

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

Project Title:

ENRTF ID: 244-FH

Peatland Restoration in the Lost River State Forest

Category: H. Proposals seeking \$200,000 or less in funding

Sub-Category: F. Methods to Protect, Restore, and Enhance Land, Water, and Habitat

Total Project Budget: \$ 135.646

Proposed Project Time Period for the Funding Requested: June 30, 2022 (2 yrs)

Summary:

The project will collect physical attributes from the drained peatlands, incorporate the data into a decision matrix, and generate a report detailing restoration potential throughout the Lost River State Forest.

Name: Torin McCormack

Sponsoring Organization: Roseau River Watershed District

Job Title: Watershed Specialist

Department: _____

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Roseau MN 56751

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Location:

Region: Northwest

County Name: Roseau

City / Township: Roseau

Alternate Text for Visual:

Large map depicts the scope of the project, the photograph illustrates the manipulated hydrology and the inset LiDAR map depicts the degree of subsidence in peat as a result of drainage.

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



PROJECT TITLE: Peatland Restoration in the Lost River State Forest.

I. PROJECT STATEMENT

The Lost River Forest is a state forest located in Roseau County, Minnesota. Lost River Forest contains approximately 72 square miles of wetlands along the Minnesota-Manitoba border between the cities of Roseau and Warroad Minnesota. Outdoor recreation opportunities in the include camping, fishing, hunting and trails designated for hiking and snowmobiling.

Like many large tracts of public land in northern Minnesota, this project area consists of extensive networks of ditches constructed in the early 1900’s to convey surface and subsurface water through the project area promoting agricultural production. Currently agricultural production is very limited. The project area includes Judicial Ditch 61 (JD 61) that removes hydrology from the existing wetlands within the project limits through conveyance resulting in degradation of the peatland wetlands which impacts aquatic and terrestrial habitats. Restoring hydrology to peatland communities within the Lost River State Forest would provide ecological benefits to the plant communities and habitat through restoration of hydrologic connections between peatlands and streams in addition to reducing transport of phosphates, nitrates and suspended sediments through the existing drainage system into Lost River downstream.

The purpose of this project is to assess restoration of peatlands impacted by JD 61 in the Lost River State Forest. Due to size of the Lost River State Forest, the scope of work in this application has been divided into two (36 square mile) phases. The assessment will consist of collecting soil characteristics, water level, floristic diversity, elevation data, restoration feasibility across the ditch corridors. These features will be incorporated with existing GIS datasets to generate a decision matrix which will select the appropriate restoration strategy at each ditch segment. The results of data analysis will be a report detailing areas suitable or not suitable for restoration and potential restoration constraints due to impacts on infrastructure, road systems or private property.

Preliminary hydrologic and geotechnical reviews were completed in the early 1980s as part of the Flood Water Retention Program Flood Control Effectiveness instituted by the Lower Red River Watershed Management Board and the MNDNR. Geotechnical analysis as recent as 2008 has been completed for recent phases of the project. This data will be utilized as historic and supportive data for the project summary report. Comparison of historical reports and geotechnical logs have identified trends within the project area that indicate the need for additional data prior to proposing restoration measures.

This project presents similar challenges faced across public lands in northern Minnesota. Often addressing wetland restoration requires analysis of both the physical characteristics of the wetlands and the interconnection of public infrastructure or private lands to determine the potential of restoration and develop restoration techniques that are applicable to the project. The goal of the project is to assess a broad large scale project and develop a methodology that can be replicated on similar watershed scale wetland restoration projects throughout northern Minnesota.

II. PROJECT ACTIVITIES AND OUTCOMES

Activity 1 Title: Existing Data Review and Data Collection Selection **ENRTF BUDGET: \$4,604.00**

Description: *Review of all available existing historic data that includes aerial photos, geotechnical, county soil survey, NWI and geologic data. Complete pre-selection of data cross sections to create efficiency during field assessments. Licensed Minnesota professional soil scientist in cooperation with Watershed Specialist will review all available historic data. GIS specialist in cooperation with Watershed Specialist will determine cross section locations prior to field assessments.*

Outcome	Completion Date
1. Historic Data Review	August 2020
2. Selection of Data Collection Sites for Phase I and II	August 2020

Activity 2 Title: Collect peat humification data and elevation data

ENRTF BUDGET: \$94,374.80



**Environment and Natural Resources Trust Fund (ENRTF)
2020 Main Proposal Template**

Description: Peat samples and elevation data will be collected at each cross section, located at each 1- foot interval drop in elevation across the ditch laterals. The peat samples will be located 10 meters and 100 meters from the edge of ditch or edge of spoil/roadway. MN Professional Soil Scientist/Classifier will determine humification using VonPost method. Elevation data will be collected 100 meters on either side of the ditch by Watershed specialist. Watershed Specialist will collect peat sample locations and cross section data of roadways or spoil bank, where present.

