

**Environment and Natural Resources Trust Fund
2018 Request for Proposals (RFP)**

Project Title:

ENRTF ID: 094-B

ShellRock River Watershed Stormwater Quality Trading Pilot Program

Category: B. Water Resources

Total Project Budget: \$ 350,000

Proposed Project Time Period for the Funding Requested: 2 years, July 2018 to June 2020

Summary:

This project will develop and implement a model stormwater water quality credit trading framework. The purpose is to provide voluntary, cost effective, pollutant reductions on a watershed scale.

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Sponsoring Organization: Shell Rock River Watershed District

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Location

Region: Southeast

County Name: Freeborn

City / Township: Albert Lea

Alternate Text for Visual:

The attached visual aid is an exhibit showing the intended credit trading process and proposal.

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

PROJECT TITLE: Shell Rock River Watershed Stormwater Quality Trading Pilot Program

I. PROJECT STATEMENT

The Stormwater Water Quality Trading Pilot Program (the “Program”) for the Shell Rock River Watershed District will develop and implement the state’s first water quality credit trading program for stormwater. Water quality trading is an innovative, voluntary, and cost effective methodology that can accelerate pollution reduction.

This Program is a collaborative effort between the watershed district, the City of Albert Lea, and the Minnesota Pollution Control Agency. Stormwater credit trading begins when an upstream landowner, or discharger, reduces pollution or nutrients below levels that are required by law. Reductions are then measured by third-party scientists and translated into “credits” that are sold to a credit bank. Downstream towns or cities—in this case, Albert Lea—would then purchase those credits in lieu of multi-million dollar stormwater system retrofits.

Currently, nutrient reductions completed by the watershed district are not counted towards the stormwater (MS-4) nutrient reduction goals of the City of Albert Lea. This Program seeks to remedy that. While the MPCA has done nutrient trading in a single permit/single point source setting, it has not been translated into the multi-point stormwater context. This Program will deploy a multi-disciplinary working group to develop the science and infrastructure necessary for success.

The Shell Rock River Watershed District has 15 years of projects and research conducted by the community that will be used to develop and test the necessary science and ratios for project success. This credit trading Program will lay the groundwork for implementing a state-wide voluntary program for watersheds and communities.

There are 3 overall goals of the pilot Program:

1. Create a transferable trading framework that incorporates eligibility and transaction protocols when working with a credit trading program. In doing so, this pilot Program will provide a roadmap to incorporate market factors into pollution reduction goals.
2. Test numerous factors involved in water quality trading to verify and adjust the Program to provide equal or greater reductions in pollution than conventional methods.
3. Provide voluntary opportunities for accelerated implementation for both point and non-point loading reductions.

This Program meets three of the seven 2018 LCCMR funding priorities. First, it builds on an existing system of natural resource data and information. It would also produce a foundational document for water quality trading in Minnesota. Second, the watershed district would improve the water resources of the communities within the watershed by reducing pollution and nutrients. Finally, this Program uses innovative, scientific methods to protect and restore our water through a well-established coalition of the city, watershed district, and landowners.

II. PROJECT ACTIVITIES AND OUTCOMES

Activity 1: Identify and Establish Baselines

Budget: \$75,000

The primary transferable outcome of this step will be to create a voluntary working template that can be used on a case by case basis in other Minnesota communities.

To become a seller, an upstream discharger must control its pollutant discharge beyond its current obligations. The Program would identify credit generation, or seller, opportunities and baselines from landowners, in-lake and stream management programs

and other opportunities by inventorying existing drainage infrastructure.

Outcome	Completion Date
1. <i>Identify and Catalogue Municipal Pollutant Loading</i>	<i>March 1, 2019</i>
2. <i>Establish Eligibility Conditions for Credit Generators</i>	<i>July 1, 2019</i>
3. <i>Establish Baseline Conditions for Credit Buyers</i>	<i>August 1, 2019</i>

Activity 2: *Establish Trade Ratios and Trade Mechanics*

Budget: \$200,000

The primary outcome of this step will be to select appropriate scientific models to estimate load reductions from Best Management Practices (BMPs). A trading ratio is the mechanism to place value on pollution reductions. For non-point sources, measuring pollution reduction for BMPs is site-specific. The Program will focus primarily on phosphorous reduction, although such a program can provide many ancillary benefits by reducing other pollutant parameters.

Outcome	Completion Date
1. <i>Develop Trade Ratios</i>	<i>Jan. 1, 2020</i>
2. <i>Establish Trade Mechanics</i>	<i>February 1, 2020</i>

Activity 3: *Stakeholder Review and Final Report*

Budget: \$75,000

Identified Stakeholders will be included to perform review and input on the Program. A final report will be prepared for possible state-wide implementation.

Outcome	Completion Date
1. <i>Stakeholder Review</i>	<i>May 1, 2020</i>
2. <i>Final Report</i>	<i>July 1, 2020</i>

III. PROJECT STRATEGY

A. Project Team/Partners

Multiple organizations will interface to complete this Program:

1. Shell Rock River Watershed District.
2. Minnesota Pollution Control Agency
3. City of Albert Lea
4. Other Agency Partners, eg. Minnesota Department of Agriculture and the University of Minnesota.

