



Environment and Natural Resources Trust Fund

M.L. 2021 Approved Work Plan

General Information

ID Number: 2021-065

Staff Lead: Michael Varien

Date this document submitted to LCCMR: July 21, 2021

Project Title: Prescribed-Fire Management for Roadside Prairies - Phase II

Project Budget: \$217,000

Project Manager Information

Name: Nathan Johnson

Organization: Minnesota Department of Transportation

Office Telephone: (612) 723-4288

Email: nathan.d.johnson@state.mn.us

Web Address: <https://www.dot.state.mn.us/>

Project Reporting

Date Work Plan Approved by LCCMR: July 20, 2021

Reporting Schedule: December 1 / June 1 of each year.

Project Completion: July 31, 2023

Final Report Due Date: September 14, 2023

Legal Information

Legal Citation: M.L. 2021, First Special Session, Chp. 6, Art. 6, Sec. 2, Subd. 08e

Appropriation Language: \$217,000 the first year is from the trust fund to the commissioner of transportation to continue to protect biodiversity and enhance pollinator habitat on roadsides by helping to create a self-sufficient prescribed-fire program at the Department of Transportation.

Appropriation End Date: June 30, 2024

Narrative

Project Summary: This project will continue to protect biodiversity and enhance pollinator habitat on roadsides by helping to create a self-sufficient prescribed fire program at the Minnesota Department of Transportation

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

In the last three years MnDOT has made significant progress in building a fire program. Prior to phase one of this project MnDOT was conducting on average 5 burns a year, since the project started MnDOT has been completing 25+ burns a year. We have identified several roadsides needing fire management, trained four prescribed fire crews around the state, and formally adopted MN DNR standards for training and qualifications. Despite this progress, we are currently constrained by a shortage of staff qualified to lead the fire crews. By adopting MN DNR standards, we have set a high bar for individuals to become qualified to lead prescribed fires, hereafter referred to as a "burn boss." To become qualified as a burn boss, an employee must take several classes and work with mentors to demonstrate competency with various skills. Depending on the availability of trainings and mentors, this process takes several years. Without enough qualified burn bosses, we are currently forced to rely on two burn bosses and therefore can only implement a small number of prescribed fires each year.

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.

This project will temporarily bring in qualified fire personnel who will train and mentor MnDOT crews and crew leaders. With this mentoring we can continue to train a fully qualified burn boss from within each of our crews, making each crew more self-sufficient. Continuing to have an additional burn boss on staff has increased burning five fold and MnDOT doesn't want to lose that momentum. With phase two MnDOT will have a goal of conducting 40 to 60 burns a year.

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 also address several administrative constraints on our fire program. These include roadside vegetation inventory, site prioritization, planning, and monitoring. The increased assistance provided through would be temporary, but we are focusing it on areas that can create lasting change. This project will overcome hurdles and continue to build the capacity of our fire program. This will allow fire to become more regular and sustainable part of our vegetation management work. By increasing the long-term use of prescribed fire we will more effectively protect the biodiversity of prairie remnants, enhance existing native plantings, and restore additional roadside habitat.

Project Location

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

Region(s): NW, Central, SE, SW, Metro,

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

Region(s): Central, Metro, NW, SE, SW,

When will the work impact occur?

During the Project

Activities and Milestones

Activity 1: Prescribed fire program support & Implementation

Activity Budget: \$182,000

Activity Description:

Prior to conducting a prescribed fire we require a detailed plan that has been reviewed by qualified fire personnel and signed by relevant department officials. The time required to write these prescribed fire plans has limited their number and therefore has limited the number of roadsides on which fire can be used. As part of this activity the employee will assist and mentor burn boss trainees in preparing plans. Plans will be written for roadsides that have been identified as priorities using data gathered in Activity 3. This has a dual impact on increasing self-sufficiency in that plans will be useful for several years and burn boss trainees will gain skills needed to write new plans (or update existing plans) as needed.

