



# Environment and Natural Resources Trust Fund

## 2021 Request for Proposal

### General Information

**Proposal ID:** 2021-180

**Proposal Title:** Carbon Sequestration and Climate Resiliency Using Forest Management

### Project Manager Information

**Name:** Jeff Hrubes

**Organization:** Board of Water and Soil Resources

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### Project Basic Information

**Project Summary:** Field test new and expanded tree establishment practices through a coordinated program to establish long-lived conifers and other climate resilient species emphasizing carbon sequestration, watershed protection and wildlife habitat.

**Funds Requested:** \$615,000

**Proposed Project Completion:** 2024-12-31

**LCCMR Funding Category:** Methods to Protect, Restore, and Enhance Land, Water, and Habitat (F)

### Project Location

**What is the best scale for describing where your work will take place?**

Region(s): Central, NE,

**What is the best scale to describe the area impacted by your work?**

Region(s): Central, NE,

**When will the work impact occur?**

During the Project and In the Future

## Narrative

### **Describe the opportunity or problem your proposal seeks to address. Include any relevant background information.**

This project establishes climate resilient and ecologically appropriate tree species on lands currently used for marginal agriculture and/or recreation. It stacks public benefits by diversifying habitats, protecting water quality, sequestering carbon and jump-starting healthy forests in anticipation of future climate conditions. Trees are an important part of the carbon capture/emission reduction goals that the State of Minnesota is developing. Long-lived conifers and other tree species that have been identified as resilient to projected changes in climate could make up a larger portion of the overall mix of trees that landowners establish on their property. However traditional agro-forestry planting methods are not necessarily best suited to ensure a robust, multi-species forest that anticipates future climatic conditions. There is a need for additional information about, and demonstration of, successful alternative establishment methods. Re-establishing forests in the transition zone of Minnesota where thousands of acres of original tree cover have been converted to other land covers would help sequester carbon in the soil as well as provide economic returns, watershed protection and wildlife habitat benefits. Existing conservation easements and long-term land covenants are ideal locations to prioritize for piloting private forest management that emphasizes future adaptability and resilience.

### **What is your proposed solution to the problem or opportunity discussed above? i.e. What are you seeking funding to do? You will be asked to expand on this in Activities and Milestones.**

Successful completion of this project can change the way that private forests are managed and established. Information and techniques that benefit watershed protection, habitat enhancement, carbon sequestration and climate adaptability can be offered as alternatives to private landowners who are looking for a way that they can contribute to solve large scale problems by leveraging the relationship Soil and Water Conservation Districts have with private landowners and the desire of landowners to participate in long-term solutions. Available information about soil conditions, the original native vegetation and an analysis of trees resilient to a changing climate has grown substantially in recent years. This information is being highlighted in watershed scale Landscape Stewardship Plans and integrated into Comprehensive Watershed Management Plans. This information can be effectively packaged and delivered to landowners through enhanced private forest management plans identifying areas where forests can be better managed for anticipated climatic conditions. Increasing the diversity of forest species and, to use a hockey analogy skating to where the puck (or climate conditions) will be rather than where they are, is a critical part of avoiding severe habitat and watershed disruptions as changing conditions outpace the ability of forests to adapt to those changing conditions.

### **What are the specific project outcomes as they relate to the public purpose of protection, conservation, preservation, and enhancement of the state's natural resources?**

This project will develop forest stewardship plans emphasizing management for, and establishment of, climate resilient, site-appropriate tree species. It will identify and demonstrate alternative tree planting, establishment and maintenance methods to ensure success. It will rebalance the mix of trees planted toward species like long-lived pines, and other species that are identified as having a competitive advantage in anticipated climate conditions. It can serve as a pilot investigating the potential of a new conservation program focused on tree planting for climate adaptation and other environmental and economic benefits using priorities identified in Landscape Stewardship Plans and Comprehensive Watershed Management Plans.

