

## **2005 PROJECT ABSTRACT**

For the Period Ending June 30, 2007

**TITLE:** SW Minnesota Floodwater Retention Projects

**PROJECT MANAGER:** Kerry Netzke, Area II Coordinator

**ORGANIZATION:** Area II Minnesota River Basin Projects, Inc

**ADDRESS:** P.O. Box 267, Marshall, MN 56258

**WEB SITE ADDRESS:** [www.area2.org](http://www.area2.org)

**LEGAL CITATION:** ML 2005, First Special Session, Chap. 1, Art. 2, Sec. 11,  
Subd. 7(m) SW Minnesota Floodwater Retention Projects

**APPROPRIATION AMOUNT:** \$500,000.00

### **Overall Project Outcome and Results**

This portion of the Minnesota River watershed lies along the Coteau des Prairies, more commonly known as the Buffalo Ridge, where elevation differences range from 80 feet/mile (Lac qui Parle River) to 50 feet/mile (Redwood River). Due to these very steep slopes, flooding becomes an annually occurring horror for the people who live here and make a living from the land. These areas typically do not qualify for land retirement programs as they do not have the necessary cropping histories to enable their enrollment. Common land conservation practices often suffer severe erosion and/or failure with water forces of this magnitude, making it imperative to hold the water where it falls on the landscape. The main objective was to design and construct at least four floodwater retention projects to temporarily store floodwaters and meter out the flows at a rate tolerable by the receiving streams.

Through this appropriation five projects were completed: two road retentions and three small dams in Yellow Medicine, Cottonwood, Murray and Lyon County in southwestern Minnesota. Local match in the amount of \$220,916.62 was provided by the project partners.

Construction of these floodwater retention projects resulted in improved water quality and waterfowl habitat, 1,157.1 acre-feet of temporary floodwater storage, reduced flows of 1,673 cfs which reduces streambank erosion, sediment transport, and nutrients into receiving streams. Perpetual flowage easements upon 151.3 acres were acquired to protect the viability and longevity of the constructed projects.

### **Project Results Use and Dissemination**

Area II hosts an annual legislative breakfast where educational presentations are made to nine counties of county commissioners, Soil and Water Conservation District supervisors and staff, watershed district managers and staff, state agency representatives, and state and federal legislators. Presentations are occasionally made to various groups and organizations with tours of completed project sites. Area II is contacted frequently by others who wish to initiate similar floodwater retention projects within their area of the state. These projects demonstrate an affordable, practical, and efficient conservation practice.

## LCMR 2005 Work Program Final Report

**Date of Report:** June 30, 2007  
**Date of Next Status Report:** N/A  
**Date of Work program Approval:** June 14, 2005  
**Project Completion Date:** June 30, 2007

### I. PROJECT TITLE: SW Minnesota Floodwater Retention Projects

**Project Manager:** Kerry Netzke  
**Affiliation:** Area II Coordinator  
**Mailing Address:** Area II Minnesota River Basin Projects, Inc., P.O. Box 267  
**City / State / Zip :** Marshall, MN 56258  
**Telephone Number:** 507/537-6369      **FAX Number:** 507/573-6368  
**E-mail Address:** [area2@starpoinet.net](mailto:area2@starpoinet.net)      **Web Page address:** [www.area2.org](http://www.area2.org)

**Location:** (See Figure 1.)

- 1) Section 4, Germantown Township, Cottonwood County
- 2) Section 12, Lyons Township, Lyon County
- 3) Section 9, Holly Township, Murray County
- 4) Section 9, Florida Township, Yellow Medicine County

Alternate sites (approved March 19, 2007)

- 5) Section 3/10, Monroe Township, Lyon County
- 6) Section 32, Lynd Township, Lyon County

#### Total Biennial LCMR Project Budget:

<b>LCMR Appropriation:</b>	\$ 500,000.00
<b>Minus Amount Spent:</b>	\$ 500,000.00
<b>Equal Balance:</b>	\$ 0.00

**Legal Citation:** ML 2005, First Special Session, Chap. 1, Art. 2, Sec. 11,  
Subd. 7(m) SW Minnesota Floodwater Retention Projects

**Appropriation Language:** \$250,000 the first year and \$250,000 the second year are from the trust fund to the commissioner of natural resources for an agreement with Area II MN River Basin Projects, Inc. to acquire easements and construct four floodwater retention projects in the Minnesota River Basin to improve water quality and waterfowl habitat.

