Environment and Natural Resources Trust Fund 2020 Request for Proposals (RFP)

Project Title: ENRTF ID: 256-FH
Integrating Water Storage, Conservation Targeting and Civic Involvement
Category: H. Proposals seeking \$200,000 or less in funding
Sub-Category: F. Methods to Protect, Restore, and Enhance Land, Water, and Habitat
Total Project Budget: \$ 195.232
Proposed Project Time Period for the Funding Requested: June 30, 2023 (3 vrs)
Summary:
This project focuses on improving water quality and mitigating the impacts from hydrological modifications by engaging community members, supporting partnerships and promoting water storage and targeted -conservation practices.
Name: Kimberly Musser
Sponsoring Organization: Minnesota State University. Mankato - Water Resources Center
Job Title: Associate Director
Department: CSET
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Location:
Region: Statewide
County Name: Statewide

City / Township:

Alternate Text for Visual:

Raising awareness about water storage through forums and field trips. Supporting and promoting citizen-led solutions to water quality problems through sub-watershed planning and conservation targeting.

Funding Priorities Multiple Benefits	OutcomesKnowledge Base
Extent of Impact Innovation	_Scientific/Tech Basis Urgency
Capacity ReadinessLeverage	TOTAL%

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PROJECT TITLE: Integrating Water Storage, Conservation Targeting and Citizen Involvement

I. PROJECT STATEMENT

This project focuses on improving water quality and mitigating the impacts from hydrological modifications in the highly impaired Minnesota River Basin (MRB) by engaging community members, supporting broad-based partnerships and raising awareness and support for increased water storage and targeted conservation. Researchers have identified altered flow regime as a major stressor causing accelerated erosion in rivers and streams across the MRB in general and the Le Sueur River Watershed in particular. Numerous scientific studies point to surface water storage as a central pollution reduction strategy (WRAPS, CSSR, MOSM). Conservation partners, researchers, and the citizen-led Le Sueur River Watershed Network (lesueurriver.org), are working together to re-create more storage, retention, and infiltration in the watershed in order to hold back water that is destabilizing these systems and contributing to water quality problems.

Statewide, there is a need to better target pollution reduction in these high-loading agricultural watersheds. The Le Sueur River Watershed continues to be one of the leading contributors of pollutant loads in the Upper Mississippi River Basin. The 711,000 acre Le Sueur River watershed is a prolific source of total suspended solids and nutrients which affect downstream receiving waters including the Minnesota River and Lake Pepin. It is listed as a priority watershed for both nitrogen and phosphorus in the *Minnesota Nutrient Reduction Strategy*. This project will clarify and support a diverse range of water storage BMPs, foster better coordination among local and state conservation partners, demonstrate targeted conservation planning, and harness the energy of a citizen group to facilitate pollutant reduction in one of the most substantially impaired watersheds in the state.

II. PROJECT ACTIVITIES AND OUTCOMES

Activity 1: Strengthen networks for sharing information and discussing solutions for Water Storage Budget: \$102,250

This project aims to fulfil a regional need for improved information flow about water storage in the MRB. Three objectives include: 1) inventory diverse water storage methods (e.g. wetlands, multipurpose drainage management, and soil health). 2) Create a public resource website and story map to disseminate information on water storage research and case studies. 3) Develop educational materials (summary handbook, infographics, videos) for the general public about the benefits of water storage to support regional environmental and economic vitality.

Outcome	Completion Date
1. Inventory the diversity of conservation practices that promote water storage. Compile	June 2023
and summarize existing research and water storage case studies.	
2. Convene advisory committee and host three (3) Water Storage Forums to share	June 2023
information about research, case studies, and examples of water storage practices (3	
meetings; 450 people). Host numerous targeted outreach meetings (e.g. convening	
farmers, cities impacted by flooding, landowners impacted by erosion and flashy flows)	
3. A summary website, GIS story map, handbook and other educational materials to	June 2023
disseminate water storage research, practices and case studies.	

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Environment and Natural Resources Trust Fund (ENRTF) Integrating Water Storage, Conservation Targeting and Citizen Involvement

Activity 2: Conservation targeting and citizen engagement in the Le Sueur River Watershed Budget: \$92,982

This activity aims to accelerate conservation adoption in the Le Sueur River Watershed by supporting partnerships, engaging citizens, and working with local conservation partners on conservation targeting and implementation. Watershed-wide, project partners will provide education and outreach for the general public to support a greater understanding of scientific findings and pollution reduction strategies. This will be accomplished through hosting meeting and field days, creating summary materials (videos, handouts, website development). The project team will continue to serve as a regional resource for GIS conservation targeting tools (ACPF, PTMApp, MOSM etc.) and provide subwatershed scale conservation targeting and networking to support pollution reduction scenarios in five (5) priority subwatersheds. Le Sueur River Watershed Network citizens will reach out to neighbors to increase peer-to-peer networking to implement BMPs that support reduction strategies.

