



Steering Committee Meeting: Sept. 22, 2021

AGENDA

1. Introductions
2. Administrative Updates
 - Memo related to work plan revisions - Craig
 - Project request form template - Emily
 - Updated flow chart – Barbara
 - Mobilize platform: <https://lower-st-croix-partnership.mobilize.io> – Angie
 - Financial update - Craig
3. Subcommittee Updates
 - **A1) Agronomy Outreach** – Jay
 - Position announcement: [Extension Educator - Agronomy and Water Resources](#)
 - Draft - scope of work and budget
 - **A2,4,5) Urban and Agricultural Projects** – Craig and Mike I
 - **A3) Watershed Education** – Angie and Barbara
 - Check-in on Policy Committee virtual project tour
 - **A6) Wetland Restoration** – Becky
 - **A7) Internal Analyses** – Susanna
 - **A8) Targeting and Prioritization Analyses** – Jay
 - Prioritization protocol update memo
 - Rock Lake SWA
 - Enhanced street sweeping program – Mike I
 - Catchment Connectivity and Pollutant Hotspot Evaluation Proposal
4. Progress Update – Emily
 - Cumulative progress toward water quality goals
5. Other discussion:
 - Application deadlines
 - Topics for future meetings?

TO: LSC Watershed Partnership Steering Committee (and ultimately Policy Committee)

FROM: LSC Watershed Partnership Planning Team

RE: LSC WBIF Grant Agreement Amendments and Work Plan Revisions

ATCH: Current LSC 1W1P Watershed Implementation Funding eLink work plan

Our current LSC Watershed Partnership Watershed Based Implementation Funding (WBIF) work plan was recommended for approval by the Policy Committee on January 25, 2021, was approved by at least 2/3 of the governing boards of the JPA in February and March, and the final WBIF work plan activities was approved by the Policy Committee on March 22. The BWSR WBIF Lower St. Croix Watershed Partners \$1,264,531 grant agreement was approved on March 31, 2021 between the BWSR and the Chisago SWCD (fiscal agent).

Per the BWSR Grants Administration Manual (GAM) the terms of a grant agreement may be adjusted under certain circumstances. Depending on the scope, adjustments can be made based on work plan revision or grant agreement amendment. Limited adjustments to the work plan budget may be made at grantee discretion, depending upon the scope of change requested. All work plan revisions and grant agreement amendments must be finalized prior to the expiration of the grant agreement. Table 1 below is from the BWSR GAM.

TABLE 1. Work Plan Budget Adjustments				
Action	Grants <\$50,000	Grants \$50,000 to \$500,000	Grants >\$500,000	Approval/Documentation Needed
Grantee Discretion	≤\$5,000	≤10% of the grant amount	≤\$50,000	Document change in eLINK grant reporting
Work Plan Revision	>\$5,000	>10% of the grant amount	>\$50,000	BC approval
Grant Agreement Amendment	≥\$20,000	≥40% of the grant amount	≥\$200,000	Executed grant agreement amendment

Our current WBIF work plan has ten activities, all with an anticipated budget attached to them. As we implement the plan, we will have instances that we will need to complete a work plan budget adjustment to complete all the activities in the work plan.

Example, the Activity 2 Structural Ag BMP Implementation budget is \$160,000 and the Activity 5 Structural Urban BMP Implementation budget is \$200,000. Currently we have encumbered \$180,100 (\$20,100 over the budgeted amount) towards project implementation in Activity 2 and \$0 in Activity 5. Our goal is to internally combine the A2 and A5 budgets to \$360,000 and allow the subcommittee and steering committee the flexibility to recommend the best projects to the fiscal agent. In the end this would increase the A2 funding pool for Structural Ag BMP Implementation.

Requested Policy Committee Approval: Allow the LSC Watershed Partnership Planning Team to follow the BWSR GAM Guidelines and allow staff to approve work plan revisions under \$50,000 and combine A2 and A5 for a combined amount of \$360,000 for Structural Ag and Urban BMP Implementation (with the intent to increase to proportion of Ag activities). Any request for Workplan increases above \$50,000 would come to the Policy Committee for approval.

PROJECT REQUEST FORM
Lower St. Croix Partnership – Watershed Based Implementation Funding

To: [Activity #] Subcommittee, Steering Committee **Date:**
From: [Project Sponsor]
Subject: WBIF Project Request: [Project Name]

Table of Acronyms

CWMP: Comprehensive Watershed Management Plan	LSC: Lower St. Croix
SWCD: Soil & Water Conservation District	WD: Watershed District
WBIF: Watershed Based Implementation Funding	WMO: Watershed Management Organization

Eligible Project Sponsors

A sponsoring agency is required for each submitted project. The sponsor fills out this request. That agency must be a party to the Joint Powers Agreement for the implementation of the Lower St. Croix Comprehensive Watershed Management Plan. The sponsor, if the project is selected for funding, will enter into a subcontract with the Chisago Soil and Water Conservation District (SWCD) for project funding.

Description of Project (brief paragraph)

Benefitted Waterbody Information (add rows for additional waterbodies if necessary)

Target waterbody	
Waterbody area (acres)	
Watershed area (acres)	
DNR shoreline classification	
Description of the watershed and near-shore land uses	
Impairment status	
Protection or restoration	

Project Details

Project Name	
Project Sponsor	
Additional Project Partner(s) (other than sponsor)	
Project Location (lat/long, address, or description)	
DNR Level 8 Subwatershed	
Applicable WBIF Work Plan Activity	
Funding Specifically Allocated to this Project in Work Plan (if applicable)	
Estimated Construction Timeline	
Total Project Cost	
Estimated Lifetime Project Cost (incl. O&M)	
Requested Grant Funding	
Match provided, match source (cannot be state funds)	

PROJECT REQUEST FORM

Lower St. Croix Partnership – Watershed Based Implementation Funding

Target Waterbody (from CWMP Table 5-2, 5-3, 5-4)	
Est. Phosphorus Load Reduction @ Target Waterbody	
Est. TSS Load Reduction @ Target Waterbody	
Calculation Tool Used	
Project Lifespan	
Lifetime Cost-Benefit (\$/lb phosphorus removed)	

Pre-Project Identification

Total phosphorus load entering target waterbody	
Total suspended solids load entering target waterbody	
Major sources of nutrient loading	
P reduction required to achieve water quality goal	
Completed projects, load reduction	
Alternative projects, load reduction	

List of Informational Attachments/Templates Included With Form:

1. WBIF Project Request Process Flow Chart
2. CWMP Priority Waterbody Maps
3. CWMP Appendix C – Project Targeting Criteria and Scoring Matrix (for [Activities 2, 4, 5, 9](#))
4. Wetland Restoration Scoring Matrix (for [Activity 6](#))
5. Internal Analysis Request for Funding (for [Activity 7](#); filled out by applicant)
6. Internal Analysis Selection Criteria (for [Activity 7](#); filled out by subcommittee)
7. Targeting Analysis Scoring Matrix (for [Activity 8](#))

Required Attachments for Requesting Partner to Complete (check all that apply):

- Project Plans/Visual/Map (for all requests)
- Completed Appendix C Project Scoring Matrix (for [Activities 2, 4, 5, 9](#))
- Completed Wetland Restoration Scoring Matrix (for [Activity 6](#))
- Completed Internal Analysis Request for Funding (for [Activity 7](#))
- Completed Internal Analysis Selection Criteria (for [Activity 7](#))
- Completed Targeting Analysis Scoring Matrix (for [Activity 8](#))

WBIF Work Plan Activity Color Coding
Implementation - BMPs/Restoration Activities
Implementation - Shared Services
Prioritization & Analysis
Administration

Submit this form and attachments to Angie Hong at (ahong@mnwcd.org) one week prior to the Steering Committee meeting.

PROJECT REQUEST FORM
Lower St. Croix Partnership – Watershed Based Implementation Funding

Steering Committee Roll Call Vote

Steering Committee roll call vote to recommend [Project Sponsor] project for Lower St. Croix Watershed Based Implementation Funding in the amount of \$ _____ for the [Project Name].


