

Minnesota Board of Water and Soil Resources. Minutes.

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Version 3
August 20, 2018

MINUTES OF MAY 24, 1989
OF THE
BOARD OF WATER AND SOIL RESOURCES

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

Appointed Members Absent
Ken Schellack
James Hoese
Natalie Haas Steffen

Others in Attendance
Paul Burns, Minnesota Department of Agriculture
Gary Nordstrom, Soil Conservation Service
George Foster, University of Minnesota/Extension Service
Ken Pederson, Minnesota Association of Soil and Water Conservation Districts
Franklin Denn, Minnesota Association of Townships
Dick Howe, Douglas County
Ginny Kruger, Red River of the North Management Area
Jerry Schotzko, Fish & Wildlife Service
Brian Christensen, E.A. Hickok & Associates

Staff in Attendance
Jim Birkholz
Pat Bloomgren
Mel Sinn
Greg Larson
Wayne Edgerton
Doug Thomas
Bruce Sandstrom
Darrell Apelgrain
Mark Nelson
Chris Hughes
Jeff Nielsen
Dan Steward
Brian Dwight
Dick Ness
Mary Jo Anderson

Meeting Called to Order - Chairman Ogaard called the meeting to order at 9:02 a.m., at the Holiday Inn, Detroit Lakes, Minnesota.

** 89-33 **Adopt Agenda** - Moved by Peterson, seconded by Warner, to adopt the agenda as presented. Affirmative: Ogaard, Boulton, Williamson, Warner, Kalmes, Bade, Moen, Brooks, Jr., Harste, Peterson, Graba, Kemp, and Cofell. Opposed: None. Carried.

Approval of Minutes of April 26, 1989 - John Brooks, Jr., stated that he had left the meeting and his name should be removed from page 8 and 9 as voting in the affirmative. Moved by Peterson, ** 89-34 seconded by Brooks, Jr., to approve the minutes of April 26, 1989, as corrected. Affirmative: Ogaard, Boulton, Williamson, Warner, Kalmes, Bade, Moen, Brooks, Jr., Harste, Peterson, Graba, Kemp, and Cofell. Opposed: None. Carried.

Chairman's Report - Chairman Ogaard stated that he very much appreciated having the tour in his area of the state and that everyone came to the northwest for the meeting and tour. It was reported that a tour of Area I sponsored by the MASWCD will be held on June 27 of Beltrami County in Bemidji.

Chairman Ogaard asked for comments from everyone who attended the tour. Response to the tour was enthusiastic. Don's excellent efforts in arranging the tour, as well as his narration, were greatly appreciated.

Red River of the North Mangement Area - Ginny Kruger, Communications Director, distributed brochures for the Board's information. She explained that the Red River of the North Management Area is a regional promotional organization, which is a three-year pilot program to end in October. Funding is needed to continue. She is proposing that SCS and the BWSR contribute $5,000 each, and each SWCD contribute $500, or whatever they can to help in continuing this program. She played a tape of "Torvald the Norwegian Bachelor Farmer" for the Board. This a radio broadcast done on the local radio stations in the area. Howard Peterson stated that he endorsed the program, but has a problem with the Norwegian or ethnic point of view. Discussion followed. Ms. Kruger stated that they are sensitive to the ethnic issue, but they are not being offensive.

Chairman Ogaard called for a break in the meeting at 10:55 a.m., the meeting reconvened at 11:15 a.m.

Legislative Summary - Jim Birkholz distributed copies of a funding summary and notes on the Groundwater Bill Conference Committee Report for the Board's information. He gave a brief overview of the legislative session results. Jim reported that there was talk of an increase in per diem to $48, he will let the Board know.

Jim reported that he would like to conduct informational meetings statewide on the legislative issues and implementation.

110B Project Managers Report - Dick Howe, Douglas County. He distributed copies of the Douglas County Comprehensive Local Water Planning Newsletter for the Board's information. Mr. Howe gave a brief overview of the first year's activities. They are now working on a second draft of goals and objectives. Mr. Howe stated that he has really enjoyed working on this. Jack Graba thanked Mr. Howe for his volunteerism. Chairman Ogaard thanked him for coming before the Board today.

Chairman Ogaard adjourned the meeting for lunch at 12:15 p.m. The meeting reconvened at 1:15 p.m.

509 Metro Water Planning Update - Bruce Sandstrom distributed correspondence with the Gun Club Lake WMO Plan. He summarized the Gun Lake Club WMO and recommends approval of the plan if the agreed to recommoendations are included in the Plan. Discussion followed. Brian Christensen, E.A. Hickok & Associates, stated that the Board's proposed action and approval would meet the needs of the
** WMO. Moved by Peterson, seconded by Harste, that the BWSR give
89-35 assurance on the Gun Club Lake WMO that the plan will be approved when the recommended plan revisions are made. Affirmative: Ogaard, Williamson, Boulton, Warner, Bade, Moen, Brooks, Jr., Harste, Peterson, Graba, and Cofell. Opposed: None. Carried.

Bruce Sandstrom gave an overview of the Vermillion River WMO. He gave a slide presentation, and explained that the Vermillion River WMO covers 293 square miles in Dakota and Scott Counties. This is a joint powers planning entity. Discussion followed.

Bruce Sandstrom gave an overview of the Lower Mississippi River WMO. He gave a slide presentation and explained that the Lower Mississippi River WMO covers 50 square miles in Dakota County. Discussion followed.

EQB/Water Resources Committee Report - Loni Kemp commended Jim Birkholz and Pat Bloomgren for their work on the groundwater bill, much gratitude to them.

Loni Kemp suggested presenting a media award to "Agri News". Their coverage on conservation, sustainable agriculture, and groundwater issues are commendable. Jack Graba suggested a committee be formed
** to meet on this and bring it before the Board. Moved by Kemp,
89-36 seconded by Warner, that the Chairman choose a committee of three BWSR members to develop criteria for outstanding achievements on natural resources issues. Affirmative: Ogaard, Williamson, Boulton, Warner, Kalmes, Bade, Moen, Brooks, Jr., Harste, Peterson, Graba, Kemp, and Cofell. Opposed: None. Carried.

requested approval to arrange an informational meeting with the Hennepin Co. Commissioners and 2 BWSR members to discuss water issues in Hennepin Co.

Howard Peterson ~~stated that the Hennepin County Commissioners would like to bring a proposal before the Board to clarify water quality issues in Hennepin County.~~

RIM Reserve Program - Wayne Edgerton distributed a summary sheet of a request for an easement modification to accommodate highway widening in Stearns County. Discussion followed. Moved by Moen, seconded by Williamson, that the BWSR approve the request to modify the RIM Reserve easement. Affirmative: Ogaard, Williamson, Boulton, Kalmes, Bade, Moen, Brooks, Jr., Harste, Peterson, Graba, Kemp, and Cofell. Opposed: None. Carried.

** 89-37

Chairman Ogaard introduced Ginger Flynn and Brad Grant from the Becker Soil and Water Conservation District, who are present at the meeting this afternoon.

Preview of Local Government Grants - Greg Larson distributed a summary sheet of the allocation of funds remaining from the pilot SWCD manager program for the Board's information. Greg explained that the staff grants committee will be meeting on June 2, 1989, to discuss available options for allocation of funds for 1990. A specific proposal will be brought before the BWSR in June.

Study Area II - Action on Proposed Lazarus Creek Project - Darrell Apelgrain stated that the Land Rights were prepared for the April BWSR meeting. The BWSR's share of the cost is $45,000 of the $60,000 for purchase of land and associated costs. Discussion followed. Moved by Boulton, seconded by Cofell, to approve the Study Area II Lazarus Creek Structure. Discussion followed. Cofell then moved to table action on the previous motion until the June meeting. Discussion followed. Cofell then withdrew his previous motion to table action. The question on the original motion was raised. Affirmative: Ogaard, Williamson, Boulton, Kalmes, Bade, Moen, Brooks, Jr., Harste, Peterson, Graba, and Cofell. Opposed: None. Carried. Abstained - Kemp. Loni Kemp explained that she did not vote because she does not feel knowledgeable of the structure. Mel Sinn suggested that an overview of Study Area II be discussed at the the June meeting.

** 89-38

Two Rivers Watershed District - Mel Sinn reported that a boundary correction is needed on the Tamarack River of the Two Rivers Watershed District. 1640 acres were improperly annexed. Moved by Bade, seconded by Boulton, to approve the boundary change on the Two Rivers Watershed District. Affirmative: Ogaard, Boulton, Kalmes, Bade, Moen, Brooks, Jr., Harste, Peterson, Graba, Kemp, and Cofell. Opposed: None. Carried.

** 89-39

The North American Waterfowl Management Plan - Jerry Schotzko, U.S. Fish & Wildlife Service, distributed "North American Waterfowl Management Plan" and a newsletter, "Waterfowl 2000" for the Board's information. He also showed the video, "Goose Music" for the Board. He stated that the United States and Canada are working on

joint efforts to provide funding for projects in the Minnesota prairie pothole region, lower Mississippi area and in southwestern Minnesota. Loren Harste felt that recognizing efforts to those who maintain wetlands without receiving special incentives should also be acknowledged. Discussion followed.

** 89-40 Moved by Graba, seconded by Brooks, Jr., to adjourn the meeting at 4:00 p.m. Affirmative: Ogaard, Wiliamson, Boulton, Kalmes, Bade, Moen, Brooks, Jr., Harste, Peterson, Graba, Kemp, and Cofell. Opposed: None. Carried.

Respectfully submitted,

Donald Ogaard
Chairman

M 499

BOARD OF WATER AND SOIL RESOURCES
May 23 and 24, 1989
Tour and Board Meeting
Detroit Lakes, Minnesota

PRELIMINARY AGENDA

Tuesday, May 23

TOUR - Red River Valley

8:00 a.m. Board bus at Detroit Lakes Holiday Inn

Noon Lunch at Northland Restaurant, Crookston

4:30 p.m. Dinner at Lowell Moen farm

8:00 p.m. Bus returns to Detroit Lakes Holiday Inn

Wednesday, May 24

BOARD MEETING - Detroit Lakes Holiday Inn

9:00 a.m. Call to Order

Adopt Agenda

Approve Minutes of April 26, 1989

Reports
Chairman, Donald Ogaard
Executive Director, Jim Birkholz
- Legislative summary
EQB/Water Resources Committee - Loni Kemp

Discussion of tour/Red River Valley issues

Red River of the North Resource Management Area - Ginny Kruger, Communications Director

110B Project Managers Report - Dick Howe, Douglas County

509 Metro Water Planning Update - Bruce Sandstrom

Noon Lunch

1:00 p.m. Preview of local government grants - for discussion

RIM Reserve Program - request for easement modifications for highway widening - Wayne Edgerton

Study Area II - Action on proposed Lazarus Creek project - Mel Sinn

The Two Rivers Watershed District - boundary correction - for Board action - Mel Sinn

The North American Waterfowl Management Plan - Jerry Schotzko, Eric Nelson, USF&WS - for Board information and discussion

3:00 Adjourn

Minnesota Board of Water & Soil Resources

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

(612) 296-3767

May 15, 1989

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

FROM: Jim Birkholz, Executive Director

SUBJECT: May 23 and 24 Tour and BWSR Meeting

Attached is the preliminary agenda and support information for the Board of Water and Soil Resources tour and Board meeting on May 23 and 24, 1989. Headquarters for the two days events will be the Holiday Inn-Detroit Lakes. A map is enclosed for your reference.

The tour bus for Board members and staff will depart from the Detroit Lakes Holiday Inn at 8:00 a.m. The tour map and brochure will be available at that time. The tour will take the entire day. It will include an extensive review of land use and water management activies and projects in the Red River Valley area. The intent of the tour is to better inform Board members and staff of the natural resource management issues, current activities of local units of government, and opportunities for future BWSR actions. Tour sites were identified by Soil and Water Conservation Districts and Watershed Districts. Both lunch and dinner will be provided for tour participants. Board member Lowell Moen has invited us to his farm for our evening meal. The bus will return to the Holiday Inn at 8:00 p.m. sharp. No formal activities have been planned for Tuesday evening.

The Board meeting will start at 9:00 a.m. on Wednesday, May 24, at the Holiday Inn. The morning agenda will include a discussion of the previous days tour, focusing in on strategic areas for BWSR involvement in addressing water and soil management problems in northwest Minnesota. Ginny Kruger, Communications Director for the Red River of the North Resource Management Area, will brief the Board on this cooperative communications program to promote conservation in the valley. Mr. Dick Howe from Douglas County will brief the Board on the status of Douglas County Comprehensive Local Water Plan. Douglas County began the planning on its own initiative and would like to participate in the proposed grant program to receive matching funds if the legislature takes positive action. The morning agenda will be completed with a metro water planning update by Bruce Sandstrom. Bruce will update the Board on the status of the Gun Club Lake Watershed Management Organization Plan and will give an initial briefing on the Vermillion Watershed Management Organization Plan. The Vermillion River is in Dakota County.

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

An Equal
Opportunity Employer

The afternoon agenda will consist of a briefing of staff progress on recommendations for grants to local units of government for the coming fiscal year, a request for an easement modification in the RIM Reserve Program, action on a request for boundary correction for the Two Rivers Watershed District, and action on the proposed Lazarus Creek Project in Study Area II. As you recall, the Lazarus Creek Project was tabled at the last meeting pending additional information.

The final agenda item is a presentation on the North American Waterfowl Management Plan by Jerry Schotzko and Eric Nelson of the U.S. Fish & Wildlife Service. This presentation is for Board information and discussion. The Waterfowl Management Plan is particularly important to the administration of the RIM Reserve Program and the implementation of comprehensive local water plans.

Other inclusions in the mailing are a side-by-side comparison of the FY90-91 budget bills from the House and Senate. As of this date no decision has been made on the process to match up the House and Senate funding for the Big Water Bill. You will note in the handout that the House acted on budget numbers in the semi-states bill while the Senate acted on the budget in the separate Senate File 262. The Conference Committee on the budget is meeting this week and will likely wrap-up their bill by Thursday, the 18th. The House Water Bill is scheduled for full Appropriations Committee the morning of the 16th. As you can see, the time is short for bringing all these issues together. Also included for your review is a Code of Ethics which was mailed to us by the Governor's office. If you have not yet received a copy please take some time to review this.

Please call myself or Chairman Ogaard if you have questions or comments about either the tour or the agenda or need any additional information. With the legislature in its last week, I will most likely not be in the office between now and the Board meeting. Pat or Mary Jo should be able to assist you. See you on the 23rd!

JB:mja
Enc.

Request to Modify RIM Reserve Easement
Leo and Ruby Ziemer, Stearns County
(73-22-86-1)

A. Justification For Modification Request:
Improving and widening County Highway 19 for public safety.

B. General Information:
1) Easement duration: Ten year easement will expire April 6, 1997. (8 years remaining)

2) Total Easement Area: 29.3

3) Highway right-of-way to be expanded 17' onto RIM acres = 0.79 acres lost permanently plus 0.60 acres of habitat lost for two years for resloping.

C. Proposed Compensation:
1) Permanent right-of-way area (0.79 ac) = $192.13
(.79 ac x $304 payment rate = 240.16 x 80%)

2) Temporary slope area (0.60 ac) = $120.00
(.60 ac x $200 payment rate offered from Stearns Co.)

3) Total Compensation = $312.13

D. Other Notes:
1) Stearns SWCD Board of Supervisors recommends approval of this modification.

2) Stearns County Highway Department hopes to open bids May 31.

3) Construction to begin as early as June 15, 1989.

4) Construction to be completed by September, 1989 with sloping (5:1) and seeding this fall.

5) Stearns County Highway Department has agreed to seed according to RIM Specifications.

Staff and Attorney General Representative Recommendation: Approval

Red River of the North
Resource Management Area

What Is It?

What Is It Doing?

What Service Does It Provide?

Profile Of The Red River Of The North Resource Management Area:

Goal:
To reduce wind erosion of the soil in the Red River Valley.

Mission:
To develop a media/informational/educational/promotional campaign that will directly influence conservation measures to be placed on the land.

Members: Minnesota Board of Water & Soil Resources
Minnesota Association of Soil & Water Districts
Soil Conservation Service
Minnesota Extension Service

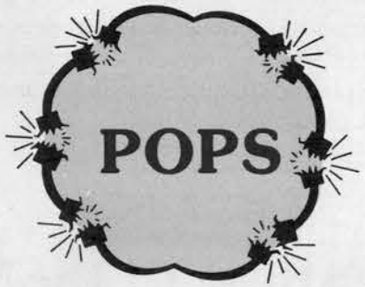
Area Covered: Nine counties of Northwestern Minnesota. Kittson, Roseau, Marshall, Polk, Pennington, Norman, Red Lake, Clay and Wilkin. This area contains 12,800 farmers who control 4,652,430 acres of cropland. There are 2,569,300 cropland acres that are eroding at a loss greater than tolerable for the soil to maintain productivity.

Where Located: The office Red River of the North is located in the Area One office of the Soil Conservation Service, 216 Pennington Avenue South, Thief River Falls, Minnesota 56701. Telephone: (218) 681-6600.

Staff: Virginia Kruger is the Communications Director of the Red River of the North and is in charge of the program. Glen Kajewski, Area One Conservationist, and Robert Conklin, Area Two Area Conservationist, are technical advisors.



Torvald Norwegian Bachelor Farmer



the Question!



Red River Of The North Resource Management Area Is . . .

Unique
The only program of its kind in the United States. It has been designed for maximum benefits and minimum costs to help the fight against soil erosion.

A Regional Promotional Agency
The mission of Red River of the North is to develop informational/educational/promotional media campaigns that will help influence conservation practices. Emphasis to be placed on crop residue management and field windbreak plantings.

Red River Of The North Resource Management Area Is Working To . . .

Develop Effective Layered Campaigns
Radio — Used for blanket coverage
Display, Booth, Speakers — Used to make campaign, district specific
Educational Materials — Used to individualize campaign handouts, posters, placemats, table tents

"Conservation Trivia" Campaign
- ★Radio — Trivia questions on residue and trees were used on KFGO Radio with farm broadcaster Larry Ristvedt
- ★Display — Electronic trivia question board developed by Kevin Deschene, RRN promoted its use.
- ★Materials — Conservation trivia questions and answers were used on table tents, placemats, handouts poster — specific "how to" information.

"Plant A Moneytree" Campaign
- ★Radio — One-minute radio soap operas (alias ads) written and placed at stratetic listening times for farmers.
  - — Humorous, popular, educational
  - — Conservation man attempts to help Torvald, Norwegian bachelor farmer, whose land and love-life are eroding away at a rate faster than can be tolerated.
  - — Torvald, in search of money for his farming, is urged to plant Money Trees — field windbreaks — because windbreaks in the field increase crop yields and that means $.
- ★Display — Lifesize Torvald and Money Tree. Localized information on how field windbreaks will increase crop yields.
- ★Materials — "Tree Bucks" handout with information. Speaker on field windbreaks.

Implement Basic Educational/ Informational Projects
Red River of the North has organized seminars and tours: Loren Soth, noted agricultural columnist; Dr. Harold Scholten, State Extension Forester; Luther Bjerke, humorist (plays Torvald in the radio dramas); Dr. Joe Giles, NDSU soil science professor; State Tree Nursery Tour, Badoura.

Promote Conservation By Speaking And Testifying At Conservation Events
Red River of the North has spoken at conservation events, banquets and testified to the Governor's Drought Task Force.

Promote Changes That Enhance Conservation Activities For Farmers
Red River of the North has prepared, by district request, grants and resolutions that would provide cost-share on new field windbreak maintenance and property tax relief on land planted to single-row field windbreaks.

Red River Of The North Resource Management Area Provides . . .

- — regionalized educational materials and promotional activities
- — educational activities "with a difference"
  The use of humor and understanding of the human condition make farmer clients want to listen!
- — image building for conservation
  The media commercials allow for dialogue that vents frustrations of both the conserva-agency and the farmer, while coming to a peaceful solution.
- — accessability to media people
- — accessability of expertise
  Conservation offices have at their disposal expertise in the field of speaking, booth construction, materials, signs, news releases.

Executive Order 87-4 Providing for Establishment of a Code of Ethics for Governor's Appointees

I, RUDY PERPICH, GOVERNOR OF THE STATE OF MINNESOTA, by virtue of the authority vested in me by the Constitution and the applicable statutes, do hereby issue this Executive Order:

WHEREAS, effective government is premised upon public confidence in the integrity and objectivity of government officials; and

WHEREAS, a public official is entrusted with the welfare, property, security, and safety of the people he or she serves; and

WHEREAS, in return for the trust of the public, the people are entitled to know that no conflict exists between private interests and official duties in those who serve them; and

WHEREAS, there is a need to provide standards of conduct uniformly applicable to all officials of the executive branch of state government in order that government integrity remain preserved;

NOW, THEREFORE, I HEREBY ORDER THAT:

1. Gubernatorial appointees in the executive branch in the course of or in relation to their official duties shall not, directly or indirectly, receive or agree to receive any payment of expense, compensation, gift, reward, gratuity, favor, service or promise of future employment or other future benefit from any source for any activity related to the duties of the official, with the exception of:

(a) Gifts of nominal or symbolic value;

(b) Plaques or similar mementos recognizing individual services;

(c) Payment of reimbursement expenses for travel or meals, not to exceed actual expenses incurred, which are not reimbursed by the state;

(d) Honoraria or expense paid for papers, talks, demonstrations or appearances made by officials on their own time for which they are not compensated by the state.

2. That my appointees shall not use confidential information to further the official's private interest, and shall not accept outside employment or involvement in a business or activity that will require the official to disclose or use confidential information.

3. That my appointees shall not use or allow the use of state time, supplies, or state owned or leased property and equipment for the official's private interests or any other use not in the interest of the state.

4. That my appointees shall not use or attempt to use their official position to secure benefits, privileges, exemptions, or advantages for the official or the official's immediate family or an organization with which the official is associated which are different from those available to the general public.

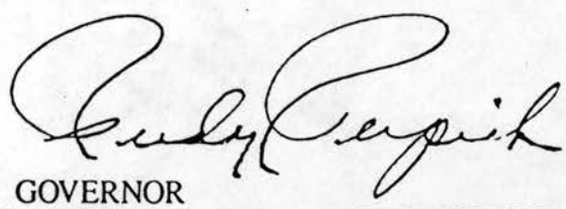
5. That my appointees shall not accept other employment or contractual relationships that will affect the official's independence of judgment in the exercise of official duties.

6. That my appointees shall not serve as an agent or attorney in any action or matter pending before any state agency except in the proper discharge of official duties or on the official's behalf.

7. That my appointees shall not, directly or indirectly, during hours of employment solicit or receive funds for political purposes, or use official authority or influence to compel any state employee to apply for membership in or become a member of any political organization, to pay or promise to pay any assessment, subscription, or contribution, or to take part in any political activity.

Pursuant to Minnesota Statutes, Section 4.035, this Executive Order shall be effective fifteen (15) days after publication in the *State Register* and filing with the Secretary of State and shall remain in effect until rescinded by the proper authority or it expires in accordance with Minnesota Statutes, Section 4.035, Subdivision 3.

IN TESTIMONY WHEREOF I have set my hand this twenty-fifth day of February, 1987.



GOVERNOR

May 15, 1989

BOARD OF WATER & SOIL RESOURCES
110B COMPREHENSIVE WATER PLANNING
COUNTY STATUS REPORT

COUNTY	RSOLUTION TO PLAN (DATE)	INDIVIDUAL PLANNING	REGIONAL PLANNING	SUBMITTED FOR PRELIMINARY REVIEW (DATE)	SUBMITTED FOR FINAL REVIEW (DATE)	BWSR BOARD ACTION	BWSR PLAN APPROVAL (DATE)	SCHEDULED PLAN UPDATE (DATE)
AITKIN	9/15/87		MH					
BECKER	YES		RRV					
BELTRAMI	10/27/87		MH					
BENTON	10/19/88	X						
BIG STONE								
BLUE EARTH	YES		SC					
BROWN	YES		SC					
CARLTON	12/8/87	X						
CASS	10/9/87		MH					
CHIPPEWA								
CHISAGO								
CLAY	YES		RRV					
CLEARWATER	10/28/87		MH					
COOK								
COTTONWOOD	YES		SC					
CROW WING	11/3/87		MH					
DODGE	YES		RZ					
DOUGLAS	5/24/88	X						
FARIBAULT	YES		SC					
FILLMORE	YES		RZ					
FREEBORN	YES		SC					
GOODHUE	YES		RZ					
GRANT	YES		RRV					
HOUSTON	YES		RZ					
HUBBARD	10/7/87		MH					
ISANTI								
ITASCA	10/27/87		MH					
JACKSON	YES		SC					
KANABEC								
KANDIYOHI								
KITTSON	10/6/87		RRV					
KOOCHICHING								
LAC OUI PARLE								
LAKE								
LAKE OF THE WOODS								
LESUEUR	YES		SC					
LINCOLN	YES		RC					
LYON	YES		RC					
MCLEOD								
MAHNOMEN	10/13/87		RRV					
MARSHALL	10/20/87		RRV					
MARTIN	YES		SC					
MEEKER								
MILLE LACS								
MORRISON	10/27/87		MH					

May 15, 1989

BOARD OF WATER & SOIL RESOURCES
110B COMPREHENSIVE WATER PLANNING
COUNTY STATUS REPORT

COUNTY	RSOLUTION TO PLAN (DATE)	INDIVIDUAL PLANNING	REGIONAL PLANNING	SUBMITTED FOR PRELIMINARY REVIEW (DATE)	SUBMITTED FOR FINAL REVIEW (DATE)	BWSR BOARD ACTION	BWSR PLAN APPROVAL (DATE)	SCHEDULED PLAN UPDATE (DATE)
MOWER	YES		RZ					
MURRAY	YES		RC					
NICOLLET	YES		SC					
NOBLES	YES	X						
NORMAN	YES		RRV					
OLMSTEAD	YES		RZ					
OTTER TAIL	YES		RRV					
PENNINGTON	YES		RRV					
PINE								
PIPESTONE	YES		RC					
POLK	YES		RRV					
POPE								
RED LAKE	YES		RRV					
REDWOOD	YES		RC					
RENVILLE								
RICE	YES		RZ					
ROCK								
ROSEAU	YES		RRV					
ST. LOUIS								
SHERBURNE								
SIBLEY	YES		SC					
STEARNS	2/3/88	X						
STEELE	YES		SC					
STEVENS	YES		RRV					
SWIFT								
TODD								
TRAVERSE	YES		RRV					
WABASHA	YES		RZ					
WADENA								
WASECA	YES		SC					
WATONWAN	YES		SC	4/88				
WILKIN	YES		RRV					
WINONA	YES		RZ					
WRIGHT								
YELLOW MEDICINE	YES		RC					
TOTALS								
80	56	5	51	1	0	0		

Minnesota Board of Water & Soil Resources

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

(612) 296-3767

May 15, 1989

To: BWSR Board Members

From: Bruce Sandstrom, "509 Coordinator"

Subject: Status of "509" Plan Review

At the May 24, 1989 Board meeting I intend to present an overview of the Vermillion River and Lower Mississippi River WMO Plans.

Vermillion River WMC Plan

The Vermillion River WMC (Water Management Commission) may well be one of the more difficult plans we will have to deal with. The watershed is about 293 square miles in size and is predominantly rural in nature with some very rapidly growing urban cities along its northern boundary. These rapidly growing urban areas include the Cities of Apple Valley, Rosemount and Lakeville. The difficulty is with respect to balancing the needs, wishes and the financial and administrative capabilities of the rural townships with respect to the rapidly growing urban areas.

To date I have toured the WMO and begun negotiations with the Chairman and their Technical Advisor, JMM Hickok & Assoc. I expect to be able to present their formal response to these initial negotiations at the May 24 Board Meeting. The Department of Natural Resources, alone, had outlined 103 specific comments on the plan in a 13 page letter.

Lower Mississippi River WMO

The Lower Mississippi River WMO is about 50 square miles in size and contains all or portions of the Cities of Inver Grove Heights, Lilydale, Mendota Heights, Sunfish Lake, St. Paul, South St. Paul and West St. Paul. The Central Office of the Board of Water and Soil Resources is located in this WMO.

The plan outlines five capital improvement projects and the development of four drainage plans. The costs of these actions will primarily be paid for by the member communities per their joint powers agreement with only minimal cost to the WMO.

The plan also establishes three levels of local plan development depending upon the level of current or expected development on a sub-watershed basis. There are 30 sub-watersheds which have been identified.

Old Business: Gun Club Lake

I expect that the formal written response to my 4/17/89 letter outlining my concerns will be received on Monday, 5/22/89. It is questionable whether I will be able to prepare any draft order for approval even if their response is acceptable.

New Business:

The attached Notices of Filing for the Bassett Creek WMC and the East Mississippi WMO have been sent to local papers for publication. It is hoped that an overview of these WMO's can be presented at the Board's June meeting.

Attachments:

cc Greg Larsen

Regional Offices

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Bemidji, MN 56601
218-755-3963

Northeast Region
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612-296-3767

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

In the Matter of Reviewing the Watershed Management Plan for the **Bassett Creek Water Management Commission** (Minnesota Statutes Section 473.878, Subdivision 5)

NOTICE OF FILING OF WATERSHED PLAN

NOTICE IS HEREBY GIVEN that a watershed management plan was filed with the Minnesota Board of Water and Soil Resources (Board) by the Bassett Creek Water Management Commission (WMC) pursuant to the requirements of the Metropolitan Surface Water Management Act.

The Bassett Creek WMC encompasses approximately forty (40) square miles of land in Hennepin County. The Bassett Creek WMO includes land in the cities of Crystal, Golden Valley, Medicine Lake, Minneapolis, Minnetonka, New Hope, Plymouth, Robbinsdale, and St. Louis Park.

The plan includes background information on the WMO, a summary of physical characteristics, an inventory of the water resources, a definition of problems, a statement of management policies, and recommended management measures.

The plan proposes many capital improvement projects including: a new conduit outlet to the Mississippi; 3 small control structures in the City of Golden Valley; 2 small control structures in the City of Crystal; reconstruction of an existing flow structure, and the construction of a new flow structure in the City of Medicine Lake; replacement of 1 dam, and the removal of sediment from the Creek in Minneapolis.

The Board must review the plan for conformance with the requirements of the Minnesota Watershed Act (Chapter 112) and the Metropolitan Surface Water Management Act (Sections 473.875 to 473.883). The Board may disapprove all or parts of the plan that it determines are not in conformance with state law.

The Board invites written comments on the proposed plan. All comments and information received by the Board will be considered before a decision is made on the plan. Any person who objects to the proposed plan may submit a written request for hearing to the Board of Water and Soil Resources. If no written requests for hearing are received by June 28, 1989 the Board will consider all the information and comments received and will make a decision on the plan at a future regular meeting of the Board.

A copy of the plan is available for inspection by any interested persons during normal business hours at the office of the Board at 155 South Wabasha Street, St. Paul, Minnesota, 55107, and at the Minneapolis Public Library, 300 Nicollet Mall, Minneapolis, Minnesota.

For further information, contact Bruce Sandstrom at the Board of Water and Soil Resources at 297-4958.

