



Environment and Natural Resources Trust Fund (ENRTF) M.L. 2016 Work Plan

Date of Report: May 29, 2016
Date of Next Status Update Report: January 1, 2017
Date of Work Plan Approval: June 7, 2016
Project Completion Date: June 30, 2019

Does this submission include an amendment request? No

PROJECT TITLE: Integrated Targeted Watershed Planning Tools with Citizen Involvement

Project Manager: Kimberly Musser

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Location:

Regions: Southwest, Southeast

Counties within Le Sueur River Watershed:

Freeborn, Waseca, Steele, Faribault, Blue Earth

Total ENRTF Project Budget:

ENRTF Appropriation: \$169,000

Amount Spent: \$0

Balance: \$169,000

Legal Citation: M.L. 2016, Chp. 186, Sec. 2, Subd. 04v

Appropriation Language:

\$169,000 the second year is from the trust fund to the Board of Trustees of the Minnesota State Colleges and Universities system for the Water Resources Center at Minnesota State University, Mankato, to use geographic information system (GIS) prioritization and modeling tools to develop pollution reduction strategies in five priority subwatersheds in the Le Sueur River watershed and to promote implementation of the reduction strategies through citizen involvement and outreach. This appropriation is available until June 30, 2019, by which time the project must be completed and final products delivered.

I. PROJECT TITLE: Integrating Targeted Watershed Planning Tools with Citizen Involvement

II. PROJECT STATEMENT: 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 which affects 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*. Statewide, there is a need to better target pollution reduction in these high-loading agricultural watersheds. This project will clarify the most effective targeting tools, foster better coordination among public agencies, demonstrate targeted subwatershed conservation planning, and harness the energy of a citizen group to facilitate improvements in one of the most degraded watersheds in the state. National, state and local researchers have identified altered flow regime in the Le Sueur as a major stressor causing accelerated erosion in rivers and streams (Wilcock; MPCA *Watershed Restoration and Protection Strategy* [WRAPS]). These researchers and a locally-led citizen group, Le Sueur River Watershed Network (lesueurriver.org) concur that the solution lies in re-creating 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.

Many targeting tools are being developed and piloted in different locations across the state. This project will summarize conservation planning tools in a handbook that Local Government Units (LGUs) can use to determine what tool, or combination of tools, will help to more successfully target implementation. This is a logical next step to build upon and integrate data generated by MPCA’s WRAPS and Total Maximum Daily Load (TMDL) reports. We will work with the existing joint powers board, Greater Blue Earth River Basin Alliance (GBERBA), local partners and a citizen-led watershed group, Le Sueur River Watershed Network, to support better coordination and communication, and to target implementation in five priority subwatersheds in the Le Sueur River Watershed.

III. OVERALL PROJECT STATUS UPDATES:

Project Status as of December 1, 2016:

Project Status as of June 1, 2017:

Project Status as of December 1, 2017:

Project Status as of June 1, 2018

Project Status as of December 1, 2018

Overall Project Outcomes and Results:

IV. PROJECT ACTIVITIES AND OUTCOMES:

ACTIVITY 1: Evaluate, summarize and disseminate information about watershed prioritization and planning tools

Description:

Many targeted conservation planning tools are being released in the next year for use by local, regional, and state resource planners (i.e. NBMP and PBMP Calculators, Agricultural Conservation Planning Framework (ACPF), PTMApp, water storage calculators, etc.). Some local implementers in rural watersheds have indicated time and/or resource constraints to experimenting and incorporating these tools into their traditional implementation efforts.

WRC staff will inventory GIS toolsets, calculators, frameworks and watershed models to evaluate their features such as ease of use, pollutant load reductions they quantify, system requirements, intended use, among others. Since the watershed has been under study for several years, there are rich datasets available for vetting and targeting within the Le Sueur River Watershed. Additionally, many of the pollutant concerns found in the Le Sueur River Watershed are representative of other agricultural watersheds across the state.

The Le Sueur River Watershed has been widely studied and despite the rich history of implementation in the watershed is still identified as one of the state’s top contributors of sediment, nitrogen and phosphorus pollution. Feedback will be collected from users that have piloted the inventoried tools, as well as comments from the developers. This information will be synthesized in a summary booklet and disseminated to local government units (LGUs) and Soil and Water Conservation Districts (SWCDs), as well as regional and state resource planners. Topics would include an inventory of tools along with their intended use, necessary input data, technology requirements, and outputs. WRC staff will document user experiences and obtain feedback over the life of the project to produce a guide that clarifies the benefits and challenges of targeting tools. Findings will be shared at conferences, regional meetings, citizen meetings and one-on-one meetings with local implementers interested in learning more about options available to meet their watershed reduction goals.

