

**Environment and Natural Resources Trust Fund
2011-2012 Request for Proposals (RFP)**

LCCMR ID: 042-B

Project Title: Targeted Land Management Strategies to Improve Water Quality

Category: B. Water Resources

Total Project Budget: \$ \$134,000

Proposed Project Time Period for the Funding Requested: 2 yrs, July 2011 - June 2013

Other Non-State Funds: \$ 7,000

Summary:

This project will identify, implement, and evaluate effectiveness of best management practices on upland and shoreland priority areas within Shields Lake sub-watershed with a goal of improving water quality conditions.

Name: Lucas Bistodeau

Sponsoring Organization: Cannon River Watershed Partnership

Address: 8997 Eaves Ave
Northfield MN 55057

Telephone Number: 507-786-3912

Email: lucas@crwp.net

Web Address: www.crwp.net

Location

Region: SE

Ecological Section: Minnesota and NE Iowa Morainal (222M)

County Name: Rice

City / Township: Shieldsville

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

2011-2012 MAIN PROPOSAL

PROJECT TITLE: Targeted land management strategies to improve water quality.

I. PROJECT STATEMENT

This project will identify, implement, monitor, and evaluate effectiveness of best management practices (BMPs) on identified upland and shoreland priority areas within the Shields Lake sub-watershed with a goal of improving lake and watershed water quality conditions. This approach will include identification of upland and shoreline priority areas, outreach and involvement of local landowners and stakeholders, and targeted implementation of Best Management Practices using the priority areas established.

The Cannon River Watershed is comprised of 1,471 square miles containing 58 lakes with Shields Lake being the headwaters. In 2010, the Minnesota Pollution Control Agency proposed to place numerous lakes and stream reaches in the watershed on the impaired waters list. Stream and lake data collected from the Upper Cannon River Assessment project (2007-2009) indicated that upper reaches of the Cannon River contributed a large portion of the total suspended solids, E. coli bacteria, nitrate-nitrogen, and total phosphorus loads downstream due to highly erodible soils, sloped topography, and land-use practices. Targeting conservation practices to priority areas will save dollars and be more effective at improving water quality.

Developing methodology to identify priority areas for targeted conservation will provide a tool that can be used throughout the watershed and state. It will provide a list of projects that could be eligible for Clean Water Funds. Information and strategies gathered from this project will be applicable to other lake systems and areas in the watershed, as well as southern Minnesota, to restore impaired water resources.

II. DESCRIPTION OF PROJECT ACTIVITIES

Activity 1: Identification of priority areas in Shield Lake sub-watershed. **Budget:** \$8,000

Outcome	Completion Date
1. Priority areas for BMPs are identified using aerial photography, GIS, LiDAR and field checks in the Shields Lake sub-watershed.	November 2011
2. Landowners, CRWP and technical experts have information to use in developing targeted BMP plans.	December 2011
3. Report on methodology and findings is available on CRWP website, to local stakeholders and other interested parties.	July 2013

Activity 2: Local education, input, and involvement **Budget:** \$ 28,000

Outcome	Completion Date
1. Information gathered (by surveys and discussions) regarding local interest and knowledge of water quality issues as well as willingness and barriers to implementing conservation practices in the sub-watershed.	October 2011 & 2012
2. Project website is available on the CRWP Website (www.crwp.net) with periodic updates, maps, and water quality data in easy to access format.	December 2011
3. Local landowners discuss problems and are part of implementing solutions regarding land management and water quality.	April 2013

Activity 3: Implementation, monitoring, and evaluation activities. **Budget:** \$ 98,000

Outcome	Completion Date
1. Lake vegetation survey (2 field collections in one year) for Shields Lake.	August 2011
2. Installation of BMPs (dependent on each priority area).	May 2013
3. Installation of two shoreline restoration projects.	September 2012
4. Installation of eleven rain gardens.	May 2013
5. 141 water quality samples (lake and stream locations)	September 2012
6. Inlet and outlet stream flow data to determine pollutant loads.	November 2012

III. PROJECT STRATEGY

A. Project Team/Partners

Multiple project partners, many providing matching funds and in-kind services, will be utilized in this project. Cannon River Watershed Partnership is the lead organization for this project.

