to participate in a pilot program for county agricultural land preservation. The pilot counties had until December 31, 1987, to submit a proposed agricultural land preservation plan and proposed official implementing controls to the commissioner.

40A.04 Statewide Agricultural Land Preservation

Since January 1, 1987, any Minnesota county located outside the Twin Cities Metropolitan Area is eligible to prepare a proposed agricultural land preservation plan and implementing controls under the program for the commissioner's review. Timetables for review and adoption are spelled out.

40A.05 Elements of Plan and Official Controls

Plans and controls must contain the following elements:

Plan Elements

(1) integration with local comprehensive plans;
(2) relationship with other land use management plans;
(3) identification and evaluation of agricultural land and investment;
(4) identification of forest land;
(5) identification of areas where development is likely to occur during the next 20 years;
(6) identification of existing and proposed public sanitation sewer and water systems;
(7) classification of land suitable for long term agricultural use;
(8) identification of areas needed to fulfill future housing needs; and
(9) agricultural land preservation policy statements.

Official Controls

(1) designation of land for long-term agricultural use;
(2) designation of urban expansion zones;
(3) residential density requirements for both long-term agricultural use zones and urban expansion zones; and
(4) standards for county decisions on zoning and subdivision regulations.

40A.09-40A.11 Agricultural Preserves

Establishes "Agricultural Preserve" restrictive covenants for private agricultural land. Persons owning land in the long term agricultural zoning district of a participating county may voluntarily place an agricultural preserve restrictive covenant on their property. The covenant restricts the lands use to only agricultural or forest uses. The covenants are ongoing

and run with the land, even if the land is sold. The covenant may be terminated by either a land owner or the local unit of government by initiating a termination process. This termination process takes eight years to remove the agricultural preserve covenant. The zoning classification must also be changed in order for the property to be changed to some other use than what is permitted in the long term agricultural zoning district.

273.119, 40A.12-40A.123 Agricultural Preserves Land Owner Benefits/Incentives

Land which has the agricultural preserve restrictive covenant receives the following benefits or protections:

1. A $1.50 per acre per year property tax credit.
2. Protection for normal agricultural practices. Local governments are restricted from enacting ordinances or regulations that restrict or regulate normal agricultural practices.
3. Annexation proceedings. The Minnesota Municipal Board must make special findings before agricultural preserve land can be annexed from a township to a municipality.
4. Eminent domain actions. With some exceptions, any entity with eminent domain powers proposing to exercise those powers over more than 10 acres within an agricultural preserve must file a Notice of Intent with the Environmental Quality Board at least 60 days before the proposed action. The Environmental Quality Board is empowered to hold a public hearing and suspend the action for up to one year if it determines that the action is contrary to the purposes of this chapter and feasible and prudent alternatives exist.
5. Limitations on certain public projects. Public sanitary sewer systems, public water systems, and public drainage systems are prohibited in agricultural preserves. Land in a preserve may not be assessed for public projects built in the vicinity of the preserve unless the project is necessary to serve land primarily in agricultural use or if the owner of the land chooses to use and benefit from the project.

40A.13 Soil Conservation Practices

The owners of lands with agricultural preserve covenants are required to manage the land with sound soil conservation practices. The state model soil loss limits ordinance applies to all agricultural preserve lands to enforce this provision.

40A.14 Awareness Program

The Commissioner is required to establish a program to promote an increased public awareness of the need for agricultural land preservation and conservation, factors affecting agricultural land use, and the availability and effectiveness of preservation and conservation approaches and technologies.

40A.15 Assistance Program

The Commissioner is authorized to provide technical and financial assistance for agricultural land preservation and conservation activities to counties and municipalities in preparing agricultural land preservation plan and controls. Financial grants for up to 50 percent of the cost of the local governments planning activity are authorized. However, except for grants to the pilot counties, no funds have been appropriated for these grants to counties.

40A.151-40A.152 Minnesota Conservation Fund and County Conservation Fees

All seven twin cities metropolitan area counties and other counties participating in this program are required to charge a $5.00 fee on each recording or registration of all mortgages and deeds subject to the mortgage and deed taxes. One-half the fee must be deposited in a special conservation account in the county general revenue fund, and one-half must be transferred to the Commissioner of Revenue, to be credited to the Minnesota Conservation Fund.