Date at St. Paul, Minnesota this 9th day of May 1989

MINNESOTA BOARD OF WATER AND SOIL RESOURCES

Bruce Sandstrom

Bruce Sandstrom
Metro Water Plan Coordinator

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

In the Matter of Reviewing the Watershed Management Plan for the **East Mississippi Water Management Organization** (Minnesota Statutes Section 473.878, Subdivision 5)

NOTICE OF FILING OF WATERSHED PLAN

NOTICE IS HEREBY GIVEN that a watershed management plan was filed with the Minnesota Board of Water and Soil Resources (Board) by the East Mississippi Watershed Management Organization (WMO) pursuant to the requirements of the Metropolitan Surface Water Management Act.

The East Mississippi WMO encompasses approximately seventeen and one-half (17.5) square miles of land in southeastern Washington County. The East Mississippi WMO includes land in the cities of Cottage Grove, Grey Cloud Island, Maplewood, Newport, St. Paul Park, and Woodbury.

The plan includes background information on the WMO, a summary of the physical environment and land use, a detailed inventory of the water resources, a definition of problems, an assessment of existing and potential problems, a statement of goals and management policies, and an implementation program.

The East Mississippi WMO will assist the member municipalities in preparing detailed local water plans in which the goals, objectives and policies of a water plan conform with each other, and with other municipalities water plans. The municipalities will implement the local plans and report to the East Mississippi WMO annually.

The Board must review the plan for conformance with the requirements of the Minnesota Watershed Act (Chapter 112) and the Metropolitan Surface Water Management Act (Sections 473.875 to 473.883). The Board may disapprove all or parts of the plan that it determines are not in conformance with state law.

The Board invites written comments on the proposed plan. All comments and information received by the Board will be considered before a decision is made on the plan. Any person who objects to the proposed plan may submit a written request for hearing to the Board of Water and Soil. Resources. If no written requests for hearing are received by June 28, 1989 the Board will consider all the information and comments received and will make a decision on the plan at a future regular meeting of the Board.

A copy of the plan is available for inspection by any interested persons during normal business hours at the office of the Board at 155 South Wabasha Street, St. Paul, Minnesota, 55107, and at the Newport city Hall, 596 7th Avenue, Newport, Minnesota.

For further information, contact Bruce Sandstrom at the Board of Water and Soil Resources at 297-4958.

Date at St. Paul, Minnesota this 9th day of May 1989

MINNESOTA BOARD OF WATER AND SOIL RESOURCES

Bruce Sandstrom
Metro Water Plan Coordinator

Red River of the North
Resource Management Area

What Is It?

What Is It Doing?

What Service Does It Provide?

Profile Of The Red River Of The North Resource Management Area:

Goal:
To reduce wind erosion of the soil in the Red River Valley.

Mission:
To develop a media/informational/educational/promotional campaign that will directly influence conservation measures to be placed on the land.

Members: Minnesota Board of Water & Soil Resources
Minnesota Association of Soil & Water Districts
Soil Conservation Service
Minnesota Extension Service

Area Covered: Nine counties of Northwestern Minnesota. Kittson, Roseau, Marshall, Polk, Pennington, Norman, Red Lake, Clay and Wilkin. This area contains 12,800 farmers who control 4,652,430 acres of cropland. There are 2,569,300 cropland acres that are eroding at a loss greater than tolerable for the soil to maintain productivity.

Where Located: The office Red River of the North is located in the Area One office of the Soil Conservation Service, 216 Pennington Avenue South, Thief River Falls, Minnesota 56701. Telephone: (218) 681-6600.

Staff: Virginia Kruger is the Communications Director of the Red River of the North and is in charge of the program. Glen Kajewski, Area One Conservationist, and Robert Conklin, Area Two Area Conservationist, are technical advisors.



Torvald Norwegian Bachelor Farmer

POPS

the Question!



Red River Of The North Resource Management Area Is . . .

Unique
The only program of its kind in the United States. It has been designed for maximum benefits and minimum costs to help the fight against soil erosion.

A Regional Promotional Agency
The mission of Red River of the North is to develop informational/educational/promotional media campaigns that will help influence conservation practices. Emphasis to be placed on crop residue management and field windbreak plantings.

Red River Of The North Resource Management Area Is Working To . . .

Develop Effective Layered Campaigns
Radio — Used for blanket coverage
Display, Booth, Speakers — Used to make campaign, district specific
Educational Materials — Used to individualize campaign handouts, posters, placemats, table tents

"Conservation Trivia" Campaign
- ★Radio — Trivia questions on residue and trees were used on KFGO Radio with farm broadcaster Larry Ristvedt
- ★Display — Electronic trivia question board developed by Kevin Deschene, RRN promoted its use.
- ★Materials — Conservation trivia questions and answers were used on table tents, placemats, handouts poster — specific "how to" information.

"Plant A Moneytree" Campaign
- ★Radio — One-minute radio soap operas (alias ads) written and placed at stratetic listening times for farmers.
  — Humorous, popular, educational
  — Conservation man attempts to help Torvald, Norwegian bachelor farmer, whose land and love-life are eroding away at a rate faster than can be tolerated.
  — Torvald, in search of money for his farming, is urged to plant Money Trees — field windbreaks — because windbreaks in the field increase crop yields and that means $.
- ★Display — Lifesize Torvald and Money Tree. Localized information on how field windbreaks will increase crop yields.
- ★Materials — "Tree Bucks" handout with information. Speaker on field windbreaks.

Implement Basic Educational/ Informational Projects
Red River of the North has organized seminars and tours: Loren Soth, noted agricultural columnist; Dr. Harold Scholten, State Extension Forester; Luther Bjerke, humorist (plays Torvald in the radio dramas); Dr. Joe Giles, NDSU soil science professor; State Tree Nursery Tour, Badoura.

Promote Conservation By Speaking And Testifying At Conservation Events
Red River of the North has spoken at conservation events, banquets and testified to the Governor's Drought Task Force.

Promote Changes That Enhance Conservation Activities For Farmers
Red River of the North has prepared, by district request, grants and resolutions that would provide cost-share on new field windbreak maintenance and property tax relief on land planted to single-row field windbreaks.

Red River Of The North Resource Management Area Provides . . .

— regionalized educational materials and promotional activities

— educational activities "with a difference"
The use of humor and understanding of the human condition make farmer clients want to listen!

— image building for conservation
The media commercials allow for dialogue that vents frustrations of both the conservaagency and the farmer, while coming to a peaceful solution.

— accessability to media people

— accessability of expertise
Conservation offices have at their disposal expertise in the field of speaking, booth construction, materials, signs, news releases.

Legislative Summary

Water Bill

	FY90	FY91	Biennium Total
Comp Local Water Planning +1 position	50	50	100
Local Water Resources Prot. & Mgmt +1 position	610	2,610	3,220
Well Sealing Cost Share +1 position	65	465	530
Environmental Agriculture Program	200	200	400
Metro Water Mgmt. Task Force	25	___	25
	950	3325	4,275

REINVEST IN MINNESOTA - RESERVE

RIM Easements (sensitive gndwtr priority)	1500 BONDING		1,500
General Fund (incl. in BASE)	(902)	(902)	(1,804)

BWSR BASE BUDGET: (Grants + Admin)

~~6,648~~	~~6,648~~	~~13,296~~	
GRANTS TO SWCDs	3,597	3,597	7,194
ADMINISTRATION	1,351	1,351	2,702
	4,948	4,948	9,896

1990-91 BIENNIUM TOTAL APPROPRIATION	7,398	8,273	15,671

GROUNDWATER BILL
CONFERENCE COMMITTEE REPORT

S.F. 262

What the House got:

- Most of the groundwater degradation goal statement. (Article 1)
- Language for the Department of Health to adopt health risk limits for drinking water using federal risk assessment methods. (Article 1)
- State agency assistance programs on water may prioritize local requests that are part of local waterplans. (Article 2)
- Added water planning and coordination duties to the Environmental Quality Board. (Article 2)
- Requires no permit fees for governmental monitoring wells. (Article 2)
- Streamlines process for Board of Water and Soil Resources to provide funds for sealing a property owner's well. (Article 3)
- Provide for a limited well sealing contractor's license ($50; $10,000 surety bond) that allows for well sealing. (Article 3)
- Takes out the public drinking water fee. (former Article 4)
- Allows water use permits for once-through groundwater cooling systems using less than 5 million gallons annually. (Article 4)
- Requires a waste management pesticide plan, with input from farmers and interest groups, by the Commissioner of Agriculture. (Article 5)
- Requires the state to use integrated pest management techniques in its management of public areas. (Article 5)
- Requires a pesticide registrant to pay an annual application fee of 1/10 of 1% for 1990 and 1/5 of 1% beginning in 1991 of annual gross sales in the state, with a minimum fee of $150. (Article 5)
- Reduced the administrative penalty to $1500 per day and the civil penalty to $7,500 per day for a violation of the fertilizer or pesticide laws. (Article 7)
- Adds a board of five members to administer the new agricultural chemical response and reimbursement account. (Article 8) -- see under Senate.

What the Senate got:

- A "go-slow" process to regulate groundwater pollution. No direct regulation by the PCA or agriculture department under this bill until 1991. (Article 1)
- The department of agriculture is responsible for developing best management practices and water resource protection requirements for agriculture chemcials and practices. (Article 1)
- Allows agricultural land within a sensitive groundwater area (including sinkholes) and hillsides to be eligible for conservation easements under the RIM program. (Article 1)
- Under certain conditions, allows a landowner, within a sensitive area, to have a complete defense to liability for degradation of groundwater caused by surface water. (Article 1; modified by House)
- Creates a ten-member legislative water commission to review water policy reports and perform other duties under this bill. (Article 2, modified by House)
- Creates a new environmental agriculturalist program to aid farmers in protecting water quality. (Article 2)

- Creates a water use processing fee up to $2,000 annually. 1/20 of 1 cent per 1,000 gallons, up to 50 million gallons; and 1/10 of 1 cent per 1,000 gallons, if over 50 million gallons (Article 4)

- Imposes a fee on groundwater once-through cooling systems of:

  a) 5 cents per 1,000 gallons up to December 31, 1991;
  b) 10 cents per 1,000 gallons up to December 31, 1996;
  c) 15 cents per 1,000 gallons after January 1, 1997. (Article 4)

- Establishes an agricultural chemcial incident response fund using surcharges on pesticide registration, fertilizer tonnage, and agricultural chemical businesses and applicators to maintain the fund between 1 million and 5 million dollars. Reimbursement payments to eligible persons for corrective action because of a spill are 90 percent of costs between $1,000 and $100,000, plus 100 percent of costs over $100,000, with a cap of $200,000.

- Creates a 22-member metropolitan local water managmement task force to study water management issues. (Article 9)

- Appropriation amounts and directions to agencies are on the last three pages of bill. (Article 10)

NEW FEES IN THE BILL ARE:

- Well contractor's license fee, $200 increase

- Elevator shaft contractor's license, $50

- Limited well contractor's sealing license, $50

- Registration of well drilling machines, $45 increase

- Permits:
  (a) new well producing less than 50 gallons per minute, $50
  (b) new well over 50 gallons per minute, $100
  (c) dewatering well, inoperable well or construction of a monitoring well, $50
  (d) annually for an unsealed monitoring well, $50.

- Water use processing fee (replaces existing system) and once-through groundwater cooling system fees - see above under Senate.

- Pesticide registration application fees (replaces existing system) - see above under House.

- Agricultural chemical surcharge fee for new response fund - see above under Senate.

NEWS

DOUGLAS COUNTY

COMPREHENSIVE LOCAL WATER PLANNING
Monthly Newsletter

Vol. 1, No. 1
April, 1989

Douglas County Water Planning, Project Manager, 305 Eighth Ave. West, Alexandria, Mn 56308 Ph (612) 762-2381 Ext. 233

C.L.W.P. FINALMONTHS

The next 4 to 6 months will be crucial for the Douglas County Water Planning process. A lot has been accomplished in a short period of time but much more remains to be done.

One of our most critical considerations is actively seeking involvement of existing Watershed districts, the Soil & Water Conservation District (SWCD), cities, townboards, and other local units in Douglas County.

This one consideration, in fact, was deemed to be so important, that this newsletter you are now reading, was created. There hopefully will be many other benefits from this monthly publication, and we would welcome any and all suggestions /or input from groups and/or individuals.

The plans now being developed by the Water Management Advisory Committee and the County Board have the potential of not only establishing policy and program direction at the local level, but of determining how future State and Federal grant money will be spent in the next 5 years.

It is our hope that someone from each of the above mentioned groups become involved in some way with the process, so that when the next public informational meeting is held, there will be fewer surprises and more compatibility with the proposal plan.

Before final action is taken by the Douglas County Board a Public Hearing will be held pursuant to M.S. Section 375.51. We are all hopeful that our C.L.W.P. will become a "LIVING PLAN" that will guide land and water resource management in the future.

Abandoned Well Workshop

If you are concerned and want to learn more about identifying and sealing abandoned wells, you will have an excellent opportunity this month. Workshops have been set for:

April 18th - Alexandria Technical Institute

April 19th - U.S. Fish & Wildlife Bldg., Morris

April 20th - Ottertail Power Bldg, Fergus Falls

There will be a limit of 60 registrants per site because the afternoon session will be an actual well sealing demonstration. To register for any of the 3 workshops, please contact Mary Hueber, U.M.M., (612) 589-2211, EXT. 6460. The registration fee is $10.00.

Why is Douglas County involved in 110 B Water Planning?

Primary purposes of this five year plan are to identify existing and potential problems and opportunities for the protection, management and development of water and related land resources; and develop objectives and carry out a plan of action to promote sound hydrologic management of water and related land resources, effective environmental protection, and efficient management.

Some of the objectives are to work with local units and adjoining counties in the context of watersheds and or groundwater systems; to coordinate all existing plans of local units and other official controls for consistency with the final plan, and to create a data base with multi-informational levels.

Some of the benefits of this process are that it will bring together many local groups and individual people who hopefully can assist in anticipating and preventing future problems by more fully understanding the overall plan, and that it will enhance public support of future actions that may be necessary because they will be locally initiated.

"Water Day -1989"

Local concerns on the Big Water Bill were shared with legislators on March 29 as 175 citizens participated in "Water Day - 1989" at the capitol. The day was planned to give citizens an opportunity to visit with legislators about state and local partnership in managing our water resources.

Presentations were given by the Big Water Bill sponsors. Senator Morse gave the Senate perspective on the bill and discussed how local units of government fit into the bill. Representative Munger gave the house perspective and talked about the need for ground water protection.

Representative Bishop pointed out the abandoned well problem in Minnesota. There are 800,000 abandoned, unsealed wells which present a huge cost for locating and capping. Only 1% are being sealed each year and more needs to be done.

John Velin, Executive Director of Minnesota Future Resources Commission talked about the local perspective for water plans. Lance Yohe, 110B project manager for the Northwest Minnesota Project, presented the Project Managers position to the group.

During lunch, Lt. Governor Marlene Johnson and Senator Roger Moe spoke on the need for better information and more education on land and water issues.

Throughout the rest of the day, participants were able to visit with their legislators. Douglas County was represented by 4 of the 5 Commissioners, the Auditor, Zoning Administrator, and the CLWP Project Manager. They held meetings with Rep. Rick Kruger, Senator Charlie Berg, Senator Don Anderson, and Rep. Clair Nelson, and shared their concerns about future implementation of our CLWP.

Public input is very important.
No concerns are to insignificant to be discussed.
YOUR COMMENTS MAKE A DIFFERENCE

Douglas County Water Planning
Project Manager
305 Eighth Ave. West
Alexandria, MN 56308

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NEWS

DOUGLAS COUNTY

COMPREHENSIVE LOCAL WATER PLANNING
Monthly Newsletter

Vol. 1, No.2
May, 1989

DOUGLAS COUNTY WATER PLANNING, PROJECT MANAGER, 305 EIGHTH AVE. WEST, ALEXANDRIA, MN 56308 PH (612) 762-2381 EXT. 233

WHAT IS A COMPREHENSIVE LOCAL WATER PLAN?

by James Van Alstine; Planning Consultant

At this time, 56 Minnesota counties, including Douglas County, are going through the process of developing a COMPREHENSIVE LOCAL WATER PLAN. The remaining counties in the state will be involved in the process soon. Comprehensive Local Water Planning was initiated by Minnesota Statute 110 B, and will be supported by the 1989 Ground Water Protection Act, the "big water bill", currently introduced into both houses of the Minnesota legislature. Nationally, it is very clear that this is the decade of water issues. Minnesota is in the forefront in trying to understand and solve their water problems, and with the state emphasis on local government control, there are many opportunities for the county to work toward addressing their particular concerns and needs.

A comprehensive local water plan is developed by the county deciding what it has in the way of water and related resources; analyzing all available data to understand the nature and distribution of them; deciding what it wants and needs for future growth and development; and implementing programs to preserve those resources to maintain the quality of life desired in the county. Although there are many reasons for Douglas County to plan for the use and development of surface and ground water resources, one of the most compelling is the need to protect those resources from existing and potential contaminants. Protection strategies can be accomplished through several initiatives, including education, legislation, and changing land use practices both in agricultural and urban areas.

If Douglas County, whether growing, remaining stable, or declining in population, does not plan for it's water resources, it will loose the opportunity to make choices. By creating a plan, the county outlines existing issues and concerns, and can anticipate or prevent problems before costs escalate and options narrow. If Douglas County has a well developed comprehensive plan, it is better able to make decisions about day-to-day activities that may affect their resources, and is better able to take advantage of state or federal programs and funding sources to help solve their problems. It is also better able to tie together existing water related programs, allowing more efficient management of all programs for protection of water, and the general environment.

STATE OF MINNESOTA

DEPARTMENT OF AGRICULTURE

Joint Statement dated April 11, 1989 by:
Jim Nichols, Commissioner, MINNESOTA DEPARTMENT OF AGRICULTURE; Al Christopherson, President, MINNESOTA FARM BUREAU FEDERATION; Willis Eken, President, MINNESOTA FARMERS UNION; Paul Drenckhahn, President, MN CHAPTER NATIONAL FARMERS ORGANIZATION

"In the next few days and weeks of the legislative session there will be continuing debate over how the State of Minnesota should proceed in protecting its ground water. The farm representatives listed here are concerned with the quality of the state's ground water and endorse efforts by the Minnesota Legislature to enact responsible, comprehensive, ground-water legislation this session."

"Ground-water pollution will first be present in a farmer's well water, potentially threatening the farmer and the farmer's family. It is, therefore, in the interest of Minnesota farmers to use agricultural chemicals safely and in accordance with label instructions. To do otherwise threatens the public health and the unique natural environment we have in Minnesota."

"We believe prevention of ground-water contamination is a priority for Minnesota. Recommended allowable levels of chemical presence in ground water should be based on health risks determined by the Minnesota Department of Health and where possible should be identical to federal standards. Farmers who apply agricultural chemicals in accordance with label instructions should not be liable for damages and costs that result from contamination. Further, we feel funding should be made available to help pay for the sealing of the large number of abandoned wells in the state, and the costs of protecting our ground water should be shared by all Minnesotans."

"Agricultural chemicals are tools farmers use in crop production to feed the nation and the world by protecting crops from insect damage and other plant pests. These tools must be managed responsibly by farmers, and we support severe penalties in instances where agricultural chemicals have been misused due to negligence or irresponsible practice."

"It should be noted that the quality of Minnesota's ground water is good. We are just beginning to measure the impact of ground-water pollution by lawn care and agricultural chemicals. Recent surveys of wells in susceptible regions of the state conducted by the Minnesota Department of Agriculture and the Minnesota Department of Health found 39 percent of the wells sampled contained the presence of certain pesticides. The concentrations detected were usually low. Information, data and technology to measure ground-water pollution needs to be developed as quickly as possible with the support and active involvement of the federal government."

"We do see a potential Future impact on Minnesota's ground water supply from the misuse of lawn care and agricultural chemicals, and we support incentives to reduce all unnecessary chemical use. Such legislation will be beneficial for farmers, agriculture, the environment and to the people of the State of Minnesota."

Environmental slashers at the Capitol

Most years, state legislators scurry to display their environmental stripes. This year, more that a few lawmakers are scrambling to slash environmental programs. Just six months after Minnesotans voted overwhelmingly for a trust fund to protect the environment, crucial conservation initiatives are threatened with crippling cuts. The slashing crusade is both shortsighted and avoidable.

Consider the Reinvest in Minnesota (RIM) program, an innovative venture to bolster wildlife habitat, reclaim wetlands and remove marginal farmlands from production. What was listed as a $29.1 million program in Gov. Rudy Perpich's budget has suffered startling shrinkage: The current House RIM proposal, slated for floor debate today, calls for $2.1 million from the state general fund and an additional $2 million in bonding money. The ampler Senate version prescribes $4.8 million from the general fund and $5 million in bonding. But even that more generous amount falls far short of RIM's funding level in recent years; the cash crunch will likely translate into a falloff in environmental protection.

RIM isn't this year's only victim. The new environmental trust fund, for which Perpich recommended $10.8 million, remains unfunded in both chambers. The Senate version of the statewide recycling bill has been saddled with an amendment that would bar Minneapolis, St. Paul and other cities from honorable efforts to reduce plastic throwaways. And the state groundwater bill, conceived as a $24 million effort to protect underground aquifers from surface pollution, is in danger of becoming a ghost. The $7.5 million House version has been stripped of funding needed to prevent contamination from farm chemicals. The Senate bill is more promising, but still lacks the cash to succeed.

Unearthing an explanation for this stinginess is like tracking down a mosquito in January. Most likely, lawmakers feel duty bound to scrimp every penny they can for property-tax relief. But pursuing that misguided mission at the expense of the environment is foolhardy. Minnesotans have long declared their willingness to pay the price of environmental protection. Certainly they would be willing to bear the cost of full funding for this session's indispensable environmental projects. Lawmakers shouldn't deny them the chance.

(This article was taken from the May 8th, 1989 Editorial Page of the Star Tribune and is being used with their permission)

If you have a definite opinion either for or against the above article regarding the legislators apparent lack of interest in our state and local environment, PLEASE take the time to contact your elected officials! They are in the last 2 weeks of this session, so a phone call may be best!

State Senator Charlie Berg
Rm 141, State Office Bldg.
St. Paul, MN 55155
612/296-5094

Sen. Berg's Home Address:
P.O. BOX 29
Chokio, MN 56221
612/324-2506

State Senator Don Anderson
Rm 153, State Office Bldg.
St. Paul, MN 55155
612/296-6455

Sen. Anderson's Home Address
703 South Jefferson
Wadena, MN 56482
218/631-2200

State Rep. Clair Nelson, 11B
515 State Office Bldg.
St. Paul, MN 55155
612/296-4317

Rep. Nelson's Home Address
Barrett, MN 56311
612/528-2591

State Rep. Rick Krueger, 12B
433 State Office Bldg.
St. Paul, MN 55155
612/296-3201

Rep. Krueger's Home Address
524 North 6th Street
Staples, MN 56479
218/894-2443

WATER FACTS -- HOW MUCH WATER DO WE USE?

Water Covers 70% of the earth's surface. 97% is saltwater and 2% is frozen in polar ice. That leaves less than 1% of the earth's water for people and living things to drink and to use for sanitation, irrigation, manufacturing and other important purposes. The water supply is constantly being recycled, but there is never a new supply. We have the same water in the world today that was here a million years ago.

Remember this is YOUR county plan.... YOUR input is important!!!

Douglas County Water Planning
Project Manager
305 Eighth Ave. West
Alexandria, MN 56308

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St. Paul, Minnesota 55107

(612) 296-3767

May 22, 1989

To: Board Members
Minnesota Board of Water and Soil Resources

From: Bruce Sandstrom, Metro Water Plan Coordinator

Subject: Recommendation to Approve Gun Club Lake WMO Plan

Attached is a letter dated May 18, 1989 from Thomas Colbert, Chairman of the Gun Club Lake WMO. The letter is in response to my letter of April 17, 1989 which outlined plan revisions I felt were necessary in order to be in compliance with the Metro Water Planning Act.

Based on this response, I hereby request that the Board of Water and Soil Resources pass a motion to approve the Gun Club Lake Plan at the time the WMO provides an amended plan or amendments to the plan consistent with the intent outlined in the subject May 18, 1989 letter. Upon receipt of the amended plan or the amendments, I will prepare a findings of fact, conclusions and order for action at a regularly scheduled meeting of the Board.

Such a resolution will serve to advise the WMO that BWSR accepts their proposed revisions and that no changes in BWSR's position are eminent.

Please be advised that the last day which a public hearing on this plan could have been requested was May 19, 1989. No such requests have been received to my knowledge.

cc Greg Larson
Jim Birkholz
Gun Club Lake WMO
E.A. Hickok & Assoc.
Met Council
DNR
MPCA

Enclosure

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

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MAY 22 1989

Gun Club Lake
Watershed Management Organization

May 17, 1989

MR JAMES BIRKHOLZ
EXECUTIVE DIRECTOR
MN BD OF WATER & SOIL RESOURCES
S BRIDGE OFFICE BLDG
155 S WABASHA AVE SUITE 104
ST PAUL MN 55107

Dear Mr. Birkholz:

At the May 9th meeting of the Gun Club Lake Watershed Management Organization, the Board of Commissioners reviewed BWSR comments of the Gun Club WMO Plan. The Watershed Management Organization would like to submit the following official responses to the BWSR recommended corrective actions.

1. Management Matrix. The GCLWMO will develop a matrix identifying necessary local management programs and current or proposed changes needed for local communities to be in conformance with the GCLWMO's Water Management Plan.

2. Local Plan Completion Time Lines. The GCLWMO will establish a 24-month period for local members to bring their water management plans, CIPs, and official controls into conformance with the approved watershed management plan.

3. Plan Amendment Procedures. The GCLWMO will adopt the BWSR recommended plan procedures.

4. Redefinition of water quality management strategies. The GCLWMO will expand its water quality classification scheme to correspond with the proposed Eagan water quality plan classifications. Water quality standards associated with these classifications shall also be adopted. Specific water quality policy statements will be adopted over the next 120 days. Waterbodies of regional or watershed significance will be classified according to this system.

5. Wetland Filling Policy Clarification. The GCLWMO will amend its wetland protection policy to prohibit filling or disposal of debris without appropriate Federal, State or local permits.

6. Erosion and Sediment Control (E&SC) Guidelines. The GCLWMO will modify its existing E&SC Guidelines to reflect those adopted by the Dakota SWCD and BWSR.

7. Display of Water Inventory Maps. The GCLWMO will amend its plan to require local communities to display a comprehensive wetlands inventory map (NWI overlaying the WMO's wetland inventory) and advise individuals of Federal, State and local wetlands permit requirements.

8. Revisions of Maps 7 and 9. The Protected Waters and Land Use maps will be modified to reflect current protected waters, future land use, and existing MUSA line.

9. Redraft of Wildlife Management Policy. The GCLWMO will modify its wetland management policy to reflect changes in the water quality classification system and its respective water quality/quantity standards.

10. Miscellaneous Word Sentence and Table Clarifications. The GCLWMO will amend its plan to correct technical inaccuracies in relation to:

    a. Land use statements
    b. Geologic statements
    c. Protected waters table
    d. List of lakes with sediment problems

The Gun Club Lake Watershed Management Organization respectfully requests that the cross-referencing of national wetlands inventory wetlands to those of the WMO's wetland inventory not be required. It is the feeling of this Board that the requirement of displaying a comprehensive wetlands inventory map overlaid by the national wetlands inventory map would adequately meet the needs for wetland protection. It is anticipated that the corrective items stated above will be completed by the end of July 1989. Specific work activities will be scheduled according to the following time line:

IMPLEMENTATION SCHEDULE FOR
GCLWMO PLAN CHANGES

	1989	May			June				July			
TASK	**WEEK**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**
1. Management Matrix		**********							X			
2. Local Time Lines		********			X							
3. Plan Amendment		X										
4. Water Quality Strategies		**********										X
5. Wetland Policy		**********							X			
6. E&SC Guidelines		X										
7. Zoning Displays		********			X							
8. Map Changes		**********							X			
9. Wildlife Policy		**********							X			
10. Miscellaneous Changes		********			X							

The Gun Club Lake Water Management Organization would like to thank the BWSR for their prompt review of our Watershed Management Plan. We hope that the corrective items that we have identified will be adequate to gain BWSR approval of this document at your May 24th meeting. A representative of the Gun Club Lake Watershed Management Organization will be present at this meeting to answer any questions the BWSR may have on these corrective items. We would also like to thank Bruce Sandstrom for his efforts in working with the Gun Club Lake WMO in identifying and resolving these management issues.

Sincerely,

Thomas A. Colbert

Thomas A. Colbert, Chairman
Gun Club Lake WMO

TAC/jj

cc: Bruce Sandstrom, BWSR
Kathleen A. Wallace, MN/DNR
Timothy C. Scherkenback, MPCA
Karl Burandt, Metropolitan Council

Minnesota Board of Water & Soil Resources

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

(612) 296-3767

April 17, 1989

Thomas Colbert, Chairman
Gun Club Lake Water Management Organization
3830 Pilot Knob Road
Eagan, MN 55122

Re: Preliminary BWSR Review of Gun Club Lake WMO Plan

Dear Mr. Colbert:

I have reviewed the content of the Gun Club Lake WMO Plan as prescribed by M.S. 473. I also met with Brian Christensen on March 23 and 30, 1989 and went over most of the agency comments. While Brian was able to address most of the inventory type of issues, some of the more substantial issues deal with needed changes to WMO policy.

I have also read your December 16, 1988 comments to Don Ogaard. While I agree with many of your concerns you presented, some the issues you raised are still unclear to me.

Eagan constitutes 90 % of the land area of the GCLWMO. It's my impression that Eagan already has made a commitment to an aggressive water management program. Much of what BWSR I feel needs to be in a WMO plan is probably already being addressed in some manner in Eagan. The plan should link what is being done to what needs to be done for a coordinated water management effort [See M.S.473.878, Subd. 4, (c),(d),(f)] .

I will first lay out the policy concerns I have and then attempt to summarize the resource inventory items Brian thought the WMO will be able to resolve.

Policy Issues

Issue A - Implementation

The stated purpose of the WMO is "to preserve and use natural water storage and retention ..." This is consistent with the stated purpose M.S. 473.875, but I was not able to determine how the plan will be carried out by the member communities. It would help if the plan clearly defined what member communities are already doing and what they need to do to carry out the plan.

Issue B. - Time table

The plan lacks a time table for local plans to brought into compliance with the WMO plan. Also, as each community amends, for example, their storm water management plan, does the plan provide for a submittal and review process in the WMO plan to insure that consistency is maintained with the WMO plan? M.S. 473.878, Subd. 4 requires that the WMO establish a schedule for local government units to amend their local plans and controls.

Issue C - Plan Amendment Procedure

The plan does not specify an adequate procedure for amendments. I encourage you to consider adopting the language contained in the attached document entitled, "MBWSR - Recommended Plan Amendment Procedure", dated February, 1988. Please also define what constitutes a "significant amendment."

