

Environment and Natural Resources Trust Fund 2009 Phase 2 Request for Proposals (RFP)

LCCMR ID: 042-B1

Project Title: Reducing Stream Bank Erosion Using Fluvial Geomorphic Principals

Total Project Budget: \$ \$378,400

Proposed Project Time Period for the Funding Requested: July 2009 to June 2012

Other Non-State Funds: \$ \$527,100.00

Priority: B1. Reduce Soil Erosion

First Name: Paul

Last Name: Nelson

Sponsoring Organization: Scott County Watershed Management Organization

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Fax:

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Region:

County Name:

City / Township:

Metro

Rice, Scott

Summary: Project will address the factors causing stream bank erosion through a targeted strategy with landowners, to stabilize existing problem areas and establish native buffers/filters to improve resistance to erosion.

Main Proposal: 1008-2-007-proposal-2009_main_proposal_Scott WMO.doc

Project Budget: 1008-2-007-budget-RFP_2009_Project Budget Scott WMO.xls

Qualifications: 1008-2-007-qualifications-Scott WMO Quals.doc

Map: 1008-2-007-maps-Sand Creek Watershed LCCMR map.pdf

Letter of Resolution: 1008-2-007-resolution-Scott WMO LCCMR Resolution Letter.pdf

MAIN PROPOSAL

PROJECT TITLE: Reducing Stream Bank Erosion Using Fluvial Geomorphic Principals

I. PROJECT STATEMENT

The Scott Watershed Management Organization (WMO) has documented over 30 miles of stream bank erosion in the Sand Creek watershed, and that sediment is the main factor contributing to problems with turbidity in the lower reaches of the creek. The WMO has developed a 10 year plus strategy to address the factors causing stream bank erosion, and improve stability by bringing the creek back into equilibrium between sediment supply and resistance, and stream power. It builds on the success of the existing WMO cost share and incentive program. Over the past few years approximately \$600,000 of WMO funds have been leveraged with funds from property owners, and state and federal programs to implement over 120 practices totaling more than \$1.7 million. With this application the WMO is seeking funds to accelerate this program on Porter Creek, a tributary to Sand Creek where a disproportionate amount of the erosion is located, in order to:

1. Accelerate implementation of grade control structures to address the knick points and gullies where most of the instability is now focused.
2. Stabilize banks at two locations that are currently unstable and large sediment sources.
3. Reconnect one to two meander cutoffs to decrease slope in selected reaches.
4. Add two new practices to the list of eligible practices (riparian reforestation/ re-vegetation and harvestable native prairie buffer strips) that improve the riparian corridor, buffer the creek, increase resistance to erosion, and filter and reduce runoff from working lands.

The long term strategy also includes regulations that prevent further hydromodification as areas develop, incentives for development to address water quality problems, the preservation and enhancement of a natural corridor, and increasing the capacity for local volunteer groups to help with the vegetative plantings. The overall strategy is based on findings of a fluvial geomorphic assessment completed by the WMO to diagnose factors causing the stream bank erosion.

The WMO has already completed a watershed based assessment of the problem and timing is good for expanding the implementation strategy. The WMO and the Scott SWCD have a successful cost share and incentive program, the regulatory part of the strategy is also in adopted ordinances, the development incentives are being crafted, and the new draft WMO plan has committed over \$5 million dollars for implementation. In addition, the Koda Electric biomass facility is located in Scott County, and the BWSR and the surrounding SWCDs are working out details to hire a person to promote biomass filter strips for a one year period. WMO funds are available for harvestable filter strips. Additional funding is being sought to demonstrate establishment using native prairie vegetation. Finally, the WMO and Scott SWCD with funding from the McKnight Foundation are starting an effort to meet with property owners this coming winter. The fluvial geomorphic assessment identified over 200 potential projects. This is an intensive effort to meet individually with property owners where potential projects have been identified to promote land stewardship and provide technical assistance. Funding is being sought to continue this level of effort in subsequent years.

II. DESCRIPTION OF PROJECT RESULTS

Result 1: Property Owner Outreach and Practice Promotion. **Budget:** \$ 12,000

This activity will be based on the approach started in the winter of 2008/09 where property owners will be invited to meet with land conservationists. The program will also be promoted through other media outlets generally used by the project partners. Two meetings will be held in the winters of 2010, and 2011. Each meeting will target 9 to 12 property owners.

Deliverable

1. Property owner meetings

Completion Date

February 2010, February 2011

Result 2: Conservation Practice Implementation. **Budget:** \$ 354,400

This action consists of implementing the practices including staff time to work with the land owners, design, and overseeing installation; as well as cost share and incentives. Measureable outcomes include the number and acreages of practices installed, and estimated sediment reduction. It includes a variety of contract terms (i.e., 10 year, 15 year, or perpetual) depending on the practice.

