



Environment and Natural Resources Trust Fund

M.L. 2024 Approved Work Plan

General Information

ID Number: 2024-014

Staff Lead: Michael Varien

Date this document submitted to LCCMR: June 7, 2024

Project Title: Native Plant Community Data in the City of Duluth

Project Budget: \$198,000

Project Manager Information

Name: Virginia Breidenbach

Organization: Minnesota Land Trust

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Web Address: <http://www.mnland.org>

Project Reporting

Date Work Plan Approved by LCCMR: June 20, 2024

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

Project Completion: June 30, 2026

Final Report Due Date: August 14, 2026

Legal Information

Legal Citation: M.L. 2024, Chp. 83, Sec. 2, Subd. 03a

Appropriation Language: \$198,000 the second year is from the trust fund to the commissioner of natural resources for an agreement with Minnesota Land Trust to develop field-verified native plant community data and maps for the city of Duluth and the St. Louis River estuary to support conservation and restoration activities.

Appropriation End Date: June 30, 2027

Narrative

Project Summary: Develop Native Plant Community data and maps for the City of Duluth and St. Louis River estuary to support conservation and restoration activities.

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

MLT uses Native Plant Community (NPC) data as a foundational component of our habitat restoration and protection efforts statewide. DNR Minnesota Biological Survey (MBS) has systematically surveyed natural habitats across the state, using NPC classifications to help understand the ecology, condition, and distribution of natural communities. This vegetation classification system provides a wealth of information on Minnesota's natural heritage including the presence/absence of NPCs, condition of communities present, and the rarity of those communities across the state. In addition, NPCs provide restoration targets for areas impacted by invasive species infestations or anthropogenically altered natural areas. MLT has been working with the City of Duluth Natural Resources Coordinator for the past five years to develop and expand the City's natural resources program and co-managed development of the city's first Natural Resources Management Program Plan under a Great Lakes Restoration Initiative Grant. Work to permanently protect lands of high ecological integrity along the St. Louis River corridor highlighted the importance of NPC data within the city's program. As a result, the city has recently adopted NPCs as a foundational component of its program. Approximately 5,000 acres within the City have NPC classifications; this project would classify 10,000 acres.

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.

NPC data will be developed for approximately 10,000 acres of open space within the city of Duluth using geospatial analysis and field verification. Data developed in this effort will immediately be used to support planned restoration work within the City's Magney-Snively Natural Area, an 1,800-acre tract of outstanding biodiversity significance. The information will be incorporated into Duluth's natural resources program and will assist in identifying areas of high ecological integrity that should be protected; identifying areas impacted by invasive species or other anthropogenic activities that should be restored; and setting restoration targets for impacted areas.

SEH was contracted by MLT through a competitive bidding process to complete NPC classifications for 1,200 acres along the St. Louis River in 2018. SEH completed a pilot project with the City in 2021 to further develop protocols for NPC classification with geospatial methods and field verification. SEH's experience and knowledge with MLT and the City of Duluth is vital to this data collection effort to set target goals for the classified 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?

The primary goal of this effort is to develop a publicly available spatial dataset of native plant community data for the 10,000 acres of public open space in the City of Duluth. With this data, natural resource managers will prioritize areas within the city for restoration, enhancement, and preservation. The data will be used to establish restoration targets for areas impacted heavily by human activity or invasive species and will also support development of nominations for high quality areas for permanent protection under the Duluth Natural Areas Program.

Project Location

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

Region(s): NE

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

Region(s): NE

When will the work impact occur?

During the Project and In the Future

Activities and Milestones

Activity 1: Develop Native Plant Community GIS Database

Activity Budget: \$198,000

Activity Description:

This activity will classify NPCs using GIS remote sensing and existing data resources including LiDAR, DEMs, and multiple years of color and infrared imagery. Outcomes of the mapping will be high level NPC classifications for plant communities larger than one (1) acre in size within the study area. Mapping will also include a general classification of non-NPC areas, such as “non-native plant community,” “disturbed,” or “developed area.”

Deliverables are:

- GIS layers including NPC extent and classification, as well as suggested field sampling locations.
- Maps of NPC extent and location.
- Report describing approach, methods, and results of NPC classifications. Preliminary data would also include suggestions for field verification locations.

Refined NPC classifications and condition ranks (i.e., quantification of ecological integrity) require field verification. Field verification consists of plot and/or transect based data collection at targeted locations, with vegetation data, representative photographs, and qualitative notes on observed threats/stressors. Field verification would be planned to follow completion of initial GIS mapping. MLT will coordinate with SEH and the City of Duluth Natural Resources Coordinator to accomplish the work to ensure both MLT and the City’s data needs are met with this effort.

Activity Milestones:

Description	Approximate Completion Date
Coordination with DNR to align NPC data standards	September 30, 2024
Initial GIS layers with NPC extent and classification with suggested field sampling locations	March 31, 2025
Field verification and data collection	July 31, 2025
Refined GIS mapping	November 30, 2025
Final geodatabase of GIS layers, NPC maps, and report	June 30, 2026
Publish data on MNGEO website and headwaterspartnership.org	June 30, 2026
Provide data to NRRI for upload to Natural Resources Database	June 30, 2026
Publish final report on City of Duluth's natural resources management program website	June 30, 2026

Project Partners and Collaborators

Name	Organization	Role	Receiving Funds
Gini Breidenbach, PE	Minnesota Land Trust	Project Manager – project and grant management; coordination amongst partners	Yes
Daryl Peterson	Minnesota Land Trust	Project Oversight – ensure MLT’s data needs for restoration efforts are met	Yes
Allyz Kramer, PWS, CMWP	Short Elliott Hendrickson, Inc.	QA/QC Manager – review SEH data submittals for accuracy and conformance with project goals	Yes
Natalie White, PWS, CMWP	Short Elliott Hendrickson, Inc.	NPC Mapping Manager – SEH team lead for GIS mapping and field verification; DNR approved botanical surveyor	Yes
Kate Kubiak	City of Duluth	City Natural Resources Coordinator – coordination with MLT and SEH to ensure data needs for the City’s program are met	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.