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
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Specific Comments related to Issue A:

The plan seems to defer the duties of carrying out wetland protection to the state and federal government. The Minnesota DNR only regulates a minority of the wetlands and basins contained in GCLWMO. And for those basins they do regulate, they only can regulate that area below the ordinary high water level (OHWL). In the case of the federal government, Section 404 only regulates filling of wetlands, again only to below the OHWL. Most of the activities that affect water quality and storm water storage occur above the OHWL and so it must be regulated by the cities if anything is going to be done to improve water quality and reduce flooding. Please provide me with response to the following four specific items.

1. Paragraph 2 of Page V-7 essentially requires cities to adopt a permit program to control sedimentation, but it fails to say whether filling or dumping of debris is going to be regulated. I'm sure you agree that it makes no sense to set aside areas for storm water storage when there is no regulation to prevent the incremental filling of the areas. Further, I encourage that you adopt the most current erosion and sedimentation guidelines of the Dakota County SWCD or the Board of Water and Soil Resources instead of what is contained in Appendix E. These guidelines were not available when the GCLWMO plan was written.

2. I couldn't find where there is any requirement to have each community create and have on display a comprehensive water inventory map which shows the location of each wetland and or storm sewer basin. Such a map would go a long way towards streamlining the review of local development plans. Further. I urge you to consider expanding your basin inventory list so that a good cross-reference exists between the management classification, the DNR protected waters number, storm water basin number, the National Wetlands Inventory number and the Dakota County wetlands inventory number.

3. Present "509" plan guidelines encourage a WMO plan to require each community to amend its local controls to include a statement which requires city staff to advise project proponents of the possible need for a state or federal permit if their project impact a state protected water or a wetland of the United States as identified by the National Wetlands Inventory Map. Is this a realistic issue with respect to the GCLWMO.

Directly tied to the above concerns is the need to require the development of an effective water quality management plan. Apparently, Eagan is already involved in a study process which would address this issue for 90% of the watershed. In order to further this effort, the WMO plan must accomplish the following item:

4. The WMO plan establishes a water quality classification system for all wetlands and basins. The plan must specify that all member communities adopt this or a similar classification scheme so that each is pulling in the same direction with regards to water quality management. It would be appropriate for the WMO determine which basins are of regional or watershed wide significance and set the appropriate water quality management classification. I understand that Eagan's ongoing water quality management effort is exceptional. I'd appreciate your thoughts as to how this can be tied to the WMO plan.

Agency Resource Inventory Concerns

Metropolitan Council Comments

1. There is a need to correct the MUSA line. Brian said that this could be done.

2. Criteria and standards for managing nutrients in runoff for the purpose of protecting lakes should be included. Item 4 the policy issues above, address this concern to a large degree.

Pollution Control Agency Comments

I feel that most of MPCA's concerns would be addressed by satisfying items 1 through 4, above.

Department of Natural Resources Comments

Most of the Department of Natural Resources comments would be addressed by satisfying items 1 through 4, above, with the following exceptions:

Protected Waters - Please revise Map 7 per DNR comments and revise the definition of OHWL consistent with M.S. 105.37.

Shoreland - I concur with the WMO that a policy requiring members to adopt shoreland ordinances which are compliant with state regulations is sufficient.

Floodplain - All communities are enrolled in the National Flood Insurance Program. A statement to that effect should be adequate.

Groundwater Management - I interpret the comments to encourage the WMO to record, publish and utilize highest known water levels, estimates of 100-year flood levels and ordinary high water levels so that areas adjacent to basins not designated as floodplain or shoreland can be properly regulated to prevent flooding. I agree.

Drainage - I believe the plan as written addresses the concern raised.

Water Quality - Item 4 addresses DNR's main concerns here. DNR also recommends that a water quality monitoring program be implemented. I concur if the lack of adequate data to properly implement a program doesn't exist. DNR also makes issue of the water quality leaving the WMO. Since the Minnesota River Valley is within the City of Eagan, the WMO should be concerned also. The area's water resources are of regional significance.

Erosion Control - Items 1 through 3 would adequately address these concerns.

Wildlife Resources - BWSR agrees that if the plan is promoting the use of each and every wetland for siltation / sedimentation ponds, this would not be consistent with the intent of M.S. 473. BWSR would also not agree with the statement "The wildlife management plans shall be incorporated ... so long as they do not conflict with storm water management." Therefore it is essential that the commitment to water quality management be clearly spelled out. Water quality plans and storm water plans have to be balanced. If any plan drives the other, the water quality plan should drive the storm water management plan. Not the other way around. BWSR fully realizes that some wetlands may have to be sacrificed to the improve the quality of a downstream water body. Please advise me as to how Eagan's water quality plan is dealing with this issue.

Recreation - I don't understand the comments well enough to comment.

Capital Improvement Program - Because of the unique nature of GCLWMO, I will recommend to the Board that a Capital Improvement Program is not necessary.

EQB Environmental Review Program - I'm not certain at this time of the relevancy of the comment to the 509 process. It would be certainly appropriate to make sure each community's subdivision and zoning ordinance carries out the provisions of M.S. 116.

Specific Comments - Brian Christianson felt that most of the changes sought on pages 6,7 & 8 of the DNR comments could be accommodated in the final plan. The exception was as follows:

- While Harnack Creek and Kennaley Creek are not in the WMO, they are designated trout streams within the City of Eagan. The City's storm water discharges could adversely affect these resources unless adequate quality and quantity restrictions are imposed or storm water is routed around these unique resources.

Non-Issue Suggestions for Improving the Plan

1. The WMO could consider requiring member communities to adopt a zoning standard which requires the elevation of new structures adjacent to wetlands and storm water basins to an accepted degree of protection where high water level data is available through storm water studies. (say 2' above the estimated 100 year

flood elevation). I believe that Eagan's storm water plan has a policy like this in force, but I'm not sure if it has been adopted as a regulation.

Where a city does not have any such controls in place, the items outlined in Issue A, above, could be accomplished by simply creating an over-lay zoning district which could be called a "Storm Water Management District". The district could be defined as a set distance from the high water or 100 year level. Performance standards, permit criteria, basin water quality classifications and allowable uses could then be adopted in the form of a relatively simple ordinance. This approach would resolve many agency concerns as well as those of BWSR. Further it would be pro-active and consistent with what issues the cities should be concerned with and may already be doing in a disjointed manner.

2. The plan could encourage alternative water quality management practices such as temporary draw-downs of basins in order to promote growth of emergent aquatics and nutrient assimilation. For example, Thomas Lake has very poor water quality and has a pumped outlet. Is it possible to modify the outlet to allow for a temporary drawdown?

3. The plan could encourage more effort in improving water quality in developed areas by such things as: a.) increased street sweeping budgets, b.) bans on use of phosphorus in fertilizer and c.) citizen wetland cleanup days.

4. The plan could encourage establishing a regular program of cleaning out sediment traps and oil skimming structures.

I hope we can discuss these issues in further detail when we meet on April 17, 1989. The plan will come up for an initial review before the Board on April 26, 1989. I will advise you of an exact time when that becomes available.

Sincerely,

Bruce Sandstrom,
Metro Water Plan Coordinator

cc Greg Larson
Kathleen Wallace
Cheryl Zaworski
Tom Klaseus
Brian Christensen 4/18

MBWSR - Recommended
Plan Amendment Procedure
February 1988

Plan Amendment Procedure

The plan is intended to extend through the year _____. The WMO may prepare proposed amendments to the plan prior to _____. The WMO shall prepare proposed amendments updating the plan and give notice of the proposed plan amendments before the end of _____.

Notice of public hearing on proposed plan amendments and a description of the amendments shall be published by the WMO in at least one legal newspaper in each county having territory within the watershed. Publication shall occur at least 10 days before the hearing. Notice shall also be mailed at least 30 days before the hearing to all counties, SWCDs, towns, and statutory and home rule charter cities having territory within the watershed, and to the Metropolitan Council, DNR, PCA, MDH, and the Minnesota Board of Water and Soil Resources. At the hearing the WMO shall solicit comments on the proposed plan amendments. Any person may submit a request to the MBWSR not later than 10 days following the close of the hearing, asking that the proposed plan amendments be reviewed in accordance with the provisions of section 473.878, subdivisions 5, 6, and 7. The WMO shall not adopt proposed plan amendments before the MBWSR has decided whether review in accordance with the provisions of section 473.878, subdivisions 5, 6, and 7 is necessary. If the MBWSR has not made a decision within 45 days of the close of the hearing, unless the WMO agrees to a time extension, review in accordance with the provisions of section 473.878, subdivisions 5, 6, and 7 shall not be required.

CORRECTED COPY

Request to Modify RIM Reserve Easement
Leo and Ruby Ziemer, Stearns County
(73-22-86-1)

A. Justification For Modification Request:
Improving and widening County Highway 19 for public safety.

B. General Information:
1) Easement duration: Ten year easement will expire April 6, 1997. (8 years remaining)

2) Total Easement Area: 29.3

3) Highway right-of-way to be expanded 17' onto RIM acres = 0.26 acres lost permanently plus 0.26 acres of habitat lost for two years for resloping.

C. Proposed Compensation:
1) Permanent right-of-way area (0.26 ac) = $ 63.23
(.26 ac x $304 payment rate = 79.04 x 80%)

2) Temporary slope area (0.26 ac) = $ 52.00
(.26 ac x $200 payment rate offered from Stearns Co. Hwy. Dept.)

3) Total Compensation = $115.23

D. Other Notes:
1) Stearns SWCD Board of Supervisors recommends approval of this modification.

2) Stearns County Highway Department hopes to open bids May 31.

3) Construction to begin as early as June 15, 1989.

4) Construction to be completed by September, 1989 with sloping (5.1) and seeding this fall.

5) Stearns County Highway Department has agreed to seed according to RIM Specifications.

Staff and Attorney General Representative Recommendation: Approval

Allocation of Funds Remaining from the Pilot SWCD Manager Program

Background

Beginning in FY86, the Soil and Water Conservation Board committed $87,200 to fund District Manager positions. The program was designed to be a three or four year effort, ceasing when state funding decreased to a 25 percent level. As indicated by the following summary, four SWCDs received final funding this year (FY89), with Kanabec and Traverse scheduled for last year funding in FY90.

SWCD	1986	1987	1988	1989	1990 (proposed)
Mille Lacs	20.500	20.500	10,750**	5,400**	
N. St. Louis	23.175	23,175	4.850**	5.800**	
Wadena	21,762.50	21,762.50	12,200**	6.100**	
Mahnomen	21,612.50	21.612.50	12,220**	6,100**	
Kanabec	---	---	16,850*	12,400*	6,200
Traverse	---	---	16,000*	12.000*	6,000
TOTALS	87.200	87.200	72.850	47.800	12,200
Funding %	100	100	67* 50**	50* 25**	25

Issue(s) for FY 90

After granting $12,200 to Kanabec and Traverse, a balance of $75,000 remains. Options for disbursement include:

1) allocating additional money to all SWCDs;

2) continuing a specialist program with a limited number of SWCDs by making grants similar to the manager program;

3) BWSR provide specialized assistance such as "accounting" to SWCDs by using the funds on behalf of SWCDs.

Item three (3) is now possible due to Legislative approval of rider language to the BWSR 1990-1991 biennial budget. (See attached budget language). The language was developed by BWSR and Department of Finance staff as a follow-up to action at the March BWSR meeting.

Following Board direction, staff will prepare a recommendation for allocating the $75,000 at the June meeting.

HOUSE

Sec. 9. BOARD OF WATER AND SOIL

RESOURCES 6,375,000 7,395,000

Approved Complement - 28

$10,000 the first year and $10,000 the second year are for the International Water Coalition.

$978,000 the first year and $978,000 the second year are for general purpose grants to soil and water conservation districts, including conservation tillage and review and comment on water permits. On approval of the board, expenditures may be made from these appropriations for supplies and services benefiting soil and water conservation districts.

$199,000 the first year and $199,000 the second year are for grants to watershed districts and other local units of government in the southern Minnesota river basin study area 2 for flood plain management.

$1,501,000 the first year and $1,501,000 the second year are for grants to soil and water conservation districts for cost-sharing contracts for erosion control and water quality management.

The appropriations in this section for the southern Minnesota river basin study area 2 and for grants to soil and water districts for cost-sharing contracts for erosion control and water quality management are available until expended.

$159,000 the first year and $159,000 the second year are for grants-in-aid to soil and water conservation districts and local units of government to assist them in solving sediment and erosion control problems. Grants must not exceed 50 percent of total project costs or 50 percent of the local share if federal money is used. Priority must be given to projects designed to solve lakeshore, stream bank, and roadside erosion and to projects eligible for federal matching money.

SENATE

Sec. 8. BOARD OF WATER AND SOIL

RESOURCES 5,048,000 5,048,000

Approved Complement - 25

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LAZURUS CREEK HISTORY

1967 This Site in Section 9 of Fortier Township was proposed as a potential Flood Control Reservoir by the Area Engineer of S.C.S. in a report of flood control sites to Yellow Medicine SWCD

1974 Site was presented to West Minn. R.C.& D. as potential flood control reservoir site.

1977 This Site was identified as a excellant site for flood control with 80 others in the *Minnesota River Basin Report*

1978 The Site was presented by the SWCD as one to be funded by Area II.

1979 The Yellow Medicine District along with SCS began to solve Ag Waste problems and install Upland Treatment in the Watershed.

1980 This site was included as a potential reervoir site by SCS and COE in the PL-87-639 Alternatives Report. District assissting land owners with feedlot problems in the Watershed.

1985 This Reservoir was found to be feasable to build by the Federal Government under the PL-566 Program.

1985 The Lac qui Parle-Yellow Bank Watershed District made application for this project to be built by SCS under the PL-566 program.

1985-86 The application was accepted by SCS for design.

1988 Enough preliminary design was done to give preliminary land rights needed.

1988 Part of land needed was being foreclosed on. LQP-YB Watershed District signed Agreement to buy land for $40,000.00+ from owner to forestall foreclosure. Title to change hands after survey is completed and after July 1 1989.

AREA II PROPOSED PROJECTS

MAY 23, 1989

	PROJECT	COUNTY	WATERSHED	COST
1.	Wellner Reservoir D. A.=13.5 mi².	Brown St. Cst.=$1,500,000	Cottonwood Local Cst.=$500,000	$2,000,000.00

This will be a larger dam than we have built before and will have very good recreation and flood control benefits. Approximately 1/3 of the geologic testing is complete and 2/3 of the preliminary design is done Brown County has obtained Options to purchase all the landrights necessary.. The County is planning to purchase more land to enhance the recreation benefits of the project. STATE COMMITMENT-FY 89-$124,000.00, FY 90-$200,000.00, FY 91-$200,000.00, FY 92-$200,000.00, FY 93-$200,000.00, FY 94-$200,000.00, FY 95-$200,000.00.

2.	Road Projects D. A.=Varies	Various St. Cst.=75% of Added Costs	LQP,YM,RDWD,or CtnWD Local Cst.=Varies	$Varies

The County Engineers have sites ready for us to assist with. These sites will be Prioritized in July 89. These projects should have good benefits. FUNDING COMMITTED= $200,000.00 Bonding Money from F.Y.s 88 & 89.

3.	Lazurus Creek D.A.=21 mi²	Yellow Med. Federal Cost $800,000.00, St.Cost=$187,500.00 Local Cost=$62,500.	Lac qui Parle	$1,000,000.00

This Project is one of three found feasable by the Federal Government in the Pl-87/639 Study It will be built under the PL 566 Program or if that fails, it will be built by Area II and the State.

4.	Lac qui Parle River D. A.=13.5 mi².	Lac qui Parle St. Cost=$60,000.	Lac qui Parle Local Cost=$20,000	$80,000.

This project will be done by the C.O.E. It involves floodways and minor channel work. Area II will help to supply the local matching funds.

5. RW-22 Dam — Lyon Cnty. — Redwood — $1,500,000
   D. A.=50 mi². — St. Cst.=$1,125,000 — Local Cst.=$375,000

   The Corps Of Engineers have told us that they cannot build this structure as part of the Marshall Flood Control Project. Area II will build this site. Stereo Plotting for land rights is being done at the present time.

6. Johnson Reservoir — Deuel Cnty.S.Dak — Lac qui Parle — $350,000.
   D. A.=3.0 mi². — St. Cost=$75,000. — Local Cost=0

   This Project is a small reservoir on the upper end of the Lac qui Parle Watershed. The landowner and the South Dakota Interests are favorable to this project.

7. Delangh Reservoir(CW-9) — Lyon Cnty. — Cottonwood — $675,000.00
   D. A.=7.1 mi². — St. Cost=$50,625.00 — Local Cst=$168,750.00

   This Project will be surveyed this summer for feasability. It came closest to meeting Federal feasability of any structure in the Cottonwood Basin.

United States
Department of the Interior

Fish and Wildlife Service

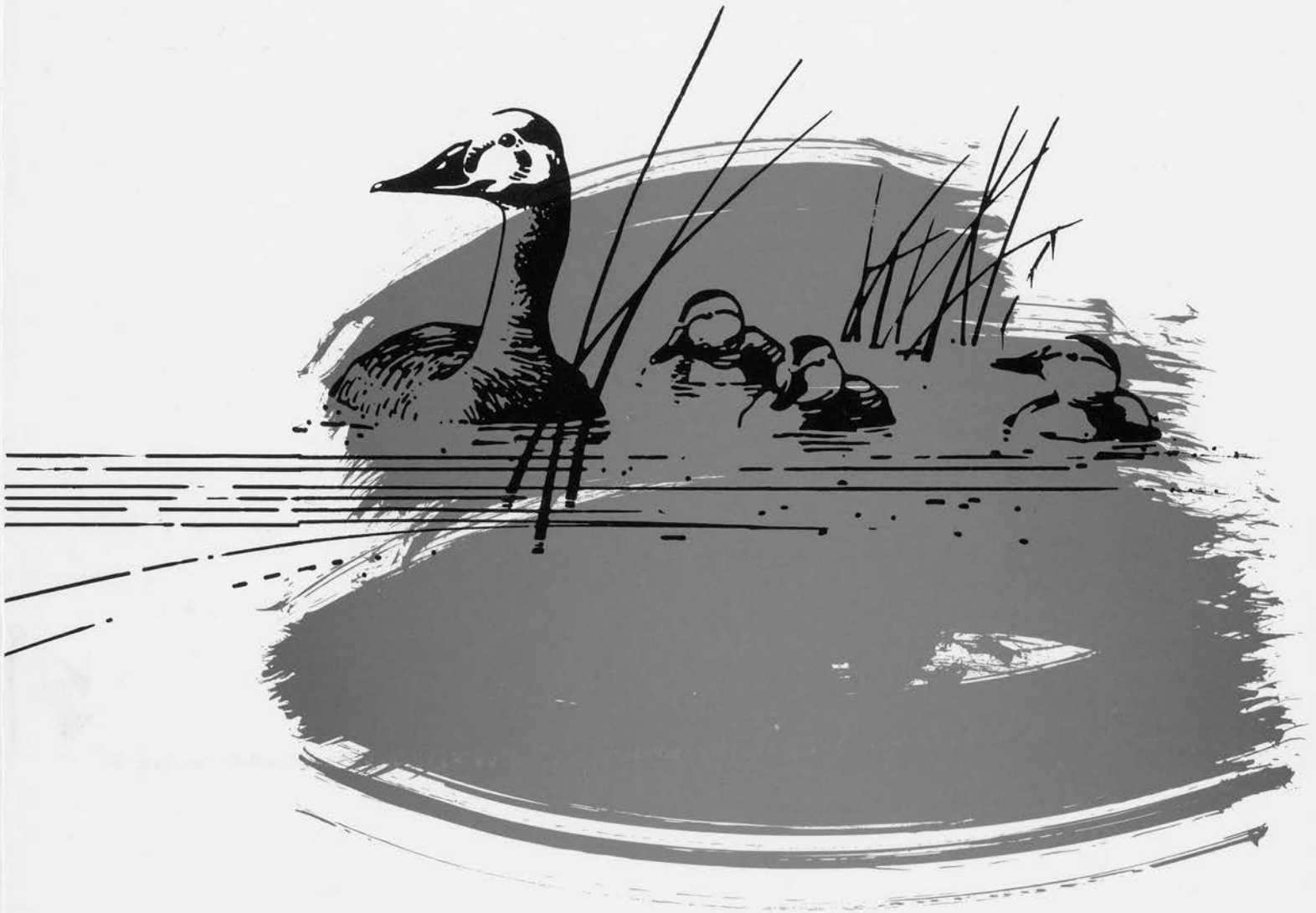
Environment Canada

Canadian Wildlife Service

Environnement Canada

Service canadien de la faune

NORTH AMERICAN WATERFOWL MANAGEMENT PLAN



NORTH AMERICAN WATERFOWL MANAGEMENT PLAN

A Strategy for Cooperation

May 1986

Table of Contents

	Page
Preface	ii
Introduction	1
Principles	2
Ducks	3
Dabbling Ducks	3
Diving Ducks	5
Sea Ducks	5
Use	5
Goals	6
Geese	6
Status	6
Management	7
Use	7
Goals	8
Swans	8
Tundra Swans	8
Trumpeter Swans	9
Goals	9
Habitat	9
Habitat Priorities	13
Goals	13
Recommendations for Future Action	14
Habitat	14
General Recommendations	14
Specific Recommendations	14
Duck Harvest	15
Goose and Swan Population Management Plans	16
Subsistence	16
Population Management and Research	16
Implementation of the North American Waterfowl Management Plan	17
North American Waterfowl Management Plan Committee	18
Appendix	
Coordination and Administration of the North American Waterfowl Management Plan	18
Committee Membership	18
Operating Procedures	19
Committee Operations	19

Preface

In planning for the future of waterfowl, we must reflect upon the past, consider the present, and recognize and appreciate the tremendous efforts that have been made since the turn of the century on behalf of ducks, geese and swans by thousands of individuals, numerous private conservation organizations, and the state, provincial, territorial and federal governments of Canada, the United States and Mexico. Because of the dedication and spirit of these many people who have worked long and hard, millions of acres of wetlands have been saved from destruction, a large chain of waterfowl refuges spanning the flyways has been established, treaties and laws protecting waterfowl have been enacted and rigidly enforced, thousands of research projects have been undertaken, disease outbreaks have been fought, and millions of dollars have been expended to preserve and manage waterfowl habitat across the continent.

Despite these accomplishments, however, major waterfowl conservation problems have surfaced in recent years that should be addressed promptly. For example, losses of breeding, migration and wintering habitat have resulted in alarming declines in some waterfowl species. To cope with this, current programs are in critical need of expansion, and new initiatives should be devised and carried out.

This Plan presents what wildlife managers in the two countries believe to be appropriate waterfowl population goals to meet public demand, and actions needed to achieve those goals. It has been reviewed by public and private conservation organizations, and the general public; and many of their comments have been incorporated in the text. It provides information for those who enjoy and value waterfowl, and describes the actions and the size of the task necessary to achieve the goals.

The total cost of achieving the goals stated here is clearly too great to be borne by the national governments of the two signatory countries alone. It must be understood that this Plan is not a commitment by either signatory government to expend funds beyond its borders or to bear the total cost or responsibility for its execution; rather, it is a challenge to all those who enjoy and benefit from waterfowl to contribute their share toward its attainment.



Minister of the Environment
Canada



Secretary of the Interior
United States

Introduction

Waterfowl are the most prominent and economically important group of migratory birds in North America. They are highly prized as gamebirds by millions of hunters in Canada, the United States and Mexico, and attract the attention of even larger numbers of people who enjoy observing them. Waterfowl generate a direct expenditure in excess of several billions of dollars annually.

North America is blessed with an abundance and diversity of wetland ecosystems. Wetland complexes and associated uplands are an integral part of the landscape and provide immeasurable ecological, social and economic benefits.

Wetland basins collect and store runoff, thus replenishing aquifers and ground-water supplies needed to sustain natural vegetation, crops and wildlife. Wetlands play a role in purification of water supplies, prevent soil erosion, and moderate regional impacts of drought and flooding. The wetlands of North America provide habitat for 37 species of waterfowl which together constitute an important component of the continent's natural heritage.

Although most of this plan concentrates on particular problems of concern to man, it also recognizes the importance of waterfowl as indicators of a healthy environment. In the face of major alterations to the landscape by man, the continued maintenance and restoration of wetlands will be necessary to provide suitable habitat for waterfowl and many other wildlife species.

The *Convention for the Protection of Migratory Birds* was established between the United States and Great Britain (on behalf of Canada) in 1916 to ensure conservation of migratory birds. The Convention provides the basic foundation for cooperative waterfowl management programs that have since evolved in each country in accordance with changing needs and perceptions. Migratory birds in North America have benefited from protection and other conservation measures afforded under this treaty and subsequent treaties with Mexico (1936) and other countries. For example, wood ducks have been brought back from precariously low numbers in former years to abundance today. Greater snow geese have recovered to high population levels. Sanctuary and refuge systems developed throughout North America have contributed to a sustained recovery of most continental goose populations.

Despite these accomplishments, significant changes have occurred on the North American waterfowl scene. Large-scale alterations of the wetland and grassland habitat base by agriculture, urbanization and industrial activities have affected the distribution and abundance of several species, resulting in new opportunities and problems. Although some goose populations have benefited from agricultural land use and protection afforded by expanding urban environments, most duck populations have not. Loss of nesting cover, wetland drainage, and degradation of migration and wintering habitat have contributed to long-term downward trends in some important duck populations.

Reversing or modifying activities that destroy or degrade waterfowl habitat is imperative to the future success of waterfowl management. Efforts to resolve problems facing waterfowl have evolved from a focus on limiting the harvest to a need for creative action if current benefits from this resource are expected to continue. All other efforts will be in vain if the ongoing trend of habitat loss and degradation is not reversed.

Although the conservation of habitat is the pressing imperative if waterfowl are to be maintained, other factors should also be addressed. Harvest management is clearly important and government agencies should continue to ensure that regulations and enforcement are sufficient to maintain an adequate abundance and diversity of waterfowl populations for all users. The widespread use of toxic chemicals can cause significant impacts, and the use of lead shot continues to be a concern in some areas. Environmental pollution can affect waterfowl, whether it be through broad-scale degradation of habitats or through direct impact on birds such as may follow spills of oil or other chemicals. Predation and disease are important factors in population management.

The Minister of Environment for Canada and the Secretary of the Interior for the United States recognize that the conservation of North American waterfowl should be pursued through cooperative planning and coordinated management. This document provides the framework for a waterfowl conservation and management effort by describing population and habitat goals and suggesting recommendations that will resolve problems of international concern. It is a broad approach utilizing a 15-year horizon, with review and updating at 5-year intervals. This phase of the Plan extends to the year 2000, with the first review in 1990. It is anticipated that the Plan may be implemented through national, flyway, provincial, territorial and state plans, which will set out the specific management details for pursuing waterfowl conservation in both countries.

Nothing in this Plan is intended to change either the fiscal or regulatory processes used in each country to establish funding availability or rules governing the harvest of waterfowl. Rather, the Plan serves to identify desirable goals and some general recommendations that should be considered in developing additional governmental and nongovernmental measures aimed at the protection of North American waterfowl. As these recommendations are developed, analyzed, and considered, further possibilities will doubtless become apparent. This Plan is not meant to preclude assessment or adoption of those possibilities, or to preclude either country's discretion in evaluating the full range of potential actions which may become available in the future.

This Plan will serve as a guide for the participation of various private organizations and the public in the conservation and management of waterfowl. Active involvement by the public — whether hunters, naturalists, landowners or subsistence users — is essential if waterfowl management is to be effective.

For the purposes of this document, "waterfowl" refers to the 37 species of the family Anatidae — ducks, geese and swans — that regularly occur in both the United States and Canada. Nine other species are not mutually shared by the two countries but will be dealt with in national and local management plans. Although other wildlife species are not addressed in this Plan, many are associated with water and wetlands and must be considered in developing operational plans for habitat preservation. This Plan focuses on the value of maintaining an adequate habitat base to ensure perpetuation of North American waterfowl populations.

Principles

1. Protection of waterfowl and their habitats requires long-term planning and the close cooperation and coordination of management activities by Canada, Mexico and the United States, within the framework of the 1916 and 1936 Migratory Bird Conventions.

2. In waterfowl management decisions and actions, first priority should be to perpetuate waterfowl populations and their supporting habitats. Management actions should be at intensities required to prevent the individual waterfowl populations from decreasing to low levels and to encourage optimum use of all available habitat.

3. The maintenance of abundant waterfowl populations is dependent on the protection, restoration and management of habitat. The persistent loss of important waterfowl habitat should be reversed.

4. Waterfowl populations should be managed by identifiable subpopulations where these can be biologically justified and for which management regimes are feasible.

5. Joint ventures of private and governmental organizations should be considered as an approach to financing high-priority research and management projects of international concern that can only be addressed through a pooling of resources.

6. The managed subsistence and recreational harvests of the renewable waterfowl resource are desirable and consistent with its conservation.

7. Recreational hunting will continue to be managed under existing regulatory processes in Canada and the United States. These processes will be subject to continuous review to ensure they are compatible and consistent with waterfowl population needs on a continental basis, and to evaluate their environmental impacts and to ensure public participation.

8. The concept of stabilizing hunting regulations — with review at five-year intervals and provisions for predetermined responses to substantive waterfowl population fluctuations — is desirable to encourage long-term waterfowl management efforts.

Ducks

This Plan discusses 29 species of ducks (Table 1) that depend on both Canada and the United States to complete portions of their life cycle. Seven other species breed only in the United States or are shared between the United States and countries other than Canada. These species which occur solely within one country are considered resident and will be dealt with in local management plans.

The status of ducks in North America is presented in Table 1. The continental population estimates are the average of 1970-1979 information from strata 1-50 (Figure 1) — the states of Wisconsin, Minnesota, Nebraska, Colorado, Wyoming and California — as well as estimates based on other surveys including harvest, parts collection and bandings. These estimates indicate a breeding duck population of about 62 million, which produced an average fall flight in excess of 100 million during the 1970-1979 time period. This number of breeding ducks and fall flight provides the benchmark on which total duck goals for North America are based.

For purposes of this Plan, North American ducks are divided into three groups based on similarities in ecological requirements — dabbling ducks, diving ducks and sea ducks.

Dabbling Ducks

Dabbling ducks are the most abundant and widespread group of ducks breeding in North America and are of greatest importance to sport hunting and viewing. Ten species are considered in this category — mallard, black duck, wigeon, pintail, gadwall, green-winged teal, blue-winged teal, cinnamon teal, shoveler and wood duck (not a dabbler).

Highest densities of breeding dabblers are found in the central part of the continent from the Dakotas and eastern Montana in the United States, ranging north through the prairie provinces and territories of Canada into Alaska. The "surveyed area," as referred to in this report, is monitored annually to determine the size of the breeding population. Monitoring includes aerial survey information from strata 1-50 (Figure 1) and data provided by the six cooperating states as presented in the annual "Status of Waterfowl and Fall Flight Forecast." These data offer the most reliable index to the abundance of the major species of this group, and provide the primary basis for decisions on waterfowl harvest regulations (Table 2). Early nesting species, such as mallards and pintails, currently are at the lowest levels since the survey began in 1955. Intensive agricultural land use on the major breeding grounds, combined with drought which began in 1980 and has continued through 1985, has curtailed duck reproductive success.