B. Project Impact and Long-Term Strategy

The long-term impact of this Program is to develop and implement a model stormwater quality credit trading framework to provide a voluntary, cost effective way to reduce pollution in watersheds across the state of Minnesota.

C. Timeline Requirements

This project is self-contained and will take up to 2 years to complete.

2018 Detailed Project Budget

Project Title: *Shell Rock River Watershed Stormwater Quality Trading Pilot Program*

IV. TOTAL ENRTF REQUEST BUDGET: 2 years

<u>BUDGET ITEM</u>	<u>AMOUNT</u>
Activity 1: Identify and Establish Baselines	\$ 75,000
Personnel	
Courtney Christensen; Resource Technician; Project Manager	\$ 5,000
Andy Henschel; Director of Field Operations	\$ 3,500
Steven Jahnke; Albert Lea Director of Public Works; Engineer	\$ 3,500
MPCA Personnel	\$ 5,000
Professional/Technical/Service Contracts:	
National Trading Consultant(s) (contractor to be determined)	\$ 30,000
Engineering/Ground Support Consultant(s) (contractor to be determined)	\$ 23,000
Upstream Discharger Outreach (contractor to be determined)	\$ 5,000
Activity 2: Establish Trade Ratios and Trade Mechanics	\$ 200,000
Personnel	
Courtney Christensen; Resource Technician; Project Manager	\$ 10,000
Andy Henschel; Director of Field Operations	\$ 3,000
Steven Jahnke; Albert Lea Director of Public Works; Engineer	\$ 2,000
MPCA Personnel	\$ 50,000
Professional/Technical/Service Contracts:	
National Trading Consultant(s) (contractor to be determined)	\$ 100,000
Engineering/Ground Support Consultant(s) (contractor to be determined)	\$ 30,000
Agency Outreach (contractor to be determined)	\$ 5,000
Activity 3: Stakeholder Review and Final Report	\$ 75,000
Personnel	
Courtney Christensen; Resource Technician; Project Manager	\$ 3,000
Andy Henschel; Director of Field Operations	\$ 2,000
Steven Jahnke; Albert Lea Director of Public Works; Engineer	\$ 2,000
MPCA Personnel	\$ 10,000
Professional/Technical/Service Contracts:	
National Trading Consultant(s) (contractor to be determined)	\$ 25,000
Engineering/Ground Support Consultant(s) (contractor to be determined)	\$ 25,000
Stakeholder Outreach (contractor to be determined)	\$ 8,000
TOTAL ENVIRONMENT AND NATURAL RESOURCES TRUST FUND REQUEST =	\$ 350,000

V. OTHER FUNDS

<u>SOURCE OF FUNDS</u>	<u>AMOUNT</u>	<u>Status</u>
Other Non-State \$ To Be Applied To Project During Project Period:	NA	
Other State \$ To Be Applied To Project During Project Period:	NA	
In-kind Services To Be Applied To Project During Project Period:	NA	
Past and Current ENRTF Appropriation:	N/A	
Other Funding History:	NA	

STORM WATER-WATER QUALITY TRADING PILOT PROGRAM

SHELL ROCK RIVER WATERSHED

• Project Proposal:

The Storm Water-Water Quality Trading program (SW-WQT) for the Shell Rock River Watershed District will develop and implement a model framework for use throughout the state. Water quality trading is a flexible, cost-effective compliance plan that can accelerate implementation and water quality improvements. The SW-WQT will establish a transferrable approach that could be used across Minnesota for sediment and nutrient trading.

• Why is the Program Needed?

At the most basic level, water quality trading introduces market forces into pollution reduction efforts. Implementing this program would encourage voluntary and cost-effective pollutant reductions by crop and livestock farmers, in-lake water management practices, and stream restoration projects. The SW-WQT would identify policy options for implementing a state-wide voluntary SW-WQT program for appropriate watersheds.

GOALS

- Create a transferable trading framework that incorporates eligibility and transaction protocols when working with a SW-WQT program. In doing so, this pilot program will provide a roadmap to incorporate market factors into pollution reduction goals.
- Test numerous factors involved in water quality trading to verify and adjust the program to provide equal or greater reductions in pollution than conventional methods.
- Obtain water quality improvements at lower costs compared to conventional treatment systems or retrofitting storm water conveyances in urban areas.
- Provide a compensable voluntary participation option for upstream projects.
- Provide a mechanism for voluntary compliance options for municipal MS-4 requirements.
- Provide voluntary opportunities for accelerated implementation for both point and non-point loading reductions.

