

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

To: Steering Committee, Policy Committee **Date:** May 11, 2022
From: Comfort Lake-Forest Lake Watershed District
Subject: WBIF Project Request: Sunrise River/Tax Forfeit Wetland Restoration

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)

The Sunrise River/Tax Forfeit Wetland Restoration project would help improve and protect water quality in the Sunrise River and Comfort Lake which ultimately drain to the St. Croix River. This project will divert flow from an existing drainage ditch system out of Heims Lake at the Highway 61 culvert and then diffuse the flow into a multi-cell wetland complex located on the Tax Forfeit property owned by the Comfort Lake-Forest Lake Watershed District. The proposed project will result in annual phosphorus reductions of approximately 81 lb/yr to the Sunrise River and 60 lb/yr to Comfort Lake, pending final design and construction. The project is located immediately adjacent to a reach of the Sunrise River upstream of Comfort Lake (between Forest Lake and Comfort Lake). The river flows through wetland complexes on its way to Comfort Lake, which reduce phosphorus and sediment loading further. As such, the estimated load reductions achieved immediately at the Sunrise River are higher than the estimated reduction achieved once flow reaches Comfort Lake. The District has the opportunity to include an additional project Add Alternate (North Hwy 61 Drainage – Wetland Treatment Facility) which is estimated to achieve an additional 5 lbs/yr reduction (i.e., total reduction to Sunrise River of 86 lb/yr, and to Comfort Lake of 66 lb/yr).

The Sunrise River/Tax Forfeit Wetland Restoration project is designed to deliver additional habitat and water resource benefits. Since the project lengthens the flow path from Heims Lake by diverting water from the ditch to the enhanced wetland, peak flow rates are expected to be slightly reduced in addition to the slight reduction in water levels. The project is expected to recharge groundwater levels/increase storage by stopping ditched flows from bypassing the wetland complex and increasing residence time for infiltration. The project will also enhance habitat and the aesthetics of the area by increasing vegetation heterogeneity by creating a unique/intentional forested wetland landform. This addition, which will be visible from well-traveled Highway 61, will maximize transpiration rates and will provide unique opportunities for research and the advancement of wetland treatment. Additional habitat features include native species for forested wetlands with high transpiration rates, turtle basking logs, kestrel nesting box, and chara restoration.

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This project leverages funds from multiple sources. However, additional funding is needed in order to maximize project returns and achieve greater load reductions to both the Sunrise River and Comfort Lake.

For more info, view the Feasibility Study:

<https://www.clflwd.org/documents/TaxForfeitFeasibilityReport.pdf>

And Comfort Lake Diagnostic Study: https://www.clflwd.org/documents/Comf_Diag_Update_5-19-2021_FINAL.pdf

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

Target waterbody	Sunrise River, Comfort Lake
Waterbody area (acres)	Comfort Lake: 218 acres
Watershed area (acres)	Comfort Lake subwatershed: 6,352 acres
DNR shoreline classification	Comfort Lake: General Development
Description of the watershed and near-shore land uses	2016 NLCD: Wetlands (33%), Developed (26%), Forest (15%), Pasture/grasslands (13%), Cultivated cropland (8%), Open water (5%). Land use and development pressures within a drainage area are key factors in the rate, timing and pollutant levels of runoff to surface water resources. Commercial and transportation development in the City of Forest Lake and along the Highway I-35, 8, and 61 corridors put added pressure on this subwatershed.
Impairment status	Comfort Lake and this reach of the Sunrise River are impaired for aquatic recreation for nutrients
Protection or restoration	Restoration project

Project Details

Project Name	Sunrise River/Tax Forfeit Wetland Restoration
Project Sponsor	Comfort Lake-Forest Lake WD
Additional Project Partner(s) (other than sponsor)	Additional grant funds leveraged from Clean Water Fund and Section 319 CLFLWD planning to work with Great River Greening to do additional habitat restoration after construction (woody vegetation planting)
Project Location (lat/long, address, or description)	PID 21.10649.00
DNR Level 8 Subwatershed	3705200
Applicable WBIF Work Plan Activity	A6 Wetland Restoration Implementation
Funding Specifically Allocated to this Project in Work Plan (if applicable)	N/A
Estimated Construction Timeline	February 2023
Total Project Cost	\$1.083 million