Organization	Aye	Nay	Absent
Anoka SWCD			
Brown's Creek WD			
Carnelian Marine St Croix WD			
Chisago County			
Chisago Lakes LID			
Chisago SWCD			
Comfort Lake Forest Lake WD			
Isanti County			
Isanti SWCD			
Middle St. Croix WMO			
Pine County			
Pine SWCD			
South Washington WD			
Sunrise River JP WMO			
Valley Branch WD			
Washington CD			
Washington County			
TOTAL (need majority vote to pass)			

WBIF Project Request Process


 **Lower St. Croix Policy Committee approves the annual WBIF work plan and provides oversight for plan implementation.**

START
Partner has project/study in mind



Partner fills out Project Request Form and submits to applicable subcommittee (see back)


Applicable subcommittee reviews Project Request Form against established funding criteria and decides whether to recommend project/study to Steering Committee


If applicable subcommittee approves, Project Request Form must be submitted to Angie Hong at least 1 week in advance of next Steering Committee meeting*


Partner completes project/study, then fills out the Invoice Template, filling in all applicable fields and submits to Craig Mell.



Chisago SWCD Board approves project/study for funding. Craig notifies Partner once funding request is approved and works out a sub-agreement with the Partner.


Steering Committee discusses and votes on project. Craig Mell fills in voting table within Project Request Form and submits to the Chisago SWCD Board (Fiscal Agent) for approval at next regularly scheduled meeting.


*If applicable, partner board may need to outline BWSR-approved cost-share policies for project prior to steering committee vote.

FINISH
Craig Mell and Emily Heinz review completed Project Invoice and work with Partner to address any issues. Craig Mell processes reimbursement at Chisago SWCD's next regularly scheduled board meeting.




NOTE: if there is an emergency in regards to a project or proposed project, contact a LSC planning team member

WHO IS A 'PARTNER?'

Eligible entities/applicants are limited to the 16 local government unit (LGU) partners that signed on to the joint powers agreement for implementation of the Lower St. Croix Comprehensive Watershed Management Plan. Non-included entities/individuals can work with one of the 16 partners to submit an application.

LOWER ST. CROIX PARTNERS

- Chisago County
- Anoka SWCD
- Pine SWCD
- Comfort Lake-Forest Lake WD
- Sunrise River WMO
- Isanti County
- Chisago SWCD
- Brown's Creek WD
- Valley Branch WD
- Pine County
- Isanti SWCD
- Carnelian-Marine St. Croix WD
- South Washington WD
- Washington County
- Washington SWCD
- Middle St. Croix WMO

LOWER ST. CROIX SUBCOMMITTEE LEAD CONTACTS:

Activity 1: Basin Ag. Outreach Program Lead	Jay Riggs	jriggs@mnwcd.org
Activities 2, 4, 9: Structural and Non-Structural Ag BMP Implementation + Technical/Engineering Lead	Craig Mell	craig.mell@mn.nacdnet.net
Activity 3: Shared Services Educator Lead	Angie Hong	angie.hong@mnwcd.org
Activities, 4, 5, 9: Structural and Non-Structural Urban BMP Implementation + Technical/Engineering Lead	Mike Isensee	mike.isensee@cmscwd.org
Activity 6: Wetland Restoration Implementation Lead	Becky Wozney	becky.wozney@anokaswcd.org
Activity 7: Internal Analyses Lead	Susanna Wilson Witkowski	susanna.wilson@chisagocounty.us
Activity 8: Targeting Analyses Lead	Jay Riggs	jriggs@mnwcd.org

LOWER ST. CROIX PLANNING TEAM MEMBERS:

Jay Riggs	jriggs@mnwcd.org
Craig Mell	craig.mell@mn.nacdnet.net
Mike Isensee	mike.isensee@cmscwd.org
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Becky Wozney	becky.wozney@anokaswcd.org
Susanna Wilson Witkowski	susanna.wilson@chisagocounty.us
Emily Heinz	emily.heinz@clflwd.org
Angie Hong	angie.hong@mnwcd.org
Barbara Heitkamp	bheitkamp@mnwcd.org

RELEVANT LINKS:

Project Website: www.lsc1w1p.org
Project Request Form: TBA

PROJECT REQUEST FORM DEADLINES

Project request form and attachments must be submitted to Angie Hong at (ahong@mnwcd.org) one week prior to the Steering Committee meeting. Note that project requests must be discussed with the applicable subcommittee prior to submittal to the Steering Committee. Contact the subcommittee lead for a schedule of subcommittee meetings. The fiscal agent, Chisago SWCD, approves funding at one of its regular meetings on the second Tuesday of the month.

The WBIF grant expires December 31, 2023. The following table shows deadlines through the end of 2023.

<u>Project Request Deadline</u> <u>(1 week before Steering Committee Meeting)</u>	<u>Steering Committee Meetings</u> <u>(every 4th Wednesday of the month)</u>
October 20, 2021	October 27, 2021
November 17, 2021	November 24, 2021
December 15, 2021	December 22, 2021
January 19, 2022	January 26, 2022
February 16, 2022	February 23, 2022
March 16, 2022	March 23, 2022
April 20, 2022	April 27, 2022
May 18, 2022	May 25, 2022
June 15, 2022	June 22, 2022
July 20, 2022	July 27, 2022
August 17, 2022	August 24, 2022
September 21, 2022	September 28, 2022
October 19, 2022	October 26, 2022
November 16, 2022	November 23, 2022
December 21, 2022	December 28, 2022
January 18, 2023	January 25, 2023
February 15, 2023	February 22, 2023
March 15, 2023	March 22, 2023
April 19, 2023	April 26, 2023
May 17, 2023	May 24, 2023
June 21, 2023	June 28, 2023
July 19, 2023	July 26, 2023
August 16, 2023	August 23, 2023
September 20, 2023	September 27, 2023
October 18, 2023	October 25, 2023
November 15, 2023	November 22, 2023
December 20, 2023	December 27, 2023

University of Minnesota Extension

Title: Lower St. Croix Comprehensive Watershed Management Plan

PI: Joel Larson

Period: 11/1/21 – 10/31/23

1. Description

The goal of this agreement is to fund an Extension Educator position with the University of Minnesota who will work with agricultural landowners and occupiers within the Lower St. Croix Basin to adopt innovative farming and land management practices to improve water quality, enhance groundwater, expand habitat, and conserve soil resources. These activities will help achieve the goals of the Lower St. Croix Comprehensive Watershed Management Plan.

2. Two-year program goals¹

- a. Conduct outreach to 200 operators of large and small farms, with a cumulative total of at least 3000 acres.
- b. Provide technical support to help 20 farmers set up test plots on their land in order to evaluate the performance of practices such as cover crops, reduced tillage, and nutrient management.
- c. Host six fields days.
- d. Provide outreach support for installation or implementation of structural and nonstructural BMPs:
 - i. 2,000 acres of non-structural best management practices, or enough to achieve a 400 lb/yr phosphorus reduction to target water bodies
 - ii. 300 acres of structural or non-structural BMPs that improve soil health and/or reduce nitrogen and pesticide pollution to groundwater in locations where 1) DWSMA vulnerability is moderate, high, or very high; 2) Pollution sensitivity to wells is high or very high; 3) Pollution sensitivity to near surface materials is karst or high; or 4) Well testing show ≥ 5 mg/L nitrate
 - iii. 300 acres of structural or non-structural BMPs near sensitive lakes or in direct lake catchments for significant lakes to reduce TP by 150 lbs
 - iv. Structural or non-structural BMPs that reduce total phosphorus by 450 lbs/year to regionally significant rivers and streams
- e. Create at least one farmer-led council or similar learning network

3. Deliverables

In addition to the program goals described above, the University of Minnesota will prepare an annual report that summarizes the program activity, outputs, and any measured outcomes.

¹ From Lower St. Croix Comprehensive Watershed Management Plan, Table 5-1, Part A. Available at <https://www.lsc1w1p.org/the-plan>. Goals may be revised.

4. Organizational Responsibilities

- a. The University will hire an Extension educator who will leverage the expertise of the University and Lower St. Croix partners to implement the education and outreach components of the Lower St. Croix Comprehensive Watershed Management Plan.
University will be responsible for providing salary & fringe benefits for the positions, enhanced programming from regional extension educator staff, program supervision, travel (mileage, meals, and lodging), in-service training within program area, payroll, and accounting services.
- b. The University will complete an annual performance evaluation of the educator, based on programmatic and individual work plans. The funder will have the option to provide input to University on such evaluation. The University in accordance with University personnel guidelines will determine salary adjustment of each University Extension employee.
- c. For the initial hire and as vacancies occur (e.g. retirement, resignation), the University will hire new personnel with involvement and concurrence of the funder.
- d. The funder agrees to provide local support in the form of support staff, office space, office furnishings, telephone, computer, software, internet service, storage space, and general office supplies. The University will recommend support staff responsibilities, technology needs and other office standards. Nevertheless, the level of availability and type of local support will be determined by the funder as established in the annual budget.