Mallard, pintail, and blue-winged teal breeding populations in the surveyed area have significantly decreased as of 1985 from averages of the 1970s. This includes decreases in mallards from 8.7 million to 5.5 million, pintails from 6.3 million to 2.9 million, and blue-winged teal from 5.3 million to 3.8 million. Continuing habitat degradation and loss since the early 1960's have diminished the likelihood of these populations recovering to former abundance without innovative and intensive management on private and public lands, greater efforts to preserve existing habitat, and changes in land use and agricultural practices on private lands.

Mallards breeding in eastern North America have dramatically increased over the past 25 years. They are now one of the most abundant breeding dabbling ducks in southern Ontario, southwestern Quebec and several northeastern states. Mallards, black ducks and their hybrids form a complex of large dabbling duck populations in eastern North America of greatest importance to sport harvest in the Atlantic Flyway. Wood ducks are also an important component of the dabbling duck harvest in eastern North America. Populations of this species are in good condition, but there is concern about the loss of wood duck breeding and wintering habitat.

The black duck population in eastern North America has been decreasing for the past 30 years. Annual winter surveys which count only part of the black duck population have provided an index that has ranged from 750,000 in 1955 to lows of less than 300,000 in 1983 and 1984. However, the breeding population of black ducks in Atlantic provinces of Canada appears to be stable.

Black duck problems in the western and central portions of the species' range may be related to the conversion of natural breeding habitat to farmland, and to habitat loss and degradation caused by human activity in migration areas. Competition and hybridization with pioneering mallards may have also contributed to the black duck decline. Deterioration of wintering habitat along the east coast of Canada and the United States has occurred. The relative importance of these factors and the role of hunting mortality need to be clarified in the population decline.

Table 1. Estimated average population of breeding ducks in North America, 1970-1979 [a]

Species	Surveyed Areas[b] U.S.	Canada	Total	Unsurveyed Areas	Continental Estimate
Dabbling ducks					
Mallard	2,066	6,675	8,741	1,926	10,667
Pintail	2,332	3,927	6,259	745	7,004
Black duck		88	88	1,340	1,428
Gadwall	512	1,102	1,614	380	1,994
Wigeon	956	2,315	3,271	216	3,487
Green-winged teal	482	1,889	2,371	740	3,111
Blue-winged and cinnamon teal	1,719	3,571	5,290	856	6,146
Shoveler	654	1,415	2,069	100	2,169
Wood duck				3,230	3,230
Diving ducks					
Redhead	221	539	760	120	880
Canvasback	119	459	578	64	642
Lesser and greater scaup	1,333	6,243	7,576	322	7,898
Ring-necked duck	16	533	549	419	968
Ruddy duck	216	316	532	120	652
Sea ducks					
Hooded, red-breasted and common merganser	9	578	587	915	1,502
Bufflehead	82	805	887	195	1,082
Common and Barrow's goldeneye	126	603	729	740	1,469
Harlequin				165	165
Oldsquaw	600	828	1,428	1,275	2,703
King and common eider	22	1	23	2,443	2,466
Black, white-winged and surf scoter	346	1,065	1,411	579	1,990
Total	11,811	32,952	44,763	16,890	61,653

[a] In thousands of ducks.
[b] Includes data from Strata 1-50 and the six states that contribute information to the annual "Status of Waterfowl and Fall Flight Forecast."

Figure 1. Transects and strata for principal areas of waterfowl breeding population and production surveys which provide data for the annual report, "Status of Waterfowl and Fall Flight Forecast." Other areas included in the report are California, Colorado, Minnesota, Nebraska, Wisconsin and Wyoming.

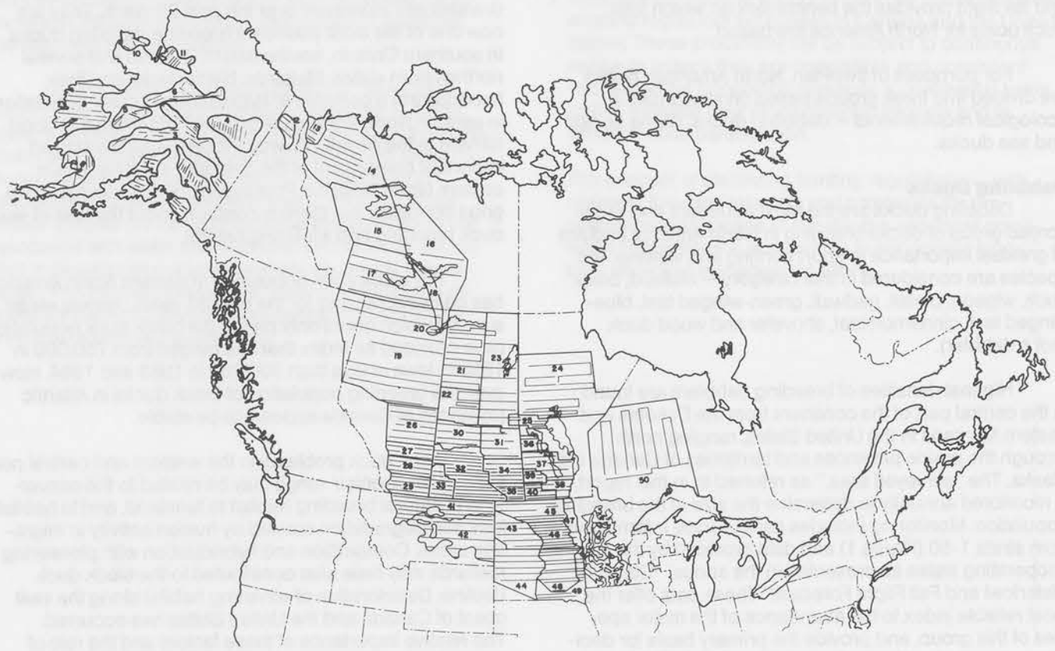


Table 2. Breeding duck population status, trends and goals for the 10 most common species in the surveyed area [a, b]

Species	Status (1985) United States	Canada	Total	Population Trend (1970-1985)[c]	Goals (year 2000)[d]
Mallard	1,597	3,878	5,475	Decreasing	8,700
Pintail	1,339	1,596	2,935	Decreasing	6,300
Gadwall	464	946	1,410	No change	1,600
Wigeon	969	1,537	2,506	No change	3,300
Green-winged teal	433	1,440	1,873	No change	2,300
Blue-winged and cinnamon teal	1,190	2,566	3,756	Decreasing	5,300
Shoveler	769	1,156	1,925	No change	2,100
Redhead	167	539	706	No change	760
Canvasback	126	285	411	No change	580
Scaup	1,339	4,893	6,232	No change	7,600

[a] In thousands of ducks.
[b] The surveyed area includes Strata 1-50 and data from the six states that contribute information to the annual "Status of Waterfowl and Fall Flight Forecast."
[c] Status of several species declined significantly in 1985 from previous trends.
[d] The average of 1970-1979 for Strata 1-50 plus six cooperating states.

Diving Ducks

This group includes the canvasback, redhead, ringneck, greater scaup, lesser scaup and ruddy duck. Highest breeding densities of divers occur on the prairies, although the ringneck and lesser scaup are widespread and the greater scaup breeds mainly in the Arctic. Diving ducks tend to use the deeper inland marshes, rivers and lakes of the continent for breeding and migration and winter in coastal bays, estuaries and offshore waters.

With the exception of the lesser scaup, diving ducks are not as abundant as dabblers, although most are of major importance to viewing and recreational harvest. Lesser scaup and ringnecks are most frequently harvested. Redheads and canvasbacks continue to be of special interest because of their status. Annual results from the surveyed area from 1970-84 reveal that redhead and canvasback numbers were fairly stable. However, recent information on canvasbacks indicate that breeding populations are below objectives and may need special attention. The status of the greater scaup is uncertain, because it is difficult to distinguish this species from the much more abundant lesser scaup.

Sea Ducks

Sea ducks comprise the most diverse group of waterfowl species. Most breed in northern tundra or boreal forest habitats and winter in coastal bays and estuaries in the northern half of the continent. Breeding and wintering habitats of sea ducks are stable and have been least affected by activities of man. These ducks are not abundant relative to dabblers.

There are a number of sea duck subgroups, which vary in importance to sport and subsistence harvests. All are of interest to viewers because of their relative scarcity and because of the elaborate plumages of some males.

Adults, eggs and nest down of king and common eiders are of major importance to subsistence hunters on the species' breeding grounds. There is a significant harvest of eiders off Newfoundland and a small harvest of these birds occurs elsewhere. Better population estimates of common eiders are needed, as is a careful assessment of the impact of harvest on the population.

Comparatively little is known about the North American breeding distribution and basic biology of scoters. Black, surf and white-winged scoters are of some importance to sport and subsistence harvests.

Common and Barrow's goldeneye and the bufflehead are the most heavily hunted species of sea ducks. The sport harvest of common goldeneye has decreased in eastern Canada. Not enough is known about the small eastern population of Barrow's goldeneye to establish its status reliably.

Common and red-breasted mergansers are widespread but not important gamebirds. The smaller and much-less-abundant hooded merganser is a significant part of the bag in local areas.

The harlequin duck is locally abundant in its northwestern range, spectacular for viewing but seldom observed by most North Americans. It is not often harvested. The eastern population of harlequins is very small.

Circumpolar in distribution, the oldsquaw is by far the most abundant sea duck. Oldsquaws are lightly harvested for sport and subsistence.

Use

The duck resource is enjoyed by a great number of people in Canada, the United States and Mexico. Public interest in perpetuating this resource is widespread and includes such diverse goups as hunters, naturalists and other conservationists. Many wetland areas on the continent have been restored and maintained with funds received directly or indirectly from hunters. Active waterfowl hunters in both countries have been as numerous as 2.4 million in 1970 and as low as 1.8 million in 1982, with approximately 20 percent in Canada and 80 percent in the United States. Hunter information is not available for Mexico. Numbers of duck hunters tend to fluctuate with the extent of hunting opportunities. Annual harvests have varied from a low of 10.8 million ducks in 1968 to a high of 20.2 million in 1970, with a drop to 14.9 million in 1982. Distribution of harvest has been 80 percent United States and 20 percent Canada. Estimates of the duck harvest in Mexico are not available.

Subsistence harvest of ducks, for food and for down used in clothing, occurs mainly in the northern part of the continent in the spring and fall. This amounts to an estimated 5 percent of the total continental duck harvest.

Millions of people derive enjoyment and recreation through viewing, studying and photographing ducks. These people also have a high interest in maintaining the numbers and health of waterfowl populations.

Goals

The goals in this Plan should be sufficient to maintain populations of ducks of various species and their habitats at levels acceptable to people who use and enjoy them. Duck population goals are based on species numbers during the decade of the 1970's. During this period, duck production varied from excellent (1970-1972) to average (1973-1979). These goals are not meant to limit the concerns of the sponsors for migratory waterfowl, but to propose a target, reasonable at this time, for which specific plans and proposals may be formulated. The goals are as follows:

1. Maintain the current diversity of duck species throughout North America and, by the year 2000, achieve a breeding population level of 62 million during years with average environmental conditions. This would provide a fall flight of over 100 million birds during average years.

2. Reach or exceed the Table 2 goals for breeding populations of the 10 most common species of ducks in the surveyed area. More specific recommendations are listed below for mallards, pintails and black ducks.

3. By the year 2000, achieve and maintain in the surveyed area a breeding population index level of 8.7 million mallards during years of average environmental conditions. Average distribution of breeding mallards in the surveyed area would be 75 percent Canada and 25 percent United States.

4. By the year 2000, achieve and maintain in the surveyed area a breeding population index level of 6.3 million pintails during years of average environmental conditions. Average distribution of breeding pintails in the surveyed areas would be 65 percent Canada and 35 percent United States.

5. The goal for black ducks is to attain, by the year 2000, a wintering population index of 385,000 birds in the Atlantic and Mississippi Flyways.

Meeting these goals would provide the opportunity for 2.2 million hunters in Canada and the United States to harvest 20 million ducks annually. The harvest would include 6.9 million mallards, 1.5 million pintails and 675,000 black ducks. It would also provide benefits to millions of people interested in waterfowl for purposes other than hunting. An overall objective of management agencies is to accommodate the diverse public interests in waterfowl and to assure that all citizens can benefit from abundant waterfowl populations.

Geese

Whitefronted, snow, Ross', Canada and brant are species commonly shared by the United States and Canada. They are comprised of 18 subspecies and races, which have been divided for management purposes into 27 continental populations (Table 3).

Canada geese are widely distributed across the continent, with nesting areas extending from central United States to the Arctic. Their wintering areas range from southern British Columbia through the central United States into Mexico. The four other species of geese nest exclusively in the Arctic. They winter along both coasts and in the southern part of the United States and Mexico. All geese are of major importance to sport harvest and viewing. The Arctic-nesting species are of importance to native subsistence hunters in spring and fall. Some populations of geese have benefited from agricultural practices and most respond well to management actions, such as harvest regulations, refuges and manipulation of food.

Status

In recent years, Canada geese have reached unprecedented high population levels, with the exception of three populations — the Aleutian, cackling and dusky. These three populations breed in Alaska, utilize coastal areas of British Columbia during migration and winter in the western United States.

Most snow goose populations have increased in recent years. The greater snow goose has recovered from a few thousand at the turn of the century to more than 200,000. Wrangel Island lesser snow geese are shared among Canada, the United States and the Soviet Union. The population has decreased because of six years of consecutive breeding failures, but the population has stabilized and is showing signs of recovery. The Ross' goose population appears to be increasing in size and range.

Of the four whitefront populations in North America, only the Pacific population has decreased and is of concern. Pacific and Tule whitefronts breed in Alaska and winter in the western United States and Mexico. Although Canada is not involved to any great extent in harvest of these geese, because of a southward coastal migration, areas in British Columbia are important to these birds during spring migration. Interior whitefront populations, including the eastern midcontinent and western midcontinent, appear to be thriving.

Table 3. Status of and goals for North American goose populations [a]

Species and Population	Winter Population Index (1984-1985)	Recent Trend (1980-1984)	Winter Index Goals (Year 2000)
Canada Goose			
Atlantic Flyway	814,000	Increasing	850,000
Tennessee Valley	130,000	Stable	150,000
Mississippi Valley	477,000	Increasing	500,000
Eastern prairie	168,000	Stable	200,000
Western prairie	135,000	Increasing	200,000
Great Plains	17,000[b]	Increasing	50,000[c]
Tallgrass prairie	197,000	Increasing	250,000
Shortgrass Prairie	194,000	Stable	150,000
Hi-line	93,000	Stable	80,000
Rocky Mountain	90,000	Increasing	50,000
Pacific	25,000[b]	Increasing	29,000[c]
Lesser Pacific Flyway	150,000	Stable	125,000
Dusky	7,500	Decreasing	20,000
Cackling	23,000	Decreasing	250,000
Aleutian	3,800	Increasing	Delist[d]
Snow Goose			
Greater	250,000[e]	Increasing	185,000[c]
Midcontinent lesser	1,974,000[e]	Increasing	1,000,000[c]
Western Central Flyway	107,000	Increasing	110,000
Wrangel Island (U.S.S.R.)	No estimate	Stable	120,000[c]
Western Canadian Arctic lesser	185,000[b]	Stable	200,000[c]
Ross' Goose	106,000	Increasing	100,000[c]
White-fronted goose			
Eastern midcontinent	71,000	Increasing	65,000
Western midcontinent	201,000	Increasing	250,000
Tule	5,000	Stable	5,000
Pacific Flyway	100,000	Stable	300,000
Brant			
Atlantic	146,000	Increasing	124,000
Pacific	145,000	Increasing	185,000

[a] The emperor goose is found only in Alaska and will not be considered in this Plan. The Vancouver Canada goose population is also not considered.
[b] Breeding population information only available.
[c] Breeding population goals.
[d] Currently listed as an endangered species. Recovery plans specify maintaining a wild population at a level of 1,200 or greater and reestablishing self-sustaining populations of geese (50 breeding pairs per area) on three former breeding areas in addition to Buldir Island.
[e] Spring inventory.

Brant nest farthest north of all geese, so are particularly susceptible to adverse spring weather. Unlike other geese, brant feed almost exclusively in aquatic habitats in staging and wintering areas and are more vulnerable to changes in food supply caused by environmental degradation or natural phenomena. Vegetative changes caused by degradation of coastal estuaries in the eastern United States, coupled with severe winter weather in the 1970's, caused dramatic losses in the Atlantic brant population, which has since recovered.

Pacific brant from the western Canadian Arctic and Alaska have decreased but appear to be stabilizing. These birds have shifted from primary wintering areas in British Columbia, Washington, Oregon and California to Baja, California and the west mainland coast of Mexico.

Management

Subpopulations of geese can be identified that breed in the same areas, migrate along the same corridor and return to the same wintering area each year. This offers the possibility for managing each population separately on the basis of a plan that establishes goals for individual population size and harvest.

Goose management in Canada and the United States differs according to varying needs and constraints imposed by climate, geography, migration paths and user groups. Most geese originate from breeding areas in Canada, and there is little competition among territories and provinces for harvest of a particular population. Geese migrating or wintering in some portions of the United States must be apportioned through intensive flyway management plans, including harvest quotas, along a latitudinal gradient of states. This is currently accomplished through goose population management plans developed and implemented by the flyway councils and this procedure should be encouraged.

The United States and Canada share a responsibility to maintain and manage continental goose populations. Each country has different user groups and can best design national plans to address their individual needs. Goose population problems of major interest in this Plan are those which will require international cooperation to resolve. Five such populations are initially identified — the cackling, dusky and Aleutian Canada goose populations, plus the Pacific brant and whitefront populations. When additional populations warrant coordinated international management actions, they should be identified to the North American Waterfowl Management Plan Committee, as indicated in the section on "Administration." Once special management plans for each of these populations are approved, they will be appended to this Plan and become a part of it.

Use

The numbers of people who use geese in North America and the types of benefits they enjoy vary greatly. The sight and sound of migrating geese are valued experiences to many people — they can provide a brief moment of wilderness indulgence for the city dweller and represent

a welcomed harbinger of spring in temperate climates. Many people travel long distances to view and photograph the spectacle of geese on spring and fall staging areas.

Geese are highly valued quarry of recreational hunters. The annual goose harvest averages 2.3 million birds in North America, varying from 1.9 million in 1974-1975 to 2.5 million in 1980-1981. About 75 percent of the harvest occurs in the United States. Harvest can serve to keep populations in balance with the carrying capacity of habitat and within tolerance limits of private landowners, especially those raising agricultural crops.

Geese are the most important waterfowl group used in northern native subsistence economies. The spring arrival of geese and then their egg laying coincide with a period of protein deficit in native diets, so these foods traditionally have been used to meet this nutritional need. Geese also are captured and utilized during the molt and prior to fall departure.

Subsistence kill of geese in North America amounts to approximately 7 percent of the total continental harvest; however, it can have a substantial impact on some goose populations. Efforts are currently underway to amend the Migratory Bird Treaty to provide for the managed subsistence use of waterfowl.

Goals

Goals for specific populations of geese are listed in Table 3. Most populations are at or near those numerical levels, but there are several in the western part of the continent that are declining and require attention by both Canada and the United States. These are the cackling, dusky and Aleutian Canada goose populations and the Pacific whitefront and brant populations. The procedures for handling this situation are given in the "Recommendations" section.

There are numerous other goose populations that require attention. These should be handled by flyway plans.

Swans

Four species of swans are found in North America. Best known are the tundra (whistling) swan and the trumpeter swan, and both are native to the continent (Table 4). The whooper swan is found in North America only as a winter resident in the western Aleutian Islands. The introduced mute swan is becoming increasingly common through releases and escapes from captivity. The latter two are not considered in this Plan.

Table 4. Status of and goals for North American swan populations [a]

Species and Population	Winter Population Index (1984-1985)	Recent Trend (1980-1985)	Winter Index Goal (Year 2000)
Tundra swans			
Eastern population	80,000	Increasing	80,000
Western population	59,000[b]	No change	60,000
Trumpeter swans			
Pacific coast	8,000	Increasing	10,000
Rocky Mountain	1,460	No change	2,000
Interior	500	No change	600

[a] The whooper swan is found only in Alaska and the mute swan is an introduced species in North America; neither is considered in this Plan.
[b] Three-year running average.

Tundra Swans

Tundra swans are widely distributed and abundant in North America. For management purposes, they are divided into a western population (WP) and an eastern population (EP), based on winter distribution. Swans from the WP breed in western Alaska. They winter in California and to a lesser degree in other western states and British Columbia. EP swans breed mainly along the Arctic coast of Canada, and winter primarily in the Chesapeake Bay area and coastal North Carolina, where they cause some crop damage. There is limited exchange between the two populations. During migration, tundra swans stop over in most provinces and northern states.

Winter indices of WP and EP tundra swans in the United States averaged 59,000 and 80,000 swans, respectively, during 1982-1985. The EP has increased by an average of 2-3 percent annually since the late 1940's. The WP has been decreasing since 1982, but has shown a long-term upward trend since the late 1940's. As with any Arctic-nesting waterfowl, successful annual production of tundra swans depends on favorable weather conditions.

WP tundra swans are presently managed according to guidelines in a plan cooperatively developed by states and provinces with the Pacific Flyway Council, the Canadian Wildlife Service, and the United States Fish and Wildlife Service. EP tundra swans are managed in the United States according to guidelines in a plan that was developed cooperatively by the four flyway councils and the United States Fish and Wildlife Service.

Primary utilizations of the tundra swan are observation and subsistence harvest, although four states — Utah, Nevada, Montana and North Carolina — held a limited recreation hunting season during 1985 using tightly controlled harvest quotas. Collectively, the states issued about 11,000 permits to regulate the size of harvest and obtain reliable estimates of hunter activities and harvests. There are no open seasons for swans in Canada.

An annual subsistence harvest of 2,600-5,600 WP swans occurs in Alaska. A subsistence harvest of EP swans also occurs in Canada, but the size of the harvest is currently unknown.

Trumpeter Swans

Trumpeter swans were once distributed across the entire continent. However, when the land was settled, nearly all trumpeters were extirpated. By 1933, only 66 could be located in the continental United States. Other remnant flocks were known to occur in Alaska and Alberta. Fear of extinction of the trumpeter swan led to a substantial conservation effort, including law enforcement, public education and land acquisition. As a result, trumpeters in the wild and captivity currently number about 10,000, and are no longer considered in danger of extinction.

A North American Trumpeter Swan Management Plan is being developed cooperatively by states, provinces, the four flyway councils, the Canadian Wildlife Service and the United States Fish and Wildlife Service. The plan builds on individual population plans developed earlier and features proposed restoration efforts.

Goals

Maintain all populations of tundra swans at numerical levels listed in Table 4. Trumpeter swans are an international priority, and management plans should be developed to meet the year 2000 population levels listed in Table 4.

Habitat

The loss and degradation of habitat is the major waterfowl management problem in North America. The impacts of agriculture, industry, flood control, navigation and recreational use have reduced the quantity and quality of waterfowl habitat in many parts of Canada and the United States. Waterfowl habitats of major importance in the United States and Canada are shown in Figure 2.

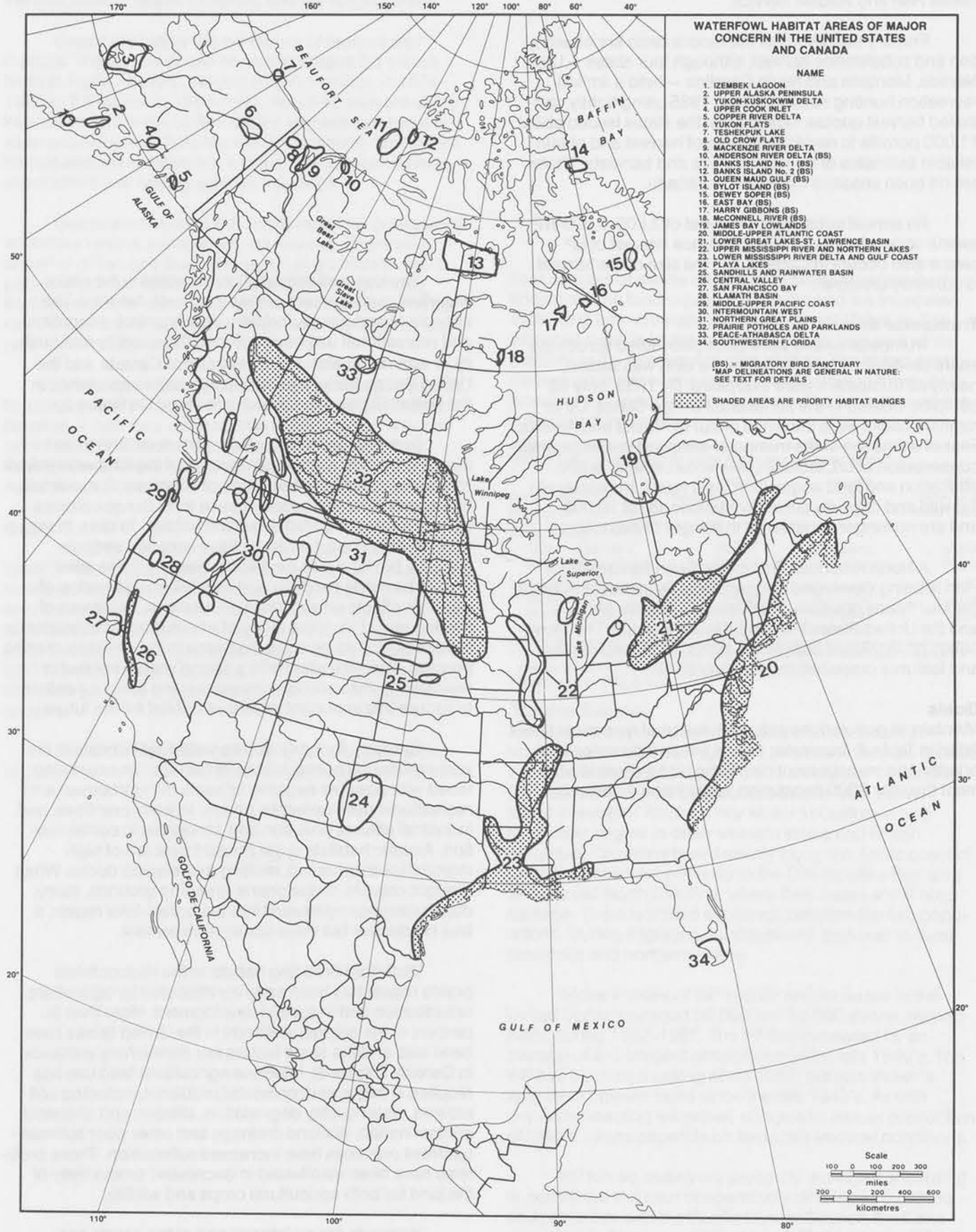
In the far north of Canada, waterfowl tend to be concentrated on a small percentage of the land where environmental conditions favor high productivity. For example, thousands of Arctic-nesting geese form dense colonies on small areas of suitable lowland habitat. To date, these continentally important areas have escaped serious impacts, but land-use decisions affecting these sites should be made carefully and with full consideration of possible effects on waterfowl populations. Residents of these areas of Canada, many of whom hunt for subsistence purposes, should be consulted early in the decision-making process. They are allies with a strong vested interest in maintaining the waterfowl resources and are in a position to secure this important waterfowl habitat for the future.

Similarly, formerly secure waterfowl habitats in the vast continental boreal forests of Canada are now being faced with possible negative impacts by hydropower and recreational developments, certain forestry practices, and industrial effluent pollution and atmospheric contamination. Aquatic habitats in the boreal forest are of high importance to breeding, molting and staging ducks. When drought prevails on the prairie breeding grounds, many ducks emigrate northward into the boreal-lake region, a less productive but more stable environment.

Waterfowl breeding habitat in the midcontinent prairie region has been severely impacted by agriculture, urbanization and industrial development. More than 50 percent of the original wetlands in the United States have been lost, and the same factors are diminishing wetlands in Canada (Figure 3). Intensive agricultural land use has resulted in major environmental problems, including soil erosion, water quality degradation, siltation and chemical contamination. Wetland drainage and other poor soil management practices have increased salinization. These problems have been manifested in decreased productivity of the land for both agricultural crops and wildlife.

Wetlands are an integral part of the prairie ecosystem. The many scattered basins collect and hold runoff water which is vital to this semiarid region. Ponds replen-

Figure 2. Waterfowl habitat areas of major concern in Canada and the U.S., 1985



ish aquifers and contribute to the maintenance of groundwater needed to sustain native vegetation, farm crops and wildlife. Natural wetlands purify the water and prevent erosion and the encroachment of salts in topsoil. Through a recurring cycle of wet and dry years, nutrients lodged in wetland plant material are released, thus stimulating a rejuvenation of the prairie food chain. Life cycles of prairie ducks have evolved closely with this variable water regime.

Agricultural development of the prairies has interrupted the natural relationships that have evolved between ducks and their environment. Losses of upland nesting cover and small ephemeral prairie wetlands have concentrated ducks and their predators in remaining patches of suitable habitat. As a result, in much of the prairie pothole region, recruitment of young is inadequate to maintain or build certain waterfowl population levels even in years of favorable water conditions.

The most important nesting habitat of prairie mallards and pintails is the remnant tracts of native grassland communitites that have persisted mainly as pastures on otherwise intensively farmed land. Losses of grassland continue at the rate of 2 percent annually and, in the last decade, one-third of the remaining grassland was converted to cropland.

Most prairie production areas have already been converted to intensively farmed land. While it is unrealistic for government wildlife agencies to acquire vast tracts of agricultural land for duck production, smaller-scale changes in land-use practices that improve duck recruitment rates over vast areas could result in large gains in the fall duck flight. Many recommendations for improving soil conservation and range management would greatly benefit prairie-nesting ducks. Where maintaining valuable duck production habitat is in direct conflict with agriculture, strategies should be developed to provide incentives to the landowner for maintaining waterfowl habitat. Field-feeding mallards and pintails are most frequently the cause of crop depredation problems. Inititatives to maintain or increase the number of these species in agricultural areas of prairie Canada should also consider measures to reduce the economic impact of consequent crop losses.

Maximum effectiveness of a program designed to maintain and enhance duck production on the prairies will depend on a high degree of integration of programs among government agencies, private groups and individual citizens. Wetland habitats have been set aside primarily for waterfowl production within the midcontinent prairie region by the combined efforts of state, provincial and federal governments of the United States and Canada. Private organizations also play an important role in the total effort to conserve waterfowl habitat and should be considered a key component and partner in future habitat development and enhancement strategies.

Public and private waterfowl habitat programs in prairie Canada have tended to focus on larger individual wetlands, providing not only protection but potential for intensive management. Although all wetlands are important, this approach should be continued and combined with the priorities outlined in this Plan to protect complexes of smaller wetlands and upland nesting cover. A high degree of coordination and cooperation by all agencies will be required to achieve the desired result.