Native Plant Community (NPC) data and maps developed in this project will be shared widely with regional partners to support the collective habitat restoration and invasive species management efforts. The NPC data will be integrated into the implementation chapter of the City of Duluth’s Natural Resources Management Program Plan, which is publicly available on the city’s website. The city will also provide the data and info on the project to the Natural Resources Commission at two meetings, which are open to the public. The data will be added to the Lake Superior Headwaters Sustainability Partnership mapping tool and published on Minnesota Geospatial Commons, providing access to regional partners, as well as the public. The summary report will be posted on the City of Duluth's natural resources program web page. Data will also be provided to NRRI to publish in the Natural Resources Database.

The city, in partnership with Minnesota Land Trust and others, will use the NPC data to design targeted restoration work starting in the city’s protected natural areas then moving into larger forested tracts that the city already owns and will eventually own under the public lands realignment project (i.e. Amity Creek/Lester River, Piedmont, and Mission Creek area). The data will be integrated into a city-wide urban forest management plan (funding pending) and will provide a guide for developing a plan for restoring degraded urban forest over the next 10-20 years.

Data developed in the project will conform to guidelines and standards adopted by Minnesota IT Services and to additional guidelines and standards designed to support data coordination and distribution published by the Minnesota Geospatial Information Office. Descriptions of the spatial data will be prepared as specified in the state's geographic metadata guideline and will be submitted to the Minnesota Geospatial Information Office. All data must be accessible and free to the public unless made private. All data and summaries will be identified as having received funding from the environment and natural resources trust fund.

The Environment and Natural Resources Trust Fund will be acknowledged in all project print and electronic media, publications, signage, communications, and outreach as required.

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?

GIS geodatabase will be maintained by the City of Duluth. Data will be served on the Lake Superior Headwaters Sustainability Partnership website. Land protection and restoration activities prioritized as a result of this effort will be completed by the Minnesota Land Trust, City of Duluth, and other partners through a combination of funding sources, including city natural resources program funds and state and federal grant sources.

Other ENRTF Appropriations Awarded in the Last Six Years

Name	Appropriation	Amount Awarded
Metro Conservation Corridors Phase VIII - Coordination and Mapping and Conservation Easements	M.L. 2015, Chp. 76, Sec. 2, Subd. 09e	\$515,000
Conservation Easements in the Avon Hills - Phase III	M.L. 2016, Chp. 186, Sec. 2, Subd. 09c	\$1,300,000
Preserving the Avon Hills with Reverse-Bidding Easements	M.L. 2019, First Special Session, Chp. 4, Art. 2, Sec. 2, Subd. 09j	\$1,600,000

Budget Summary

Category / Name	Subcategory or Type	Description	Purpose	Gen. Ineligible	% Benefits	# FTE	Classified Staff?	\$ Amount
Personnel								
Gini Breidenbach		Project Manager			18%	0.2		\$28,500
Daryl Peterson		Project oversight			18%	0.04		\$6,300
MLT Admin		Grant administration activities			18%	0.02		\$3,200
							Sub Total	\$38,000
Contracts and Services								
Short Elliot Hendrickson, Inc.	Professional or Technical Service Contract	Native Plant Community GIS mapping and follow-up field verification and condition assessment: Classify plant communities for incorporation into Duluth's natural resources management program to inform management planning and priorities				0.5		\$160,000
							Sub Total	\$160,000
Equipment, Tools, and Supplies								
							Sub Total	-
Capital Expenditures								
							Sub Total	-
Acquisitions and Stewardship								
							Sub Total	-
Travel In Minnesota								
							Sub Total	-

Travel Outside Minnesota								
							Sub Total	-
Printing and Publication								
							Sub Total	-
Other Expenses								
							Sub Total	-
							Grand Total	\$198,000

Classified Staff or Generally Ineligible Expenses

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

Category	Specific Source	Use	Status	\$ Amount
State				
			State Sub Total	-
Non-State				
In-Kind	City of Duluth staff time	Coordination with partners, prioritization of ground truthing locations, GIS support	Secured	\$4,000
			Non State Sub Total	\$4,000
			Funds Total	\$4,000

Attachments

Required Attachments

Visual Component

File: [6435f481-409.pdf](#)

Alternate Text for Visual Component

The visual is a map of northern Minnesota showing the municipal boundary of the city of Duluth outlined in red. The map shows that the city of Duluth is bordered by Lake Superior on the southeast and the St. Louis River on the southwest. A small locator map is in the lower left corner showing the location of the city of Duluth within the State of Minnesota with a red dot. The dot is located on the east side of the state on the western tip of Lake Superior....

Financial Capacity

File: [2c3829ae-79a.pdf](#)

Board Resolution or Letter

Title	File
MLT Board Resolution	17a96538-ee8.pdf

Supplemental Attachments

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

Title	File
City of Duluth Letter of Support	5b45dcff-055.pdf

Difference between Proposal and Work Plan

Describe changes from Proposal to Work Plan Stage

All comments posted on 12/16/23 addressed.

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?

N/A

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