5. University Costs for two year project period 11/1/21 – 10/31/23

Cost category	Amount	Notes
Salary	\$132,722	Will pay for 100% effort of a to be hired Extension Educator
Fringe Benefits	\$44,462	Current UMN fringe rate of 33.5%
Travel	\$12,000	For travel expenses for TBH Extension Educator to travel across the state, charged at the GSA per diem and mileage rate
Professional Development	\$4,000	To allow the educator to attend professional development activities
Supplies	\$2,000	To pay for supplies and printing as needed for educational programming
Supervisory Time	\$8,997	Pays a portion of the supervisor's salary to account for time spent working with the educator
Total	\$204,181	

Prepared by: Joel Larson, Associate Director and Program Leader, Extension Water Team
(jplarson@umn.edu)



MEMORANDUM

TO: 1W1P Steering Committee
FROM: A8 Targeting and Prioritization Subcommittee
DATE: 9/10/2021
RE: **Prioritization Protocol Update - Allocation Request**

At the direction of the 1W1P Steering Committee, the Targeting and Prioritization Subcommittee was tasked with developing a proposal to update both the Prioritization Protocols to include multiple prioritization options including targeted monitoring and Urban and Rural Subwatershed Prioritization (SWA) Protocols. The committee came to the conclusion that the Rural SWA Protocol is more of a 'how-to' instruction manual, while the Urban SWA protocol is more of a framework containing guidelines for what deliverables to include in a typical report. Ideally, both protocols would be in a 'how-to' format to help new users navigate the SWA process with more ease and clarity, but there are many more modeling options for the Urban Protocol and the group did not want to limit users to one particular model. Guides to multiple urban model options will be referenced in the report. The subcommittee recognizes that the amount of \$5,000 listed in the 1W1P A8 workplan is less than the requested amount of \$6,000. But, upon further evaluation of immediate needs in this proposal, integrating additional information about targeted monitoring of wetlands is critical to include in the Prioritization Protocol update.

REVISED INTRODUCTION TO PRIORITIZATION PROTOCOLS:

Responsible Party: WCD/Team

1. **Tasks:**
 - a. Update introduction to PP to include discussion of alternative prioritization approaches.
 - b. Include decision-making factors for determining appropriate PP considering landscape and project(s) goals.
2. **Budget:** \$0 (local match)

TARGETED MONITORING PROTOCOLS:

Responsible Party: CLFLWD

1. **Tasks:**
 - a. Add targeted monitoring protocols for prioritization.
 - b. Discuss short and long-term monitoring options.
 - c. Provide equipment and procedure options.
2. **Budget:** \$1,000 (approx. 10 hours)

RURAL SWA PROTOCOL UPDATE:

Responsible Party: Chisago SWCD

1. **Tasks:**
 - a. Update language for modeling and ranking non-structural BMPs
 - b. Incorporate protocol for modelling shoreline, gully/stream erosion
 - c. Add Historic Aerial inspection protocol to determine potential legacy loads in wetlands
 - i. targeted diagnostic monitoring as one outcome, wetland restoration as another
 - d. Update general language for accuracy and relevance, based on past SWA experience
 - e. Add appendix with spreadsheet matrix connecting methodologies and tools to specific pollution reduction strategies.
2. **Budget:** \$3,000 (approx. 40 hours)

