

**Environment and Natural Resources Trust Fund
2015 Request for Proposals (RFP)**

Project Title:

ENRTF ID: 062-B

Crow River Erosion Analysis and Targeted Implementation Project

Category: B. Water Resources

Total Project Budget: \$ 308,800

Proposed Project Time Period for the Funding Requested: 3 years, July 2015 - June 2018

Summary:

This vital project will quantify erosion using innovative technology in river reaches providing guidance for implementation designs to benefit local and regional surface waters for future

Name: Margaret Johnson

Sponsoring Organization: Middle Fork Crow River Watershed District

Address: PO Box 8
Spicer MN 56288

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Email margaret@mfcrow.org

Web Address _____

Location

Region: Central

County Name: Kandiyohi, Meeker

City / Township:

Alternate Text for Visual:

This project is located on the Crow River which joins the Mississippi River at Dayton, MN.

_____ Funding Priorities	_____ Multiple Benefits	_____ Outcomes	_____ Knowledge Base
_____ Extent of Impact	_____ Innovation	_____ Scientific/Tech Basis	_____ Urgency
_____ Capacity Readiness	_____ Leverage	_____ TOTAL	



PROJECT TITLE: Crow River Erosion Analysis and Targeted Implementation Plan

I. PROJECT STATEMENT

- Established by a grassroots citizen petition in 2005, the 275 square mile area known as the Middle Fork Crow River Watershed District (MFCRWD) has addressed numerous water quality issues. Priorities for the MFCRWD are the reduction of sediment and nutrients. To address the intense agricultural and developmental pressure within District boundaries and downriver, an investigation of streambank erosion will be of critical importance to reduce excessive sediment and nutrient runoff to prevent further water quality degradation both locally and regionally in the Upper Mississippi River Basin.
The highly competitive requests for Clean Water Partnership and Clean Water Assistance grants have left the MFCRWD in short supply of the funds needed to complete this incredibly necessary investigation. This project does not substitute traditional funding or supplant ongoing programs; without funding proposed plans herein would not materialize and bank erosion will continue for the foreseeable future.
This proposal involves the MFCRWD working cooperatively with agency partners and engineering professionals to complete extensive protection and enhancement of water quality for future generations.
- The overall goal of this project is improved water quality, which is the MFCRWD’s number one priority.
Project Outcome 1: Consolidated field data – observations of lateral bank erosion rate, soil type, and measured eroding surface areas.
Project Outcome 2: Final report including field data, bedload estimated for the natural and eroding channels, a target for load reductions, and recommended solution with budgetary construction estimates for the restoration of the eroding reach of the Crow River.
Project Outcome 3: Create a technical outlay of specific implementation criteria for future sediment and nutrient lessening missions. The ultimate goal is reduced loading for local, region, and big picture reaches of the river for universal benefits impacting the Crow River and as far as the Gulf of Mexico.
- Goals to improve water quality will be achieved by collecting important data and preparing solutions to restore degraded river reaches.

II. PROJECT ACTIVITIES AND OUTCOMES

Activity 1: Measure the Sediment (bedload) of the Eroding Reach **Budget: \$8,200**

Approximately nineteen river miles will be assessed for erosion. The annual mass of sediment contributed by streambank erosion processes will be estimated by determining the annual lateral bank erosion rate, average bulk density, and eroded surface area. The lateral bank erosion rate will be estimated by using the Wisconsin NRCS Field Office Technical Guide for estimating streambank erosion. The difference between the amount of “typical” erosion for the reference reach and the current streambank erosion of the reach to be assessed is the “Excess erosion volume.”

Outcome	Completion Date
1. Conduct technical field surveys of the eroding and reference Crow River reaches	December 31, 2015
2. Quantify sedimentation contributed by streambank erosion in the Crow River	March 1, 2016
3. Provide targeted sediment volumes that can be reduced with project implementation	April 1, 2016

Activity 2: Target and Prioritize Projects for Potential Implementation **Budget: \$12,000**

Upon completion of the erosion assessment, solutions to achieve the targeted bedload reductions will be evaluated. The MFCRWD will work with its partners to create a list of potential solutions and identify specific locations where they could be implemented. The aforementioned list will be prioritized based on severity of streambank erosion at each location and the ability to achieve the desired targeted and measurable reductions.

