Environment and Natural Resources Trust Fund
2020 Request for Proposals (RFP)

Project Title: **ENRTF ID: 013-A**

Update and Expand 11-County Metro MLCCS Coverage

Category: A. Foundational Natural Resource Data and Information

Sub-Category:

Total Project Budget: $ 2,934,624

Proposed Project Time Period for the Funding Requested: June 30, 2025 (5 yrs)

Summary:

Provide critical geospatial land cover data and analytical protocols as a foundation for science-based water and ecological resource analysis, project identification, and ranking throughout the 3.2M acre 11-county metro area.

Name: Chris Lord

Sponsoring Organization: Metro Conservation Districts

Job Title: District Manager

Department:

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Ham Lake MN 55304

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Web Address https://www.metrotsa4.org/

Location:

Region: Metro

County Name: Anoka, Carver, Chisago, Dakota, Hennepin, Isanti, Ramsey, Scott, Sherburne, Washington, Wright

City / Township:

Alternate Text for Visual:

Provide critical geospatial land cover data and analytical protocols as a foundation for science-based water and ecological resource analysis, project identification, and ranking throughout the 3.2M acre 11-county metro area.

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

PROJECT TITLE: Update and Expand 11-County Metro MLCCS Coverage

I. PROJECT STATEMENT

This project will update and expand Minnesota Land Cover Classification System (MLCCS) coverage throughout the 11-county metro area to inform both water and ecological project planning and analysis; develop and employ a property level ecological project identification and ranking protocol; and provide training on the methodology. The resultant data will enhance current water resource project planning, and the developed methodology will elevate ecological project targeting and implementation to be on par with that routinely completed for water quality improvement projects. The latter methodology has the potential to be expanded for use statewide.

Up-to-date MLCCS data, which provides detailed information on impervious surface composition in cultural environments and species level detail in natural environments, are instrumental for science-based site-level water and ecological resource project identification, benefits analysis, and ranking. This resolution of data is critical to inform natural resource management decisions in the rapidly developing 3.2 million acre 11-county metro area, which is home to 61% of Minnesota's population, is expected to grow by an average of 16.8% by 2045, is the epicenter of the most intensive water resource management challenges in the state, and contains all or portions of 7 of the top 8 ecological subsections in Minnesota ranked in terms of the number of species of greatest conservation need.

This project will update MLCCS coverage for 1.9M acres largely in the 7-county metro area, which was originally surveyed between 1999 and 2009. In the remaining 1.3M acres, largely encompassing Wright, Sherburne, Isanti, and Chisago counties, first ever MLCCS coverage will be created. These data will be collected and put to use in natural resource management by the members of the Metro Conservation Districts (MCD). MCD includes Hennepin and Ramsey counties, and the Soil and Water Conservation Districts of Anoka, Carver, Chisago, Dakota, Isanti, Scott, Sherburne, Washington, and Wright counties and serves as a venue for its members to jointly plan, develop and implement programs and activities for natural resource conservation.

The data will then be used to develop and implement an analytical protocol for a portion of the Anoka Sand Plain, Big Woods, and St. Paul-Baldwin Plains ecological subsections. This protocol will identify and rank project opportunities and answer the question, "Which property owners should we target with outreach efforts to protect, restore and enhance habitat for species of greatest conservation need, ecological connectivity and resilience, and public enjoyment of wildlife?" Training on the protocol and utilization of MLCCS data will be provided to all MCD members and other interested partners.

II. PROJECT ACTIVITIES AND OUTCOMES

Activity 1: Conduct MLCCS Inventory Throughout the 11-County Metro **Budget: $2,765,124**

MLCCS standardized methods will be followed to update and expand inventories of cultural and natural land cover types throughout the 3.2M acre 11-county metro area. With the advent of high resolution aerial photos, pictometry, and statewide LiDAR in the last 6 years, the accuracy and resolution of work products utilizing remote sensing has been greatly enhanced since the 1990s, when MLCCS inventories were initiated.

