



Environment and Natural Resources Trust Fund

M.L. 2022 Approved Work Plan

General Information

ID Number: 2022-006

Staff Lead: Mike Campana

Date this document submitted to LCCMR: June 16, 2022

Project Title: Minnesota's Volunteer Rare Plant Conservation Corps

Project Budget: \$859,000

Project Manager Information

Name: David Remucal

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Project Reporting

Date Work Plan Approved by LCCMR: June 27, 2022

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

Project Completion: June 30, 2025

Final Report Due Date: August 14, 2025

Legal Information

Legal Citation: M.L. 2022, Chp. 94, Art. , Sec. 2, Subd. 08a

Appropriation Language: \$859,000 the second year is from the trust fund to the Board of Regents of the University of Minnesota for the Minnesota Landscape Arboretum to partner with the Department of Natural Resources and the Minnesota Native Plant Society to establish and train a volunteer corps to survey, monitor, and bank seed from Minnesota's rare plant populations and enhance the effectiveness and efficiencies of conservation efforts.

Appropriation End Date: June 30, 2025

Narrative

Project Summary: Establish a volunteer corps to survey, monitor and bank seed for rare plant populations around the state, enhancing the effectiveness and efficiencies of conservation efforts of multiple stakeholders across Minnesota.

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

Roughly one-quarter of Minnesota's diverse flora (1,900 plant species) is described as rare (see Visual Aid). These plants are invaluable components of the state's biodiversity and natural heritage but are declining or vulnerable to loss at an increasing rate. In fact, over 100 native plant species once known from Minnesota are now completely gone and 60 species have five or fewer known populations in the state. Currently, groups like the Minnesota Department of Natural Resources (MN-DNR) and the University of Minnesota Landscape Arboretum (UMLA) conduct rare plant surveys and seedbanking but the need and urgency for conservation outpace what those programs can do with available funding and staff. Additionally, rare plant conservation efforts around the state are largely uncoordinated between groups, thus inefficient and less effective.

Other states or regions (i.e. WI, IL, CA, New England, etc.) have countered these issues with successful establishment of rare plant volunteer corps. They recruit and train volunteers to survey and monitor rare plant populations, and in more advanced cases collect seed for preservation banking. Minnesota lacks a comprehensive coordinated state-wide surveying and seedbanking rare plant survey and seedbanking program that could be utilized for current and increasing needs.

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.

To address these problems, we proposed to establish a volunteer-based Minnesota Rare Plant Conservation Corps to assist groups like the MN-DNR and UMLA. The Corps will dramatically increase capacity to survey, monitor, and protect MN's invaluable rare plants.

A large corps of citizen botanists from across the state would be recruited, trained, coordinated. Volunteers will lead and assist in rare plant surveys, monitoring and seedbanking efforts. Managed by a team of UMLA and MN-DNR biologists, this program would call upon MN residents, interested in plant conservation, to collect vital data needed to protect rare plants and build on data already available at UMLA, MN-DNR and the UMN Bell Herbarium. This Corps will also tap into groups like the MN Master Naturalists and the Minnesota Native Plant Society, thus pulling together existing resources and people in a coordinated effort. This data collection effort will be paired with seed collection to establish a statewide long-term rare plant seed bank which is an expansion of UMLA's existing long-term seed bank.

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 bring together the strengths and expertise of several groups in the state, to magnify their already significant separate current conservation efforts and create a robust infrastructure to manage and continue this increased effort to protect Minnesota's native flora.

1. Develop and coordinate a corps of plant volunteers – training new and returning volunteers annually to support a continual corps of 50 active citizen botanists.
2. Prioritize and collect data on rare species, targeting 40 or more historical or anecdotal rare plant records of most need annually.
3. Establish multiple long-term seed banks for the highest priority species.