Money from the county conservation account must be used to reimburse the county and taxing jurisdictions within the county for the agricultural preserves property tax credit. If the cost of the property tax credits exceeds funds available in the county conservation account, the county is reimbursed from the Minnesota conservation fund for the amount the tax credits exceed the county account.

40A.19 Transfer From Green Acres

This provision permits property currently receiving "Green Acres" property tax and special assessment deferrals to convert to an agricultural preserve covenant without having to repay deferred tax differentials. Special assessments outstanding against the property would still have to be repayed if the agricultural preserve covenant is ever terminated.

Significant Events in 1988-89

1988 American Farmland Trust Conservation Award. In October of 1988, the American Farmland Trust, a national organization that promotes agricultural land preservation and soil conservation, awarded the Minnesota Agricultural Land Preservation Program with one of its 1988 conservation awards. The award was given to the Minnesota program as an example of an innovative state program that affectively protects agricultural land from conversion to other uses. Other recipients included a congressman, an individual educator, and a county agricultural land preservation program.

Current Status of the Pilot Counties. As reported in the last status report, Waseca, Winona and Wright counties have adopted their plans and are proceeding with the program. Douglas county adopted the plan and zoning ordinance amendments, but chose not to make the private agricultural preserve covenant, and accompanying land owner benefits, due to fears that the county would be responsible for having to cover the costs of the property tax credits in case landowner participation becomes so extensive that the county and state conservation funds are insufficient to cover the total credit costs. Kandiyohi county has not yet adopted its plan and the ordinance, although they have been approved, due to similar fears as in Douglas county. County officials have indicated that they will likely adopt the plan and ordinance, but also not make the agricultural preserves covenant process available to landowners.

1989 Legislative Amendments. Legislation was drafted to carry out the findings of the pilot county experiences for improvements to the program. The following changes were made:

1. The name of the restrictive covenant was changed from "exclusive agricultural use zone" to "agricultural preserves." The original name was often confused with zoning districts.

2. The time alloted to MDA to review county plans and ordinances was shortened to 60 days, and the county timetables for adoption of the plan and ordinance were extended 90 days if no changes are necessary and 120 days if changes are required.

3. Language was added to require reporting of program statistics by the counties and the maintenance of those statistics by MDA.

4. One of two required annual program status reports was eliminated.

5. Provisions permitting the development of non-farm residences on agricultural preserves provided they are consistent with the county's maximum non-farm density limitations were added. Language clarifying what acceptable accessory commercial and industrial operations are permitted on agricultural preserves farms was also added.

6. A process was added to permit the transfer of land from agricultural property tax law treatment (green acres) to agricultural preserves.

7. The annual deadline for landowners to file the restrictive covenant in order to receive credit on that years taxes (payable the next year) was changed to conform to the state property tax "assessment date." The application process was also simplified so that a land owner now only has to file with one office at the county rather than two.

8. A provision permitting the deferral of special assessments for public sanitary sewer, water and drainage projects built in the vicinity of an agricultural preserve, rather than outright prohibition of those assessments, was repealed.

Costs of Public Services Study. In the spring of 1989, MDA contracted with Resource Consultants, Inc. to conduct a study, using Wright county as a case study, to compare the property tax revenues generated by non-farm residential developments with the cost of providing property tax-funded public services (road maintenance, police and fire protection, and etc.). The study discovered that the cost of providing public services to residences in the city of Buffalo were $114.62 per unit greater than the property tax revenues generated by those residences, before homestead credits and state aids are factored in. The cost of providing public services for residences at low densities in two rural townships were greater than the property tax revenues by $485.85 and $499.22, respectively (again before homestead credits and state aids are factored in). The conclusion to be drawn from these numbers is that scattered, rural non-farm developments are more costly to provide public services to than residences built in urban areas using public infrastructures.

Agricultural Land Preservation Program Informational Video. MDA also contracted with Deborah Leach and Tag Team Film and Video, Inc. to produce an informational video explaining the Agricultural Land Preservation Program to interested counties and individuals. The video generally outlines the major provisions of the program, and uses the comments of county officials and participating landowners to explain their reasons for participating in the program.

