



# Environment and Natural Resources Trust Fund

## 2023 Request for Proposal

### General Information

**Proposal ID:** 2023-117

**Proposal Title:** Restoring Forests and Savannas Using Silvopasture - Phase2

### Project Manager Information

**Name:** Brad Gordon

**Organization:** Great River Greening

**Office Telephone:** (651) 272-3991

**Email:** bgordon@greatrivergreening.org

### Project Basic Information

**Project Summary:** Demonstrate, evaluate, and increase adoption of silvopasture - the combined use of tree, forage, and grazing management - as a method to restore and manage forests and savannas across Minnesota

**Funds Requested:** \$674,000

**Proposed Project Completion:** June 30, 2026

**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?**

Statewide

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

Statewide

**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.**

Many farms across Minnesota contain forested acres that are considered marginal or unproductive and thus unmanaged, invasive infested, and underutilized. These acres, left unmanaged, contain many invasive shrub and tree species that have degraded the habitat and become sources of seed into neighboring public lands. Minnesota contains 17.4 million acres of forestland, and over 7 million of those acres are privately owned. In 2014, there were over 640,000 acres of unmanaged wooded pasture in Minnesota, and many of the degraded forest acres were once oak savanna which has been reduced by approximately 99.8% across the state.

Landowners are losing habitat for wildlife and pollinator species, but they are also incurring the crop treatment costs related to allowing buckthorn to thrive as an alternate host to oat crown rust (*Puccinia coronata*) and soybean aphid (*Aphis glycines* Matsumura). Managing these forests also includes costs for private landowners. However, there are opportunities for farmers to create returns on these management investments which could drive private land restoration. Silvopasture, the practice of intentionally combining management of trees, forage, and grazing as one integrated practice has been successfully implemented in parts of Minnesota, but its potential still needs to be better understood.

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

This project is the second phase of the M.L.2019 project "Promoting and Restoring Oak Savanna Using Silvopasture." We are seeking funding to better understand the benefits and expand the practice of silvopasture across the state of Minnesota. First, we are seeking to conduct outreach and demonstration projects through workshops, field days, webinars, online materials, and e-learning tools, including the University of Minnesota's Silvopasture Learning Network. Through field days and workshops we will invite farmers and landowners (with an emphasis on BIPOC and other traditionally underserved communities) to learn about best practices for restoring forests and savannas, fencing construction, economic considerations, and managed grazing techniques. Second, we will continue to assess the environmental effects of silvopasture. We will continue to monitor plants, pollinators, soil health, and water quality at the Sherburne National Wildlife Refuge, heading into years 4 through 7 of managed grazing. There will also be before-and-after surveys at each of the six outreach and demonstration sites to determine how well native plants and pollinators recover after the initial restoration practices and grazing implementation. Third, we will perform an economic survey and case studies to help farmers evaluate the costs and benefits of initiating silvopasture on their lands.

### **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 outreach, demonstration, and monitoring work will continue to inform restoration partners of the benefits of utilizing silvopasture for restoring and managing forests and savannas across the state of Minnesota. It will also provide the economic data and training needed for landowners to perform initial restoration activities and maintain proper grazing practices for the benefit of native plants and pollinators. The silvopasture partners will continue to recruit members to the Silvopasture Learning Network where farmers and agricultural and forestry professionals can exchange ideas, methods, and results from demonstrations and surveys.

## Activities and Milestones

### Activity 1: Scale up the use of Silvopasture across Minnesota through the Silvopasture Learning Network, conducting outreach activities and educational materials

**Activity Budget:** \$317,300

**Activity Description:**

Great River Greening and the Sustainable Farming Association of Minnesota will utilize the recently developed Silvopasture Learning Network (SLN) to create farmer-to-farmer learning opportunities and outreach activities. We will share results from environmental surveys, best practices for initial restoration, intensive grazing practices for managing habitat, and economic tools for determining return on investment. Six on-farm demonstration workshops and field day sites will be established to engage farmers and landowners and educate attendees about considerations for restorations and ensuing management with silvopasture on their lands. Native plants, pollinators, wildlife and soil health will be emphasized while demonstrating buckthorn removal, tree thinning, and native seedings and plantings. Workshops and field days will be hosted in each of the northern, central, and southern regions of Minnesota and demonstrate activities in various forest and savanna systems, depending on the ecological region. Additionally, workshops specifically about fencing and grazing management will be hosted in each region of the state due to its importance in correctly implementing silvopasture. There will also be one webinar each year that will focus on questions raised by SLN members. Other interactive materials will be developed, including e-learning tools and video documentation, that will be posted and shared through the SLN.