The other organizations (contact person) will be significantly involved:

- Rice County Soil and Water Conservation District- (Steve Pahs, Manager) Technical review of rain garden and shoreland restoration projects, and installation of rain gardens (\$6,300 ENRTF funds).
- Rice County NRCS- (Tom Coffman, District Conservationist) Provide assistance with the EQIP incentive programs (\$8,400 in-kind)
- Rice County Planning and Zoning- (Marilee Degroot) will collect, inspect, and review septic inventory information (\$22,500 in-kind).
- Private landowners- will provide labor for restoration activities (\$14,000 in-kind).
- Minnesota Department of Natural Resources- (Joe Eisterhold) will conduct lake invasive plant surveys (\$4,000 in-kind).
- Shields Lake Association- (Rick Elsen) will provide volunteers to collect lake samples (\$1,250 in-kind).

B. Timeline Requirements

The timeline requirements for this proposed project will be completed within the 2-year grant period. This project timeline will provide a preliminary evaluation of nutrient sources and land management practices with a project goal to improve water quality conditions in Shields Lake and the downstream water resources of the Cannon River Watershed.

C. Long-Term Strategy and Future Funding Needs

This project is a component of a larger effort to improve the water quality in the Cannon River Watershed. This project has the potential to have a direct impact on the water quality in Shields Lake and the Cannon River Watershed. This project's local and targeted strategies can be applied to future projects in the watershed as well as other areas in southern Minnesota. The publicity generated by this project will also raise awareness in the watershed about nutrient impairments and management practices, conservation programs, funding resources, and associated impacts of degraded water resources.

2011-2012 Detailed Project Budget

IV. TOTAL TRUST FUND REQUEST BUDGET - 2 years

BUDGET ITEMS:	AMOUNT
Personnel:	
1-Water monitoring program coordinator (0.20 FTE) - lead position will be responsible for project coordination, installation and maintenance of the monitoring equipment, collection of water quality samples, analyze stream flow data and derive seasonal nutrient loads, provide technical assistance to local workgroups, assist in rain garden installation/inspection, interview landowners, shore land restoration supervision, write interim and final reports, and provide overall budget and project management (86% salary and 14% benefits).	\$ 26,000
1-Water quality project coordinator (0.10 FTE) - position responsibilities will include identification of upland/shore land BMP priority areas using GIS mapping, assist with water quality sample station installation and sample collection, create and maintenance of project website, assist with interim and final reports, and supervise installation of rain gardens and shoreland restorations. (86% salary and 14% benefits).	\$ 13,000
1- Education outreach coordinator (0.10 FTE) - position will be responsible for development and implementation of project materials and yearly conservation surveys, attend landowner interviews, provide updates to project website, coordinate outdoor activities for local work groups, and host project meeting updates. (86% salary and 14% benefits).	\$ 12,500
1-Administrative Assistant (0.05 FTE) - position will be responsible for contract management, project invoicing and billing, assist with project educational materials, and outreach events. (86% salary and 14% benefits).	\$ 7,000
Contracts:	
<u>Rice County Soil and Water Conservation District</u> - staff for initial site inspections for eleven rain garden and two shoreline restoration efforts, review project designs, supervise installation activities, and assist with local workgroup activities (\$6,300). <u>RMB laboratories</u> - will provide water quality analysis services for 141 samples of both lake and stream samples (\$10,680). <u>Prairie Restoration Inc.</u> - will provide two shoreline restoration project design, equipment, materials, and install the two restoration project areas (\$10,000).	\$ 27,500
Equipment/Tools/Supplies: Landscaping tools, equipment rental costs, and supplies~\$3,625, rain garden materials~\$13,350, water quality monitoring equipment~\$23,000, water quality sample shipment~\$1,300, educational material and final report~\$1,950	\$ 44,000
Travel: Travel costs related to in-town mileage (\$0.50 per mi) for staff and BMP installation staff traveling to the Shields Lake area.	\$ 4,000
Additional Budget Items:	N/A
TOTAL ENVIRONMENT & NATURAL RESOURCES TRUST FUND \$ REQUEST	\$134,000