Full-Time Program Administrator. The 1989 Legislature appropriated funding to cover the cost of a full-time Program Administrator. Applications for the position have been received, and interviews will be held shortly. A full-time staff person will be able to provide better assistance and service to interested and participating counties, as well as maintain necessary records on the program.

Proposed Amendment to the Waseca County Agricultural Land Preservation Program Zoning Ordinance Provisions. A landowner in Waseca county proposed an amendment to the county's long-term agricultural zoning ordinance provisions (the district where agricultural preserves covenants are permitted) which would have permitted non-farm residences, at one acre lot sizes, as a conditional use within 1,000 feet of recreational development lakes. Since amendments to a county's agricultural land preservation plan or implementing ordinances require a review by MDA, the department reviewed the proposal and concluded that the amendment, as proposed would not be consistent with the goals of the chapter. The county is currently considering the proposed amendement.

County Agricultural Preserve Covenant and Acreage Totals 1988/1989[1].

County	Covenants	Acres
Waseca	61	7236.08
Winona	8	2207.00
Wright	47	5477.80
Totals:	116	14920.88

Waseca County Totals From '87/88:

Covenants	Acres
160	25712.00

Totals for Both Years

Covenants	Acres
276	40632.88

1989 County Recorder Survey

County	Mortgages	Deeds	Total
Aitkin	559	1783	2342
Anoka	11061	10743	21804
Becker	1012	1935	2947
Beltrami	1090	1555	2645
Benton	1153	1012	2165
Big Stone	149	398	547
Blue Earth	1419	1773	3192
Brown	816	1124	1940
Carlton	970	1330	2300
Carver	2547	2742	5289
Cass	939	3329	4268
Chippewa	338	617	955
Chisago	1390	1760	3150
Clay	1357	1745	3102
Clearwater	172	379	551
Cook	183	591	774
Cottonwood	280	673	953
Crow Wing	2147	4118	6265
Dakota	13782	14426	28208
Dodge	548	716	1264
Douglas	1054	1673	2727
Faribault	475	926	1401
Fillmore	503	926	1429
Freeborn	1057	1191	2248
Goodhue	1703	1748	3451
Grant	165	460	625
Hennepin	41828	32881	74709
Houston	575	750	1325
Hubbard	1091	2054	3145
Isanti	1236	1512	2748
Itasca	1233	2362	3595
Jackson	261	650	911
Kanabec	485	778	1263
Kandiyohi	1491	1667	3158
Kittson	500	590	1090
Koochiching	532	970	1502
Lac Qui Parle	184	421	605
Lake	417	754	1171
Lake of Woods	144	377	521
LeSueur	875	935	1810
Lincoln	107	335	442
Lyon	572	846	1418
Mahnomen	75	234	309
Marshall	336	862	1198
Martin	502	970	1472
Mcleod	876	1092	1968

1989 County Recorder Survey

County	Mortgages	Deeds	Total
Meeker	673	1025	1698
Mille Lacs	695	1220	1915
Morrison	787	0	787
Mower	1042	921	1963
Murray	195	586	781
Nicollet	935	903	1838
Nobles	451	867	1318
Norman	185	444	629
Olmsted	4920	4800	9720
Otter Tail	2047	3401	5448
Pennington	350	548	898
Pine	798	1814	2612
Pipestone	220	529	749
Polk	1030	1500	2530
Pope	286	0	286
Ramsey	16134	15177	31311
Red Lake	95	0	95
Redwood	382	679	1061
Renville	364	798	1162
Rice	2153	2076	4229
Rock	188	389	577
Roseau	415	927	1342
Scott	2237	2549	4786
Sherburne	2195	3157	5352
Sibley	278	557	835
St. Louis	4953	9000	13953
Stearns	4200	4443	8643
Steele	1033	1261	2294
Stevens	275	585	860
Swift	245	531	776
Todd	588	1337	1925
Traverse	114	239	353
Wabasha	583	899	1482
Wadena	398	630	1028
Waseca	615	657	1272
Washington	7935	7600	15535
Watonwan	336	598	934
Wilkin	199	525	724
Winona	1640	1530	3170
Wright	2988	3677	6665
Yellow Medicine	230	569	799
Totals	165576	189661	355237
1987 Totals	202178	180306	425250
1986 Total			465911
1984 Total			379965