Deliverable

1. Incentive practices on 60-80 acres of riparian re-vegetation, and 40 acres of harvestable native prairie filter strips
2. Implementation of 6 to 8 BMPs (estimated as 4-6 grade stabilizations, 2 stream bank Stabilizations, and 1-2 meander cut off reconnections)
3. Final certification of practices
4. Project Evaluation

Completion Date

November 2011

November 2011

May 2012

June 2012

Result 3: Monitoring. **Budget:** \$12,000

This action consists of monitoring: 1) practice implementation, 2) water quality, and 3) stream bank erosion. Monitoring of practices consists of documenting vegetation establishment. Water quality monitoring will be done at two stations operated by the WMO. Bank erosion monitoring consists of the installation and surveying of bank pins in 2009 with follow-up surveying in 2012 to estimate the amount of bank erosion. The water quality monitoring (nutrients, sediment and flow) will be completed in 2011 and is already budgeted in the WMOs draft Watershed Plan.

Deliverable

1. Monitoring Report

Completion Date

June 2012

III. PROJECT STRATEGY AND TIMELINE**A. Project Partners**

1. Scott WMO will manage the project at the local level and will leverage its existing cost share and incentive program.
2. Scott County will act as the fiscal agent.
3. Scott and Rice SWCDs, and the NRCS will work with the property owners.
4. BWSR will provide in-kind expertise on native vegetation communities.

B. Project Impact

The project impact will be: 1) a reduction of erosion and sediment, 2) an improvement to the riparian corridor, 3) a reduction of runoff, and 4) the demonstration of harvestable native prairie filter strips that can be sold as biomass.

C. Time

This project will require 3 years, with a completion date of June 30, 2012.

D. Long-Term Strategy (if applicable)

As stated above this is a long term effort by the WMO and project partners, and is anticipated to take ten or more years. At this time the WMO does not anticipate on-going requests for LCCMR funding, but does anticipate leveraging other state and federal funds to the maximum extent possible.

Project Budget

IV. TOTAL PROJECT REQUEST BUDGET

<u>BUDGET ITEM</u>	<u>AMOUNT</u>	<u>% FTE</u>
Personnel: Scott SWCD Land Conservationist	\$ 67,000	50%
Rice SWCD Land Conservationist	\$ 13,400	10%
Contracts: Practice contracts with land owners for meander cut off reconstructions, grade stabilization, and streambank stabilization	\$ 90,000	
Incentive contracts with property owners for 40 acres native prairie harvestable filter strips	\$ 100,000	
Incentive contracts with property owners for 60 to 80 acres of riparian reforestation/ re-vegetation	\$ 50,000	
Restoration: Reforestation/Revegetation establishment 75% reimbursements for 60 to 80 acres	\$ 40,000	
Native Prairie harvestable filter strips for 40 acres establishment 75% reimbursements	\$ 18,000	
TOTAL PROJECT BUDGET REQUEST TO LCCMR	\$ 378,400	

V. OTHER FUNDS

<u>SOURCE OF FUNDS</u>	<u>AMOUNT</u>	<u>Status</u>
Remaining \$ From Previous Trust Fund Appropriation (if applicable):	NA	
Other Non-State \$ Being Leveraged During Project Period: Scott WMO, 50% Riparian Restoration Incentives for 2009 (\$7,500), 25% of general cost share and incentives (\$67,500), 25% of targeted projects (\$22,500), and 25% technical assistance/SWCD staffing for operation of cost share and incentive program (\$68,600) .	\$ 167,100.00	Secured
Other Non-State \$ Being Leveraged During Project Period: Scott WMO riparian reforestation, general cost share and incentives program, technical assistance and monitoring: 25% of budgeted amount for 2010 and 2011 assumed for Porter Creek.	\$ 360,000.00	Pending
Past Spending: Geomorphic study of Sand Creek and WMO wide cost share and incentive program with approximately \$1million additional leveraged from property owners, and state and federal programs	\$ 1,200,000	

Scott WMO: Reducing Stream Bank Erosion Based on Fluvial Geomorphology

Project Manager and Qualification and Organization Description

Project Manager Qualifications

Paul Nelson, Administrator Scott Watershed Management Organization

Education and Training

B.S. Biology, Central Michigan University, 1981

M.S. Forestry, North Carolina State University, 1986

Institute of Cultural Affairs training in Group Facilitation Methods and Implementation Methods