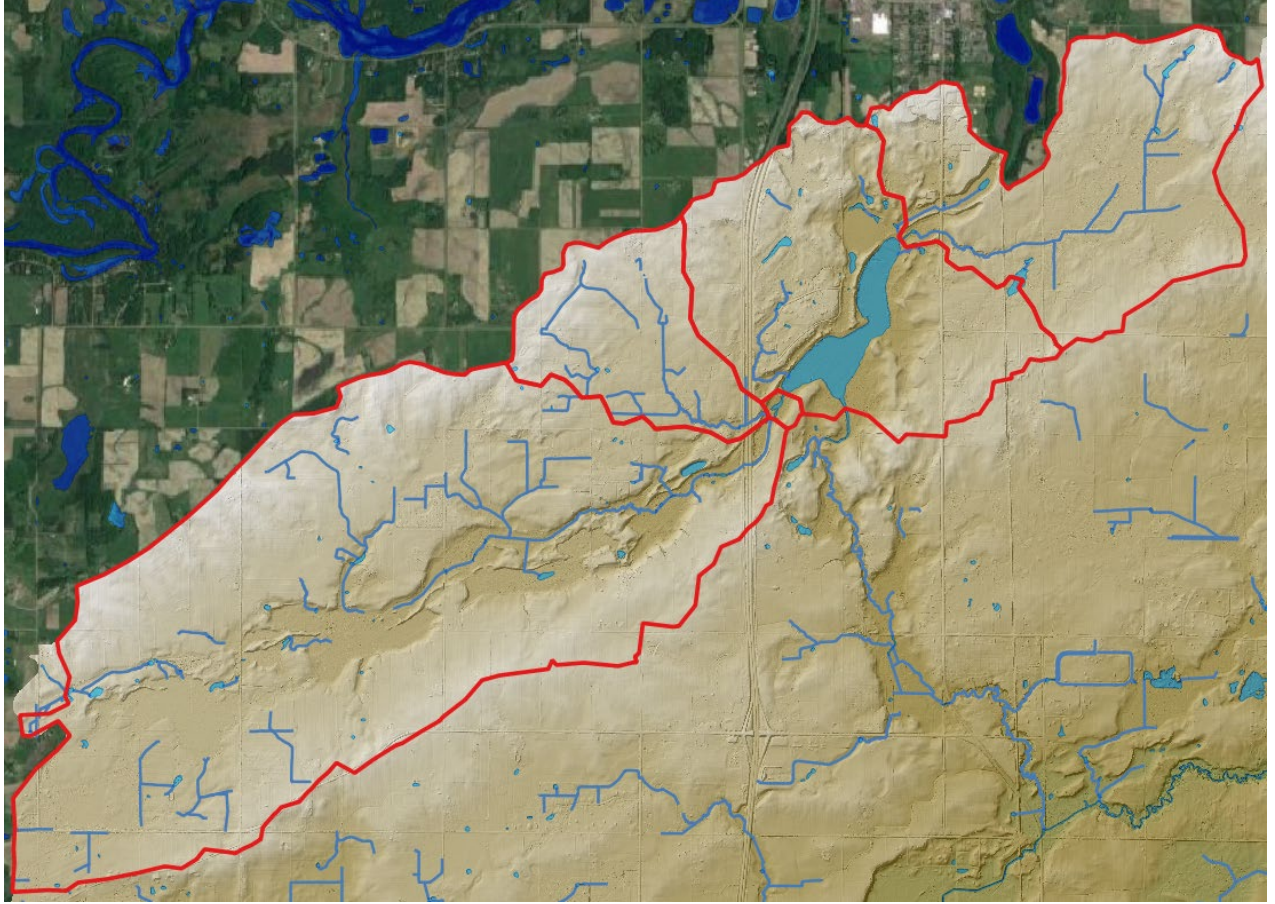
URBAN SWA PROTOCOL UPDATE

Responsible Party: Washington Conservation District

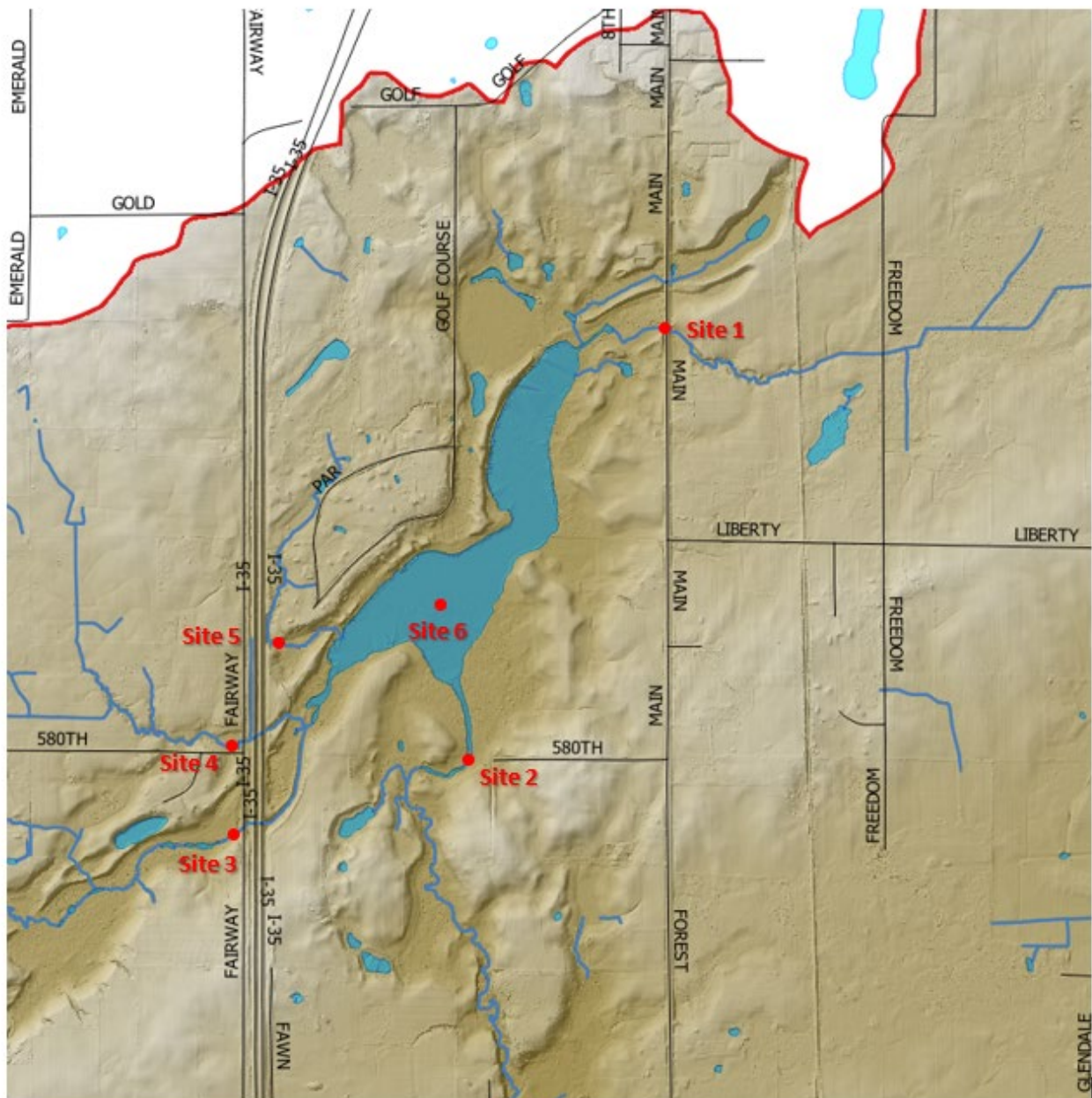
1. **Tasks:**
 - a. Add section discussing street sweeping modelling protocol
 - b. Adjust acceptable formats and deliverables for report rankings and structure
 - c. Incorporate protocol for modelling shoreline, gully/stream erosion
 - d. Add Historic Aerial inspection protocol to determine potential legacy loads in wetlands
 - i. targeted diagnostic monitoring as one outcome, wetland restoration as another
 - e. Update general language for accuracy and relevance, based on past SWA experience
 - f. Add appendix with spreadsheet matrix connecting methodologies and tools to specific pollution reduction strategies.
2. **Budget:** \$2,000 (approx. 25 hours)

TOTAL BUDGET REQUEST: \$6,000.00

Example Committee Motion: Motion to approve allocating \$6,000.00 to create Prioritization Protocols guidance document and update the Rural and Urban SWA protocols.



Rock Lake catchment area



Rock Lake SWA sampling locations. Site one is the north inlet near Main street just outside Pine City, site two is the lakes outlet on a field road, sites three and four are the south inlets near Fairway Avenue, Pine City, site five is another inlet on the south side near Par Circle, Pine City, and site five is the mid-lake sampling point for the epi- and hypolimnetic samples. Additional flow reading and possible samples may be taken during storm events as staff see fit.

Rock Lake Surface Water Assessment

Description of project area

Rock Lake (58011700) is in southern Pine County near Pine City and is on the EPA 303d impaired waters list due to elevated nutrients. The Lake is in the Rock Creek HUC 12 Watershed, which is in the HUC 8 Lower St. Croix Watershed. The Lower St. Croix Watershed (07030005) is one of four major watersheds on the Minnesota side of the St. Croix River Basin. The rock Lake watershed is 6,182 acres in size and the primary land use in the catchment is agriculture.

There are three inflows to Rock Lake. Rock Creek enters Rock Lake from the northeast and two inlets enters from the southwest.

Rock Lake has a surface area of 87.64 acres, a shore length of 2.77 miles and a maximum depth of 32 feet.

The soils of the watershed are not known at this time as the NRCS has not finished the Pine County soil survey.

Problem to be addressed by project

The purpose of this assessment is to form the basis for a future water quality plan to work in concert with the Goose Creek TMDL and the Lower St. Croix One Watershed One Plan (1W1P) to understand the hydrology and improve the quality of Rock Lake, it's tributaries and downstream waters. Currently Rock Lake is considered an impaired water body by the Minnesota pollution Control agency.

The most recent water quality assessment of Rock lake was done in 2012 and focused solely on Phosphorus and Chlorophyll *a*. All other water quality work in the Rock Creek Watershed has taken place outside of Pine County and a significant distance from the direct outlet of the lake. There has however been citizen monitoring of Secchi depth from 2014-2019.

The EPA Spreadsheet Tool for Estimating Pollutant Load (STEPL) was used to estimate the watershed runoff volumes and phosphorus loads from the direct drainage of Rock Lake for the Goose Creek TMDL. The STEPL model estimates the annual average overland runoff flow and phosphorus load based on land cover, runoff curve numbers, annual rainfall, and event mean concentration. However, the STEPL model has a coarse resolution and is only intended as a planning tool.

Because of the lack of monitoring and soils data Rock Lake/Rock Creek was considered a priority watershed for the implementation of the Lower St. Croix 1W1P (Table 5-1 Part D). Much of this work is considered a local priority or is not eligible for Watershed Based Implementation Funds. Collaboration with other entities and use of additional funding sources will be needed to accomplish most of the actions. The highest priority activity in the "Prioritization and Analysis" program area is to conduct analyses to identify and prioritize water quality improvement projects within a priority subwatershed. The methods and types of analyses may vary depending on the available data, the ability to collect additional data, modeling capabilities, staff capacity, etc. Types of analyses can include site or field scale subwatershed analyses, diagnostic monitoring, spatial analysis and mapping, modeling, cost benefit analyses, or other data-driven targeting activities.

A 2004 Report on the Recommended Water Quality Goals of the St. Croix Basin Water Resources Planning Team recommends a 20% reduction in total phosphorus loading within the St. Croix Basin. Monitoring of inlets, tributaries, ditches and culverts will help determine the areas of highest loading to the lake so the SWCD/County can adequately install lake protection programs through a comprehensive lake management plan. Best Management practices which will yield the best results will be detailed in the comprehensive plan that may be used as an addendum to the Lower St. Croix 1W1P

Project goals and objectives

One goal of this project is to enhance knowledge and understanding of the Rock Lake watershed conditions that are currently affecting, or have the potential to affect, the lake's ecosystem. To meet this goal the lakes watershed will be delineated, existing land uses, and acreages will be estimated and QSWAT, HSPF, or another appropriate model will be used to estimate annual pollutant loading. Additionally, boundaries of individual reaches and catchments will be delineated using the most recent LiDAR data and GIS tools. Loads will be partitioned for each catchment/reach through monitoring and modeling. Data will be used to identify surface runoff patterns and delineate environmentally sensitive areas in the Rock Lake watershed. Based on data collected, the most effective identified best management practices will be suggested for funding and implementation.

Given the uncertainty of the level of impairment in Rock Lake and the historic lack of understanding about hydrologic pathway and process in the lake this proposal seeks to build a comprehensive water and nutrient budget as another goal. An in-lake monitoring site will be established mid-lake and two samples will be taken (epilimnetic and hypolimnetic). Data collected at this site will include standard chemical and physical data (including secchi depth and three parameter TSI). Tributary and ditch monitoring will be used to develop a nutrient budget for the lake and used to calibrate the watershed loading model and generate an appropriate lake condition response model (Canfield-Bachmann, Rechow, Vollenweider, etc.). Hypolimnetic samples will be used to create a nutrient mass balance and internal load scenario (Nurnberg) to be used in the lake condition response.

To construct a water budget, we will measure precipitation upon the lakes and the amount that falls in the surrounding watershed. In a wooded watershed 95% of the precipitation that makes to the ground surface, enters the ground and contributes to interflow and groundwater recharge. In rare instances, snow can melt and runoff over frozen ground and/or storm events can be very intense and of a magnitude and duration to cause overland runoff in some portions of a watershed. We will measure surface inflow and outflow and seepage inflow and outflow.