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

Activities and Milestones

Activity 1: Development and Training of Rare Plant Conservation Corps

Activity Budget: \$259,600

Activity Description:

Volunteers will go through a training process that will include proper plant identification, data collection and field techniques. Training will happen on an annual/semi-annual basis. Once new volunteers are trained there will be refresher trainings for returning volunteers to enhance knowledge and build community. Because the environments in which rare plants are found are often fragile, training will also include proper field etiquette and the importance of minimizing impact on both plants and environment. In-person training will be done when possible, but because of the geographic spread of potential volunteers, online training modules will also be used.

The Rare Plant Corps would expand upon the small group of volunteers MN-DNR currently trains for rare plant surveys by increasing DNR and UMLA staff time dedicated to training and volunteer coordination. The Corps would also be highly efficient as it would utilize institutional knowledge and training infrastructure from the Minnesota Master Naturalists as well as botanical expertise available in the Minnesota Native Plant Society.

Activity Milestones:

Description	Approximate Completion Date
Finalize training materials for in person and online platforms	March 31, 2023
Train the first cohort of volunteers	June 30, 2023
Establish a corps of 50 active volunteers by the end of the granting period	June 30, 2025
Annual end-of-year review for volunteers and internal review of volunteer systems	June 30, 2025

Activity 2: Rare Plant Corps Survey Rare Species Across the State

Activity Budget: \$256,800

Activity Description:

UMLA and MN-DNR staff and other stakeholders will help develop a priority list of locations for field surveys based on species' need and status. Rare Plant Corps volunteers will begin by surveying old records (>20 years old) of rare plant populations from data in various repositories, including the MN-DNR databases and UMN Bell Herbarium. They will also survey unverified locations from anecdotal records based on priorities.

Data collected by the Rare Plant Corps will be entered to the MN-DNR Natural Heritage Information System, the state's long-standing most comprehensive source of data on Minnesota's rare species, native plant communities, and other natural features. This volunteer corps will be able to add vital data to this database which has been an important resource for multiple different groups over many years with minimal increase in staff time and resources.

Activity Milestones:

Description	Approximate Completion Date
Establish initial species priorities for data collection and seedbanking	December 31, 2022
Survey at least 40 high priority records of greater than 25 years in age	November 30, 2023
Survey at least 40 high priority records of greater than 20 years in age	November 30, 2024
Enter data into MN-DNR Natural Heritage Information System	June 30, 2025
Annual end-of-year review species priority list	June 30, 2025
Survey at least 20 high priority records of at least 20 years (partial field season)	June 30, 2025

Activity 3: Collect seed from rare plant species across the state for long-term seedbanking

Activity Budget: \$342,600

Activity Description:

Building on the increased survey information this program will produce, UMLA staff and advanced trained volunteers will collect seed from species derived from internal and external stakeholder priority lists, to bank in the UMLA long-term seed bank. This will be a huge influx of seeds and data for the UMLA seed bank program and will stretch existing UMLA seedbanking capacities. For this activity, UMLA will enhance current staff and its existing volunteer corps to clean, process, package and manage seed collections and expand infrastructure and information systems to manage the influx of seed. Seed collections will be backed up (i.e., a portion of a seed collection sample is stored at an alternate facility) under the current UMLA agreement with the National Lab for Genetic Resource Preservation in Fort Collins.

Activity Milestones:

Description	Approximate Completion Date
Develop or license a database to manage increased data needs for seedbanking and testing.	August 31, 2022
Bank seed from at least 30 high priority populations from the state of Minnesota	October 31, 2023
Expand seed banking infrastructure to handle increased seedbanking storage needs.	October 31, 2023
Bank seed from additional at least 35 high priority populations from the state of MN	October 31, 2024

Project Partners and Collaborators

Name	Organization	Role	Receiving Funds
Bruce Carlson	Minnesota Department of Natural Resources	Will be working with UMLA to train and lead volunteer corps. Will be managing the data entry and management of the volunteer corps survey data.	Yes
George Weiblen	UMN Bell Museum/Herbarium	The Minnesota Biodiversity Atlas houses much of the data the volunteer corps will be using to perform survey work. The Atlas database will benefit directly from the verification work performed by this corps, greatly increasing the accuracy of the data housed.	No
Scott Milburn	Minnesota Native Plant Society	Source of vast botanical knowledge to be able to train conservation corps volunteers, especially in regards to advanced training.	No

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.