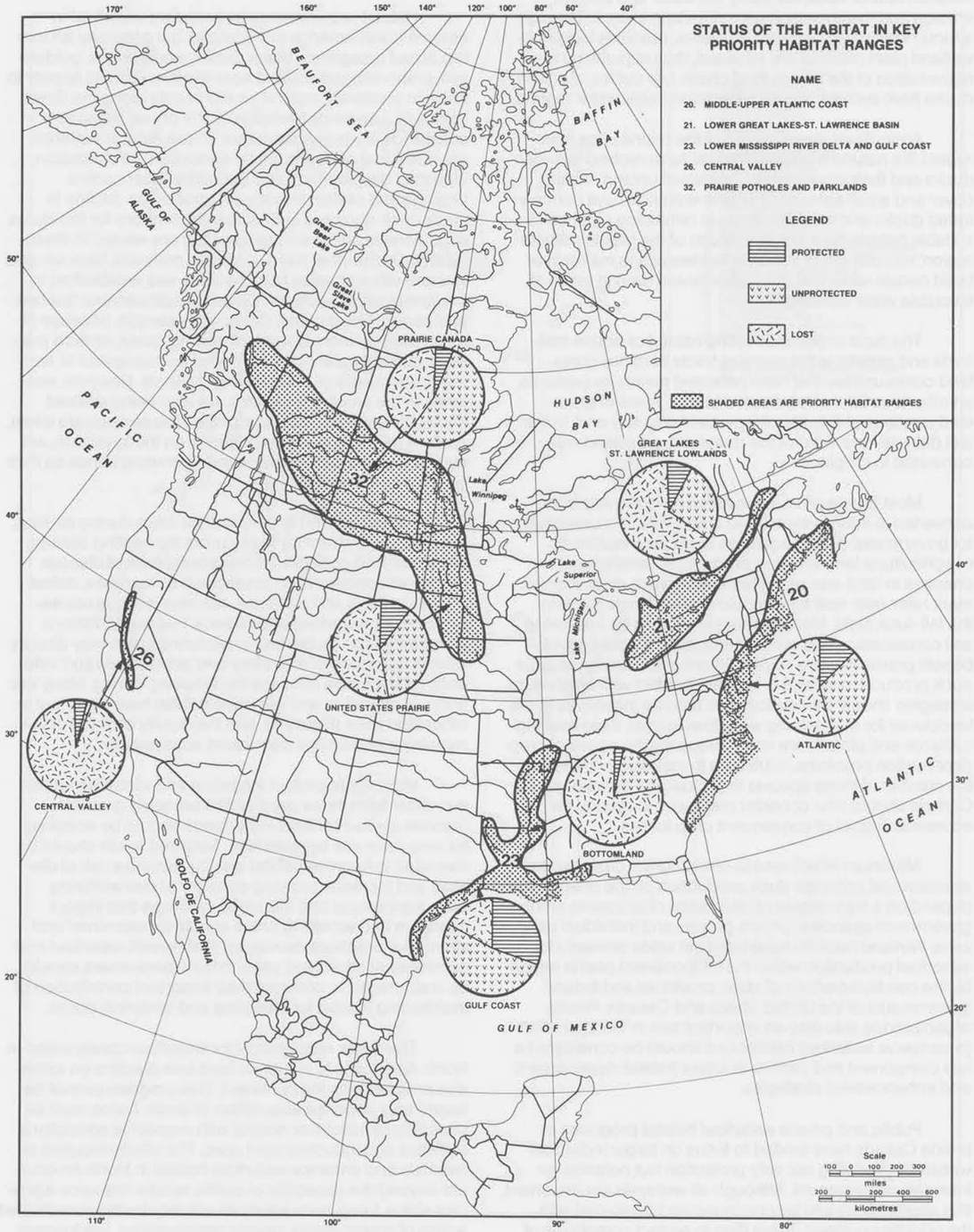
Habitat requirements for breeding waterfowl in eastern North America are complex but generally fall into two broad categories. Black ducks, wood ducks, goldeneye, green-winged teal and several other species appear to thrive in unaltered, natural environments along the Great Lakes-St. Lawrence lowlands, in the boreal forest, and in coastal lowlands and estuaries. These natural wetlands are being lost or degraded by agriculture, urbanization, industrial development and pollution, water control projects and certain forestry practices. The decline in black duck numbers and increased concern for the status of goldeneye and green-winged teal are related to these factors. On the other hand, mallards, gadwalls, blue-winged teal and other species have become well established in the farmlands of southern Ontario, southwestern Quebec and several Great Lakes states. For example, because of their relatively more abundant nesting cover, eastern mallards currently are more than twice as successful at rearing young as are prairie-nesting mallards. However, wetlands in the eastern farmlands are also being drained and cultivated at an increasing rate. Unless steps are taken, eastern dabbling duck populations on the farmlands will eventually be subject to the same downward trends as their western counterparts.

Waterfowl tend to concentrate more during molting, migration and wintering than during the nesting season, so habitat loss or degradation or outbreaks of disease on critical concentration areas such as marshes, deltas or coastal bays and estuaries can have serious consequences for waterfowl populations. Habitat conditions along migration routes and in wintering areas may directly affect the survival of migratory bird populations and influence reproductive success the following spring. Many key areas of migration and wintering habitat have been lost to other land uses (Figure 3), and the quality of much of the remaining habitat has decreased substantially.

Methods to protect migration and wintering habitat may differ from those used on the breeding grounds. Discrete areas of critical importance should be acquired for long-term use by waterfowl. Acquired areas should be managed to improve habitat quality, minimize risk of disease and increase carrying capacity of overwintering sites. Agricultural and industrial practices that impact migration and wintering areas should be examined and alternative practices developed that benefit waterfowl and complement other land uses. Private landowners should be encouraged to continue their important contribution of maintaining habitat for migrating and wintering ducks.

The major requirement for waterfowl conservation in North America is to influence land-use practice on extensive areas across the continent. This program cannot be based only upon fee acquisition of lands. It also must be generally beneficial or neutral with respect to agricultural activities and industrial land uses. The efforts required to maintain and enhance waterfowl habitat in North America are beyond the capability of public natural resource agencies alone. Long-term solutions will require the coordinated action of governments, private organizations, landowners and other citizens.

Figure 3. Status of waterfowl habitat in priority breeding and wintering areas of Canada and the United States



Habitat Priorities

The conservation of waterfowl habitat should be undertaken on a broad front by Canada and the United States to achieve the population goals in this Plan. Midcontinent mallard, pintail and black duck populations are designated as immediate international priorities. The top priority for protection is the prairie pothole breeding habitat for mallards and pintails in both Canada and the United States. Deterioration of habitat in this prairie area has been the principal cause of decline in abundance of these species. Special attention should also be given to their migration and wintering areas in the lower Mississippi River - Gulf Coast region, the Central Valley of California, and Mexico.

Priority should be placed on habitats essential for the black duck, including breeding, molting and migration areas within the Great Lakes - St. Lawrence lowlands and the migration and wintering habitats along the Atlantic coast of the United States and Canada.

Many other waterfowl habitat problems exist, affecting several other species. An example is wood duck breeding and wintering habitat in eastern North America. Canada and the United States should maintain national waterfowl habitat management plans in which national priorities should be addressed. Other urgent habitat problems should be ranked as high priorities in the national plans. In addition to the targeted species and populations, many nontarget waterfowl and wildlife species living in or otherwise using aquatic environments would benefit from the work proposed in these plans. Such specific plans should lay the groundwork for actual commitment of resources to habitat problems.

Goose population habitat requirements should be addressed in individual population management plans. Where appropriate, recommendations from these plans should be incorporated into the habitat objectives of this North American Waterfowl Management Plan at a later date. Goals and recommendations outlined for ducks will be of substantial benefit to many goose populations.

The two habitat areas of highest priority identified in this Plan cover extensive areas of the continent that vary greatly in geography, land use and political jurisdiction. Several potential methods of maintaining waterfowl habitats are available, ranging from acquisition and easements to various forms of subsidies, incentives or favorable tax adjustments for landowners. These approaches should be evaluated carefully, with prescribed methods selected to fit appropriately to the individual geographical and political circumstances. For these and other associated reasons, the North American Waterfowl Management Plan can only outline the scope of work to be done on a continental basis and provide broad guidelines for habitat protection and management actions. Implementing this Plan depends on responsible expertise existing in each country, province, state and region to formulate reasonable action plans for habitat preservation and management within their respective jurisdictions.

Goals

The overall aim of this continental habitat program is to maintain and manage an appropriate distribution and diversity of high quality waterfowl habitat in North America that will (1) maintain current distributions of waterfowl populations, and (2) under average environmental conditions, sustain an abundance of waterfowl consistent with goals listed in Tables 2, 3 and 4. In broad terms, this Plan should help ensure habitat for 62 million breeding ducks on the continent and a fall flight of more than 100 million birds. Habitat also will be necessary to support more than 6 million overwintering geese.

The goals for maintenance, restoration and rehabilitation of duck habitat in the midcontinent prairie production area are based on the amount of habitat present during 1970-1979. Habitat maintenance in eastern North America should focus on protecting breeding and migration habitat for black ducks and mallards, and wintering habitat for black ducks.

The proposed time period for meeting these goals spans a 15-year period — 1986 to 2000. Action plans within each habitat priority area should focus on these specific objectives and be designed in five-year stages. These plans are expected to contain much more precise descriptions of the needed actions.

1. To restore mallard and pintail breeding habitat in the midcontinent region to 1970-1979 levels by protecting and improving 3.6 million additional acres in Canada and about 1.1 million additional acres in the United States for duck production. These estimates are based on a ratio of three acres of upland nesting cover per acre of water.

2. To protect 686,000 additional acres of mallard and pintail migration and wintering habitat in the lower Mississippi River-Gulf Coast region and increase the carrying capacity for wintering birds on lands and waters already acquired for waterfowl.

3. To improve the quality of publicly managed habitat and protect and restore 80,000 additional acres of wintering habitat for pintails and other waterfowl in the Central Valley of California.

4. To protect 60,000 additional acres of breeding and migration habitat in the Great Lakes - St. Lawrence lowlands for black ducks and other waterfowl in Canada and 10,000 additional acres in the United States.

5. To protect and enhance migration and wintering habitat for black ducks by:
   (a) protecting 50,000 additional acres of migration and wintering habitat on the east coast of the United States;

   (b) protecting 10,000 additional acres on the east coast of Canada;

   (c) improving habitat quality of other areas in the region; and

   (d) effecting a 25 percent increase in carrying capacity on 382,500 acres of land managed for waterfowl use by wildlife agencies in eastern United States.

6. To maintain the habitat value of designated areas of international significance to waterfowl listed in Figure 2.

7. To maintain waterfowl habitats of acceptable quality and minimize exposure to contaminants.

Recommendations for Future Action

This section of the Plan lists a number of actions recommended to help achieve the population goals identified by wildlife managers and presented in earlier sections.

Habitat

Maintenance and, where possible, enhancement of habitat are the most important factors in enabling waterfowl populations to grow to the levels called for in the goals. The following actions are believed to be important to the restoration and maintenance of the habitats needed to achieve population goals.

General Recommendations

- Responsibilities for achieving the recommendations in this Plan must be shared by the governments of the United States and Canada and by nongovernmental entities in both countries. Costs of achievement of this Plan greatly exceed the levels currently budgeted by the governments of both countries for waterfowl management. Major governmental budget increases for waterfowl management, especially in the United States, should not be anticipated in the near future, given competing demands and projected budget levels. Therefore, the primary source of increased funding for this Plan must be private organizations and individuals who enjoy and benefit from achieving and maintaining the waterfowl population levels set forth herein.

- Financial incentives may be needed to induce farmers and ranchers to manage their lands for waterfowl production — nesting and rearing habitat are most needed.

- Certain lands of extraordinary value as waterfowl habitat can best be preserved when they are acquired in fee title and retired from other uses. Only a limited amount of habitat can be preserved this way because of the high cost of fee acquisition and subsequent management costs.

- Local governments and public land management agencies should be encouraged to zone or otherwise regulate land uses to prevent the destruction or degradation of waterfowl habitats.

- Soil, water and wetland conservation should be promoted on private lands.

- The financial participation of private conservation organizations, such as Ducks Unlimited and Wildlife Habitat Canada, is critical to the implementation of the North American Waterfowl Management Plan.

- Existing public natural resource lands should be managed to increase their productivity and carrying capacity for waterfowl.

- Public works projects planning should include the prevention or mitigation of destruction or degradation of waterfowl habitats.

- Joint ventures should be encouraged as a means for governments and private organizations to cooperate in the planning, funding and implementation of projects to preserve or enhance waterfowl habitat.

Specific Recommendations

1. Both public and private organizations in the United States and Canada should be encouraged to cooperate through joint ventures in the planning, funding and implementation of projects to improve waterfowl habitat by changing the land-use practices on 3.6 million acres in prairie Canada. The estimated cost of achieving such changes on 3.6 million acres approaches $1 billion during a 15-year period of which 25 percent should be attempted to be raised by Canadian interests and 75 percent attempted to be raised by United States interests. This should not be construed as a commitment by the government of the United States to finance activities in Canada. Clearly, as many participants as possible are needed to help raise the funds for such an endeavor.

   Before the governments of Canada or the United States could participate in a joint venture, specific authorization and appropriation of funds by the respective legislative bodies would be required.

   The goal would be to protect and improve prairie wetlands for duck production by ensuring that wetland basins are conserved, along with an adequate amount of nearby upland nesting cover. It is envisaged that a major component of the program should be pursued by entering into agreements with landowners to manage their wetlands and other lands of marginal value to agriculture for waterfowl. It is estimated that less than 14 percent of the land in question should be acquired in fee title. This program is intended to benefit both waterfowl and agricultural production by emphasizing soil and water conservation, maintaining water quality and avoiding other major problems such as salinization. By effecting small changes in land-use practices over a large area, this program should demonstrate that agriculture and wildlife production are compatible pursuits. It is recognized that efforts to prevent, minimize and mitigate crop damage in Canada are needed as an integral part of the program.

   The first agreement between Canadian and United States interests that sets out details of the habitat program should be struck by 1987. Responsibility for managing lands in Canada should reside with Canadian agencies. It is not intended that any funds raised in the United States be used for crop damage compensation payments in Canada.

   This endeavor is not intended to replace or supersede any portion of the extensive and critically important habitat work carried out in Canada by any of several federal and provincial agencies and private conservation organizations working there now. This work should be in addition to the current level of public and private conservation expenditures in the two countries.

2. Protection and improvement of 1,084,000 additional acres of mallard and pintail breeding habitat in the pothole area of the northcentral United States are also needed. Improving duck recruitment should be an important focus on such lands in the United States. A variety of management techniques should be considered to reduce the effects of agricultural practices and predation on nesting ducks and their eggs. The needed result is to achieve a nest hatching success of 50 percent by 1995. The estimated cost of implementing this recommendation of habitat protection would be about $237 million 1985 U.S. dollars.

3. Farther south, 686,000 acres of mallard and pintail migration and wintering habitat in the lower Mississippi River - Gulf Coast region and 80,000 acres of wintering habitat for pintails and other waterfowl in the Central Valley of California are needed. Public lands and waters in these areas already managed for waterfowl should be developed further to increase their carrying capacity for wintering waterfowl, and financial incentives should be used to induce private landowners to protect wintering habitat. The cost to implement this recommendation would probably exceed $217 million 1985 U.S. dollars.

4. Black ducks need an additional 50,000 acres of migration and wintering habitat along the east coast of the United States and 10,000 acres in the Great Lakes - St. Lawrence lowlands in the United States at an estimated cost of $23 million 1985 U.S. dollars. Better methods to increase the carrying capacity of wintering habitat are needed, and when developed, should be used to increase the carrying capacity 25 percent on 382,000 acres of existing wildlife refuges.

5. The protection of 60,000 acres of breeding and migration habitat for black ducks and mallards is also needed in the Great Lakes - St. Lawrence lowlands of Canada. The work here should focus on maintaining farm ponds and marshes for all ducks in the western portion of the area and preserving natural nesting habitat and marshes, primarily for black ducks, in the eastern portion of the basin. Approximately $20 million 1985 Canadian dollars would be required to carry out this recommendation.

6. Protection of 10,000 additional acres of black duck migration and wintering habitat in the Atlantic region of Canada is also needed at an estimated cost of $5 million in 1985 Canadian dollars.

7. There should be an improvement in the inventory and monitoring of waterfowl habitat in North America in cooperation with states, provinces, territories and conservation organizations. Understanding the relationship between duck numbers and their habitats is very important to validation and adjustment of population and habitat objectives at five-year intervals. Status reports on accomplishments in meeting waterfowl habitat and population goals should be prepared for the review and updates of the Plan at five-year intervals.

8. Research should be conducted on the effects of land-use practices on the breeding success of waterfowl. In cooperation with such conservation organizations as Ducks Unlimited and the Delta Waterfowl and Wetland Research Station, methods of integrating sound agricultural land use with duck production should be developed and demonstrated to farming interests.

9. Factors affecting the carrying capacity of migration and wintering areas should be examined to develop information needed to enhance habitat and control waterfowl losses to disease, lead poisoning and other contaminants.

Duck Harvest

Recreational duck harvests should be managed through the use of stabilized regulations. Stabilized regulations are defined as regulations which remain unchanged for a specified period of years and govern sport harvest of ducks in Canada and the United States. It includes conventional and point-system frameworks, bag limits and season lengths. No changes to these regulations should be made unless waterfowl population levels trigger predetermined prescriptive changes or a dramatic change in the population level necessitates joint action by the two countries. Prescriptive changes in stabilized hunting regulations may be brought into effect for any species or population by agreement between Canada and the United States. The purpose of this approach would be to minimize the annual fine-tuning of regulations by both countries during years with average fall duck flights, so more time can be directed toward such important waterfowl activities as habitat protection, management and improvement.

Pending the analysis and evaluation of the five-year (1980-1984) stabilized regulations study in 1987, the following *interim* prescriptive restrictions should be in effect subject to compliance with regulatory and environmental review statutes in both countries.

1. If the breeding population index of mallards in the surveyed area of Canada and the United States falls below 6.5 million, the provinces of Alberta, Saskatchewan and Manitoba and all states of the Pacific, Central, Mississippi and Atlantic Flyways should decrease harvest of this species (with special emphasis on hens, where possible) by at least 25 percent from that which would have been expected from stabilized regulations that were in effect during 1980-84. These restrictions should

remain in effect until the mallard breeding population exceeds 7.5 million birds; however, in any year when the fall flight index of mallards exceeds 11 million, the prescriptive restrictions should not apply.

2. If the breeding population index of pintails in the surveyed area of Canada and the United States falls below 4.0 million, the provinces of Alberta, Saskatchewan and Manitoba and all states of the Pacific, Central, Mississippi and Atlantic flyways should decrease harvest of this species (with special emphasis on hens, where possible) by at least 25 percent from that which would have been expected from stabilized regulations that were in effect during 1980-84. These restrictions should remain in effect until the pintail breeding population exceeds 4.7 million birds.

   Harvest regulations to implement these restrictions should be handled using the normal regulatory process of each country. Documented biological differences in duck populations regionally and by flyway (such as the High Plains Unit of the Central Flyway and the Columbia Basin in the Pacific Flyway) should be recognized in implementing harvest management strategies.

3. A management plan currently in effect for black ducks in the Atlantic Flyway calls for maintaining a 25 percent overall reduction from the five-year average harvest (1977-1981) of total black ducks occurring in states of the Atlantic and Mississippi Flyways.

   In Canada, the greatest restriction has been placed on black duck harvest in the western portion of the range (Ontario, western Quebec) where the population is declining. Restrictions were less severe in the eastern portion of the black duck range where the population is stable. These restrictions should remain in effect in Canada for five years (1984-1988), and be extended pending evaluation of their effectiveness in arresting the decline in black duck numbers. Restrictive regulations should remain in effect in the United States until population levels exceed those of 1971-1975 in the Mississippi (125,480) and Atlantic (258,600) Flyways.

Goose and Swan Population Management Plans

Management plans should be prepared by 1987 for the following populations of international concern — cackling, dusky and Aleutian Canada goose populations, Pacific whitefront and brant populations, and the trumpeter swan population. Individual plans for each of these populations can best be written by a committee composed of representatives from those territories, provinces and states that participate in the management of these populations, in cooperation with representatives from the Canadian Wildlife Service and the United States Fish and Wildlife Service. Federal representatives from the two countries would act as co-chairmen of the committees. Flyway representatives would be selected by the appropriate councils. Provinces and territories would select their own representatives.

Plans developed by the committees would be transmitted to the North American Waterfowl Management Plan Committee for review. After approval and compliance with appropriate environmental and regulatory review requirements in each country they would be appended and become part of the North American Waterfowl Management Plan. If agreement cannot be reached within the committee, it would be the responsibility of the federal representatives of each country to put together a plan using the best information available from cooperating management agencies and other reliable sources. The plans should answer the following questions: (1) What is the current status and trend of the population? (2) What are the population and harvest objectives (stated in numbers of birds)? (3) Is all available breeding habitat being utilized at optimal levels? (4) What problems affect the management of this population? (5) What are the recommendations for resolving these problems and achieving the objectives? (6) What information would be used to monitor the status of the population and what agency would be responsible for providing that information? The management plan may contain additional information that the representatives feel is necessary.

Subsistence

Canada and the United States should continue to expand subsistence harvest surveys. The two countries should ensure that subsistence users are cooperatively involved in management of the waterfowl resource and protection of its habitat. Efforts are currently underway on a protocol to amend the Migratory Bird Treaty to provide for the managed subsistence use of waterfowl in northern Canada and Alaska.

Population Management and Research

The following recommendations are intended to address the most important needs for new information and technology to improve waterfowl management:

1. Continue to (a) conduct the annual cooperative breeding-ground surveys in the surveyed area, (b) standardize procedures and improve their accuracy from both continental and flyway perspectives, (c) monitor the conditions of prairie wetlands, and (d) initiate expanded surveys, where required, to meet management needs outside surveyed areas.

2. Undertake a joint venture, beginning in 1986, to (a) monitor population trends of black ducks throughout the breeding range in Canada and (b) determine, through research, the important factors influencing population status and dynamics. Improvements should also be made to the winter inventories. The research effort should focus particularly on interrelationships of black ducks and mallards and on habitat requirements and availability throughout the range. The probable cost of this effort during the next 15 years would be $15 million in 1985 Canadian dollars.

3. Delineate subpopulation characteristics of the continental mallard and black duck populations for the purposes of developing more specific population or flyway management plans.

4. Develop a joint venture to monitor the status and productivity of colony-nesting geese in the far north. This research may include environmental impact assessments of proposed developments, as well as further delineation and evaluation of key habitats on which goose populations depend.

5. Maintain and improve national waterfowl harvest surveys.

6. Continue to take concerted action to minimize the illegal kill of migratory waterfowl by maintaining properly trained law enforcement officers.

7. Continue to expand research on the effects of hunting mortality on waterfowl populations because of concerns over the effects of harvests on key populations with declining breeding populations. Completion of the evaluation of results of the five-year stabilized regulations period is expected to provide new information on the role of hunting harvests and should be used to guide future management and research.

8. Institute appropriate action to prevent signficant losses of ducks to disease, environmental contamination and poisoning (including that caused by lead shot).

Implementation of the North American Waterfowl Management Plan

The Plan is a broad policy framework that describes the overall scope of requirements for management of migratory waterfowl in Canada and the United States. Mexico's full participation is very important for management of North American waterfowl, and both nations should actively encourage it. To implement this important agreement, these nations should establish national, provincial, territorial, state and flyway plans which convert international objectives to operational plans as follows:

1. *National Waterfowl Management Plans* outline recommendations for accomplishing broad objectives within each nation including both international and domestic planning priorities. With respect to achieving the North American goals, these recommendations should establish how the operational program should be conducted between the federal government, states and flyway councils in the United States, and the provinces, territories and federal government in Canada.

2. *United States state and flyway action plans and Canadian provincial and territorial action plans* translate national planning priorities into operational programs within the respective jurisdictions and should be the principal vehicles for practical implementation of general strategies. These plans require specific details for implementing activities within management units, and should be designed according to local considerations but coordinated nationally.

3. *Joint venture projects* should be implemented through facilitating agreements negotiated and agreed to by all those wishing to participate. A joint venture action group should be established for each joint venture. The planning, ongoing management funding, implementation method and evaluation of joint ventures should be set out as a proposal which would detail the contributions of private organizations, individuals, states, provinces, territories and official proposed budgets of the two governments. Each project should be forwarded to the North American Waterfowl Management Plan Committee for its review and recomendation.

4. *The proposed initial implementing actions are as follows:*

   (a) The North American Waterfowl Management Plan Committee would be established during June 1986.

   (b) The Plan Committee would review the recommendations for proposed joint ventures and recommend participants for each joint venture action group at the first meeting during July 1986.

   (c) Joint venture action groups may be established by July 1986.

   (d) The Plan Committee would review joint venture progress reports during November 1986.

   (e) The Plan Committee would review the list of actions proposed to carry out the Plan by March 1987.

North American Waterfowl Management Plan Committee

The North American Waterfowl Management Plan is a comprehensive document that needs constant review and update to remain viable and effectively deal with international problems. In this planning process, there is an additional need for continuity and coordination to allow wildlife management agencies to initiate short- and long-term projects that are consistent with the overall Plan.

In view of these needs, a North American Waterfowl Management Plan Committee should be established to monitor and update the Plan, coordinate current work and review new proposals and joint ventures. Federal, state, provincial and territorial wildlife agencies should provide representation to this Committee. The Committee would suggest recommendations for actions within the scope of the Plan. It will not have regulatory authority nor alter the functions of flyway councils in the United States (see Appendix).

Appendix

Coordination and Administration of the North American Waterfowl Management Plan

A committee known as the North American Waterfowl Management Plan Committee would be established to:

1. Serve as a forum for discussion of major, long-term, international waterfowl issues and problems, and translate those discussions into recommendations for consideration by the cooperating countries.

2. Update the North American Waterfowl Management Plan in 1990 and every five years thereafter.

3. Review the scientific and technical data on the status and dynamics of waterfowl populations and their habitats as they relate to the aims of this Plan.

4. Review and monitor progress toward achieving goals contained in the Plan.

5. Review management plans for waterfowl populations requiring coordinated international action and make recommendations for additions or revisions.

6. Review scientific and technical data to determine whether other waterfowl populations require coordinated international action.

7. Review joint venture drafts to ascertain that they further the intent of the Plan.

8. Consider and, if needed, recommend additional actions to the federal governments of Canada and the United States.

The Committee would direct all recommendations to the Canadian Wildlife Service and the United States Fish and Wildlife Service. These would be considered by each agency, reviewed as necessary by their executive and legislative branches, and the approved changes would be incorporated formally by updating the Plan.

Committee Membership

The Committee would consist of 12 members — 6 appointed by the Director General of the Canadian Wildlife Service to represent Canada and 6 appointed by the Director of the United States Fish and Wildlife Service to represent the United States. Four representatives would be nominated by provinces and territories, and one representative would be nominated by each of the four flyway councils. Committee members would be selected from agencies having responsibilities for managing the waterfowl resource.

Membership of the Committee should include two representatives from the federal wildlife service of each country. The remaining four members from each country should be chosen from states (one from each flyway), provincial and territorial governments.

Operating Procedures

A federal agency member should serve as chairman of the Committee, as designated by the respective appointing authority on an annual rotating basis. The first chairman in 1986 would be from the United States, with the vice chairman from Canada. This order would be reversed in alternate years.

The chairman of the Committee would furnish a secretary to keep notes and minutes as well as provide necessary assistance to prepare and distribute all materials, such as letters and reports, produced or used by the Committee.

Members of the Committee would serve staggered three-year terms, except when the Committee is first formed. At the outset, two members from each country should be appointed to three-year terms, two members to two-year terms and two members to one-year terms. Thereafter, all appointments would be for three years. Any member can be reappointed at the discretion of the appointing authority. Appointments would be effective January 1. If a replacement to a vacated membership is not appointed, the retiring member would continue to serve until replaced.

The Committee would meet twice annually, once in the United States and once in Canada. Additional meetings can be arranged by the Committee as needed, except that the first meeting would be called by the chairman to convene in Washington, D.C. Locations and dates of the meetings shall be decided by the Committee.

The Committee would operate under "Robert's Rules of Order." Under this system, a quorum consisting of seven or more duly appointed members must be present to conduct business officially. In any voting procedure, a majority would consist of the most votes cast for or against any issue by a quorum or more of members present.

A 60-day notice, including time and place of meeting and an agenda, would be sent to all members of the Committee.

Committee Operations

The following implementing actions would be proposed by both countries:

1. The federal agency of each country would provide a coordinator to work with the Committee.

2. Annually, each federal agency would provide the Committee with information that would facilitate monitoring the goals of the Plan. The types, kinds and amounts of information needed would be agreed to by the Committee and requested of the agencies.

3. The federal agency of each country would be responsible for submitting to the Committee for review and acceptance waterfowl population management recommendations for populations that have been designated as requiring coordinated international action. The two agencies would agree on lead responsibility for each population plan and request that these be prepared and approved by representatives of the responsible management agencies in Canada and of the flyway councils in the United States.

Questions & Answers

Last year, the "First-Step" program sent $4 million (U.S.) to Canada, where it was used for projects in the Prairie Habitat Joint Venture. How is this year's "Second Step" effort proceeding?

As of late March, the states had pledged more than $3 million to the "Second Step" program. A total of 41 states had responded to the campaign, and 19 had made firm dollar commitments. Of the 12 states that pledged for the "First Step," 10 chose to participate again (see asterisk). The pledges came in as follows:

ARK	$100,000*	NJ	$ 50,000
CA	$500,000*	OR	$ 25,000*
IL	$100,000*	OK	$ 8,000*
KY	$ 60,000	RI	$ 25,000
LA	$100,000	SC	$ 400,000*
MS	$ 25,000*	TN	$1,000,000*
MN	$150,000	UT	$ 50,000
MO	$100,000*	WI	$ 100,000
NC	$ 60,000	WA	$ 100,000
NY	$100,000*		

Now that the pledges are mostly in, partners will use a complicated banking process. First, the $3 million is transferred into a pool and held at the Fish and Wildlife Foundation. Ducks Unlimited will then add $1 million to that fund, and the U.S. Federal Government will add another $2 million. That brings the amount up to $6 million. Of that amount, $3 million will be returned to the participating states, and the remaining $3 million will be matched by Ducks Unlimited and $6 million will be sent to Canada. It will be matched there by Canadian partners, generally on a 75 percent U.S. to 25 percent Canada ratio.

We've heard much about the geographic joint ventures, but what about the two species-oriented programs?

The Canadian Wildlife Service staff prepared a draft prospectus for the Arctic Goose Joint Venture that was mailed to steering committee members for review.

The Black Duck Joint Venture steering committee members held their first meeting in February. The prospectus for that joint venture will be reviewed in May. Meanwhile, work in the Lower Great Lakes/St. Lawrence Basin Joint Venture and the Atlantic Coast Joint Venture is helping black ducks bounce back from low population levels. Projects in the Lake Erie Marsh area will save critical habitat for this species (see page 2).

