



Environment and Natural Resources Trust Fund

M.L. 2025 Approved Work Plan

General Information

ID Number: 2025-030

Staff Lead: Tom Dietrich

Date this document submitted to LCCMR: June 11, 2025

Project Title: Grassland Restoration for Pollinator Conservation and Demonstration

Project Budget: \$250,000

Project Manager Information

Name: Brandon Miller

Organization: U of MN - Landscape Arboretum

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Project Reporting

Date Work Plan Approved by LCCMR: June 24, 2025

Reporting Schedule: March 1 / September 1 of each year.

Project Completion: June 30, 2031

Final Report Due Date: August 14, 2031

Legal Information

Legal Citation: M.L. 2025, First Special Session, Chp. 1, Art. 2, Sec. 2, Subd. 08b

Appropriation Language: \$250,000 the first year is from the trust fund to the Board of Regents of the University of Minnesota for the Minnesota Landscape Arboretum to restore a degraded pasture to grassland as a model for climate-resilient pollinator habitat; provide interpretive signage, education, and community engagement; and conduct species monitoring. This appropriation is available until June 30, 2031, by which time the project must be completed and final products delivered.

Appropriation End Date: June 30, 2031

Narrative

Project Summary: UMLA will reconstruct a degraded 8.5-acre pasture to serve as a model for climate-resilient pollinator habitat, incorporating community engagement and species monitoring for continued educational opportunities.

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

From the mid-1800s through the 1960s, an 8.5-acre site in Chaska, MN was managed for pasture and row-crop production using conventional agricultural practices including tillage and supplemental fertilization. Due to the history of disturbance on this parcel, the site is dominated by invasive species including smooth brome, crown vetch, reed canary grass, birdsfoot trefoil, canada thistle, and others. The University of Minnesota Landscape Arboretum (UMLA) purchased the land to provide an opportunity for conservation, preservation, and public education to 600,000+ annual visitors from across the region. In 2016, the Tashjian Bee and Pollinator Discovery Center (Bee Center) was built adjacent to this site to serve as a hub for pollinator education. Currently, the degraded state of the field counteracts the mission of the Bee Center because it is a poor example of pollinator habitat. The degraded site offers an opportunity to reconstruct and reintroduce a grassland into an educational model for restoration in a changing climate, while providing enhanced habitat for pollinators. Its creation would increase community education around adaptability to climate change and future disturbances through interpretive exhibits and community education events, all bolstered by its close proximity to the Bee Center.

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.

The UMLA will use a combined resilience and transition strategy framework based on the research of Constance Millar et. al (2007) to reconstruct a novel grassland ecosystem that will serve as an educational model for the future in a changing climate. The framework will provide the structure and function needed for pollinators, but also facilitate adaptability to climate change and future disturbances through wild collected and purchased plant germplasm to support the conservation of genetic diversity. The reconstruction will focus on pollinator supporting habitat based on the Mesic Oak Savanna (Southern) UPs24a plant community, but it will also include additional species that facilitate adaptability to climate change and pollinator support utilizing recommendations from the Xerces Society, state seed mixes, and subject matter experts. The UMLA anticipates expanding plant germplasm collection and sourcing to southern MN, IA and others based on ecotypes and to support the goal of hosting more diverse genotypes suited to Minnesota's future climate. This will give the UMLA the opportunity to broaden restoration planning and practice while maintaining ecosystem services and conserving biodiversity to maximize resilience of the site to the extreme events of climate change.

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 restore 8.5-acres of pollinator habitat within UMLA's mosaic of grasslands, woodlands, and wetlands. It will serve as a model restoration for the region in a changing climate and provide an opportunity to broaden restoration planning and practice. The existing paved trail through the site and its proximity to the Bee Center make it uniquely suited to educate the public about pollinator conservation. The reconstruction will enhance public engagement about native habitats and conservation through interpretive exhibits and hands-on visitor interaction. At the conclusion, the team will write a project completion report for the UMLA Arboretum Magazine.