STATE SHARE
COUNTY CONSERVATION FEE
FISCAL YEAR 1989

COUNTY	APRIL 1 TO JUNE 30 1988	JULY 1 TO SEPT 30 1988	OCT 1 TO DEC 31 1988	JAN 1 TO MARCH 31 1989	1989 FISCAL YEAR TOTAL
ANOKA	$ 15,602.50	$ 15,528.50	$ 10,580.00	$ 12,930.50	$ 54,641.50
CARVER	3,647.50	3,810.00	3,517.50	2,600.00	13,575.00
DAKOTA	17,683.50	18,877.50	17,465.00	12,720.00	66,746.00
DOUGLAS	1,892.50	1,942.50	1,902.50	645.00	6,382.50
HENNEPIN	54,333.00	56,510.50	52,017.00	40,692.50	203,553.00
KANDIYOHI	2,095.00	2,195.00	2,082.50	1,387.50	7,760.00
RAMSEY	22,855.00	22,892.50	17,830.00	14,954.50	78,532.00
SCOTT	4,130.00	4,145.00	4,010.00	2,947.50	15,232.50
WASECA	1,022.50	907.50	917.50	540.00	3,387.50
WASHINGTON	10,672.50	11,553.50	9,632.50	7,330.00	39,188.50
WINONA	2,165.00	2,420.00	2,035.00	1,505.00	8,125.00
WRIGHT	4,792.50	4,607.50	4,170.00	2,915.00	16,485.00
TOTAL	$140,891.50	$145,390.00	$126,159.50	$101,167.50	$513,608.50

Notes: (1) The time periods shown are for the quarters when the tax is collected by the counties.
(2) Effective July 1, 1987 the conservation fee increased from $3 to $5 and Ramsey County began collecting the fee.

COUNTY SHARE
COUNTY CONSERVATION FEE
CALENDAR YEAR 1988

COUNTY	JAN 1 TO MARCH 31 1988	APRIL 1 TO JUNE 30 1988	JULY 1 TO SEPT 30 1988	OCT 1 TO DEC 31 1988	1988 CALENDAR YEAR TOTAL
ANOKA	$ 9,800.00	$ 15,602.50	$ 15,528.50	$ 10,580.00	$ 51,511.00
CARVER	2,245.00	3,647.50	3,810.00	3,517.50	13,220.00
DAKOTA	15,686.00	17,683.50	18,877.50	17,465.00	69,712.00
DOUGLAS	1,167.50	1,892.50	1,942.50	1,902.50	6,905.00
HENNEPIN	37,662.50	54,333.00	56,510.50	52,017.00	200,523.00
KANDIYOHI	1,310.00	2,095.00	2,195.00	2,082.50	7,682.50
RAMSEY	14,700.00	22,855.00	22,892.50	17,830.00	78,277.50
SCOTT	2,912.50	4,130.00	4,145.00	4,010.00	15,197.50
WASECA	420.00	1,022.50	907.50	917.50	3,267.50
WASHINGTON	7,162.50	10,672.50	11,553.50	9,632.50	39,021.00
WINONA	1,367.50	2,165.00	2,420.00	2,035.00	7,987.50
WRIGHT	2,757.50	4,792.50	4,607.50	4,170.00	16,327.50
TOTAL	$97,191.00	$140,891.50	$145,390.00	$126,159.50	$509,632.00

COUNTY/STATE
CONSERVATION CREDIT ALLOCATION
FISCAL YEAR 1989

COUNTY	CALENDAR YEAR 1988 COUNTY SHARE OF FEE	CONSERVATION CREDIT TOTAL	CONSERVATION CREDIT COUNTY SHARE	CONSERVATION CREDIT STATE SHARE
ANOKA	$ 51,511.00	$ 705.00	$ 705.00	$
CARVER	13,220.00	1,351.00	1,351.00	
DAKOTA	69,712.00	10,617.00	10,617.00	
DOUGLAS	6,905.00			
HENNEPIN	200,523.00	19,350.00	19,350.00	
KANDIYOHI	7,682.50			
RAMSEY	78,277.50			
SCOTT	15,197.50	8,998.00	8,998.00	
WASECA	3,267.50	38,568.00	3,266.50	35,301.50
WASHINGTON	39,021.00	2,663.00	2,663.00	
WINONA	7,987.50			
WRIGHT	16,327.50			
TOTAL	$509,632.00	$82,252.00	$46,950.50	$35,301.50