To improve management of black ducks and arctic geese, we'll need expanded research and information campaigns, and both joint ventures have made these activities top priorities.

What promising news is pending in wetlands conservation?

The U.S. Fish and Wildlife Service's Wetlands Initiative, a description of the Service's opportunities and responsibilities in wetlands preservation, has been drafted and reviewed. When it is finalized, the document will spell out the Service's high-priority actions for conservation of wetlands resources across the U.S.

The North American Wetlands Conservation Act, to be introduced by Senator George Mitchell, could save wetlands in both countries. "A primary goal of the legislation would be to halt the decline of many species of ducks, geese and other migratory birds through the implementation of the North American Waterfowl Management Plan," said Mitchell.

Calendar of Events

APRIL	MAY	JUNE
5 U.S. Federal Agency Coordination Meeting, *Washington, DC*	**10** Cape May Project Dedication Ceremony, *Cape May, NJ*	**2** Lake Thompson Dedication Ceremony, *Lake Thompson, SD*
6-16 National Wildlife Week across Canada	**9-10** Eastern Habitat Joint Venture, *To be announced*	**3** Dedication Ceremony, Crystal Springs Project, *Crystal Springs, SD*
13-14 Communications Coordinators Meeting, *Albuquerque, NM*	**17** Prairie Pothole Joint Venture Steering Comm., *Minneapolis, MN*	**8-9** Ducks Unlimited Waterfowl Symposium, *Washington, DC*
20 Central Valley Joint Venture Implementation Board, *Sacramento, CA*	**16-17** Atlantic Coast Joint Venture Policy Comm., *Washington, DC*	**13-14** Lower Great Lakes/St. Lawrence Basin Joint Venture Policy and Technical Comm., *Harrisburg, PA*
25 Prairie Habitat Joint Venture Advisory Board, *Regina, Saskatchewan*		**20** Meredith Marsh Dedication Ceremony, *Forest City, IA*

Waterfowl 2000 is edited and published by U.S. and Canadian partners in the North American Waterfowl Management Plan. For more information about U.S. matters, contact NAWMP, Fish and Wildlife Service, Room 612, Federal Building, Fort Snelling, Twin Cities, MN, 55111 (612/725-3737). For information about Canadian programs, please contact NAWMP, Canadian Wildlife Service, Ottawa, Ontario, K1A0H3 (819/997-1564)

VOLUME 1 • ISSUE 3

Waterfowl 2000

News from the North American Waterfowl Management Plan • April-May 1989

NAWMP + Farm Legislation = Wetland Preservation

On December 23, 1985, President Reagan signed the Food Security Act of 1985, commonly known as the Farm Bill. Six months later, U.S. and Canadian officials signed the North American Waterfowl Management Plan. Most Plan cooperators aren't likely to read the 616-page document detailing the agricultural legislation, but they should know that Title 12, called the conservation title, offers three opportunities to save wetlands, waterfowl and wildlife.

The first, called "Swampbuster" says that landowners who farm wetlands will lose certain benefits from the USDA, including price and income supports, crop insurance, loans made by the Farmers Home Administration (FmHA) and payments for commodity storage. Plan cooperators can protect wetlands by helping the USDA enforce compliance with Swampbuster provisions.

The Farm Bill creates a second opportunity, the Conservation Reserve Program, which establishes permanent cover on upland areas. This will help nesting waterfowl while enhancing soil and water conservation. The USDA's goal for the program is to put 45 million acres in permanent cover. Farmers get paid annually for signing acres into the program. Land is seeded to grass on some acres; other areas can be restored to wetlands under a recent change in regulations.

There's one disadvantage of the CRP program: land is only entered for a ten-year period. But there are ways to extend the benefits by converting lands to conservation uses that will be difficult to reverse. For instance, cooperators in the Lower Mississippi Valley Joint Venture are seeding acorns on CRP lands to re-forest bottomland hardwoods. This will offer food and nesting cover for waterfowl as well as enhancing soil conservation. Plan partners will need information efforts to convince landowners to keep their properties under long-term conservation use.

The third opportunity is enhancement of lands held by the FmHA. Wildlife Conservation agencies are acquiring permanent easements and fee titles on selected FmHA tracts. If the Fish and Wildlife Service acquires these tracts, they become part of the National Wildlife Refuge System. In the last 14 months, Fish and Wildlife Service personnel gained easements on about 55 properties nationwide, and identified more than 1,100 other properties that may be included in the future. There are tracts in nearly every state in the U.S.

With traditional land acquisition alone, it would take a ten-fold increase in our rates of acquisition to achieve the goals of the Plan. But if we work with the farm programs and private landowners, we can make a tremendous difference for waterfowl and wetlands while preserving soil and water quality. Partners can encourage farmers to join CRP and include wetland preservation, development and restoration in their farm management plans. By January 1989, more than 28 million acres had been contracted in the Conservation Reserve Program with the USDA. About 270,000 farmers now participate in this program.

Next issue: New Canadian agricultural legislation and programs.

New Logo Chosen!

This month, we're introducing the new logo for the North American Waterfowl Management Plan. The new logo will be the visual identity for the Plan, used on brochures, displays, posters, signs and other promotional materials seen by the general public. Partners in the Plan will use the logo for joint venture plans, letterhead, business cards, and internal communication documents.

The logo we've selected portrays the essence of the Plan. Because a circle is a symbol of unity and wholeness, we've chosen a logo with a circular shape. To illustrate the partnership so important to the Plan, the waterfowl are shown with wing-tips touching. They're in action, perhaps crossing international borders. With its reflecting images, the logo shows water, an element needed for all life. It also portrays the message of the Plan: that ducks, geese and swans reflect the health of their wetland habitats. Large waterfowl populations *reflect* healthy wetland environments, and healthy wetlands are essential for plants, animals, and our society as a whole.



United States

Joint Ventures on East Coast Off and Running

Hope in the ACE Basin

He was criticized for attempting a take-over of the CBS network and denounced for "colorizing" classic black-and-white movies. He's been the object of envy for the wealth he accumulated as owner of Cable News Network, United Artists, the Atlanta Hawks and the Atlanta Braves. But Ted Turner, President and Chairman of the Board of Turner Broadcasting System, is getting no criticism from cooperators in the ACE Basin Project, because in January, he donated a conservation easement that will protect more than 5,000 acres of prime waterfowl and wildlife habitat.

By signing the agreement, Turner relinquished development rights on a property called the Hope Plantation, a 5,232-acre tract in Colleton County, South Carolina. The land is a mixture of 1,800 acres of upland area and 3,432 acres of wetlands. Five main ecosystems are present. In the wetlands there are freshwater marshes, bottomland hardwoods, maple-cypress-gum forests and freshwater ponds. The uplands are stands of pines and hardwoods. The plantation also contains a rare ecosystem called Snuggedy Swamp. Hope Plantation is nearly pristine, and few areas like it are left in the Southeast.

Wildlife abounds on the Hope Plantation. A pair of Southern bald eagles have nested there, and wood storks inhabit the tract. Herons, anhingas and marsh hawks all depend on the wetlands and uplands.

Turner said, "When I bought Hope Plantation ten years ago, I had strong feelings that it should remain in as close to a natural state as possible. By giving the conservation easement to the South Carolina Nature Conservancy, I have ensured that the property will never be compromised for development, clear-cutting, strip mining or other method of exploitation. Wildlife everywhere is taking a beating. Everyone, especially the wildlife, wins."



Ted Turner (left) President of Turner Broadcasting, and LaBruce Alexander, Vice President and Executive Director of the South Carolina Nature Conservancy, discuss the easement signed on the Hope Plantation.

Ducks Unlimited, the Fish and Wildlife Service, the South Carolina Wildlife and Marine Resources Department and the National Audubon Society are teaming up with The Nature Conservancy to save the ACE Basin, a flagship project for the Plan's Atlantic Coast Joint Venture. The project area is in the intersection of three river basins, the Ashepoo, Combahee and South Edista.

The Military Lends a Hand

Are members of a military reserve unit who report to a National Wildlife Refuge for a weekend drill part of a joint venture? If the requirement is hard work for waterfowl and other wildlife, then 15 military men qualify as partners in the Lower Mississippi Valley Joint Venture.

Detachment 1028 of the Navy Reserve Mobile Construction Battalion 28, commonly known as Sea Bees, arrived at the Panther Swamp National Wildlife Refuge to pitch in for the Plan. The group repaired a culvert, constructed blinds for duck trapping, began construction of two levees, and performed construction work on the refuge facilities.

The military is also busy in the Lower Great Lakes-St. Lawrence Basin Joint Venture. Last summer, an engineering unit of the Air National Guard rebuilt several miles of dikes along the Lake Erie Marshes. The Guard was assisted by local marina operators who supplied materials for the dikes. The project was funded by Ducks Unlimited and Duck Stamp money, making it a true Federal/State/private effort.

"We'll have help again from the National Guard this year," says Gildo Tori, Ohio Department of Natural Resources waterfowl biologist. "At Pickerel Creek, a newly acquired 2,000-acre tract, the engineering units of the Ohio National Guard have agreed to build dikes and install pumps. With their help, we'll be creating 1,000 acres of wetlands—one permanent wetland and four moist soil units."

Even closer ties have been forged with the military at the national level now that a cooperative agreement has been signed between the Department of the Army (Army Corps of Engineers) and the Department of Interior (Fish and Wildlife Service). In January, the two Federal agencies made a formal pledge to work together to conserve wetlands and surrounding uplands on thousands of acres of wetlands managed by the Corps. During the planning stages of any new civil works, the Fish and Wildlife Service will offer technical assistance and information to the Corps. Corps personnel are also incited to participate in joint venture planning activities whenever possible.

Canada

Progress for Wildlife in Every Province

Prairie Habitat Joint Venture

Manitoba: HELP for private landowners in Minnedosa Potholes

Cooperators in Manitoba introduced a pilot project called HELP, Habitat Enhancement Land Use Program, to encourage private landowner action. HELP offers a menu of options to landowners in the rural municipality of Shoal Lake in the Minnedosa Pothole country. HELP is a $3 million program funded by Wildlife Habitat Canada, Ducks Unlimited, and the Manitoba Department of Natural Resources. The budget is expected to allow for management of 9,000 acres of upland habitat over an 8-year period.

Landowners participate by choosing a direct or indirect program application. Those who choose direct applications can sell their land outright, lease idle uplands or lease cultivated lands for wetland restoration. Other landowners may prefer to make indirect contributions to the Plan. They can adopt conservation farming techniques such as chemical fallow, minimum till, delayed haying, and stubble mulch. These practices benefit waterfowl and improve soil and water conservation.

Already, HELP is popular with landowners, and cooperators anticipate that the 9,000-acre goal will be met easily. During the summer, upland habitat development will begin on project sites.

The Phase One proposal for Manitoba's portion of the Prairie Habitat Joint Venture calls for HELP to be used in three other municipalities besides Shoal Lake.

Alberta: Multi-faceted approach at Buffalo Lake

The "First Step" Project for Central Alberta is the Buffalo Lake Moraine, a productive 528-square mile tract of knob-and-kettle terrain that is mostly farmed and grazed. During wet years, surveyors have found more than 50 permanent and semi-permanent ponds per square mile in this prime waterfowl habitat. To preserve the area for waterfowl and other wildlife, cooperators in the project are acquiring marginal crop land and converting it to dense nesting cover. Complementary programs include waterfowl feeding stations and lure crops to lessen crop depredation. Cooperators plan to build pimple islands, small mounds surrounded by water where waterfowl are safe from predators.

Eastern Habitat Joint Venture

Ontario: $8 million needed for Matchedash Bay

Matchedash Bay was chosen as Ontario's first project because this critical waterfowl staging area is threatened by development. The project encompasses more than 5,300 acres and will take a full $8 million to complete over a 7-year period. The Nature Conservancy has agreed to begin land acquisition this spring.

Quebec: Land purchases final in Nicolet Project

Twenty-six of 37 landowners have signed a purchase agreement for land in the Nicolet Project, located in lac Saint-Pierre floodplain and well known as a staging and production area for waterfowl. Cooperators in this project expect agreements with the remaining 11 landowners this spring.

New Brunswick: 1,472 acres bought in Grand Lake Meadows

Public and private conservation organizations have long recognized that Grand Lake Meadows, a 12,000-acre wetlands complex in the Saint John River floodplain, is productive waterfowl habitat. To preserve the area, two portions of this complex were slated for acquisition in 1988-89. The 1,800-acre Ash Swamp and the 1,000-acre Waterbury Marsh are targets of cooperators in the Grand Lake

Meadows Project. The province of New Brunswick acquired one 1,472-acre property in the Ash Swamp unit and will begin enhancement work there this summer. Acquisition in the Waterbury Marsh unit should be finished by August 1989.

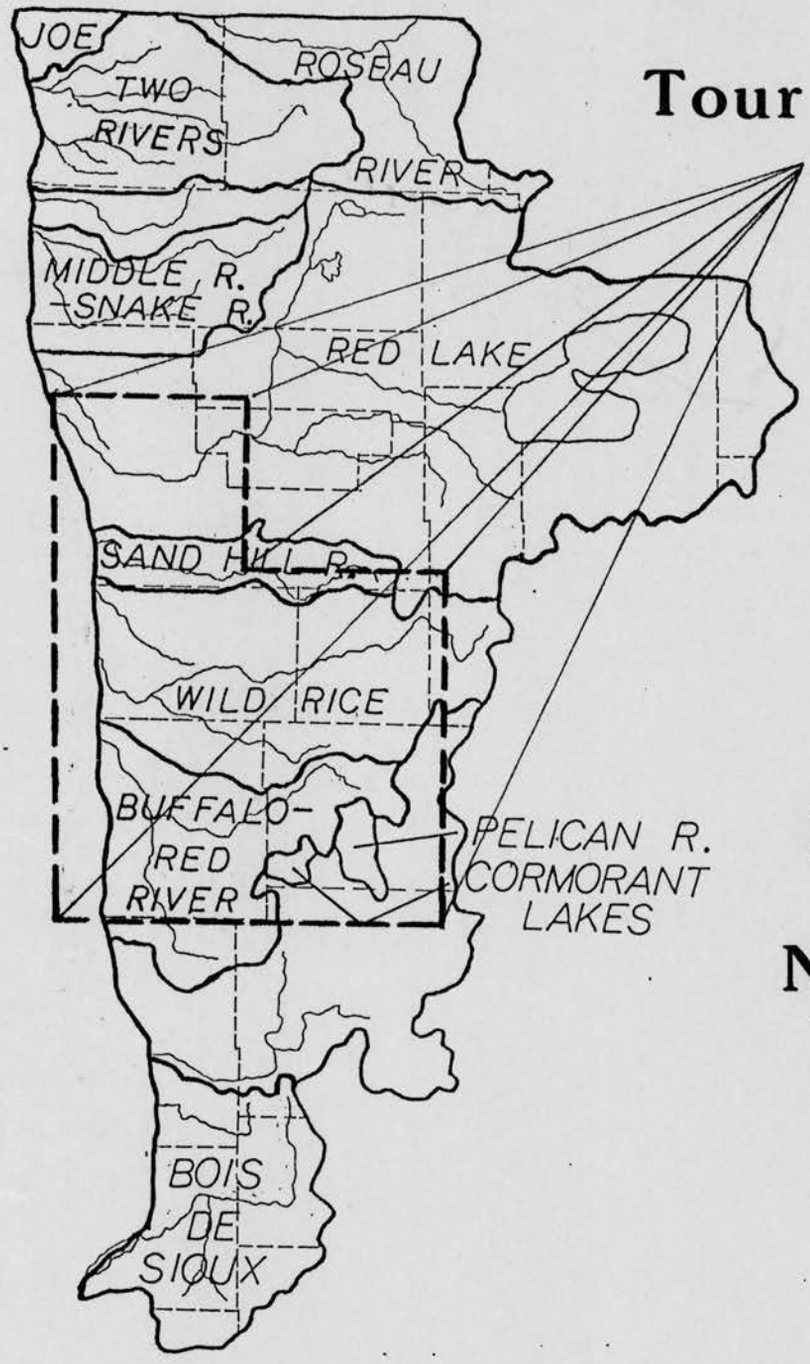
Nova Scotia: Two willing sellers in Salt Marsh Project

A smaller project than the other joint venture programs, the Salt Marsh Project encompasses 250 acres of scarce black duck habitat. The project will eventually be expanded to a wider provincial program, including fresh marsh procurement and management.

Cooperators are accumulating maps and old plans of property divisions. They have contacted five landowners; two are willing to sell.

Prince Edward Island: Ducks Unlimited to develop Grove Pine Project

Once acquisition is complete, Ducks Unlimited is ready to develop two large impoundments for waterfowl at the Grove Pine Project. The 1,900-acre site is an excellent one for enhancement work, and this summer, dikes and water control structures will be added. The site is a mix of meadow, brackish marsh, beaver impoundments, and lowland forest. When completed, the project will be one of the largest wildlife management units on the island. The Province has secured an option to purchase the property and secured funding.



Tour of Projects
May 23,1989

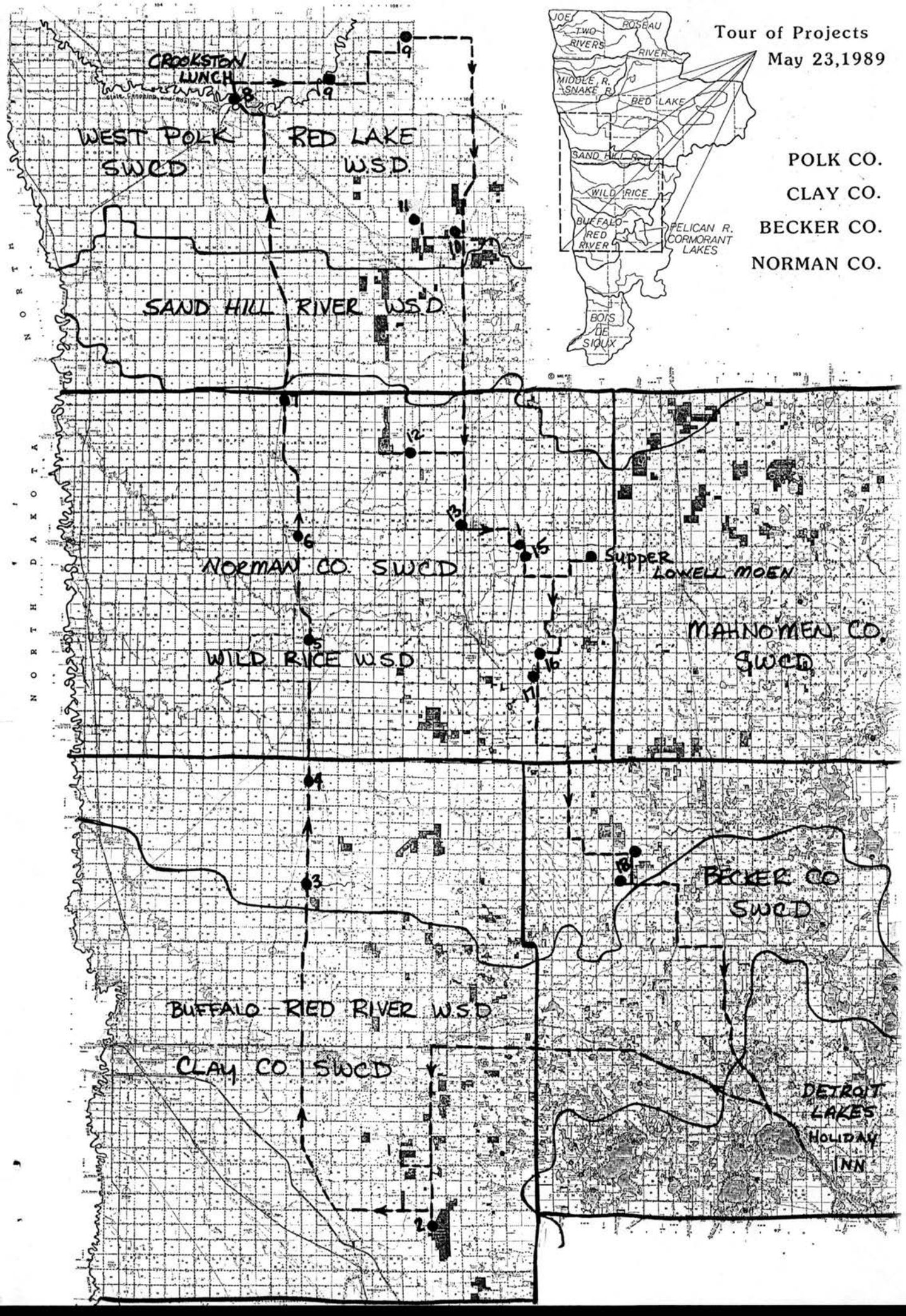
POLK CO.

CLAY CO.

BECKER CO.

NORMAN CO.

BOARD OF WATER AND SOIL RESOURCES


Tour of Projects
May 23,1989
POLK CO.
CLAY CO.
BECKER CO.
NORMAN CO.
JOE
TWO RIVERS
ROSEAU
RIVER
MIDDLE R.
SNAKE R.
RED LAKE
SAND HILL R.
WILD RICE
BUFFALO-RED RIVER
PELICAN R.
CORMORANT LAKES
BOIS DE SIOUX
CROOKSTON LUNCH
WEST POLK SWCD
RED LAKE W.S.D.
SAND HILL RIVER W.S.D.
NORMAN CO. SWCD
WILD RICE W.S.D.
Supper
LOWELL MOEN
MAHNOMEN CO. SWCD
BECKER CO SWCD
BUFFALO-RED RIVER W.S.D.
CLAY CO SWCD
DETROIT LAKES
HOLIDAY INN
NORTH DAKOTA

AGENDA

Leave Holiday Inn - Detroit Lakes

1. Buffalo Red River Watershed District Project #13 - Hay Creek
2. Buffalo Red River Watershed District Project #8 - Stony Creek
3. Wild Rice Watershed District Project #9 - Felton Ditch
4. Wild Rice Watershed District Project #19 - Co. Ditch 35, 10, & 16
   Wild Rice Watershed District Project #20 - Lat. 1 & 2, Co. Ditch 45
5. Maintenance of Wild Rice River - Wild Rice Watershed District
6. Wild Rice Watershed Project #30 - Ditch
7. Wild Rice Watershed Project #5 - Norman/Polk Project
8. Red Lake Watershed District Engineering Office
   West Polk SWCD Office

Lunch at Northland Lodge - Crookston

9. Gentilly Project
   Gentilly Group
10. Lee Nursery
11. Burnham Creek PL566 Project - BR6 Impoundment
12. Wild Rice Watershed District #14 - County Ditch #45
    Wild Rice Watershed Project #13 - Olson/Agassiz WMA
13. Gary Pines - Norman County SWCD
14. Moshaug Creek Flood Detention Dam #1 - Norman County SWCD
15. Wild Rice Watershed District Project #10 - Moshaug Creek

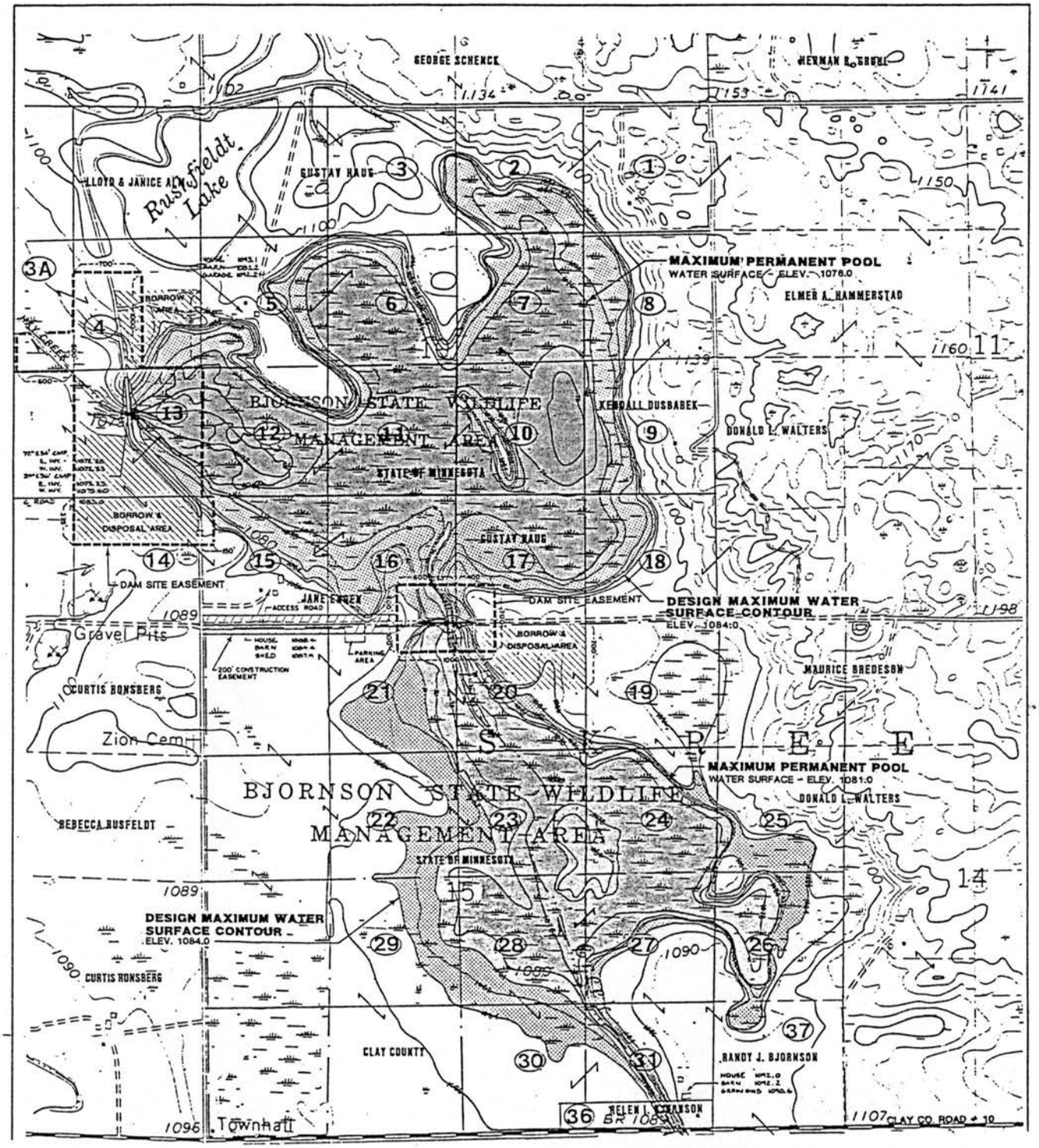
Supper at Lowell Moen Home

16. Habedank-Skaurud Project - Norman County SWCD
17. Wild Rice Watershed District Project #17 - Moccasin Creek
18. Wild Rice Watershed District Project #4 - Becker Dams

Project No. 13 - Hay Creek Detention - Bjornson WLMA

A computer modeling study of Hay creek was completed in 1982. Based on the data generated by that study, the Board determined there were several potential detention sites in the upper reaches of Hay Creek. In 1983 the Board began development of Project 13 by meeting with the affected landowners. The drainage area for the proposed project is 33.6 square miles. Step 1 submittal was prepared and forwarded to the LRRWD in 1983.

The structure would affect property in Sections 9, 10, 15, 22, and 23 of Skree Township, Clay County. It would provide for 3,056 acre-feet of storage, and would affect 633 acres. The project will involve State owned property. A meeting was held with the DNR to discuss their needs and concerns. An informational meeting was held with the landowners on January 21, 1985. Landowners expressed concern with ground water seepage. The Board authorized the placement of three ground water monitoring points. Water elevations before and after the project is installed, will be tabulated. Another informational meeting was held on December 9, 1985. This meeting discussed a revised topwater elevation. The proposal was changed from elevation 1086.0, to elevation 1084.0 based on information obtained from the ground water monitoring study. A preliminary hearing was held on February 3, 1986. A resolution for continuation of the project procedure was approved on March 10, 1986. The Board began obtaining the easement options following the hearing. Another DNR meeting was held on March 17, 1987. They felt a project with two impoundments would better meet their needs. A revised proposal to meet DNR concerns included the development of a wildlife pool in the southerly portion of the Project. A secondary control structure is required for this proposal. A favorable response was given to this proposal by the DNR. Another informational meeting was held with the landowners on August 24, 1987 to review the change. New easement options were required for this proposal. The Engineer's Report was completed in the spring of 1988. The Board began construction of this flood control project in 1988.



BUFFALO-RED PROJECT #13 - BJORNSON WMA - BUFFALO-RED WATERSHED DISTRICT

Location: Hay Creek; Sections 10 & 15, T138N, R45W

Drainage Area: 41.4 square miles

Flood Volume: Temporary Storage
2,760 acre-feet (1.25" R.O.)

Description: This project is located within the Bjornson WMA and will be a cooperative project with the Department of Natural Resources, Section of Wildlife. The project includes a 454 acre wildlife pool.