Greater Blue Earth River Basin Alliance (GBERBA) was recently awarded a 2016 BWSR Clean Water Fund Accelerated Implementation Grant to perform terrain analysis in the Le Sueur River Watershed that will run simultaneously to this proposed LCCMR project. BWSR staff stated that they did not find any significant overlap in the two proposals and did not have a concern regarding supplanting of CWFs. We will work diligently to ensure that both projects align and inform one another as they progress. These projects have great potential to work synergistically to inform targeted subwatershed pollutant reduction strategies.

Summary Budget Information for Activity 1:	ENRTF Budget:	\$ 42,277
	Amount Spent:	\$ 0
	Balance:	\$ 42,277

Outcome	Completion Date
1. <i>Inventory available prioritization and planning tools developed for use in agricultural watersheds, including GIS toolsets, frameworks, calculators and watershed models.</i>	<i>June 2017</i>
2. <i>Compile data pertinent for running tools in study subwatersheds of the Le Sueur River Watershed.</i>	<i>June 2017</i>
3. <i>Evaluate available tools based on feedback from developers and pilot users around the state, as well as input provided during citizen meetings in study subwatersheds.</i>	<i>June 2018</i>
4. <i>Develop a summary booklet for use by resource planners to determine what toolset(s) will help work towards watershed reduction goals.</i>	<i>June 2018</i>
6. <i>Disseminate findings from evaluation of toolsets to LGUs, SWCDs, state agencies, and other regional resource planners.</i>	<i>June 2019</i>

Activity Status as of December 1, 2016:

Activity Status as of June 1, 2017:

Activity Status as of December 1, 2017:

Activity Status as of June 1, 2018:

Activity Status as of December 1, 2018:

Final Report Summary:

ACTIVITY 2: Engage citizens and local partners to develop targeted pollution reduction strategies in five (5) Le Sueur River Subwatersheds

Description:

WRC staff will work with citizens and local partners within five (5) priority subwatersheds to target and promote Best Management Practices (BMPs) that support pollution reduction strategies.

Within Each Subwatershed

Data Collection - Staff will collect, compile and analyze background and GIS data to explain historical, current conditions, impairments and modeled information in order to more clearly illustrate conservation opportunity areas based on citizen concerns.

GIS Mapping and Modeling – Staff will collect, compile, and disseminate GIS, resource and water quality data about each subwatershed. Using the latest GIS modeling tools and calculators, we will identify conservation opportunity areas across the subwatershed. Using tools like the ACPF, staff and local partners will create modeled conservation planning scenario maps.

Citizen Engagement and Outreach – Staff will share data with citizens and local partners and learn together about water quality conditions and conservation measures that reduce flow, sediment, nitrogen, phosphorus, and bacteria concentrations. Through a series of interconnected small and large group meetings, field days, and one-on-one meetings, the Le Sueur River Watershed Network (Network) citizens and local staff will develop pollution reduction strategies within each subwatershed. We will use targeted GIS maps to better understand where opportunity areas are for particular practices and learn which conservation practices might be of more interest to local landowners (e.g. conservation tillage, cover crops, water and sediment control basins, restored wetlands, grassed waterways, nutrient management).

Develop Subwatershed Priorities and Strategies – Staff, local partners and citizens will work together to develop subwatershed priorities and strategies. Citizens and local partners will identify implementation opportunities and assist local partners in prioritizing efforts and crafting a shovel ready list of BMPs within these subwatersheds. Le Sueur River Watershed Network leaders will reach out to neighbors to increase peer-to-peer networking and help support and implement targeted pollution reduction strategies.

Phase 1 Subwatersheds – During year one, we will start working with three (3) subwatersheds within the Le Sueur River Watershed – Bull Run, New Richland, and Freeborn Lake. These subwatersheds have been identified as priority areas for pollutant reductions by MPCA studies (e.g. Le Sueur River WRAPs), local government partners, and have some existing citizen interest and inertia for working together to solve water quality problems.