Outcome	Completion Date
1. Target specific locations for potential projects to achieve reduction goals	October 1, 2016



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2. Prioritize potential locations based on severity of conditions	January 31, 2017
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Activity 3: Produce Designs and Plan for Potential Implementation Projects

Budget: \$288,600

The MFCRWD will work with its partners to design five to ten implementation projects based on the list of prioritized and targeted proposed implementation activities. Cost estimates specific to project implementation will be generated. Landowners on the list of prioritized potential project locations will be contacted and presented with the results of the erosion assessment and cost estimates to achieve the reduction goals calculated in Activity 2.

Outcome	Completion Date
1. Design 5-10 implementation projects to satisfy the targeted reduction goals	June 30, 2018
2. Prepare cost estimates for the proposed implementation projects	June 30, 2018
3. Contact priority landowners and discuss potential project options	June 30, 2018

III. PROJECT STRATEGY

A. Project Team/Partners

Project Partners Receiving Funds:

- Mike Behan, MFCRWD Technician: Assist in analysis, plans, and administer results with partners.
- Margaret Johnson, MFCRWD Administrator: Receive the funds and administer the proposed herein.
- Chris Meehan, P.E.: Completing the erosion analysis and design plans.

Project Partners Not Receiving Funds:

- Rick Reimer, Kandiyohi SWCD, Joe Norman, Meeker SWCD: Work together to itemize results and commerce designs to priority landowners.
- Trudie Guptill, City of New London, Leslie Valiant, City of Spicer: Work together to itemize results and commerce designs to priority landowners.

B. Project Impact and Long-Term Strategy

The assessment of eroding riverbanks will verify that streambank erosion is the major contributor to the degrading water quality in the Crow River, catalog and quantify the erosion, provide an assessment of the solutions, and quantify the bedload reductions that could be achieved with the solutions. The project will improve targeting and the quantification of measurable results for future water quality implementation projects. MFCRWD staff will learn assessment methodology for the quantification of streambank erosion, which will improve the reporting capacity and determination of project success. The quantification of streambank erosion will help fulfill the Legislature’s request to provide the measurable results needed to determine success of future water quality implementation projects.

Imperative partnerships will target specific projects with quantitative data and results will increase implementation activities in our region to benefit locally and downstream including the Mississippi. The MFCRWD will continue to take collaborative measures to assess the health of the watershed through monitoring and assessments. These measures help ensure additional implementation activities are included in our local water management plan. First and foremost of these initiatives is to protect and improve surface water quality.

C. Timeline Requirements

From July 1, 2015 to June 30, 2017. Intensive investigation of the bank erosion will take place. Development of a targeted bedload will occur to be used for future project installation.