Methods and activities

Mapping and watershed delineation from the Lower St. Croix 1W1P will be ground truthed and used as a basis for modeling as well as delineation for the Rock Lake watershed. The Metro Conservation Districts SWA protocols will be utilized for targeting and prioritizing areas for catchment and reach assessment within the Rock Lake (https://23eb5e34-24a9-4c0a-ae19-16b53e245249.filesusr.com/ugd/0b511c_ac0f9eddb594432ca2e9035e372846b5.pdf, https://23eb5e34-24a9-4c0a-ae19-16b53e245249.filesusr.com/ugd/0b511c_1e77f8daf2cd4a198149c45c3013da36.pdf), An appropriate model such as STEPL or BATHTUB will be updated to determine the phosphorus loading from land and upstream tributaries and how and the effects on Rock Lake. Scenarios of land use change can be show how to improve water quality.

A total of five tributaries/ditches (including the inlet and outlet) monthly throughout the growing season and snowmelt runoff will be collected in April. Temperature, pH, dissolved oxygen, conductivity, and turbidity measurements will be collected in-stream biweekly. Stream level will be monitored by pressure transducers and flow will be measured periodically to determine water loads at each site. Analysis of tributary samples will include nitrate + nitrite, ammonium, total Kjeldahl nitrogen, total phosphorus, soluble reactive phosphorus, chloride, total suspended solids, and hydrogen and oxygen isotopes. Monitoring of tributaries will help discern areas of increased water and phosphorus loading. Additionally, samples will be taken for major cations and anions and stable isotopes of hydrogen and oxygen; at the time of collection field parameters of pH, temp, specific conductance, DO will be measured to help elucidate water signatures when appropriate. This data will be used in both watershed and lake response models.

Tributaries/ditches found to be high sources of phosphorus will be investigated for possible BMPs and/or wetland restoration.

Physical and chemical data will be collected in-lake in the epilimnion and hypolimnion using a Van Dorn or Kemmerer water bottle sampler. Water samples will be analyzed at RMB for total phosphorus, soluble reactive phosphorus, nitrate/nitrite, ammonium, total Kjeldahl nitrogen, sulfate, total suspended solids, and chlorophyll *a*. Hydrogen and oxygen isotopes will be sampled to determine water sources 3 times a year. Spring and fall turnover samples will be collected in April and October. In addition to these sampling events, lake profile monitoring will be conducted every two weeks. Profile monitoring will include dissolved oxygen, temperature, conductivity, and pH readings as well as Secchi depth.

Data will be organized into a data base and analyzed using appropriate statistical software and GIS. Select tests will be run and the data will be interpreted, and a final report will be produced.

Project products or deliverables

A final report, executive summary, and work plan for distribution to the public, cooperating agencies, and elected officials will be prepared which includes:

- In-lake and tributary water quality report with comparison to previous data where it exists and management options to improve water quality
- Evaluation of watershed conditions and land use including annual pollutant loading determined through modeling and actual load partitioning
- Delineation of environmentally sensitive areas in the Rock Lake Watershed and potential wetland restoration sites
- Delineation of critical sites and shoreline restoration strategies
- Comprehensive lake management report.

Project Name	Rock Lake/Rock Creek SWA		
Proposing Organization	Pine County Planning and Zoning Department		
Project Description (include summary of issue addressed, proposed solution, current status of the project)	Because Rock Lake is an impaired waterbody this project aims to construct a nutrient and water budget for the watershed in order to prioritize installation of identified BMPs for efficient use of watershed funds. Through this process a lake response model will be developed to predict the lake's response to nutrient reductions as BMPs are implemented and to be used as a tool for future management.		
Total Estimated Cost	\$11,743.36		
Total Lower St. Croix Partnership Funding Request	\$11,743.36	100%	
Minimum construction funding needed for the project to move forward	\$11,743.36	100%	
Planned Beginning Date	11/15/2021		

Project Name:		
Pre-Qualification Questions		
		Response
1	Prequalification Question	1. Proposed projects or program location in the Implementation Table (Table 5-1) : Part A Implementatation for Agricultural Lands # 3 Lake WQ from Ag
2	Prequalification Question	2. The activity is listed as a A or B in Implementation Table 5-1 Yes
3	Prequalification Question	3. Name the analysis completed and/or data are gathered to target and prioritize this specific project or name a project is outside an area with a completed prioritization but has a similar cost benefit as a previously analyzed project and benefits the same water resource as the completed analysis. Identified in the MAWQP Anaylysis

Scoring Criteria

			Proposed Score	Committee Score
1	Lake Restoration & Protection	The project addresses total phosphorus on a priority lake (See table on page 2)	LPSS Priority Class* is "Impaired" or "Highest" = 5 LPSS Priority Class is "High" or "Higher" = 3	5
2	Stream Restoration	Project is located near stream reach and will address stream impairment or Lake St. Croix total phosphorus impairment)	Within ¼ mile = 5 Within ½ mile = 3	5
3	Groundwater	Project improves groundwater quality/quantity (examples: soil health, nutrient management, pesticide reduction, recharge, infiltration, reuse)	Yes = 3 No = 0	0
4	Readiness	Concept plans, cost estimates, and landowner agreements/easements are complete 3 or 0	Yes = 3 No = 0	3
5	Urgency & Opportunity	Is the project contingent on securing funding now? (Example, BMP is part of a larger project that will move forward with or without the BMP; opportunity would be lost if not funded and implemented now)	Yes = 3 No = 0	3
6	Cost effectiveness	Level of cost benefit when compared to all projects analyzed in particular SWA or similar targeting analysis.	Top 1% = 10 Top 10% = 7 Top 25% = 5 Top 50% = 3 < 50% = 0	10
7	Partners & Funding	Partnership and collaboration with agencies, organizations, or other groups is being leveraged or utilized by this project (Are there multiple partners providing funding, in-kind support, or other assistance or involvement?)	Yes = 1 No = 0	1
8	Multiple Benefit	Project provides added benefit of habitat improvements (aquatic, riparian, upland, wetland). Note: water quality improvements are not considered habitat improvements for this criterion.	Yes = 1 No = 0	1
9	Multiple Benefit	Project provides added benefit of education (examples: signage, demonstration project)	Yes = 1 No = 0	1
10	Multiple Benefit	Project improves water quality while also addressing flooding concern (examples: pond, wetland restoration, or floodplain expansion)	Yes = 1 No = 0	1

*Lakes of Phosphorus Sensitivity Significance (LPSS) - May 24, 2019: A ranked priority lake list based on sensitivity to additional phosphorus loading and the significance of that sen

Lake Phosphorus Sensitivity Significance, LPSS Priority Class = Grouping of waterbodies based on the lake phosphorus sensitivity significance priority score, which is a function of phosphorus sensitivity, and lake size, lake total phosphorus concentration, proximity to MPCA's phosphorus impairment thresholds, and watershed disturbance. Classes relate to the state's priority of focusing on "high quality, unimpaired lakes at greatest risk of becoming impaired."

Lake ID	Name	LPSS Priority Class
2002600	Linwood	Impaired
2003400	Martin	Impaired
13004200	Birch	NA
13000100	Blooms	NA
1300120	Chisago	Higher
13006800	Fish	Highest
13008301/13008302	Goose (North & South)	Impaired
13004102 /13004101	Green/Little Green	Highest
13003300	Little	Impaired
13003201	North Center Lake	Impaired
13003500	North Lindstrom	Higher
13006901/13006902	Rush (East & West)	Impaired
13002700	South Center	Impaired
13002800	South Lindstrom	Higher
30000800	Hoffman	NA
30001200	Horseleg	Highest
30000300	Horseshoe	Highest
30000700	Lower Birch	NA
58011700	Rock	Impaired
82004900	Big Carnelian	Higher
82005204	Big Marine	Highest
82004500	Clear	Higher
82003400	East Boot	Impaired
82000400	Edith	Higher
82010600	Elmo	Higher
82001400	Little Carnelian	Higher
82002500	Louise	Impaired
82003300	Mays	High
82002000	McKusick	High
82004600	Square	Highest
82003100	Terrapin	High