## Activities and Milestones

### Activity 1: Use established lines of communication to inform landowners about future forest resiliency and options to initiate activities on their land

**Activity Budget:** \$490,000

**Activity Description:**

Emphasize tree species selection, management and establishment to hit the sweet spot where existing soil conditions, carbon sequestration benefits of long-lived species, future climate resiliency, watershed protection and habitat diversity intersect in portions of central Minnesota. Targeted areas will include areas identified in Comprehensive Watershed Management Plans (One Watershed One Plan) and Landscape Stewardship plans that could provide benefits by re-established forests but currently support marginal agricultural production, recreation or are non-native open grassland. This can be accomplished through communication outreach, training and producing individual forest stewardship plans that emphasize current and future benefits of a diverse native forest. This activity will need to be continued throughout the course of the project. Enlisting individual forest owners to consider and implement long-term beneficial changes will require identification of suitable areas and targeted outreach to solicit and train landowners in forestry objectives. Currently, there are fewer than 100 certified forest stewardship plan writers in Minnesota. An additional 3-5 Soil and Water Conservation District staff focused on delivering individual forest stewardship plans that provide the identified long-term benefits will be needed to increase the number of landowner managing their property to achieve those benefits.

**Activity Milestones:**

Description	Completion Date
Increase the diversity of resilient site-adapted tree species offered for sale by SWCDs	2022-04-30
Prioritize landowner outreach in watersheds targeted via One Watershed One Plan and Landscape Stewardship Plans	2023-12-31
Deliver up to 50 Individual Forest Stewardship Plan enhancements	2023-12-31

### Activity 2: Demonstrate alternative tree establishment techniques to protect resource investment and increase successful implementation rates

**Activity Budget:** \$125,000

**Activity Description:**

Work with Soil and Water Conservation Districts to solicit landowners willing to demonstrate alternative forest establishment methods and installation techniques that protect the initial investment in trees and minimize tree losses due to browse and vegetative competition. Some of the techniques to be evaluated include block planting of appropriate species in conjunction with area rather than individual protective fencing, gravel bed growing medium to produce larger transplantable stock rather than relying on seedlings, planting larger stock and managing the surrounding area to allow natural seed dispersion, transplanting trees from adjacent properties and preparing areas for dense seeding of appropriate tree species. SWCD partners will work with landowners to conduct maintenance of tree plantings for an extended period to ensure project success rather than letting the seedlings fend for themselves. Extended conservation contracts and potential enrollment in the Sustainable Forest Incentives Act in areas identified in individual forest stewardship plans will be included to ensure that "new" forest areas are viable and have enough time to mature to be self sustaining.

**Activity Milestones:**

Description	Completion Date
Develop extended conservation contracts and identify willing landowners for demonstration projects	2021-12-31
Maintenance activities to ensure maximum survival of demonstration plantings	2023-09-30
Install demonstration forest establishment projects	2023-12-31

## Long-Term Implementation and Funding

**Describe how the results will be implemented and how any ongoing effort will be funded. If not already addressed as part of the project, how will findings, results, and products developed be implemented after project completion? If additional work is needed, how will this be funded?**

Successful completion of this project can change the way that private forests are managed and established. Watershed-level prioritization combined with site specific information and techniques emphasizing climate adaptability and carbon sequestration/emission reduction goals will be delivered to private landowners. This pilot effort also prepares BWSR to pursue emerging funding sources focused on climate adaptation and mitigation. Results of this program will be communicated as part of the BWSR Academy, Technical Training Initiative and What's Working webpage. Ongoing implementation will be diversified tree species selections and enhanced establishment techniques offered by SWCDs communicated to landowners by public and private foresters.

## Project Manager and Organization Qualifications

**Project Manager Name:** Jeff Hrubes

**Job Title:** Clean Water Specialist

**Provide description of the project manager's qualifications to manage the proposed project.**

30 years experience with grant proposal development, grant review and grant management. Project management experience at the local and state level including Clean Water Partnership investigation and implementation, Total Maximum Daily Load (TMDL) investigations at MPCA, Clean Water Fund grant management and Comprehensive Watershed Plan (1W!P) at BWSR. Experience in developing and maintaining complex watershed projects involving multiple partners, funding sources and a range of outcomes. Capacity to work with technical documents and specifications as well as financial and fiscal management of projects. Bachelor of Science degrees in Aquatic Biology and Business Administration. Familiarity with Minnesota's conservation delivery system that includes State agencies, local Soil and Water Conservation Districts along with Federal partners focused on partnering with private landowners.

**Organization:** Board of Water and Soil Resources

**Organization Description:**

The Minnesota Board of Water and Soil Resources (BWSR) consists of 20 members. Members can be citizens, state agency staff, or local government representatives that deliver BWSR programs. The board is the state's administrative agency for 90 soil and water conservation districts, 46 watershed districts, 23 metropolitan watershed management organizations, and 80 county water managers. The board sets a policy agenda designed to enhance conservation delivery through local government partners. Board members, including the board chair, are appointed by the governor to staggered four-year terms.