V. OTHER FUNDS

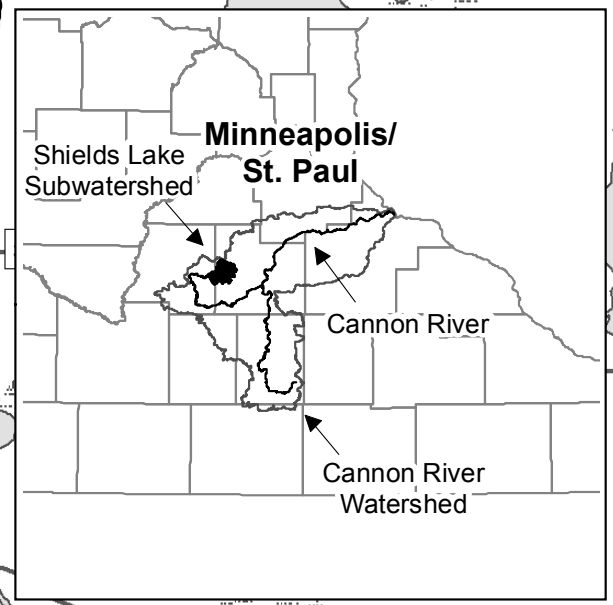
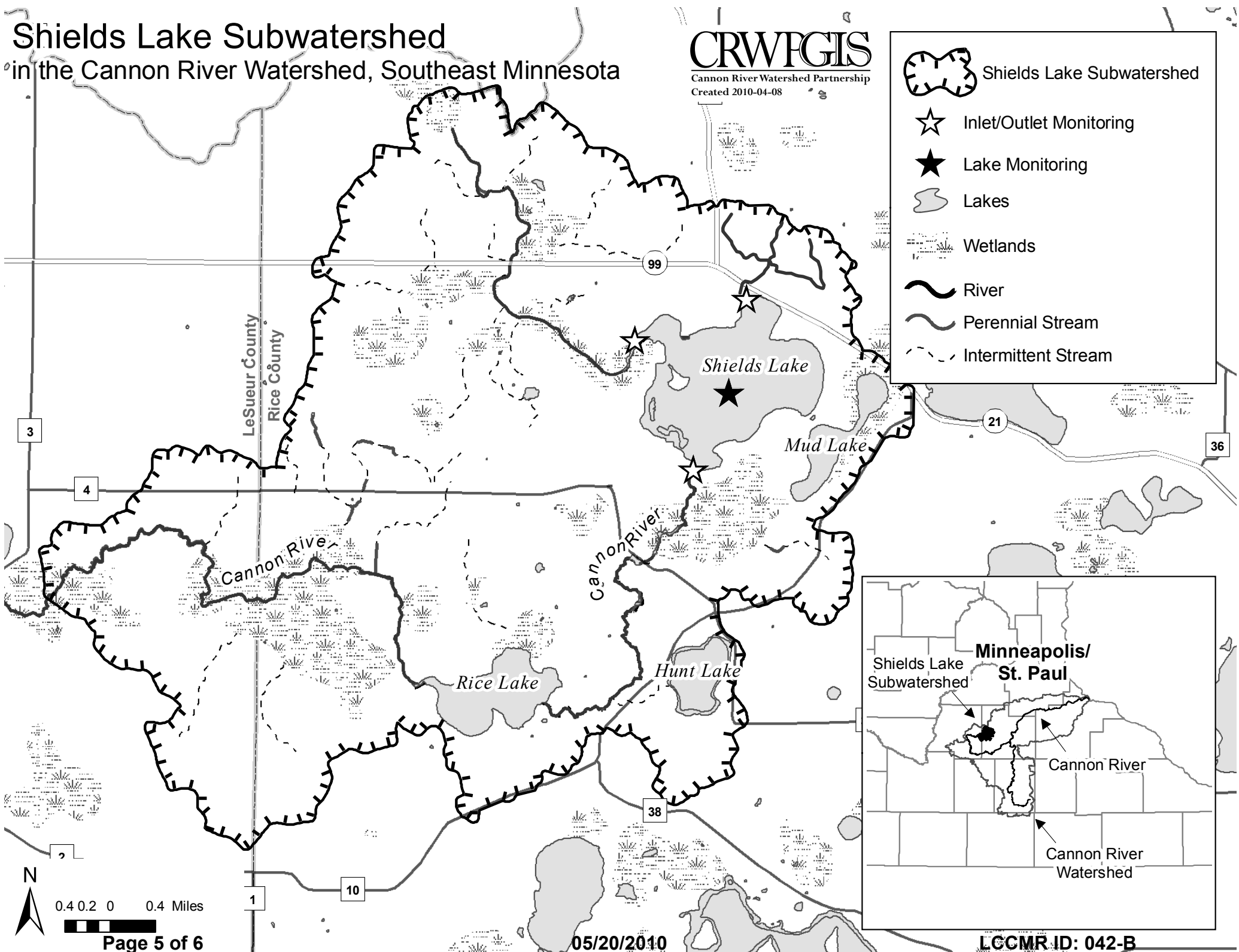
SOURCE OF FUNDS	AMOUNT	Status
Other Non-State \$ Being Applied to Project During Project Period:		
McKnight Foundation- Operating Support (20%)~\$7,000	\$ 7,000	<i>Secured</i>
NRCS EQIP funds~\$50,000 (10 projects @ \$5,000 each)	\$ 50,000	<i>Pending</i>
Other State \$ Being Applied to Project During Project Period:		
Invasive plant survey for lake (MNDNR)~\$4,000 (2 surveys-2011)	\$ 4,000	<i>Pending</i>
Rice County septic inventory (Clean Water Legacy funding) ~\$22,500 (150 parcel site inspections @ \$150 each, and creation of septic inventory database)	\$ 22,500	<i>Secured</i>
In-kind Services During Project Period:		
Eleven rain garden projects labor and maintenance ~\$7,850 (Private landowner)		
Twenty-one lake sampling collection events~\$1,250 (Shields Lake Association)		
Two shore land restoration projects labor~\$6,150 (Private Landowner)		
NRCS staff time (EQIP program management and installation)~\$8,400	\$ 23,650	<i>Pending</i>
Remaining \$ from Current ENRTF Appropriation (if applicable):	N/A	N/A
Funding History:	N/A	N/A