A combination of remote sensing and field surveys will be used. Cultural landscapes (substantially altered vegetation or >4% artificial surfaces) will be completed to level 3 or 4, which includes anthropomorphic elements, vegetation form, plant type, and percent impervious surface. Natural landscapes will be completed to the levels 4 or 5, which includes vegetation form, plant type, soil hydrology, and plant species composition, as well as known invasive species, and species of greatest conservation need. Minnesota Natural Heritage System and the Minnesota's Native Vegetation: A Key to Natural Communities will be used.

Outcome	Completion Date
1. 7-County Metro - MLCCS in natural landscapes level 4/5 – 463,967 acres	November 2021
2. 7-County Metro – MLCCS in cultural landscapes level 3/4 – 1,441,724 acres	March 2023
3. 4-County Expanded Metro - MLCCS in natural landscapes level 4/5 – 304,862 acres	November 2024
4. 4-County Expanded Metro – MLCCS in cultural landscapes level 3/4 – 1,008,817 acres	June 2025

Activity 2: Ecological Analysis Protocol Development and Training **Budget: $169,500**

Develop and implement analytical protocol utilizing MLCCS data for a portion of the Anoka Sand Plain, Big Woods, and St. Paul-Baldwin Plains ecological subsections. This protocol will identify and rank project opportunities to the individual property level for ecological protection, restoration and enhancement. Training on the utilization of the protocol and MLCCS data will be provided to all MCD members and other interested partners.

Outcome	Completion Date
1. Subsection reports identifying priority parcels and actions for ecological protection, restoration and enhancement.	
• Anoka Sand Plain	March 2022
• St. Paul-Baldwin Plains & Big Woods	November 2023
2. Three trainings hosted at BWSR Academy and/or throughout the Metro	June 2025

III. PROJECT PARTNERS AND COLLABORATORS:

The MCD is a joint powers organization formed under MN Stat. §471.59 and is composed of eleven members, including: Hennepin and Ramsey counties, and the Soil and Water Conservation Districts of Anoka, Carver, Chisago, Dakota, Isanti, Scott, Sherburne, Washington, and Wright counties. Through its long-standing tradition of collaboration, MCD increases its members' capacity, efficiency, and project outcomes. Each MCD member actively partners with counties, municipalities, watershed management entities, lake associations, and non-profits in their respective jurisdictions.

IV. LONG-TERM IMPLEMENTATION AND FUNDING:

Once completed to a common standard, MLCCS updates will be more easily completed by MCD members utilizing alternative funding sources. It is anticipated that it will cost approximately $3,000/year on average for each county to complete updates utilizing current high resolution aerial photography. Updated MLCCS data and analytical protocols, and subsequent training, will enable practitioners to identify priority areas for land protection, restoration, and enhancement. MLCCS data on vegetative type and impervious cover will inform surface water management efforts.

V. SEE ADDITIONAL PROPOSAL COMPONENTS:

A-Proposal Budget Spreadsheet: B-Visual Component or Map: F-Project Manager Qualifications and Organization Description: G-Letter or Resolution

Attachment A: Project Budget Spreadsheet
Environment and Natural Resources Trust Fund
M.L. 2020 Budget Spreadsheet
Legal Citation:
Project Manager: Chris Lord, Anoka Conservation District Manager
Project Title: Update and Expand 11-County Metro MLCCS Coverage
Organization: Metropolitan Conservation District Joint Powers Board
Project Budget: $2,824,124 Personnel + $32,200 Equipment/Supplies + $78,300 Mileage
Project Length and Completion Date: 5 years - June 30, 2025
Today's Date: April 15, 2019