**Activity Milestones:**

Description	Completion Date
Host three demonstration workshops, one fencing workshop, and one webinar in year one.	June 30, 2024
Host one demonstration workshop/field day, one fencing workshop, and one webinar in year two.	June 30, 2025
Develop and share online e-learning tools and video documentation through the Silvopasture Learning Network	June 30, 2026
Host two demonstration workshops/field days, one fencing workshop, and one webinar in final year.	June 30, 2026

### Activity 2: Establish Silvopasture monitoring and data sharing platform

**Activity Budget:** \$210,800

**Activity Description:**

To advance the practice of restoration with silvopasture and improve the distribution of data, Great River Greening (GRG) and the Sustainable Farming Association of Minnesota will monitor sites that have been restored and managed with silvopasture and develop a data-sharing platform through the Silvopasture Learning Network. Continued monitoring of vegetation, pollinators, soil health, and water quality at Sherburne National Wildlife Refuge is essential for establishing baseline data for long-term grazing management in Minnesota oak savannas. Additionally, the six demonstration sites from Activity 1 will be surveyed and monitored before and after demonstration workshops using the same parameters as the long-term monitoring site. These surveys will display the initial impacts and recovery of native forest and savanna habitats on private lands over the course of two to three years using meander and quadrat survey methods. GRG will work with farmers and landowners to help them monitor improvements to habitat and share results on data-sharing platforms. It is important to monitor how well native plant and pollinator species recover and thrive in these systems when good grazing practices are implemented. Soil health surveys will evaluate fertility, microbial activity, carbon, organic matter, and aggregate stability and will follow protocols established during phase one.

**Activity Milestones:**

Description	Completion Date
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Survey six sites before demonstration workshop activities	June 30, 2024
Establish data sharing platform for landowners and farmers to share vegetation and pollinators observed	June 30, 2024
Develop report of monitoring at Sherburne Wildlife Refuge	June 30, 2026
Survey six sites after demonstration workshop activities	June 30, 2026

### Activity 3: Conduct economic analyses to understand costs to restore forests and savannas with silvopasture and compare to traditional restoration approaches

**Activity Budget:** \$145,900

**Activity Description:**

Economic data are presently lacking for helping farmers and landowners calculate whether there will be a return on investments to convert neglected forest acres to productive silvopasture systems. The Center for Integrated Natural Resources and Agricultural Management at the University of Minnesota will lead an economic analysis of silvopasture for restoring and managing forests and savannas in the state of Minnesota. We will compare current costs of agency-sponsored savanna and forest restoration to restoration using a silvopasture approach. We will estimate how much costs for restoration can be reduced by using a silvopasture approach in partnership with local farmers, thus saving agency and taxpayer dollars. We will also estimate the costs farmers and landowners would incur if they convert their land to a silvopasture system along with the benefits they would gain from grazing previously unproductive and invasive species-dominated acres. The Farmmaps program and networking tool developed in the first phase of this project will be adapted to include silvopasture economic case studies and calculators for switching to silvopasture. The case studies, Farmmaps program, and interactive tool can be accessed by other farmers and natural resource professionals interested in learning more about silvopasture and how to apply it into practice.

**Activity Milestones:**

Description	Completion Date
Cost comparison of restoring oak savanna using silvopasture with farmers vs current restoration practices.	June 30, 2026
Develop interactive material for farmer/landowners to estimate costs and benefits of silvopasture systems	June 30, 2026

## Project Partners and Collaborators

Name	Organization	Role	Receiving Funds
Lucinda Winter	Sustainable Farming Association of Minnesota	SFA is a 30-year-old farmer-to-farmer network, with a membership of 1,300 family farmers, small-business people, agricultural professionals, educators, and food advocates who are dedicated to improving soil health and protecting our natural resources by advancing sustainable farming practices through technical assistance, mentorships, workshops, café chats, webinars, and more.	Yes
Dean Current	Center for Integrated Natural Resources and Agricultural Management - University of Minnesota	CINRAM is a partner-based organization that catalyzes the development and adoption of integrated land use systems. They will perform economic surveys, interviews, and evaluations of the costs and benefits of silvopasture in Minnesota. Staff will work directly with farmers, agency staff, and partners to collect the most accurate data.	Yes

## 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 work be funded?**

This is the second phase of the project. The goal of the project is to create a network of farmers through which data and best practices can be shared. We aim to collect and organize the data necessary to help farmers make the best decisions for improving the bottom line of their operations and habitat on their lands. The results of this project will be shared and circulated through the Silvopasture Learning Network, e-learning tools, conferences, online material, and webinars. As long-term restoration data are collected and organized, the network should become sustainable through smaller grants to manage the network.