2015 Detailed Project Budget

Project Title: Crow River Erosion Analysis and Targeted Implementation Plan

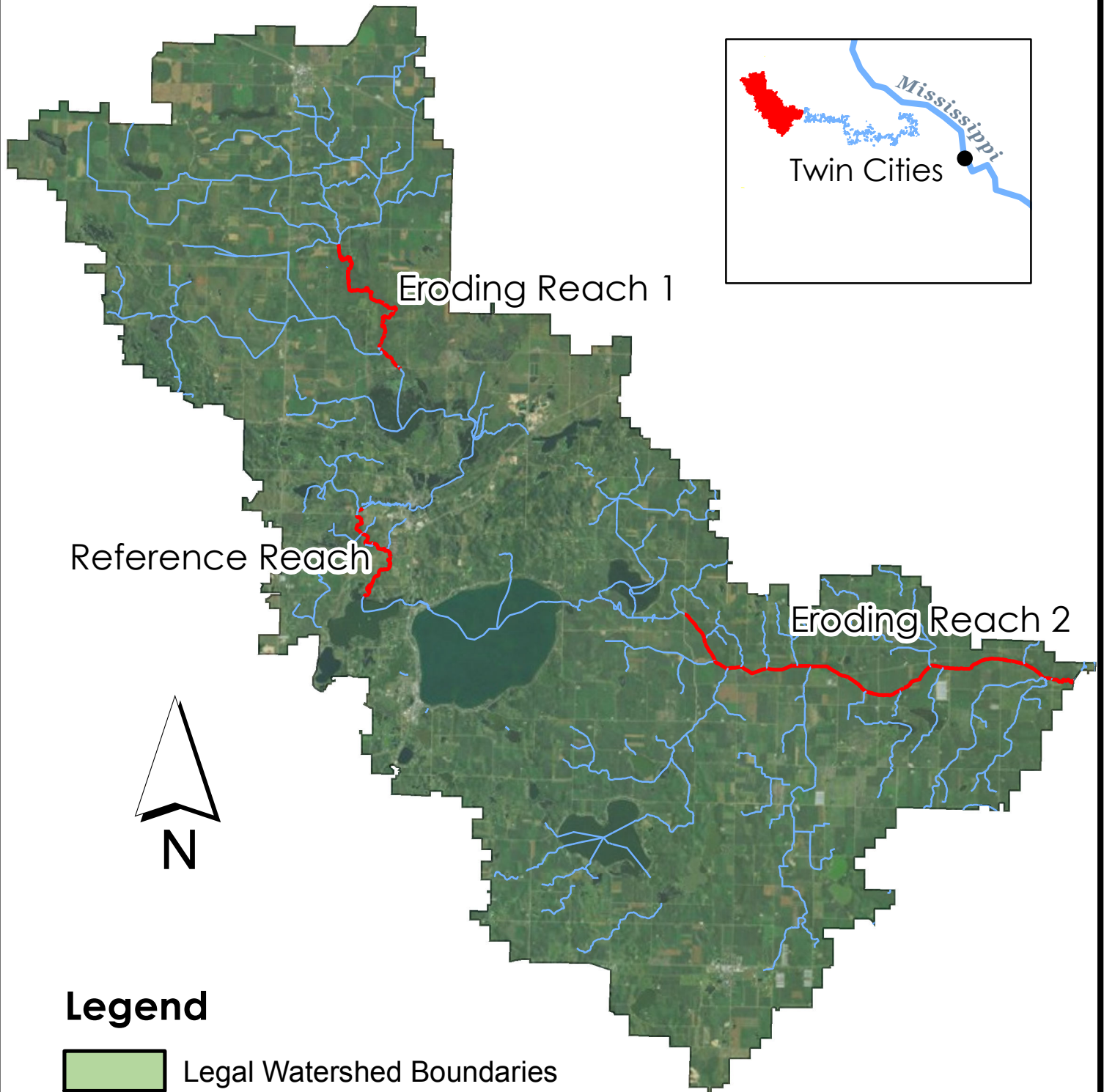
IV. TOTAL ENRTF REQUEST BUDGET 3 years

BUDGET ITEM	AMOUNT
Personnel:	
Margaret Johnson, Project Manager, MFCRWD Administrator (100% salary)* 4% FTE for 3 years *benefits paid by employer	\$ 12,000
Mike Behan, MFCRWD Technician, (100% salary)* 50% FTE for 3 years	\$ 127,400
MFCRWD Technician II (100% salary)* 50% FTE for 3 years	\$ 127,400
Contracts:	
Wenck Engineering Inc., Chris Meehan, Engineer (15 field days, 20 design days)	\$ 42,000
Equipment/Tools/Supplies:	
Acquisition (Fee Title or Permanent Easements):	N/A
Travel:	N/A
Additional Budget Items:	N/A
TOTAL ENVIRONMENT AND NATURAL RESOURCES TRUST FUND \$ REQUEST =	\$ 308,800