### II. II. and III. FINAL PROJECT SUMMARY AND RESULTS:

This portion of the Minnesota River watershed lies along the Coteau des Prairies, more commonly known as the Buffalo Ridge, where elevation differences range from 80 feet/mile (Lac qui Parle River) to 50 feet/mile (Redwood River). Due to these very steep slopes, flooding becomes an annually occurring horror for the people who live here and make a living from the land. These areas typically do not qualify for land

retirement programs as they do not have the necessary cropping histories to enable their enrollment. Common land conservation practices often suffer severe erosion and/or failure with water forces of this magnitude, making it imperative to hold the water where it falls on the landscape. The main objective was to design and construct at least four floodwater retention projects to temporarily store floodwaters and meter out the flows at a rate tolerable by the receiving streams.

Through this appropriation five projects were completed: two road retentions and three small dams in Yellow Medicine, Cottonwood, Murray and Lyon County in southwestern Minnesota. Local match in the amount of \$220,916.62 was provided by the project partners. Construction of these floodwater retention projects resulted in improved water quality and waterfowl habitat, 1,157.1 acre-feet of temporary floodwater storage, reduced flows of 1,673 cfs which reduces streambank erosion, sediment transport, and nutrients into receiving streams. Perpetual flowage easements upon 151.3 acres were acquired to protect the viability and longevity of the constructed projects.

### **Project Results Use and Dissemination**

Area II hosts an annual legislative breakfast where educational presentations are made to nine counties of county commissioners, Soil and Water Conservation District supervisors and staff, watershed district managers and staff, state agency representatives, and state and federal legislators. Presentations are occasionally made to various groups and organizations with tours of completed project sites. Area II is contacted frequently by others who wish to initiate similar floodwater retention projects within their area of the state. These projects demonstrate an affordable, practical, and efficient conservation practice.

## **IV. OUTLINE OF PROJECT RESULTS:**

### **Result 1: ROAD RETENTIONS**

**Description:** By replacing deficient bridges and culverts with smaller-sized culverts, floodwater retention is created to temporarily store floodwaters and meter out the flow at a rate tolerable by the receiving watercourses. Benefits include reduced downstream flood damages, reduced streambank erosion, less sediments and nutrients introduced into the rivers, improved roadways for durability and safety. This proposal involves two identified road retention projects in the counties of Cottonwood and Yellow Medicine referred to as Germantown 4 and Florida 9.

<b>Summary Budget Information for Result 1:</b>	<b>LCMR Budget</b>	<b>\$ 269,338.50</b>
	<b>Amount Spent</b>	<b>\$ 269,338.50</b>
	<b>Balance</b>	<b>\$ 0.00*</b>

*\*NOTE: Shifting of money from Result 1 to Result 2 was approved by John Velin on March 19, 2007.*

**Final Report Summary:** As initially planned, two Road Retention projects were completed: Florida 9 (Yellow Medicine County) and Germantown 4 (Cottonwood County). Permanent easements were acquired on 110.84 acres. \$59,117.78 of local funds were contributed to Result 1; \$18,738.58 more than the required 25% match of \$40,379.20. (32.8% local funding / 67.2% Trust Fund).

## Result 2: SMALL DAM CONSTRUCTION

**Description:** In places where road retentions are not feasible, the construction of small dams many times are. This proposal includes two such projects in the counties of Lyon and Murray referred to as Lyons 12 and Holly 9. Two alternate sites are included named Monroe 3/10 and Lynd 32, both in Lyon County. In addition to the floodwater benefits, wildlife habitat improvements are also witnessed with the creation of small permanent pools upstream of the dam to attract and maintain waterfowl production.

<b>Summary Budget Information for Result 2:</b>	<b>LCMR Budget</b>	<b>\$ 230,661.50</b>
	<b>Amount Spent</b>	<b>\$ 230,661.50</b>
	<b>Balance</b>	<b>\$ 0.00*</b>

*\*NOTE: Shifting of money from Result 1 to Result 2 was approved by John Velin on March 19, 2007.*

**Final Report Summary:** With the Workplan Amendment approved March 19, 2007, three Small Dam projects were completed: Lynd 32 and Monroe 3/10 (Lyon County) and Holly 9 (Murray County). Permanent easements were acquired on 40.46 acres. \$161,798.84 of local funds were contributed to Result 2; \$35,511.37 more than the required 25% match of \$126,287.47. (30.0% local funding / 70.0% Trust Fund).