When feasible with target seedbank plants, we will display plants at the Arboretum, where we can share the story of the individual project as well as the general importance of Minnesota native plant conservation through educational flyers, displays, and interpretive signage. We will also provide project updates and additional information on the Arboretum and Plant Conservation Program websites, <https://arb.umn.edu/> and <https://arbconservation.cfans.umn.edu/>. Education, information, and outreach are important aspects of the Arboretum's and the DNR's conservation work. Additionally, UMLA and DNR partners will give presentations at several local or national conferences or meetings each year, which are additional opportunities to share this project and our conservation work. The DNR will also have the opportunity to disseminate information about the project and results through partners and networks. Importantly, the data collected as a result of this project will be incorporated in the NHIS data where the updates will inform future decisions on species listings and permitting.

The Minnesota Environment and Natural Resources Trust Fund (ENRTF) will be acknowledged through use of the trust fund logo or attribution language on project print and electronic media, publications, signage, and other communications per the ENRTF Acknowledgement Guidelines.

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?

Both the volunteer corps and the seed bank are designed to be long-term entities, this proposal helps with initial start-up costs associated with establishing a volunteer corps and effectively managing the information and data this will produce. The Arboretum and DNR are committed to maintaining their long-term conservation priorities as embodied in this proposal and establishing ongoing program funding for the volunteer corps and seed bank to accomplish this.

Budget Summary

Category / Name	Subcategory or Type	Description	Purpose	Gen. Ineligible	% Benefits	# FTE	Classified Staff?	\$ Amount
Personnel								
Curator of Endangered Plants		Principal Investigator - Project management, volunteer training, seed collection			36.8%	0.9		\$85,220
Conservation Botanist/Plant Conservation Program Associate		Manage and train volunteers, in partnership with DNR position. Also managing seed collection and advising on species prioritization.			36.8%	1.5		\$129,823
Seedbank Manager/Plant Conservation Program Associate		Manage seed bank intake and initial germination testing to verify viability			32%	1.8		\$119,435
Field Botanist		Seed collection, volunteer field training and support for plant identification and field methods			32%	1.5		\$70,092
UMLA Intern		Assist in all aspects of the program, especially learning to work with volunteers and conservation of rare plants			8.3%	0.46		\$15,500
Student/Seasonal field and data assistant		General project assistance in the field and with seedbank and data management during the academic year			8.3%	1.16		\$30,930
							Sub Total	\$451,000
Contracts and Services								
MN Department of Natural Resources	Sub award	Volunteer recruitment, coordination, training, data management and entry. Contract also includes \$15,000 for travel, \$3,000 for field collection and volunteer training supplies and \$22,902 for Direct and Necessary standard contract costs for DNR. Travel is for in-state field work only. Staff position is non-classified.		X		3		\$355,000
							Sub Total	\$355,000

Equipment, Tools, and Supplies								
	Tools and Supplies	Annual contract for database software	Database software specifically designed for seed bank management and living collection curation					\$6,000
	Tools and Supplies	Seed banking supplies	Supplies needed for the collection, preparation and storage of seed material in the long-term seed bank.					\$1,000
							Sub Total	\$7,000
Capital Expenditures								
		Seed bank freezer - UMLA	Additional large freezer to house additional seed bank influx					\$12,000
							Sub Total	\$12,000
Acquisitions and Stewardship								
							Sub Total	-
Travel In Minnesota								
	Miles/ Meals/ Lodging	120 trips (90 overnight), 250 mi, 1 person per trip, \$182.50 for lodging/meals per trip, \$0.56/mile	Mileage reimbursement, food and lodging for training, seed collecting, surveying and monitoring trips for UMLA staff					\$34,000
							Sub Total	\$34,000
Travel Outside Minnesota								
							Sub Total	-
Printing and Publication								
							Sub Total	-
Other Expenses								
							Sub Total	-
							Grand Total	\$859,000