Bull Run Creek Subwatershed – We will partner with Waseca County and Waseca SWCD to address flooding and pollutant load issues in the Bull Run Creek Subwatershed (27,072 acres). Motivated citizens in the Le Sueur River Watershed Network have connections throughout this subwatershed and plan on networking with their watershed neighbors to support targeting projects and practices that will help to solve flooding and other water quality problems across the subwatershed.

New Richland Subwatershed – We will partner with Waseca County, Waseca SWCD and the City of New Richland to address flooding issues in the New Richland Subwatershed (32,002 acres). We plan on working together to

identify potential practices and projects to promote more water storage that will aid in reducing flooding.

Freeborn Lake Subwatershed - We will partner with Freeborn County SWCD and the Minnesota DNR on water quality improvement planning in the Freeborn Lake Subwatershed (25,167 acres). Minnesota DNR is currently working with a network of citizens to develop the *Freeborn Lake Enhancement Plan* to improve water quality and fish and wildlife habitat. We will work together to help identify, target and implement projects and practices that will help improve water quality across the subwatershed.

Phase 2 Subwatersheds – Half way through the project (mid year 2), we will start working in two (2) additional subwatersheds yet to be determined. There are many subwatersheds across the Le Sueur River watershed that have been identified as water quality priorities in the WRAPS report (August 2015). Staff will continue to network with all the counties in the Le Sueur River watershed and define two other subwatersheds to focus efforts. We want to have some flexibility to focus on priority subwatersheds that emerge from new watershed modeling efforts, local government priorities, and citizen initiatives.

Summary Budget Information for Activity 2:

ENRTF Budget: \$ 126,723
Amount Spent: \$ 0
Balance: \$ 126,723

Outcome	Completion Date
1. GIS and background data for 5 subwatersheds are collected, compiled and analyzed.	June 2018 (First 3 subwatersheds) June 2019 (Later 2 subwatersheds)
2. Outreach materials for five (5) subwatersheds are developed (e.g. subwatershed resource profiles developed and targeted conservation opportunity areas identified).	June 2018 (First 3 subwatersheds) June 2019 (Later 2 subwatersheds)
3. Modeled conservation planning scenario maps for five (5) subwatersheds using the latest modeling tools (including targeted conservation opportunity areas for BMPs).	May 2019
4. Host subwatershed meetings to explain background issues, describe benefits of targeting and facilitate conversations that clarify goals and conservation opportunities among local staff and landowners: (2 per each of 5 subwatersheds = 10 meetings=300 people)	June 2019
5. Citizens, local and state partners work together to create pollution reduction strategies in each subwatershed. Citizens and local partners network with subwatershed neighbors to identify implementation opportunities and develop BMP implementation strategies (e.g. shovel-ready list of BMPs) (1 meeting per each of 5 subwatersheds = 5 meetings= 100 people)	May 2019
6. Host Le Sueur River Watershed meetings to explain background issues, describe benefits of targeting and facilitate conversations that clarify goals and conservation opportunities among local staff and landowners and promote implementation strategies through citizen involvement and outreach. - Le Sueur River watershed-wide (3 per year = 9 meetings; ~700 people) - Selected GIS modeling results are ground-truthed with local partners (10 trips per year = 30 trips) - Field days in each of the subwatersheds to demonstrate targeted conservation planning and examples of effective BMPs in agricultural watersheds (6 field days; ~600 people)	June 2019
7. Share results regionally (LGUs and GBERBA) and statewide at conferences, meetings and workshops.	June 2019

Activity Status as of December 1, 2016:

Activity Status as of June 1, 2017:

Activity Status as of December 1, 2017:

Activity Status as of June 1, 2018:

Activity Status as of December 1, 2018:

Final Report Summary:

V. DISSEMINATION:

Data gathered during this project will be disseminated over three years to watershed residents, regional partners and other interested parties through a series of interconnected one-on-one and group meetings. Outreach materials will include presentations, subwatershed reports and summary materials, maps, and website updates.

Le Sueur River Watershed – A primary audience for the information generated in this project will be residents within the Le Sueur River Watershed and the focused subwatersheds in particular. A broader audience will be reached online by regularly updating the Le Sueur River Watershed Network website (<http://lesueurriver.org/>). Information will be shared at Le Sueur River Watershed Network Meetings, Steering Team meetings, and in other local government and citizen meetings.