## Other ENRTF Appropriations Awarded in the Last Six Years

Name	Appropriation	Amount Awarded
Upland, Wetland, and Shoreline Restoration in Greater Metropolitan Area	M.L. 2016, Chp. 186, Sec. 2, Subd. 08g	\$509,000
Community Stewardship to Restore Urban Natural Resources - Phase Ten	M.L. 2017, Chp. 96, Sec. 2, Subd. 08i	\$524,000
Promoting and Restoring Oak Savanna Using Silvopasture	M.L. 2019, First Special Session, Chp. 4, Art. 2, Sec. 2, Subd. 08b	\$750,000
Pollinator Central: Habitat Improvement with Citizen Monitoring	M.L. 2021, First Special Session, Chp. 6, Art. 5, Sec. 2, Subd. 08a	\$750,000
Pollinator Central II: Habitat Improvement With Community Monitoring	M.L. 2021, First Special Session, Chp. 6, Art. 6, Sec. 2, Subd. 08c	\$631,000

## Project Manager and Organization Qualifications

**Project Manager Name:** Brad Gordon

**Job Title:** Southern Minnesota Program Manager

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

Brad Gordon received his PhD from the University of Minnesota in Water Resources Science and his master's degree from Taylor University in Environmental Science. He has extensive experience studying and working in the fields of

ecological restoration, agricultural best management practices, environmental policy, science communication, water quality, and watershed management. His work as Great River Greening's Southern Minnesota Program Manager began in July 2019. In that role he has been working with partners to restore hundreds of acres of natural areas, coordinate watershed outreach efforts, organize farmer meetings, and establish new cover and perennial crops. His work has focused on both the quality of natural area restoration projects and the functionality of natural areas for improving the economic, agronomic, and environmental sustainability of agricultural practices.

**Organization:** Great River Greening

**Organization Description:**

Great River Greening's mission is to secure the legacy of Minnesota land and water through community-based restoration, stewardship and partnership, striving to improve Minnesota's natural resources, protect clean air and water, and increase community access to sustainable open space. Since 1995, Great River Greening has engaged 49,300 volunteers (12,800 of them youth) in hands-on education and stewardship activities, helping restore over 17,000 acres of habitat in 400 communities across Minnesota. Great River Greening focuses our work in locations and on activities that provide conservation impact, ecosystem services, and community benefits, with projects including: developing planting designs and/or restoration management plans for natural areas; planting native trees, shrubs, wildflowers, and grasses; stabilizing shorelands and ravines; conducting ecological inventories; implementing conservation practices on farmland; and completing restoration and management activities including exotic species removal, prairie seed collection, and prescribed burns. In addition, Great River Greening engages community members from schools, faith groups, civic groups, businesses, and veterans groups in public volunteer events and engages over 100 youth per year through targeted service-learning programs. Through community education and engagement, Greening is restoring natural resources, while building environmental leaders and stewards of tomorrow.

## Budget Summary

Category / Name	Subcategory or Type	Description	Purpose	Gen. Ineligible	% Benefits	# FTE	Classified Staff?	\$ Amount
<b>Personnel</b>								
Program/Project Manager Ecologist		Manages day to day project execution, contractors, project deliverables, budget and timeline. Leads vegetation, pollinator, and soil surveys; analyzes data; evaluates demonstration sites; maintains the Silvopasture Learning Network; and assists with field days and webinars.			21%	0.39		\$109,600
Field Technician(s)		Conducts demonstration site work to support project deliverables and performs plant, pollinator, and soil surveys			21%	0.27		\$44,300
Events and Outreach Manager		Manages tasks related to event development, event execution, and outreach in coordination with the Sustainable Farming Association			21%	0.03		\$3,400
Communications Manager		Assists with developing promotional materials and coordinating the communications contract			21%	0.03		\$3,000
Operations Director		Oversees and assists Project Managers and Ecologists			21%	0.06		\$10,300
Finance Director		Oversees Finance department			21%	0.03		\$3,000
Accounting Manager		Processes reimbursement requisitions			21%	0.12		\$7,900
Grant Administrator		Tracks grant budget, project budgets, develops status reports and amendments			21%	0.42		\$27,900
							<b>Sub Total</b>	<b>\$209,400</b>
<b>Contracts and Services</b>								
TBD	Professional or Technical Service Contract	Tree and shrub removal sub-contracts following state competitive RFP requirements; there will likely be multiple subcontracts due to the multiple locations across the state; tree and shrub removal will be for each demonstration workshop				0.2		\$52,000
Sustainable Farming Association of Minnesota	Sub award	Provide farm consults and on-site assistance to support farmers and landowners who are adopting silvopasture; lead grazing management demonstrations; host webinars and field days; assist with network outreach and material development; Funds for personnel, travel, mileage,		X		0.42		\$105,000

