



Minnesota Board of Water and Soil Resources.
Minutes.

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MINUTES OF NOVEMBER 30, 1988
OF THE
BOARD OF WATER AND SOIL RESOURCES

Appointed Members in Attendance

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

Appointed Member Absent

John Williamson

Others In Attendance

Paul Burns, Minnesota Department of Agriculture
Steve Thorne, Minnesota Department of Natural Resources
Mick Finn and Valentine O'Malley, Minnesota Department of Health
Wayne Anderson and Gaylen Reetz, Minnesota Pollution Control Agency
Dwain Otte, Minnesota Association of Soil & Water Conservation Districts
Al Dornfeld and Warren Wallgren, Minnesota Association of Watershed Districts
Paul Kalass, Minnesota Association of Conservation District Employees
Franklin Denn, Minnesota Association of Townships
Tom Halbach, Extension Service, University of Minnesota
Art Kalmes, BARR Engineering
Marilyn Lundberg, State Planning Agency
Henry Quade, Mankato State University

Staff Present

Jim Birkholz
Mel Sinn
Greg Larson
Pat Bloomgren
John Fax
Chris Hughes
Mary Jo Anderson

Call Meeting to Order - Chairman Ogaard called the meeting to order at 9:02 a.m., in Conference Room A of the Department of Agriculture Building, 90 W. Plato Boulevard, St. Paul, Minnesota.

88-161 **Adopt Agenda** - Chairman Ogaard stated that there will be three additional agenda items. Don Warner will be giving a slide presentation on lakeshore erosion in northeast Minnesota; Loni Kemp would like to discuss with the Board the Federal Farm Conservation and Water Protection Act; and Natalie Haas-Steffen would like to report on the meeting held in Andover. Moved by Peterson, seconded by Moen, to approve the agenda as presented. Affirmative: Ogaard, Boulton, Warner, Kalmes, Bade, Schellack, Moen, Hoese, Brooks, Jr., Harste, Peterson, Graba, and Cofell. Opposed: None. Carried.

88-162 **Approval of Minutes of October 26, 1988** - Moved by Cofell, seconded by Schellack, to approve the minutes of October 26, 1988 as circulated. Affirmative: Ogaard, Boulton, Warner, Kalmes, Bade, Schellack, Moen, Hoese, Brooks, Jr., Harste, Peterson, Graba, and Cofell. Opposed: None. Carried.

Loni Kemp and Natalie Haas-Steffen arrived at the meeting at 9:10 a.m.

Chairman's Report - Donald Ogaard reported that the BWSR office moved last week. The new office location is across the street from the Department of Agriculture Building at the Southbridge Office Building. Don reported that on November 3rd he flew to Milroy for the wetland restoration dedication. He was very impressed with the dedication and restoration project, the area is now ready to hold water. Don participated in The International Coalition conference in Fargo on November 17-18. He felt it was a tremendous annual conference. Don asked board members to read and comment on Bill Cofell's paper on education issues pertaining to the Board. Eugene Kalmes felt that the education emphasis is very important. Ken Schellack felt it was a good idea to go through the Department of Education on this. Jack Graba suggested that the Board spend a half day looking at Bill's paper. Steve Thorne felt that the Minnesota Environmental Education Board and John Miller from the Department of Education need to meet with the BWSR on education. Loni Kemp felt that local people need to be prepared and are interested in the education aspects. John Boulton suggested the board members need to educate others by giving presentations in their areas as to how they fit in. Natalie Haas-Steffen felt that education needs to start in grade school. Bill Cofell stated that he wrote this paper as a basis for discussion. Lowell Moen felt that a full-time position is needed to travel statewide to schools.

88-163 **Board Decision on 1989 Meetings to be Held Outside St. Paul** - Moved by Haas-Steffen, seconded by Schellack, to hold the May, 1989 meeting in Detroit Lakes. Affirmative: Ogaard, Boulton, Warner, Kalmes, Bade, Schellack, Moen, Hoese, Haas-Steffen, Brooks, Jr., Haste, Peterson, Graba, Kemp, and Cofell. Opposed: None. Carried. Discussion followed. Staff will send a letter of consideration to Beltrami County. Chairman Ogaard asked that board members try to attend the meeting and conservation tour on June 27, 1989, in Area 1. John Brooks, Jr., extended an invitation to the Board to hold their meeting in Beltrami County the following year. Moved by Bade, seconded by Boulton, to hold the September, 1989, meeting in southeast Minnesota. Affirmative: Ogaard, Boulton, Warner, Kalmes, Bade, Schellack, Moen, Hoese, Haas-Steffen, Brooks, Jr., Harste, Peterson, Graba, Kemp, and Cofell. Opposed: None. Carried. Natalie Haas-Steffen felt that too many conventions are held in

88-164

November and December. She asked that people take that into consideration. Doug Bade stated that he appreciated Natalie attending the Area 4 MASWCD meeting and giving people a pep talk.

Executive Director's Report - Jim Birkholz reported on various staff activities. He reported that Senator DeCramer held a recodification of state water law meeting yesterday. This is still in the discussion stage. Jim reported that the Urban Erosion and Sediment Control Handbook is being distributed. The next RIM sign-up has been scheduled for December 12 - January 13. Good media publicity has been done on this. Jim reported that a decision was made to move the BWSR office, and with three weeks notice, the move has been completed. The BWSR staff will continue the ongoing working arrangements with the Department of Agriculture. Jim reported on the staffing status. Interviews for the Assistant Director position were held on October 27. Pat Bloomgren was hired as Assistant Director, with her starting date today, November 30th. The Land Use Specialist interviews were held yesterday. Dave Behm currently on the Nobles SWCD staff has accepted that position and Dave will be starting in early January. Jim reported on the biennial budget preparation. The final document is completed. The Department of Finance made a recommendation to the Governor's office, with none of the change level requests being approved, except for the office rent increase. The comprehensive water bill and the RIM budget are being dealt with as separate items. Jim reported that the RIM Coalition is meeting tonight. Jim will be giving a presentation at the Minnesota Association of Watershed Districts Annual Convention, December 2-3, at the Kahler Hotel in Rochester; and the Minnesota Association of Soil and Water Conservation Districts Annual Convention, December 4-6, at the Marriott City Center, in Minneapolis. The Association of Minnesota Counties asked the BWSR to make an hour and a half presentation on water quality at the annual convention in January. Jim felt this was a good opportunity for the Board. Jim reported that he attended the MASWCD Area Meetings held statewide in Crookston, LeCenter, Marshall, and the Twin Cities. Jim commended staff on the work they have done regarding the budget, legislative issues, and the office move. Jim introduced Chris Hughes, and the new Water Planning Hydrologist in New Ulm. Chris has worked with the Department of Natural Resources for five years and also with the Department of Transportation. Chris started on October 3. Jim also introduced John Fax, Groundwater Hydrologist. John had previously worked with the Department of Natural Resources for eleven years. John also started on October 3rd.

EQB/Water Resources Committee Report - Loni Kemp reported that the EQB/Water Resources Committee met on November 3. Loni stated that two main agenda items were discussed: 1) final approval for the Pest and Nutrient Management Strategy; and 2) funding for various parts of the strategy. The strategy was subsequently adopted at the EQB meeting, with legislation being the next process. Loni reported on the upcoming groundwater bill process. The bill remains in draft form. There are eight titles or sections in this bill. The BWSR is responsible for Title 3, the Local Government part of the bill, including the, "Local Water Resources Protection and Management" grant program. Marilyn Lundberg, State Planning Agency, distributed a draft of the cost estimates on the Comprehensive Water Resources Protection Act of 1989, for the Board's information. The final draft on this should be completed by mid-January. Loni reported that the Water Resources Committee discussed

the fundamental questions of how to prevent groundwater pollution and how to manage when pollutants are discovered. Loni stated that a great amount of interest has been shown on this bill. Loni asked that the bill be sent to districts to inform them of what's being done, let the local government know. Chairman Ogaard asked Natalie Haas-Steffen if the Board could get on the Physical Development Committee agenda. Marilyn Lundberg stated that the BWSR's comments and ideas are needed. Ken Schellack felt that the tax or users fee is unfair. Paul Burns stated that the Department of Agriculture is sensitive to those needs of funding. It was felt that communications with all organizations is needed on this matter for their comments. Dwain Otte felt the need to reach the land user in an acceptable manner is a real key to the success of new programs.

Loni Kemp distributed copies of the Fowler Bill that was introduced in the Congressional Record. This bill is to promote low-input and sustainable agricultural production, to maintain farm profitability, to encourage land, resource, and wildlife stewardship in connection with the federal farm programs. Loni commented that the bill states that SCS would do sustainable plans for farmers; the farmer would promise to implement over a five-year period; farmers would get a 10% deficiency payment; low interest rate; and land base protection. USDA would designate the area as meeting cross-compliance requirements. It contains proposed changes for the Extension Service. Loni asked that board members read the Fowler Bill and possibly at a later date, staff could analyze it. Greg Larson stated that many ideas gained from the RIM program are included in this bill.

Chairman Ogaard called for a break in the meeting at 10:35 a.m. The meeting reconvened at 10:50 a.m.

Comprehensive Water Resources Protection Act of 1989 - Jim Birkholz reported that the State Planning Agency is doing the overall coordination of this bill. The outline has eight titles: 1) Protection of Ground Water; 2) Education, Research, and Information Management; 3) Local Water Resources Protection and Management; 4) Drinking Water Protection; 5) Pesticide and Nutrient Management; 6) Joint Legislative Commission on Water; 7) Source of Secure, Stable Funding; and 8) Appropriations and Complement. Jim stated that Pat Bloomgren and Mel Sinn are at the State Planning Agency now working on a clean version of this bill. Outlines will be available at both the Watershed Districts Convention and the Minnesota Association of Soil and Water Conservation Districts Convention. The framework for getting this funding out should be done through the county level comprehensive local water plans being prepared with coordination through one entity; county government being the appropriate entity. Natalie Haas-Steffen commented that the ordinance for local well codes should be carried out. Jim stated that shoreland management activities would be dovetailed with DNR through Title 3. Steve Thorne stated that DNR strongly supports Title 3. This is a good principle, and the state needs to provide technical and financial assistance to carry out those functions. The shoreland regulations have now been amended, 85 counties and 120 cities now have shoreland ordinances. Thorne stated that a \$2 million grant program has been requested to administer and enforce shoreland ordinances locally. Thorne would like to see both the BWSR and DNR grants done cooperatively. DNR is responsible for the Shoreland Management Act, with funding assistance needed for local government to implement required

responsibilities. He feels that the appropriations should be made separately, but both grants linked together but not overlapped. A close coordination of the program but a separate distinction needs to be made on the grants. Thorne distributed copies of DNR's memo to Chairman Ogaard stating their position and proposal on the potential combination of local government grants.

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The Local Water Resources Protection and Management Act was then discussed in detail. Natalie Haas-Steffen suggested addressing a clear funding source and an implementation process. Loni Kemp felt it needs to be kept comprehensive, it also needs to be clear and concise, simplicity is important. Mick Finn suggested a language change. Natalie suggested that the language needs to be broadened. Add language, "other appropriate local units of governments", something that's broad, but not restrictive. She felt that if the county board is responsible for funding, they should be responsible for delegation of authority. Discussion followed. Moved by Brooks, Jr., seconded by Peterson, to delete "a soil and water conservation district", and add "to other appropriate agency". Affirmative: Ogaard, Boulton, Warner, Kalmes, Bade, Schellack, Moen, Hoese, Haas-Steffen, Brooks, Jr., Harste, Peterson, Graba, Kemp, and Cofell. Opposed: None. Carried. Jim stated that that DNR shoreland management would be a separate appropriation with a coordinating grant program. Wayne Anderson, MPCA, did not feel that it was a good idea to separate this. He's concerned with fragmentation. Natalie Haas-Steffen felt that it should be included with DNR and MPCA, in one place. She felt that the turf battles continue and it never gets off the ground. She stated that Anoka County would never apply for a grant because of this. Moved by Brooks, Jr., seconded by Bade, to table this matter until later in the afternoon. Affirmative: Ogaard, Boulton, Warner, Kalmes, Bade, Schellack, Moen, Hoese, Haas-Steffen, Brooks, Jr., Harste, Peterson, Graba, Kemp, and Cofell. Opposed: None. Carried.

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Chairman Ogaard adjourned the meeting for lunch at 12:10 p.m. The meeting reconvened at 1:05 p.m.

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Discussion continued on the shoreland management grants. Chairman Ogaard read the following proposal: "Board direct staff to prepare language in consultation with appropriate agencies and associations to ensure coordination of DNR's proposed Shoreland Management Grants Program with the proposed Local Water Resources Protection and Management Program. Such language should ensure that the programs are linked together for coordinated funding and that DNR statutory objectives are accomplished. Moved by Boulton, seconded by Haas-Steffen, to approve the proposal as stated. Affirmative: Ogaard, Williamson, Warner, Kalmes, Bade, Moen, Hoese, Haas-Steffen, Brooks, Harste, Peterson, Graba, Kemp, and Cofell. Opposed: None. Carried.

Don Warner gave a slide presentation of the lakeshore erosion problems in northeastern Minnesota. Don Warner asked to be on the NACD Coastal Zone Great Lakes Committee. Dwain Otte, on behalf of the Minnesota Association of Soil and Water Conservation Districts, would like to work in conjunction with the BWSR on this. Chairman Ogaard thanked Don Warner for bringing this slide presentation before the Board.

Chairman Ogaard introduced Pat Bloomgren, the newly hired Assistant Director.

Southcentral Minnesota County Water Planning Project - Dr. Henry Quade, Mankato State University. Dr. Quade explained that thirteen counties (Blue Earth, Brown, Cottonwood, Faribault, Freeborn, Jackson, LeSueur, Martin, Nicollet, Sibley, Steele, Waseca, and Watonwan) are cooperating to prepare water plans. The Project Policy Committee has a joint powers board with one commissioner from each of the thirteen counties. Funds for this project are received from LCMR, Mankato State University, southeast initiatives; counties; Unisys; SAMAMISH. The participants include: counties, state agencies, and Mankato State University. The thrusts of the project include: groundwater, fisheries and wildlife, surface water, recreation, Comprehensive Minnesota River Study, and small watershed studies. Dr. Quade brings this item before the BWSR today for informational purposes. A question and answer discussion followed. Chairman Ogaard thanked Dr. Quade for his presentation.

SCS Report - Gary Nordstrom reported that he attended the statewide area meetings. The workload priority is presently the Food Security Act (FSA). The FSA work progress is as follows: 1) The mandate to make highly erodible land determinations: As of October 1st, 93% of HEL determinations have been made. 2) Meeting the 1990 deadline for conservation compliance plans: as of October, they are at 58%. 3) The application phase for technical assistance: as of October 1, 33% of the completed conservation plans are implemented. Gary reported on the CRP component. Over 1.7 million acres statewide have been accepted into the program over the next ten years, bringing in approximately \$1 billion of federal funds into Minnesota. Gary stated that a few District Conservationists positions are vacant. The budget for 1989 is adequate, with \$12.5 million for Minnesota, all programs combined. SCS is trying to get the field offices equipped with computer systems. The status of water resource projects will be made available. Gary distributed copies of a Memo of Understanding between USDA and EPA to provide state offices with a copy of the MOU executed between EPA and SCS for planning and technical assistance, for the Board's information. Gary asked that if board members have any questions regarding the Soil Conservation Service, please let him know before the board meeting so he can address those items at the meeting.

Clean Water Partnership Update - Gaylen Reetz, MPCA, explained that the purpose of the Clean Water Partnership Program is to protect and improve surface and groundwater in Minnesota through financial and technical assistance to local units of government. 50% of the grants are to local units of government. The rules for this program became effective on September 26, 1988. The final date for accepting applications to this program is tomorrow, December 1st. Over 300 copies of the application packets have been sent out. Six meetings have been held statewide (Rochester, Marshall, Detroit Lakes, Duluth, St. Paul, and Brainerd) to answer questions regarding the application process. MPCA has been very pleased with the interest from local units of government, soil and water conservation districts, and watershed districts. This program has become very creative in getting staff assistance. Mr. Reetz felt that the partnership is starting already. He reported that \$1.3 million is available for grants. Ten to twelve projects will realistically be funded. Staff is presently working on the review and selection process. On Friday, they will be meeting to discuss the ranking process. Staff rankings are needed by January 12. The project coordination team will be meeting on January 19, with the MPCA Board meeting on January 23. The final selection will be made by the MPCA Board on February 28. It is important that the BWSR staff be involved, their role has helped in the success of the local projects.

88-168 **Recording of State Cost-Share Practices** - Greg Larson briefed the Board on the staff recommendation that was presented at the October 26th meeting. The three options were: 1) maintain recording as is; 2) maintain recording as is pending legislative action to clarify; 3) suspend recording until legislative resolution clarifying intent. Discussion followed. Moved by Haas-Steffen, seconded by Kalmes, to enact a moratorium on the recording of state cost-share practices. Affirmative: Ogaard, Boulton, Warner, Kalmes, Bade, Moen, Hoese, Haas-Steffen, Brooks, Jr., Harste, Peterson, Graba, and Cofell. Opposed: Kemp. Carried.

Report on Andover Meeting - Natalie Haas-Steffen reported that the Coon Creek Watershed District has been the target of questions regarding its operation from other government entities and citizens. Natalie stated that all affected cities, except Columbus Township were present at a meeting held in the Andover City Hall on November 16th to discuss the possibility of the cities creating a joint powers WMO to replace the Coon Creek Watershed District. Natalie asked, whether a positive vote by the Township was needed, if the state owns the land? She said the ball is in the court of the cities now, and they agreed to send representatives to a follow-up meeting to discuss the pros and cons. Natalie will keep the Board informed as to this matter.

88-169 **Board Action on Upper Minnesota River Watershed District Revised Overall Plan** - Mel Sinn stated that board members received a copy in their recent mailing of the draft Order prescribing a revised Overall Plan for the Upper Minnesota River Watershed District. Mel mentioned that this item was ready for action back in July, but for a number of reasons was delayed. Staff recommended resolution is to approve the draft Order prescribing a revised Overall Plan for the Upper Minnesota River Watershed District, and direct staff to forward a copy of the revised Overall Plan to the District and DNR and to each affected county board, city, and soil and water conservation district, as required by section 112.46, subdivision 5. In response to a question, Board Member Harste explained the working relationship that has been developed between the Watershed District and the State of South Dakota in implementing their Big Stone Lake Restoration Project. Moved by Cofell, seconded by Kemp, to approve the staff recommended resolution on the Upper Minnesota River Watershed District Revised Overall Plan. Affirmative: Ogaard, Boulton, Warner, Kalmes, Bade, Moen, Hoese, Haas-Steffen, Brooks, Jr., Harste, Peterson, Graba, Kemp, and Cofell. Opposed: None. Carried.

88-170 **Study Area II Flood Control Project** - Greg Larson reported that this is the final billing for the Minett-Kranz structure. The Board's share is \$10,000. Moved by Boulton, seconded by Bade, to approve the final payment on the Minett-Kranz structure. Affirmative: Ogaard, Boulton, Warner, Kalmes, Bade, Moen, Hoese, Haas-Steffen, Brooks, Jr., Harste, Peterson, Graba, Kemp, and Cofell. Opposed: None. Carried.

88-171 **Study Area II Technical Office Agreement and Work Plan** - Greg Larson stated that the Board share, 75% of the total cost, is \$59,850. Moved by Boulton, seconded by Cofell, to approve the Study Area II Technical Office Agreement. Affirmative: Ogaard, Boulton, Warner, Kalmes, Bade, Moen, Hoese, Haas-Steffen, Brooks, Jr., Harste, Peterson, Graba, Kemp, and Cofell. Opposed: None. Carried.

Preview of Cost-Share Rollover Application Process - Greg Larson explained that the Board is scheduled to take action at the December meeting on the rollover applications. There is approximately \$200,000 for conservation practices. Discussion followed. Moved by Boulton, seconded by Haas-Steffe, that staff pursue the legality to supplement other program funds with cost-share rollover funds (eg. Clean Water Partnership). Affirmative: Ogaard, Boulton, Warner, Kalmes, Bade, Moen, Hoese, Haas-Steffen, Brooks, Harste, Peterson, Graba, Kemp, and Cofell. Opposed: None. Carried.

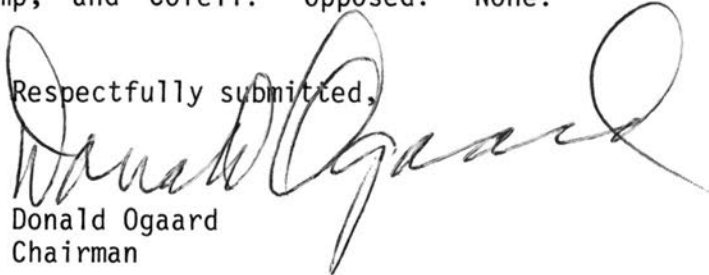
88-172

Lowell Moen stated that free water testing will be done for those who have done soil testing.

88-173

Moved by Harste, seconded by Boulton, to adjourn the meeting at 3:50 p.m. Affirmative: Ogaard, Boulton, Warner, Kalmes, Bade, Moen, Hoese, Haas-Steffen, Brooks, Jr., Harste, Peterson, Graba, Kemp, and Cofell. Opposed: None. Carried.

Respectfully submitted,


Donald Ogaard
Chairman



90 W. Plato Blvd.
St. Paul, Minnesota 55107

(612) 296-3767

November 18, 1988

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

FROM: Jim Birkholz, Executive Director *[Signature]*

SUBJECT: November 30, 1988 BWSR Meeting

Attached is the preliminary agenda and informational material for the next board meeting. The meeting will start at 9:00 a.m. in Conference Room A of the Minnesota Department of Agriculture Building, 90 W. Plato Blvd., St. Paul, Minnesota.

I would like to call your attention to the following items related to the agenda:

- Enclosed are three proposals for meetings of the board to be held at various locations around the state during 1989. Please review the proposals and be prepared to make a decision at the meeting.
- The next three agenda items all deal with the Comprehensive Water Resources Protection Act of 1989. Enclosed is the latest outline for the comprehensive legislation as well as the latest draft for the board's proposed Local Water Resources Protection and Management Program. Board member Loni Kemp will update members on discussions concerning the bill which have occurred at the EQB/Water Resource Committee. Also, much interest has been expressed by other agencies regarding the board's proposed Local Water Resources Protection and Management Program. The Department of Natural Resources has recently proposed that their shoreline management grants program should not be dovetailed with the LWRPM program. Discussion at the meeting will examine the rationale for this position and discuss its ramifications for dovetailing the BWSR's grant activities with other agency activities related to local government.
- Southcentral Minnesota Counties Planning Project. Dr. Henry Quade who is the project manager for this thirteen county cooperative 110B planning effort will be at the meeting to present their progress and to give board members feedback on challenges facing their group and the BWSR in the year to come. This is the first of the project manager presentations to the board. I am looking forward to good interaction between Board members and Dr. Quade.

Regional Offices

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

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

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

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

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

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

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

November 18, 1988

- Clean Water Partnership Program Update. As the first application period for the Clean Water Partnership Program comes to a close, it is a good time for board members to reflect on how the board's programs will interact with project implementation. A good example is the reallocation of rollover cost-share program dollars, which will take place in December. Should the board give priority at this and future allocation periods two proposals which are part of a clean water partnership project? MPCA staff will brief the board on the current status.
- Recording of State Cost-Share Practices. This is a continuation of the discussion from last meeting. Please refer to the minutes and be prepared to recommend an alternative at the meeting.
- Upper Minnesota Watershed District Overall Plan Update. Enclosed is the staff review and draft order concerning this plan. Board member, Loren Harste will be available at the meeting to answer additional questions. Board approval is recommended.
- Two items related to Study Area II Flood Control Project require board action. First, the board must take action on the Technical Office Agreement for the current fiscal year. A copy of the draft agreement is attached. Also requiring action is the final partial payment for the Minette-Kranz Structure. Enclosed is the amendment to the project agreement which spells out the final cost. The board's final payment is \$7,500.

As you are aware, the board's office will be moving across the street to the Southbridge Office Building on November 22 and 23. It is likely that the phones will be down all or a portion of those days. We hope to move as quickly as possible and get the office fully functional in time for the November 30th meeting. Please let myself or Chairman Ogaard know if you require any additional information or have any additional agenda items. I look forward to seeing you on November 30th. Please travel safely.

JB:mja
Enc.

BOARD OF WATER AND SOIL RESOURCES
Department of Agriculture Building
Conference Room A
90 West Plato Boulevard
St. Paul, Minnesota 55107
November 30, 1988

PRELIMINARY AGENDA

9:00 a.m.

1. Call to Order
2. Adopt Agenda
3. Approve Minutes of October 26, 1988
4. Chairman's Report - Don Ogaard
5. Board Decision on 1989 Meetings to be held Outside St. Paul
6. Executive Director's Report - Jim Birkholz
7. EQB/Water Resources Committee Report - Loni Kemp
8. Comprehensive Water Resources Protection Act of 1989 (the Ground Water Bill)
9. Southcentral Minnesota County Water Planning Project
 - 110B Planning Progress and Feedback - Dr. Henry Quade, Mankato State University

Noon

Lunch

1:00 p.m.