Regionally – Results will be shared regionally with county and SWCD staff across southern Minnesota. We will be working with partners in the Greater Blue Earth River Basin Alliance (GBERBA) and will share information at their technical and/or policy meetings. Throughout the project, we will work with the regional GIS User group as well as posting events and information on the Minnesota River Weekly Update.

Minnesota River Basin – Information about the project will be disseminated to partners across the 37-county Minnesota River Basin via a variety of organizations such as the Minnesota River Congress, Minnesota River Alliance, Friends of the Minnesota Valley, CCMR, Lake Pepin Legacy Alliance, MPCA Watershed Network, Southwestern/Southeastern Civic Engagement Cohorts and others.

Statewide – Project information and datasets will be shared statewide at conferences, meetings and workshops where possible (e.g Minnesota Water Resources Conference, GIS/LIS conference). We will also network, share findings, and learn from other watershed groups at other state and national meetings when possible.

Description:

Status as of December 1, 2016:

Status as of June 1, 2017:

Status as of December 1, 2017:

Status as of June 1, 2018:

Status as of December 1, 2018:

Final Report Summary:

VI. PROJECT BUDGET SUMMARY:

A. ENRTF Budget Overview:

Budget Category	\$ Amount	Overview Explanation
<p>Personnel: (Wages and Benefits) Director/Interim Director: \$36,000 (87% Salary and 13% Fringe); 27.5% FTE for years 1 and 2 with 11% FTE for 3rd year.</p> <p>Project Manager: \$93,277 (61% Salary and 39% Fringe); 53% FTE each year for 3 years.</p> <p>GIS Specialist: \$20,550 (64% salary and 36% Fringe); 17% FTE each year for 2 years.</p> <p>Student Intern (academic year): \$7,056 (100% Salary and 0% Fringe); 45.5% FTE each of the 2 academic years.</p>	\$ 156,883.00	<p>Planning, coordination, reporting, administration, and educational outreach</p> <p>Watershed analysis and civic engagement</p> <p>GIS Watershed Analysis and Modeling</p> <p>Student Intern (during academic year)</p>
Professional/Technical/Service Contracts:	0	
<p>Equipment/Tools/Supplies: Education and Outreach 9 Watershed meetings: room rentals @100= \$900; advertising-postage/printing and mailing (150/meeting=\$1,350);</p> <p>15 Subwatershed meetings supplies \$4,050- to be used for postage, mailing, advertising, room rental and refreshments</p>	\$ 6,300	<p>9 Watershed (Large group) meetings (3/year) 15 Subwatershed meetings</p>
Capital Expenditures over \$5,000:	\$0	
Fee Title Acquisition:	\$0	
Easement Acquisition:	\$0	
Professional Services for Acquisition:	\$0	
<p>Printing: GIS and Subwatershed and informational booklets; meeting materials</p>	\$ 2,242	Printing meeting materials and informational booklets
<p>Travel Expenses in MN: Meetings with Citizen and Local Resource Managers: 40 trips @ \$55 each (MSU vehicle rental)</p> <p>Field Verification of GIS: 10 trips @ \$55 each (MSU vehicle rental)</p>	\$ 3,575	State vehicle used for meetings with citizen and local resource managers as well as field days

Meetings and Field Days: 15 trips @ 55 each (MSU vehicle rental)		
Other:	\$0	
TOTAL ENRTF BUDGET:		\$169,000.00

Explanation of Use of Classified Staff:

Explanation of Capital Expenditures Greater Than \$5,000: N/A

Number of Full-time Equivalents (FTE) Directly Funded with this ENRTF Appropriation:

	FTE	FTE	FTE
	1st yr	2nd yr	3rd yr
Director	0.275	0.275	0.11
Project Manager	0.53	0.53	0.53
GIS Specialist	0.176	0.176	0.176
Student Intern	0	0.455	0.455
	<u>0.981</u>	<u>1.436</u>	<u>1.271</u>

Number of Full-time Equivalents (FTE) Estimated to Be Funded through Contracts with this ENRTF Appropriation:

B. Other Funds:

Source of Funds	\$ Amount Proposed	\$ Amount Spent	Use of Other Funds
Non-state			
Le Sueur River Watershed Targeted Conservation Practices	\$ 35,696	\$	Secured
Linking Water Storage Calculators	\$10,000	\$	Secured
State			
MSU Administration - Grant administration and other resources	\$6,000	\$	Secured
Local, state and federal staff time and Le Sueur River Watershed Network and citizen steering committee	\$ TBD	\$	TBD
TOTAL OTHER FUNDS:	\$51,696	\$	

VII. PROJECT STRATEGY:

A. Project 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);
 Greater Blue Earth River Basin Alliance (Joint Powers Board of 11 counties in the Le Sueur, Blue Earth and Watonwan River watersheds); Freeborn County/SWCD, Waseca County, Steele County/SWCD, Faribault County/SWCD, Blue Earth SWCD.