		supplies, and other: event expenses include handouts, health food/beverages, and toilet/tent rental.						
TBD	Professional or Technical Service Contract	Communications contract for documenting silvopasture activities through video and other online material development				0.9		\$28,000
University of Minnesota - Bioproducts and Biosystems Engineering	Professional or Technical Service Contract	Hydrological and water quality monitoring at Sherburne demonstration site; faculty from Phase 1 will continue monitoring the wells and piezometers they installed previously				0.18		\$35,000
Department of Soil, Water, and Climate- University of Minnesota	Professional or Technical Service Contract	Expert consultation and assistance with soil health surveys across Sherburne Wildlife Refuge and the six demonstration workshop sites by UMN staff who designed the soil monitoring protocols in Phase 1 of the project.				0.04		\$7,200
Center for Integrated Natural Resources and Agricultural Management - University of Minnesota	Sub award	Conduct economic analyses to understand costs to restore forests and savannas with silvopasture and compare to traditional restoration approaches. Adapt Farmmaps professional networking tool to include silvopasture case studies. Funds for personnel, travel, mileage, supplies, and tool development for one faculty, one graduate student, and one undergraduate student.				1.26		\$140,800
							<b>Sub Total</b>	<b>\$368,000</b>
<b>Equipment, Tools, and Supplies</b>								
	Tools and Supplies	Seed and tree seedlings for demonstration workshops	Native seed for grazing the understory and tree seedlings for demonstrating restoration activities in silvopasture acres					\$26,000
	Tools and Supplies	Sampling supplies	Gloves, bags, coolers, sampling equipment, and other field supplies for plant, pollinator, and soil sampling					\$2,600
							<b>Sub Total</b>	<b>\$28,600</b>
<b>Capital Expenditures</b>								



							<b>Sub Total</b>	-
<b>Acquisitions and Stewardship</b>								
							<b>Sub Total</b>	-
<b>Travel In Minnesota</b>								
	Miles/ Meals/ Lodging	Mileage, lodging, and meals for project personnel to implement all components of the project - 100 trips with approximately 14,000 miles (\$8,440)- rates are based on state projected rates; lodging for 6 events, 2 staff, 1 night each (\$2,160); Meals for 12 travel days, 2 staff (\$300)	Mileage to Sherburne Wildlife Refuge for annual surveys, demonstration workshop setup, demonstration workshop events, demonstration site surveys, and farmer meetings					\$10,900
							<b>Sub Total</b>	<b>\$10,900</b>
<b>Travel Outside Minnesota</b>								
							<b>Sub Total</b>	-
<b>Printing and Publication</b>								
	Printing	Printing educational materials and displays	Printing educational materials and displays for distribution at workshops and field days					\$600
							<b>Sub Total</b>	<b>\$600</b>
<b>Other Expenses</b>								
		Soil samples	soil samples for evaluating soil health - soil carbon, organic matter, fertility, active carbon, soil aggregate stability, and microbial activity					\$55,000
		Conference Attendance Registration	Great River Greening staff will share results of surveys at Sherburne and demonstration sites and economic analyses at a regional conference					\$1,500
							<b>Sub Total</b>	<b>\$56,500</b>
							<b>Grand Total</b>	<b>\$674,000</b>