## V. TOTAL LCMR PROJECT BUDGET:

All Results: Personnel: \$ 18,400.00  
All Results: Equipment: \$ - 0 -  
All Results: Development: \$ - 0 -  
All Results: Acquisition: \$ 49,800.00  
All Results: Other - Construction: \$ 431,800.00  
TOTAL LCMR PROJECT BUDGET: \$ 500,000.00

**Explanation of Capital Expenditures Greater Than \$3,500: N/A**

## VI. OTHER FUNDS & PARTNERS:

**A. Project Partners:** The only funding recipients will be the individual landowners (Acquisition), hired contractors (Development), and Area II (Personnel – reimbursement for contract engineering). In-kind and/or cash match to the grant amount may be provided by the following or a combination of the sources:

- Area II Minnesota River Basin Projects, Inc. – Kerry Netze -- Coordinator, will provide project and fiscal management. Joe DeSchepper, Engineering Technician, will provide surveying, engineering assistance to the Engineer, and onsite construction inspection and quality control.
- Germantown and Florida Townships
- Cottonwood, Lyon, Murray and Yellow Medicine County Highway Departments respectively represented by Anita Benson, P.E., Steve Schaub, Asst. Engineer, Ron Gregg, P.E., and Randy Groves, P.E.

- Lac qui Parle-Yellow Bank Watershed District – Darrel Ellefson – Administrator
- U.S. Fish & Wildlife Service – Rich Papasso, Big Stone Nat'l Wildlife Refuge
- Lac qui Parle-Yellow Bank Watershed District – Darrel Ellefson - Administrator
- Pheasants Forever, Ducks Unlimited, MN Waterfowl Association

**B. Other Funds being Spent during the Project Period:** A minimum of \$166,667 (25%) local cash and in-kind match to the grant amount will be provided by a combination of local sources including: the nine member counties of Area II MN River Basin Projects, Inc., Lac qui Parle-Yellow Bank Watershed District, special interest groups (i.e. Ducks Unlimited, Minnesota Waterfowl Association, etc.), township governments, and the landowners. An additional amount of cost-share funding (\$64,091) will be sought to complete the Lyons 12 Small Dam Project.

**C. Required Match (if applicable):** \$166,667 (25%) as stated in Part B.

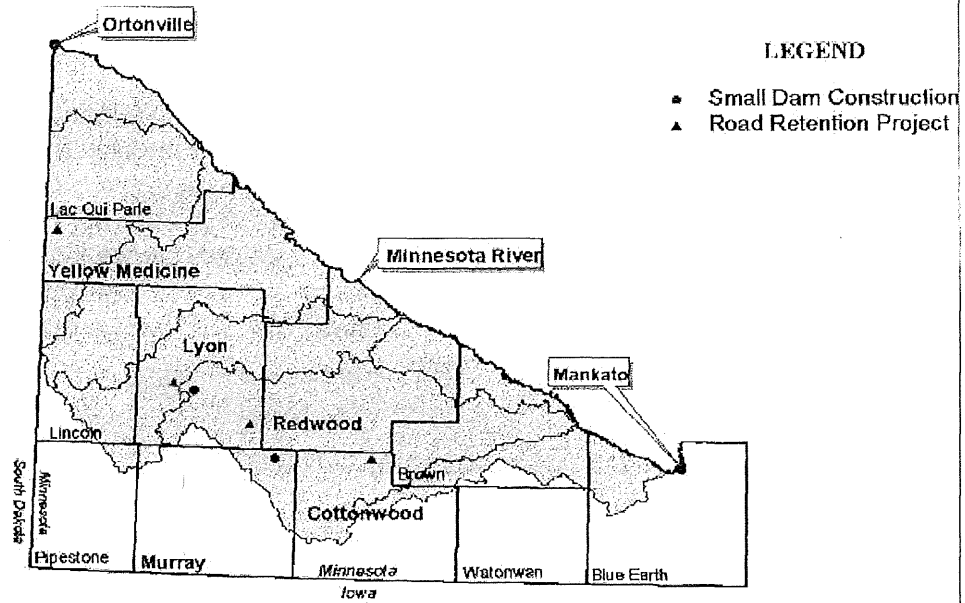
**D. Past Spending:** Project identification, survey, feasibility, engineering design, and management began in year 2000 for many of the proposed projects with 75/25 cost-share funding provided by the State of Minnesota (statutory grant to Area II) and Area II MN River Basin Projects, Inc.