ENVIRONMENT AND NATURAL RESOURCES TRUST FUND BUDGET	Budget	Amount Spent	Balance
BUDGET ITEM			
Personnel (Wages and Benefits)	$ 2,824,124	$ -	$ 2,824,124
Chris Lord, ACD District Manager, $14,720 ($70.5/hr - 67% salary 33% benefits), 0.02 FTE each year for 5 years - protocol QAQC			
Kathy Berkness, ACD Office Administrator, $5,011 ($48/hr - 67% salary 33% benefits), 0.01 FTE each year for 5 years - project finances			
Ecologists, $1,637,723 ($52.5/hr - 67% salary 33% benefits), 3.32 FTE each year for 4.5 years - delineate and identify polygons on high resolutions aerial photos, and conduct extensive field investigations of natural areas, develop analytical protocols for ecological resources and prepare example work products for portions of three subsections, and provide cross training to other agencies.			
Digitizing Technician, $1,057,050 ($37.5/hr - 67% salary 33% benefits), 3.0 FTE each year for 4.5 years - digitize delineated polygons and populate attribute tables per ecologists notes			
GIS Specialist, $109,620 ($52.5/hr - 67% salary 33% benefits), 0.2 FTE each year for 5 years - protocol, technology and systems management			
Equipment/Tools/Supplies			
This project is highly computer based and will require specialized computer equipment, which will be largely fully depreciated by the end of the five year grant term.			
Field GPS capable tablet for ground truthing (3 @$1,500)	$ 4,500		$ 4,500
Computer work stations with large dual monitors (7 @ 2,000)	$ 14,000		$ 14,000
Digitizing tablets (6 @ $300)	$ 1,800		$ 1,800
ARC GIS licenses (7 @ $1,700)	$ 11,900	$ -	$ 11,900
Travel expenses in Minnesota			
Mileage for ground truthing (50 miles x 200 days x 4.5 years x 3 employees x $0.58/mile per the commissioner's plan)	$ 78,300	$ -	$ 78,300
COLUMN TOTAL	$ 2,934,624	$ -	$ 2,934,624

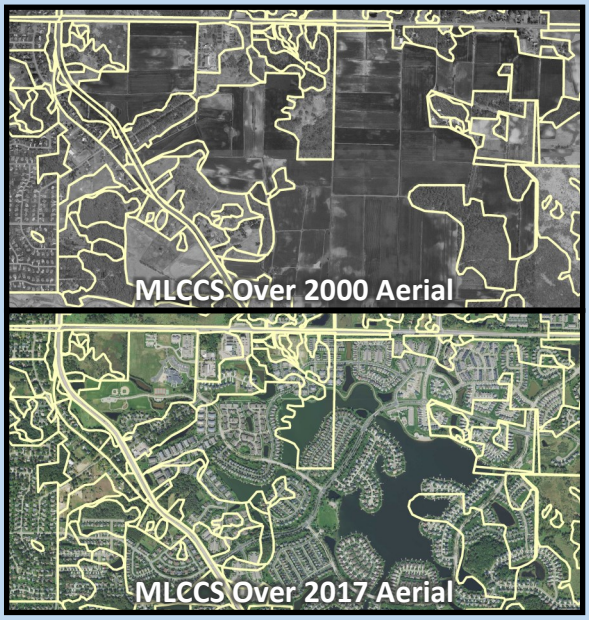
SOURCE AND USE OF OTHER FUNDS CONTRIBUTED TO THE PROJECT	Status (secured or pending)	Budget	Spent	Balance
Non-State:		$ -	$ -	$ -
State:		$ -	$ -	$ -
In kind: MCD member districts will provide facilities, oversight, project management, and technical assistance as needed.	Secured	$ 220,000	$ -	$ 220,000

Other ENRTF APPROPRIATIONS AWARDED IN THE LAST SIX YEARS	Amount legally obligated but not yet spent	Budget	Spent	Balance
		$ -	$ -	$ -

Update and Expand 11-County Metro MLCCS Coverage

Project Outcomes

- Provide critical geospatial Minnesota Land Cover Classification System (MLCCS) data throughout the rapidly developing 3.2M acre 11-county metro area as a foundation for science-based water and ecological resource analysis.
- Develop and employ analytical protocols utilizing MLCCS for a portion of the Anoka Sand Plain, Big Woods, and St. Paul-Baldwin Plains ecological subsections, which will identify and rank parcel specific project opportunities.
- Train local natural resource management professionals on the analytical protocol to strategically implement targeted ecological resource priorities and objectives.