Project Location

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

Region(s): Metro

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

Activities and Milestones

Activity 1: Grassland Habitat Restoration for Pollinators

Activity Budget: \$188,810

Activity Description:

The degraded grassland will undergo site preparation by a contractor (Minnesota Native Landscapes) for the first 2-3 years including brush removal, mowing, herbicide applications, and prescribed burning. This will remove unwanted vegetation and allow for desirable site conditions for seeding. Seed collection will occur locally and further south to integrate genotypes more suitable to a warmer climate. Seed will be purchased to supplement the seed collection efforts as needed. The seed mix will be selected based on suitable site conditions and plant species benefiting various pollinators, and then it will be installed via fall dormant seeding. As needed, additional seeding or plug planting will be conducted to expand plant diversity on the site. To maintain the site following seed installation, a contractor will conduct mowing to reduce competition and manage invasive plant growth via herbicide sprays. Once enough material has accumulated, prescribed burns will start to maintain the grassland. Restoration activities will follow an adaptive management approach.

Activity Milestones:

| Description | Approximate Completion Date |
|---|-----------------------------|
| Site preparation (mowing, herbicide application, burning) | October 31, 2027 |
| Seed installation | December 31, 2027 |
| Site maintenance (mowing, herbicide application, burning) | November 30, 2030 |

Activity 2: Vegetation and Pollinator Monitoring

Activity Budget: \$45,000

Activity Description:

A contractor (Midwest Natural Resources) will conduct a vegetation survey prior to restoration activities and two subsequent vegetation surveys following restoration (every two years). These monitoring efforts include meander surveys to capture plant diversity, cover, and frequency. Additionally, a contractor will conduct pollinator surveys to monitor for bumble bees and butterflies (once pre-restoration and twice post-restoration). Four surveys for pollinators will be conducted each survey year, following FWS guidelines for rusty patched bumblebee surveys (surveys are evenly spaced between mid-June and mid-August). Vegetation meander surveys will be completed twice during the growing season (early summer and late summer) concurrently with the first and last pollinator surveys for each survey year. After each survey year, a summary report of methods and results will be completed. Pollinator data will be shared with various relevant organizations and agencies, including Bumblebee Watch, USFWS, and the Natural Heritage Information System. These surveys will allow the UMLA land managers to evaluate the development of the restored grassland plant community and the response of pollinators.

At the conclusion of the project, a comprehensive article that captures each of the activities completed with this project will be developed and submitted for publication in the Minnesota Landscape Arboretum's Arboretum.

Activity Milestones:

| Description | Approximate Completion Date |
|---|-----------------------------|
| Pre-restoration vegetation and pollinator surveys | September 30, 2025 |
| First post-restoration vegetation and pollinator surveys | September 30, 2028 |
| Second post-restoration vegetation and pollinator surveys | September 30, 2030 |

Activity 3: Public engagement through interactive pollinator and native plant interpretation

Activity Budget: \$16,190

Activity Description:

The UMLA's education programs reach 600,000+ visitors annually. Public engagement on this project is vital and aligns with pollinator education programming at the adjacent Bee Center. The existing paved trail that runs through the hill, and its proximity to the pollinator interpretive center (Bee Center), make the project uniquely suited to engage the public about the importance and complexity of conservation efforts in a changing climate. We will develop an indoor exhibit area inside the Bee Center, adjacent to existing pollinator exhibits, to showcase the tools and processes used to reconstruct and maintain a grassland. Two interactive elements will include a youth-sized burn suit, PPE, and tools to engage younger audiences, and a seed spreading interactive model. The model will demonstrate how seed mixes are planted to create a landscape, and will include a seed blowing machine to show how different grassland species spread their seeds. This exhibit will complement a set of outdoor interpretive stations that have been funded separately and will be installed along the trail in the reconstruction area, demonstrating the history of land use and the impacts of its conversion to a climate change-resilient, pollinator-friendly habitat.