Shields Lake Subwatershed

in the Cannon River Watershed, Southeast Minnesota

CRWFGIS
Cannon River Watershed Partnership
Created 2010-04-08

- Shields Lake Subwatershed
- Inlet/Outlet Monitoring
- Lake Monitoring
- Lakes
- Wetlands
- River
- Perennial Stream
- Intermittent Stream



Project Manager Qualifications and Organization Description

Lucas Bistodeau is a well-qualified manager with over eight years of experience working in the environmental field in an academic, public, and private setting. Current and previous project experiences required supervision of various staff and contractors, independently conducting remediation activities, collaborate with private and public sectors of local, state and federal agencies on conservation projects, provided project and budget management, possess extensive knowledge of various environmental monitoring equipment and software programs, data logging skills for database entry, extensive experience in the groundwater and surface water collection, and analysis of biological/chemical data for various ecological projects. In addition to his project experience, Lucas has an undergraduate and a master's degree in Biology that provides the necessary educational background and skill set to make this project a success.

The Cannon River Watershed Partnership (CRWP) was incorporated in 1990 as a 501(c) non-profit as a result of interest in the watershed from concerned citizens, the Minnesota Chapter of the Nature Conservancy, the Minnesota Department of Natural Resources, Board of Water and Soil Resources, and the Minnesota Pollution Control Agency. The organization's mission has been to engage people in protecting and improving the water quality and natural systems of the Cannon River watershed. Over the last 20 years, our work has ranged from educational outreach efforts, public policy development, conservation projects, water quality monitoring, work with agricultural producers on conservation tillage initiatives, implementation of small community wastewater facilitation upgrades, and urban storm water monitoring. CRWP has had extensive interaction with our citizen stream and lake monitors for many years. Our volunteers have collected water quality data that resulted in many turbidity and excess nutrient impairment listings as part of the 303(d) list for 2006-2010. CRWP has worked well with many different federal, state, and local agencies on a diverse range of projects and water quality issues, most notably the Straight River Fecal Coliform TMDL, Byllesby Reservoir Phosphorus TMDL, Upper Cannon Assessment Project and the Lower Cannon Turbidity TMDL (approved by EPA in 2007). CRWP will continue to seek project funding with the overall goal to improve the watershed's water quality.