10. Clean Water Partnership Update - MPCA
 - Dovetailing this program with BWSR efforts
11. Recording of State Cost-Share Practices - Greg Larson
12. Board Action on Upper Minnesota River Watershed District Overall Plan Update - Mel Sinn
13. Study Area II Flood Control Project - Greg Larson
 - Final Billing for Minette-Kranz Structure
 - The Technical Office Agreement and Work Plan
14. Preview of Cost-Share Rollover Allocation Process - Greg Larson

3:00 p.m.

Adjourn

Future Meetings:

December 2-3, Kahler Inn, Rochester - Minnesota Association of Watershed Districts Annual Convention

December 4-6, Marriott City Center, Minneapolis - Minnesota Association of Soil and Water Conservation Districts Annual Convention



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Staples, MN 56479
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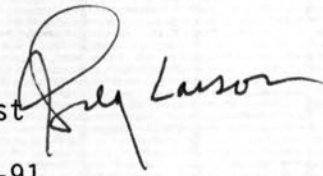
South Central Region
Box 756
New Ulm, MN 56073
507-354-2196

Southeast Region
Friedell Bldg., Room 100
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507-285-7458

Southwest Region
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1400 E. Lyon Street
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East Central Region
90 W. Plato Blvd.
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612-296-3767

November 21, 1988

TO: Board Members
FROM: Greg Larson, Program Specialist 
SUBJECT: LCMR Funded Projects for 1990-91

The enclosed summary describes the projects funded for the next biennium. Although none of the BWSR proposals were funded, an opportunity exists to participate in a number of projects. I expect that we will play a significant role in the following efforts:

- Page 2 (c) - involves DNR, MGS, MPCA, Met Council, and Dakota SWCD
- Page 8 (a) line 27 - involves comp. local water planning participants, DNR, SPA and possibly other SWCDs
- Page 13 (g) - involves MGS and comp. local water planning participants
- Page 15 (r) - involves UM, USFS, SCS, and DNR
- Page 16 (b) - involves Mankato State, MGS, and comp. local water planning participants

Do not hesitate to contact me if you have questions.

GL:mja
Enc.

*SC7627-1 -

1 Sec. 30. MINNESOTA RESOURCES

2 FUND

3 Subdivision 1. Total

4 Appropriation 8,690,000 8,580,000

5 Approved Complement - 35.8

6 The appropriations in this section are
7 from the Minnesota resources fund.

8 The amounts that may be spent from this
9 appropriation for each activity are
10 more specifically described in the
11 following subdivisions.

12 For all appropriations in this section,
13 if the appropriation for either year is
14 insufficient, the appropriation for the
15 other year is available for it.

16 Subd. 2. Legislative Commission

17 on Minnesota Resources 345,000 345,000

18 For the biennium ending June 30, 1991,
19 the commission shall review the work
20 programs and progress reports required
21 under this section.

22 Subd. 3. Department of Natural

23 Resources 2,149,000 2,049,000

24 Approved Complement - 20

25 The amounts that may be spent from this
26 appropriation for each activity are as
27 follows:

28 (a) Acquisition of Private Exploration Data

29 \$ 75,000 \$ 75,000

30 Approved Complement - 2

1 To acquire and catalog private drill
2 core and other materials, microfilm
3 appropriate data, and make all this
4 information permanently available for
5 public use.

6 (b) St. Louis County Tract Index

7 \$ 40,000 \$ 40,000

8 This appropriation is for a grant to
9 St. Louis county to develop a
10 computerized tract index system that
11 will make it possible to easily
12 determine severed mineral ownership on
13 tracts with potential mineral
14 development possibilities. This
15 appropriation is contingent upon a
16 \$100,000 match from St. Louis county.

17 (c) Groundwater Sensitivity

18 \$362,000 \$362,000

19 ~~Approved Complement - 1~~

20 To provide guidelines describing where
21 contamination has or is likely to reach
22 the groundwater supply as determined by
23 hydrogeologic conditions, water use,
24 land use, or other factors and make
25 these tools available for appropriate
26 state and local action.

27 (d) River Bank and Meander Management

28 \$100,000 \$100,000

29 This project will address the need to
30 reduce losses due to river flooding by
31 developing comprehensive information on
32 river reaches prone to channel shifts
33 and low-cost erosion and sedimentation
34 control techniques.

35 (e) Development of Forest Soil

36 Interpretations

37 \$ 25,000 \$ 25,000

38 This appropriation is for a grant to
39 Beltrami county to develop a system of
40 forest soil interpretations and
41 characteristics in which the
42 information from county soil surveys is
43 put into a computerized format, thus
44 insuring optimum utilization of the
45 survey information in forested counties.

46 (f) Urban Forestry

47 \$ 50,000 \$ 50,000

48 ~~Approved Complement - 1~~

49 To accelerate the community forestry
50 assistance program.

51 (g) Impacts of Forest Road Systems

1 \$ 85,000 \$ 85,000

2 To determine how present and planned
3 forest road networks expansion and
4 upgrading will impact forest uses.

5 (h) Statewide Public Recreation Map

6 \$285,000 \$285,000

7 Approved Complement - 3

8 To publish and provide for sale a
9 statewide series of recreational maps
10 displaying the location of various
11 public recreational opportunities,
12 including county-managed facilities.
13 When this project is completed, the map
14 project is expected to be
15 self-sustaining. This project is to
16 serve as a pilot for the development of
17 a comprehensive geographic information
18 system in the department.

19 (i) Camper Survey

20 \$ 15,000 \$ 15,000

21 For a cooperative matching program
22 contingent upon the office of tourism
23 providing \$30,000 and the Minnesota
24 Association of Campground Owners
25 providing \$10,000 to better understand
26 and market camping in Minnesota.

27 (j) American Youth Hostel Pilot Program

28 \$130,000 \$130,000

29 Approved Complement - 2

30 To establish as a demonstration project
31 an American Youth Hostel facility at an
32 appropriate site. Consultation with
33 the Minnesota historical society is
34 expected.

35 (k) Trails Planning and Management

36 \$ 64,000 \$ 64,000

37 Approved Complement - 1

38 To prepare a statewide trail plan that
39 coordinates the appropriate agencies,
40 including the department of
41 transportation's rail banking program,
42 and addresses the issue of acquisition
43 and development priorities, procedures,
44 and responsibilities for linear
45 corridor opportunities.

46 (l) Trail Right-of-Way Protection

47 \$ 75,000 \$ 75,000

48 To provide for innovative ways of
49 obtaining public opportunity to use
50 high priority linear corridors for
51 recreation, with emphasis on less than
52 fee interests, and for appropriate

1 betterments.

2 (m) Ridgeline Hiking Trail

3 \$ 78,000 \$ 78,000

4 Approved Complement - 1

5 This appropriation is for a grant to
6 the Superior Hiking Trail Association
7 for planning, development, and limited
8 use of easement acquisition of at least
9 a segment of the trail between
10 Gooseberry Falls and Two Harbors. The
11 use of conservation corps resources is
12 strongly encouraged. Up to \$70,000 is
13 available to the department for
14 planning and administrative
15 assistance. Available federal and
16 private money is appropriated.

17 (n) North Shore Harbors Study

18 \$100,000 \$ -0-

19 This appropriation is for a grant to
20 the North Shore Management Board to
21 determine the best location for
22 protected harbors on the north shore of
23 Lake Superior.

24 (o) Brighton Beach Breakwater

25 The appropriation for this purpose in
26 Laws 1987, chapter 404, section 30,
27 subdivision 3, item (g), remains
28 available until June 30, 1991.

29 This carryforward appropriation is
30 contingent upon additional funding of
31 \$500,000 from the city of Duluth and
32 state and federal money necessary for
33 total funding of a breakwater and
34 public access on Lake Superior at
35 Brighton beach in the city of Duluth.

36 (p) Mississippi River Interpretive

37 Center Planning

38 \$ 30,000 \$ 30,000

39 This appropriation is for a grant to
40 the city of Winona to plan for an upper
41 Mississippi river interpretive center
42 as outlined in the state historic
43 interpretive center plan.

44 (q) Urban Fishing Program

45 \$175,000 \$175,000

46 Approved Complement - 1

47 To expand urban fishing opportunities
48 and awareness.

49 (r) North American Waterfowl Plan

50 Coordination

1 \$100,000 \$100,000

2 Approved Complement - 1

3 To coordinate the implementation of
4 waterfowl and wetland protection and
5 enhancement programs and to survey
6 lakes.

7 (s) Swan Lake Area Wildlife Project

8 Approved Complement - 2

9 The appropriation for this purpose in
10 Laws 1987, chapter 404, section 30,
11 subdivision 3, item (j), remains
12 available until June 30, 1991.

13 The appropriation may be spent for
14 acquisition, habitat development,
15 management, and evaluation. Matching
16 money is appropriated.

17 (t) County Biological Survey

18 \$ 75,000 \$ 75,000

19 Approved Complement - 2

20 To continue and expand assessment of
21 Minnesota's rare natural resources in a
22 systematic county-by-county manner.

23 (u) Purple Loosestrife Research

24 \$100,000 \$100,000

25 To initiate cooperative research with
26 the University of Minnesota to document
27 the genetic diversity and study the
28 biology and ecology of Minnesota purple
29 loosestrife populations to enhance the
30 use of non-chemical control methods and
31 evaluate the potential use of
32 biological control agents, thereby
33 providing alternatives to chemical
34 control methods. Matching money is
35 appropriated.

36 (v) Local Volunteer Coordination

37 \$ 25,000 \$ 25,000

38 This appropriation is for a grant to
39 Polk county central cities community
40 center to improve coordination between
41 volunteer groups and resource managers,
42 which can act as a model for other
43 agencies. Matching money is
44 appropriated.

45 (w) Accelerated Land Exchange

46 \$100,000 \$100,000

47 Approved Complement - 2

48 To complete for presentation to the
49 land exchange board a package for
50 exchange of school trust fund lands in
51 state parks and accelerate the exchange

1 of school trust fund lands in the BWCAW
2 and other state units.

3 (x) Alternative Dispute Resolution

4 \$ 60,000 \$ 60,000

5 Approved Complement - 1

6 To increase the understanding and
7 utilization of alternative dispute
8 resolution techniques.

9 Subd. 4. Pollution Control Agency 1,466,000 1,466,000

10 Approved Complement - 12.8

11 Two of these positions are for
12 contractual work with the department of
13 natural resources in the groundwater
14 sensitivity program.

15 The amounts that may be spent from this
16 appropriation for each activity are as
17 follows:

18 (a) Redesign Ambient Groundwater

19 Monitoring Program

20 \$ 98,000 \$ 98,000

21 Approved Complement - 1.5

22 To examine the current ambient
23 groundwater monitoring program's
24 shortcomings, analyze state and local
25 groundwater quality information needs,
26 and recommend an improved design for
27 the statewide monitoring program.

28 (b) Minnesota River Basin Water

29 Quality Monitoring

30 \$350,000 \$350,000

31 Approved Complement - 2

32 A joint effort of federal, state, and
33 local government units that will assess
34 mainstem, major tributary, and
35 groundwater nonpoint source inputs to
36 the Minnesota river for the purpose of
37 targeting future water quality
38 management programs. Equal match of
39 state dollars is required, including
40 local units of government coordinated
41 through the south central planning
42 project, who will provide in-kind
43 service or local money to assist in
44 data gathering. Matching money is
45 appropriated.

46 (c) PCB's and Mercury in St. Louis

47 and Mississippi Rivers

48 \$250,000 \$250,000

49 Approved Complement - 1

1 To identify the sources and pathways of
2 PCB's to the St. Louis river and
3 Mississippi river systems and to
4 develop processes and procedures to
5 reduce the sources and conditions
6 causing mercury accumulation in fish.

7 (d) Biological Manipulation of Wastewater
8 Treatment Ponds

9 \$ 73,000 \$ 73,000

10 Approved Complement - 1

11 To determine what factors cause daphnia
12 to thrive in some sewage stabilization
13 ponds and not in others, in order to
14 decrease sewage treatment costs.

15 (e) Municipal Solid Waste

16 Materials Recovery

17 \$200,000 \$200,000

18 Approved Complement - 1

19 To determine the changes municipal
20 solid waste undergoes when incinerated
21 and to measure how removing specific
22 waste streams from municipal solid
23 waste will affect the operation of
24 incinerators.

25 (f) Medical Waste Incinerator Evaluation

26 \$125,000 \$125,000

27 Approved Complement - 1

28 To evaluate air and ash pollutants from
29 medical waste incinerators to determine
30 the variety and quantity of the
31 pollutants and to determine what
32 standard pollution control strategies
33 are necessary and cost effective.

34 (g) Dioxin From Incinerator Emissions

35 \$148,000 \$148,000

36 Approved Complement - 1

37 To monitor and study the pathways
38 dioxin travels from a waste incinerator
39 into the human food chain, in order to
40 evaluate and improve the existing
41 health risk assessment model currently
42 used in the environmental review and
43 permitting process for incinerators.

44 (h) Household Batteries Recycling and
45 Disposal

46 \$ 45,000 \$ 45,000

47 Approved Complement - 1

48 To develop pilot educational programs

1 and management options for source
2 separation, recycling, and proper
3 disposal of batteries used in the home.

4 (i) Ash as Soil Amendment

5 \$ 50,000 \$ 50,000

6 Approved Complement - .3

7 To research and promote the beneficial
8 use of solid waste incinerator ash in
9 agriculture.

10 (j) Health Risk Assessment Modeling

11 for Composting

12 \$ 40,000 \$ 40,000

13 To develop a health risk assessment
14 model for municipal waste compost and
15 compare risks with other waste
16 management methods.

17 (k) Contaminants in Minnesota Wildlife

18 \$ 87,000 \$ 87,000

19 Approved Complement - 1

20 To determine the amount and extent of
21 toxic contaminants in Minnesota
22 wildlife.

23 Subd. 5. State Planning Agency 280,000 280,000

24 The amounts that may be spent from this
25 appropriation for each activity are as
26 follows:

27 (a) Statewide Land Use Update

28 \$225,000 \$225,000

29 The appropriation is for a grant to the
30 International Coalition to do a
31 statewide land use update of all land
32 and water resources.

33 (b) Hydrologic Model Applications

34 \$ 55,000 \$ 55,000

35 The appropriation is for a grant to the
36 International Coalition to produce a
37 state-of-the-art tool for water
38 decision making that combines standard
39 watershed modeling and geographic
40 information systems technology.

41 Subd. 6. Department of Health 369,000 369,000

42 Approved Complement - 2

43 The amounts that may be spent from this
44 appropriation for each activity are as
45 follows:

46 (a) Pesticide Breakdown Products Survey

1 \$165,000 \$165,000

2 Approved Complement - 1

3 To identify the occurrence and level of
4 pesticide breakdown products in
5 selected public and private water wells.

6 (b) Abandoned Well and Monitoring

7 Well Technologies

8 \$100,000 \$100,000

9 To research and apply technical methods
10 used in the petroleum industry to
11 remove obstructions from wells so that
12 they can be properly abandoned, and to
13 research and develop methods of
14 detecting leaking monitoring wells.

15 (c) Indoor Air Quality Assessment

16 Protocol

17 \$ 54,000 \$ 54,000

18 Approved Complement - 1

19 To develop a method for assessing and
20 mitigating indoor air quality problems
21 in homes, and to transfer this
22 information to the private sector for
23 implementation.

24 (d) Community Lead Abatement Project

25 \$ 50,000 \$ 50,000

26 The appropriation is for a grant to the
27 community lead abatement project to
28 determine the benefits of cleanup of
29 lead contaminated exterior and interior
30 dust on children's blood levels.

31 Subd. 7. Department of Agriculture 295,000 295,000

32 Approved Complement - 1

33 The amounts that may be spent from this
34 appropriation for each activity are as
35 follows:

36 (a) Pesticide Use Survey

37 \$ 45,000 \$ 45,000

38 Approved Complement - 1

39 To develop an accurate map of pesticide
40 use, through the use of surveys, and
41 then compare that use with the
42 distribution and quality of the state's
43 water resources.

44 (b) Biological Control of Pests

45 \$250,000 \$250,000

46 To collect and identify potential
47 biological control agents, and to

1 develop and test biological control
2 agents for a variety of pests. A grant
3 request to supplement this
4 appropriation must be submitted to the
5 U.S. Department of Agriculture and the
6 results reported to the legislative
7 commission on Minnesota resources.

8 Subd. 8. Minnesota Historical

9 Society 347,000 347,000

10 The amounts that may be spent from this
11 appropriation for each activity are as
12 follows:

13 (a) State History Center Exhibit

14 Planning

15 \$100,000 \$100,000

16 To plan exhibits for the new state
17 history center. Matching money is
18 appropriated.

19 (b) County and Local Historical

20 Outreach

21 \$ 40,000 \$ 40,000

22 To transfer preservation principles and
23 options to county and local historical
24 societies.

25 (c) Historical Data Base

26 \$ 50,000 \$ 50,000

27 The appropriation is to organize and
28 automate one quarter of the
29 collections, which will increase public
30 awareness and significantly improve
31 management of these rare materials.
32 Matching money is appropriated.

33 (d) Heritage Trails

34 \$ 50,000 \$ 50,000

35 The appropriation is for a project to
36 interpret and preserve historic trails
37 for public use and tourism.

38 (e) Heirloom Seeds

39 \$ 20,000 \$ 20,000

40 To provide a gardening and "heirloom
41 seeds" interpretation for the Oliver H.
42 Kelly farm. A by-product of this
43 proposal will be the sale of "heirloom
44 seeds." It is anticipated that sale of
45 seeds will allow the program to be
46 self-supporting. Matching money is
47 appropriated.

48 (f) Preservation of Historic

49 Shipwrecks

1	\$ 37,000	\$ 37,000
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2 To comply with federal law, a process
3 must be developed to complete an
4 extensive literature search of North
5 Shore wrecks and gather available field
6 data. Results will yield a plan for
7 further exploration and historical
8 designation of important wrecks.

9 (g) Implement Plan for Archaeological
10 Resources.

11	\$ 50,000	\$ 50,000
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12 To develop a project with the Institute
13 for Minnesota Archaeology and with the
14 state archaeologist that will further
15 aid in the development and
16 identification of the state's
17 archaeological resources. The project
18 must be in accordance with Minnesota
19 Statutes, sections 138.31 to 138.42 and
20 307.08.

21 Subd. 9. Science Museum of

22	Minnesota	255,000	255,000
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23 The amounts that may be spent from this
24 appropriation for each activity are as
25 follows:

26 (a) Water Education for Minnesota

27	\$150,000	\$150,000
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28 For a cooperative effort involving the
29 Science Museum of Minnesota, the
30 Freshwater Foundation, the Minnesota
31 environmental education board, and the
32 department of education to develop a
33 program to better inform Minnesotans
34 about crucial issues of water use and
35 quality.

36 (b) North Central Minnesota Water

37 Quality Education

38	\$ 75,000	\$ 75,000
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39 For a contract with the central
40 Minnesota water quality project to
41 provide water quality education and
42 information to 14 north central
43 counties in consultation with the
44 Minnesota environmental education board.

45 (c) Aquatic Invertebrate Data Base

46 Development

47	\$ 30,000	\$ 30,000
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48 To develop a central data base on
49 aquatic invertebrates that are
50 sensitive indicators of surface water
51 quality.

1 Subd. 10. University of Minnesota 2,469,000 2,459,000

2 The amounts that may be spent from this
3 appropriation for each activity are as
4 follows:

5 (a) Aeromagnetic Survey

6 \$315,000 \$315,000

7 The appropriation is to the Minnesota
8 geological survey for the sixth and
9 final biennium of an effort to
10 electronically acquire and interpret
11 geophysical data, including ground
12 truth-drilling.

13 (b) Biogeochemical Prospecting

14 \$ 75,000 \$ 75,000

15 The appropriation is to the Natural
16 Resources Research Institute to address
17 the relationship between heavy metals
18 related to mineral deposits and
19 bioconcentration of heavy metals in
20 plants and mapping of the resulting
21 vegetative differences using remote
22 sensing techniques.

23 (c) Research in Taconite Refinement

24 \$100,000 \$100,000

25 To the Natural Resources Research
26 Institute to assist in the development
27 of new methods to produce taconite
28 concentrates acceptable as preferred
29 ore for new steel-making technologies.
30 This appropriation is contingent upon a
31 \$50,000 match from the iron range
32 resources and rehabilitation board.

33 (d) Program Design for Groundwater

34 Research

35 \$ 10,000 \$ -0-

36 To develop plans and proposals to bring
37 increased federal funding to the
38 university for groundwater research,
39 training, and information transfer.

40 (e) Program Design for Lake Superior

41 Studies

42 \$ 25,000 \$ 25,000

43 This appropriation is not available
44 until the university has financed and
45 submitted to the legislative commission
46 on Minnesota resources a report on a
47 study using outside consultants that
48 recommends the appropriate research
49 directions necessary to protect Lake
50 Superior. This appropriation is for a
51 study by the University Natural
52 Resources Research Council to determine
53 the best way to organize the research

1 work within the university structure.

2 (f) Land Use Impacts on Lake Superior

3 \$120,000 \$120,000

4 To the Natural Resources Research
5 Institute to measure and model the
6 impacts of changing land use practices
7 on erosion rates, water quality, and
8 biological communities on the near
9 shore waters of Lake Superior.
10 Matching funds must be applied for and
11 the results reported to the legislative
12 commission on Minnesota resources.

13 (g) County-Level Groundwater Data

14 Management

15 \$ 43,000 \$ 43,000

16 The appropriation is to the Minnesota
17 geological survey to provide tools and
18 training to counties that want an
19 enhanced capability to use the
20 computerized county well index in local
21 water planning.

22 (h) Chemical Transport in Groundwater

23 \$150,000 \$150,000

24 The appropriation is for the civil and
25 mineral engineering department to
26 develop, test, and implement
27 interactive models to simulate
28 groundwater transport of chemicals.

29 (i) Lake Aeration Techniques

30 and Hydrologic Forecasting

31 \$414,000 \$414,000

32 The appropriation is to the Institute
33 of Technology to conduct engineering
34 and hydraulics research in three water
35 resource areas: (1) \$338,000 to
36 optimize lake aeration techniques; (2)
37 \$440,000 to develop forecast methods
38 for: groundwater, hydropower effects
39 on water quality, operation of
40 wastewater treatment ponds, and for
41 ice-induced flooding; and (3) \$50,000
42 to test several new techniques for
43 measurement of ice in rivers and lakes.

44 (j) Wetland Plant Communities

45 \$ 45,000 \$ 45,000

46 The appropriation is for the College of
47 Natural Resources for research to
48 identify the optimal mix of plants that
49 remove nutrients from wetlands. A
50 grant application must be submitted to
51 the National Science Foundation and the
52 Environmental Protection Agency to
53 supplement this appropriation and the
54 results reported to the legislative

1 commission on Minnesota resources.

2 (k) Water Filter for Iron Removal

3 \$ 14,000 \$ 14,000

4 The appropriation is to the Institute
5 of Technology for the development of a
6 cost-effective membrane system for
7 removing iron from water so the
8 processed water can be used in a
9 variety of industrial and domestic
10 situations where high iron content is
11 undesirable. A grant application must
12 be submitted to the National Science
13 Foundation to supplement this
14 appropriation and the results reported
15 to the legislative commission on
16 Minnesota resources.

17 (l) Simulation of Future Forestry

18 Economy

19 \$ 50,000 \$ 50,000

20 The appropriation is to the College of
21 Natural Resources to develop methods
22 and evaluate opportunities for
23 supporting forest land economic
24 development in Minnesota from a
25 statewide strategic viewpoint.

26 (m) Oak Wilt Research

27 \$ 44,000 \$ 44,000

28 The appropriation is to the College of
29 Natural Resources for research aimed at
30 biological control of oak wilt using a
31 special fungus, improvement of root
32 barriers to limit spread of the
33 disease, and an educational program on
34 how best to control oak wilt. If this
35 work results in a patent and subsequent
36 royalties, the university shall repay
37 50 percent of the royalties received,
38 net of patent servicing costs, until
39 the entire appropriation is repaid,
40 into the Minnesota resources fund.

41 (n) Lignin-Based Engineering Plastics

42 \$ 54,000 \$ 54,000

43 The appropriation is to the College of
44 Natural Resources for fabricating
45 engineering plastics based upon
46 industrial by-product lignins and
47 corresponding raw materials from wheat
48 straw. If this work results in a
49 patent and subsequent royalties, the
50 university shall repay 50 percent of
51 the royalties received, net of patent
52 servicing costs, until the entire
53 appropriation is repaid, into the
54 Minnesota resources fund.

55 (o) High Flotation Tire Research

56 \$ 20,000 \$ 20,000

1 The appropriation is to the College of
2 Natural Resources in cooperation with
3 the Mille Lacs Area Community
4 Development Corporation for a grant to
5 study the impact of high flotation
6 tires on soil and regeneration of aspen
7 and evaluate the economic feasibility
8 of installing and using this equipment.

9 (p) Aquaculture Development and Education

10 \$100,000 \$100,000

11 The appropriation is to the College of
12 Natural Resources for development of
13 aquaculture demonstration projects and
14 education.

15 (q) Sonar Measurement of Fish Population

16 \$ 30,000 \$ 30,000

17 The appropriation is to the College of
18 Natural Resources to develop electronic
19 procedures for measuring the abundance
20 of fish in lakes and for preparing lake
21 maps.

22 (r) Accelerated Soil Survey

23 \$600,000 \$600,000

24 The appropriation is to the
25 agricultural experiment station for the
26 seventh biennium of a seven-biennium
27 effort to provide the appropriate
28 detailed survey based on the adopted
29 federal, state, and local cost share.
30 It may be spent only in counties where
31 the survey was under way or the
32 agreement signed and survey scheduled
33 by July 1, 1988.