Classified Staff or Generally Ineligible Expenses

Category/Name	Subcategory or Type	Description	Justification Ineligible Expense or Classified Staff Request
Contracts and Services - MN Department of Natural Resources	Sub award	Volunteer recruitment, coordination, training, data management and entry. Contract also includes \$15,000 for travel, \$3,000 for field collection and volunteer training supplies and \$22,902 for Direct and Necessary standard contract costs for DNR. Travel is for in-state field work only. Staff position is non-classified.	DNR's direct and necessary costs pay for activities that are directly related to and necessary for accomplishing appropriated projects. HR Support (\$4,993), Safety Support (\$773), Financial Support (\$4,194), Communication Support (~\$1,311), IT Support (\$10,622), and Planning Support (~\$1,008).

Non ENRTF Funds

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

Attachments

Required Attachments

Visual Component

File: [3b2b143e-7ef.pdf](#)

Alternate Text for Visual Component

Draft visual showing major partners and stakeholders of this project and how they will contribute to strengthening and managing the volunteer program....

Optional Attachments

Support Letter or Other

Title	File
UMN Master Naturalists Letter of Support	5e367e3c-aa2.pdf
Background Check document	a7a4a30d-8a9.pdf

Difference between Proposal and Work Plan

Describe changes from Proposal to Work Plan Stage

Activity and narrative goal differences were corrected. Supply budget was split to include funding for training and field work. All funds to the DNR were moved to a subaward (salary, travel, supplies other) as requested, with only field supplies reallocated between the UMLA and DNR pools (DNR will handle purchasing of field supplies for survey and volunteer training). UMLA salary was reconfigured to reflect current salaries, capacity and future project work expectations. No budget changes required moving funds between categories outside of the subaward shift.

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?

Yes

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 UMN Policy.

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?

Yes, Sponsored Projects Administration

Minnesota's Volunteer Rare Plant Conservation Corps



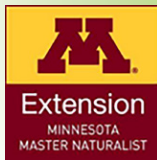
MN Biological Survey

- Natural Heritage Information System
- Survey expertise



UMN Landscape Arboretum

- Long-term rare plant seed bank
- Conservation research



MN Master Naturalists

- Statewide trained naturalist volunteers
- Training expertise



MN Native Plant Society

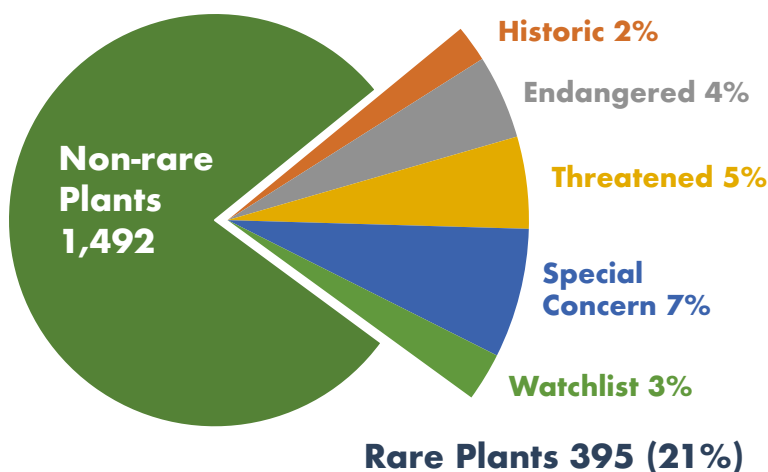
- Avid amateur and professional botanists focused on MN



UMN Bell Herbarium

- Repository of wealth of recent and historical plant records

MN Native Plant Species



Bringing these groups together and creating a volunteer plant conservation corps will:

- update vital old records
- discover new populations
- bank valuable genetic resources
- increase the success of conservation efforts across the state