Implementing a prescribed fire requires a great deal of preparation. This includes creating and maintaining fire breaks, arranging for and preparing equipment, obtaining burn permits, notifying local authorities and neighbors, preparing press releases, and reporting accomplishments. The employee will assist district crews with this coordination, helping to do the work when necessary but empowering crews to do it themselves as much as possible.

Activity Milestones:

Description	Completion Date
Complete 10 new and update 20 prescribed fire plans across the state	June 30, 2023
Conduct 20-50 prescribed burns (20-100 miles/80-500 acres of roadside) per year	June 30, 2023

Activity 2: Hiring, Training, and Mentoring Prescribed Fire Crews

Activity Budget: \$5,000

Activity Description:

MnDOT currently has four prescribed fire crews, in process of adding another crew, it has only two burn bosses. This shortage results in several days each season during which one or more crews are unable to burn despite favorable weather and fuel conditions. To continue the growth of our fire program, we will use project funds to continue to employ the person who was hired under Phase One of this program.. This employee is qualified as a burn boss and able to lead prescribed fires and mentoring crewmembers. This employee will work directly with existing crews to conduct prescribed fires on roadsides.

MnDOT prescribed fire policy requires that fire personnel follow the same training and qualification standards as the MN DNR. These rigorous standards are important to ensuring the safety and effectiveness of roadside prescribed fire, but they present a major obstacle to developing a self-sufficient fire program. While all existing crew members are trained to the basic level (that of Wildland Firefighter Type 2), at least one member of each crew needs to become qualified as a burn boss to lead that crew on prescribed fires.

Activity Milestones:

Description	Completion Date
Increase crewmembers level of experience by working on 10-20 burns per year.	June 30, 2023
Qualify at least 2 MnDOT employees as MN Burn Boss Type 2.	June 30, 2023
Qualify at least 4 MnDOT employees to the level of MN Ignition Specialist Type 2.	June 30, 2023

Activity 3: Roadside prairie inventory and fire effects monitoring

Activity Budget: \$30,000

Activity Description:

There are hundreds or thousands of miles of roadsides that could benefit from prescribed fire. These need to be prioritized to promote the most efficient use of resources. The project staff will inventory and map roadsides with native vegetation. Roadsides with prairie vegetation will be ranked using various factors to prioritize them for burning. Ranking criteria will include quality of native plant communities, remnant or planted status, conduciveness to use of fire, etc.

The employee will continue fire effects monitoring program to evaluate results. This information will be used to ensure that fires are meeting vegetation management objectives while limiting negative impacts on wildlife, including insects. With this information we will be able to adjust the timing, frequency, and intensity of fires as needed. Monitoring data will also be used to demonstrate accomplishments.

Inventory and monitoring data will be stored in GIS format in a geodatabase.

Activity Milestones:

Description	Completion Date
Monitor fire effects at 20-40 sites across the state.	September 30, 2022
1. Inventory prairie remnants and native plantings on 2000 miles (30,000 acres) of roadside.	September 30, 2022

Dissemination

Describe your plans for dissemination, presentation, documentation, or sharing of data, results, samples, physical collections, and other products and how they will follow ENRTF Acknowledgement Requirements and Guidelines.

All presentation that pertain to MnDOT fire program will give credit to LCCMR. MnDOT prescribed fire policy is in the process of being updated and a section acknowledges LCCMR funds and credit for expansion. All research results will be shared with interagency partners. Next to MnDOT logo on burn plans a trust fund logo will be included. Trust Fund logo will be added to Vegetation monitoring sites.

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?

By the end of this project MnDOT will have a self-sufficient prescribed fire program. The result will be an increased use of prescribed fire, enabling MnDOT to more effectively protect the biodiversity of prairie remnants, enhance existing native plantings, and restore additional roadside habitat.