Because 78 percent of the state's land is held in private ownership, BWSR's focus on private lands is critical to attaining the state's goals for clean water, clean air, and abundant fish and wildlife. These working lands - Minnesota's farms, forests, and urban areas - contribute greatly to the production of environmental goods and benefits including cleaner air and water, fish and wildlife habitat, and preservation of open spaces.

## Budget Summary

Category / Name	Subcategory or Type	Description	Purpose	Gen. Ineligible	% Benefits	# FTE	Classified Staff?	\$ Amount
<b>Personnel</b>								
							<b>Sub Total</b>	-
<b>Contracts and Services</b>								
TBD	Professional or Technical Service Contract	The Soil and Water Conservation Districts will be providing technical assistance for forest stewardship planning and re-forestation assistance and training to landowners. Financial assistance for demonstrating alternative establishment and maintenance techniques will be provided to private landowners through conservation contracts delivered through the local conservation delivery system already in place.				7.5		\$450,000
Soil and Water Conservation District	Professional or Technical Service Contract	Tree services to transplant existing stock and/or large tree stock for alternative establishment demonstration plots				-		\$20,000
Soil and Water Conservation District	Professional or Technical Service Contract	Improved maintenance techniques, site preparation and more frequent maintenance of tree plantings to ensure plantings get off to a good start and protect public investment in tree stock				-		\$20,000
							<b>Sub Total</b>	<b>\$490,000</b>
<b>Equipment, Tools, and Supplies</b>								
	Tools and Supplies	Seedling tree stock and materials needed for installation and maintenance	Establish demonstration areas and reforest appropriate areas					\$40,000
	Tools and Supplies	Sapling tree stock and maintenance	Purchase, install and protect tree stock from over browsing and vegetative competition					\$60,000
	Tools and Supplies	Gravel bed development	Propagate larger tree stock					\$25,000
							<b>Sub Total</b>	<b>\$125,000</b>

<b>Capital Expenditures</b>								
							<b>Sub Total</b>	-
<b>Acquisitions and Stewardship</b>								
							<b>Sub Total</b>	-
<b>Travel In Minnesota</b>								
							<b>Sub Total</b>	-
<b>Travel Outside Minnesota</b>								
							<b>Sub Total</b>	-
<b>Printing and Publication</b>								
							<b>Sub Total</b>	-
<b>Other Expenses</b>								
							<b>Sub Total</b>	-
							<b>Grand Total</b>	<b>\$615,000</b>

Classified Staff or Generally Ineligible Expenses

Category/Name	Subcategory or Type	Description	Justification Ineligible Expense or Classified Staff Request
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Non ENRTF Funds

Category	Specific Source	Use	Status	Amount
<b>State</b>				
In-Kind	Clean Water Fund	Staff support for project reporting and working with local partners. Coordination with Comprehensive Watershed Management Plan priorities and project implementation.	Pending	\$25,000
			<b>State Sub Total</b>	<b>\$25,000</b>
<b>Non-State</b>				
In-Kind	Local Soil and Water Conservation District support for positions, technical training and administrative requirements associated with project delivery	Routine administration and oversight by Staff and elected boards to assure effective delivery of products to landowners and successful installation and maintenance of demonstration projects.	Pending	\$25,000
			<b>Non State Sub Total</b>	<b>\$25,000</b>
			<b>Funds Total</b>	<b>\$50,000</b>

## Attachments

### Required Attachments

#### *Visual Component*

File: [ea26e167-0af.pdf](#)

#### *Alternate Text for Visual Component*

The attached map shows the status of Comprehensive Watershed Management Plans(One Watershed One Plan) and Forest Landscape Stewardship plans in Minnesota, The primary watersheds under consideration for this grant include Snake River, Redeye River, Rum River and others in the transition zone of Central Minnesota. Specific areas of additional watersheds may be suitable for implementation activities.

## Administrative Use

**Does your project include restoration or acquisition of land rights?**

No

**Does your project have patent, royalties, or revenue potential?**

No

**Does your project include research?**

No

**Does the organization have a fiscal agent for this project?**

No

# One Watershed, One Plan Participating Watersheds