V. OTHER FUNDS

SOURCE OF FUNDS	AMOUNT	Status
Other Non-State \$ To Be Applied To Project During Project Period:	N/A	
Other State \$ To Be Applied To Project During Project Period:	N/A	
In-kind Services To Be Applied To Project During Project Period: MFCRWD Mileage: \$2825 Kandiyohi SWCD staff support: \$1,000 Meeker County staff support: \$1,000 City of Spicer and New London staff support: \$2,000 Kandiyohi Drainage Inspector staff support: \$5,000	\$ 11,825	Secured
Funding History: \$4,495 - MN Waters Conservation Grant "Rain Garden Education and Implementation Project" \$157,587 - CWLA Grant "Middle Fork Crow Watershed Protection Project" \$50,760 - SWAG Grant "Enhancing Volunteer Monitoring in the Crow River Watershed" \$424,000 - CWP Grant "Middle Fork Crow River Watershed Restoration and Enhancement Project" \$5,000 - MN Waters Conservation Partnership Grant "Lion's Park Public Education and Shoreland Restoration Project" \$176,215 - MPCA Contract "Diamond Lake Total maximum Daily Load" \$132,426 - 319 Grant "Improving Stormwater Management in Ecologically Sensitive Watershed" \$6,407 - BWSR Legacy Grant "Conservation Drainage in the Middle Fork Crow River Watershed" \$33,000 - CWP Grant "Green Lake Eurasian Watermilfoil/Stormwater Study" \$3,100 - DNR Grant "MFCRWD Aquatic Invasive Species Awareness" \$350,000 - CWP Grant "Middle Fork Crow River Watershed Restoration Enhancement Project" \$7,750 - DNR Grant "Aquatic Invasive Species Watercraft Inspection Program" \$300,000 - MWRPP Grant "North Fork Crow River Watershed Restoration and Protection Project" \$43,505 BWSR Legacy Grant - "Drainage Water Quality Improvement in the Middle Fork Crow River Watershed" \$120,000 - BWSR Legacy Grant - "MFCRWD Shoreland and Stream Bank Restoration/Stabilization Program" \$252,125 - BWSR Legacy Grant "Green Lake Stormwater Quality Improvement Project" \$50,000 - DNR Grant "Shoreline Enhancement and Stabilization in the Middle Fork Crow River Watershed" \$63,250 - CWP Grant "Middle Fork Crow Watershed Resource Investigation"	\$ 2,179,620	Secured
Remaining \$ From Current ENRTF Appropriation:	N/A	

Crow River Erosion Analysis and Targeted Implementation Plan



Legend

-  Legal Watershed Boundaries
-  Rivers

0 1.5 3 6 Miles

Middle Fork Crow River Watershed District

Project Manager Qualifications

Margaret Johnson

Master of Science, Environmental Studies, Policy and Planning, Bemidji State University (2011)

Advanced training in Geographic Information Systems

Bachelor of Science, Environmental Science, Policy and Management, University of Minnesota Twin Cities (2009)

International Field Seminar in China: Land Use and Water Issues

Minor in Geographic Information Systems

High School Diploma, New York Mills High School (2005)

Experience

District Administrator, Middle Fork Crow River Watershed District, Spicer, MN

Hydrologic Technician, Middle Fork Crow River Watershed District, Spicer, MN

Resource Technician, Heron Lake Watershed District, Heron Lake, MN

Graduate Assistant, Bemidji State University, Bemidji, MN

Grants Administered:

- Integrated Watershed Management: Upper Mississippi North Fork Crow River Major Watershed Project
- Middle Fork Crow Watershed Restoration Enhancement Project (CWP Continued Grant)
- Green Lake Eurasian Watermilfoil/Stormwater Study (CWP grant)
- MFCRWD Shoreland and Stream Bank Restoration/Stabilization Program (BWSR Legacy Grant)
- Green Lake Stormwater Quality Improvement Project (BWSR Legacy Grant)
- Shoreline Enhancement and Stabilization in the Middle For Crow River Watershed (DNR Block Grant)
- Department of Natural Resources AIS Awareness Grant
- Department of Natural Resources Watercraft Inspection Grant
- Middle Fork Crow Watershed Resource Investigation (Clean Water Partnership)

Organization Description

Background

The Middle Fork Crow River Watershed District is a special purpose unit of government that was established in April 2005. The District exists for the protection and preservation of water quality in the Middle Fork Crow River Watershed. The District consists of a board of five Managers from three of the four counties in the watershed. Because only a very small portion of the watershed lies in Pope County, there is no board member from that county. Board members are appointed by County Commissioners and serve three year terms.

Location

The Middle Fork Crow River Watershed drains a 275 square mile area. The river begins in Stearns County in the Belgrade area and flows southward through northeast Kandiyohi County. As the river flows south it passes through the City of New London and enters Green Lake in Spicer. After the river outlets from Green Lake, it flows eastward. Water runoff from the City of Atwater and Diamond Lake enter the Middle Fork Crow River just before it crosses the Meeker County line. The river joins the North Fork Crow River just east of Manannah. The North Fork Crow River eventually enters the Mississippi near Dayton.

Funding

Base funding for the Middle Fork Crow River Watershed District (MFCRWD) comes from an annual levy of \$250,000 assessed among each property owner in the watershed. The District also actively pursues grant opportunities to expand our efforts without increasing costs to the property owners in the District. Since 2005, the MFCRWD has secured \$2,179,620 in grant funds with a \$1,400,362 match.