COUNTY/STATE
CONSERVATION CREDIT ALLOCATION
FISCAL YEAR 1989

COUNTY	FISCAL YEAR 1989 STATE SHARE OF FEE	STATE SHARE CONSERVATION CREDIT	STATE PAYMENT RATIO	STATE CREDIT PAYMENT	PAYMENT SHORTAGE
ANOKA	$ 54,641.50	$		$	$
CARVER	13,575.00				
DAKOTA	66,746.00				
DOUGLAS	6,382.50				
HENNEPIN	203,553.00				
KANDIYOHI	7,760.00				
RAMSEY	78,532.00				
SCOTT	15,232.50				
WASECA	3,387.50	35,301.50	1.0000	35,301.50	0.00
WASHINGTON	39,188.50				
WINONA	8,125.00				
WRIGHT	16,485.00				
TOTAL	$513,608.50	$35,301.50	1.0000	$35,301.50	$ 0.00

CONSERVATION CREDIT
PAYMENT SUMMARY
TAXES PAYABLE 1989

COUNTY	COUNTY SHARE	STATE SHARE			TOTAL CREDIT PAYMENT
		CONSERVATION FUND	GENERAL FUND	TOTAL	
ANOKA	$ 705.00	$	$	$	$ 705.00
CARVER	1,351.00				1,351.00
DAKOTA	10,617.00				10,617.00
HENNEPIN	19,350.00				19,350.00
RAMSEY					
SCOTT	8,998.00				8,998.00
WASECA	3,266.50	35,301.50	0.00	35,301.50	38,568.00
WASHINGTON	2,663.00				2,663.00
TOTAL	$46,950.50	$35,301.50	$ 0.00	$35,301.50	$82,252.00

PREPARED BY: LOCAL GOVERNMENT SERVICES
MINNESOTA DEPARTMENT OF REVENUE
NOVEMBER 7, 1989 - GLH

STATE SHARE
COUNTY CONSERVATION FEE
FISCAL YEAR 1990

COUNTY	APRIL 1 TO JUNE 30 1989	JULY 1 TO SEPT 30 1989	OCT 1 TO DEC 31 1989	JAN 1 TO MARCH 31 1990	1990 FISCAL YEAR TOTAL*
ANOKA	$ 14,247.50	$ 15,022.50			$ 29,270.00
CARVER	3,255.00	3,350.00			6,605.00
DAKOTA	15,402.50	16,897.50			32,300.00
HENNEPIN	47,908.00	50,170.00			98,078.00
KANDIYOHI	2,237.50	730.00			2,967.50
RAMSEY	18,305.00	20,632.50			38,937.50
SCOTT	3,652.50	4,157.50			7,810.00
WASECA	925.00	900.00			1,825.00
WASHINGTON	9,112.50	10,010.00			19,122.50
WINONA	2,325.00	2,250.00			4,575.00
WRIGHT	4,390.00	4,997.50			9,387.50
TOTAL	$121,760.50	$129,117.50			$250,878.00

Notes: (1) The time periods shown are for the quarters when the tax is collected by the counties.
(2) Effective July 1, 1987 the conservation fee increased from $3 to $5 and Ramsey County began collecting the fee.

* Through September 30,1989

COUNTY SHARE
COUNTY CONSERVATION FEE
CALENDAR YEAR 1989

COUNTY	JAN 1 TO MARCH 31 1989	APRIL 1 TO JUNE 30 1989	JULY 1 TO SEPT 30 1989	OCT 1 TO DEC 31 1989	1989 CALENDAR YEAR TOTAL*
ANOKA	$ 12,930.50	$ 14,247.50	$ 15,022.50		$ 42,200.50
CARVER	2,600.00	3,255.00	3,350.00		9,205.00
DAKOTA	12,720.00	15,402.50	16,897.50		45,020.00
DOUGLAS	645.00	**	**		645.00
HENNEPIN	40,692.50	47,908.00	50,170.00		138,770.50
KANDIYOHI	1,387.50	2,237.50	730.00		4,355.00
RAMSEY	14,954.50	18,305.00	20,632.50		53,892.00
SCOTT	2,947.50	3,652.50	4,157.50		0,757.50
WASECA	540.00	925.00	900.00		,365.00
WASHINGTON	7,330.00	9,112.50	10,010.00		6,452.50
WINONA	1,505.00	2,325.00	2,250.00		,080.00
WRIGHT	2,915.00	4,390.00	4,997.50		2,302.50
TOTAL	$101,167.50	$121,760.50	$129,117.50		$352,045.50