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Estimated Lifetime Project Cost (incl. O&M)	\$1.14 million
Requested Grant Funding	\$300,449
Clean Water Fund Grant (state funds)	\$492,000
Match provided, match source (cannot be state funds)	\$290,501 (CLFLWD levy, Section 319 Small Watershed Focus federal grant)
Target Waterbody (from CWMP Table 5-2, 5-3, 5-4)	Sunrise River (Comfort Lake also benefits)
Est. Phosphorus Load Reduction @ Target Waterbody	81 lb/yr @ Sunrise River 60 lb/yr @ Comfort Lake (potentially add 5 lb/yr to each if include add alternate described above)
Est. TSS Load Reduction @ Target Waterbody	58,000 lb/yr @ Sunrise River 18,000 lb/yr @ Comfort Lake
Calculation Tool Used	Monitoring data, sediment cores, mass balance design model from Kadlec & Knight
Project Lifespan	30 years
Lifetime Cost-Benefit (\$/lb phosphorus removed)	\$469/lb (calculated using 30-year lifespan and 81 lb/yr reduction at Sunrise River)

Pre-Project Identification

Project targeting was completed with Comfort Lake in mind, so this section is filled out with respect to Comfort Lake. Due to the project’s proximity to the Sunrise River, this project also has major benefits to the river itself, as demonstrated above.

Total phosphorus load entering target waterbody	1,991 lb/yr to Comfort Lake
Total suspended solids load entering target waterbody	132,000 lb/yr accumulation in Comfort Lake
Major sources of nutrient loading	Developed land use, row crop land use, drained wetlands
P reduction required to achieve water quality goal	193 lb/yr
Completed projects, load reduction	Bixby Park Water Quality Improvement Project – Chisago Co. Petitioned Project (92 lb/yr phosphorus reduction); Target Big Box Retrofits (5 lb/yr phosphorus reduction); Stormwater Management Permits (cumulative: 43 lb/yr)
Alternative projects, load reduction	Alternatives were considered and are described in the feasibility study (additional parcel acquisition/utilization and alternative project designs) Feasibility Study – Alternatives Considered

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):

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- 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.

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Steering Committee Roll Call Vote

Steering Committee roll call vote to recommend Comfort Lake-Forest Lake Watershed District's project for Lower St. Croix Watershed Based Implementation Funding in the amount of \$300,449 for the Sunrise River/Tax Forfeit Wetland Restoration Project.

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)			



Project Selection Criteria Activity 6 – Wetland Restoration

The Activity 6 Subcommittee will use the following criteria to rank and select wetland restoration projects to be recommended to the Steering Committee. Submit an application to becky.wozney@anokaswcd.org. The Deadline for applications is June 30, 2022. The Wetlands Subcommittee will review projects and make recommendations to the Lower St. Croix Advisory Committee, which in turn makes a recommendation to the Policy Committee. Final funding decisions are made by the Chisago SWCD. Final funding decisions are expected by September 30, 2022. Construction must be complete by December 31, 2023.

Required:

1. Must be in the priority watershed. Areas of particular concern are direct drainage to St. Croix, Sunrise River corridor, Rock Creek corridor and subwatersheds identified in Figure 5-5 of the LSC CWMP. **Sunrise River corridor.**
 Yes No
2. Not be a wetland banking project for financial gain. **Not a wetland banking project.**
 Yes No
3. Not associated with correcting a wetland violation. **Not correcting a wetland violation.**
 Yes No
4. Evaluated by a STEPL EPA model or similar. Provide results in application.
 Yes No

Modeling of water quality and quantity was completed to maximize project benefits while preventing offsite impacts. Water quantity modeling was developed using the District's calibrated hydrologic & hydraulic model (PCSWMM) for the Sunrise River draining from Forest Lake to Comfort Lake completed by EOR in 2020. This base model was amended to include additional detail in the project area as discussed below. Pollutant loading from the upstream subwatershed was estimated using monitoring data collected at the Heims Drainage Ditch (HDD) monitoring station, located upstream of the culvert under the Sunrise Prairie bike trail on the west side of State Highway 61. Phosphorus grab samples and continuous stream flow data were available for the years 2012, 2013, 2014, and 2020. Monitoring data was supplemented with empirical estimates of watershed loading developed from current land use data

5. Grant funds will only be used for construction, not design/engineering. **Grant funds used for construction only.**

Yes No

6. Someone must be willing to maintain project for 10 years. **CLFLWD will maintain project for at least 30 years.**

Yes No

Scored:

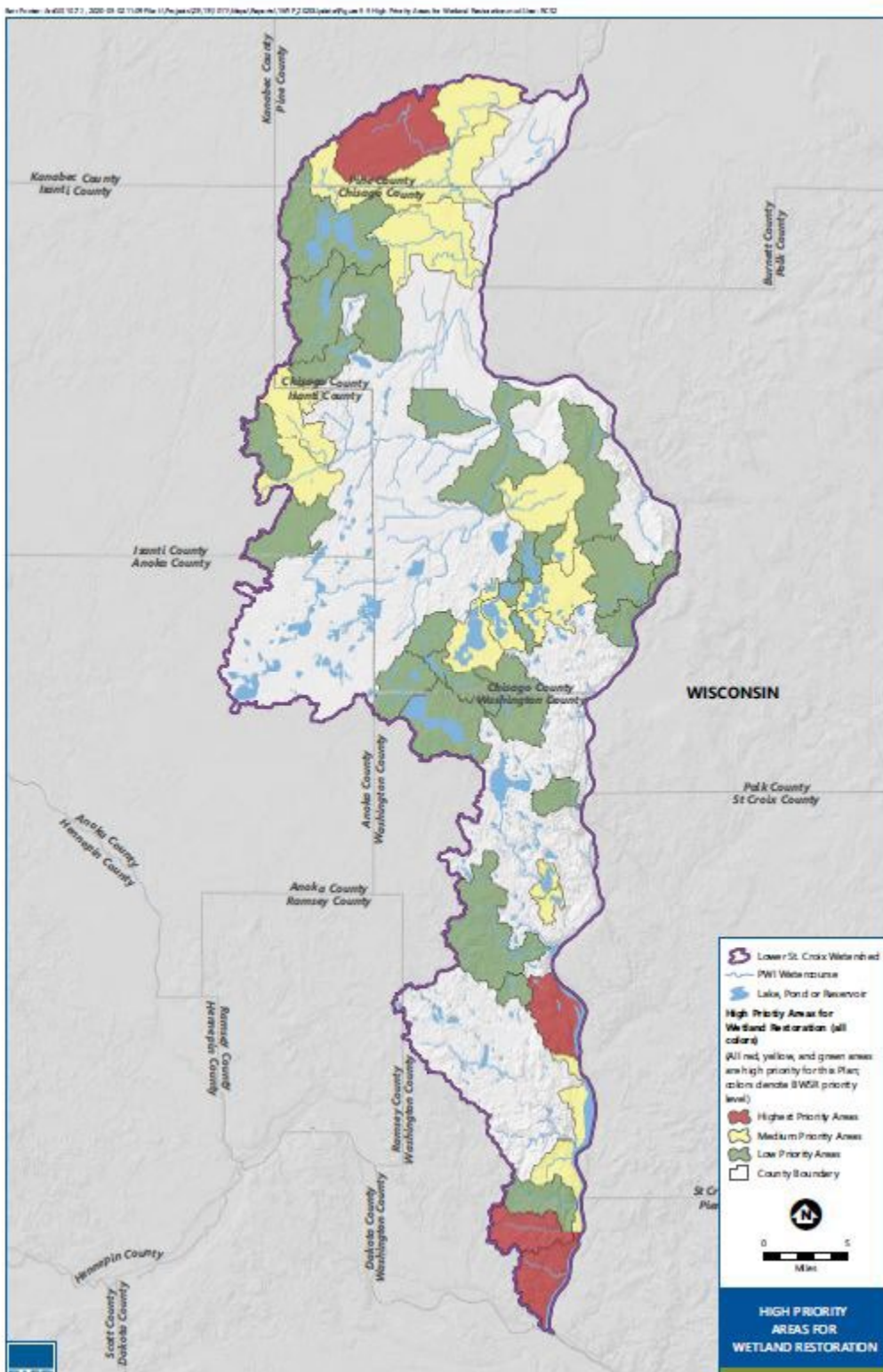
7. Vetted in a **prioritization study** (High-10, Medium-7, Low-4 (see Figure 5-5))
Low priority area, per figure 5-5 = 4 pts. This is a high priority water quality improvement project for waters within CLFLWD including Sunrise River and Comfort Lake.
8. **Phosphorus reduction.** Applicant must specify method used to estimate pollutant reduction (Over 10 lbs-20 points, 5-10 lbs-10 points, 1-5 lbs-5 points, less than 1 lb- 0 points)
Over 10 lbs = 20 pts
9. **10** out of 10 **Timeliness.** Date of anticipated construction. **January/February 2023 (construct as soon as frozen conditions exist)**
10. **10** out of 10 **Site readiness.** Owner signed a project contract. Legal hurdles, such as those associated with public ditches or flowage easements, consent from mortgage company, are not a concern. **CLFLWD owns property.**
11. **5** out of 5 **Finances.** Amount of match and is it secured? **Non-state match - \$290,501 secured by CLFLWD levy and Section 319 Small Watershed Focus federal grant)**
12. **5** out of 5 **Finances.** Will the project only occur if this grant is awarded? **CLFLWD won't be able to maximize project returns without additional grant funds.**
13. **5** out of 5 **Location.** Is there direct benefit to priority receiving waters? Or is there possible other treatment between the project and receiving waters? **Direct benefit to Sunrise River; additional benefit realized at Comfort Lake which is located downstream. CLFLWD performed diagnostic monitoring and project targeting to identify this as the most cost-effective project that we can do in this subwatershed at this time.**
14. **5** out of 5 **Cost/Benefit.** Is the project configured to maximize treatment? (for example, cost/benefit of multiple smaller wetlands vs one large) **Need additional funds in order to maximize treatment. This is a large wetland complex, and the project cost-benefit is very good (\$469/lb of phosphorus removed at Sunrise River over a 30-year lifespan).**
15. **5** out of 5 **Likelihood of success.** Invasive species, landowner conflicts, someone with appropriate equipment and skills is accepting maintenance, etc. **CLFLWD is the property owner and is a skilled and appropriate organization to accept maintenance responsibility for the life of the project. CLFLWD has maintained open lines of**