34 (s) Test Emissions from Densified-RDF

35 \$ 75,000 \$ 75,000

36 The appropriation is to the Natural
37 Resources Research Institute to study
38 emissions at the bench scale from
39 incinerated densified refuse derived
40 fuel and to develop baseline combustion
41 data.

42 (t) Peat for Containment of Municipal

43 Incinerator Ash

44 \$ 75,000 \$ 75,000

45 The appropriation is to the Natural
46 Resources Research Institute to work in
47 cooperation with the pollution control
48 agency and the department of natural
49 resources to design a passive
50 containment system for municipal
51 incinerator ash using peat. The
52 institute must apply to the Minnesota
53 Waste Management Association for
54 financial support.

1 (u) Evaluation of Peat in Poultry Waste

2 Treatment

3 \$ 65,000 \$ 65,000

4 The appropriation is to the Natural
5 Resources Research Institute to develop
6 environmentally sound treatment methods
7 utilizing peat for the disposal and
8 recycling of poultry wastes and to
9 integrate these processes into manure
10 management systems.

11 (v) Urban Gardening Program

12 \$ 45,000 \$ 45,000

13 The appropriation is to the Minnesota
14 extension service in cooperation with
15 the Minnesota State Horticultural
16 Society and the Self Reliance Center to
17 provide gardening information and
18 technical assistance in community
19 gardening.

20 Subd. 11. State University Board 215,000 215,000

21 The amounts that may be spent from this
22 appropriation for each activity are as
23 follows:

24 (a) Groundwater Quality Assessment

25 Procedure

26 \$ 45,000 \$ 45,000

27 The appropriation is for Bemidji state
28 university to develop a procedure for
29 the assessment of regional groundwater
30 quality based on the usual sources of
31 available groundwater data in the
32 Mississippi headwaters region.

33 (b) Pilot County Groundwater Mapping

34 \$170,000 \$170,000

35 The appropriation is for Mankato state
36 university to develop a groundwater
37 atlas and information system for 13
38 counties to be used as a tool for state
39 and local government and provide
40 education on groundwater.

41 Subd. 12. Contingent Account 500,000 500,000

42 This appropriation is for acquisition
43 or development of state land or other
44 projects that are part of a natural
45 resources acceleration activity, when
46 deemed to be of an emergency or
47 critical nature. This appropriation is
48 also available for projects initiated
49 by the legislative commission on
50 Minnesota resources that are found to
51 be proper in order for the commission
52 to carry out its legislative charge.

53 This appropriation is not available

1 until the legislative commission on
2 Minnesota resources has made a
3 recommendation to the legislative
4 advisory commission regarding each
5 expenditure from the account. The
6 legislative advisory commission must
7 then hold a meeting with the governor
8 and provide its recommendation on each
9 item, which may be spent only with the
10 approval of the governor.

11 Subd. 13. Compatible Data

12 During the biennium ending June 30,
13 1991, the data collected by projects
14 funded under this section that has
15 common value for natural resource
16 planning must be provided and
17 integrated into the Minnesota land
18 management information system's
19 geographic and summary data bases
20 according to published data
21 compatibility guidelines. Costs
22 associated with this data delivery must
23 be borne by the activity receiving
24 funding under this section. This
25 requirement applies to all projects
26 funded under this section, including
27 but not limited to, projects under
28 subdivision 3, clauses (c), (e), (g),
29 (h), (k), (r), and (t), subdivision 4,
30 clauses (a) and (b), subdivision 5,
31 clauses (a) and (b), subdivision 7,
32 clause (a), subdivision 8, clause (h),
33 subdivision 9, clause (c), subdivision
34 10, clauses (a), (g), (h), and (r),
35 subdivision 11, clause (b).

36 Subd. 14. Work Programs

37 It is a condition of acceptance of the
38 appropriations made by this section
39 that the agency or entity receiving the
40 appropriation must submit work programs
41 and semiannual progress reports in the
42 form determined by the legislative
43 commission on Minnesota resources.

44 Subd. 15. Complement Temporary

45 Persons employed by a state agency and
46 paid by an appropriation in this
47 section are in the unclassified civil
48 service, and their continued employment
49 is contingent upon the availability of
50 money from the appropriation. When the
51 appropriation has been spent, their
52 positions must be canceled and the
53 approved complement of the agency
54 reduced accordingly. Part-time
55 employment of persons is authorized.



MINNESOTA ENVIRONMENTAL QUALITY BOARD

300 Centennial Building • 658 Cedar Street • St. Paul, Minnesota 55155
612-296-2603

November 17, 1988

To: Members, Minnesota Environmental Quality Board

Fr: Deborah Pile ^{DRP}
Minnesota State Planning Agency

Re: Comprehensive Water Resources Protection Act of 1989

The Comprehensive Water Resources Protection Act of 1989 represents an interagency efforts to draft the legislation necessary to implement the "Minnesota Ground Water Protection Strategy", "Strategy for the Wise Use of Pesticides and Nutrients" and other water resource protection recommendations of "Protecting Minnesota's Waters: Priorities for the 1989-1991 Biennium". This effort is being coordinated by the Minnesota State Planning Agency through the EQB Water Resources Committee.

Attached are three items intended to provide you with an update on this legislative effort: a draft outline for the act, a proposed preparation schedule, and a list of agency assignments.

THE COMPREHENSIVE WATER RESOURCES PROTECTION ACT OF 1989
Version 3: October 27, 1988
OUTLINE

Draft
For Comment Only
Not For Quotation

Title I: Protection of Ground Water

Chapter 1. Prevention and Remediation of Ground Water Pollution and Numerical Pollution Limits

- Section 1. Definitions
- Section 2. Prevention of ground water pollution
- Section 3. Duty to prevent pollution
- Section 4. Best Management Practices
- Section 5. Ground water pollution limits
 - Subd. 1. Relationship to protection goal
 - Subd. 2. Prohibition
 - Subd. 3. Agency list of pollution limits
 - a. Rules
 - b. Procedures
 - c. Criteria
 - d. Appeal
- Section 6. Protection of Sensitive Areas
 - Subd. 1. Definitions
 - Subd. 2. Identification of Sensitive Areas
 - a. Information Gathering
 - b. Use of Maps
 - c. Information Dissemination
 - Subd. 3. Special Protective Measures
 - Subd. 4. Program Applicability
- Section 7. Effect on Other Law - Reference to MERA (citizen suits)

Chapter 2. Control of pollution sources

- Section 1. Program review
- Section 2. Delegation of program authorities to local gov'ts.
 - Subd. 1. Programs included
 - Subd. 2. Requirements for consistency, state review

Chapter 3. Enforcement <TEXT NOT YET PROVIDED>

Chapter 4. Quantity considerations <TEXT NOT YET PROVIDED>

- Section 1. Revise appropriation framework to reflect consumptive vs. non-consumptive use.
- Section 2. Resource evaluation .

THE COMPREHENSIVE WATER RESOURCES PROTECTION ACT OF 1989

Version 3: October 27, 1988

OUTLINE

Title II: Education, research, monitoring and info. management

Chapter 1. Education and public information

Section 1. Policy, Needs, Components

Subd. 1. Policy

Subd. 2. Need

Subd. 3. Components of ground water information

Section 2. Coordination committee (through MEEB)

Subd. 1. Establish committee, compensation, lead agency, link to technical resources

Subd. 2. Purpose of the committee, link to research comm.

Subd. 3. Committee membership, how appointed, term

Subd. 4. Staff to committee in MEEB

Section 3. Curriculum development, grades K - 12

Section 4. State agency information development

Section 5. Training for specific audiences

Section 6. Intergovernmental communication/ training (EQB)

Chapter 2. Ground Water Quality and Quantity Monitoring

Section 1. Declaration of Policy

Section 2. Amendment of Minn. Stat. 116C.41.

Chapter 3. Long Term Research

Section 1. Short title

Section 2. Purpose/Research Committee

Section 3. Definitions

Section 4. Ground Water Research Program

Subd. 1. Establishment of program

Subd. 2. Establishment of coordinating committee

Subd. 3. Needs evaluation

Subd. 4. Research projects

Subd. 5. Requirement to publish results

Chapter 4. Information management

Section 1. Needs, goals, components

Subd. 1. Needs

Subd. 2. Components

Section 2. Automation and maintenance of major state ground water data bases.

Subd. 1. State Well Index

Subd. 2. County Well Index

Subd. 3. WELLOG

Subd. 4. IGWIS

Section 3. Data Integration and Creation of Ground Water Clearinghouse

Section 4. Automation of Geology/Hydrology Information

Section 5. Expansion of ground water related data...

Section 6. Data Compatibility

THE COMPREHENSIVE WATER RESOURCES PROTECTION ACT OF 1989
Version 3: October 27, 1988
OUTLINE

Title III: Local government role in ground water protection

- * Chapter 1. Local water plans
 - Section 1. Development in all Counties
 - Section 2. Implementation of approved plans
- ?
- * Chapter 2. Establishment of Local Environmental Programs
 - <TEXT NOT YET PROVIDED>
 - Section 1. State Program Delegation and Review
 - Section 2. Activity Areas for Local Government Programs
 - Subd. 1. Monitoring of water quality and quantity
 - Subd. 2. Inventory of pollution sources
 - Subd. 3. Water Well Construction Program
 - Subd. 4. Private water supply testing
 - Subd. 5. Registration of wells on deeds
 - Subd. 6. Control of pollution sources
 - Subd. 7. Special protective measures
 - Section 3. Data compatibility requirements
- * Chapter 3. Local Water Resources Protection and Management Program
 - Section 1. Short title
 - Section 2. Purpose
 - Section 3. Definitions
 - Section 4. Local Water Resources Protection and Management Program
 - Section 5. Public Agency Coordination
 - Section 6. Appropriation and Complement

Title IV. Drinking Water Protection

<TEXT NOT YET PROVIDED>

- Chapter 1. Community water supply surveillance and monitoring
- Chapter 2. Water Wells and Exploratory Borings amendments
 - Section 1. New enforcement authorities, including fines
 - Section 2. Well construction permits and fees, monitoring well maintenance permits and fees
 - Section 3. Expanded well management program, including well advisories and wellhead protection
 - Section 4. Promotion of county Well Code enforcement programs
- * Chapter 3. Cost-share program for sealing abandoned wells

THE COMPREHENSIVE WATER RESOURCES PROTECTION ACT OF 1989

Version 3: October 27, 1988

OUTLINE

Title V. Pesticide and Nutrient Management

<TEXT NOT YET PROVIDED>

Chapter 1. Promotion of Wise Use of Pesticides and Nutrients

Section 1. Federal Activities

Section 2. State Government Activities

Subd. 1. Adopt overall land stewardship approach

Subd. 2. Require use of IPM and planting regimes that minimize the need for pesticides and nutrients

Subd. 3. Develop approach for promotion of IPM

Subd. 4. Establish Sustainable Agriculture Committee

Chapter 2. Pesticide Control - amendments to Pesticide Control Law

Section 1. Definitions

Section 2. Education (including environmental health training)

Section 3. Certification and Licensing

Section 4. Environmental Impacts

Section 5. State Pesticide Management Plan

Section 6. Pesticide Incident Response Fund

Section 7. Revolving Loan Account

Chapter 3. Fertilizer Control

Section 1. Licensing

Section 2. Environmental Impacts

Subd. 1. Determination of impacts on water quality

Subd. 2. Prohibition of use detrimental to environment

Subd. 3. Reports on releases

Section 3. Chemigation Permits

Section 4. Inspections and Enforcement Actions

Chapter 4. Waste Collection

Section 1. Clean Sweep

Section 2. Alternative Disposal Options

Section 3. Manufacturer Return

Section 4. Incentives for Proper Disposal

Section 5. Pilot Container Pickup

Chapter 5. Resource Evaluation, Monitoring and Research

Section 1. Pesticide Use Survey

Section 2. Monitoring of pesticides and nutrients in the environment

Section 3. Research - Guided by Research Committee

Subd. 1. Requirement for water quality impact assessment on state funded research

Subd. 2. Practice evaluation and development

Chapter 6. Information, Education and Incentives

Section 1. Local User Information System

Section 2. Demonstration Projects

Section 3. Incentives and Cost-Share Efforts

Section 4. Informational Materials

Chapter 7. Aquatic Nuisance Control

Section 1. Clarification of Statutory Intent

Section 2. Comprehensive Lake Management Plans

THE COMPREHENSIVE WATER RESOURCES PROTECTION ACT OF 1989
Version 3: October 27, 1988
OUTLINE

Title VI. Joint Legislative Commission on Water

- Chapter 1. Establishment of Joint Legislative Commission on Water
 - Subd. 1. Creation, Membership...
 - Subd. 2. Staff
 - Subd. 3. Data from State Agencies
 - Subd. 4. Powers and duties
 - Subd. 5. Study
 - Subd. 6. Expiration

Title VII: Source of secure, stable funding

- Chapter 1. Fees on polluting substances
- Chapter 2. Special fees <TEXT NOT YET PROVIDED>
 - Section 1. Water use fee to support Title 4, Section 1
 - Section 2. Permit and license fees to support Title 4, Section 2
- Chapter 3. Fund establishment and abolition. <TEXT NOT YET PROVIDED>

Title VIII: Appropriations, Dates of Enactment<TEXT NOT YET PROVIDED>

Part 1. Staff Complement

- Chapter 1. For the purposes of Title I, the following complement:
- Chapter 2. For the purposes of Title II, the following complement:
- Chapter 3: For the purposes of Title III, the following complement:
- Chapter 4: For the purposes of Title IV, the following complement:
- Chapter 5: For the purposes of Title V, the following complement:
- Chapter 6: For the purposes of Title VI, the following complement:.

Part 2. Money appropriations

Similar format to Part 1

Part 3. Dates of enactment

Similar format to Part 1.

COMPREHENSIVE WATER RESOURCES PROTECTION ACT OF 1989
Proposed Preparation Schedule

11/1 Initial draft portions of bill submitted to revisor by SPA, PCA, MDA and MDH

11/3 WRC November meeting - distribution of draft portions, discussion of bill content, identification of lead agencies for continued preparation

11/16 WRC-TC meeting - distribution of additional portions, discussion of draft language

11/23 Title summaries provided by lead agencies

11/28 Comments on distributed portions due to lead agencies and SPA

11/30 SPA meeting of lead agencies to discuss comments received, problem areas, and additional inputs required

12/1 WRC December meeting - discussion of problem areas

12/12 Resubmittal by SPA of consolidated bill with changes and all additions to revisor

12/21 WRC-TC meeting - distribution, review and discussion of first complete draft from revisor

12/30 Final changes submitted to revisor by SPA

1/5 WRC January meeting - Discussion of final changes submitted to revisor

1/13 Final bill jacketed

COMPREHENSIVE WATER RESOURCES PROTECTION ACT OF 1989
Agency Assignments

Overall bill development and coordination - SPA

Title 1

Chapter 1, 2 and 3 - PCA

Chapter 4 - DNR

Title 2 - SPA

Title 3 - BWSR

Title 4 - MDH

Title 5

Chapter 1, 5, 6, plus overall - SPA

Chapter 2 and 3 - MDA

Chapter 4 - PCA

Chapter 7 - DNR

Title 6 - SPA

Title 7 - SPA

Title 8 - as noted above by Title and Chapter

Title III, Chapter 3. Local water resources protection and management program.

[DECLARATION OF POLICY]

It is the policy of the state to encourage and support local ground water protection initiatives and development of local comprehensive water plans statewide.

Local government is the most effective delivery mechanism for ground water protection programs directed at controlling nonpoint sources of pollution and certain point sources. Local units also are best able to provide appropriate technical assistance directly to citizens who manage water and related land resources. Local units of government with planning and zoning authority are encouraged to fully exercise these authorities to help protect ground water from degradation.

Comprehensive local water management plans provide local government with the opportunity to: define local water problems and opportunities; establish local water management policies and priorities; define the roles different local units will serve in managing water; and coordinate the water management activities of various local units of government. Comprehensive local water plans should serve as the focal point for communicating local government's desired role in water resources protection and need for state financial and technical assistance.

Section 1. [SHORT TITLE.] Sections 1 through 6 may be cited as the "local water resources protection and management program."

Sec. 2. [PURPOSE.] The purpose of the local water resources protection and management program is to provide state financial assistance to local units of government for local programs to protect and manage water resources.

Sec. 3. [DEFINITIONS.]

Subdivision 1. For the purposes of sections 1 through 6 the terms defined in this section have the meanings ascribed to them.

Subd. 2. [BOARD] "Board" means the board of water and soil resources.

Subd. 3. [LOCAL UNIT OF GOVERNMENT.] "Local unit of government" means a statutory or home rule charter city, town, county, or soil and water conservation district, watershed district, an organization formed for the joint exercise of powers under section 471.59, and other special purpose district or authority exercising authority in water and related land resources management at the local level.

Subd. 4. [LOCAL WATER PLAN.] "Local water plan" means a county comprehensive water plan authorized under Section 110B.04, a watershed management plan required under section 473.878, an overall plan required under Section 112.46, a county ground water plan authorized under section 473.8785, a local water management plan required under section 473.879, or until July 1, 1991, other local plan that provides an inventory of existing physical and hydrologic information on the area, a general description of water quality problems and goals, and that demonstrates a local commitment to water quality protection or improvement.

Sec. 4. [LOCAL WATER RESOURCES PROTECTION AND MANAGEMENT PROGRAM.]

Subdivision 1. [ESTABLISHMENT.] A local water resources protection and management program is established as provided in sections 1 through 6. The board shall provide financial assistance through counties for local governmental activities that protect or improve water quality. These activities may include, but are not limited to, planning, zoning, official

controls, and use of local knowledge, information, and technical resources.

Subd. 2. [LOCAL SPONSORSHIP.] Funding requests must be submitted to the board by a county. A county shall coordinate and submit requests for other local units of government within its jurisdiction. A county may delegate its authority under sections 1 to 6 to a soil and water conservation district. Other participating local units of government may co-sponsor the request. An explanation of the roles of participating local units of government must accompany the request.

Subd. 3. [FINANCIAL ASSISTANCE.] The board must award grants to counties to implement this program. Grants may be used to:

(a) employ persons with the technical training necessary to develop local water plans;

(b) gather information and perform studies necessary to develop or implement local water plans;

(c) conduct water quality management activities and fund associated technical and administrative expenses;

(d) adopt a county feedlot permit program;

(e) adopt shoreland management, wetland protection, soil loss or other water quality protection ordinances;

(f) provide technical assistance through soil and water conservation districts to other local units of government and individuals for land and water resources management;

(g) enforce local regulation of onsite sewage treatment systems and provide information concerning system installation, operation, and maintenance;

(h) implement other activities related to water quality protection and management;

(i) locate and properly seal abandoned or unused wells;

(j) develop local wellhead protection programs;

(k) adopt a county well ordinance; and

(l) protect susceptible ground water areas.

Subd. 4. [ADMINISTRATION.] The board shall adopt rules that:

(a) establish the criteria, including performance of state delegated programs, that must be met by local governments;

(b) specify that grants shall not exceed the amount budgeted by the county and co-sponsors for local water programs up to a maximum amount allowed per county;

(c) set minimum criteria for local staff in the disciplines of surface water hydrology, hydrogeology, limnology, water quality, and water planning; and

(d) provide funds for continuing-education courses and workshops for local staff.

Subd. 5. [ELIGIBILITY] A county requesting funds must meet the following conditions:

(a) a grant request must be submitted on forms provided by the board;

(b) availability of local matching funds to support the grant must be verified by resolution;

(c) the grant request must demonstrate coordination of local units of government; and

(d) a local water plan must be completed or under development.

Subd. 6. [PRIORITIES.] The board must give priority to requests that:

(a) indicate the participation of several local units of government;

(b) are consistent with local water plans;

(c) are consistent with state policy;

(d) complement existing efforts of local units of government to develop local programs; and

(e) demonstrate long-term commitments to local programs.

Sec. 5. [COORDINATED TECHNICAL REVIEW.]

Subdivision 1. [PROJECT REVIEW TEAM.] The board must coordinate the program with the appropriate public agencies to achieve optimum public benefits. The board shall name a project review team made up of representatives of the pollution control agency, department of natural resources, department of health, department of agriculture, state planning agency, Minnesota extension service, USDA agricultural stabilization service, USDA soil conservation service, metropolitan council, Minnesota

association of soil and water conservation districts, Minnesota association of watershed districts, association of Minnesota counties, league of Minnesota cities, Minnesota association of townships and other appropriate agencies. In naming the local representatives, the board shall consider lists of candidates submitted by local government associations.

Subd. 2. [DUTIES.] The project review team shall advise the board in preparation of rules, evaluation of requests, and recommend to the board those requests that meet the requirements of section 4. The team shall review and coordinate project activities with other state and federal resource management programs.

Sec. 6. [APPROPRIATION.]

OCT 24 1988

125905 OLD COLLEGEVILLE RD.
ST. JOSEPH, MINN., 56374
OCT. 21, 1988

Donald Ogaard
Chairman, Board of Water and Soils Resources
90 West Plato Bvd,
St. Paul, Minn., 55107

Dear Don:

I finally completed this draft promised at the Cloquet meeting. I'm sorry it took so long it required more thought, change and time than anticipated. My hope is that it may form a basis for discussion at a future meeting of the Board depending on when it can be fitted into an agenda.

sincerely,

Bill Cofell
Bill Cofell

cc: Jim Birkholz
Denice Defratres

EDUCATIONAL RESPONSIBILITY OF BOARD OF WATER AND SOIL RESOURCES

DRAFT: Written by Bill Cofell.

This draft is meant to initiate discussion regarding the educational powers and duties of the BWSR granted under 110:35, Subdiv. 7 (d). The following ideas are not intended as a definitive program. The intent is that they be a basis for discussion and stimulate the beginning of planning for work on charge (d) of 110B. Some of the ideas, herein, may be already in effect, by this agency or others. I am confident better ideas will emerge as we discuss this issue.

The Board of Water and Soils Resources was given seven specific powers and duties in its legislative charge. This paper relates to the charge (d) of 110B which states:

"It shall develop information and education programs designed to increase awareness of local water and soil problems and awareness of local government involvement in preventing or solving them."

This charge of the legislature has at least four elements:

- (1) Development of programs of education and information
- (2) Increase awareness of resource problems
- (3) Involve local governments
- (4) Aid in solution or prevention of problems.

We should take this specifically stated charge seriously. The question: What kind of programs should be designed and developed to fulfill the objective of 110.35, subdiv.7 (d)?

Since paragraph (d) clearly outlines information and education as part of Board responsibility, there are some things that we should be doing soon. 1. Should have a discussion of the nature of our responsibility that would include brainstorming a range of educational and informational activities the board should support. 2. Is there a need for a person on staff who is competent to design and develop education and information programs. We should establish qualifications for this position and person? 3. What kind of funding for educational activities of the board which would be dependent upon range of activities we intend to develop and support? 4. What principles and perspectives should form the foundation for educational programs and materials.

Some discussion of the education role and function of the board members and staff seems appropriate at the beginning of this paper. First, the members of the board and staff

have been involved in educational activity. Second, attention is called to the paper on education passed out at the July meeting. This referred especially to an essentially educational practice carried on by the Board Chairman.

At almost anytime any board member is engaged in conversation about conservation, resources or the work of the board they are probably also engaged in educational activity. If they pass on information, change an attitude or even cause a person to think in a different way about resources they have performed an educational function. Our seriousness, sincerity and accuracy of information will be important. Giving speeches and appearing before groups are not the only method of education. We can educate in everyday conversations we have in small groups or with our neighbors in one to one situations. For some purposes one on one talking to people who are familiar to us is the best kind of education. Board members educate when they are at local meetings and available to answer questions, offer comment and sometimes ask questions. The staff is also in an educational function when conducting workshops and perhaps most often in daily activities during which they must meet the public in formal and informal basis. It is not only in terms of passing on information but in delivering information and services with courtesy and respect that is part of the process.

The previous paper emphasized the educational opportunity present to the board when new units of local government are organizing. This is a situation which is an opportunity and also a present need as WMO's are being organized and established. Opportunities of education are present when there are changes occurring within an organization. The hearing at Detroit Lakes in late August had a distinct educational aspect because it must have enlarged the vision of persons present about care of resources.

QUALIFICATIONS OF BWSR EDUCATION DIRECTOR:

We should discuss the qualifications of person to design and direct educational activities. Such as:

1. What kind of education and training for position?
2. Should the person be familiar with agricultural conservation and resource management especially soils and water? or Should the person have an ecological training and general resources management? Should this person have a generalist or specialist approach to resources? What areas of training and experience seem most desirable?

3. What training or experience should this person have in general education, community and adult education and educational media?

Should this persons have basic science background plus some work in social science and communication? What about competency to socialize and communicate easily with basic audiences? How do we assess the wide scope of knowledge necessary to design good programs of breadth and depth?

Qualifications of educational personnel suggests a degree in Ecology and biological soil science. There might be a person who is an agricultural ecologist. A person who demonstrates ability to understand and deal with natural interrelationships as well as capable of good human relationships.

I would prefer selection of a person who has sound training in ecology and agricultural science. Experience doing successful educational work is very important. Being able to work with staff and consultants would seem necessary. I would think the education person would work closely with the Communication specialist as well as others on staff.