* Through September 30, 1989

** Effective February 28, 1989, Douglas County withdrew from the county conservation program.

Agricultural Land Preservation Program

Technical Assistance Services

The Minnesota Department of Agriculture is available to assist local units of government with implementation of the State's Agricultural Land Preservation Program. The Department will provide information on the requirements of the program, answer questions throughout the planning process, and review draft plans and ordinances prior to their approval by the Commissioner of Agriculture. In addition to these services, the Department is available to provide information and advice on the following:

- Planning, zoning, and other preservation methods.
- Examples of plans, ordinances.and other resources.
- Funding sources available to assist with planning programs.
- Integrating agricultural land preservation with shoreland management, water planning and other programs.
- Setting up a planning process.
- Implementation of the agricultural preserves covenants program.
- Soil conservation requirements included in the 1984 Agricultural Land Preservation Policy Act.

For Further Information Contact:

Douglas K. Wise
Agricultural Land Preservation Program
Minnesota Department of Agriculture
90 West Plato Boulevard
St. Paul, MN 55107
Phone: (612) 296-5226

110 B PLAN SUMMARY
FOR
NICOLLET COUNTY

PLAN CONSULTANTS:

Henry Quade, Mankato State University

PRIORITY NATURAL RESOURCE ISSUES:

Scenic Areas
Sewage Treatment
Wells
Public Drainage Systems
Wetlands

IMPLEMENTATION ACTIVITIES:

SCENIC AREAS

* Update and enforce zoning regulations to augment scenic protection.
* Establish incentive program for private landowners to protect scenic areas.
* Educate landowners on the importance of scenic area protection for tourism and water quality.

SEWAGE TREATMENT

* Correct all failing individual sewage treatment systems.
* Identify and log all interconnected septic systems and field drain tile.
* Establish cost share program (with sunset clause for separation of septic systems from field drain tile).

WELLS

* Develop local public education program on groundwater quality and proper well sealing.
* Under delegation agreement with MDH develop well construction permit program.
* Develop incentive program to seal abandoned wells.

PUBLIC DRAINAGE SYSTEMS

* Maintain ditch banks by seeding to reduce erosion and sedimentation.
* Map and log wetlands that could be impacted by future ditch repairs.
* Seek alternatives for protecting wetlands that are affected by ditch repairs.

WETLANDS

* Educate citizens on the values of wetlands.
* Inform public of wetland regulations and conservation programs.
* Establish conservancy zone around unprotected wetlands.
* Identify drained wetlands.
* Where feasible, restore drained wetlands.

110 B PLAN SUMMARY
FOR
FREEBORN COUNTY

PLAN CONSULTANTS:

Henry Quade, Mankato State University

PRIORITY NATURAL RESOURCE ISSUES:

Data Management
Water Conservation
Water Wells
Eroding Lands
Pollutant Sources

IMPLEMENTATION ACTIVITIES:

DATA MANAGEMENT

* Develop computer program to manage water quality information
* Design computer programs to network with county, state and MSU system

WATER CONSERVATION

* Develop hydrogeologic atlas
* Develop drought contingency plan
* Establish water education committee to develop and implement educational programs for schools and community

WATER WELLS

* Adopt water well construction code through delegation agreement with MDH
* Eliminate use of drainage injection wells
* Develop private well testing program

ERODING LANDS

* Control construction site erosion by following the Minnesota Construction Site Erosion and Sediment Control Planning Handbook
* Develop demonstration farms on sustainable farming

POLLUTANT SOURCES

* Adopt MPCA Rule 7080 for individual sewage treatment systems
* Inventory non-conforming septic systems and develop program to upgrade those systems
* Develop educational program on pollution effects of LUST's and ISTS's