**communication with nearby residents/property owners and the City of Wyoming.
Modeling indicates the project will not have offsite impacts.**

16. **69** out of 75 **TOTAL**

References: Minnesota Stormwater Manual [Available stormwater models and selecting a model - Minnesota Stormwater Manual \(state.mn.us\)](#)

Figure 5-5



This project is a wetland restoration project, but also addresses stream impairment of the Sunrise River. As such, scoring is shown for stream restoration as well as wetland restoration.

Project Targeting Criteria and Scoring Matrix

Sunrise River/Tax Forfeit Wetland Restoration Project
Comfort Lake-Forest Lake Watershed District

Criteria and Points for Ranking Agricultural and Urban BMPs for Watershed Based Fundsas referenced in Section VII.B.				Points & Description
1	Lake Restoration & Protection	The project addresses total phosphorus on a priority lake (Seetable on page 2)	LPSS Priority Class* is "Impaired" or "Highest" = 5 LPSS Priority Class is "High" or "Higher" = 3	
Can score points for #1 or #2, but not both.				
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 pts Project is located within ¼ mile of Sunrise River, a regionally significant river for pollutant reductions, per Table 5-2 in the LSC CWMP. This wetland restoration project is also located within a LSC priority area for wetland restoration, per Figure 5-5 in the LSC CWMP.
3	Groundwater	Project improves groundwater quality/quantity (examples: soilhealth, nutrient management, pesticide reduction, recharge, infiltration, reuse)	Yes = 3 No = 0	3 pts Project expected to recharge groundwater levels/increase storage. Project stops ditched flows from bypassing wetland and creates more residence time for infiltration.
4	Readiness	Concept plans, cost estimates, and landowner agreements/easements are complete 3 or 0	Yes = 3 No = 0	3 pts Concept plans and cost estimates are complete and provided in the Feasibility Study. CLFLWD owns the land. Feasibility Study

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 = 1 No = 0	1 pt Estimated construction costs exceeded original estimates and CWF budget/work plan due to: 1) rising construction costs, 2) design challenges unearthed via feasibility effort including depth of peat, 3) design intended to maximize use of the property and thus exceed grant targets. Opportunity to maximize water quality improvements would be lost without additional funding.
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 pts This is the most cost-effective project identified within the Comfort Lake/ Sunrise River subwatershed, after the Bixby Park Water Quality Improvement Project which was completed in 2016. Estimated lifetime cost benefit: \$469/lb at full expected 30-year lifespan. Expecting lifespan possibly greater than 30 years due to the non-structural, permanent vegetation restoration nature of this project. Comfort Lake Diagnostic Study Sunrise River Water Quality and Flowage Engineer's Report
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 pt CLFLWD collaborates with MN Board of Water and Soil Resources and MN Pollution Control Agency on this project in order to obtain state Clean Water Fund and federal Section 319 grant funds.

				<p>CLFLWD planning to work with Great River Greening to do additional habitat restoration after construction (woody vegetation planting)</p> <p>CLFLWD has been in communication with the City of Wyoming as well as surrounding landowners about the project, holding several meetings and informational presentations.</p>
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.	<p>Yes = 1</p> <p>No = 0</p>	<p>1 pt</p> <p>Vegetation restoration and habitat improvements.</p> <p>Feasibility Study – Additional Benefits and Considerations</p>
9	Multiple Benefit	Project provides added benefit of education (examples: signage, demonstration project)	<p>Yes = 1</p> <p>No = 0</p>	<p>1 pt</p> <p>This project will be included in CLFLWD’s standard project signage effort which will provide educational signage for all CLFLWD projects</p>
10	Multiple Benefit	Project improves water quality while also addressing flooding concern (examples: pond, wetland restoration, or floodplain expansion)	<p>Yes = 1</p> <p>No = 0</p>	<p>1 pt</p> <p>Wetland restoration project will result in slight reduction of peak flow rates and water levels.</p> <p>Feasibility Study – Water Quantity Returns</p>
		TOTAL POINTS POSSIBLE	26	26 pts



Figure 1. Project location and associated proposed drainage areas treated.



Figure 3. Rendering of concept plan illustrating proposed wetland types and habitat.