Should education person be able to deal with hydrologic cycles, soils and agronomy, weather, wildlife, forestry, botany, biology, chemical reactions, wetlands, erosion, flood control, ditching? What degree of knowledge is necessary to recognize problems so as to bring together people who do have specialized knowledge in order to organize and develop educational programs of merit? How necessary is ability to coordinate activities and involve people in them?

PROGRAMS:

In the past perhaps not enough attention has been paid to creating awareness and knowledge from experience and history of preceding agencies as a way of assisting local organizations when they are established. The result is that some local agencies fumble and lose direction and time when they could be functioning at a higher level. Education that helps get local boards and agencies operating well at their beginning enables them to do their work more rapidly and efficiently and assists them toward change as new issues arise. Local action is believed essential to the task of effectively and efficiently achieving resources management.

Emphasis should be given to the complexity of the educational process as well as the complexities of resources problems. The complexities are reduced as people grasp the significance of relationships involved in both.

Resources education is a method of drawing out the potential of a person by assisting them toward realization of the interconnectedness of human and natural processes. It is for this reason that educational work of the BWSR should have some kind of foundation in ecological science.

Should the BWSR seek a relationship and partnership with the State Board of Education regarding conservation and resource education? There is a course of study that is part of the curriculum of many schools. Should the BWSR assist developing content of these courses? What should be the focus of such courses? Should the focus of courses be expanded?

Should Board members and staff visit schools and college campuses to speak to faculty and students? On College campuses contact can usually be made with science, social sciences and communications departments about critical career needs of resource management. Many colleges are creating and generating many activities in resource conservation and management, should we be assisting them? Should we be meeting with College staffs with questions regarding resources education? Should we encourage colleges to inform students of opportunities and careers in resource management?

If our efforts are to be lasting and effective the education of young people should be an important element of activity. The next generation must understand, be aware of and grasp the implications of limited available resources on their future lives.

The previous boards and staffs have over the years conducted workshops for the education and training of personnel. These sessions have been for training new Soil and Water Conservation District directors, Boards, Managers and employees. There have been some for the Watershed District Managers. These should be expanded. Workshops should be helpful to other local groups engaged in Water Management Planning. The retreat programs the board has used is in the category of educational methodology. The format is a very good one and should be expanded to new areas as new needs arise and are recognized. The workshops in some cases should be initiated quickly in order to overcome difficulties and problems in local organizations. The discussion method is the most suitable technique when working with adults. There are appropriate situations for use of lecture, question and answer and demonstration. The discussion technique tends to free people from tension so they can talk about their concerns and is more apt to lead to a freely chosen commitment to action. Workshops based on small group discussion are powerful tools for changing and exchanging attitudes and hardly any method excels in terms

of exchange of ideas. My experience is that some of the best discussions occur in groups of three and six persons.

We should be providing some materials but also encourage local units to develop educational program materials appropriate to their districts and their special problems. Could additional funds be provided for this purpose? Would it be practical to free a member of a watershed or a Soil and Water Conservation district board member for education work in the district or in educational institutions of the district?

Attention should also be given to brochures, newspaper items, electronic media, uses made of organizations, such as Nature Conservancy, Audubon society, Ducks Unlimited, Soil and Water Conservation Society.

Some organizations listed above have developed some excellent education materials such as workbooks, topic outlines, conservation activity kits and other media suitable for use in schools and other institutions. Should the BWSR develop a specific conservation and resource educational library which could be a clearing house for such items?

In general people do not spend much time reading about conservation and management of resources. They may get the same message on a good television program or listening on the radio. They respond more quickly to topics they find related to their interests.

Should the BWSR investigate possibility of securing funds from private and public sources that will enable us to develop programs on tape or film that will cover most of the issues in which we are involved and about which we are concerned? Is it possible to collaborate with other agencies in development of educational materials? Is it possible to assist public television in development of a regular program on educational television? This might make it possible to develop a series of VHS tapes or movies that would be used for private as well as public viewing and could also be used by schools and other organizations.

What should be principles that we would like to see fostered in development of and creation of educational media and materials? Do we want to include awareness of interrelatedness of resources management, awareness of inter agency activity, farming and conservation practices and the economy? Is awareness of principles of ecology necessary to prevent damage to other parts of the environment? Do we want emphasis placed upon Minnesota resources but as also

interrelated with other areas of North America? In so far as possible should all programs designed and supported by BWSR reflect emphasis on local involvement?

There are some specific kinds of events involving BWSR since its creation that are suggestive of possible topics for educational development. The following are suggestions and as others read this paper, I would hope additional ideas and suggestions will be made. These reflect my own interest and activities that have especially impressed me.

1. The Story of the Big Stone Lake project, Upper Minnesota River Watershed and the Story of Lemm Kaercher, Editor of the Ortonville Independent.

2. Somewhere a good story of a Soil and Water Conservation District is present. What do they do in agriculture and conservation, water management, soil erosions, protecting water and wetlands. Why have feedlots become such a problem? What are the differing and similar problems of rural and urban SWCD's. Here also outstanding local leaders have interesting conservation and historic perspectives on accomplishments in their area.

3. Watershed districts same as No. 2 above, in addition a program on the organization of a watershed district would seem appropriate. Differing reasons for the organization and what conditions led to need for districts. Bois De Sioux and the organization and education of its board of managers is another possibility.

4. At a more scientific level the story of Soil and how it is formed. What is soil life, humus, bacteria, molds, organisms, interaction with air and water, compaction, effects of fertilizers, pesticides. BWSR might collaborate with soil science at University. Loni Kemp's work in water protection.

5. Water as a resource, aquifers, underground water movement, surface water and interaction with underground waters. Wetlands rivers and streams. hydrology, infiltration, evapotranspiration, cycles, weather, water and soil.

6. Wildlife, botany, forestry, water and soil interaction, the esthetics and recreational uses of land and water and maintaining vitality of natural areas.

7. Citizen action on resources, laws and the legislative, legal processes involved in a democratic society. Changing concerns as we learn. Dispute resolution and why it is necessary.

8. Functions of various conservation organizations. Let them tell their story and history. Nature Conservancy, sd Wildlife Fund, Ducks Unlimited, Audubon Society, Isaac Walton League, Soil and Water Conservation Society etc.

BOARD OF WATER AND SOIL RESOURCES
Department of Agriculture Building
Conference Room A
90 West Plato Boulevard
St. Paul, Minnesota 55107
November 30, 1988

AGENDA

9:00 a.m.

1. Call to Order
2. Adopt Agenda
3. Approve Minutes of October 26, 1988
4. Chairman's Report - Donald Ogaard
5. Board Decision on 1989 Meetings to be held outside St. Paul
6. Executive Director's Report - Jim Birkholz
7. EQB/Water Resources Committee Report - Loni Kemp
8. Comprehensive Water Resources Protection Act of 1989
 - Bill
 - Summary
 - Local Government (Title III) Role
9. Southcentral Minnesota County Water Planning Project
 - 110B Planning Progress and Feedback - Dr. Henry Quade, Mankato State University

Noon

Lunch

1:00 p.m.

10. SCS Report - Gary Nordstrom
 - FSA Workload Progress
 - Memo of Understanding USDA/EPA
11. Clean Water Partnership Update - MPCA
Dovetailing this program with BWSR efforts
12. Recording of State Cost-Share Practices - Greg Larson
13. Board Action on Upper Minnesota River Watershed
District Overall Plan Update - Mel Sinn
14. Study Area II Flood Control Project - Greg Larson
 - Final Billing for Minette-Kranz Structure
 - The Technical Office Agreement and Work Plan
15. Preview of Cost-Share Rollover Allocation Process - Greg Larson

3:00 p.m.

Adjourn

Future Meetings:

*December 2-3, Kahler Hotel, Rochester - Minnesota Association of
Watershed Districts Annual Convention*

*December 4-6, Marriott City Center, Minneapolis - Minnesota Association
of Soil and Water Conservation Districts Annual Convention*

*January 22-24, Radisson Hotel, St. Paul - Association of Minnesota
Counties Annual Convention*



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

PROPOSAL FOR A MEETING AND TOUR
for the
BOARD OF WATER AND SOIL RESOURCES
in northwest Minnesota

The BWSR is invited to meet in Detroit Lakes for its May, 1989 meeting. A bus tour of water management projects and land use issues in the Red River Valley would be scheduled the day before or after the meeting.

Regional Offices

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

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

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

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

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

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

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

Unique features of the Red River Valley due to the previous existence of glacier Lake Agassiz would be observed. Paramount are the issues of flooding, maintenance of drainage systems, and wind erosion. The tour would highlight how watershed districts, soil and water conservation districts and counties have worked together for good water management and soil conservation.

Chairman Ogaard is looking forward to hosting this informative field meeting for the Board which will highlight creative resource management programs at work in northwest Minnesota.

October 10, 1988

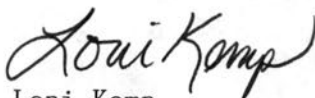
Donald Ogaard, Chairman
Board of Water and Soil Resources
11 East 5th Avenue
Ada, MN 56510

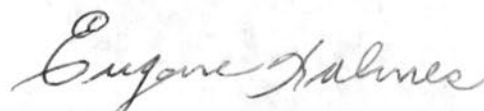
We extend this invitation to the Board of Water and Soil Resources to hold its September of 1989 board meeting in southeastern Minnesota.

Southeastern Minnesota's varied natural resource base results in complex water and soil problems and extensive cooperative solutions. Resources available for viewing include small watershed flood erosion control projects, special water quality programs, intensive agricultural and forested erosion control and karst features including sinkholes, disappearing streams and caves. Related to the resource activities are economic developments including alternative agricultural production, hardwood forestry and community development based on natural resource attractions.

We would appreciate a response in the near future to allow time to approach others who may be interested in participating in a program.

With warm regards,


Loni Kemp


Eugene Kalmes



We invite you

to join us

TUESDAY, JUNE 27, 1989

for the

AREA I CONSERVATION TOUR

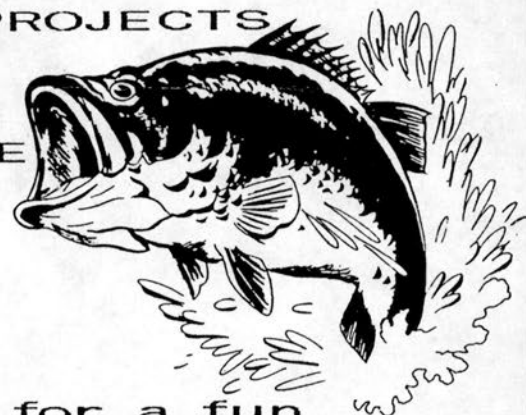
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STREAMBANK/LAKESHORE
PROTECTION PROJECTS

WATER QUALITY STUDY &
PROTECTION PROJECTS

WILDLIFE HABITAT PROJECTS

MUCH, MUCH MORE



PLEASE RESERVE JUNE 27 for a fun
& informative day in Beltrami County.

DRAFT
SUBJECT TO REVISION

November 29, 1988

OUTLINE

COMPREHENSIVE WATER RESOURCES PROTECTION ACT OF 1989

Title I. Protection of Ground Water

Chapter 1. Prevention and Remediation of Ground Water Pollution

- Section 1. Definitions
- Section 2. Prevention of ground water pollution
- Section 3. Duty to prevent pollution
- Section 4. Best Management Practices
- Section 5. Ground water pollution limits
 - Subd. 1. Relationship to protection goal
 - Subd. 2. Prohibition
 - Subd. 3. Agency list of pollution limits
- Section 6. Protection of sensitive Areas
 - Subd. 1. Identification of sensitive areas
 - Subd. 2. Special protective measures
- Section 7. Effect on other law - Reference to MERA (citizen suits)

Chapter 2. Control of pollution sources

- Section 1. Evaluation of Program Effectiveness
- Section 2. Delegation of Programs to Local Government
- Section 3. Enforcement

Chapter 3. Water Appropriation Priority Framework Revisions (to Address Consumptive vs. Non-consumptive Use)

Change-Level Requests Related to Title 1.

<u>MPCA:</u>	Ground Water Protection Program	\$883,000 (8)
	Ground Water Review of Wastewater Treatment Systems	\$220,000 (2)
	Clean Water Partnership	\$1,710,000 (2)

Totals:	\$2,813,000 (12)
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Title II. Education, Research, and Information Management

Chapter 1. Education and Public Awareness

- Section 1. Policy, Needs, Components
- Section 2. Water Information and Education Committee
 - Subd. 1. Purpose
 - Subd. 2. Established Through MEEB
 - Subd. 3. Membership
- Section 3. Curriculum Development, Grades K - 12
- Section 4. State Agency Information Development
- Section 5. Training for Specific Audiences

Chapter 2. Coordination of Water Quality and Quantity Monitoring

- Section 1. Coordination Required
- Section 2. State Monitoring Plan

Chapter 3. Long Term Research

- Section 1. Definitions
- Section 2. Establishment of Research Advisory Committee
- Section 3. Water Research Program Recommendations

Chapter 4. Information Management

- Section 1. Needs, Goals, Components
- Section 2. Automation, Integration and Maintenance of Water Data
- Section 3. Creation of Water Data Clearinghouse
- Section 4. Data Compatibility Requirements

Change-Level Requests Related to Title 2.

<u>MPCA:</u>	Redesign of Ambient Ground Water Quality Monitoring Network	\$196,000 (2) [LCMR]
<u>MEEB:</u>	Water Information Communication	\$1,000,000 (5)
<u>SPA:</u>	Ground Water Data Integration	\$ 443,400 (1)
	Accel. Water Resources Coordination	\$ 130,600 (2)
<u>DNR:</u>	Statewide Ground Water Management	\$1,500,000 (10)
	Improved Surface Water Data Capability	\$ 650,000 (3)
	Ground Water Sensitivity	\$ 724,000 (3) [LCMR]
Totals:		\$ 920,000 (5) [LCMR] \$3,724,000 (21)

Title III: Local Water Resources Protection and Management

Chapter 1. Comprehensive Water Plans Required for State Assistance

Chapter 2. Local Protection and Management Program

Section 1. Short title

Section 2. Purpose

Section 3. Definitions

Section 4. Local Water Resources Protection and Management Program

Section 5. Coordination

Change-Level Requests Related to Title 3.

<u>BWSR:</u>	Comprehensive Local Water Management	\$200,000	(2)
	Local Water Resources Protection	\$2,695,000	(1)
	Ground Water Quality Monitoring Grants	\$182,000	
<u>DNR:</u>	Shoreland Management Grants	\$2,000,000	(3)
<u>MPCA:</u>	Local Water Assistance	\$869,000	(6)
	Totals:	\$5,946,000	(12)

Title IV. Drinking Water Protection

Chapter 1. Community Water Supply Surveillance and Monitoring

Chapter 2. Regulation of Water Wells and Exploratory Borings

Section 1. Enforcement Authorities

Section 2. Well Permits and Fees

Section 3. Well Management (Advisories and Wellhead Protection)

Section 4. County Well Code Enforcement

Chapter 3. Sealing of Abandoned Wells

Change-Level Requests Related to Title 4.

<u>MDH:</u>	Public Water Supply Surveillance and Monitoring	\$3,687,000	(15)	[Fees]
	Water Well Management Program	\$2,973,000	(36)	[Fees]
<u>BWSR:</u>	Abandoned Well Sealing Cost-Sharing	\$ 630,000	(1)	
	Totals:	\$6,660,000	(51)	[Fees]
		\$ 630,000	(1)	

Title V. Pesticide and Nutrient Management

Chapter 1. Promotion of Wise Use of Pesticides and Nutrients

- Section 1. Federal Activities
- Section 2. State Government Activities and Policy
 - Subd. 1. Land Stewardship Approach
 - Subd. 2. Integrated Pest Management
 - Subd. 3. Sustainable Agriculture Committee/Efforts

Chapter 2. Pesticide Control Law Amendments

- Section 1. Definitions
- Section 2. Education and Training
- Section 3. Certification and Licensing
- Section 4. State Pesticide Management Plan

Chapter 3. Pesticide and Fertilizer Revolving Loan Fund

Chapter 4. Pesticide and Fertilizer Incident Response Act

Chapter 5. Fertilizer, Soil Amendment and Plant Amendment Law Amendments

- Section 1. Licensing and Permitting
- Section 2. Application Review; Substantiation of Claims
- Section 3. Fertilizer Practices and Prohibited Activities
- Section 3. Chemigation
- Section 4. Inspections, Enforcement Actions, and Penalties

Chapter 6. Waste Pesticide Collection

- Section 1. Waste Pesticide Collection Program
- Section 2. Pesticide Returnable Container Program
- Section 3. Pilot Container Pickup

Chapter 7. Resource Evaluation, Monitoring and Research

- Section 1. Pesticide Use Survey
- Section 2. Monitoring
- Section 3. Research - Guided by Research Committee
 - Subd. 1. Requirement for water quality impact assessment on state funded research
 - Subd. 2. Practice evaluation and development

Chapter 8. Information, Education and Incentives

- Section 1. Local User Information System
- Section 2. Demonstration Projects
- Section 3. Incentives and Cost-Share Efforts

Change-Level Requests Related to Title 5.

<u>MDA:</u>	Low Input/Sustainable Agriculture	\$173,000	(2)	
	State Pesticide Management Plan, User Education, Certification, Enforcement and Container Project	\$1,700,000	(15)	[Fees?]
	Increased Authority in Fertilizers	\$396,400	(6)	[Fees?]
	Incident Response/Revolving Loans	\$14,500,000	(14)	[Fees?]
	Biological Pest Control	\$140,000	(1)	
		\$500,000		[LCMR]
	Pesticide Use Survey	\$90,000		[LCMR]
<u>MDH:</u>	Breakdown Products	\$330,000		[LCMR]
<u>BWSR:</u>	Chemical User Information Service	\$212,000	(1)	
	Demonstration Farms	\$502,000	(1)	
<u>MnExt:</u>	Water Quality	\$612,000		[UM]
	Sustainable/Alternative Ag	\$425,000		[UM]
<u>PCA:</u>	Waste Pesticide Collection			
	Totals:	\$16,596,400	(35)	[Fees]
		\$920,000		[LCMR]
		\$1,037,000		[UM]
		\$1,027,000	(5)	

Title VI. Joint Legislative Commission on Water

Chapter 1. Establishment

- Section 1. Purpose of Commission
- Section 2. Establishment of Committees
 - Subd. 1. Ground water committee
 - Subd. 2. Surface water committee
- Section 3. Powers and Duties

Chapter 2. EQB Report to Commission

Change-Level Requests Related to Title 6.

[None developed to date.]

Title VII: Source of Secure, Stable Funding

- Chapter 1. Fees and/or taxes on polluting substances
- Chapter 2. Special fees

- Section 1. Water use fee to support Title 4, Section 1
- Section 2. Permit and license fees to support Title 4, Section 2

Title VIII: Appropriations and Complement

1.	Title I	\$2,813,000	(12)	
2.	Title II	\$3,724,000	(21)	
		\$920,000	(2)	[LCMR]
3.	Title III	\$5,946,000	(12)	
4.	Title IV	\$630,000	(1)	
		\$6,660,000	(51)	[Fees]
5.	Title V	\$1,027,000	(5)	
		\$16,596,400	(35)	[Fees]
		\$920,000		[LCMR]
		\$1,037,000		[UM]
TOTAL (minus LCMR and UM):				
	Fees	\$23,256,400	(86)	
	Other Unspecified	<u>\$14,140,000</u>	(51)	
	Total	\$37,396,400	(137)	



United States
of America

Congressional Record

PROCEEDINGS AND DEBATES OF THE 100th CONGRESS, SECOND SESSION

Vol. 134

WASHINGTON, FRIDAY, OCTOBER 14, 1988

No. 146

Senate

By Mr. FOWLER:

S. 2898. A bill to promote low-input and sustainable agricultural production, to maintain farm profitability, to encourage land, resource, and wildlife stewardship in connection with Federal farm programs, and for other purposes; to the Committee on Agriculture, Nutrition, and Forestry.

FARM CONSERVATION AND WATER PROTECTION ACT

o Mr. FOWLER. Mr. President, I rise today to introduce the Farm Conservation and Water Protection Act of 1988.

The purpose of this bill is to provide Government leadership in adopting sounder agricultural methods—to reverse the trends that have harmed our environment and endangered the public health. At the same time this legislation will help farmers introduce better practices that can minimize these risks and increase their earnings.

Study after study has shown that heavy chemical inputs introduced into farming after World War II threaten the health of our people as well as the

long term economic well-being of the agricultural community itself.

Pesticide contamination threatens farm families who are exposed directly to the toxic chemicals. It threatens consumers who unknowingly purchase tainted products in our grocery stores. Every American is vulnerable to dangerous chemicals that wash from our fields into our water supply.

According to the Environmental Protection Agency, ground water contamination has been reported in 41 States. The problem is most acute in the Nation's croplands—which receive 22.3 billion pounds of nitrogen fertilizers and 850 million pounds of agricultural pesticides each year.

The EPA also reports that chemical residues on food pose the third greatest cancer risk to Americans today. A study by the National Academy of Sciences estimated that common pesticides—such as linuron, zineb, and captan—on the most common American foods are responsible for 20,000 cancers a year. Think about that for a second—one of the greatest health risks our children confront comes

from eating the food we buy for them at the store.

A National Cancer Institute study found that Kansas farmers exposed to herbicides for more than 20 days each year had six times the risk of developing non-Hodgkins lymphoma as non-farmers. Further NCI studies indicate that the risk of cancer from exposure to agricultural chemicals is increasing, and can be traced to the vogue of pesticides that grew out of chemical warfare experiments during World War II. In Wisconsin, the risk of farmers of contracting non-Hodgkins lymphoma doubled in a 9-year study period from 1968 to 1976. According to reports, children in the high-input, heavily agricultural San Joaquin Valley have a cancer rate eight times the norm. These figures confirm what common sense would suggest when at least 25 percent of the approximately 50,000 pesticide products registered for use in the United States—and on which our farmers have become dependent to keep up their yields—have shown cancer-causing potential.

Now for the good news. Other studies are showing that improved conservation and low-input practices—which reduce reliance on dangerous chemicals—can actually increase yields for our farmers. Soil that is managed organically is richer and less erodible than land farmed with chemical fertilizers. Research in Nebraska has shown an 18 percent increase in yield for soybeans, 20 percent for corn, and 22 percent for wheat in fields protected by windbreaks and shelterbelts—with no increase in chemical use. We can contrast that with the example of India, which has increased production to meet its food needs through chemical intensive farming, but has degraded 90 percent of the country's topsoil in the process. In the long run, farmers do not have to suffer economic loss to protect our health—and their own.

I want to make it clear at the outset that I am not talking about closing down the chemical industry, either. I am not talking about no-input agriculture. I am talking about gradually redirecting the efforts of the entire agricultural sector to use the knowledge we have gained through experience—and improve on it—to protect ourselves, to save our environment and to help our farmers. In fact, I think there are great opportunities for the developing biotechnology industry—to find ways to increase production using naturally occurring, environmentally safe raw materials.

This legislation directs agencies of the Federal Government to help farmers develop and plan low-input systems that work for them. But this is no solution imposed from above. The interest in returning to natural balances already exists among farmers. They are concerned about their groundwater. They do not want the wells their families drink from poisoned. They want to know how they can address these problems without sacrificing their profits.

In a recent nationwide survey, 97 percent of farmers agreed that fertilizers, manure, and agricultural chemicals in groundwater are a problem. More than two-thirds of farmers interviewed said they would adopt economical ways to reduce their use of fertilizers and chemicals if those alternatives were available. In Minnesota, 80 percent responded that farmers did not have sufficient information on the choices available to them.

Appropriate technology transfer for rural areas, a USDA Extension Service national clearinghouse of information on alternative agriculture for farmers, provides more tangible evidence of the interest that already exists. Of 2,780 calls received in its first year of operation, 19 percent requested information on low-input systems. Eleven percent asked about forms of biological pest control, and 39 percent sought guidance on crop diversification and livestock alternatives.

This interest is reflected in last year's \$3.9 million appropriation by

Congress to fund USDA support of research on low-input and sustainable agriculture—which was raised to \$4.4 million this year. I believe our farmers are telling us to reinforce that commitment.

The success of the Sodbuster, Swampbuster, and the Conservation Reserve Program shows what our farmers themselves can do to protect the environment, including our farmland, when Government works with them to develop a comprehensive and intelligent strategy. We need to build on this record of success.

Let me expand on that by saying why I believe these problems call for coordination at a federal level. Pesticide contamination, and its health and environmental consequences, is national in scope. Leaching chemicals and fouled aquifers have no regard for political subdivisions. We need better cooperation to fight ecological degradation and the loss of economic resources that transcend State boundaries.

The best example is only a few miles away from where we sit, the Chesapeake Bay. The strength of the Conservation Provisions incorporated into the 1985 farm bill lie in our ability to identify sensitive areas and target conservation programs to the places that need the most attention. That should enable us to protect such environmentally sensitive and valuable lands as the Chesapeake Bay watershed. Unfortunately, the States surrounding the Chesapeake have not taken advantage of this potential.

While Minnesota, Kansas, and Nebraska have enrolled 74, 34, and 23 percent of the eligible acreage into the CRP, respectively, Maryland has enrolled 2 percent, Pennsylvania 4 percent, and Virginia about 7 percent of their eligible land.

In the meantime, forests—which protect adjacent bodies of water by intercepting eroded soil from cultivated fields and absorbing excess nutrients such as nitrogen and phosphorous—are being cleared at the rapid pace of development on the Eastern Shore.