Outcome	Completion Date
1. Field Data Collection for Phase I	September 2020
2. Field Data Collection for Phase II	September 2021

Activity 3 Title: Generate decision matrix and compose report

ENRTF BUDGET: \$36,667.20

Description: Data collected from the field will be converted to a shapefile format, the elevation and soil data will be combined with existing GIS datasets to create a decision matrix. The results of the decision matrix will be compared to potential constraints of adjacent properties and infrastructure landscape position. A final report will be generated, detailing the process, data results and restoration strategy best suited to the health of wetlands and water quality benefits.

Outcome	Completion Date
1. Summary of Phase I Field Data	December 2020
2. Summary of Phase II Field Data	December 2021
3. Decision Matrix for Phase I and II	June 2022
4. Final Project Report	June 2022

III. PROJECT PARTNERS AND COLLABORATORS:

Roseau Watershed District will be the fiscal agent receiving funds for the project. Roseau County and the Minnesota Department of Natural Resources (DNR) will be cooperating partners in the project. Roseau County Administers JD61 and the Department of Natural Resources oversees the parcels within the project limits. Previously funded projects and studies have been successful with the same project partners. Some of these include; The Palmville Fen Restoration Project, Hay Creek Setback Levees and Norland Impoundment, Roseau River WMA Pool 2/Pool 3 Project and The Beltrami Island State Forest/Headwaters Project. The project partners have two active projects, The Roseau Lake Rehabilitation Project and The Roseau River Restoration Project.

The following local agencies will assist by providing technical input: Minnesota Natural Resource Conservation Service (NRCS), Minnesota Department of Natural Resources (DNR), US Fish and Wildlife Services, US Forest Services and the US Army Corps of Engineers. Outside services required to complete the project include soil classification, environmental and GIS services.

IV. LONG-TERM IMPLEMENTATION AND FUNDING:

The long-term implementation of the project is to complete large scale peatland restoration within the Lost River State Forest. The restoration of hydrology and vegetation of these wetland complexes will provide numerous ecological and water quality benefits both within and downstream of the Lost River State Forest. Secondly a result of the project will develop a methodology that can be replicated on similar watershed scale wetland restoration projects throughout northern Minnesota and a “road map” for watershed scale restorations that provide sustainable strategies to improve water quality, ecological integrity and resiliency to climatic change.