Activity Milestones:

| Description | Approximate Completion Date |
|--|-----------------------------|
| Design the exhibit in partnership with a local museum exhibit design firm | May 31, 2027 |
| Exhibit is installed in the Bee Center (in conjunction with site preparation timeline) | October 31, 2027 |
| Public pollinator celebration event with tours of grassland | July 31, 2028 |

Project Partners and Collaborators

| Name | Organization | Role | Receiving Funds |
|-------------|---|--|-----------------|
| Dan Tix | MNL Inc. (Minnesota Native Landscapes)/Contractor | Hired to conduct reconstruction efforts for the first 5 years (Activity 1). | Yes |
| Annie Weeks | MNR (Midwest Natural Resources)/Contractor | Hired to conduct vegetation and pollinator surveys pre and post restoration (Activity 2). | Yes |
| Ben Amel | Upstream Exhibits/Contractor | Hired to design and implement indoor learning display for pollinator-themed outreach (Activity 3). | Yes |

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.

The UMLA's education programs reach 600,000+ visitors annually. Public engagement on this project is vital and aligns with pollinator education programming at the adjacent Bee Center. The existing paved trail that runs through the hill, and its proximity to the pollinator interpretive center (Bee Center), make the project uniquely suited to engage the public about the importance and complexity of conservation efforts in a changing climate. We will develop an indoor exhibit area inside the Bee Center, adjacent to existing pollinator exhibits, to showcase the tools and processes used to reconstruct and maintain a grassland. Two interactive elements will include a youth-sized burn suit, PPE, and tools to engage younger audiences, and a seed spreading interactive model. The model will demonstrate how seed mixes are planted to create a landscape, and will include a seed blowing machine to show how different grassland species spread their seeds. This exhibit will complement a set of outdoor interpretive stations that have been funded separately and will be installed along the trail in the reconstruction area, demonstrating the history of land use and the impacts of its conversion to a climate change-resilient, pollinator-friendly habitat.

In addition to on-site exposure and impact of the project to UMLA visitors for many years to come, we will also disseminate results and highlight the learning opportunities of the project through:

1) Articles in the Arboretum magazine (and related publications with broad reach to stakeholders) outlining the success of the project; and 2) Extension programming that uses the grassland as a model for education around climate-resilient landscapes and pollinator-supporting plants.

Acknowledgement of the ENRTF (via text acknowledgement and/or logo) will be included in all project communications and outreach. For this project that includes press releases, media interactions, indoor interpretive displays, publications, event advertisements & invitations, websites, newsletters, printed materials, presentations, and social media. If the permanent outdoor signage is limited on space and unable to include the logo or text acknowledgement, the project will acquire metal logo signs sold by the DNR to place along the edges of the restoration site in high visibility spaces along the walking paths.

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?

Private contractors will be hired to complete pre- and post-restoration surveying and will conduct the first five years of reconstruction efforts for pollinator habitat, including the removal of invasive species and planting of native seed mixes.

The restoration will be maintained with long-term monitoring efforts by UMLA staff and seasonal help from volunteers. (The UMLA has 1,000+ volunteers/year who contribute 40K hours to UMLA-wide operating needs.) As restoration efforts are initiated, the UMLA is committed to sustaining this long-term project as reflected in this proposal. The institutional horticulture budget and additional fundraising efforts (donations, endowments) will accomplish this.

Other ENRTF Appropriations Awarded in the Last Six Years

| Name | Appropriation | Amount Awarded |
|---|---|----------------|
| Preserving Minnesota's Only Ball Cactus Population | M.L. 2021, First Special Session, Chp. 6, Art. 6, Sec. 2, Subd. 08d | \$103,000 |
| Minnesota's Volunteer Rare Plant Conservation Corps | M.L. 2022, , Chp. 94, Art. , Sec. 2, Subd. 08a | \$859,000 |