	Budget Category	Activity	Time (hr.)	Grant Cost	Match Cos	Responsible Party	Description
PHASE I: Desktop Review to be completed by 4/15/22	Wages & Emp. Benefits	Project Start up Wrap up mtg (Co. Bd, SWCD Bd)	10	579.9		Caleb	Meetings with appropriate Governing Boards (Co. Board, SWCD board), citizen groups (COLA)
	Wages & Emp. Benefits	Slope and erosion potential analysis	16	549.76		Lukas	ArcGIS or QGIS tools will be used with LiDAR spatial analysis tools will be used to determine slopes and highly erodible areas within the watershed.
	Wages & Emp. Benefits	Sub-watershed Delineation	10	343.6		Jeremy	Mapping and watershed delineation from the Lower St. Croix 1W1P will be ground truthed and used as a basis for modeling as well as delineation for the Rock Lake watershed. The Metro Conservation Districts SWA protocols will be used for targeting and prioritizing areas for catchment and reach assessment within the Rock Lake watershed. ArcGIS or QGIS tools will be used with LiDAR spatial analysis tools
	Wages & Emp. Benefits	Watershed Modeling + potential reductions with identified BMP installation Storm event modeling/climate change scenarios	27	927.72		Jeremy	The EPS STEPL model will be used to determine the initial phosphorus loading from land and upstream tributaries and how and the effects on Rock Lake. When diagnostic data becomes available FLUX will be used to determine tributary nutrient and water loading and BATHTUB will be used to model the lakes trophic response. Scenarios of land use change can be shown how to improve water quality.
	Wages & Emp. Benefits	Initial Lake Response Modeling using existing data	15	515.4		Jeremy	Using appropriate well established in-lake response model (i. e. Canfield-Bachmann) a lake response will be generated for current conditions and potential reduction of the nutrient budget. Additionally, responses of chlorophyll <i>a</i> and pelagic gross primary production will be modeled.
	Wages & Emp. Benefits	Sub-watershed ranking	8	274.88		Group/Erin	Model Interpretation
	Wages & Emp. Benefits	Additional sampling location identification, culvert inventory, potential wetland restorations	10	343.6		Zoning staff	Ground truthing of hydrology and erosion features and concerns
Phase II: Field data collection and subsequent analysis	Wages & Emp. Benefits	Water chemistry, isotope, stream flow and lake profile sampling	35	1202.6		Zoning staff	A total of 5 tributaries/ditches (including the inlet and outlet) monthly throughout the growing season and snowmelt runoff will be collected in April. Temperature, pH, dissolved oxygen, conductivity, and turbidity measurements will be collected in-stream biweekly. Stream level will be monitored by pressure transducers and flow will be measured periodically to determine water loads at each site. Analysis of tributary samples will include nitrate + nitrite, ammonium, total Kjeldahl nitrogen, total phosphorus, soluble reactive phosphorus, chloride, total suspended solids, and hydrogen and oxygen isotopes. Physical and chemical data will be collected in-lake in the epilimnion and hypolimnion using a Van Dorn or Kemmerer water bottle sampler. Water samples will be analyzed for total phosphorus, soluble reactive phosphorus, nitrate/nitrite, ammonium, total Kjeldahl nitrogen, sulfate, total suspended solids, and chlorophyll <i>a</i> . Hydrogen and oxygen isotopes will be sampled to determine water sources 3 times a year. Spring and fall turnover samples will be collected in April and October. In addition to these sampling events, lake profile monitoring will be conducted every two weeks. Profile monitoring will include dissolved oxygen, temperature, conductivity, and pH readings as well as Secchi depth.
	Wages & Emp. Benefits	Report Generation	30	1030.8		Jeremy/Erin	Data will be organized into a data base and analyzed using appropriate statistical software and GIS. Select tests will be run and the data will be interpreted, and a final report will be produced.
	Services	Laboratory analysis		\$6,555			Laboratory expenses for analysis. See attachment A for details.
	TOTALS			12323.26			

Water Chemisty/Geochemistry

	Cost/Sample	# of Samples	Cost	
stable isotopes - H and O	\$15	24	\$360	
total phophorus	\$16	50	\$800	
soluble reactive phosphorus	\$14	50	\$700	
nitrate/nitrite	\$15	50	\$750	
ammonium	\$17	50	\$850	
total Kjeldahl nitrogen	\$16	50	\$800	
total suspended solids	\$15	30	\$450	
chloride	\$15	30	\$450	
chlorophyll <i>a</i>	\$21	50	\$1,050	
Subtotal		384	\$6,210	
Iron	\$22	5	\$110	This would only be do
Sulfate	\$17	5	\$85	This would only be do
RMB Courier	\$15	10	\$150	
Total			\$6,555	

Equip/Consumables	Number needed	Cost
PVC	20 linear feet	\$79.80
t posts	4	\$19.96
zip ties 14 inch	4 packages	\$13.12
Water sampler	1	\$595.00
Total		\$707.88

Possible costs, donate

5

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d services

Lower St. Croix Partnership Enhanced Street Sweeping Program Summary

The following information summarizes the Lower St. Croix Partnership (LSCP) grant program to provide cost-share/incentives to specific Lower St. Croix communities for implementing enhanced street sweeping to reduce phosphorus to priority water resources.

Additional Program Details Increasing late spring/early summer and fall sweepings in catchments with medium or high tree canopy cover significantly reduces phosphorus discharges to surface waters. The Lower St. Croix Partnership grant program provides cost share funds to implement increased sweeping in catchments directly flowing to priority water resources. Participating communities will be responsible for implementing increased sweeping in late spring/early summer and fall in targeted areas.

To qualify for a grant, communities must have an approved Enhanced Street Sweeping Plan completed by the Lower St. Croix Partnership.

Enhanced Street Sweeping Plan The LSCP will conduct an Enhanced Street Sweeping Evaluation at the request of communities interested in participating in the enhanced street sweeping grant program. To initiate the evaluation, a community must resolve to submit a funding application, and consider adopting changes to their street sweeping operations and apply for grant funding to implement enhanced street sweeping. During the evaluation, the community will be requested to provide information regarding the existing sweeping operations. The draft plan will be reviewed with community staff or the appointed representative for the community and the final draft plan will be presented to Council or Supervisors for approval.

Eligible Communities and Water Resources

Rush City areas draining to Rush Creek; Harris areas draining to Goose Creek; North Branch, Stacy, and Wyoming areas draining to the Sunrise River.

Taylor's Falls, Marine on the St. Croix, Stillwater, Afton, Bayport, Baytown Township, Lakeland, Lakeland Shores, Lake St. Croix Beach, Oak Park Heights, St. Mary's Point, Stillwater, and West Lakeland Township draining to St. Croix River.

Enhanced Street Sweeping Plan Details

Evaluations will be conducted utilizing GIS with the following steps: 1. identify direct drainage catchments to priority water resources, 2. Identify current sweeping frequency in the direct drainage catchments, 3. Identify canopy cover density (low, medium, high) based on literature values, 4. Identify increased sweeping frequency in the late spring/early summer and fall in medium and high-density canopy cover areas directly draining to priority water resources, 4. Produce a draft report with color coded street maps that indicate sweeping frequencies in late spring/early summer and fall, a summary of recommended increased curbs miles, and total cost estimate for implementing enhanced street sweeping. \$40,000 has been identified for this task in the LSC Watershed Partnership Watershed Based Implementation Funding work plan.

Enhanced Street Sweeping Payment Rate and Reporting Requirements

The BWSR Clean Water Fund work plan proposed a ballpark estimate of \$100/curb-mile/year, with a goal of sweeping 1,000 curb miles. Understanding the estimate was subject to many factors (whether

cities purchase their own sweeper vs hire a contract sweeper, final cost-share rates, and other factors specific to each city such as canopy cover). At \$100/curb-mile/year, with \$100K (half the activity budget), it was estimated 1,000 curb-miles could be swept. Incentive payment rates for enhanced street sweeping will be set by conservation districts within the LSCP watershed.

To participate, communities implement increased sweeping as recommended in an Enhanced Street Sweeping Plan. Communities will need to track phosphorus reductions through the MPCA Street Sweeping Credit Calculator for annual reporting and cost share reimbursement. This will require tracking wet mass sweeping weights and entering them and the season of sweeping into the calculator. Participating communities will be required to enter into a 3 year state cost share contract.

Payments will be made based on actual miles swept in the late spring/early summer and fall within the enhanced street sweeping zones.

Reference Information (to learn more)

Developing a street sweeping credit for stormwater phosphorus source reduction

https://www.youtube.com/watch?v=zfqWJNybf_M

Start at minute 46 for an overview of the data used to create the MPCA Street Sweeping Credit Calculator.

City of Forest Lake Street Sweeping Management Plan 2018

[FINALCityofForestLakeStreetSweepingPlan_2-15-2018.pdf \(clflwd.org\)](#)

Enhanced Street Sweeping Report

Keller Lake Subwatershed Assessment

[2017-Keller-Lake-Subwatershed-Assessment \(apple-valley.mn.us\)](#)

Page 10, identifies recommended sampling protocol for estimating captured loads.