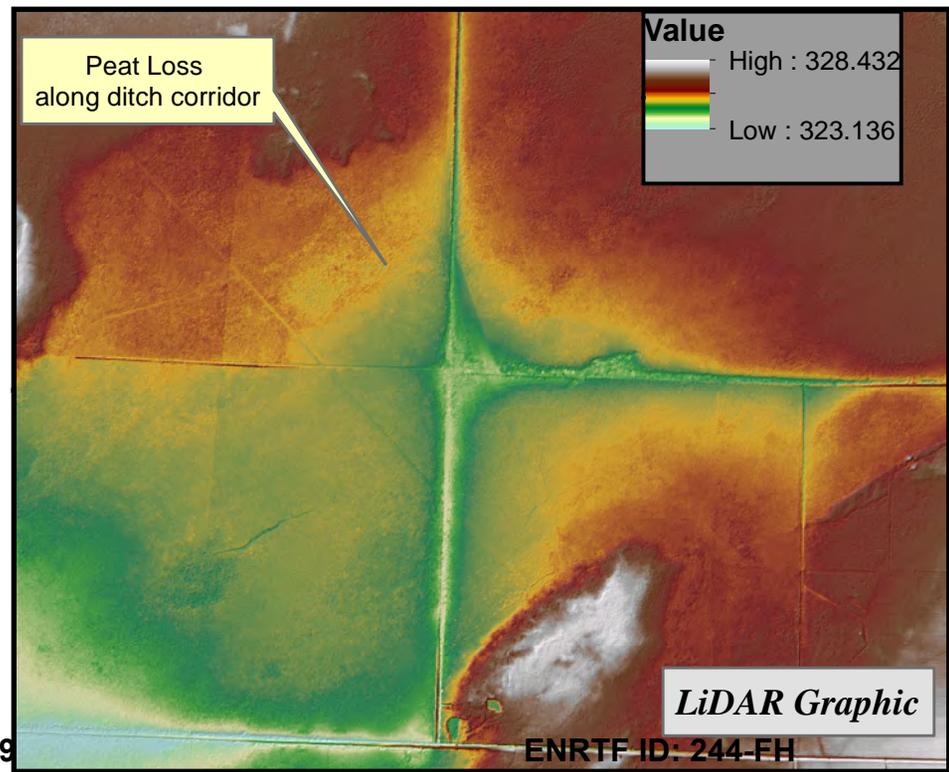
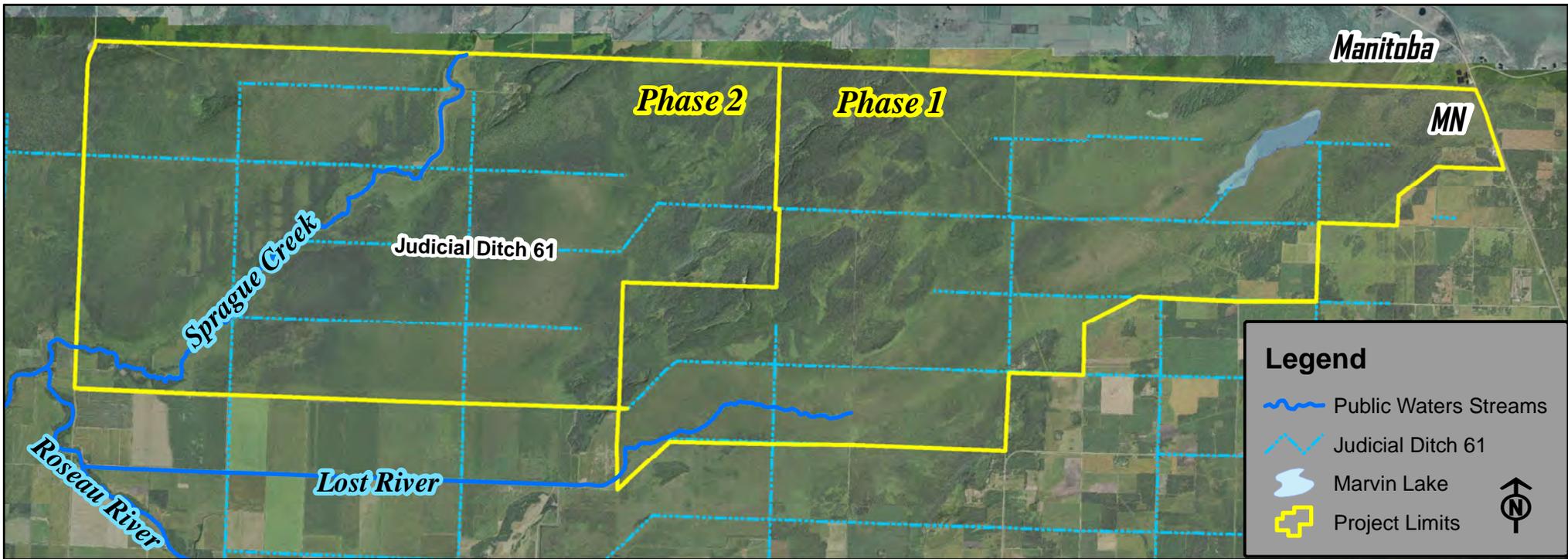
Additional funding requests will be required for engineering and construction of peatland restoration in the Lost River State Forest. Long-term monitoring and maintenance will be implemented on future funded restoration projects to assure all constructed peatland restoration measures are adequately functioning as designed in addition to monitoring the ecological and biological diversity of the peatland wetlands.