Outcome	Completion Date
1. Convene watershed meetings to explain background issues, describe benefits of targeting	June 2023
and facilitate conversations that clarify goals and conservation opportunities among local	
staff and landowners:	
- Le Sueur River watershed-wide (2 per year = 6 meetings; ~500 people)	
- Le Sueur River Watershed Network Steering Committee (4 per year= 12 meetings;~240)	
- Selected priority subwatersheds (3 per each of 5 subwatersheds = 15 meetings; ~350)	
- Field days in subwatersheds demonstrating targeted conservation planning and examples	
of effective BMPs in agricultural watersheds (2 per year = 6 field days; ~300)	
2. Develop planning and outreach materials such as subwatershed resource profiles,	June 2023
targeted conservation opportunity maps and BMP implementation strategies, videos and	
infographics	
3. Provide regional support for using GIS targeting tools, training and one-on-one mentoring	June 2023
(e.g. ACPF, PTMApp, MOSM, spreadsheets tools etc.) and co-convening South Central GIS	
User Group Meetings (2 per year = 6 meetings, ~300 people).	

III. PROJECT PARTNERS AND COLLABORATORS:

A. Project Team/Partners

Supported by this Project: Water Resources Center, Minnesota State University, Mankato staff and student Supported by Other Projects & Staff Time: Le Sueur River Watershed Network (citizen-led group); Blue Earth County/SWCD, Freeborn County/SWCD, Waseca County, Faribault County/SWCD, Minnesota River Congress, Coalition for a Clean Minnesota River.

B. Project Impact and Long-Term Strategy

The project will help to inform a longer-term strategy to reduce pollutant loads in high-loading watersheds in the state. Over time the goal is to promote water storage, reduce the number of impairments and to improve water quality. Citizens will have a clearer idea of effective and cost-efficient BMPs for water storage and pollution reduction.

C. Timeline Requirements

This project will require 36 months to complete and be underway from July 2020-June 2023.

IV. LONG-TERM IMPLEMENTATION AND FUNDING:

Modeled climate projections indicate more intense spring storms and overall increases in annual precipitation in the MRB. Water storage is key for managing for these changes and for multiple environmental and economic benefits. Aggregating data on water storage can help support statewide policy development, local partner planning and implementation, and help citizens better understand the role each of us can play. In the future, will continue to work with local and state conservation partners to secure funding to support this effort.

Attachment A: Project Budget Spreadsheet Environment and Natural Resources Trust Fund M.L. 2020 Budget Spreadsheet Legal Citation: Project Manager: Kimberly Musser Project Title: Integrating Water Storage, Conservation Targeting and Civic Involvement Organization: Water Resources Center, MSU Mankato Project Budget: \$195,232



Project Length and Completion Date: 3 years (06/30/2023)

Today's Date: April 15, 2019

		Budget		Amount Spent	Balance	
BUDGET ITEM			Buuget	Anount Spent		liance
Personnel (Wages and Benefits)		\$	161,600	\$-	\$	161,600
Position, Type 1, Project Manager: \$36,000 (87% Salary and 13% Fringe); 27.5% FTE for years 1 and 2 with 11% FTE for 3rd year.			\$100,000			,
Position, Type 2 , GIS Specialist/ Story mapping/Assistant Project Manager: \$20,550 (64% salary and 36% Fringe); 17% FTE each year for 2 years.			56,000			
Position, Type 3, Student Intern (academic year): \$7,056 (100% Salary and 0% Fringe); 45.5% FTE each of the 2 academic years.			5,600			
Professional/Technical/Service Contracts		ć	1 200		ć	1 200
Subwatershed Field Days (6 hosts@\$200)		Ļ	1,200		, 	1,200
Equipment/Tools/Supplies Room Rental for Water Storage Forums -3 forums@ \$4,500/ea Watershed Meeting supplies: 2/year watershed wide=6, Steering Committee: 4/yr=12, Subwatershed meetings: 3 per 5 subwatersheds =15. Targeted outreach meetings (e.g. coalition of cities, impacted landowners, farmers, agencies)			24,650		\$	24,650
Capital Expenditures Over \$5,000						
Fee Title Acquisition						
Easement Acquisition						
Professional Services for Acquisition						
Printing Handbook and/or other educational materials. Meeting materials- BMP implementation strategies, videos, infographics.			2,342		\$	2,342
Travel expenses in Minnesota Meetings with Citizen and Local Resource Managers: 40 trips Watershed Meetings: 2/yr watershed wide=6 Steering Committee: 4/yr=12 Subwatershed meetings: 3 per 5 subwatersheds =15 Field days in each of the subwatershed- 2/yr=6			5,440		\$	5,440
Other						
COLUMN TOTAL		\$	195,232	\$-	\$	195,232
SOURCE AND USE OF OTHER FUNDS CONTRIBUTED TO THE PROJECT	Status (secured or pending)	Budget Spent		Balance		
Non-State:		\$	-	\$ -	\$	-
State: MPCA -Le Sueur River Watershed (WRAPS II)		\$	44,400	\$-	\$	44,400
In kind: Administrative Assistance (3 yrs)		\$	5,000	\$-	\$	5,000
Other ENRTF APPROPRIATIONS AWARDED IN THE LAST SIX YEARS	Amount legally obligated but not yet spent	Budget Spent		Balance		
M.L. 2016, Chp. 186, Sec. 2, Subd. 04v Integrated Targeted Watershed Planning Tools with Citizen Involvement		\$	169,000	\$ 169,000	\$	-