MPCA Street Sweeping Phosphorus Calculator

https://stormwater.pca.state.mn.us/index.php?title=Street_Sweeping_Phosphorus_Credit_Calculator

Street Sweeping Webinar Hosted by MPCA May 13, 2021

<https://www.youtube.com/watch?v=fQrmdUwPYks>

At 34 minutes demonstrates how to use the MPCA Street Sweeping Phosphorus Calculator

At 1 hour 3 minutes provides a summary of a USGS paired study in WI evaluating the impact of leaves in the street to P discharge charges in stormwater.

Subcommittee Responsibilities

1. Develop a process for how to fund projects
2. Establish cost-share/incentive rates and policies which will entail:
 - a. Subcommittee will draft proposed non-structural land management policy, including cost-share/incentive rates.
 - b. Subcommittee will send proposed policy to BWSR for review.
 - c. Steering Committee will review proposed policy and distribute to LSC partners for approval (for partners interested in utilizing grant funds for non-structural practices).

- d. LSC partners will not proceed with any projects until their board locally adopts the non-structural land management policy.
3. Establish cost-share ranking criteria that includes non-state match requirements
4. Meet intermittently to rank projects and make recommendations to Chisago SWCD Board for approval
 - a. Project selection will follow the targeting and prioritization process described in Section VII.B and Appendix C of the CWMP.
 - b. This subcommittee will also select non-structural agriculture projects using the targeting and prioritization process described in Section VII.B and Appendix C of CWMP.
 - c. NRCS or other BWSR accepted standards will be followed for all practices installed

Current To Do List:

1. Conservation Districts establish nonstructural payment policies for enhanced street sweeping.
2. Program introductory letter template for communities.
3. Example resolution to communities to express interest in participating in an enhanced sweeping program.
4. Organize a Subcommittee Meeting to:
 - a. Review draft materials (1 &2)
 - b. Develop process for awarding cost share
 - c. Discuss rates
 - i. Contractor- based on rates per mile provided in quote to the community
 - ii. City- based on a calculated rate of total street sweeping program cost/ mile of existing program x the additional miles swept
 - d. Establish ranking criteria
 - i. Based on Enhanced Street Sweeping Report
5. Identify potential entities (partners or consultants) to conduct enhanced street sweeping evaluations.

PROJECT REQUEST FORM

Lower St. Croix Partnership – Watershed Based Implementation Funding

To: Steering Committee **Date:** 9/22/21
From: A8 Subcommittee/WCD
Subject: WBIF Project Request: **Prioritization Protocol Update**

Table of Acronyms

CWMP: Comprehensive Watershed Management Plan	LSC: Lower St. Croix
SWCD: Soil & Water Conservation District	WD: Watershed District
WBIF: Watershed Based Implementation Funding	WMO: Watershed Management Organization

Eligible Project Sponsors

A sponsoring agency is required for each submitted project. The sponsor fills out this request. That agency must be a party to the Joint Powers Agreement for the implementation of the Lower St. Croix Comprehensive Watershed Management Plan. The sponsor, if the project is selected for funding, will enter into a subcontract with the Chisago Soil and Water Conservation District (SWCD) for project funding.

Description of Project (brief paragraph)

At the direction of the 1W1P Steering Committee, the Targeting and Prioritization Subcommittee was tasked with developing a proposal to update both the Prioritization Protocols to include multiple prioritization options including targeted monitoring and Urban and Rural Subwatershed Prioritization (SWA) Protocols. The committee came to the conclusion that the Rural SWA Protocol is more of a ‘how-to’ instruction manual, while the Urban SWA protocol is more of a framework containing guidelines for what deliverables to include in a typical report. Ideally, both protocols would be in a ‘how-to’ format to help new users navigate the SWA process with more ease and clarity, but there are many more modeling options for the Urban Protocol and the group did not want to limit users to one particular model. Guides to multiple urban model options will be referenced in the report. The subcommittee recognizes that the amount of \$5,000 listed in the 1W1P A8 workplan is less than the requested amount of \$6,000. But, upon further evaluation of immediate needs in this proposal, integrating additional information about targeted monitoring of wetlands is critical to include in the Prioritization Protocol update.

Benefitted Waterbody Information (add rows for additional waterbodies if necessary)

Target waterbody	Basin-wide
Waterbody area (acres)	Basin-wide
Watershed area (acres)	Basin-wide
DNR shoreline classification	Basin-wide
Description of the watershed and near-shore land uses	Basin-wide
Impairment status	Basin-wide
Protection or restoration	Basin-wide

Project Details

Project Name	Prioritization Protocol Update
Project Sponsor	WCD

PROJECT REQUEST FORM

Lower St. Croix Partnership – Watershed Based Implementation Funding

Additional Project Partner(s) (other than sponsor)	A8 Subcommittee
Project Location (lat/long, address, or description)	Basin-wide
DNR Level 8 Subwatershed	Basin-wide
Applicable WBIF Work Plan Activity	A8
Funding Specifically Allocated to this Project in Work Plan (if applicable)	\$5,000
Estimated Construction Timeline	Winter 21-22
Total Project Cost	\$9,000+
Estimated Lifetime Project Cost (incl. O&M)	n/a
Requested Grant Funding	\$8,000
Match provided, match source (cannot be state funds)	\$1,000 local funds
Target Waterbody (from CWMP Table 5-2, 5-3, 5-4)	Basin-wide
Est. Phosphorus Load Reduction @ Target Waterbody	n/a
Est. TSS Load Reduction @ Target Waterbody	n/a
Calculation Tool Used	n/a
Project Lifespan	n/a
Lifetime Cost-Benefit (\$/lb phosphorus removed)	n/a

Pre-Project Identification

Total phosphorus load entering target waterbody	n/a
Total suspended solids load entering target waterbody	n/a
Major sources of nutrient loading	n/a
P reduction required to achieve water quality goal	n/a
Completed projects, load reduction	n/a
Alternative projects, load reduction	n/a

List of Informational Attachments/Templates Included With Form:

1. WBIF Project Request Process Flow Chart
2. CWMP Priority Waterbody Maps
3. CWMP Appendix C – Project Targeting Criteria and Scoring Matrix (for [Activities 2, 4, 5, 9](#))
4. Wetland Restoration Scoring Matrix (for [Activity 6](#))
5. Internal Analysis Request for Funding (for [Activity 7](#); filled out by applicant)
6. Internal Analysis Selection Criteria (for [Activity 7](#); filled out by subcommittee)
7. Targeting Analysis Scoring Matrix (for [Activity 8](#))

Required Attachments for Requesting Partner to Complete (check all that apply):

- Project Plans/Visual/Map (for all requests)
- Completed Appendix C Project Scoring Matrix (for [Activities 2, 4, 5, 9](#))
- Completed Wetland Restoration Scoring Matrix (for [Activity 6](#))
- Completed Internal Analysis Request for Funding (for [Activity 7](#))
- Completed Internal Analysis Selection Criteria (for [Activity 7](#))
- Completed Targeting Analysis Request (for [Activity 8](#)) – See Attached

WBIF Work Plan Activity Color Coding
Implementation - BMPs/Restoration Activities
Implementation - Shared Services

PROJECT REQUEST FORM
Lower St. Croix Partnership – Watershed Based Implementation Funding

Prioritization & Analysis

Administration

Submit this form and attachments to Angie Hong at (ahong@mnwcd.org) one week prior to the Steering Committee meeting.

Steering Committee Roll Call Vote

Steering Committee roll call vote to recommend Chisago SWCD, CLFLWD and WCD project for Lower St. Croix Watershed Based Implementation Funding in the amount of \$8k for Updating Prioritization Protocols

Organization	Aye	Nay	Absent
Anoka SWCD	x		
Brown's Creek WD	x		
Carnelian Marine St Croix WD	x		
Chisago County	x		
Chisago Lakes LID			x
Chisago SWCD	x		
Comfort Lake Forest Lake WD	x		
Isanti County			x
Isanti SWCD	x		
Middle St. Croix WMO	x		
Pine County	x		
Pine SWCD	x		
South Washington WD	x		
Sunrise River JP WMO			x
Valley Branch WD			x
Washington CD	x		
Washington County	x		
TOTAL (need majority vote to pass)	13	0	4

PROJECT REQUEST FORM
Lower St. Croix Partnership – Watershed Based Implementation Funding

To: Activity 8 Subcommittee, Steering Committee **Date:** 9/21/21
From: Pine County Planning and Zoning Department
Subject: WBIF Project Request: Rock Lake/Rock Creek Subwatershed Assessment

Table of Acronyms

CWMP: Comprehensive Watershed Management Plan	LSC: Lower St. Croix
SWCD: Soil & Water Conservation District	WD: Watershed District
WBIF: Watershed Based Implementation Funding	WMO: Watershed Management Organization

Eligible Project Sponsors

A sponsoring agency is required for each submitted project. The sponsor fills out this request. That agency must be a party to the Joint Powers Agreement for the implementation of the Lower St. Croix Comprehensive Watershed Management Plan. The sponsor, if the project is selected for funding, will enter into a subcontract with the Chisago Soil and Water Conservation District (SWCD) for project funding.