This shortsightedness ends up costing all the surrounding States as damage to the fragile bay—and all the resources it provides—continues.

So what can the Government do to help the farmers, to help the States, to help agribusiness do what is absolutely necessary?

We have to encourage sounder farming practices with incentives: certification that will tell the consumers they are getting a safer product, credit breaks that will motivate farmers to invest in more natural methods, crop insurance and base protection that will ease the transition to practices that deter erosion and bar harmful chemicals from our water supply. These incentives toward these goals are provided under my legislation.

We will also have to put a huge amount of energy into education—on

how to define and implement low-input systems. We can do that through demonstration programs to show farmers they can produce a safer crop without losing their competitive advantage—that they can achieve this by means of rotation, tillage, diversification, soil testing, natural weed control, and pest management plans.

We can improve on these methods by directing the research efforts of the Extension Service to sustainable farming. My bill also calls for Extension to establish a branch to work exclusively with farmers on making the conversion to less intensive methods of maintaining America's high output.

Extension already possesses much of the required knowledge from its early days. Farmers can be reeducated in many of the practices that worked before the advent of chemical overkill.

My legislation seeks to complement these efforts to reduce the levels of contaminants with other means of protecting our soil and water resources. These include wetlands restoration, disincentives to drain natural wetlands or to clear forestland, expansion of the CRP and systematic testing of drinking water, with the adoption of pesticide use plans on farms found to contribute to ground or surface water contamination.

These measures are important to farmers, important to consumers, important to the survival of the chemical industry—but they go far beyond even such broad single interests. The measures I am proposing are essential to all Americans. Whatever our differences, we all eat the food here and drink the water.

We can pay the costs now by transforming agriculture in a rational and measured fashion—or we can pay catastrophic costs down the road in contaminated water and food supplies, increased death and disability. We will pay massive medical bills. And eventually we will have to pay for the massive, if not impossible, emergency clean-up. Now is the time to make the choice, because we cannot afford those consequences later.

The combined evidence gives me grave doubts whether American agriculture is on the right course for the future. It also suggests that farmers are ready to change, both because of their concern about water quality and because of the economic constraints they currently face in the high costs of production.

We can develop the techniques, and the economic incentives, to lead this change. We are not helpless to maintain this country's most priceless resources: its fertile soil and pure water. The Farm Conservation and Protection Act will commence this process, as we look ahead to the 1990 farm bill—and I ask my colleagues for their support.

Mr President, I ask unanimous consent that the bill be printed in the RECORD.

There being no objection, the bill was ordered to be printed in the RECORD, as follows:

S. 2898

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act may be cited as the "Farm Conservation and Water Protection Act of 1988".

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TITLE I—LOW-INPUT AGRICULTURE

Subtitle A—General Provisions

SEC. 101. STATEMENT OF POLICY.

(a) **FEDERAL AGRICULTURAL PROGRAMS.**—The Congress finds that with respect to the present federal agricultural programs and practices—

(1) Farmers who want to implement alternative practices face an uncertain transition period because of the lack of information, and the prospect of reduced production during the transition period;

(2) that alternative cropping practices do exist which would increase farm profitability and reduce environmental impacts of agriculture. These alternatives employ reduced or alternative chemical inputs, thereby reducing costs. Although yield per acre can decrease, crop pests can be controlled to economic thresholds by non-chemical means and overall farm profitability can be obtained or increased. Such alternative cropping practices are embodied in the term low-input sustainable agriculture.

(3) that farmers concerned about farm profitability, the high costs of inputs, and the impacts of agricultural chemicals on their environment desire alternatives to the intensive cropping practice they currently employ; and

(4) that a growing number of consumers seek agricultural products which are produced with reduced or no synthetic chemical inputs. National coordination, however, is nonexistent, leaving consumers in many regions without reliable options to purchase food produced without chemical inputs.

(b) **RESOURCE CONSERVATION.**—The Congress finds that with respect to resource conservation—

(1) farmers are intimately concerned about resource conservation and land stewardship. They work the land, live on the land, and rely on the land for their sustenance. Farmers know they must be good land stewards and conserve natural resources and our natural heritage for their own good as well as for others;

(2) agricultural production has resulted in the loss and destruction of precious natural resources, such as wetlands which maintain water quality, recharge ground water, provide flood control and are natural habitat for a wide variety of wildlife, and forestlands which hold soil, provide wildlife habitat, and help regulate climate change and moderate global warming trends. Other marginal and fragile lands have also been brought into intensive cropping, resulting in accelerated soil loss, undermining the sustainability of United States agriculture. Contamination of ground and surface water by agricultural chemicals threatens rural and urban drinking water supplies, as well as the environmental quality of wetlands, rivers, lakes, estuaries and other wildlife habitat;

(3) the Conservation Reserve Program has been highly successful in halting soil loss on highly erodible lands and has contributed to maintaining and stabilizing farm income; and

(4) resource conservation and land stewardship are vital aspects of sound agricultural economy and benefit farmers, other rural residents, and the country as a whole.

(c) **POLICY.**—It is the policy of the United States—

(1) that farmers should be provided with a range of incentives for less intense crop production practices that will reduce the likelihood of occupational hazards, environmental degradation, contamination of ground and surface water by agricultural chemicals; and

(2) to promote the protection of human health and the environment by—

(A) providing technical and financial assistance to agricultural producers seeking to adopt low-input sustainable agricultural practices;

(B) establishing a national program to standardize and provide reliable certification that an agricultural product was produced without synthetic chemical inputs;

(C) conserving and reestablishing forest land to provide wildlife habitat, hold soil, and above all, help mitigate the global warming effects of carbon dioxide build up in the atmosphere;

(D) conserving and restoring natural wetlands; and

(E) providing well testing and technical information to abate the impact of agricultural chemicals on ground water.

SEC. 102. DEFINITIONS.

For the purposes of this Act—

(a) the term "Agricultural Stabilization and Conservation Service" shall mean the Agricultural Stabilization and Conservation Service of the United States Department of Agriculture;

(b) the term "Extension Service" shall mean the Extension Service of the United States Department of Agriculture;

(c) the term "low-input agriculture" shall mean a combination and sequence of agricultural production practices designed to improve farm profitability and minimize off-farm environmental and health risks by reducing the need for production inputs with known or potentially adverse impacts on human health and the environment;

(d) the term "Secretary" shall mean the Secretary of the United States Department of Agriculture; and

(e) the term "Soil Conservation Service" shall mean the Soil Conservation Service of the United States Department of Agriculture.

Subtitle B—Low-Input Farm Program

SEC. 111. LOW-INPUT FARM PROGRAM.

(a) **IN GENERAL.**—The Secretary shall carry out a Low-input Farm program whereby producers of commodities are encouraged through low-interest loans, crop insurance premium reductions, and deficiency payment adjustments to use low-input farming methods in the production of commodities on the producers' farm.

(b) FARM MANAGEMENT PLANS—

(1) **DEVELOPMENT OF PLANS.**—Under the program established by this subtitle, the Soil Conservation Service, shall develop individual farm management plans for producers who participate in this program. Such individual farm management plans shall be based on the local Soil Conservation Service low-input agriculture technical guide and approved by the local soil conservation district, in consultation with the local committees established under section 8(b) of the Soil Conservation and Domestic Allotment Act (16 U.S.C. 590h(b)), the Extension Service, the Agricultural Stabilization and Conservation Service, and the Secretary, or by the Secretary.

(2) **PURPOSE OF PLANS.**—The individual farm management plan shall consist of a schedule of farming operations and practices designed to improve farm profitability and minimize the risk of damage to human health and the environment through the adoption of agricultural production practices that minimize the need for production inputs with known or potentially adverse impacts on human health and the environment or through the adoption of agricultural practices that reduce the use of agricultural chemical inputs.

(3) **ADMINISTRATION AND CERTIFICATION.**—The program established by this subtitle shall be administered by the Secretary, through the Agricultural Stabilization and Conservation Service in consultation with the Soil Conservation Service. The Soil Conservation Service shall be responsible for certifying compliance by individual producers with the terms and conditions of the individual farm management plans.

SEC. 112. TERMS AND CONDITIONS FOR PARTICIPATION.

(a) **ELIGIBILITY.**—In order to be eligible to participate in the program established by this subtitle, a person must—

(1) have produced agricultural commodities during 3 of the 5 previous years prior to a request to participate;

(2) receive over 50 percent of gross income from the production of agricultural commodities (including livestock); and

(3) not have been declared to be ineligible for farm program benefits in accordance with Title XII of the Food Security Act of 1985.

(b) AGREEMENT.—In order to be eligible to receive the benefits set forth in this subtitle, eligible producers must agree—

(1) to implement a low-input farm management plan developed for the producers' farm;

(2) to implement such plan within the time limits specified in the plan;

(3) to allow representatives of the Secretary to enter the farm for the purposes of certifying the producers' compliance with the plan;

(4) to the extent determined appropriate by the Secretary, to refund any benefits made available under this subtitle if the producers fail to fully implement the plan;

(5) not to carry out any practices on the farm subject to the plan specified by the Secretary as being contrary to the purposes of this title; and

(6) to comply with such additional provisions as the Secretary determines are desirable and are included in the contract to carry out this subtitle or to facilitate the practical administration thereof.

SEC. 113. LOW INTEREST LOANS.

Section 312 of the Consolidated Farm and Rural Development Act is amended by adding the following new subsection at the end thereof:

"(f) Notwithstanding any other provision of law—

"(1) the Secretary shall make loans available under this subtitle for the purposes set forth in subsection (a) of this section to farmers and ranchers who are participating in the low-input farm program under subtitle B of title I of the Farm Conservation and Water Protection Act of 1988; and

"(2) such loans shall bear interest at a rate not to exceed a rate not less than 2, nor more than 5, percentage points below a rate determined by the Secretary based on the average of the bond equivalent of the weekly 90-day Treasury bill auction rates."

SEC. 114. FEDERAL CROP INSURANCE PREMIUM REDUCTIONS.

Paragraph (3) of section 508(b) of the Federal Crop Insurance Act (7 U.S.C. 1508(b)) is amended by designating the current text as subparagraph (A) and inserting the following new subparagraph at the end of newly designated subparagraph (A)—

"(B) For the purposes of encouraging participation in the low-input agricultural program under subtitle B of title I of the Farm Conservation and Water Protection Act of 1988, an additional 15 per centum of the premium (reduced, where applicable, for hail and fire exclusion, or State or State agency subsidy), as calculated by the Corporation on any coverage under the Corporation's policy of insurance up to a maximum of 65 per centum of the recorded or appraised average yield, as adjusted, of producers participating in such low-input agricultural program shall be paid by the Corporation."

SEC. 115. BASE PROTECTION.

(a) IN GENERAL.—The Secretary shall make available additional established price payments and a base acreage expansion option, as provided for in this section, for producers participating in the program established by this subtitle.

(b) LAND DEVOTED TO SPECIAL CONSERVATION USES.—

(1) ADDITIONAL ESTABLISHED PRICE PAYMENTS.—If, as part of a low-input farm management plan, producers devote a portion of the producers' base (including any land not planted to the program crop as the result of an acreage limitation requirement) to a legume or small grain/legume mixture as part of a resource-conserving rotation, such portion of the producers' base shall be considered as part of the individual farm program acreage for the program commodity for the purpose of calculating the producers' established price payments in accordance with sections 101A(c)(1)(A), 103A(c)(1)(A), 105C(c)(1)(A), and 107D(c)(1)(A) of the Agricultural Act of 1949.

(2) The legume or small grain/legume mixture must—

(A) tend to reduce erosion; and

(B) fix nitrogen in the soil.

(3) No more than one-third of the base acreage on a farm may be placed in such rotation for the purpose of receiving payments under this section in any crop year.

(4) Acreage planted to a legume or small grain/legume mixture in accordance with this section shall be considered as planted acreage for the purpose of calculating the farm's crop acreage base under section 504 of the Agricultural Act of 1949.

(b) AMENDMENTS TO THE AGRICULTURAL ACT OF 1949.—

(1) WHEAT.—The second sentence of section 107D(f)(2)(E) is amended by striking "subsection (c)(1)(C)" and inserting in lieu thereof "subsection (c)(1)(C) and section 115 of the Farm Conservation and Water Protection Act of 1988".

(2) FEED GRAINS.—The second sentence of section 105C(f)(2)(F) is amended by striking "subsection (c)(1)(B)" and inserting in lieu thereof "subsection (c)(1)(B) and section 115 of the Farm Conservation and Water Protection Act of 1988".

(3) COTTON.—The second sentence of section 103A(f)(2)(E) is amended by striking "subsection (c)(1)(B)" and inserting in lieu thereof "subsection (c)(1)(B) and section 115 of the Farm Conservation and Water Protection Act of 1988".

(4) RICE.—The second sentence of section 101A(f)(2)(E) is amended by striking "subsection (c)(1)(B)" and inserting in lieu thereof "subsection (c)(1)(B) and section 115 of the Farm Conservation and Water Protection Act of 1988".

(5) BASE ACREAGE CALCULATION.—Subsection (c) of section 504 of the Agricultural Act of 1949 is revised to read as follows:

"(c)(1) The Secretary may make adjustments to reflect crop rotation practices and to reflect such other factors as the Secretary determines should be considered in determining a fair and equitable crop acreage base.

"(2) The Secretary, only for the purpose of establishing a base acreage calculation figure under section 115 of the Farm Conservation and Water Protection Act of 1988, shall make upward adjustments in the crop acreage base of producers who have small crop acreage bases relative to their total potential acreage base because of the historical use of drop rotation practices designed to enhance soil fertility and reduce dependence on agricultural chemicals."

SEC. 116. TECHNICAL GUIDE FOR LOW-INPUT AGRICULTURE.

The Soil Conservation Service shall, within 180 days after the enactment of this Act, develop a national low-input agriculture technical guide describing farming systems and practices that minimize the need for production inputs with known or potentially adverse impacts on human health and the environment, reduce the use of agricultural chemical inputs, and increase the profitability of agricultural production by reducing input costs.

ity of agricultural production by reducing input costs.

Subtitle C—Low Input Transition Demonstration Program

SEC. 121. LOW-INPUT TRANSITION DEMONSTRATION PROGRAM.

(a) GENERAL.—The Secretary shall establish a low-input transition demonstration program designed to assist producers of the 1989 through 1992 crops of commodities in adopting low-input agricultural production systems for their farms.

(b) ACRES.—To the extent practicable, no less than 2 million acres shall be enrolled in the program for the 1990 crop year, and no less than 10 million acres shall be enrolled in the program for the 1991 crop year.

(c) PURPOSES.—The purpose of the program established by this subtitle is to encourage producers to adopt farming practices that decrease economic and environmental risks, enhance profitability, improve soil and water conservation, increase soil fertility, reduce the use of chemicals, reduce input costs, improve water quality, and achieve acceptable production levels.

SEC. 122. TERMS AND CONDITIONS FOR PARTICIPATION.

(a) ELIGIBILITY.—In order to be eligible to participate in the demonstration program established by this subtitle, a person must—

(1) have produced agricultural commodities during 3 of the 5 previous years prior to a request to participate;

(2) receive over 50 percent of gross income from the production of agricultural commodities (including livestock); and

(3) not have been declared to be ineligible for farm program benefits in accordance with Title XII of the Food Security Act of 1985.

(b) OBLIGATIONS OF PRODUCER.—In order to participate in the demonstration program, producers on a farm must agree—

(1) to implement a five-year low-input transition plan developed for the producers' farm;

(2) to implement such plan within the time limits specified in the plan;

(3) to allow representatives of the Secretary to enter the farm for the purposes of certifying the producers' compliance with the plan;

(4) to refund any benefits made available under this subtitle, to the extent determined appropriate by the Secretary, if the producers fail to fully implement the plan;

(5) not to carry out practices on the farm subject to the plan specified by the Secretary as being contrary to the purposes of this subtitle; and

(6) to comply with such additional provisions as the Secretary determines are desirable and are included in the contract to carry out this subtitle or to facilitate the practical administration thereof.

SEC. 123. OBLIGATIONS OF THE SECRETARY.

(a) SPECIAL TRANSITION LOANS.—

(1) TERMS AND CONDITIONS.—The Secretary shall make special transition loans available to producers participating in the demonstration program established by this subtitle. Such loans shall—

(A) have a term of 5 years and shall bear interest at a rate not to exceed a rate not less than 2, nor more than 5, percentage points below a rate determined by the Secretary based on the average of the bond equivalent of the weekly 90-day Treasury bill auction rates;

(B) be used to help defray up front capital costs necessary to implement the transition plan, including the erection of structures necessary to achieve the conservation and reduced input goals, equipment purchases, and equipment adaptations (but no more than

\$10,000 of such loan may be used for equipment); and

(C) be for no more than \$50,000 per person.

(2) **USE OF COMMODITY CREDIT CORPORATION.**—In carrying out the provisions of this subsection, the Secretary shall use the funds, facilities, and authorities of the Commodity Credit Corporation.

(b) **HIGHER ESTABLISHED PRICE PAYMENTS.**—Notwithstanding any other provision of law, only with respect to producers who are participating in both the demonstration program established by this subtitle and the production adjustment programs established under the Agricultural Act of 1949, for purposes of calculating deficiency payments under sections 101A(c), 103A(c), 105C(c), and 107D(c) of the Agricultural Act of 1949 to be made to demonstration program participants, the established price used in the deficiency payment calculation shall be the specified established price for the applicable crop multiplied by 110 percent.

(c) **ADJUSTMENTS IN PRODUCTION ADJUSTMENT REQUIREMENTS.**—

(1) **WHEAT.**—Subsection (f) of section 107D of the Agricultural Act of 1949 is amended by adding the following new paragraph at the end thereof:

"(9) Notwithstanding any other provision of law, to give due consideration to producers participating in the low-input transition demonstration program established by subtitle C of title I of the Farm Conservation and Water Protection Act of 1988 who use crop rotation, soil conservation, and other conserving practices, the Secretary may make appropriate downward adjustments in acreage limitation or set-aside requirements applicable to such producers."

(2) **FEED GRAINS.**—Subsection (f) of section 105C of the Agricultural Act of 1949 is amended by adding the following new paragraph at the end thereof:

"(9) Notwithstanding any other provision of law, to give due consideration to producers participating in the low-input transition demonstration program established by subtitle C of title I of the Farm Conservation and Water Protection Act of 1988 who use crop rotation, soil conservation, and other conserving practices, the Secretary may make appropriate downward adjustments in acreage limitation or set-aside requirements applicable to such producers."

(3) **COTTON.**—Subsection (f) of section 103A of the Agricultural Act of 1949 is amended by adding the following new paragraph at the end thereof:

"(8) Notwithstanding any other provision of law, to give due consideration to producers participating in the low-input transition demonstration program established by subtitle C of title I of the Farm Conservation and Water Protection Act of 1988 who use crop rotation, soil conservation, and other conserving practices, the Secretary may make appropriate downward adjustments in acreage limitation or set-aside requirements applicable to such producers."

(4) **RICE.**—Subsection (f) of section 101A of the Agricultural Act of 1949 is amended by adding the following new paragraph at the end thereof:

"(8) Notwithstanding any other provision of law, to give due consideration to producers participating in the low-input transition demonstration program established by subtitle C of title I of the Farm Conservation and Water Protection Act of 1988 who use crop rotation, soil conservation, and other conserving practices, the Secretary may make appropriate downward adjustments in acreage limitation or set-aside requirements applicable to such producers."

SEC. 124. LOW-INPUT FARM TRANSITION PLAN.

(a) **IN GENERAL.**—Under the program established by this subtitle, the Soil Conservation Service, shall develop individual farm low-input transition plans for producers who participate in the demonstration program established under this subtitle. Such individual low-input transition plans shall be based on the local Soil Conservation Service low-input agriculture technical guide and approved by the local soil conservation district, in consultation with the local committees established under section 8(b) of the Soil Conservation and Domestic Allotment Act (16 U.S.C. 590h(b)), the Extension Service, the Agricultural Stabilization and Conservation Service, and the Secretary, or by the Secretary.

(b) **REQUIREMENTS OF TRANSITION PLAN.**—The low-input transition plan shall—

(1) set forth a five year schedule of farming operations and practices designed to improve farm profitability and minimize the risk of damage to human health and the environment through the adoption of agricultural production practices that minimize the need for production inputs with known or potentially adverse impacts on human health and the environment or through the adoption of agricultural practices that reduce the use of agricultural chemical inputs, including special tillage systems, crop rotation practices, and pest management plans;

(2) ensure that at the end of the five year period chemical use on the farm shall be no greater than 60 percent of the regional average chemical use for each crop, as determined by the Secretary; and

(3) shall contain such other terms as the Secretary determines are necessary or appropriate to carry out the purposes of this subtitle.

SEC. 125. ADMINISTRATION AND CERTIFICATION.

The program established by this subtitle shall be administered by the Secretary, through the Agricultural Stabilization and Conservation Service in consultation with the Soil Conservation Service. The Soil Conservation Service shall be responsible for certifying compliance by individual producers with the terms and conditions of the individual farm low-input transition plans.

TITLE II—CONSERVATION

Subtitle A.—Wetland Restoration Program.

Sec. 201. AMENDMENTS TO TITLE XII OF THE FOOD SECURITY ACT OF 1985.

Title XII of the Food Security Act of 1985 is amended by adding immediately following subtitle F a new Subtitle G to read as follows:

"Subtitle G—Wetland Restoration

"PURPOSE AND POLICY

"SEC. 1261. (a) It is the purpose of this subtitle to encourage the restoration of converted wetlands and to help ensure the maintenance of such wetlands to protect soil and water quality and to support fish and wildlife habitat.

"(b) It is the policy of the United States to encourage the retirement from agricultural production of marginal lands and the re-establishment of wetlands that have been drained for agricultural production.

"PURCHASE OF EASEMENTS

"SEC. 1262. The Secretary of Agriculture shall establish a wetland restoration program under which the Secretary may purchase permanent easements (as described in section 1264) on eligible lands and place such lands in a wetland reserve and may share the cost with the landowner of restoring the eligible lands to wetlands.

"ELIGIBLE LANDS

"SEC. 1263. Land shall be eligible for placement into the wetland reserve if—

"(1) such land is a drained wetland or is land adjacent to the drained wetland;

"(2) such land was in cropland, as determined by the Secretary, during at least 2 of the years between 1981 and 1989;

"(3) was—

"(A) owned by the landowner on January 1, 1988; or

"(B) owned by the landowner (or a parent, blood relative, or decedent) at least 3 years before the date of application;

"(4) is at least 5 acres in size; and

"(5) is not set-aside, enrolled, or diverted under another federal program.

"NATURE OF EASEMENT

"SEC. 1264. Easements on eligible land that are purchased by the Secretary under this subtitle shall—

"(a) prohibit—

"(1) alteration of wildlife habitat and other natural features, unless specifically approved by the Secretary;

"(2) agricultural crop production, unless specifically approved by the Secretary for wildlife management purposes;

"(3) grazing of livestock;

"(4) spraying with chemicals or mowing, except as necessary to comply with noxious weed control laws or emergency control of pests necessary to protect public health;

"(b) allow—

"(1) repairs, improvements, and inspections necessary to maintain public drainage systems provided the easement area is restored to the condition required by the terms of the conservation easement; and

"(2) wildlife uses, including hunting, fishing, and other uses;

"(c) be in a recordable form; and

"(d) be for a permanent duration.

"RESPONSIBILITIES OF THE SECRETARY OF AGRICULTURE

"SEC. 1265. (a) In return for obtaining an easement as provided in section 1264, the Secretary shall compensate the owner of eligible land placed in the wetland reserve in an amount determined in accordance with subsection (b) and shall share the cost with the owner of re-establishing the wetland.

"(b) The purchase price for easements may be established by the Secretary (based on local rental values) or through the submission of bids.

"(c) Cost share assistance provided under this subtitle may not exceed the cost of restoring the wetland and complying with the conservation plan developed by the Soil Conservation Service concerning the restoration of such converted wetland.

"RESPONSIBILITIES OF OWNERS

"SEC. 1266. (a) Owners of eligible land placed in the wetland reserve must agree to—

"(1) restore any converted wetland in accordance with a conservation plan developed by the Soil Conservation Service in consultation with the Fish and Wildlife Service;

"(2) convey to the Secretary a permanent easement for such eligible land;

"(3) the enforcement of the terms of the easement and agreements in this subdivision by an action for specific performance, a mandatory injunction, or for damages in an amount not to exceed the total amount paid by the Secretary to the landowner for the purchase of the easement and for cost-share assistance, plus interest, from the date of each default under the agreement;

"(4) adopt no practices that would defeat the purposes of the program established by

this subtitle, as determined by the Secretary; and

"(5) comply with such additional requirements as may be established by the Secretary, consistent with the purposes of this subtitle.

"(b) Conservation plans developed by the Soil Conservation Service in accordance with this subtitle shall—

"(1) be based on the local Soil Conservation Service technical guide and approved by the local soil conservation district, in consultation with the local committees established under section 8(b) of the Soil Conservation and Domestic Allotment Act (16 U.S.C. 590h(b)) and the Secretary, or by the Secretary; and

"(2) set forth the conservation systems and practices necessary for the restoration of eligible lands as wetlands and the maintenance of such restored wetlands.

"COOPERATION

"SEC. 1267. In carrying out this subtitle, the Secretary of Agriculture shall consult with the Fish and Wildlife Service and the Environmental Protection Agency.