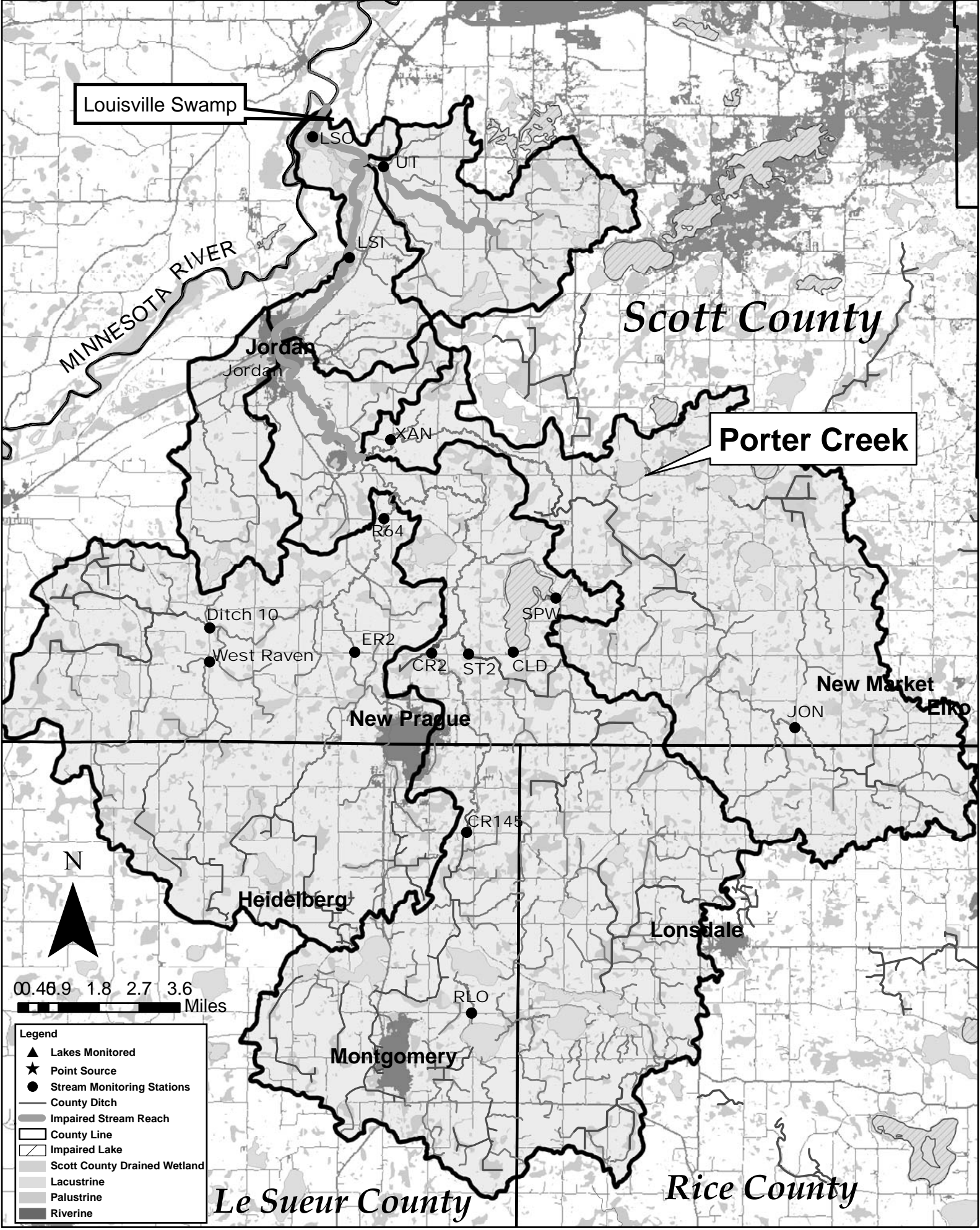
Experience and Work History

Mr. Nelson has over 25 years experience in natural resources management, with an emphasis in watershed management. He currently serves as the Natural Resources Program Manager for Scott County and in that capacity acts as the Administrator for the Scott Watershed Management Organization and Co-Administrator for the Vermillion River Watershed Joint Powers Organization. He oversees the current cost share and incentive program of the Scott WMO, and is the architect of the overall strategy for using geomorphic processes to stabilize creeks in the County. This strategy in combination with the Natural Areas Corridors approach, facilitated by Mr. Nelson, addresses water quality issues using green infrastructure. Prior to working for the County Mr. Nelson has a long history with other watershed organizations in Minnesota and the consulting industry. He has managed numerous water quality and watershed management projects across the country, and has studied more than 100 lakes and dozens of riverine systems. He is also a trained facilitator and has spent many hours working with land owners to implement conservation on private lands.

Scott Watershed Management Organization

The Scott Watershed Management Organization is a WMO formed under the authority of Minnesota Statute 103B. The Scott WMO's vision is:

To compile a system of well buffered water courses, wetlands and lakes surrounded by an upland where stormwater runoff is managed to reduce volumes, control peak flows and their timing, and minimize pollutant generation and export; and where aquatic resources meet local expectations.



Louisville Swamp

Scott County

Porter Creek

0 0.46.9 1.8 2.7 3.6 Miles

- Legend**
- ▲ Lakes Monitored
 - ★ Point Source
 - Stream Monitoring Stations
 - County Ditch
 - ▬ Impaired Stream Reach
 - ▭ County Line
 - ▨ Impaired Lake
 - ▧ Scott County Drained Wetland
 - ▩ Lacustrine
 - Palustrine
 - Riverine

Le Sueur County

Rice County

Sand Creek Watershed