## Classified Staff or Generally Ineligible Expenses

Category/Name	Subcategory or Type	Description	Justification Ineligible Expense or Classified Staff Request
<b>Contracts and Services - Sustainable Farming Association of Minnesota</b>	Sub award	Provide farm consults and on-site assistance to support farmers and landowners who are adopting silvopasture; lead grazing management demonstrations; host webinars and field days; assist with network outreach and material development; Funds for personnel, travel, mileage, supplies, and other: event expenses include handouts, health food/beverages, and toilet/tent rental.	<p>Workshop and field day events will include supplies and rentals as a standard recruitment tool and safety item: healthy food, beverages, tables, chairs, portable toilets, and tent rentals for 100-200 attendees total.</p> <p>We do not want attendees hungry or thirsty while walking on or participating in hands-on activities at remote locations. Standard food items and beverages include selections of fruit, granola bars, muffins, juice, water, coffee, and sandwiches (Food, beverages and rentals: \$15,000/9 total events). There may be travel expenses related to presentation of results from this project at the Green Lands Blue Waters Conference in St. Louis MO (\$3,500). It's a conference that has many Minnesota attendees.</p>

## Non ENRTF Funds

Category	Specific Source	Use	Status	Amount
<b>State</b>				
			<b>State Sub Total</b>	-
<b>Non-State</b>				
In-Kind	Equipment, tools, and supplies usage and degradation	Activity 1 & 2: tablets, augers, shovels, spades, loppers, and other equipment for conducting vegetation and soil surveys and seeding, planting, and tree cutting at demonstration workshops	Secured	\$5,000
In-Kind	General support funds (foundations, corporations, private donations)	GRG overhead costs covered by General Operating Support	Potential	\$30,000
In-Kind	In-kind volunteer hours	Total of 200 hours farmer, landowner, and workshop attendee time preparing and hosting workshops; 50 hours of farmer/landowner assistance surveying habitat before and after workshops	Potential	\$6,000
Cash	Private Foundations	Community outreach and promotion	Pending	\$50,000
Cash	Federal	Field days, demonstrations, outreach	Pending	\$10,000
			<b>Non State Sub Total</b>	<b>\$101,000</b>
			<b>Funds Total</b>	<b>\$101,000</b>

## Attachments

### Required Attachments

#### *Visual Component*

File: [ec8c3311-c9c.pdf](#)

#### *Alternate Text for Visual Component*

We have attached a one-page, front-and-back, informational handout describing silvopasture and the project partnership....

#### *Financial Capacity*

File: [ee1261e3-fa7.pdf](#)

#### *Board Resolution or Letter*

Title	File
GRG Board Resolution LCCMR ML2023FY2024	<a href="#">ee37a5ab-fa5.pdf</a>
CINRAM UMN Letter of Commitment	<a href="#">c9d98e77-92e.pdf</a>
SFA Letter of Commitment	<a href="#">3585972a-5d6.pdf</a>

### Optional Attachments

#### *Support Letter or Other*

Title	File
CRP Letter of Support	<a href="#">8761877d-eab.pdf</a>
UMN Extension LOS	<a href="#">860e0175-9e4.pdf</a>

## Administrative Use

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

No

**Does your project have potential for royalties, copyrights, patents, or sale of products and assets?**

No

**Do you understand and acknowledge IP and revenue-return and sharing requirements in 116P.10?**

N/A

**Do you wish to request reinvestment of any revenues into your project instead of returning revenue to the ENRTF?**

N/A

**Does your project include original, hypothesis-driven research?**

No

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

No

# Restoring Forests & Savannas Using Silvopasture: Phase 2

This project is made possible through a partnership among the Center for Integrated Natural Resources and Agricultural Management (CINRAM) at the University of Minnesota, the University of Minnesota Agricultural Extension, Great River Greening (GRG), and the Sustainable Farming Association of Minnesota (SFA). Together, these groups are part of the project “Silvopasture for Oak Savanna Restoration” funded by the Legislative-Citizen Commission on Minnesota Resources (LCCMR). This is Phase One of a multiyear silvopasture project.

Phase Two will demonstrate, evaluate, and increase the adoption of silvopasture as a method to restore and manage forests and savannas across Minnesota. It includes the same partners with outreach, education, demonstration, and monitoring work.

Using managed grazing techniques, sound timber management and 21st-Century fencing technology, silvopasture can help restore the over 660,000 acres of Minnesota woods and forest,



Photo Courtesy Snake River Farm

including oak savanna, that are not achieving their full potential for the landowner and society. Silvopasture and agroforestry are additional strategies to achieve soil health adoption and foster livestock production in Minnesota.

Phase One of this project created a Silvopasture Learning Network for

education and support; research effective silvopasture practices and innovations at the Sherburne Wildlife Refuge; and educate farmers, agricultural and natural resource professionals and conservationists throughout the state on silvopasture and oak savanna restoration principles and practices.