Description of Project (brief paragraph)

Because Rock Lake is an impaired waterbody this project aims to construct a nutrient and water budget for the watershed in order to prioritize installation of identified BMPs for efficient use of watershed funds. Through this process, tributary phosphorus loading will be measured and a lake response model will be developed to predict the lake’s response to nutrient reductions as BMPs are implemented. The report generated in this project will be an important tool for future management of the Rock Lake subwatershed.

Benefitted Waterbody Information (add rows for additional waterbodies if necessary)

Target waterbody	Rock Lake and Rock Creek
Waterbody area (acres)	87.64 acres
Watershed area (acres)	6,182 acres
DNR shoreline classification	Natural Environment
Description of the watershed and near-shore land uses	Natural/residential development
Impairment status	Impaired (P, chl <i>a</i>)
Protection or restoration	Both

Project Details

Project Name	Rock lake/Rock/Creek SWA
Project Sponsor	Pine County Planning and Zoning Department
Additional Project Partner(s) (other than sponsor)	Pine County SWCD
Project Location (lat/long, address, or description)	45°47'34.80"N, 92°58'54.27"W
DNR Level 8 Subwatershed	Lower St. Croix
Applicable WBIF Work Plan Activity	Subwatershed Assessment

PROJECT REQUEST FORM

Lower St. Croix Partnership – Watershed Based Implementation Funding

Funding Specifically Allocated to this Project in Work Plan (if applicable)	
Estimated Construction Timeline	October 2021-March 2024
Total Project Cost	\$12,323.46
Estimated Lifetime Project Cost (incl. O&M)	NA
Requested Grant Funding	\$12,323.46
Match provided, match source (cannot be state funds)	none
Target Waterbody (from CWMP Table 5-2, 5-3, 5-4)	Rock Lake
Est. Phosphorus Load Reduction @ Target Waterbody	TBD
Est. TSS Load Reduction @ Target Waterbody	TBD
Calculation Tool Used	FULX, BATHTUB, STEPL
Project Lifespan	NA
Lifetime Cost-Benefit (\$/lb phosphorus removed)	TBD

Pre-Project Identification

Total phosphorus load entering target waterbody	TBD
Total suspended solids load entering target waterbody	TBD
Major sources of nutrient loading	TBD
P reduction required to achieve water quality goal	TBD
Completed projects, load reduction	TBD
Alternative projects, load reduction	TBD

List of Informational Attachments/Templates Included With Form:

1. WBIF Project Request Process Flow Chart
2. CWMP Priority Waterbody Maps
3. CWMP Appendix C – Project Targeting Criteria and Scoring Matrix (for [Activities 2, 4, 5, 9](#))
4. Wetland Restoration Scoring Matrix (for [Activity 6](#))
5. Internal Analysis Request for Funding (for [Activity 7](#); filled out by applicant)
6. Internal Analysis Selection Criteria (for [Activity 7](#); filled out by subcommittee)
7. Targeting Analysis Scoring Matrix (for [Activity 8](#))

Required Attachments for Requesting Partner to Complete (check all that apply):

- Project Plans/Visual/Map (for all requests)
- Completed Appendix C Project Scoring Matrix (for [Activities 2, 4, 5, 9](#))
- Completed Wetland Restoration Scoring Matrix (for [Activity 6](#))
- Completed Internal Analysis Request for Funding (for [Activity 7](#))
- Completed Internal Analysis Selection Criteria (for [Activity 7](#))
- Completed Targeting Analysis Scoring Matrix (for [Activity 8](#))

WBIF Work Plan Activity Color Coding
Implementation - BMPs/Restoration Activities
Implementation - Shared Services
Prioritization & Analysis
Administration

PROJECT REQUEST FORM

Lower St. Croix Partnership – Watershed Based Implementation Funding

Submit this form and attachments to Angie Hong at (ahong@mnwcd.org) one week prior to the Steering Committee meeting.

PROJECT REQUEST FORM

Lower St. Croix Partnership – Watershed Based Implementation Funding

Steering Committee Roll Call Vote

Steering Committee roll call vote to recommend [Project Sponsor] project for Lower St. Croix Watershed Based Implementation Funding in the amount of \$ _____ for the [Project Name].

Organization	Aye	Nay	Absent
Anoka SWCD			
Brown's Creek WD			
Carnelian Marine St Croix WD			
Chisago County			
Chisago Lakes LID			
Chisago SWCD			
Comfort Lake Forest Lake WD			
Isanti County			
Isanti SWCD			
Middle St. Croix WMO			
Pine County			
Pine SWCD			
South Washington WD			
Sunrise River JP WMO			
Valley Branch WD			
Washington CD			
Washington County			
TOTAL (need majority vote to pass)			



MEMORANDUM

TO: 1W1P Steering Committee
FROM: A8 Targeting and Prioritization Subcommittee
DATE: 9/10/2021
RE: **Prioritization Protocol Update - Allocation Request**

At the direction of the 1W1P Steering Committee, the Targeting and Prioritization Subcommittee was tasked with developing a proposal to update both the Prioritization Protocols to include multiple prioritization options including targeted monitoring and Urban and Rural Subwatershed Prioritization (SWA) Protocols. The committee came to the conclusion that the Rural SWA Protocol is more of a 'how-to' instruction manual, while the Urban SWA protocol is more of a framework containing guidelines for what deliverables to include in a typical report. Ideally, both protocols would be in a 'how-to' format to help new users navigate the SWA process with more ease and clarity, but there are many more modeling options for the Urban Protocol and the group did not want to limit users to one particular model. Guides to multiple urban model options will be referenced in the report. The subcommittee recognizes that the amount of \$5,000 listed in the 1W1P A8 workplan is less than the requested amount of \$8,000. But, upon further evaluation of immediate needs in this proposal, integrating additional information about targeted monitoring of wetlands is critical to include in the Prioritization Protocol update.

REVISED INTRODUCTION TO PRIORITIZATION PROTOCOLS:

Responsible Party: WCD/Team

1. **Tasks:**
 - a. Update introduction to PP to include discussion of alternative prioritization approaches.
 - b. Include decision-making factors for determining appropriate PP considering landscape and project(s) goals.
2. **Budget:** \$0 (local match)

TARGETED MONITORING PROTOCOLS:

Responsible Party: CLFLWD

1. **Tasks:**
 - a. Add targeted monitoring protocols for prioritization.
 - b. Discuss short and long-term monitoring options.
 - c. Provide equipment and procedure options.
2. **Budget:** \$3,000 (approx. 30 hours)

RURAL SWA PROTOCOL UPDATE:

Responsible Party: Chisago SWCD

1. **Tasks:**
 - a. Update language for modeling and ranking non-structural BMPs
 - b. Incorporate protocol for modelling shoreline, gully/stream erosion
 - c. Add Historic Aerial inspection protocol to determine potential legacy loads in wetlands
 - i. targeted diagnostic monitoring as one outcome, wetland restoration as another
 - d. Update general language for accuracy and relevance, based on past SWA experience
 - e. Add appendix with spreadsheet matrix connecting methodologies and tools to specific pollution reduction strategies.
2. **Budget:** \$3,000 (approx. 40 hours)

URBAN SWA PROTOCOL UPDATE

Responsible Party: Washington Conservation District

1. **Tasks:**
 - a. Add section discussing street sweeping modelling protocol
 - b. Adjust acceptable formats and deliverables for report rankings and structure
 - c. Incorporate protocol for modelling shoreline, gully/stream erosion
 - d. Add Historic Aerial inspection protocol to determine potential legacy loads in wetlands
 - i. targeted diagnostic monitoring as one outcome, wetland restoration as another
 - e. Update general language for accuracy and relevance, based on past SWA experience
 - f. Add appendix with spreadsheet matrix connecting methodologies and tools to specific pollution reduction strategies.
2. **Budget:** \$2,000 (approx. 25 hours)

TOTAL BUDGET REQUEST: \$8,000.00

Example Committee Motion: Motion to approve allocating \$8,000.00 to create Prioritization Protocols guidance document and update the Rural and Urban SWA protocols.