Integrating Water Storage, Conservation Targeting and Civic Involvement



"To achieve the flow reduction goal for the Le Sueur River Watershed, which has a watershed area of over 700,000 acres, tens of thousands of acres of land will need to have a new or different conservation practices put into place."

– Swimmable, Fishable, Fixable Report (MPCA, 2015)



Raising Awareness about Water Storage Water Storage Forums



Citizen-led Solutions to Water Quality Problems Le Sueur River Watershed Network Leaders



Field Trips to learn about Water Storage BMPs Farm and City Tours



Learning from Demonstration Sites Discovery Farm Site



Watershed Tours led by Scientists & Citizens Le Sueur River Paddle Page 5 of 6



Subwatershed Planning Working with conservation partners and citizens to target BMPs



Conservation Targeting Using GIS Targeting Tools for Subwatershed Planning

"Communities and individuals ultimately hold the power to restore and protect waters in the Le Sueur River Watershed. For this reason, the Clean Water Council recommended that agencies integrate civic engagement into watershed projects."

- Le Sueur River Watershed Restoration and Protection Strategy (2015)

PROJECT TITLE: Minnesota River Basin: Point-Nonpoint Water Quality Trading

Project Manager Qualifications and Organization Description

Kimberly Musser, Project Manager

As Associate Director of the Water Resources Center, Minnesota State University, Mankato, Kimberly Musser brings over two decades of project management experience and has coordinated a wide variety of Minnesota River Basin centered projects. She has served as project manager for Integrating Targeted Watershed Planning Tools with Citizen Involvement (LCCMR, 2016) and Minnesota River Experts: An Educational Field Trip Online (LCCMR, 2010). She works with teams to distil and disseminate basin-wide information via reports (Minnesota River Basin Trends Report, State of the Minnesota River Water Quality Monitoring Reports, Cannon River Trends Report) and coordinates development of websites (Minnesota River Basin Data Center Update and Expansion, Minnesota Nutrient Planning Portal). Musser has a long history of working with citizens and local conservation partners to support locally-led watershed planning efforts (Le Sueur River Watershed Network, Watonwan Civic Engagement Project, East Fork Des Moines River Watershed PMZ, Southwest Minnesota Civic Engagement Cohort on Water Quality). She enjoys the challenge of taking complex technical and scientific information and making it understandable to broader audiences to help inform planning and decision making. She serves on the board of the Friends of the Minnesota Valley, Friends of Minneopa State Park and the Minnesota River Congress. Additionally, she has developed and taught a dozen courses at Minnesota State University, Mankato in the Geography and Urban and Regional Planning departments. She holds a Master's degree in Community and Regional Planning from the University of Oregon and a Bachelor's degree in Geography from the University of California at Berkeley.

Water Resources Center, Minnesota State University, Mankato (WRC-MSU, Mankato)

In 1987 the WRC-MSU, Mankato was created to serve as a regional center for gathering, interpreting, and distributing data of environmental significance. Faculty and students accomplish these tasks through applied research, educational programming, technical assistance, and water resource planning. In addition, we have GIS staff with the capacity to create sophisticated GIS analysis and maps and 3-dimensional landscape visualization. Using the latest data, the WRC-MSU, Mankato works with citizens within the Minnesota River Basin to enhance the quality of regional lakes, rivers, wetlands, and groundwater.

Since its beginning, the WRC-MSU, Mankato has participated in over 100 research, educational, and planning projects involving partnerships with dozens of public and private organizations. These projects range from groundwater, lake assessment, and TMDL studies to citizen engagement and water quality workshops, to the development of watershed-based plans for surface water quality protection. Our stability since 1987 stands as a testament to the objective and quality products we produce. Long-term partnerships with counties, nonprofit organizations, and state agencies have resulted in many important and far- reaching land and water resource initiatives. We have a dedicated staff and look forward to enhancing the public's understanding and connection with water resources in the region.