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 aim is to reduce the number and types of impairments and to improve water quality. Clarifying the many targeting tools available and creating a framework for using them will help local watershed professionals (e.g. watershed organizations, counties, soil and water conservation districts, etc.) better understand the tools and target their efforts. Citizens will have a clearer idea what conservation opportunities are within their subwatershed and which are the most effective and cost-efficient BMPs. This local consultative process with landowners based on targeted opportunity areas is a promising route to achieve pollutant reduction goals identified in the *Le Sueur River Watershed Restoration and Protection Strategy*.

C. Funding History:

Funding Source and Use of Funds	Funding Timeframe	\$ Amount
MPCA – Le Sueur River Watershed Civic Engagement, cash	June 27, 2011-September 30, 2013	\$ 137,787.00
McKnight Foundation, cash	December 12, 2013-December 31, 2014	\$ 25,000.00
MPCA GreenCorps Program, in-kind service, 1 FTE	FY 2014-2015	
Le Sueur River Watershed Targeted Conservation Practices	November 8, 2013 – August 31, 2016	\$ 82,491.00

VIII. FEE TITLE ACQUISITION/CONSERVATION EASEMENT/RESTORATION REQUIREMENTS:

A. Parcel List: N/A

B. Acquisition/Restoration Information: N/A

IX. VISUAL COMPONENT or MAP(S):

X. RESEARCH ADDENDUM:

XI. REPORTING REQUIREMENTS:

Periodic work plan status update reports will be submitted no later than December 1st and June 1st of each year of the three year project.

Specific dates include:

- December 1, 2016
- June 1, 2017
- December 1, 2017
- June 1, 2018
- December 1, 2018

A final report and associated products will be submitted between June 30 and August 15, 2019.

Environment and Natural Resources Trust Fund

M.L. 2016 Project Budget

Project Title: Integrated Targeted Watershed Planning Tools with Citizen Involvement

Legal Citation: M.L. 2016, Chp. 186, Sec. 2, Subd. 04v

Project Manager: Kimberly Musser

Organization: Water Resources Center Minnesota State University, Mankato

M.L. 2016 ENRTF Appropriation: \$169,000

Project Length and Completion Date: 3 years, June 30, 2019

Date of Report: May 29, 2016



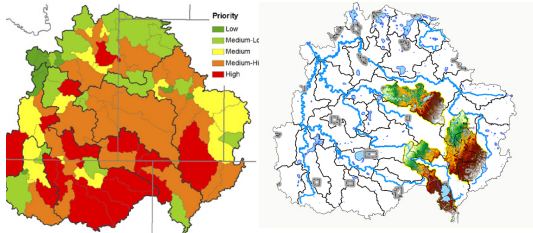
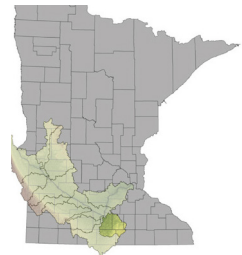
ENVIRONMENT AND NATURAL RESOURCES TRUST FUND BUDGET	Activity 1 Budget	Amount Spent	Activity 1 Balance	Activity 2 Budget	Amount Spent	Activity 2 Balance	TOTAL BUDGET	TOTAL BALANCE
BUDGET ITEM	PRIORITIZATION TOOLS			POLLUTION REDUCTION STRATEGIES				
Personnel (Wages and Benefits)	40,577.00	-	40,577.00	116,306.00		116,306.00	156,883.00	156,883.00
<i>Director/Interim Director: \$36,000 (87% Salary and 13% Fringe); 27.5% FTE for years 1 and 2 with 11% FTE for 3rd year.</i>								-
<i>Project Manager: \$93,277 (61% Salary and 39% Fringe); 53% FTE each year for 3 years</i>								-
<i>GIS Specialist: \$20,550 (64% salary and 36% Fringe); 17% FTE each year for 2 years</i>								-
<i>Student Intern (academic year): \$7,056 (100% Salary and 0% Fringe); 45.5% FTE each of the 2 academic years</i>	-							-
Equipment/Tools/Supplies	450.00		450.00	5,850.00		5,850.00	6,300.00	6,300.00
Room Rental for Large Group Meetings -9 meetings@ 3/yr @100 ea								-
Advertisement - Large Group Meeting mailings: 150/meeting, 3 meetings/year = 9 meetings								-
Subwatershed Meeting Supplies - 15 Subwatersheds 15 subwatershed meeting supplies to include postage, mailing, advertising, room rental and refreshments								-
Printing	700.00		700.00	1,542.00		1,542.00	2,242.00	2,242.00
<i>GIS and SubWatershed Booklets</i>								-
<i>Meeting materials</i>								-
Travel expenses in Minnesota	550.00		550.00	3,025.00		3,025.00	3,575.00	3,575.00
<i>Meetings with Citizen and Local Resource Managers: 40 trips @ \$55 each (MSU vehicle rental)</i>								-
<i>Field Verification of GIS: 10 trips @ \$55 each (MSU vehicle rental)</i>								-
<i>Meetings and Field Days: 15 trips @ 55 each (MSU vehicle rental)</i>								-
COLUMN TOTAL	42,277.00			126,723.00			169,000.00	169,000.00