## About Silvopasture

Silvopasture is the deliberate integration of trees and grazing livestock operations on the same land. The trees, forage, and grazing livestock are managed intensively and must complement one another to increase overall production. The sales of livestock provide annual income to the producer while fostering long-term economic benefits from trees such as sawtimber.

In silvopasture, management of trees through thinning and pruning helps provide high-value timber and

ensures sufficient light is available for forage. Grazing animals control competition for moisture, nutrients, and sunlight, enhancing tree growth. Trees provide shade for livestock and create a microclimate that improves forage quality. Livestock promote nutrient cycling, and nitrogen-fixing crops benefit trees.

Silvopasture can look similar to oak savanna with acres of dense grass interspersed with tall oak trees providing shade for livestock and shelter for wildlife; it can also

resemble a diverse forest being managed and intentionally thinned to allow sunlight to the forest floor to increase grass production for livestock. Typically ruminants like cattle, sheep and goats, or even hogs or poultry, are integrated.

Silvopasture is not a ‘plant it and leave it’ system. Allowing livestock to graze in a natural woodland area without active livestock/forage management is not silvopasture, nor is having one or two trees in the pasture considered silvopasture.

# Project Partners



**The University of Minnesota Extension** is a major outreach arm of the University of Minnesota whose mission is to connect community needs and University resources to address critical Minnesota issues. The Extension Center for Agriculture, Food and Natural Resources (AFNR) brings together over 160 experts who annually engage with thousands of Minnesotans and others worldwide to address the complex demands put on our land and water and develop balanced, comprehensive solutions. Learn more at [extension.umn.edu](http://extension.umn.edu).



**The Sustainable Farming Association of Minnesota** (SFA) advances the sustainable agriculture principles of environmental stewardship, economic resilience and strong communities through farmer-to-farmer networking, education, innovation, research and outreach. For nearly a decade, SFA has led soil health education efforts through workshops, field days, webinars and farmer networking. "Agriculture, done well, heals" reflects the group's belief in the power of regenerative agriculture. Learn more at [sfa-mn.org](http://sfa-mn.org).



**The Center for Integrated Natural Resources and Agricultural Management** (CINRAM) at the University of Minnesota is a partner-based organization that catalyzes the development and adoption of sustainable, integrated land use systems. CINRAM links the expertise of the University with the experience and insights of people and organizations who work with and have understanding of opportunities and issues across the landscape. Learn more at [cinram.umn.edu](http://cinram.umn.edu).



**GREAT RIVER GREENING**  
RESTORING LAND, WATER AND WONDER

**Great River Greening** inspires, engages, and leads local communities in conserving and caring for the land and water that enrich our lives. We focus our work in locations and on activities that offer conservation impact, ecosystem services, and community benefits through the restoration and enhancement of natural areas and pursuit of economically, agronomically, and environmentally sustainable agricultural systems. Learn more at [greatrivergreening.org](http://greatrivergreening.org).

## Resources

### University of Minnesota Silvopasture Learning Network [silvopasture.umn.edu](http://silvopasture.umn.edu)

Topics covered:

- Oak Savanna
- Ecological Restoration
- Silvopasture

Many resources available under each topic heading on website: Fact sheets, web links, videos, etc.

### SFA Silvopasture & Agroforestry [sfa-mn.org/silvopasture-agroforestry](http://sfa-mn.org/silvopasture-agroforestry)

- Silvopasture Resource Manual
- Beginning Grazier Handbook

- Silvopasture Case Studies
- Fact Sheet: Silvopasture in Minnesota
- Fact Sheet: The How-Tos of Silvopasture
- Fact Sheet: Converting Wooded Area Into a Silvopasture Site & Resource Assessment
- "Dirt Rich" Podcast Episode 9: "Silvopasture in Minnesota" with SFA's Tyler Carlson and Jared Luhman.
- "Dirt Rich" Podcast Episode 10: "Implementing Silvopasture" with SFA's Tyler Carlson and Jared Luhman.
- "Dirt Rich" Podcast Episode 23: "Origins of Oak Savanna" with Stephen Thomforde and Tyler Carlson.
- "Dirt Rich" Podcast Episode 24: "Restoring Oak Savanna" with Stephen Thomforde and Tyler Carlson.
- Webinar: Facilitating Silvopasture Adoption in Minnesota
- Webinar: Digging Deeper Into Silvopasture
- Webinar: Farmmaps & Silvopasture Case Studies Release
- Webinar: Adaptive Grazing & Silvopasture (upcoming)