"ADMINISTRATION

"SEC. 1268. Not later than 180 days after the date of enactment of this subtitle, the Secretary shall issue such regulations as the Secretary determines are necessary to carry out the program established by this subtitle.

"FUNDING

"SEC. 1269. (a) The Secretary may use the funds, facilities, and authorities of the Commodity Credit Corporation to carry out the provisions of this subtitle, except that the Secretary may not use funds of the Corporation for such purpose unless the Corporation has received funds to cover such expenditures from appropriations made to carry out subtitle G.

"(b) There are hereby authorized to be appropriated without fiscal year limitation such sums as may be necessary to carry out subtitle G."

SEC. 202. DEFINITIONS.

SEC. 1201 of the Food Security Act of 1985 is amended by striking "A through E" and inserting in lieu thereof "A through E and G through I".

Subtitle B.—Amendments to Title XII of the Food Security Act of 1985 and to the Water Bank Program

SEC. 211. DRAINAGE OF WETLANDS.

(a) **CONVERTED WETLAND.**—Section 1201(a)(4)(A) of the Food Security Act of 1985 (16 U.S.C. 3801) is amended by striking "for the purpose or to have the effect of" and inserting in lieu thereof "to the extent that the natural characteristics of the wetland are destroyed or to have the effect of".

(b) **DRAINAGE OF WETLAND FOR ANY PURPOSE.**—Section 1221 of the Food Security Act of 1985 (16 U.S.C. 3821) is amended by striking "produces an agricultural commodity on converted wetland" and inserting in lieu thereof "drains, dredges, fills, levels, or otherwise converts wetland".

SEC. 212. AMENDMENTS TO THE CONSERVATION RESERVE PROGRAM.

(a) **ENLARGEMENT OF RESERVE.**—Section 1231 of the Food Security Act of 1985 is amended—

(1) in subsection (a), by striking "1990" and inserting in lieu thereof "1992";

(2) in paragraph (4) of subsection (b), by striking "45, million acres; and" and inserting in lieu thereof "70, million acres;";

(3) in paragraph (5) of subsection (b), by striking "40, nor more than 45, million acres." and inserting in lieu thereof "45, nor more than 70, million acres;"; and

(4) by adding at the end of subsection (b) the following new paragraphs:

"(6) during the 1988 through 1991 crop years, a total of not less than 55, nor more than 70, million acres; and

"(7) during the 1986 through 1992 crop years, a total of not less than 6, nor more than 70 million acres."

(b) **ESTABLISHMENT OF TREES.**—Section 1232 of the Food Security Act of 1985 is amended by—

(1) revising subsection (c) to read as follows:

"(c) To the extent practicable—

"(1) not less than one-eighth of the number of acres of land that is placed in the conservation reserve under this subtitle in each of the 1986 through 1988 crop years shall be devoted to trees; and

"(2) not less than one-half of the number of acres of land that is placed in the conservation reserve under this subtitle in each of the 1989 through 1992 crop years shall be devoted to trees;"; and

(2) by adding immediately after subsection (c) the following new subsection:

"(d) Contracts entered into under this subtitle shall be for a period of 15 years if the owner or operator of the land subject to such contract establishes hardwood trees as the vegetative cover required by the conservation plan for such land."

(c) **ESTABLISHMENT OF SHELTERBELTS, WILDLIFE CORRIDORS, AND OTHER SPECIAL USE CONSERVATION PRACTICES.**—Section 1234(c) of the Food Security Act of 1985 (16 U.S.C. 3834(c)) is amended by—

(1) in paragraph (3), by striking "may";

(2) in subparagraph (A) of paragraph (3), by adding the word "may" immediately following "(A)" and immediately preceding "take into consideration";

(3) by revising subparagraph (B) of paragraph (3) to read as follows:

"(B) shall, where appropriate, except contract offers that provide for the establishment of—

"(i) shelterbelts, windbreaks, and living snowfences;

"(ii) permanently vegetated stream borders, filter strips of permanent grass, forbs, shrubs, and trees that will reduce sedimentation substantially; and

"(iii) wildlife corridors;";

(4) in subparagraph (C) of paragraph (3), by adding the word "may" immediately following "(C)" and immediately preceding "establish different"; and

(5) in subparagraph (D) of paragraph (3), by adding the word "may" immediately following "(D)" and immediately preceding "give priority to".

(d) **HAYING AND GRAZING OF CONSERVATION RESERVE ACRES.**—Paragraph (7) of section 1232(a) of the Food Security Act of 1985 (16 U.S.C. 3832(a)) is revised to read as follows:

"(7) not to conduct any harvesting or grazing, nor otherwise made commercial use of the forage, on land that is subject to the contract, nor adopt any similar practice specified in the contract by the Secretary as a practice that would tend to defeat the purposes of the contract;";

(e) **ECONOMIC USE OPTION.**—Section 1235(c) of the Food Security Act of 1985 (16 U.S.C. 3835(c)) is amended by adding at the end thereof the following new paragraph:

"(3)(A) The Secretary may modify or waive a term or condition of a contract entered into under this subtitle in order to permit unlimited use of the land by the owner or operator during the last 3 years of the contract period if the owner or operator agrees—

"(i) to give the Secretary of Agriculture a permanent conservation easement on such land, in accordance with terms and conditions established by the Secretary, under which the land cannot be used for agricultural purposes; or

"(ii) to retire permanently the cropland base and allotment history applicable to the land subject to the conservation reserve contract.

"(B) The Secretary of Agriculture may provide additional compensation to owners or operators who agree to either grant the Secretary a permanent conservation easement or to retire permanently cropland base and allotment history under subparagraph (A) in such amount as is determined by the Secretary to be fair and reasonable.

"(C) Permanent conservation easements obtained in accordance with this paragraph shall contain terms and conditions designed to ensure that such land is devoted to approved conservation practices, as determined by the Secretary."

SEC. 213. PROGRAM INELIGIBILITY FOR THE HARVEST OF TREES.

Title XII of the Food Security Act of 1985 is amended by adding at the end thereof a new Subtitle H, as follows:

"SUBTITLE H—FOREST CONSERVATION

"PROGRAM INELIGIBILITY

"SEC. 1271. Except as provided in section 1272, and notwithstanding any other provision of law, following the date of enactment of this Act, any person who in any crop year produces an agricultural commodity on a field that was cleared of trees shall be ineligible for—

"(1) as to any commodity produced during that crop year by such person—

"(A) any type of price support or payment made available under the Agricultural Act of 1949 (7 U.S.C. 1421, et seq.), the Commodity Credit Corporation Charter Act (15 U.S.C. 714, et seq.), or any other Act;

"(B) a farm storage facility loan made under section 4(h) of the Commodity Credit Corporation Charter Act (15 U.S.C. 714b(h));

"(C) crop insurance under the Federal Crop Insurance Act (7 U.S.C. 1501, et seq.);

"(D) a disaster payment made under the Agricultural Act of 1949 (7 U.S.C. 1421, et seq.); or

"(E) a loan made, insured, or guaranteed under the Consolidated Farm and Rural Development Act (7 U.S.C. 1921, et seq.) or any other provision of law administered by the Farmers Home Administration, if the Secretary determines that the proceeds of such loan will be used for a purpose that will contribute to the deforestation of the land; or

"(2) a payment made under section 4 or 5 of the Commodity Credit Corporation Charter Act (15 U.S.C. 714b or 714c) during such crop year for the storage of an agricultural commodity acquired by the Commodity Credit Corporation.

"EXEMPTIONS

"SEC. 1272. (a) No person shall become ineligible under section 1271 for program loans, payments, and benefits as the result of the production of a crop of an agricultural commodity on—

"(1) land that has been cleared of trees if such clearing commenced prior to the date of enactment of this Act; and

"(2) land on which the tree cover was severely damaged by a natural disaster and with respect to which the Secretary determines that the clearing of the remaining trees is appropriate.

"(b) Section 1271 shall not apply to a loan described in section 1271 made before the date of enactment of this Act.

"(c) The Secretary may exempt a person from the application of section 1271 for any incremental clearing of trees from land if the effect of such clearing, individually and in connection with all other similar actions

authorized by the Secretary in the area, on the local environment is minimal."

"REGULATIONS

"SEC. 1273. The Secretary shall issue regulations implementing the provisions of this subtitle no later than 180 days after the date of enactment of this Act."

SEC. 214. PROVISION FOR PERMANENT EASEMENTS IN WATER BANK PROGRAM.

The Water Bank Act (16 U.S.C. 1301 et seq.) is amended by adding at the end thereof the following new section:

"SEC. 13. Notwithstanding any other provisions of this Act, the Secretary may enter into contracts under this Act or may extend and modify contracts entered into under this Act for the purpose of acquiring a permanent conservation easement on property that otherwise meets the eligibility requirements under this Act. The Secretary of Agriculture may provide compensation other than annual payments to owners or operators who agree to grant the Secretary a permanent conservation easement in such amount as is determined by the Secretary to be fair and reasonable. Permanent conservation easements obtained in accordance with this section shall contain terms and conditions consistent with this Act that are designed to ensure that such land is devoted to approved conservation practices, as determined by the Secretary."

SUBTITLE C.—AMENDMENTS TO AGRICULTURAL ACT OF 1949

SEC. 221. BONUS PAYMENTS FOR VEGETATIVE COVER.

(a) WHEAT.—Section 107D(f)(4) is amended by adding the following new subparagraph at the end thereof:

"(EX1) The Secretary shall make payments available to producers who devote acreage required to be devoted to conservation uses to vegetative cover by a date no later than the frost date for the area, as determined by the Secretary.

"(ii) Producers electing to receive payments under this subparagraph may not harvest such vegetative cover.

"(iii) Such payments shall be—

"(I) with respect to producers who plant vegetative cover, at a rate determined by the Secretary to reflect the cost of planting and maintaining the vegetative cover; and

"(II) with respect to producers who plant a legume as a cover crop and are actively applying a crop rotation system approved by the Soil Conservation Service, at a rate determined by the Secretary to reflect the cost of planting and maintaining the cover plus 10 percent."

(b) PEANUT GRAINS.—Section 105C(F)(4) is amended by adding the following new subparagraph at the end thereof:

"(EX1) The Secretary shall make payment available to producers who devote acreage required to be devoted to conservation uses to vegetative cover by a date no later than the frost date for the area, as determined by the Secretary.

"(ii) Producers electing to receive payments under this subparagraph may not harvest such vegetative cover.

"(iii) Such payments shall be—

"(I) with respect to producers who plant vegetative cover, at a rate determined by the Secretary to reflect the cost of planting and maintaining the vegetative cover; and

"(II) with respect to producers who plant a legume as a cover crop and are actively applying a crop rotation system approved by the Soil Conservation Service, at a rate determined by the Secretary to reflect the cost of planting and maintaining the cover plus 10 percent."

(c) COTTON.—Section 103A(f)(3) is amended by adding the following new subparagraph at the end thereof:

"(D)(i) The Secretary shall make payments available to producers who devote acreage required to be devoted to conservation uses to vegetative cover by a date no later than the frost date for the area, as determined by the Secretary.

"(ii) Producers electing to receive payments under this subparagraph may not harvest such vegetative cover.

"(iii) Such payments shall be—

"(I) with respect to producers who plant vegetative cover, at a rate determined by the Secretary to reflect the cost of planting and maintaining the vegetative cover; and

"(II) with respect to producers who plant a legume as a cover crop and are actively applying a crop rotation system approved by the Soil Conservation Service, at a rate determined by the Secretary to reflect the cost of planting and maintaining the cover plus 10 percent."

(d) RICE.—Section 101A(f)(3) is amended by adding the following new subparagraph at the end thereof:

"(D)(i) The Secretary shall make payments available to producers who devote acreage required to be devoted to conservation uses to vegetative cover by a date no later than the frost date for the area, as determined by the Secretary.

"(ii) Producers electing to receive payments under this subparagraph may not harvest such vegetative cover.

"(iii) Such payments shall be—

"(I) with respect to producers who plant vegetative cover, at a rate determined by the Secretary to reflect the cost of planting and maintaining the vegetative cover; and

"(II) with respect to producers who plant a legume as a cover crop and are actively applying a crop rotation system approved by the Soil Conservation Service, at a rate determined by the Secretary to reflect the cost of planting and maintaining the cover plus 10 percent."

SEC. 222. MULTI-YEAR SET-ASIDE PROGRAM.

Notwithstanding any other provision of law—

(a) CONTRACTS.—The Secretary of Agriculture may enter into multiyear set-aside contracts for a period not to extend beyond the 1992 crops. Such contracts may be entered into only as a part of the production adjustment programs in effect for the 1989 through 1992 crops of wheat, feed grains, upland cotton, and rice, and only producers participating in one or more of such programs shall be eligible to contract with the Secretary under this section.

(b) OBLIGATIONS OF PRODUCERS.—Producers agreeing to a multiyear set-aside agreement shall—

(1) devote the set-aside acreage to vegetative cover capable of maintaining itself through such period to provide soil protection, water quality enhancement, wildlife production, and natural beauty;

(2) not allow grazing of livestock under this section except in areas of a major disaster, as determined by the President, if the Secretary finds there is a need for such grazing as a result of such disaster;

(3) comply with all applicable State and local laws and regulations governing noxious weed control; and

(4) comply with such other terms and conditions as may be established by the Secretary.

(c) COST-SHARE ASSISTANCE.—The Secretary shall provide cost-share assistance to producers for the establishment of vegetative cover, whenever a multiyear set-aside contract is entered into under this section.

(d) COMPENSATION.—The Secretary may provide payments to producers who enter into multiyear set-aside contracts under this section to compensate such producers for

taking lands out of production under this section. The amount of such payments may be determined through the submission of bids or through such other means as the Secretary determines appropriate.

(e) REGULATIONS.—The Secretary may issue such regulations as the Secretary determines necessary to carry out this section.

(f) COMMODITY CREDIT CORPORATION.—The Secretary shall carry out the program authorized by this section through the Commodity Credit Corporation.

TITLE III—GROUNDWATER

Subtitle A—Contaminated Well Water

SEC. 301. INELIGIBILITY FOR PROGRAM BENEFITS.

Title XII of the Food Security Act of 1985 is amended by adding immediately following subtitle H (as added by this Act) the following new subtitle I:

"Subtitle I—Water Conservation

"PROGRAM INELIGIBILITY

"SEC. 1281. Except as provided in section 1282, and notwithstanding any other provision of law, following the date of enactment of this Act, any person who has a farm well or has surface water on the farm that has been determined to be contaminated by pesticides and any person whose farm is located in an area designated by the Secretary as a likely source area of the contamination shall be ineligible for—

"(1) as to any commodity produced by such person during any crop year that such contamination is determined to exist—

"(A) any type of price support or payment made available under the Agricultural Act of 1949 (7 U.S.C. 1421, et seq.), the Commodity Credit Corporation Charter Act (15 U.S.C. 714, et seq.), or any other Act;

"(B) a farm storage facility loan made under section 4(h) of the Commodity Credit Corporation Charter Act (15 U.S.C. 714b(h));

"(C) crop insurance under the Federal Crop Insurance Act (7 U.S.C. 1501, et seq.);

"(D) a disaster payment made under the Agricultural Act of 1949 (7 U.S.C. 1421, et seq.); or

"(E) a loan made, insured, or guaranteed under the Consolidated Farm and Rural Development Act (7 U.S.C. 1921, et seq.) or any other provision of law administered by the Farmers Home Administration, if the Secretary determines that the proceeds of such loan will be used for a purpose that will contribute to the contamination of groundwater or surface water; or

"(2) a payment made under section 4 or 5 of the Commodity Credit Corporation Charter Act (15 U.S.C. 714b or 714c) during such crop year for the storage of an agricultural commodity acquired by the Commodity Credit Corporation.

"EXEMPTIONS

"SEC. 1282. (a) No person shall become ineligible under section 1281 for program loans, payments, and benefits as the result of the contamination of water if such person is implementing a pesticide use plan developed by the Secretary based upon standards established by the Environmental Protection Agency.

"(b) Section 1281 shall not apply to a loan described in section 1281 made before the date of enactment of this Act.

"TESTING OF WELLS

"SEC. 1283. As a condition precedent to receiving loans or payments described in section 1281 of this Act, producers must allow the Secretary, or the Secretary's designee, to enter the producers' farm for the purpose of testing wells on such farm for pesticide contamination or for the purpose of locat-

ing the source of pesticide contamination of nearby wells.

"REGULATIONS

"SEC. 1284. The Secretary shall issue regulations implementing the provisions of this subtitle no later than 180 days after the date of enactment of this Act."

SEC. 302. EFFECTIVE DATE.

The provisions of this subtitle shall become effective 30 days after the date of enactment of this Act.

Subtitle B.—Sinkholes

SEC. 311. SINKHOLE PILOT PROGRAM.

Subtitle D of title XII of the Food Security Act of 1985 is amended by adding after section 1236 (16 U.S.C. 3836) the following new section:

"SINKHOLE PILOT PROGRAM

"SEC. 1237. (a) Not later than January 1, 1989, the Secretary shall formulate and carry out, through the 1990 crop year, a sinkhole pilot program, in conjunction with the conservation reserve program established under this subtitle, through contracts to assist owners and operators of land described in subsection (b) in conserving and improving the soil and water resources of their farms or ranches.

"(b) Cropland is eligible to be placed in the pilot program established by this section if the cropland contains naturally occurring sinkholes.

"(c) Under the terms of a contract entered into under this section, an owner or operator, in addition to fulfilling the obligations described in section 1232, must agree—

"(1) to retire permanently, from the base and allotment history applicable to acreage placed in the pilot program, a number of acres equal to the number of acres placed in the reserve; and

"(2) not to use the land placed into the pilot program for any agricultural purposes for the term of the contract.

"(d) Except where determined inappropriate by the Secretary, the Secretary shall contract with owners or operators of land described in subsection (b) in accordance with the terms and conditions provided in this subtitle.

"(e) For the purposes of this section, the term 'highly erodible land' as used in this subtitle shall be considered to include land described in this section."

TITLE IV—EXTENSION SERVICE

SEC. 401. SENSE OF CONGRESS.

(a) FINDINGS.—Congress finds that—

(1) the environment is threatened by contamination from the burning of fossil fuels, industrial waste, agricultural chemicals and other pollutants;

(2) the agricultural industry, with its special reliance on the environment, is more susceptible than other industries to economic collapse if our fragile ecosystems and natural biological systems break down;

(3) poor farm management and improper use of agricultural chemicals can cause substantial harm to our environment through excessive erosion, chemical runoff, and contaminated groundwater; and

(4) research and education are needed to both discover new, safer means of agricultural production and to disseminate these means to farmers.

(b) SENSE OF CONGRESS.—It is the sense of Congress that the Extension Service—

(1) must make low-input agricultural research a major institutional and budgetary priority;

(2) increase specific research in such areas as—

(A) nutrient cycling;

(B) safe ways to return sludge to farms;

(C) long-term impacts on P&K with reduced fertilizer;

(D) soil tests for nutrients under organic management;

(E) phosphorous accumulating plants;

(F) soil microbial activity under reduced inputs;

(G) soil physical properties (compaction in ridge till);

(H) overseeding for weed control;

(I) the effects of rotation practices;

(J) conservation tillage with reduced chemicals; and

(K) plant variety research for sustainable agricultural systems.

(3) should give special emphasis on the levels of pesticide and natural residue in food and water, their causes, and the impact of agricultural pesticide use on wildlife;

(4) should gather and analyze data concerning the economics of low-input agricultural production, including the economic impact of increased use of legumes and forage crops, the effect of increased legume production on groundwater quality, and the profitability of various low-input farm management systems;

(5) should increase funding for sustainable agricultural technology transfers; and

(6) should increase marketing research, particularly with respect to commodities produced using low-input agricultural methods.

SEC. 402. FARMERS CONSERVATION SERVICE.

(a) ESTABLISHMENT OF BRANCH.—There is hereby established within the extension Service a branch named the "Farmers Conservation Service."

(b) HEAD OF BRANCH.—The Farmers Conservation Service shall report to the head of the Extension Service.

(c) PURPOSES OF BRANCH.—The Farmers Conservation Service shall provide research, analysis, and assistance to farmers attempting to implement low-input agricultural practices.

(d) SPECIFIC DUTIES.—Among its other duties, the Farmers Conservation Service shall—

(1) research and re-issue old bulletins of the Extension Service concerning sustainable agricultural methods of production;

(2) coordinate funding for sustainable agricultural technology transfers; and

(3) develop standards for, and teach—

(B) on farm research;

(B) chemical application by customs applicators (including education concerning groundwater and surface water contamination by pesticides);

TITLE V—MISCELLANEOUS

SEC. 501. ORGANICALLY GROWN CERTIFICATION PROGRAM.

(a) Certification Program.—The Secretary of Agriculture shall establish and carry out a program to provide for the official certification and labeling of agricultural commodities and products that were produced using organic practices.

(b) VOLUNTARY BASIS.—Participation in the program established by this section shall be on a voluntary basis.

(c) LEVEL.—The Secretary shall cause a label to be affixed to commodities that are determined to have been produced using organic farming practices. The label shall state that the product is certified by the United States Department of Agriculture as being organically grown.

(d) REGULATIONS.—The Secretary shall issue regulations to carry out the provisions of this section, including regulations defining the term "organically grown" as including commodities produced using agricultural practices and systems that reduce inputs and conserve the soil and water and produced without the use of artificial irradiation, synthetic pesticides, synthetic plant or soil amendments, or fertilizer materials

except natural organic fertilizers or as specifically allowed by the Secretary.

(e) APPROPRIATIONS.—There are hereby authorized to be appropriated without fiscal year limitation such sums as may be necessary to carry out the provisions of this section.

SEC. 502. ISSUANCE OF REGULATIONS.

To the extent not specifically provided for elsewhere in this Act, the Secretary of Agriculture is authorized to issue regulations as determines necessary to carry out the provisions of this Act.

SEC. 503. AUTHORIZATIONS OF APPROPRIATIONS.

There are hereby authorized to be appropriated, without fiscal year limitation, such sums as may be necessary to carry out the provisions of this Act.

SEC. 504. EFFECTIVE DATE.

Unless otherwise specifically provided for, the provisions of this Act shall become effective upon the date of enactment.

SECT SEQ.	DESCRIPTION	ESTIMATE	AGENCY REQUEST			FINANCE		REC.	
		F.Y 89	F.Y 90	F.Y 91	BIENNIUM	F.Y 90	F.Y 91	BIENNIUM	
5-11	o BD OF WATER & SOIL RESOURC	4,490.0	4,034.0	4,034.0	8,068.0	4,034.0	4,034.0	8,068.0	
	Biennial Change				-10.16%			-10.16%	
	o INFLATION ADJUSTMENT								
	o CHANGE ITEMS:								
**	B BOARD ADMINISTRATION		105.0	109.0	214.0	12.0	12.0	24.0	pos.
	B FLOOD PLAIN MANAGEMENT		50.0	50.0	100.0	0.0	0.0	0.0	0.0
	B COST SHARE - ERSN & WATER		499.0	499.0	998.0	0.0	0.0	0.0	0.0
	B GENERAL PURPOSE GRANTS		455.0	455.0	910.0	0.0	0.0	0.0	0.0
	B CONSERVATION TILLAGE		100.0	100.0	200.0	0.0	0.0	0.0	0.0
	B SEDIMENT & EROSION CONTROL		341.0	341.0	682.0	0.0	0.0	0.0	0.0
	B WATER PERMITS REVIEW GRANTS		38.0	38.0	176.0	0.0	0.0	0.0	0.0
*	B COMP LOCAL WATER PLANNING		100.0	100.0	200.0	0.0	0.0	0.0	0.0
*	B LOCAL WATER RESOURCES PROGRAM		535.0	2,160.0	2,695.0	0.0	0.0	0.0	0.0
*	B WATER QUALITY DEMONSTRATION		250.0	252.0	502.0	0.0	0.0	0.0	0.0
*	B LOCAL AG CHEMICALS USER		105.0	107.0	212.0	0.0	0.0	0.0	0.0
*	B WATER QUALITY MONITORING		91.0	91.0	182.0	0.0	0.0	0.0	0.0
*	B SEALING ABANDONED WELLS		55.0	565.0	630.0	0.0	0.0	0.0	0.0
	TOTAL CHANGE	0.0	2,784.0	4,917.0	7,701.0	12.0	12.0	24.0	
	AGENCY TOTAL	4,490.0	6,818.0	8,951.0	15,769.0	4,046.0	4,046.0	8,092.0	
	PCT CHANGE				99.35%			-9.99%	

* Items to be considered for handling and funding under the groundwater protection strategy.

** Subject to verification of rent increase.

Appeals in writing to
Lt. Governor



United States
Department of
Agriculture

Soil
Conservation
Service

P.O. Box 2890
Washington, D.C.
20013

October 20, 1988

NATIONAL BULLETIN 460-9-1

SUBJECT: WQP - MEMORANDUM OF UNDERSTANDING (MOU) BETWEEN THE ENVIRONMENTAL
PROTECTION AGENCY (EPA) AND SOIL CONSERVATION SERVICE (SCS)

Purpose. To provide state offices with a copy of the MOU executed between EPA and SCS for planning and technical assistance to states.

Expiration Date. December 30, 1989.

Background. EPA and SCS recognize the need to improve, conserve, and protect the quality and quantity of surface and ground water. This MOU provides a basis for accomplishing this need.

State conservationists may use this MOU as a basis to enter into more specific MOU's at the state level with the state water quality agency and/or conservation agency to develop and implement nonpoint source abatement programs. These agreements will be in accordance with guidelines issued jointly by EPA and SCS. This MOU will be incorporated into the General Manual at a later date.