Expenses paid to date:	Professional Engineering Services	\$19,885.50
	Geotechnical Exploration	15,080.00
	Area II Staff Time & Expenses	<u>46,680.00</u>
	Total	\$81,645.50

**E. Time:** The four projects will be completed by June 30, 2007.

- VII. DISSEMINATION:** There are no current plans for dissemination unless otherwise requested by interested parties.
- VIII. REPORTING REQUIREMENTS:** Periodic work program reports will be submitted not later than December 2005, July 2006, December 2006, and July 2007.
- IX. RESEARCH PROJECTS:** N/A

Figure 1.  
LCMR 2005 Work Program  
SW Minnesota Floodwater Retention Projects



## Attachment A: Budget Detail for 2005 Projects

Project Title: *SW Minnesota Floodwater Retention Projects*

Legal Citation: *Laws of MN 2005, 1st Special Session, Chapter 1, Article 2, Section 11, Subdivision 7(m)*

Project Manager Name: *Kerry Netzke (Area II MN River Basin Projects, Inc.)*

Period Covered :	
13-Jan-07	to 30-Jun-07

LCMR Dollars: \$ 500,000

2005 LCMR Budget - <i>ROAD RETENTIONS</i>	<u>LCMR Result 1 Budget:</u>	Total Bills Submitted (as of 6-30-07)	LCMR Amount Spent (75%) (as of 6-30-07)	LCMR Balance (as of 6-30-07)	<u>Other Funds:</u> Cash or In-Kind Budget	<u>Other Funds:</u> Cash or In-Kind Amount Spent (as of 6-30-07)	<u>Other Funds:</u> Cash or In-Kind Balance Remaining (as of 6-30-07)
BUDGET ITEM:							
PERSONNEL	\$10,000.00	\$13,333.33	\$10,000.00	\$0.00	\$4,000.00	\$12,334.46	-\$8,334.46 *
LAND RIGHTS ACQUISITION (110.84 acres)	\$41,400.00	\$55,200.00	\$41,400.00	\$0.00	\$0.00	\$19,901.06	-\$19,901.06 *
CONSTRUCTION	\$217,938.50	\$290,584.67	\$217,938.50	\$0.00	\$85,779.50	\$26,882.26	\$58,897.24
RESULT 1 COLUMN TOTAL	\$269,338.50	\$359,118.00	\$269,338.50	\$0.00	\$89,779.50	\$59,117.78	\$30,661.72

2005 LCMR Budget - <i>SMALL DAM CONSTRUCTION</i>	<u>LCMR Result 2 Budget:</u>	Total Bills Submitted (as of 6-30-07)	LCMR Amount Spent (75%) (as of 6-30-07)	LCMR Balance (as of 6-30-07)	<u>Other Funds:</u> Cash or In-Kind Balance	<u>Other Funds:</u> Cash or In-Kind Amount Spent (as of 6-30-07)	<u>Other Funds:</u> Cash or In-Kind Balance Remaining (as of 6-30-07)
BUDGET ITEM:							
PERSONNEL	\$8,400.00	\$11,200.00	\$8,400.00	\$0.00	\$19,200.00	\$36,868.68	-\$17,668.68 *
LAND RIGHTS ACQUISITION (40.46 acres)	\$8,400.00	\$11,200.00	\$8,400.00	\$0.00	\$0.00	\$1,212.50	-\$1,212.50 *
CONSTRUCTION	\$213,861.50	\$285,148.66	\$213,861.50	\$0.00	\$57,687.50	\$123,717.66	-\$66,030.16 *
RESULT 2 COLUMN TOTAL	\$230,661.50	\$307,548.66	\$230,661.50	\$0.00	\$76,887.50	\$161,798.84	-\$84,911.34 *

COLUMN GRAND TOTALS	\$500,000.00	\$666,666.66	\$500,000.00	\$0.00	\$166,667.00	\$220,916.62	-\$54,249.62
---------------------	--------------	--------------	--------------	--------	--------------	--------------	--------------

Note: Shifting of funds from Result 1 to Result 2 approved by John Velin (March 19, 2007).

\* Negative values indicate amounts of local match in excess of 25% requirement.