Budget Summary

| Category / Name | Subcategory or Type | Description | Purpose | Gen. Ineligible | % Benefits | # FTE | Classified Staff? | \$ Amount |
|---------------------------------------|---------------------|---|--|-----------------|------------|-------|-------------------|------------------|
| Personnel | | | | | | | | |
| Natural Resources Horticulturists | | Coordinates with contractors and conducts site visits; conducts seed collection and coordinates with volunteers. Base salary = \$69,000; 0.15% time; 3.5% annual salary increase. | | | 33% | 1.25 | | \$74,095 |
| | | | | | | | Sub Total | \$74,095 |
| Contracts and Services | | | | | | | | |
| MNL Inc. | Service Contract | Activity 1. Site preparation, seeding, invasive species management, brush removal, mowing, herbicide treatments, prescribed burning | | | | 0 | | \$70,100 |
| MNR | Service Contract | Activity 2. Conduct vegetation and pollinator surveys pre and post reconstruction | | | | 0 | | \$45,000 |
| Ben Amel/Upstream Exhibits | Service Contract | Activity 3. Contract exhibit designer to help develop Bee Center indoor exhibit | | | | 0 | | \$15,000 |
| | | | | | | | Sub Total | \$130,100 |
| Equipment, Tools, and Supplies | | | | | | | | |
| | Tools and Supplies | Equipment/tools for seed collection | Bags for collection, cleaning, and storage | | | | | \$500 |
| | Tools and Supplies | Plant material | Seed, plugs | | | | | \$30,500 |
| | Tools and Supplies | Indoor exhibit | Case, signage, demonstration features, child-sized prescribed fire PPE | | | | | \$5,000 |
| | | | | | | | Sub Total | \$36,000 |
| Capital Expenditures | | | | | | | | |
| | | | | | | | Sub Total | - |

| | | | | | | | | |
|-------------------------------------|-----------------------|--|--|---|--|--|--------------------|------------------|
| Acquisitions and Stewardship | | | | | | | | |
| | | | | | | | Sub Total | - |
| Travel In Minnesota | | | | | | | | |
| | Miles/ Meals/ Lodging | Food and lodging during seed collection trips in Greater Minnesota more than 200 miles round trip for 4 people - \$186.5/trip x 3 | Lodging and per diem for UM staff to survey, plan and execute seed collection | | | | | \$5,600 |
| | | | | | | | Sub Total | \$5,600 |
| Travel Outside Minnesota | | | | | | | | |
| | Miles/ Meals/ Lodging | Mileage reimbursement for seed and/or live plant collection trips - 300 miles round trip - 0.67 per mile x 3 round trips per yr x 5 years. Reimbursed based on University of Minnesota plan 2024 rate. | Travel for seed collection | X | | | | \$3,015 |
| | | | | | | | Sub Total | \$3,015 |
| Printing and Publication | | | | | | | | |
| | | | | | | | Sub Total | - |
| Other Expenses | | | | | | | | |
| | | Activity 3. Public pollinator celebration event with tours of Grassland | speaker honorarium, educational event supplies, and event-coordination support | | | | | \$1,190 |
| | | | | | | | Sub Total | \$1,190 |
| | | | | | | | Grand Total | \$250,000 |

Classified Staff or Generally Ineligible Expenses

| Category/Name | Subcategory or Type | Description | Justification Ineligible Expense or Classified Staff Request |
|--|----------------------------|---|---|
| <p>Travel Outside Minnesota</p> | <p>Miles/Meals/Lodging</p> | <p>Mileage reimbursement for seed and/or live plant collection trips - 300 miles round trip - 0.67 per mile x 3 round trips per yr x 5 years. Reimbursed based on University of Minnesota plan 2024 rate.</p> | <p>Seeds from out of state will be necessary for the successful curation of a restored grassland site. 300 miles round trip - 0.67 per mile x 3 round trips per yr x 5 years.</p> |

Non ENRTF Funds

| Category | Specific Source | Use | Status | \$ Amount |
|-----------|-----------------|-----|---------------------|-----------|
| State | | | | |
| | | | State Sub Total | - |
| Non-State | | | | |
| | | | Non State Sub Total | - |
| | | | Funds Total | - |

Total Project Cost: \$250,000

This amount accurately reflects total project cost?

Yes

Acquisition and Restoration

Parcel List

| Name | County | Site Significance | Activity | Acres | Miles | Estimated Cost | Type of Landowner | Easement or Title Holder | Status of Work |
|---------------------------|--------|--|-------------|------------|----------|----------------|-------------------|--|----------------|
| UMLA Pollinator Grassland | Carver | This site is currently a disturbed grassland, that could be restored to a quality prairie or savanah to support pollinators and educational opportunities about these valuable ecosystems. | Restoration | 8.4 | - | - | Public | To remain with the UMN Landscape Arboretum | Has Not Begun |
| Totals | | | | 8.4 | 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 activities completed with these funds will occur on land permanently in public ownership by the University of Minnesota, a public land-grant research university in the Twin Cities. The UMLA is a unit of the University's CFANS - College of Food, Agricultural, and Natural Resource Sciences.