Integrating Targeted Watershed Planning Tools with Citizen Involvement

LCCMR ID: 083-B

Kimberly Musser

Water Resources Center Minnesota State University, Mankato



Identify Priority Subwatersheds

The first step will be to work with state and local partners and citizens to prioritize five (5) subwatersheds in the Le Sueur River Watershed.

Learn from GIS Mapping and Modeling Targeting Tools

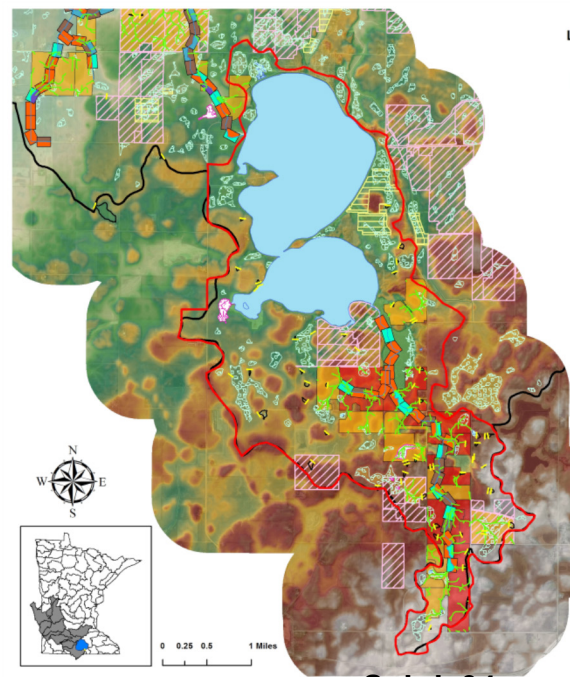
Many targeted conservation planning models and calculators have recently been released or are anticipated to be available in the next year. Our aim is to research, summarize and disseminate information about these prioritization tools to determine which tools or combination of tools might be helpful to use to address pollution problems in each subwatershed.

Develop targeted pollution reduction strategies in five Subwatersheds

Using the latest modeling tools and civic engagement techniques we plan to develop targeted pollution reduction strategies in five (5) priority subwatersheds. Through a series of interconnected small and large group meetings, field days, and one-on-one meetings, we will work together to craft pollution reduction strategies. These strategies will help clarify what BMPs, in what combination, and optimal locations for those BMPs in the subwatershed.

Community Based Outreach and Conservation Planning

The vision is to work with local partners and engage citizens within every stage of the process. We will use subwatershed data to explain historical, current conditions, impairments and modeled information that illustrates potential conservation opportunity areas. To promote implementation of practices and projects, the concept is to have Le Sueur River Network landowners reach out to watershed neighbors to increase peer-to-peer networking.



“To achieve the flow reduction goal for the Le Sueur River, which has a watershed area of over 700,000 acres, tens of thousands of acres of land will need to have new or different conservation practices put into place.” - Swimmable, Fishable, Fixable Report (MPCA, 2015)