Outdated MLCCS data due to land conversion

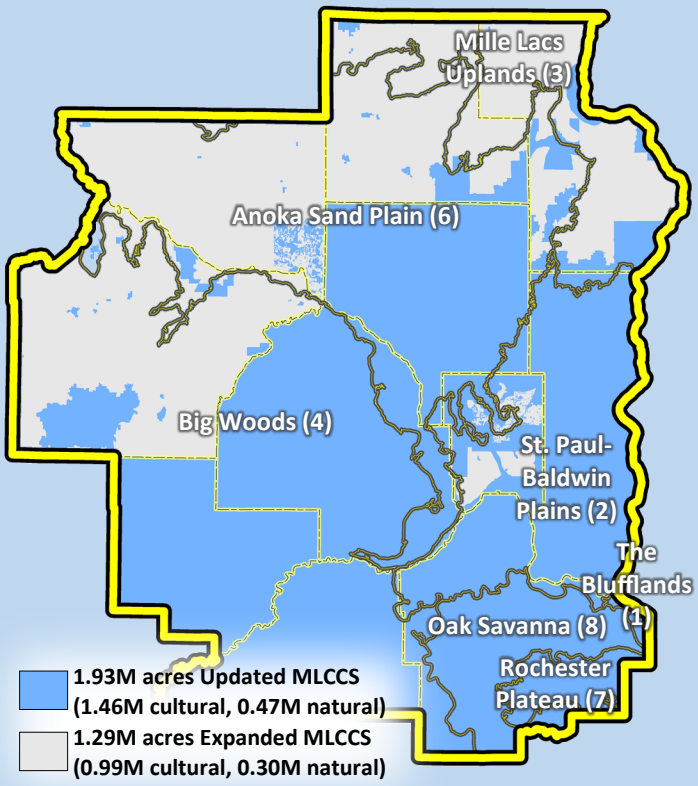
Project Need

Up-to-date MLCCS data provides anthropomorphic feature detail in cultural environments and species level detail in natural environments and is instrumental for natural resource managers.

This resolution of data is critical to inform natural resource management decisions in the 11-county metro area, which;

- is home to 61% of Minnesota's population,
- is expected to grow by an average of 16.8% by 2045,
- is the epicenter of the most intensive water resource management challenges in the state, and
- contains all or portions of 7 of the top 8 ecological subsections in Minnesota ranked in terms of the number of species of greatest conservation need (SGCN).

While common in water resource management, this project will be the first to analyze ecological resources with sufficient rigor to answer the question, "Which property owners should we target with outreach efforts to protect, restore and enhance habitat for species of greatest conservation need, ecological connectivity and resilience, and public enjoyment of wildlife?"



Project area map with MLCCS and ecological subsections (number is statewide SGCN rank)

Metro Conservation Districts | Dakota County Soil & Water Conservation District | Isanti Soil and Water Conservation District | Anoka Conservation District | Chisago SWCD | Hennepin | Wright Soil and Water Conservation District | Washington Conservation District | Carver Soil & Water Conservation District | Scott SWCD Soil & Water Conservation District | Sherburne Soil & Water Conservation District | Ramsey County

Metro Conservation Districts (MCD) is a joint powers board formed under authority of Minnesota Statutes section 471.59. MCD is composed of eleven members, including: Hennepin and Ramsey counties, and the Soil and Water Conservation Districts of Anoka, Carver, Chisago, Dakota, Isanti, Scott, Sherburne, Washington, and Wright counties. MCD serves as an entity under which its members can jointly plan, develop and implement programs and activities for resource conservation. Soil and Water Conservation Districts, which make up the bulk of the membership are a non-regulatory county level subdivisions of state government formed under Minnesota Statutes Chapter 103C. Professional SWCD staff conserve and enhance the natural resources of their counties under the supervision of a locally elected boards of supervisors.

Chris Lord, Anoka Conservation District Manager, will serve as project coordinator; facilitate development of protocols; hire, train, and manage staff; see to the accurate tracking and reporting of all expenses, and see to the timely and accurate delivery of all work products. Chris has 28 years of project management experience, including multi-year projects in excess of $1,000,000. Chris was largely responsible for completing the original Anoka County MLCCS inventory, which utilized many funding sources over many years. Chris has a BS in Natural Resources and Environmental Sciences.