Other ENRTF Appropriations Awarded in the Last Six Years

Name	Appropriation	Amount Awarded
Prescribed Fire Management for Roadside Prairies	M.L. 2017, Chp. 96, Sec. 2, Subd. 08f	\$345,000

Budget Summary

Category / Name	Subcategory or Type	Description	Purpose	Gen. Ineligible	% Benefits	# FTE	Classified Staff?	\$ Amount
Personnel								
1 Fire Staff		Help build MnDOT Prescribed Fire Program			25%	2		\$180,000
							Sub Total	\$180,000
Contracts and Services								
							Sub Total	-
Equipment, Tools, and Supplies								
	Tools and Supplies	Fire handtools and supplies	To provide fire fighters with tools necessary to effectively fight fire.					\$7,000
	Equipment	ATV tank, pump, sprayers (5 spray units).	Provide ATVs with sprayers to increase productivity and safety.					\$15,000
	Equipment	Personal protective equipment, Fire Shelters, Fire coats, web gear, etc. (12+ sets).	To provide safety for fire fighters					\$5,000
							Sub Total	\$27,000
Capital Expenditures								
							Sub Total	-
Acquisitions and Stewardship								
							Sub Total	-
Travel In Minnesota								
	Miles/ Meals/ Lodging	25 overnight trips at approximately \$200 per night	To get to and from burns, inventory, monitoring, etc.					\$5,000
							Sub Total	\$5,000

Travel Outside Minnesota								
	Conference Registration Miles/ Meals/ Lodging	Travel, meals, lodging, registration feed. This will be used for 4 peoples extended training.	To get into fire trainings outside of MN.	X				\$5,000
							Sub Total	\$5,000
Printing and Publication								
							Sub Total	-
Other Expenses								
							Sub Total	-
							Grand Total	\$217,000

Classified Staff or Generally Ineligible Expenses

Category/Name	Subcategory or Type	Description	Justification Ineligible Expense or Classified Staff Request
Travel Outside Minnesota	Conference Registration Miles/Meals/Lodging	Travel, meals, lodging, registration feed. This will be used for 4 peoples extended training.	The higher burn class required to be a burn boss are only offered once every couple of years in Minnesota. These classes are hard to get into, so by being allowed to take these classes out of state gives a higher chance of being accepted to classes.

Non ENRTF Funds

Category	Specific Source	Use	Status	Amount
State				
In-Kind	General Fund	MnDOT currently has a Prescribed Fire Coordinator which spend 50% of his time on fire and 8 district staff that spend 5% to 10% of there time on fire. The LCCMR funded staff will work directly with these people to meet our overall goal.	Secured	\$125,000
			State Sub Total	\$125,000
Non-State				
			Non State Sub Total	-
			Funds Total	\$125,000

Acquisition and Restoration

Parcel List

Name	County	Site Significance	Activity	Acres	Miles	Estimated Cost	Type of Landowner	Easement or Title Holder	Status of Work
Fire Region	Statewide	prairie	Restoration	-	-	-	Public	No	In progress
Totals				0	0	-			

Restoration

1. Provide a statement confirming that all restoration activities completed with these funds will occur on land permanently protected by a conservation easement or public ownership.

All restoration associated with the project will occur on state of MN property.

2. Summarize the components and expected outcomes of restoration and management plans for the parcels to be restored by your organization, how these plans are kept on file by your organization, and overall strategies for long-term plan implementation.

MnDOT goal is to burn 80 to 500 acres of right-of way per year and all burns will be recorded in ARCMAP and in MnDOT burn summary worksheet.

3. Describe how restoration efforts will utilize and follow the Board of Soil and Water Resources “Native Vegetation Establishment and Enhancement Guidelines” in order to ensure ecological integrity and pollinator enhancement.

All restored prairie will follow the Board of Soil and Water Resources guidelines.

4. Describe how the long-term maintenance and management needs of the parcel being restored with these funds will be met and financed into the future.

Long term maintenance and management needs will be picked up in the districts the restoration occur. Once burn crews are self sufficient with a burn boss, they will be able to maintain these parcels long term.

5. Describe how consideration will be given to contracting with Conservation Corps of Minnesota for any restoration activities.

If contracting occurs for the project consideration will be given to Conservation Corps of Minnesota.

6. Provide a statement indicating that evaluations will be completed on parcels where activities were implemented both 1) initially after activity completion and 2) three years later as a follow-up. Evaluations should analyze improvements to the parcel and whether goals have been met, identify any problems with the implementation, and identify any findings that can be used to improve implementation of future restoration efforts at the site or elsewhere.