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.

The restoration management plan includes goals and objectives for the target plant community and pollinator habitat alongside a restoration timeline, ongoing monitoring and management, methods, and budget estimates. This plan and future project records are filed electronically within the UMLA Natural Resources shared drive and can be referenced by staff as required for the project needs.

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.

Our restoration efforts will follow many of the guidelines outlined in the Board of Soil and Water Resources "Native Vegetation Establishment and Enhancement Guidelines" such as selecting seed mixes, seed sourcing, site preparation, seed installation, and site maintenance (mowing, burning, herbicide application). We will reference multiple sources for seeds lists including the state seed mixes provided by BWSR to guide our species selection for those suitable to our site conditions and will provide valuable pollinator habitat. We will collect and purchase seed from local sources in addition to going further south, within our Ecological Sections and Subsections to increase genetic diversity and increase resilience against climate change.

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.

The long-term maintenance and management will be performed by the UMLA natural resources staff, interns, and volunteers as part of our normal stewardship activities. The long-term maintenance and management activities will be funded by committed philanthropy (i.e. donations, endowments).

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

UMLA will contact Conservation Corps of Minnesota once grant funds are secured to inquire about their interest and availability for applicable restoration projects.

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.

As reiterated in Activity 2, pre- and post-restoration evaluations of vegetation and pollinators will be conducted every 2 years through 2031. Information gathered will inform the appropriate trajectory of the desired plant community and pollinator habitat. UMLA staff will conduct site visits every season to ensure project goals are being met and utilize adaptive management strategies to improve implementation where needed.

Attachments

Required Attachments

Map

File: [8382222e-22d.pdf](#)

Alternate Text for Map

This image highlights the 8.4-acre site identified for the UMLA's Grassland Restoration for Pollinator Conservation and Demonstration project. Due to its proximity to the Tashjian Bee and Pollinator Discovery Center, this site serves as a prime location for education and outreach opportunities for all visitors....

Supplemental Attachments

Capital Project Questionnaire, Budget Supplements, Support Letter, Photos, Media, Other

| Title | File |
|--|----------------------------------|
| Open UMN SPA Letter (Board Resolution) | e674d02a-81c.pdf |
| MNL | eeefcd95-d71.pdf |
| MNR | 1a429cfa-f1e.pdf |
| UM Annual Report | 0f56730a-171.pdf |
| FY23 MLAF Audited Financial Statements | 7e4efe1b-ab1.pdf |

Difference between Proposal and Work Plan

Describe changes from Proposal to Work Plan Stage

Minor modifications were made to the language describing the scope and overview of the project for further clarity of our goals and vision with this work.

2/26: added the new milestone to reflect the development of a magazine article that captures the progress made with the vegetation and pollinator monitoring activities; modified the language to add the "educational event supplies" back in. These are still needed and were erroneously removed in my previous edit. Overall, I have removed the inaccurate wording of "parking" (which I understand is unallowable), and have revised to include educational event supplies and paying for event support staff.

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 understand that travel expenses are only approved if they 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 understand the UMN Policy on travel applies.

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

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

Does your project include the pre-design, design, construction, or renovation of a building, trail, campground, or other fixed capital asset costing \$10,000 or more or large-scale stream or wetland restoration?

No

Do you propose using an appropriation from the Environment and Natural Resources Trust Fund to conduct a project that provides children's services (as defined in Minnesota Statutes section 299C.61 Subd.7 as "the provision of care, treatment, education, training, instruction, or recreation to children")?

No

Provide the name(s) and organization(s) of additional individuals assisting in the completion of this project:

Valerie Aas; Sarah Rademacher; Annie Klodd

Do you understand that a named service contract does not constitute a funder-designated subrecipient or approval of a sole-source contract? In other words, a service contract entity is only approved if it has been selected according to the contracting rules identified in state law and policy for organizations that receive ENRTF funds through direct appropriations, or in the DNR's reimbursement manual for non-state organizations. These rules may include competitive bidding and prevailing wage requirements

Yes, I understand