Cost: $787,225 = $285/acre-foot

Funding:

Lower Red River Watershed Management Board	- $ 393,612.50	= $143/A.F.
Buffalo-Red River Watershed District	- $ 393,612.50	
State of Minnesota - Section of Wildlife	- Use of land	

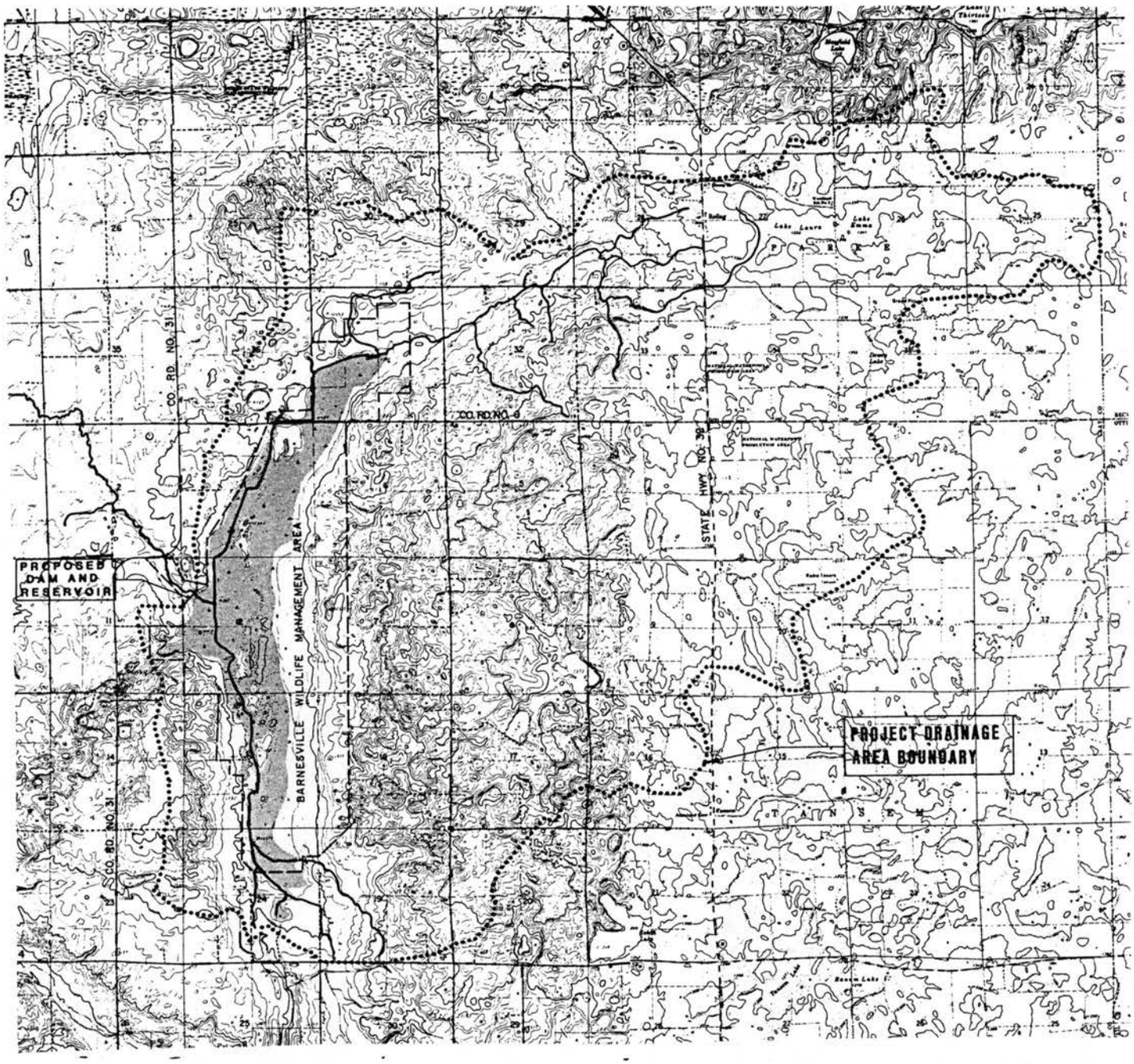
Status: Under construction

PROJECT NO. 8 - STONY CREEK DETENTION - BARNESVILL WLMA

In 1981 the Board authorized computer modeling of the Stony Creek basin. This site came to the attention of the Board through this study. The site was once the subject of an SCS study in the 1950's. In 1982 the site was aerial mapped. The Board began easement option negotiations with the project's fourteen landowners in 1984.

The Board reviewed the proposed project with the Lower Red River Watershed District in the spring of 1983. The project also involved land owned by the DNR. A preliminary engineering report was filed on May 14, 1984. A hearing was held with the affected landowners on February 25, 1985. The Board made an order to continue development of the project on March 11, 1985. A revised engineering report was filed on April 25, 1985. Viewers Mike Farrell, Robert Kloubec, and Bruce Bang were appointed to review damages to tracts involved with the project. However, all easements were eventually taken voluntarily. A final hearing was held on July 15, 1985. The project involved the construction of a flood detention structure on Stony Creek, a tributary of the South Branch of the Buffalo River. The structure is located in Section 12, Humboldt Township, Clay County. The Board entered their order to establish the project on July 15, 1985. The DNR requested the Board conduct a study to evaluate the effects of flood control projects on wetland ecosystems. The study was estimated to cost $18,700.00. Construction bids were opened on May 27, 1986. A low bid of $78,500.70 was submitted by Orr Construction, Eden Prairie, Minnesota. Stan Morrill, Inc., Fergus Falls, Minnesota submitted the low bid of $80.00 per hour for the backhoe work on cleaning the ditches within the pool area. The total project costs were $475,000.00. The Lower Red River Watershed District funded 75% of the costs. The remaining 25% was funded by the Watershed District. The project, undertaken in cooperation with the Department of Natural Resources, provides for maximum storage capacity of 3,600 acre-feet at elevation 1139.0. It also provides for a 345 acre permanent pool at elevation 1135.0. The drainage area for the project is 26.1 square miles. Gated reservoir storage is between elevations 1135.0 and 1137.1, and provides for 1,104 acre-feet of storage. The earthen fill dam is 1,225' long, and has a 48" RCP principal spillway, with a concrete box inlet. The emergency spillway is 300' long, and is set at elevation 1138.0.

The project was essentially completed in the fall of 1985. Seeding was completed in 1986. To date, the project has not been tested. This project should provide valuable protection for the downstream areas.



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

Location: Stoney Creek, Sections 1, 12 & 13, T137N, R45W

Drainage Area: 26.1 square miles

Flood Pool:
Area - 1,150 acres
Volume - 2,840 acre-feet
(1,100 acre-feet gated)

Permanent Pool:
Area - 345 acres
Volume - 760 acre-feet

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

Cost: $475,000

Funding: Lower Red River Watershed Management Board: - $356,250
Buffalo-Red River Watershed District - $118,750
State of Minnesota, DNR Section of Wildlife - Use of land

PROJECT NO. 9 - SOUTH BRANCH OF THE WILD RICE RIVER - FELTON DITCH PROJECT

Project No. 9 is a large flood control project which was designed and constructed by the U.S. Army Corps of Engineers. A Preliminary Hearing on this Project was held in Felton, Minnesota, On October 2, 1978. Appraisers were also appointed by the Board.

The Project lies in Northern Clay and Southern Norman Counties of Minnesota. The drainage area of the South Branch of the Wild Rice River is approximately 253 square miles and the drainage area for the Felton Ditch contains approximately 122 square miles. The South Branch of the Wild Rice River commences above 28 miles due East of the City of Felton, Minnesota, and outlets into the Wild Rice River at a point approximately 29.5 river miles above its junction with the Red River of the North. The Felton Ditch commences approximately 10 miles southeast of the City of Felton and flows westerly and northwesterly to its outlet in the Wild Rice River at approximately 20.5 miles above its junction with the Red River of the North. The easterly one-half of the drainage area has relatively good drainage whereas the westerly portion of the drainage area is relatively flat with as little as 1 to 2 feet of drop in elevation per mile in some regions. A series of beach line sandy ridges separates the flat lake bottom of glacial Lake Agassiz in the westerly portion of the drainage basin from the drift prairie region in the easterly portion.

The plan included 1.73 miles of debris removal and 14.36 miles of channel improvement on the South Branch of the Wild Rice. On the Felton Ditch the plan included 0.95 miles of debris removal, and 16.22 miles of channel improvement. In addition, 3.30 miles of the Felton Ditch are provided with low earth levees to contain the design flow.

Easements were acquired by the Watershed District, and construction commenced in 1981. The District was involved heavily in 1981 with landowner concerns and implementing constructive changes to enhance the project.

Dedication ceremonies were held with the Corps of Engineers on July 7, 1982, in Borup, Minnesota. The total cost of the project was in excess of $3,5000,000.00 -of which $800,000.00 was funded locally by assessments against benefited lands. The project was turned over to the Wild Rice Watershed District for maintenance and up-keep by the Corps of Engineers in September of 1983.

A considerable amount of maintenance work was accomplished by the District during 1984, 1986, 1987, and 1988 on the project area. The entire length of both channels was sprayed for weed and tree control. Debris removal and erosion control was initiated in several areas. The South Branch was diked for approximately 3/4 mile upstream from its mouth at the Wild Rice River to provide a degree of protection from flooding to adjacent land. Maintenance work on the Project was continued in 1985, 1986, 1987, and 1988. Also in 1986 and 1987 the Board considered extensive bank stabilization plans at bridge sites. Four sites were authorized to be repaired in 1986. An additional five sites were repaired by riprap bank stabilization in 1987. Sediment removal at selected sites was authorized in 1988 and will be accomplished in 1989.

PROJECT NO. 19 - IMPROVEMENT OF COUNTY DITCHES 35, 10, and 16

A petition was filed with the District on March 6, 1984, for the improvement and consolidation of County Ditches Nos. 35, 10, and 16 in Norman County. The Board designated Mr. Lawrence Woodbury of Houston Engineering, Inc. as the project engineer.

The Petition stated that the existing drainage facilities serving the area affected by County Ditches 35, 10, and 16 were inadequate or practically nonexistent. These ditch systems encompass an affected area in Winchester and Rockwell Townships of Norman County.

A hearing on the Engineer's and Appraisers' Reports was held May 30, 1985. A contract for the construction of the project was awarded to Kasal Drainage in the amount of $458,626.75. The Project is now completed. Mowing of weed and tree growth was done in 1988. The project has accomplished its purpose very satisfactorily.

PROJECT NO. 20 - IMPROVEMENT OF LATERALS NO. 1 AND NO. 2 OF JUDICIAL DITCH NO. 45 IN CLAY COUNTY

On April 13, 1984, a petition was filed with the District for the improvement and consolidation of Lateral No. 1 and No. 2 to Judicial Ditch No. 45 in Clay County. The Board designated Mr. Lawrence Woodbury of Houston Engineering, Inc. as the project engineer and ordered him to begin all necessary surveys and prepare an Engineer's Report for the proposed project.

The petition stated that the purpose of the proposed project is to provide relief from inadequate drainage due to deteriorated and inadequate hydraulic capacity of Laterals No. 1 and No. 2 into one system is to provide for the efficient administration of the system. Laterals No. 1 and No. 2 provide drainage for an area in Viding Township, Felton Township, and Hagen Township of Clay County. All necessary surveys for the Project were completed in 1984 and a preliminary informational meeting with the affected landowners was held in November of 1984. The landowners endorsed the findings outlined in the preliminary report, and subsequently the Board ordered the completion of the final Engineer's Report and appointed appraisers. The final hearing was held on March 14, 1985.

A contract was awarded to Lien Construction in the amount of $486,671.05. Overall, Project No. 20 is now completed. Minor erosion occurred in 1986 and was properly repaired and seeded in 1987. Mowing of weed and new tree growth was done in 1988.

PROJECT NO. 30 - DITCH IN ANTOHONY, PLEASANT VIEW, & GREEN MEADOW TOWNSHIPS

A petition for a new project praying for the consolidation of Judicial Ditch #68, County Ditch #68, a natural waterway (Spring Creek) and the perpetual maintenance of the Green Meadow Dam (water retention site) was received by the District on May 30, 1985.

Preliminary engineering was authorized, a report completed and three public meetings were held to explain the project and receive public input.

A final hearing was held at the V.F.W. meeting room in Ada on March 31, 1988, at 1:30 P.M.

The estimated cost of the project was determined to be $795,670.00.

The Appraisers' report listed benefits of $1,726,708.90.

Public input on benefiting lands resulted in the inclusion of additional land and the changing of certain levels of benefits. The final benefits determined by the Board of Managers was $1,785,424.20.

The project was ordered to be constructed and advertisement for bids was authorized.

The main construction bid was awarded to Wickenhauser Excavating, Inc. of Cologne, Minnesota, in the amount of $351,072.87. The Spring Creek levee construction was awarded to Ziegler Construction of Georgetown, Minnesota, in the amount of $98,378.00. Tree removal was done by Kenneth Lhotka of Waubun, Minnesota, on a hourly bid basis and cost approximately $7,800.00. Other costs were for engineering, legal and administrative. Land costs for ditch right-of-way was paid to landowners totaling approximately $151,935.00.

As of this date only minor construction work remains to be done. The seeding of slopes and the 16.5 foot grass strip (required by law) will be done as soon as conditions permit in 1989.

A citizen's committee of landowners interested in the project will be appointed in the near future. They, along with District personnel, will inspect the entire project annually (more often, if needed), report to the Board of Managers and jointly insure that the project will perform as designed and insure its longevity.

PROJECT NO. 5 - NORMAN-POLK PROJECT

This is an SCS Public Law 566 Project. The Project was divided into three phases. Phase I of this Project was completed by Sellin Brothers, Inc. of Hawley, Minnesota, during 1978. Phase II of the Project was completed by D.H. Blattner & Sons of Avon, Minnesota, during 1979. Contracts for Phase III were awarded to D.H. Blattner & Sons on March 12, 1980. On April 9, 1980, the Board of Managers appointed an Advisory Committee on Maintenance for the Norman-Polk Project. Seeding was finished in 1981, completing the Project.

The general nature of the improvement is watershed protection, flood prevention and drainage in Norman and Polk Counties of Minnesota, implemented under the authority of the Watershed Protection and Flood Prevention Act (PL 566). The plan included 28 miles of channel work and 6 grade stabilization structures.

The Norman-Polk Watershed contains 72,500 acres (113.3 square miles). Of this, 59,000 acres are in Norman County and 13,500 acres are located in Polk County. The watershed is a direct tributary of the Red River of the North.

The plan for watershed protection, flood prevention, and agricultural water management, was sponsored and developed by the West Polk Soil and Water Conservation District, East Agassiz Soil and Water Conservation District, Polk County Board of Commissioners, Norman County Board of Commissioners, and Wild Rice Watershed District. Technical assistance was provided by the Soil Conservation Service and the Forest Service of the U.S. Department of Agriculture, the Bureau of Sport Fisheries and Wildlife of the U.S. Department of Interior, and the Minnesota Department of Natural Resources.

The principal problem was extensive overbank flooding, on approximately 26,000 acres of agricultural land, affecting 100 farms and 2.9 miles of channel erosion. There was a lack of adequate surface drainage outlets on 8,000 acres. In addition, channel sedimentation had been occurring throughout the watershed from wind and water erosion.

The project was designed to reduce average annual monetary damages by approximately 73 percent on 20,000 acres of flood plain adjacent to Judicial Ditches 52 and 54 Lateral 1, benefiting 85 farms. In addition, it substantially reduced erosion, channel sedimentation, and sediment outflow from the watershed. Included in the 20,000 acres are 1,600 acres located outside the watershed.

During the summer of 1983, the upstream area had an 8 inch rainfall in a 24 hour period. The Project contained all of the run-off from the drainage area with no damage to the areas adjacent to the Project. Considerable maintenance work was carried on in 1984 and 1985. The Project is annually inspected to insure its maintenance and performance. Repair of an area which has sustained damages (erosion) from instream flows is scheduled for 1989.

GENTILLY
PROJECT

The erosion site is in Polk County about 1.5 miles west of the small community of Gentilly and 6 miles east of Crookston, Minnesota, the county seat. The economy of the area is based primarily on agriculture and agriculture-related businesses.

Typically, erosion at the Gentilly site is occurring along the outside edge of a horseshoe bend of the Red Lake River. Erosion is prevalent over an approximate 1,100-foot reach of the left (south) bank of the river. Threatened by the erosion is the approach to the County-State Aid Highway (CSAH) 11 bridge located approximately one-fourth mile to the west of the erosion site.

PROPOSED PLAN OF IMPROVEMENT

The proposed plan of improvement provides for protection of the approximate 1,100-foot reach of eroding riverbank by slope reshaping and the placement of riprap.

The existing riverbank would be reshaped to a 1 vertical on 4 horizontal slope with the placement of earth fill extending about 15 feet above the bottom of the channel, a 20-foot wide berm, and an excavated upper slope of 1 vertical on 2 1/2 horizontal extending to the top of the bank. The earth fill section below the berm would be protected with 12 inches of riprap overlying a 6-inch bed of sand and gravel. Field stone having a maximum size of 86 pounds and a 50-percent size range of 17 to 26 pounds would be used for riprap. The riprap is designed to withstand a minimum velocity of 4.5 fps, corresponding to the estimated 10-year frequency event. Topsoiling and seeding of the upper excavated slope would complete the improved bank section.

ESTIMATED COSTS

DESCRIPTION	QUANTITY	UNIT	UNIT COST	AMOUNT
Excavation	14,000	c.y.	$ 3.00	$42,000
Random fill	3,700	c.y.	1.20	4,400
Previous fill	4,400	c.y.	8.50	37,400
Bedding	1,936	c.y.	21.00	40,656
Riprap	3,917	c.y.	32.30	126,519
Seeding	2	acre	1250.00	2,500
Contingencies (25%)				63,650
Total Direct Cost				317,115
Engineering and Design				47,534
Supervision and Administration				25,351
Total Indirect Cost				72,885
Total Direct and Indirect Costs				390,000
Real Estate Costs				5,000
Total Project Costs				$395,000

Gentilly Group

The Gentilly Group is a SLR project that addressed a serious water erosion problem where a gully was eroding through a ridge. The project consists of two sites.

The first site consists of a structure that serves as a temporary flood storage and a grassed waterway that serves as an outlet channel.

Site 2 is 1 mile north of the main structure that consists of a small structure and a 1500' grassed waterway. Funding for this project consisted of SLR, ASCS, & Red Lake Watershed District funding.

LEE NURSERY



Edith and Orville Lee

By Twylla Altepeter

Over the past two decades Orville and Edith Lee have been responsible for many changes in the appearance of the Red River Valley. Many of the trees in windbreaks, shelterbelts and landscapes across the Valley were nurtured at Lee Nursery north of Fertile.

"We mainly started out with windbreaks for soil conservation districts in the area," Orville Lee said. "We grow about every windbreak tree you'd need from green ash, cottonwood, cariganna and dogwood to spruce and pine."

The demand for evergreens is increasing in the Valley. "We sell up to 25,000 spruce a year now. Some of the large farm operations want spruce for backgrounds as well as windbreaks," he said.

While evergreens need high or well drained ground, there are many places in the Valley where they can be grown successfully if adapted.

Because of the relatively slow growth of spruce trees, it takes a number of years for them to be noticeable, but they're out there and they're growing, Lee said.

He feels that the planting of trees whether for shelterbelts or landscaping is a sign of confidence in the future. Farmers are a practical, competent breed who look to the future even in times of depressed farm prices.

Each conservation district has a loading order, and the trees are loaded into trucks via a two-way conveyor. Some of the biggest semis haul up to 150,000 trees to a load.

"We have two semis, a straight job and a van. We sell trees from here to the Canadian border. We have some good customers as far south as Iowa and South Dakota, too," Lee said.

He added that growers farther south like trees grown in this area because they are very hardy, an advantage of getting stock from northern Minnesota.

"In our best year, we sold one and a half million trees, but our orders are down this year due to the depressed farm economy," Lee said. "Our living is totally dependent on farmers. We have to get good quality trees out in the first three or four weeks. You can't sell excuses."

Lee Nursery is strictly a wholesale business, selling to soil conservation districts, retail outlets and landscapers. "We don't make any retail sales because we don't run competition against our wholesale customers," Lee explained.

He said that the nursery is licensed for 50 acres, but the plantings are spread over a large area.

Licensing entails regular inspections by a state nursery inspector from St. Paul. "These inspections are a good deal, both for us and our customers. He checks our trees to guard against diseases, and this protects our customers.

"A lot of people take trees right out of the woods. Sometimes this works, often it doesn't."

"Our trees are nursery grown, checked for quality and inspected against diseases," Lee said.

The trees at Lee Nursery are started from seeds or hardwood cuttings.

Where the seeds originate determines the hardiness of a tree, as opposed to where it is actually grown, Lee pointed out.

Plating cuttings or "sticks" is another process of propagation. "We put sticks in the ground in the spring. With proper care, in a year's time the trees grow to an average of three feet in height, although the same row will have a variety of different sizes," Lee said.

As to the future of Lee Nursery, Orville has some predictions as well as some reservations. "We are always growing new varieties. For instance, honeysuckle aphids have been a real problem in the valley. We have three honeysuckle varieties that are supposed to be aphid-proof. We're trying them out now, but it will be several years before they're proven."

"We have seen an increase in the sale of ornamentals to retail centers, so we're putting in more ornamentals.

"Most important, we're going to keep growing quality stock at reasonable prices. We have to stay competitive."

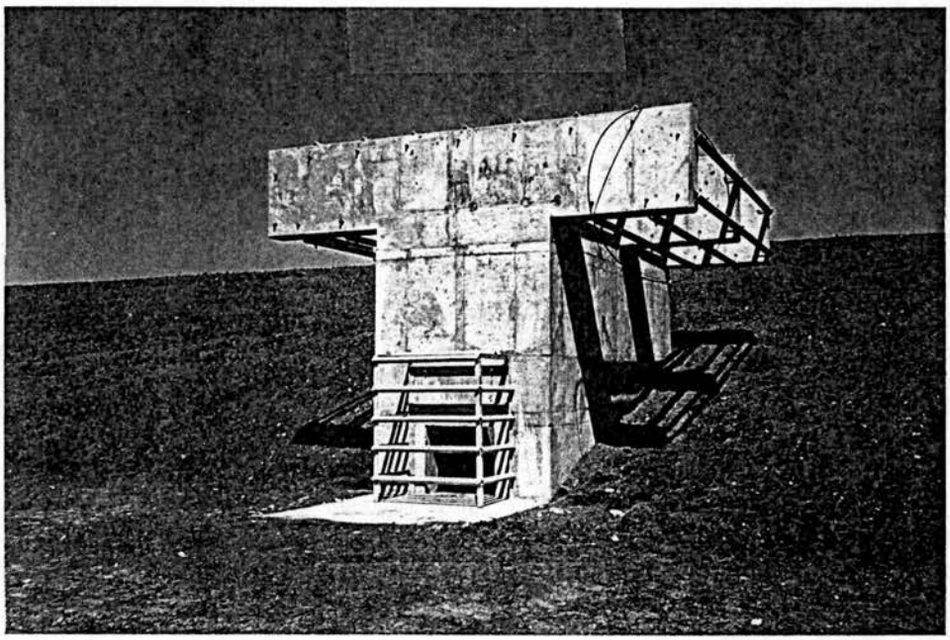
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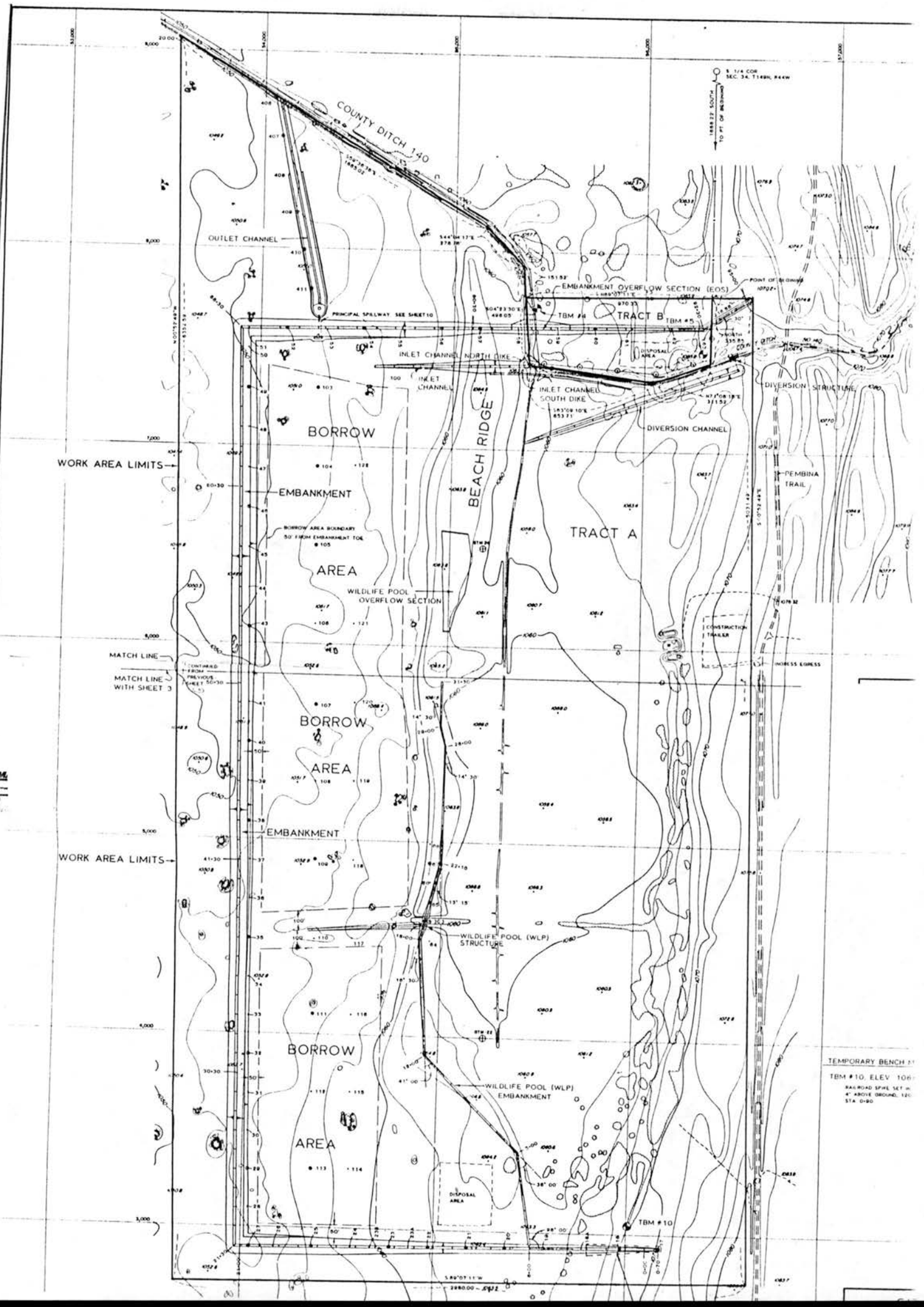
BURNHAM CREEK
BR-6 STRUCTURE

Structure BR-6 is a hazard class "A" earth fill dam located approximately fourteen miles southeast of Crookston. There are no upstream structures in this 9.23 square mile watershed. The maximum fill height is 18 feet and the length of the enbankment is 9570 feet. The principal spillway is a 60 inch diameter reinforced concrete pipe with an open top, 2 stage riser for an inlet and a plunge pool at the outlet end. The riser will also act as the emergency spillway.

Structure BR-6 is a multipurpose structure. There is a wildlife pool in the upper part of the main pool area. The main purpose of the structure is to controll flooding of agriculure lands and to control floods up to the 100 year event.

The orginal value of the contract was $774,392.70, with modifications total paid to date is $857,306.28. The major bid items include: earth fill- 303,405 cy - $418,698.00, Excavation- 39683 cy $$55,572.05; Concrete- 61 cy $39,650; 60"RCP- 100 LF- $19094.00; and seeding- 143.6AC- $88,237.62.




COUNTY DITCH 140
OUTLET CHANNEL
PRINCIPAL SPILLWAY SEE SHEET 10
EMBANKMENT OVERFLOW SECTION (EOS)
TBM #9
TBM #5
TRACT B
INLET CHANNEL NORTH DIKE
INLET CHANNEL
INLET CHANNEL SOUTH DIKE
DISPOSAL AREA
DIVERSION STRUCTURE
DIVERSION CHANNEL
BEACH RIDGE
BORROW
WORK AREA LIMITS
EMBANKMENT
BORROW AREA BOUNDARY 50' FROM EMBANKMENT TOE
AREA
TRACT A
PEMBINA TRAIL
WILDLIFE POOL OVERFLOW SECTION
CONSTRUCTION TRAILER
INGRESS EGRESS
MATCH LINE
MATCH LINE WITH SHEET 3
CONTINUED FROM PREVIOUS SHEET 50+30
BORROW
AREA
EMBANKMENT
WORK AREA LIMITS
WILDLIFE POOL (WLP) STRUCTURE
BORROW
WILDLIFE POOL (WLP) EMBANKMENT
AREA
DISPOSAL AREA
TBM #10
TEMPORARY BENCH
TBM #10, ELEV 106
RAILROAD SPIKE SET
4' ABOVE GROUND, 12
STA 0+90

PROJECT NO. 14 - NORMAN COUNTY DITCH NO. 45

The Board of Managers received a petition for the improvement of County Ditch No. 45 on February 13, 1980. This project involved coordination with the Olson-Agassiz Project No. 13, the ultimate outlet for County Ditch No. 45. The final hearing was held on December 8, 1981. Due to the excessive cost of the "10 year frequency design", an alternative "5 year frequency design" was authorized.

Two landowners appealed to the District Court from the Order of the Board which ordered construction of the Project. Their appeal listed nineteen separate grounds. The legal and constitutional issues were tried before the Honorable Warren Saetre on March 31, 1982. The Court found against the Appellants on all issues except the question of benefits and damages, which were reserved for trial before a jury. However, the Court's Order limited the jury trial to the determination of benefits and damages only with respect to the lands of the two named Appellants. The two Appellants had brought the action for themselves "and other similarly situated".

The District Court refused to accept the case as a "class action", and, because the Appellants had not made service on any other landowners, as required by Subd. 4 of Sec. 112.801, limited the jury trial to a consideration of benefits and damages to the lands of the two named Appellants.

Before a jury trial could be held, the Appellants appealed to the Minnesota State Supreme Court. The matter was submitted on Briefs, and the Court found in favor of the Watershed District.

Bids were opened on July 13, 1983, and the contract was awarded to Stan Morrill, Inc. on July 20th in the amount of $142,838.34. Construction was delayed by weather in 1983 and was finished in 1984.

Two excessively heavy rainstorm events in June of 1984 caused considerable erosion damage to the channel. The contractor was obligated to restore the channel to its designed condition. This was done quickly and prevented further deterioration. The Board authorized additional erosion control structures to be installed to help prevent reoccurrence of similar problems. The project is being monitored for the control of weed and tree growth as well as erosion control. Considerable repair and maintenance was carried on in 1985, 1986 and 1987, because of the extreme erosive condition of the soil. A water control project is planned for installation on the channel in the future. The design was submitted to the Board in December of 1988 and will be forwarded to the Minnesota DNR for approval. Construction is anticipated in 1989.

PROJECT NO. 13 - OLSON-AGASSIZ PROJECT (SPRING CREEK)

After meeting with officials of the Department of Natural Resources in the spring of 1980, the Board of Managers decided to pursue a stalled Soil Conservation Service Project located in Section 21 of Spring Creek Township in Norman County. The project mainly involves the construction of a low earth fill dam, creating a permanent wildlife impoundment with significant surcharge potential for temporary floodwater impoundment. Tremendous backing for this project was received from landowners located generally west of the project area. The Olson-Agassiz Project was officially designated Project No. 13 by the Board of Managers at their May 11, 1980, meeting. At the same meeting, the Board ordered preliminary engineering studies for the project. A petition for the construction of the project had been received from affected landowners. Subsequently soil borings were authorized to substantiate feasibility and provide necessary engineering data.

The informational meetings were held to further explain the project to the public and receive their input. Concern about ground water seepage was addressed by incorporating a "seepage diversion ditch" into the design.

Extensive negotiations were carried on with the DNR-WMA officials on design and operation of the proposed project.

The final hearing was held on December 17, 1981. After hearing testimony relating to the operation, design and other ramifications of the project, the Board ordered the installation of Project #13. Several landowners appealed the Order of the Board to the District Court. However, the Court found against the Appellants and affirmed the Board's Order in all respects.

This project provides 2600 acre feet of impoundment of flood water and a 315 acre permanent pool for wildlife enhancement. This is made possible by diverting Spring Creek, through construction of a new channel, into the pool area. This phase was designed by S.C.S. in cooperation with The East Agassiz Soil and Water Conservation District.