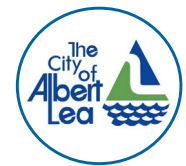
Project Funding & Recruitment

Project Implementation

Credit Calculation

Credit Registration

Credit Sale



Regulated entity evaluating compliance options for future requirements

Trading Program Administrator
Local restoration partner/administrator

Credit Generators
Local landowners & Livestock farmers
In-lake water management projects
Stream restoration projects

Credit Aggregator
Completed project/credit generation

Third-Party Credit Verifier
Verified, certified, and registered entity purchases credits

Credit Buyers
NPDES regulated entity purchases credits to comply

OUTCOMES

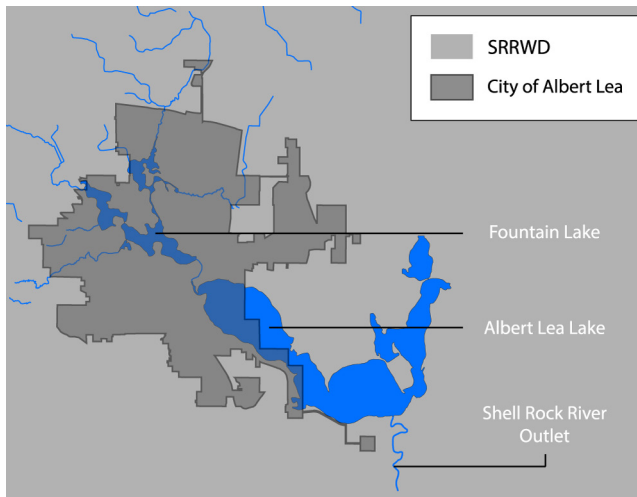
IDENTIFY AND ESTABLISH BASELINES

Eligibility Conditions for Credit Generators

To become a seller, a discharger must control its pollutant discharge beyond its current obligations (e.g., state or local rules, Total Maximum Daily Load requirements). The SW-WQT would identify credit generation opportunities and baselines for current obligations in the following areas: crop farmers, livestock farmers, and in-lake and stream management programs to name a few. This exercise would include inventory and integration of existing regulatory requirements, including Minnesota's New Buffer Law.

Baseline Conditions for Credit Buyers

The SW-WQT Team would work directly with local municipalities to review and inventory their existing drainage infrastructure. Each catchment or flow pathway to lakes and streams will be identified and catalogued to describe pollutant loading under existing conditions. The primary transferable outcome of this step will be to create a voluntary working template that other Minnesota communities can use in their unique circumstances.



DEVELOPING TRADE RATIOS

A trading ratio is used to either discount or normalize the value of pollutant credits to ensure equal or greater reductions are achieved. For non-point sources, measuring pollution reduction for a best management practice (BMP) is site-specific. The SW-WQT will select appropriate scientific models to estimate load reductions from BMPs. The SW-WQT will focus primarily on phosphorous reduction, although such a program can provide many ancillary benefits by reducing other pollutant parameters.

The trade ratio is an additive mix of factors that can address many possible components that alter the actual downstream impact of the discharged pollutant. When applying trading to a new type of permitted discharge, like storm water, it is important to verify that an adequate trade ratio is being used so that an equal or greater reduction will take place when selecting trading as a compliance option. Factors to consider include:

- **Location Ratio** - This component adjusts the credit values to address vocational differences of biological, physical and chemical interaction that can reduce the amount of loading that is transported downstream.
- **Equivalency Ratio** - Phosphorus exists in different forms in the environment; the two main categories of phosphorus are soluble and forms associated with particulate matter. The equivalency ratio adjusts the credit value to address the buyer's discharge having a different ratio of soluble and particulate forms than the credit seller's discharge.
- **Uncertainty Ratio** - Trading programs apply a margin-of-safety to address any introduced errors and/or site variability associated when working with a credit estimation method.
- **Retirement Ratio** - By requiring the buyer to purchase more credits than necessary to address the discharge, the excess credits are put aside (retired) for the benefit of the water resource.

ESTABLISH CREDIT PRICE MECHANISM

Following creation of the SW-WQT framework, the program will analyze the feasibility of credit generation using recent or existing programs that have been completed within the SRRWD. These on the ground projects allow this pilot program to go beyond hypothetical to real world applications.

For more information, please contact:

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Also, visit ~~07/29/2017~~ www.shellrock.org

Project Manager: Courtney Christensen, Resource Technician, Shell Rock River Watershed District (SRRWD), Albert Lea, MN.

Courtney Christensen is the Resources Technician at the SRRWD. She has worked extensively in the natural resource management and research fields within the SRRWD. She has been involved in and led numerous stream, lake, and wetland habitat improvement projects. Courtney also has a close working relationship with the Freeborn Area Soil Health Team by sitting on the Outreach Committee.

Organizational Description: The Shell Rock River Watershed District (SRRWD) was established in June 2003 at the request of local citizen's petition for the purpose of improving water quality. The District encompasses 246-square miles located entirely within Freeborn County. The SRRWD is home to the cities Albert Lea, Hayward, Glenville, Twin Lakes, Manchester and the southern portion of Clarks Grove.

The watershed includes 11 shallow lakes, but its tourism and identity are focused on Fountain and Albert Lea Lake. This watershed drains to the Shell Rock River at the outlet of Albert Lea Lake, and is the headwaters for the Cedar, Upper Iowa, and ultimately the Mississippi River. Being a headwaters watershed, water quality is reflected by local practices. The SRRWD is collaborating with multiple agencies to improve water quality conditions within the watershed, as well as influencing downstream conditions.