Monitoring of fire effects will be conducted on 20+ burns annually and 10+ on a three year basis.

Attachments

Required Attachments

Map

File: [4e308bca-965.pdf](#)

Alternate Text for Map

Attachment has map of Remnant prairies in Minnesota, photo of what a MnDOT right-of-way looks like after a burn, photo of a prescribed fire in progress....

Optional Attachments

Support Letter or Other

Title	File
Background check form	5ac04976-94f.pdf

Difference between Proposal and Work Plan

Describe changes from Proposal to Work Plan Stage

Budget is less than what was original submitted, dollar amount changed to match what was approved by LCCMR, updated Project Location and area of project will affect. **I will not need to hire any new staff, this funding is to keep 1 FTE supported (I deleted that field). When I enter 2 years in for 1 FTE the number 200 is auto filed and I can't change that. I changed dates on Roadside Prairie inventory and fire effects monitoring to Sept of 2022. Burns completed after that time will not be monitored with this funding. I added description for why out of state travel is requested.

Additional Acknowledgements and Conditions:

The following are acknowledgements and conditions beyond those already included in the above workplan:

Do you understand and acknowledge the ENRTF repayment requirements if the use of capital equipment changes?

N/A

Do you agree travel expenses must follow the "Commissioner's Plan" promulgated by the Commissioner of Management of Budget or, for University of Minnesota projects, the University of Minnesota plan?

Yes, I agree to the Commissioner's Plan.

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?

Yes

Does the organization have a fiscal agent for this project?

No

Roadside Prairie Prescribed Fire

This project will protect biodiversity and enhance pollinator habitat on roadsides by helping to create a self-sufficient prescribed fire program at the Minnesota Department of Transportation

Minnesota's state & federal highways contain:

- Over 350 miles of remnant prairie
- Some of the last remaining populations of certain rare plant species
- Hundreds more miles of native grass and forb plantings
- Thousands of miles of potential habitat for pollinators and other wildlife

Prescribed fire is critical to protecting and maintaining roadside prairies



Figure 1: Roadside native grass and wildflower planting

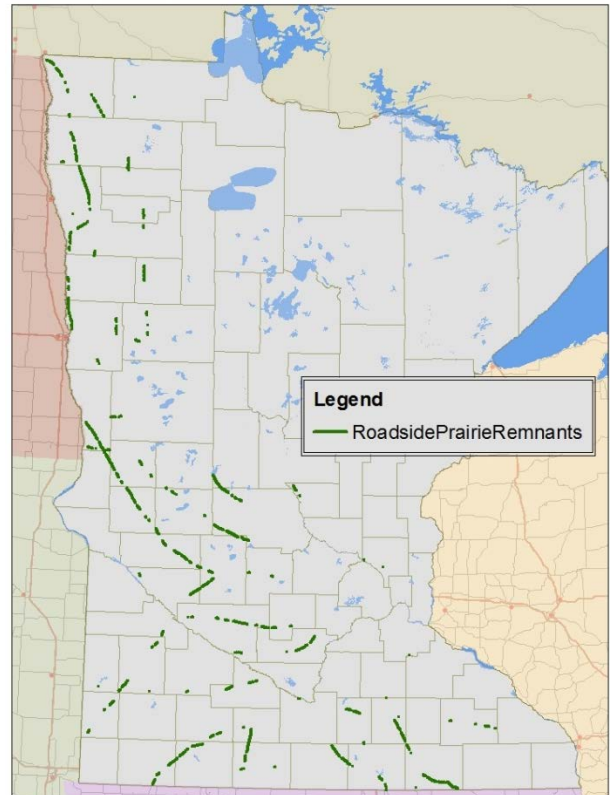


Figure 2: Map of roadside prairie remnants in Minnesota



Figure 3: Prescribed fire in progress on a roadside prairie remnant

For More Information

Contact: Nate Johnson, MnDOT, 651-723-4288 nathan.d.johnson@state.mn.us