WILSON SCALING
Chief

Enclosure

DIST: L, S, T



The Soil Conservation Service
is an agency of the
Department of Agriculture

INTERIM
MEMORANDUM OF UNDERSTANDING
BETWEEN THE
SOIL CONSERVATION SERVICE
U.S. DEPARTMENT OF AGRICULTURE
AND THE
U.S. ENVIRONMENTAL PROTECTION AGENCY
FOR PLANNING AND TECHNICAL ASSISTANCE

I. PURPOSE

This Interim Memorandum of Understanding (MOU) between USDA's Soil Conservation Service (SCS) and the U.S. Environmental Protection Agency (EPA) establishes policies and administrative procedures for additional cooperative efforts toward water quality maintenance and improvement, particularly through using SCS and EPA authorities and programs to assist in the implementation of State Nonpoint Source (NPS) Management Programs. SCS and EPA have agreed to enter into a final agreement following EPA's adoption of its "Nonpoint Sources: Agenda for the Future." It is anticipated that additional areas of cooperation and support beyond those currently reflected in this document will be added by amendments.

Through this MOU, EPA seeks to further utilize the personnel and expertise of SCS and its cooperators to increase the assistance available to interested States in the development and implementation of water quality programs and projects. Coordination and cooperation between SCS and EPA will reduce unnecessary duplication of effort, accelerate the rate of implementation of best management practices (BMPs) and other NPS measures, and increase overall program effectiveness.

II. AUTHORITIES

This MOU is entered into under the authorities of the Clean Water Act (CWA), (Section 304(l), 314, 319, and 320), as amended, and the Soil Conservation and Domestic Allotment Act (16 U.S.C. Section 590 a-f), as amended. This MOU supplements the broader MOU between EPA and USDA signed in 1984 and is consistent with the findings of the National Nonpoint Source Task Force Report published in December 1984.

Nothing in this MOU alters the statutory or regulatory authority of EPA or SCS. This MOU is intended to facilitate satisfying those statutory requirements through the development of cooperative Federal-State efforts. And, nothing in this MOU shall abrogate existing agreements except that this MOU replaces the MOU signed in May 1986 which related only to the Clean Lakes Program under Section 314.

III. BACKGROUND

The Water Quality Act of 1987 (WQA), which amended the Clean Water Act (CWA), expanded the Clean Lakes program under Section 314 and added a new Section 319 directing States to develop and implement programs for the control of NPS water pollution. New provisions under Section 314 require States to prepare a Lake Water Quality Assessment Report and direct EPA to establish a Lake Water Quality Demonstration Program and a Toxics Control/Acid Mitigation Program. Section 319 requires States to prepare an Assessment Report describing the State's NPS problems and a Management Program addressing those problems. Section 319 authorizes financial assistance to the States for implementing State Management Programs.

EPA will encourage States to develop NPS programs that build upon related water quality programs such as Clean Lakes (Section 314), Estuaries (Section 320), Surface Water Toxics (Section 304(l)), Ground Water, Wetlands, and Stormwater Permitting. Addressing NPS pollution in conjunction with and/or through the activities of these other programs will help States maximize effectiveness through increased coordination and leveraging of limited resources.

The Food Security Act of 1985 established major new conservation provisions, primarily dealing with highly erodible croplands, which when targeted can assist in the protection and enhancement of water quality. In carrying out these 1985 requirements and other ongoing conservation programs, SCS is in a position to assist with planning and implementation of State NPS Management Programs and Clean Lakes projects.

EPA and SCS recognize the need to improve, conserve, and protect the quality of surface and ground water by undertaking efforts to avoid harmful contamination from nonpoint sources and thereby maintain the quantity and quality of water available for safe drinking supplies, reliable agricultural supplies, and other beneficial uses.

IV. PROVISIONS

SCS will continue to integrate water quality concerns into its ongoing programs and activities. Where States request SCS assistance beyond that currently provided, and to the extent authorized by existing legal authorities of the SCS, such additional assistance will be covered by agreements developed at the State level by SCS State Conservationists and the appropriate State water quality and/or conservation agency. These agreements may provide for:

- (1) development and implementation of water quality programs and projects such as State NPS Management Programs and Clean Lakes projects;
- (2) assistance in the implementation of BMPs; and
- (3) other services that the State identifies as necessary for NPS abatement and other water quality program management.

State-level agreements will be developed in accordance with guidelines issued jointly by EPA and SCS at the national level and will be used to strengthen SCS's and/or its cooperators' assistance and participation with the goal of accelerating implementation of NPS Management Programs, Clean Lakes projects, and other special projects.

Where EPA grant funds are used by the States to reimburse SCS, these funds will remain subject to the statutory nonfederal match requirements established for these grants. Use of these funds to reimburse SCS will not diminish the amount of non-federal match required for the grant. In no event may these funds be used by the States as a match for SCS program funds.

V. SOIL CONSERVATION SERVICE (SCS) AGREES TO:

1. Maintain current levels of assistance and, given the availability of funds, increase planning assistance to States for developing water quality programs and projects, State NPS Management Programs, and strategies for individual watersheds identified in the State NPS Assessment and/or Management Program;
2. Maintain current levels of assistance and, given the availability of funds, increase technical assistance to States for implementing State NPS Management Programs including water quality programs and projects, and individual watershed plans;
3. Maintain current levels of assistance and, given the availability of funds, increase assistance to State Water Quality agencies and EPA in the update and review of State NPS Management Programs to help assure consistency between State NPS Management Programs and SCS programs and requirements;
4. Perform in cooperation with State and EPA monitoring programs, routine monitoring activities to ensure recommended practices are applied and watershed water quality objectives are being met;

5. Assist States in developing cost estimates for financial and technical assistance to meet specified pollution load reduction goals for cooperative watershed projects;
6. Modify existing data base management systems to receive, compile, and disseminate new information to EPA on the level of SCS assistance provided, BMPs applied and their effectiveness;
7. Implement internal policies that elevate the importance of water quality in all SCS programs and assure consistency of SCS actions with State NPS Management Programs;
8. Encourage participants and provide technical assistance in the development and implementation of conservation plans under the compliance provisions of the 1985 Food Security Act to include as appropriate water quality protection measures;
9. Encourage the targeting of PL 83-566 Land Treatment projects to watersheds included in the State NPS Management Program and those selected as Clean Lakes projects;
10. Continue to promote ways by which the Conservation Reserve Program will reduce NPS pollution; and
11. Utilize the results of the Section 319 Assessment Reports, and future updates, in future water quality initiatives.

VI. ENVIRONMENTAL PROTECTION AGENCY (EPA) AGREES TO:

1. Encourage States to include SCS in their ongoing development, update, and review of Section 319 State NPS Management Programs;
2. Encourage States to select agricultural BMPs for controlling NPS pollution which will be in accordance with SCS standards and specifications as set forth in the SCS Field Office Technical Guide (FOTG) (recognizing that additional State requirements may also apply);

3. Encourage States, consistent with State NPS Management Programs, to use the SCS and the conservation districts' existing delivery system to implement BMPs on agricultural lands;
4. Provide SCS with information necessary to assist States to plan and implement State NPS Management Programs including water quality programs and projects, and individual watershed projects;
5. Accelerate, given the availability of funds, the implementation of State NPS Management Programs, Clean Lakes projects, and other water quality programs through the use of specific SCS programs and authorities; and
6. Encourage States to enter into agreements with SCS and/or conservation districts for levels of technical assistance established mutually by SCS and the State, in accordance with the existing legal authorities of the SCS and/or conservation districts. EPA grant funds may be used for reimbursement to SCS but remain subject to the match requirements set forth in the CWA. Use of grant funds for SCS reimbursement will not diminish the amount of nonfederal match required for the project.

VII. IT IS MUTUALLY AGREED THAT:

1. EPA and SCS will jointly develop and issue guidelines for development of State-level agreements that fully recognize the responsibilities of State conservation agencies and conservation districts in implementing State NPS Management Programs;
2. EPA and SCS will develop and issue joint guidance on procedures for using SCS FOTG practices as minimum technical requirements for BMPs for Section 319 activities, including procedures for negotiation and establishment of interim practices, where appropriate;
3. EPA and SCS will jointly pursue the development of a broader agreement which designates water quality objectives as a priority in future program and budget initiatives (including the Conservation Title in the 1990 Farm Bill);

4. This is not a fiscal or a funds obligating document. Endeavors involving reimbursement or transfer of funds between SCS and EPA for the purposes of this Agreement will be in accordance with USDA and EPA financial procedures. Any reimbursement agreements will be contingent upon the availability of funds and upon limitations of appropriations authorized by law;
5. This MOU complies with the nondiscrimination provisions of Title VI of the Civil Rights Act of 1964, and other nondiscrimination statutes namely, Section 504, Title IX, and the Age Discrimination Act of 1975, and in accordance with the regulations of the Secretary of Agriculture (7 CFR - 15, Subpart A & B) and regulations of the Environmental Protection Agency, which provide that no person in the United States shall, on the grounds of race, color, national origin, age, sex, religion, or handicap, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity receiving Federal financial assistance; and
6. This MOU becomes effective on the date of signature by both parties and shall continue indefinitely. It may be modified at any time upon the mutual consent of the parties and it may be terminated by either party's giving a 30-day advance, written notice to the other party.

UNITED STATES ENVIRONMENTAL
PROTECTION AGENCY
OFFICE OF WATER

UNITED STATES DEPARTMENT
OF AGRICULTURE
SOIL CONSERVATION SERVICE

BY: Rebecca Hammer
Rebecca Hammer
Acting Assistant Administrator
for Water
Environmental Protection Agency

BY: Wilson Scaling
Wilson Scaling
Chief
Soil Conservation Service

DATE: 20 October 1988

DATE: 10/20/88

DEPARTMENT : Board of Water and Soil Resources

STATE OF MINNESOTA

Office Memorandum

DATE : November 17, 1988

TO : MBWSR Members

FROM : Mel Sinn *MS*

PHONE : 612 - 297-2622

SUBJECT : Approval of Upper Minnesota River Watershed District
Revised Overall Plan

Attached is a draft Order prescribing a revised Overall Plan for the Upper Minnesota River Watershed District. This item was ready for action back in July, but for a number of reasons was delayed. Loren Harste plans to attend the November 30th MBWSR meeting, and can speak to Upper Minnesota River's planning process and program.

Also attached are Dan Steward's original plan summary and a recommended resolution.

MS:ks
Attach.

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

DRAFT

In the Matter of Prescribing an Overall Plan
for the Upper Minnesota River Watershed
District (Minn. Stat. 1986, Section 112.46)

ORDER
PRESCRIBING
OVERALL PLAN

The board of managers of the Upper Minnesota River Watershed District (District) filed a revised Overall Plan with the Minnesota Board of Water and Soil Resources (Board) on December 17, 1987 pursuant to Minnesota Statutes, Section 112.46 (1986). On March 29, 1987 the Board issued a notice of filing of the revised Overall Plan. The Board did not receive any requests for hearing in response to its publication and mailing of the notice of filing.

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

FINDINGS OF FACT

1. The District was established on September 7, 1967. The District's original Overall Plan was prescribed on July 14, 1971.
2. The District's board of managers initially filed a revised Overall Plan outline on March 6, 1984, and received comments on the outline from the former Water Resources Board dated March 27, 1984. The Water Resources Board urged the District to

consider the following: collection of existing information from other local units and state and federal agencies; taking a total water resources management perspective; initiation of a District water quality testing program; promotion of conservation tillage in cooperation with SWCDs and other agencies and resource organizations; and revision of the District's rules.

3. On July 29, 1985 the District filed a draft revised Overall Plan. On December 31, 1985 the Water Resources Board issued comments on the draft Plan. The comment letter suggested that the District: more fully explain the features of the District's Clean Lakes Project; include better information on feedlots, critical erosion areas, wetlands, and filter strips; incorporate information about the federal CRP; attempt to quantify the economic value of its water and related land resources; and include specific, measurable objectives.
4. On December 17, 1987 the District filed a second draft of its revised Overall Plan with the Board.
5. On March 29, 1988 the Board issued a notice of filing of the revised Overall Plan. The notice was published in the Morris Sun on April 5 and 12, 1988; the Ortonville Independent on April 6 and 13, 1988; The Wheaton Gazette on April 7 and 14, 1988; the Swift County Monitor News on April 6 and 13, 1988; and The Western Guard in Lac Qui Parle County on April 6 and 13, 1988. The notice was mailed to each affected county, soil and water conservation district, city, and state agency, and other

interested parties. The notice briefly summarized the content of the revised Overall Plan and stated that any person could request a public hearing. No requests for public hearing were received by the Board.

6. Board members received summary information about the revised Overall Plan in May 1988.
7. On November 30, 1988 the Board received and considered additional information on the content of the revised Overall Plan.

CONCLUSIONS OF LAW

1. All relevant, substantive, and procedural requirements of law have been fulfilled. The Board has proper jurisdiction in the matter of prescribing a revised Overall Plan for the District.
2. The revised Overall Plan states existing water and water related problems within the District, possible solutions thereto, and the general objectives of the District. The revised Overall Plan conforms with the requirements of the Minnesota Watershed Act.

IT IS THEREFORE ORDERED

1. That the Board prescribes the attached plan as the revised Overall Plan for the Upper Minnesota River Watershed District.

Dated at Saint Paul, Minnesota 55107 this 30th day of November 1988.

MINNESOTA BOARD OF WATER AND SOIL RESOURCES

Donald H. Ogaard
Chairman

MAY 1988

Staff Summary of the Upper Minnesota River Watershed
District Revised Overall Plan

The Upper Minnesota River Watershed District (UMRWD) was established September 7, 1967 after the Water Resources Board received an establishment petition from Big Stone County. The UMRWD's original overall plan was prescribed in July 1971. The Minnesota Watershed Act (Chapter 112) requires that watershed districts revise their overall plans at least every ten years.

The UMRWD is located in west-central Minnesota along the east shore of Big Stone Lake, at the headwaters of the Minnesota River. The UMRWD covers 505 square miles and extends into five counties. (See attached location map).

The topography of the UMRWD consists of gently rolling glacial drift plain interspersed with many depressions. Many of these depressions include shallow lakes or marshes that are land-locked.

The District's most striking surface feature is Big Stone Lake and the Minnesota River Valley through which the lake and the District drain. Big Stone Lake is a 12,360-acre elongated lake. The lake is 25 miles long and about one mile wide. The centerline of the lake is part of the west boundary of Minnesota and the UMRWD. Ortonville, the District's largest city, (1980 population, 2,550) is located at the southeast corner of the lake adjacent to the Minnesota River. The river flows southeasterly in a large valley which varies from 1 to 4 1/2 miles in width, and 80 to 100 feet deep. The Minnesota River, only 75 feet in width, seems strangely narrow in this wide, deep valley. This "misfit stream" developed after huge glacial Lake Agassiz drained through the Minnesota River as the great continental glacier receded to the north. In the process a huge valley was cut, and a small river left to drain the reduced flows.

Bedrock in the District is overlain by 100 to 300 feet of glacial drift, except in the valley, where granite outcrops are exposed. Soils are fertile, and agricultural activities are the predominant land use. Although 80% of the soils have slopes less than 6%, waterborne sediment is a more serious concern than wind erosion. According to the Big Stone County Land and Related Resources Plan, 49% of the county's soils are considered prime agricultural lands, 29% good, 6% marginal, and 16% non-tillable. The Plan states "Marginal farmland has substantial limitations to support food production, even with the application of intensive management practices."

The District's original vegetation was dominated by prairie grasslands with some wooded areas in the Minnesota River Valley.

The District includes about 40 lakes, although about half of Big Stone Lake is located in South Dakota.

The District's glacial legacy included thousands of wetlands. Although many wetlands have been drained and converted to cropland, the plan estimates there are over 3,000 remaining.

All but one of the District's 11 public ditch systems were constructed before 1920. The newest public ditch in the UMRWD was constructed in 1960. A large network of public road ditches and private ditches also drain the District.

Groundwater is found in three geologic sites; sandstone bedrock aquifers, buried sand and gravel aquifers, and surficial sand and gravel aquifers. Municipal water supplies are generally produced from buried sand and gravel aquifers. Groundwater supplies for municipal and rural uses are generally adequate. Groundwater flows in the direction of Big Stone Lake and the Minnesota River.

The District's economy is based on the production of food and fiber by farmers. The primary agricultural crops raised are corn, wheat, soybeans, and oats. The total value of farm products was \$39 million in 1982, 63% of which was from the sale of crops, with 37% from the sale of livestock.

The Plan includes a section that estimates the economic impact of various levels of water quality in Big Stone Lake on the local economy. In general, decreasing water quality in Big Stone Lake has reduced the contribution of recreation to the local economy.

Tables from pages 171 and 174 of the Plan indicate the projected effect of water quality on the economy and have been attached.

Population trends in the District and in west-central Minnesota in general have been in long-term decline. Big Stone County, which makes up 81% of the UMRWD area, had a population of 10,477 in 1940; by 1980 it had declined 24% to 7,716. Projections for 1980-1990 indicate a stable population for the area.

UMRWD Activities - Past, Present, and Future

Although there were concerns about Big Stone Lake's water quality at the time the District began operations in 1971, it was the issue of flood control that received the most attention.

The Big Stone Lake/Whetstone River Project was the District's main effort during its first decade. This project was constructed with the assistance of the U.S. Army Corps of Engineers. The District served as the local sponsor. The project included construction of the Hwy. 75 dam and associated channel improvements on the Minnesota and Whetstone Rivers. The project also included a silt barrier, bank stabilization, improvements to the Big Stone Lake outlet structure, and establishment of the Big Stone Lake National Wildlife Refuge. Total project costs were \$13,021,000. Local costs were \$153,000. The project benefits included: flood control, improvement of Big Stone Lake water quality, and wildlife habitat enhancement. The UMRWD is responsible for operation and maintenance of the project.

During the 1980s the UMRWD's focus turned from flood control to concern for deteriorating water quality in Big Stone Lake. The Citizens For Big Stone Lake raised study funds and helped bring the issue to public attention. In 1980 the South Dakota Department of

Water and Natural Resources (SDDWNR) received an Environmental Protection Agency (EPA) grant for a diagnostic study of the lake. In 1984 applications for EPA Phase II Step I - Implementation funds were received by both SDDWNR (\$156,500) and the UMRWD (\$91,366).

Improving Big Stone Lake's water quality is an ambitious goal, especially when the project area lies in two states. 81% of the lake's watershed is in South Dakota. The project is further complicated by the sheer size of the lake (19 square miles) and the 1,140-square mile contributing drainage area. The project goal is to upgrade water quality from hypereutrophic to eutrophic; thereby improving recreational potential.

In 1985 the project was furthered with the receipt of an additional \$629,521 grant from the EPA. The project objective is to apply a watershed management plan to control agricultural non-point pollution in targeted subwatersheds. The Salmonsens Creek subwatershed was selected as the Minnesota target subwatershed. The subwatershed has been modeled to indicate which 40-acre cells are likely to be contributing the heaviest loads of sediment and nutrients to the lake. The attached table 21 indicates the priority cells and recommended practices for the Salmonsens Creek subwatershed. Project funds are then directed to landowners in critical cells for cost-sharing of voluntary installation of conservation practices.

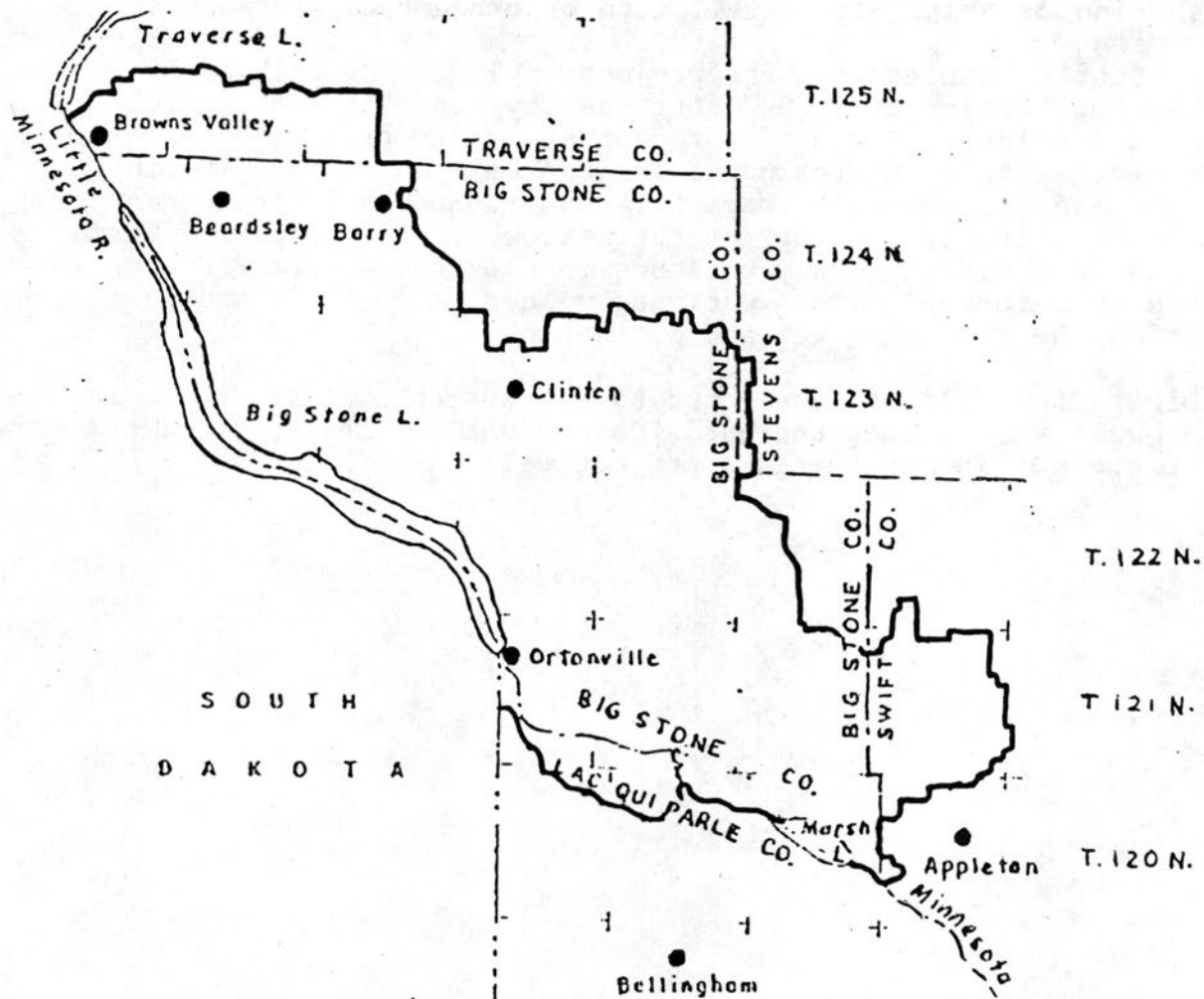
Other efforts funded by the project include a no-till drill rental program, monitoring of groundwater quality, and the restoration of an in-stream wetland. The Meadowbrook restoration project consists of a cooperative effort to restore a 70-acre wetland in order to increase nutrient and sediment entrapment, and reduce bank erosion and peak flows. Attached is a map of the Meadowbrook project. The District hopes to restore other key wetlands in the future. The Plan contains excellent information on wetland values and the importance of protecting the remaining wetland basins.

The District realizes the road to improvements of Big Stone Lake's water quality is long and hard. Consequently, the District expects to continue working on the lake project well into the 1990s.

Staff Comments and Recommendations on the
UMRWD Revised Overall Plan

The managers and staff of the UMRWD have developed a very good revised overall plan (Plan). The Plan summarizes the District's history, resources, past and present activities, future direction, and philosophy.

The District has completed the massive Big Stone/Whetstone Project, and now has embarked on another, the Big Stone Lake Restoration Project. The managers are to be commended for their broad, comprehensive view of watershed management. The UMRWD's activities include groundwater quality monitoring, wetland restoration and protection, lake level control, lake water quality restoration, and erosion control. The District has developed a broad range of water and related land resource protection programs that are well described in the revised Overall Plan.



RECOMMENDED RESOLUTION

To approve the draft Order prescribing a revised Overall Plan for the Upper Minnesota River Watershed District, and direct staff to forward a copy of the revised Overall Plan to the District and DNR and to each affected county board, city, and soil and water conservation district, as required by section 112.46, subdivision 5.

MINNESOTA SOIL-AND-WATER-CONSERVATION BOARD OF WATER AND SOIL RESOURCES

Supplemental Project Agreement

Amendment #1 to FY88 #99780-81930

THIS SUPPLEMENTAL AGREEMENT, made this 31st day of October 1988, by and between the Pipestone Board of Commissioners and the Pipestone Soil and Water Conservation District Board of Supervisors, jointly, called the Sponsoring Local Organization; and the Minnesota Soil-and-Water-Conservation-Board Board of Water and Soil Resources, called the Board.

WITNESSETH THAT:

WHEREAS, the above named parties entered into agreement No. M.S.W.C.B. 104-113 on January 28, 1988; and

WHEREAS, a contract for construction of the dam was made on May 26, 1988; and

WHEREAS, construction of the dam will be completed in the fall of 1988; and

WHEREAS, The total cost of the project will exceed the estimated cost by \$10,000.00 because of minor changes during construction which were necessitated by changes in the foundation removal amounts; and,

WHEREAS, It is in the best interest of the Board and the Sponsors to complete the project,

NOW THEREFORE, in consideration of the premises set forth above, the Sponsoring Local Organization, and the Board hereby agree to change the original agreement as follows:

- A. It is agreed that the following described work is to be constructed at an estimated cost of ~~\$160,000.00~~ \$170,000.00.