Attachment A: Project Budget Spreadsheet
 Environment and Natural Resources Trust Fund
 M.L. 2020 Budget Spreadsheet



Legal Citation:
 Project Manager: Torin McCormack
 Project Title: Peatland Restoration in the Lost River State Forest.
 Organization: Roseau River Watershed District
 Project Budget: \$135,646.00
 Project Length and Completion Date: 3 years, 6/30/2022
 Today's Date: 4/15/2019

ENVIRONMENT AND NATURAL RESOURCES TRUST FUND BUDGET		Budget	Amount Spent	Balance
BUDGET ITEM				
Personnel (Wages and Benefits)		\$ 43,966	\$ -	\$ 43,966
Watershed Specialist wages; phase 1 fieldwork 168 hrs (\$12,88.24), phase 2 fieldwork 192 hrs (\$14,386.56), GIS Services 60hrs (5,994.40), Report Writing 20hrs (\$1,498.60), Hydraulic Analysis 20hrs (\$1,498.60) Total = \$35,966.00 (7%FTE for 3 years) .				
Watershed Administrator wages; project coordination and grant reporting 106 hrs (\$8,000.00)Total = \$8,000.00 (5% FTE for 3 years)				
Professional/Technical/Service Contracts				
Contract with TBD to complete Phase 1 and 2 fieldwork, Report Writing, Hydraulic Analysis and GIS Services. Contractor will be selected through a RFQ process.		\$ 72,080	\$ -	\$ 72,080
Equipment/Tools/Supplies				
Survey Equipment Rental 360 hrs @ \$25hr = \$9,000.00 ATV With Tracks Rental 250 hrs @ \$30hr = \$7,500.00 Peat Sampling Equipment: \$2,100.00		\$ 19,600	\$ -	\$ 19,600
Capital Expenditures Over \$5,000				
		\$ -	\$ -	\$ -
		\$ -	\$ -	\$ -
COLUMN TOTAL		\$ 135,646	\$ -	\$ 135,646
SOURCE AND USE OF OTHER FUNDS CONTRIBUTED TO THE PROJECT				
	Status (secured or pending)	Budget	Spent	Balance
Non-State:		\$ -	\$ -	\$ -
State:		\$ -	\$ -	\$ -
In kind: Roseau River Watershed, Project Construction Fund: Staff Time Watershed Specialist 120 hrs Total = \$8,991.60 Administrative Assistant 40 hrs Total = \$1,480.00 Professional/Consultant Services 90 hrs Total = \$11,700.00		\$ 22,172	\$ -	\$ 22,172
Other ENRTF APPROPRIATIONS AWARDED IN THE LAST SIX YEARS		Budget	Spent	Balance
		\$ -	\$ -	\$ -





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Project Manager Qualifications/Organization Description

Torin McCormack – Watershed Specialist

Torin McCormack has been employed by the Roseau River Watershed since 2013. Torin holds a Bachelor of Science Degree in Geography with an emphasis in Land-use and Regional Planning Methods, Geographic Information Systems (GIS) and a minor in Wetland Ecology from Bemidji State University.

As the Watershed Specialist he is integral in design, construction and monitoring of all projects within the district. For larger projects his tasks include; wetland delineation, locating potential mitigation sites, stream/wetland restoration design and wetland monitoring. For smaller projects and programs, his tasks include landowner outreach/education, targeting priority resource concerns, collection of data and project design. Torin serves as a liaison and technical service provider between the public, local government units and regulatory agencies both in a project capacity and in day to day operations to improve water resources and public health.

Roseau River Watershed District

The Roseau River Watershed District was originally established as The Roseau River Drainage and Conservancy District in 1919 and later designated a watershed district in 1963. The watershed's overall mission is to manage the waters and related resources within the Roseau River Watershed District in a reasonable and orderly manner which will improve the general welfare and public health of the residents of the district.

The watershed district has fostered partnerships with state, federal, tribal and local units of government using a project team process which is instrumental in developing large multi-faceted projects to meet the overall mission of the district. The projects constructed through the project team process include; The West Intercept Channel and Restoration Site, Norland Impoundment and Hay Creek Setback Levee, Palmville Fen Restoration and The Roseau River WMA Pool 2 and Pool 3 Outlet Project. The Roseau Lake Rehabilitation Project, Beltrami Island State Forest Project and Roseau River Restoration Project are in various stages of permitting, alternatives analysis and engineering under the oversight of the project team.