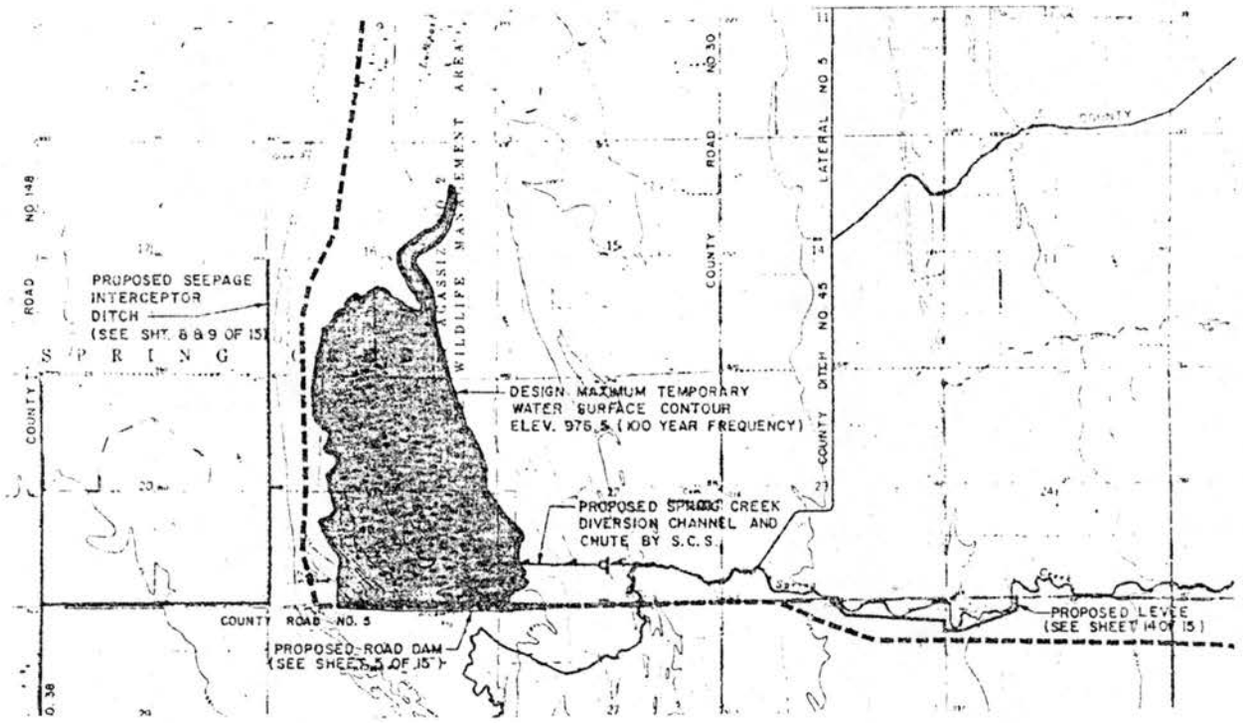
Funding was arranged by commitments from the A.S.C.S.; Lower Red River Watershed Management Board; L.C.M.R.; and The Wild Rice Watershed District. Viewers assessed lands for benefits, but no tax levies against lands were made.

Bids were opened October 13, 1982, and a contract was awarded to Sorinson Construction Company for the sum of $666,313.92. The project was expected to be completed by 1983, but a bad construction season delayed completion.

The project was completed and accepted by the District in November of 1984. The heavy rainfall in June resulted in utilizing the storage capacity and reducing downstream flows. Spring runoff had been similarly contained, filling the reservoir near its maximum capacity. The Board authorized the use of extensive mulch material with the grass seeding to control the erosive soil with a high degree of success, and this should result in a reduction in maintenance cost. The seepage ditch installed as a part of the project continues to function as perceived. In 1988 the District levied an assessment against benefited lands, collectible in 1989, for the repair fund of the Project. In 1987 the Board authorized a potential design change for the outlet structure to increase the utilization of the Project. Reviews of design alterations are progressing.

PROJECT #13
AGASSIZ-OLSON WILDLIFE MANAGEMENT AREA
NORMAN COUNTY

WILD RICE WATERSHED DISTRICT



Location: Tributary to Spring Creek; Sec. 21, T 146N, R 45W

Drainage Area: 35.7 square miles

Flood Pool:
Area - 680 acres
Volume - 2,600 acre-feet

Permanent Pool:
Area - 315 acres
Volume - 850 acre-feet

Description: This project includes a diversion structure designed by SCS to divert all flows from Spring Creek into the impoundment. This will increase the drainage area upstream of the structure from 10.0 square miles to 35.7 square miles. The project is in cooperation with the Section of Wildlife and is located within the Agassiz-Olson WMA.

Cost: $886,168.98

Funding:

LCMR (Floodwater Retention Assistance)	-	$ 216,000.00
Lower Red River Watershed Management Board	-	$ 332,665.00
Wild Rice Watershed District	-	$ 177,550.46
ASCS	-	$ 150,000.00
East Agassiz SWCD	-	$ 9,953.52
Section of Wildlife	-	Use of land

GARY PINES

Transformation of barren sand dunes to a thriving pine forest was done in 1942, by Gary, Mn., residents.

When part of a sandy quarter section 1 1/2 miles northwest of Gary in Norman County became a drifting desert and a local eye sore as a result of poor farming practices, drouth and wind erosion during the '30s, village officials and civic leaders decided to correct the situation.

The tract also became a traffic hazard on Highway 32. Strangers identified Gary as the town of the drifting dust.

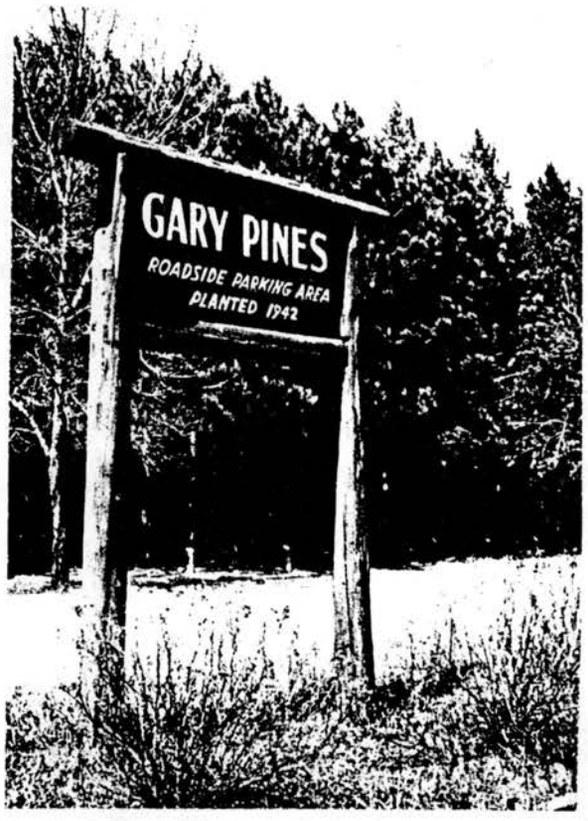
Continuous cultivation and the unusually high sand content of the soil soon left the field unfit for cropping. The area was then pastured for several years and finally the scant productivity was exhausted. The land was abandoned and reverted to the state on tax forfeiture.

The state deeded the 160 acres to Gary for conservation purposes.

The land was first covered with a heavy straw mulch, packed thoroughly into the soil to stop blowing. The state nursery at Park Rapids supplied 17,000 seedling trees, mostly jack pines and some Norway pine. In May, 1942, they were planted.

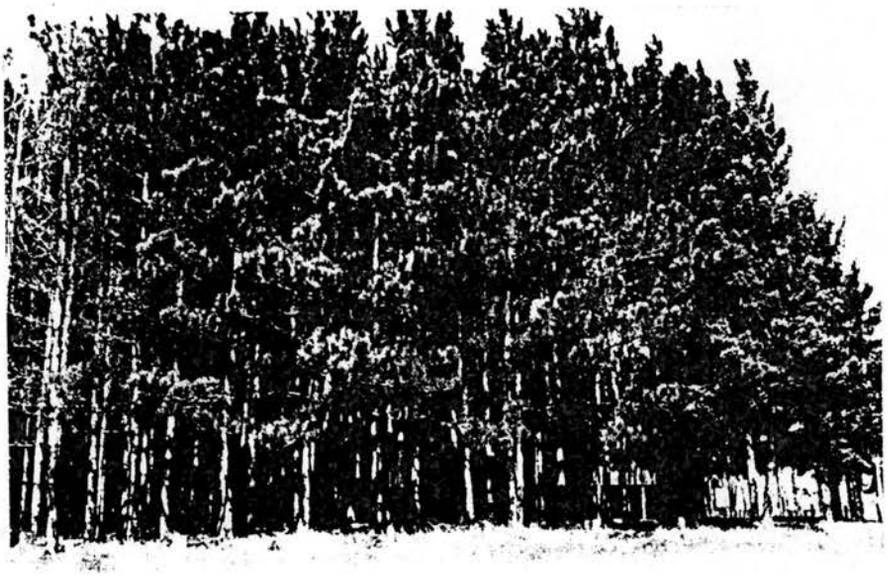
Under leadership of Einar Henrikson, soil conservationist at Twin Valley, George Landsverk, Ada businessman who was then Norman county Extension agent, Rudolph Gysland, Gary mail carrier, Mr. Libby and village officials, businessmen, residents,and soil conservation personnel accomplished the planting during "off" hours.

The hardy conifers have thrived. The area has become a deer shelter, with growth of grass to supply feed and eroded pockets retaining rain to provide water. It has also become a wayside rest with picnic tables, for weary travelers to enjoy.





1942



1975

14

MASHAUG CREEK PROJECT
MULTIPURPOSE DAM
FLOODWATER DETENTION
WILDLIFE
EROSION CONTROL
1978

Project is an earth fill multipurpose dam for water retention, flood and erosion control, and wildlife use. The top of the dam serves as a county road. The bridge was in need of replacement and was a severe traffic hazard. The dam and culvert harness some of the peak flow of storm runoff Flood water temporarily floods the grassy impoundment site. A permanent pool was established equal to anticipated sediment storage. The characteristics of the grassy coulee were changed. Constructing a bridge would have been the same cost or more, and would have added to flood wate problems in the Mashaug Creek and the Wild Rice River. Soils around the site are loamy fine sands.

DRAINAGE AREA- 7680 ac.
PERMANENT WATER- Elev. 1113 14 ac.
FLOOD STORAGE- Elev. 1127 480 ac. ft.
EARTH FILL - 29,400 cu. yd.
DAM HEIGHT- Elev. 1130 30 ft.

Conservation units involved.

Norman County, Mn / D.O.T., East Agassiz SWCD- LCMR, Wild Rice Watershed District, Lower Red River Watershed Board, cooperating with U.S. Departme of Agriculture, SCS, ASCS.

COST- $129,999.50

BEFORE	AFTER
49.5' span low truss bridge.--versus--	48" diameter R/C pressure pipe.
Trash rack and standard R/C --versus-- open riser inlet (13'vertical drop).	Open riser inlet with ponding area, dam and roadway.

PURPOSE

1. Reduce peak outflow downstream from 714 cfs to 326 cfs.
2. Storage for sedimentation of 75.4 ac. ft. or 121,645 cu. yds.
3. Permanent water for wildlife.
4. Replacement of Bridge No. 89770 on County Road No.151.
5. Improve water quality in Mashaug Creek.

Individual parties involved.

Norman Gullingsrud, David Kiltie, William Kiltie, Lloyd Toftner, Garfield Toftner.

Sections 24, 25 in Strand and 19 in Waukon.

MASHAUG CREEK NO. 1
NORMAN COUNTY
WILD RICE WATERSHED DISTRICT



LOCATION: North Branch Mashaug Creek, Section 24, T 145N, R 44W

DRAINAGE AREA: 12.2 sq. mi.

FLOOD POOL:
Area - acres
Volume - 400 acre-feet
- 0.6 inches

PERMANENT POOL:
Area - acres
Volume - 56 acre-feet
Uses - Wildlife

DESCRIPTION: This project was a replacement of a deteriorated bridge over County Road #151 in Norman County across Mashaug Creek. It was designed by SCS and constructed in 1978. Five different agencies were involved in the funding of this project: Wild Rice Watershed District, Lower Red River Watershed Management Board, East Agassiz Soil and Water Conservation District, Norman County, and the Minnesota Department of Transportation.

COST: $127,599.50

PROJECT NO. 10 - FLOOD STRUCTURE, MOSHAUG CREEK

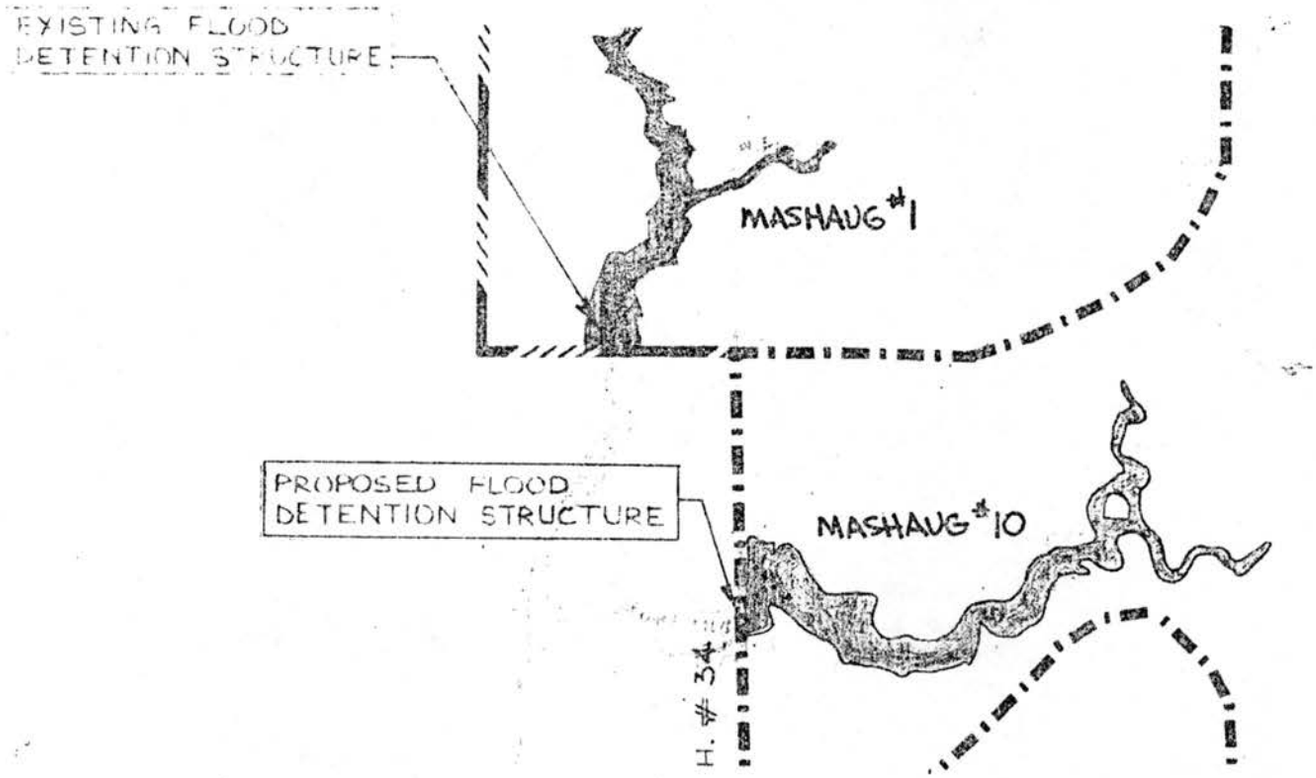
Project No. 10 involved the replacement for an existing bridge on County Road No. 34 in Norman County with a flood detention structure. There was extensive coordination between the Norman County Highway Department, the Minnesota Department of Transportation, and the Wild Rice Watershed District. In 1978, the Board authorized preliminary engineering studies on this Project.

The structure serves the dual purpose of providing a safer and more adequate road crossing across Moshaug Creek, as well as serving as a flood detention structure. The structure is located on County Road No. 34 between Sections 25 of Strand Township (T145N, R44W), and Section 30 of Waukon Township (T145N, R43W), Norman County. The structure provides 495 acre-feet of temporary flood storage with no permanent pool.

The Engineer's Plans for this Project were completed and submitted to the Board on September 12, 1979, and were also presented to the Norman County Board of Commissioners and coordinated with the County Engineer. The plans were also submitted to the Minnesota Department of Transportation and Lower Red River Watershed Management Board for partial funding. Bids were opened February 21, 1984. The project was completed in September of 1984. In 1986 the Board authorized an emergency draw-down valve and an access ramp to facilitate removal of beaver dams. A side inlet drop structure to solve an erosion problem on County Road #34 was installed in cooperation with the Norman County Board of Commissioners and the County Engineer. The Project is performing as designed.

FLOODWATER RETENTION PROJECT #10 - MASHAUG CREEK
NORMAN COUNTY

WILD RICE WATERSHED DISTRICT



Location: Mashaug Creek; Sec. 30, T 145N, R 43W

Drainage Area: 14.1 square miles

Flood Pool: Area - 48 acres
Volume - 495 acre-feet

Description: This project is similar to Mashaug Creek No. 1 and located one-half mile south on a different tributary. It will also be a bridge replacement and will operate similarly but will not include a permanent pool. The prinicipal spillway will consist of a 66-inch reinforced concrete pipe with a rectangular concrete drop inlet.

Cost: $ 288,500

Funding:

LCMR (Floodwater Detention Assistance)	-	$ 58,500
Lower Red River Watershed Management Board	-	$ 60,000
Wild Rice Watershed District	-	$ 30,000
Minnesota Dept. of Transportation	-	$ 115,000
Norman County	-	$ 25,000

ROAD EROSION PROGRAMS

HABEDANK-SKAURUD PROJECT

Summer floods damaged a crossing culvert under County road 183 at the NW corner of Section 29, Fossum Township. There has been considerable erosion at this site from water in the adjacent ditch. The entrance from County road 183 to the township blocked with snow and was difficult to negotiate with vehicles. Soils are loam to sandy loam near the surface and dry loam further down.

The project is an earth fill dam for water retention and flood control. The top of the dam serves as a county road. The culvert under the road needed to be replaced. Dam and culvert harness the peak flow of storm runoff. Flood water will temporarily flood grassy impoundment area. A permanent pool was established to anticipate sediment storage. The characteristics of the grassy coulee was changed.

Janice and Harold Habedank, Lillian and James Skaurud, supplied easements on their land for the purpose of installing a flood water control project. Habedank and Skaurud supplied 27 acres and 11 acres respectively.

Ron Hersom, soil conservationist, together with East Agassiz Soil Conservation District completed the project in 1976.

PROJECT NO. 8 - MOCCASIN CREEK

This project, originally known as Flom Township Detention Dams, began as a study of potential flood detention structures on Moccasin Creek, a tributary to the Wild Rice River in Flom Township of Norman County. A Preliminary Engineering Report was prepared in 1977 and presented to the Board of Managers. Aerial photography of the temporary flood storage area and soil borings of the proposed dam site were utilized and served as the basis for this report.

The Board subsequently adopted a revised design, incorporating "gated storage" as a method to increase effectiveness.

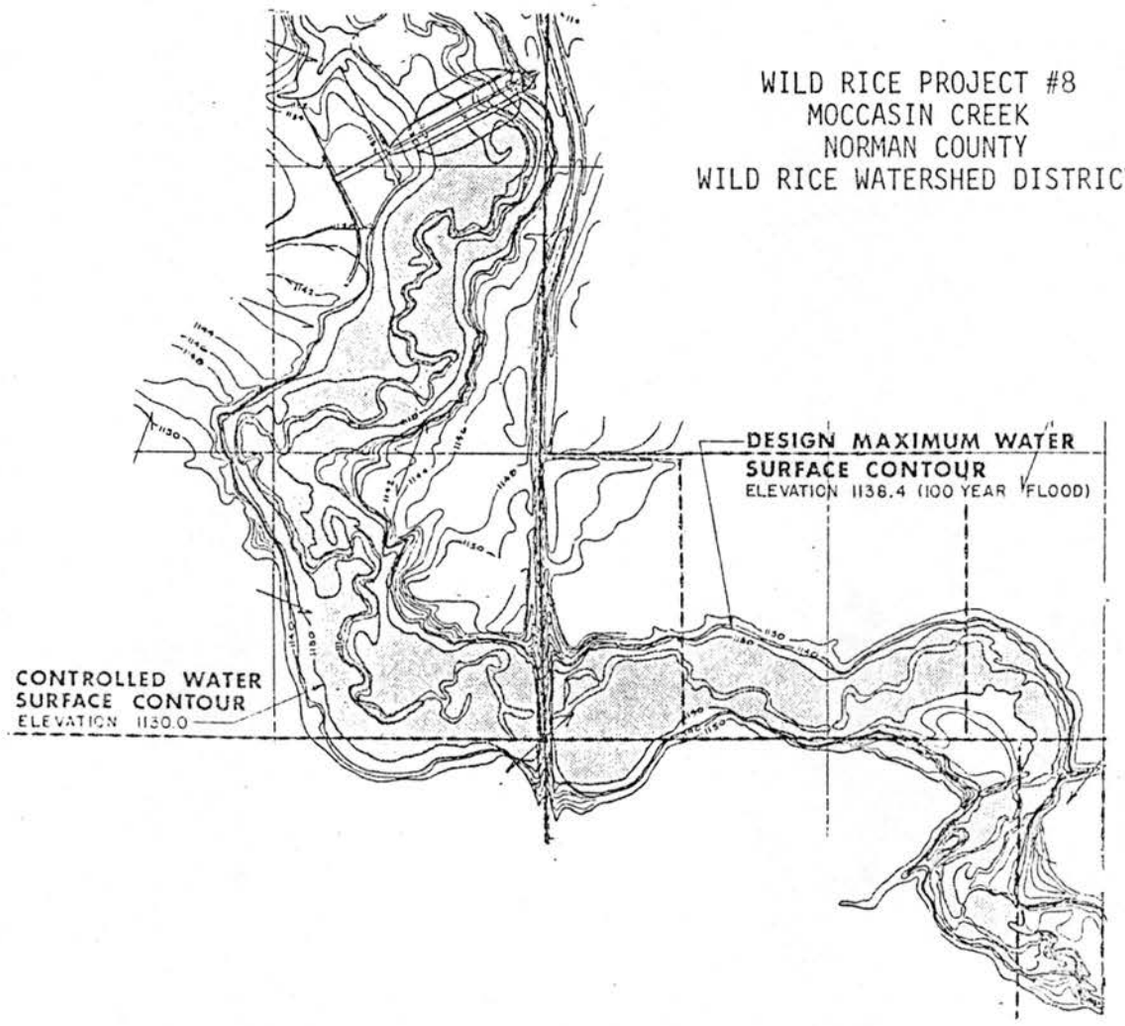
The Project has the capability of holding 1,000 acre-feet of water until downstream conditions allow for the discharge of the impounded water. An additional flood water storage of 800 acre-feet, with automatic draw down, has been incorporated into the Project.

Funding was acquired for the project from the L.C.M.R., L.R.R.W.M.B., and construction funds of the District. Bids were opened September 22, 1982, and a contract was awarded to Minnkota Excavating of Minneapolis in the amount of $484,704.40.

Construction of the project was started late in 1982 and would have been completed in 1983 but for the excessive rainfall and poor construction season.

The 1984 construction season was favorable and the project was completed in September. In late September a rainfall totaling approximately 10 inches in portions of the drainage area above this project, resulted in a stream flow that filled the gated storage in 4 days. The storage area above the gated portion contained and regulated the outflow as designed. The closing of the gate to demonstrate the effectiveness of the project served to promote awareness of the need for this type of project in the Basin. The dam has functioned as designed satisfactorily in each successive year. The control gate is regulated to allow outflow when the downstream channels can accommodate the added flow volume.

WILD RICE PROJECT #8
MOCCASIN CREEK
NORMAN COUNTY
WILD RICE WATERSHED DISTRICT.



Location: Moccasin Creek; Sec. 6, T 143N, R 43W

Drainage Area: 57.4 square miles

Flood Pool: Area - 120 acres
Volume - 1,874 acre-feet (1,060 acre-feet is gated controled)

Description: This project will be located in the lower portion of the Moccasin Creek Watershed approximately 1.5 miles upstream from the confluence with the Wild Rice. The gates will be operated in response to flood levels on the Red River Main Stem at Halstad, Minnesota. This is one of the first retention projects in the entire Valley aimed at reducing Main Stem flood flows through operation of gates on an upstream tributary. Gated control will be provided for 1,060 acre-feet of storage with an additional ungated storage volume of 814 acre-feet.

Cost: $771,448.43

Funding:

LCMR (Floodwater Retention Assistance)	- $ 180,000.00
Lower Red River Watershed Management Board	- $ 432,000.00
Wild Rice Watershed District	- $ 159,448.43

PROJECT NO. 4 - DETENTION DAMS ON THE SOUTH BRANCH OF THE WILD RICE RIVER

As a result of a public meeting in Felton, Minnesota, in March of 1974, the Wild Rice Watershed Board instructed Houston Engineering to study all possibilities for floodwater detention on the South Branch of the Wild Rice River. An Engineer's Report was filed with the Board of Managers on May 14, 1975. This report discussed the various alternatives, and recommended two specific sites in northwestern Becker County as flood detention sites. A Petition was filed with the Board of Managers on April 21, 1976.

Concerns expressed by the two townships involved to several revisions which were eventually incorporated in the revised engineering report of July 14, 1978. Permit applications to the Minnesota Department of Natural Resources and U.S. Army Corps of Engineers were filed, and appraisers were appointed. On December 5, 1978, the Army Corps of Engineers issued a permit for the construction of these dams.

After numerous meetings with both townships involved in the Project, a public Hearing was held by the Watershed District on August 20, 1979, in Ulen, Minnesota. After this Hearing, the Watershed Board reached an agreement with one of the townships, Riceville Township, concerning their objections to the Project. On January 22, 1980, the Department of Natural Resources issued their permit for the Project. Problems with Spring Creek Township were litigated in District Court on February 21, 1980. Subsequently, the Court ruled in favor of the Watershed District. Bids were received and a contract was awarded to Drewes Construction Co. on August 13, 1980. This project was completed in 1981 and provides downstream flood protection by temporarily impounding 4625 acre feet of water. The total project cost was $911,000.00. It was paid for by assessments on downstream lands.

BECKER DAMS - WILD RICE WATERSHED DISTRICT

UPPER DAM -
Location: So. Br. Wild Rice River
Section 32, T142N, R42W
Drainage Area: 39.0 square miles
Flood Pool:
Area - 291 acres
Volume - 2,400 acre-feet

LOWER DAM
Location: So. Br. Wild Rice River
Section 7, T141N, R42W
Drainage Area: 43.0 square miles
Flood Pool:
Area - 340 acres
Volume - 2,225 acre-feet

Description: The two dams work in conjunction with each other. Both are earthfill structures with a two stage principle spillway. The upper dam was constructed by raising the existing roadway and allowing a low section to serve as the emergency spillway. The lower dam is located in a narrow constriction in the river valley. This project was initiated by petition.

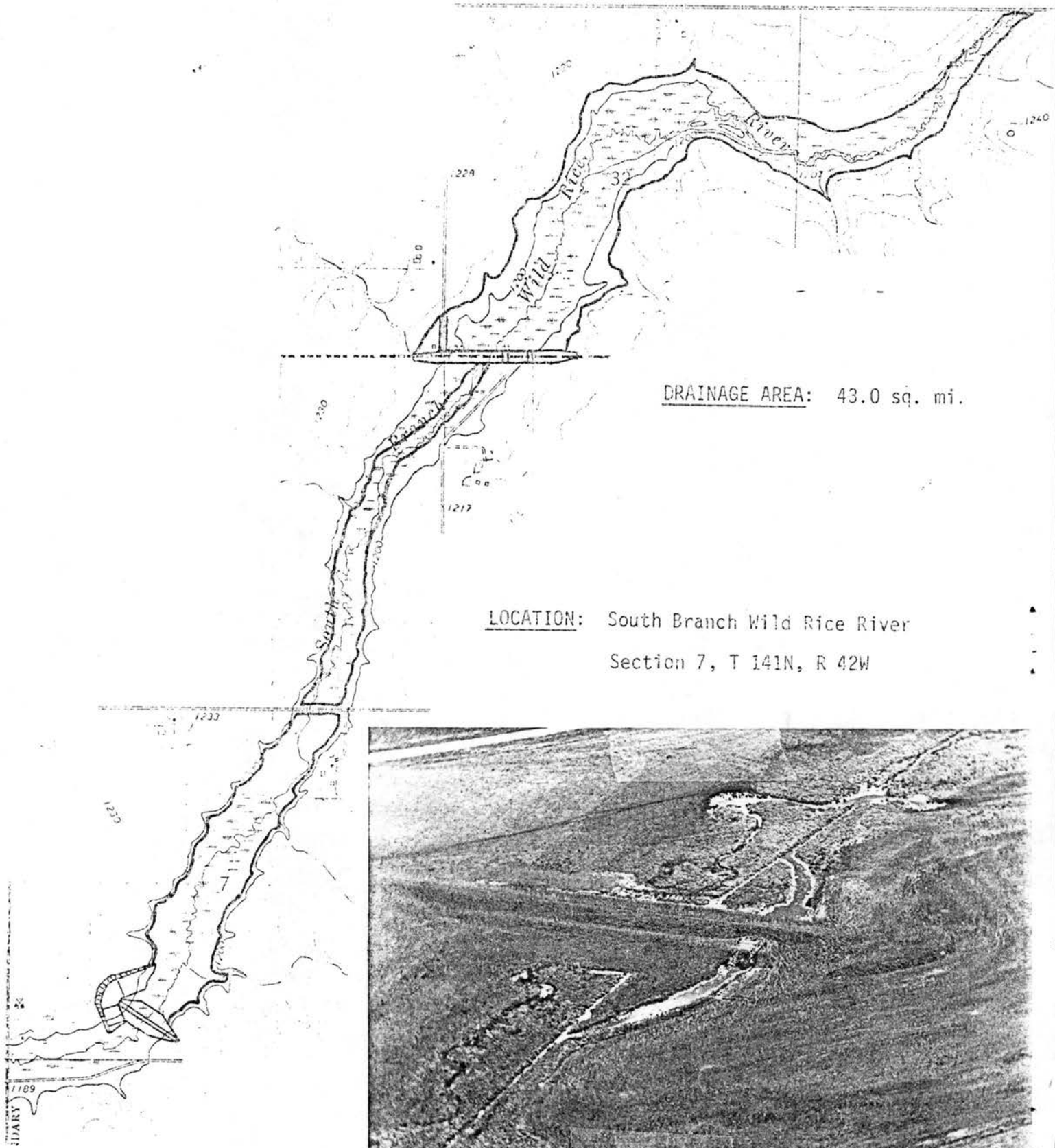
Cost: $ 911,970.00 (upper and lower dams)

Funding:

Lower Red River Watershed Management Board	- $ 100,000
Benefits assessed locally (100,000 acres)	- $ 738,970
Wild Rice Watershed District	- $ 73,000

BECKER DAMS

BECKER COUNTY
WILD RICE WATERSHED DISTRICT



DRAINAGE AREA: 43.0 sq. mi.

LOCATION: South Branch Wild Rice River
Section 7, T 141N, R 42W