The Minett-Krantz Reservoir floodwater retarding structure in Section 23, T 108N, R 44W, Pipestone County.

- B. The Sponsoring Local Organization will:

2. Provide 25% of the cost of constructing the works of improvement described in A and the necessary land costs. This cost to the Sponsoring Local Organization is estimated to be ~~\$40,000.00~~ \$42,500.00.

- C. The Board will:

1. Provide 75% of the cost of ~~construction~~ constructing the works of improvement described in A and necessary land costs. This cost to the Board is estimated to be ~~\$120,000.00~~ \$127,500.00. (FY-87, \$80,000.00; FY-88, \$40,000.00; FY-89 \$7,500.00).

(DELETIONS INDICATED BY STRIKEOUT, ADDITIONS INDICATED BY UNDERLINE.)

With the above exceptions, all other language of the agreement shall stand as originally executed.

Project: Area Technical
Office

Contract No: MBWSR 104-17

MINNESOTA BOARD OF WATER AND SOIL RESOURCES

TECHNICAL OFFICE AGREEMENT

THIS AGREEMENT, is made this 12th day of November, 1988, for the period July 1, 1988, through June 30, 1989, by and between the Minnesota Board of Water and Soil Resources, hereafter called the "Board" and the Area II Upper Minnesota River Basin Board, hereafter called "Area II".

WITNESSETH THAT:

WHEREAS, Minnesota Statutes, Sections 104.42 - 104.50, provides for grants-in-aid to local governmental units within the Southern Minnesota Rivers Basin Area II for the construction of floodwater retarding and retention structures, including site acquisition, design, and construction costs; and

WHEREAS, The counties within the Southern Minnesota Rivers Basin Area II have entered into a Joint Powers Agreement to coordinate and implement construction of such floodwater retarding and retention structures and for this purpose have established the Area II Upper Minnesota River Basin Board to act on their behalf; and

WHEREAS, Area II has established and staffed a technical office to supplement the engineering and technical services provided by the Board and the Soil Conservation Service; and

WHEREAS, This technical office houses the Board's engineer and Area II personnel; and

WHEREAS, The Board provides annually up to 75% of the operating costs of this technical office including, but not limited to, rent, furniture, salaries, per diem, survey and testing materials, vehicles, secretarial and accounting expenses, employee and engineer travel and education expenses, and telephone services.

NOW THEREFORE, in consideration of the premises set forth herein, Area II and the Board hereby agree as follows:

A. AREA II SHALL:

1. Provide suitable office space for their employees, the Board's Engineer, and the Board's District Representative based in Marshall.
2. Operate the technical office for fiscal year 1989 according to the attached detailed spending and work plan made a part of this Agreement.
3. Provide 25% of Area II's annual budget for operational costs of technical office. The annual budget for fiscal year 1989 is \$79,800.00.
4. Remit monthly to the Board a report of all expenditures made during the month including payments for rent, furniture, salaries, per diem, survey and testing materials, vehicles, secretarial and accounting services, employee and engineer travel and educational expenses, telephone and all other expenses related to the operation of the technical office.
5. Have its financial accounts audited annually and report the results to the Board and to its ten members.
6. Meet annually with the Board at a regular meeting to present new projects and inform the Board on its operations.
7. Request prior authorization of the Board before making purchases not identified in the work plan.
8. Reimburse the Board for expenditures which are ruled by the Board to be ineligible uses of state money.
9. Indemnify and save and hold the Board, its agents and employees, harmless from any and all claims or causes of action arising from the performance of this Agreement by Area II, its agents or employees. This clause shall not be construed to bar any legal remedies Area II may have for the Board's failure to fulfill any obligations pursuant to this Agreement.

B. THE BOARD SHALL:

1. Within the limits of legislative appropriation provide 75% of Area II's yearly budget but not more than \$59,850.00 from fiscal year 1989 Funds.
2. Provide, at its expense, the latest release of Autocad software for Area II's IBM Model AT computer to be used for design and drafting of Projects undertaken by Area II or the Board.
3. Provide, at its expense, the services of its Staff Engineer according to Minnesota Statutes, Section 104.45, who, in addition to any other duties he may have, shall manage the technical office.
4. Provide overall supervision of projects in the best interest of the state.

C. IT IS MUTUALLY AGREED THAT:

1. The books, records, documents, and accounting procedures and practices of Area II relevant to this Agreement are subject to examination by the Minnesota Board of Water and Soil Resources and the State Auditor as per Minnesota Statutes 16.095.
2. No member of any elected body, nor any employee or agent of Area II or the Board shall materially benefit, directly or indirectly, from any project undertaken by Area II, except as provided by law or this Agreement.
4. This Agreement may be canceled by either party upon a thirty (30) day notification.

AREA II UPPER MINNESOTA RIVER BASIN

TECHNICAL OFFICE WORK PLAN

FISCAL YEAR 1989

The Area II Technical Office will operate using the funds shown in the spending plan for 1989 as follows:

Area II The office will be managed by the engineer employed by the Board of Water and Soil Resources. The position will be under the direction of the Director of the Board of Water and Soil Resources.

The engineer is responsible for preparing the spending plan and billing the ten counties for their share of the spending plan. The engineer will be responsible for maintaining the financial records of the technical office.

The Area II Directors will provide office space for the Board's Engineer, the Board's District Representative, and their employees at 1400 East Lyon Street in Marshall, Mn.

The Area II Directors will employ an engineering technician for assisting the engineer in the design, construction inspection, surveying, drafting, and administration of the projects undertaken by this office. This technician will work full time during fiscal 1989 and be under the supervision of the engineer employed by the Board of Water and Soil Resources.

The technician's time will be used as follows during Fiscal Year 1989:

1. Four months preliminary and topographic surveying of new structure sites.
2. One month Computer Aided Design training and other related training.
3. Six and one fourth months design, computation, and drafting for projects.
4. Three weeks annual leave.

A part-time technician will be employed as needed to assist the engineering technician with surveying and his duties .

The Directors of Area II will employ a part-time clerk/accountant to perform the accounting, typing, and clerical work required by the engineer. The engineer will determine the time needed to complete the clerical work.

The employees described in the previous two paragraphs will work under the supervision of the engineer employed by the Board of Water and Soil Resources. The spending plan also allows for per diem and expense payments to the ten directors and alternates for performing their duties in the operation of the Area II Technical Office. The spending plan also allows for general liability insurance, workmen's compensation, honesty bonds, theft and casualty insurance, and automobile insurance. The directors also carry medical and dental insurance for the technician.

The office expenses shown are derived from actual costs of the previous year with a small inflation increase. Also included is an item to fund seminars for the Board's Engineer. This will be used to pay for seminars necessary for continuing education in dam safety, flood plain management, structure design, and other courses concerned with the engineer's duties.

The spending plan allows for the purchase of hardware for Area II's personal computer and purchase of additional software to be used for engineering design, word processing, and accounting duties for Area II.

The survey and testing supplies are necessary for expendable supplies such as lath, stakes, paint, etc., as well as laboratory tests and maintenance of the survey and testing equipment.

The amount budgeted for geological testing will allow for the contracting of mapping, drilling, sampling and testing of proposed structure sites, and other testing required for new projects.

AREA II UPPER MINNESOTA RIVER BASIN

TECHNICAL OFFICE BUDGET

FISCAL YEAR 1989

EMPLOYEE EXPENSES

Engineering Technician	\$25,000.00
Part Time Technician Salary	2,000.00
Clerical and Accounting Salaries	2,000.00
Employee Expenses	600.00
Employee Education	1,500.00
Employer Share FICA	2,200.00
Employee Medical Insurance	1,000.00
Subtotal	\$34,300.00

DIRECTOR EXPENSES

Director's Per Diem	\$6,500.00
Director's Expenses	3,000.00
Insurance and Bonds	5,000.00
Professional Services	1,000.00
Meeting Expenses	600.00
Subtotal	\$16,100.00

OFFICE EXPENSES

↑ Rent and utilities	\$4,300.00
Computer Maintenance	500.00
New Software ↓	1,700.00
Telephone	1,500.00
Postage	400.00
Office & Field Supplies	1,000.00
Automobile Expense	2,500.00
Engineer Seminars	1,000.00
Miscellaneous	500.00
Subtotal	\$13,400.00

PROJECT EXPENSES

Geologic Testing	\$8,500.00
Project Expense	3,000.00
Contracted Services	2,500.00
Subtotal	\$14,000.00
Computer Equipment	\$2,000.00
Subtotal	\$2,000.00
GRAND TOTAL	\$79,800.00
State Share	\$59,850.00
Local Share	\$19,950.00

IN WITNESS WHEREOF, the parties have caused this agreement to be duly
executed intending to be bound thereby.

Approved:

AREA II UPPER MINNESOTA RIVER BASIN BOARD

Authorized Signature

Date

MINNESOTA BOARD OF WATER AND SOIL RESOURCES

Authorized Signature

Date

ATTORNEY GENERAL

Authorized Signature

Date

COMMISSIONER OF ADMINISTRATION

Authorized Signature

Date

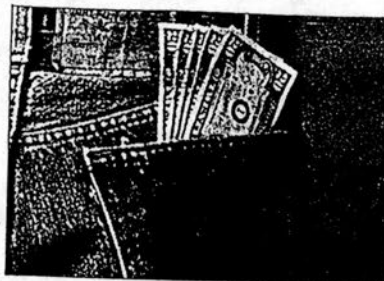
COMMISSIONER OF FINANCE

Authorized Signature

Date

COVER STORY

Sustainable agriculture



Game plan
for
survival

By Ed Maixner

American farming is a man entering his 40s.

His health and strength are not so much different than they were 20 years earlier, but he's picked up some crinks and pains along the way — enough damage to teach him he's vulnerable.

He uses his head more these days. Takes care of himself. Takes fewer risks.

He has learned the limits of his strength. Now he's learning finesse.

In many ways, U.S. agriculture has reached the same age.

The necessary finesse, in this case, is embodied in a movement called "sustainable agriculture."

Sustainable agriculture is a notion as wide as a 40-rod field.

It's practical, pragmatic, profitable farming. It's enlightened by the magic of biotechnology and buttressed by the steady shoulder of soil stewardship. You do it not because you want to save the world, but because you want to save your farm.

It's important for farmers to understand sustainable agriculture because it is, almost unavoidably, their future.

So just what is sustainable agriculture?

Most conventional farmers and ranchers have perhaps discussed it. Some may view it as one of those odd kinds of farming that ask you to give up your pesticides, fertilizers and profits.

That's hardly the case.

For some farmers, in fact, only the term is new; the concepts are already alive and well on their farms.

Sustainable ag means you focus on the long-term productivity of your fields and rangeland. You maintain your profit margins, or even increase them, by reducing production costs rather than by focusing solely on greater yield.

We can learn about a grain by looking at one of its kernels. Similarly, we can begin an examination of sustainable ag by pushing one of its kernels across the palm of the hand.

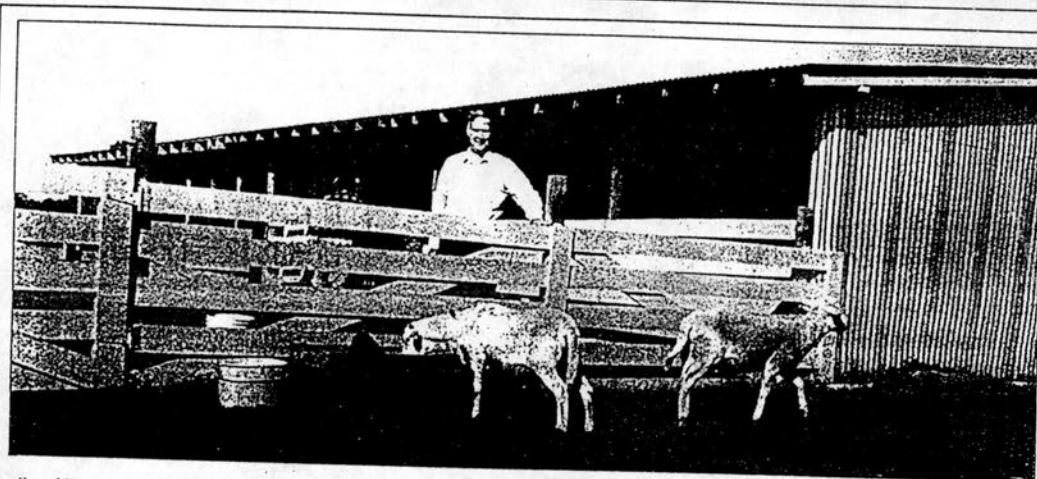
Like this.

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In agronomy, perennial wheat is a kind of alchemist's dream. Such a grass-wheat cross might offer a wheat seed for milling flour, but also a grass to be grazed. And, without reseeding, the crop would return again next season.

For decades, scientists in the U.S., Canada and Russia worked toward such a cross-bred plant. However, researchers became discouraged because the new plant could not produce seeds large and numerous enough to compete with annual wheat varieties. Besides, U.S. agriculture was comfortable, and profitable, with annual wheats, so demand for a perennial wheat was not great.

But plant geneticist Jurgen Schaeffer has kept searching for a workable cross since he came to Montana State University 31 years ago, figuring his semi-arid state could use non-erodible wheat fields. And, in a region where wheat yields are often marginal, there is promise for a wheat that is very



Jim Horne, of Poteau, Oklahoma's Kerr Center for Sustainable Agriculture, shows off his Katahdian sheep. Researchers there are trying to engineer a better "natural herbicide" to graze weeds from the pasture.

This sheep breed sports a coat of hair instead of wool. That means they're easier to manage since no shearing is needed. The sheep also are more comfortable grazing in the heat of a summer day.

Photography: Ed Maixner

What is sustainable agriculture?

To understand sustainable agriculture, let's put it up against other concepts in farming that are also outside the main flow of current U.S. farming practices.

Organic, biological or biodynamic farming: These exclude the use of synthetic fertilizers, pesticides, growth regulators and livestock feed additives. The organic farmer usually sells products into a "natural foods" market. The per unit cost of production is often higher than for conventional farming, but that disadvantage is often corrected by a premium price the products can find.

Regenerative ag: Focuses on the resource, the soil, and on rebuilding its long-term productivity. Attempts to find integrated systems of farming, using crop

rotations and, very often, livestock to create an integrated farming system, with one crop or animal enhancing the production of another. Synthetic fertilizers and chemicals are used, but sparingly or as a last-ditch measure.

Sustainable ag: Also called "reduced input," or "alternative," although the latter term is unspecific and sometimes applied to organic farming methods.

Sustainable ag is much like "regenerative ag," but is more mainstream. With sustainable agriculture, the goal is a farm that will sustain the soil, but financially sustain the farmer, too. Sustainable ag tries, over a period of years, to replace costly chemicals with crop rotations, tillage methods and new techniques in bio-

logical control of pests.

Basically, the farm becomes more diversified under sustainable ag. Management may become more complex, especially while the operator learns more about the biological interaction among the plants and livestock on his farm. However, financial risk is reduced because, with lower production costs, you become less vulnerable to one or two years or poor weather or low commodity prices.

Soil conservation and reducing pollution of ground and surface water are important concepts in sustainable ag, but they are more a result of sustainable ag practices than a reason for such practices.

In the end, the reason is long-term profitability. □

cheap to raise.

A year ago, Montana State released Schaeffer's best version of such a variety: a cross between durum and intermediate wheat grass.

Designated scientifically as "agrotriticum" but known to farmers as "Montana 2," Schaeffer's plant is still not ready to compete as a cash crop with 40-bushel wheat, and it's still under experiment.

But despite its humble yield, agrotriticum may be a blessing to both farmer and farmland across the windswept Great Plains. That's because it yields in several ways.

Think of it: A perennial wheat that must be reseeded perhaps only once in 10 years. You harvest the seed heads for perhaps 10 bushels of wheat per acre, and then graze your cattle on the remaining grass for a month or two after harvest. And, with an

established stand, you can kiss erosion problems good-bye.

Or, you plant alfalfa with agrotriticum in the same field, and let the legume supply nitrogen to the wheat. Perhaps you graze the mixed foliage in the spring until mid-May, and harvest wheat and alfalfa seed in September. Then you screen the alfalfa seed from the wheat after harvest, and sell two crops.

Agrotriticum has potential. It springs from the need of U.S. farmers to produce profitable crops while reducing the costs of producing those crops.

High costs equal high risk

The downside of this nation's love affair with big farms, big machinery and intensive cropping showed up in a painful way when production costs kept rising, but the price the world was willing to pay for the product

didn't.

In the last 10 years alone, the prices U.S. farmers pay for equipment, supplies and other farm inputs has risen 77 percent, while the prices for commodities have risen 44 percent.

And even that 44-percent was too much for the world market, so the U.S. and other governments have spent billions in export subsidies just to sell the grain.

In the long run, U.S. farmers cannot afford to pay \$100 each year to grow an acre of wheat, especially when they sell that wheat into the same global market as do lower-cost farmers from Argentina or Australia.

If the U.S. government is going to reduce subsidies in the 1990s, farmers need some lower-cost ways of farming.

AG: Continued on next page

COVER STORY

Harvesting better ideas for agriculture

Researcher Wally Nelson explores how to make a farm sustainable

As superintendent of the southwest Minnesota Experiment Station since 1959, Wally Nelson has been delivering better ideas to farmers for most of his adult life.

However, the nature of agriculture's better ideas is changing, and Nelson finds himself among the leaders of the University of Minnesota's focus on "more sustainable" farming.

"In my own mind, I always thought I had sustainable agriculture," Nelson says about his research operation near Lamberton, Minn.

In the 1960s and 1970s, he says, "the ideal was to develop the soil as a medium to grow one kind of plant. At the time, I thought mono-culture was sustainable."

Research centers are finding that making a farm sustainable probably means diversi-

fying. Not a diversity measured simply in numbers of crops and livestock, but rather in a calculated selection of plants and livestock that contribute to each other, and add value to each other, on the farm.

For example, Nelson says, the simple rotation of corn and soybeans adds 10 percent to the yield of each crop in an average year.

Rotation of corn and soybeans fits in the vestibule of sustainable ag because it uses one crop to enhance the growth of another.

However, even a corn-soybean rotation remains an intensive operation with high production costs.

Not the least of the problems with the intensive farming of only a few crops is the heavy equipment required to get the job done with a minimum of workers.

That worries Nelson. A cheap food policy

requires large farms, he says, but large equipment compacts the soil, preventing crops from sending their roots deep. The problem was particularly obvious this year because of the drought.

"Compaction is the worst farming problem we will have in the next generation," he says.

One alternative to larger farms is to add ventures, or commodities, rather than more acres. The idea is to find profits by adding efficiency. Examples are utilizing more of the crop residues as feed, or using one crop to increase the yield of another, or returning livestock manure to the fields.

Nelson says he will study those kinds of efficiencies in combined crop-livestock operations by designating 480 acres of the farm for that type of research. Rather than buy cattle and other stock for the farm, he will make agreements with nearby farmers for grazing livestock on the experiment farm, or take crop residue to surrounding farms for experiments in animal nutrition. □



Wally Nelson, of the Lamberton, Minn., research station: "In my mind, I've always thought I had sustainable agriculture."

Ag

Continued from previous page

Sustainable ag: Evolution — not revolution

To a large extent, U.S. farmers and ranchers already have sustainable ag within their grasp.

Some of its concepts are well established. And, individually, they're hardly foreign to producers. Farmers have served on the boards of Soil Conservation Districts for decades, and most have a good grasp of what will deplete their soil and what will enhance it.

And they've been forced by sheer economics to cut production costs. Some apply fertilizer in a band along rows of crops, rather than broadcast the fertilizer. This practice saves dollars, and also means less chemical to reach rivers and water tables.

A few farmer organizations have been formed specifically to promote sustainable agriculture. For example, the Northern Plains Sustainable Agriculture Society, with membership in the Dakotas, Montana and Minnesota, was formed in 1979 primarily as a network for organic farmers. Since then, the scope of the group has widened to also promote generally sustainable farming practices, with a focus on non-synthetic treatments for crops. Some members operate part of their farms as organic farms and other parts by more conventional methods.

In Iowa, farmers have formed the "Practical Farmers of Iowa," a group that focuses on the low-cost production and diverse enterprises that sustain both the land and the farmer's pocketbook.

Group efforts of one kind or another are necessary to advance the science of lowering production costs.

While sustainable agriculture on one level is an inexpensive matter of common sense, it is, on another level, at the cutting edge of science. And that's an expensive place to be.

Sustainable agriculture research by universities and private companies, therefore, is essential if farmers are going to go beyond simple soil conservation practices and reap the real advantages that biotechnology and a broader understanding of nature can provide.

An alternative to debt

Until very recently, the research centers that were interested in farms with diverse,



Agrotriticum, a grass-wheat. Harvest it, graze it, and wait for next year.

complementary enterprises were scarce.

With few exceptions, land grant universities remained largely on the sidelines of sustainable ag until the past two years.

An early entry into the field was the Kerr Foundation Agriculture Division at Poteau, Okla. When the research center was formed in 1965, it had cast its lot with small, diversified farming. But in 1986, it changed its name to the Kerr Center for Sustainable Agriculture.

In the late 1970s, the Kerr group recognized that farmers were wandering into a financial trap — debt. Farmers were making greater and greater investments in land and machinery, as well as the seed, fertilizers and chemicals needed to produce one or two crops, such as wheat or cotton. For most farmers, those investments meant huge debts.

"We found that the profits of agriculture, in the long term, could not support such high investment," says center administrator Jim Horne.

So the Kerr Center offered farmers an alternative: the services of farm management specialists who helped farmers design their small farms for survival. The focus was on the kind of diversity and economy where one farm enterprise supports another.

It meant, for example, certain crop rotations. Or perhaps grazing livestock on crop residues. Or using family labor to grow a vegetable crop, and feeding the residue of that crop to sheep or cattle as well.

Campuses come aboard

By 1988, sustainable ag is becoming mainstream on university campuses. The Kerr center now works jointly with Oklahoma State and other universities on forage crop and livestock research.

To a large extent, it has been water polluted by ag chemicals and growing federal restrictions on farm chemicals that have led the university community into a sustainable ag mentality.

On campus, the result is a new approach to traditional farming, not a new agriculture. In fact, people at land grant universities often refer to "more sustainable agriculture," suggesting that new farming practices are being added, but past accomplishments are not being discarded.

For example, at the southwest Minnesota Experiment Station, total volume of insecticides used on the 668-acre farm is about 10 percent of the amount used in 1960. That reduction results from the kind of things that breathe life into sustainable ag:

- Crop rotations that interrupt the life cycles of insects.
- Development of crop strains resistant to certain insects.
- Treatment of seeds to assist the plants in surviving attack, and development of seeds with more vigor.
- Researchers and farmers have learned the "economic threshold" for applying insecticides. That threshold is the point where the infestation is serious enough to economically justify the price of the treatment.
- Researchers and farmers have learned "cultural," or non-chemical, ways of reducing insects. For example, a corn combine's stripper plates, which strip the leaves from the stalks, kill about two-thirds of the corn borers that hide in the corn plants.

Momentum is building

Besides the contributions that the universities make to sustainable ag by virtue of research, three other significant things are happening.

First, the universities are organizing groups of researchers to focus on sustainable ag practices, and are creating research centers to conduct that kind of work.

Two years ago, North Dakota State University created the Center for Alternative Agriculture at its Carrington research farm. Last year, the University of Minnesota bought a quarter of land next to its southwest experiment station to devote to sustainable ag research. Earlier this year, Iowa

State University created the Leopold Center for Sustainable Agriculture. Other land grant institutions, including those in Kansas, Nebraska and Oklahoma, have made similar moves.

The shift to sustainable ag research has also meant real spending by the universities and USDA, which sponsors much of the research. Last year, USDA financed 800 projects in biological pest control, at a cost of \$85 million, or four times the commitment to such research 10 years ago.

Secondly, researchers have begun looking for more answers among the secrets of biology, and for fewer among the power of synthetic chemicals.

The growing understanding of plant and animal biology, including the ability to alter an organism by "gene splicing," has helped lead the research community toward biological answers.

In the field, for example, that may mean finding or creating a wheat resistant to a certain fungus, rather than depending on a fungicide. Or it may mean breeding a corn that yields as well as other leading varieties, but on a reduced amount of nitrogen.

Third, there appears to be a new effort by the land grant universities to interact with farmers in selecting research projects and sharing the results.

Conferences for farmers on sustainable and alternative ag practices, sponsored by the universities and state ag departments, have been numerous recently.

NDSU has created, along with its sustainable ag focus at Carrington, a network for exchanging information between the center and county extension agents throughout the state.

Cashing in on biotech

Still, it will be left largely to farmers themselves to cash in on sustainable ag. It may mean pounding on some university doors to get the answers you need for new ventures on your farm.

As sustainable ag concepts find root across the Great Plains in the next few years, the universities will likely find themselves filling a role they were created to play.

"As a research center, we are supposed to be the risk takers for farmers," says Horne at the Kerr Center.

"We sort out ideas and farming enterprises and try to fine tune them. We may try some bizarre things at times, but the mistakes are as important as the things we do right," Horne says. □