



Environment and Natural Resources Trust Fund

2023 Request for Proposal

General Information

Proposal ID: 2023-208

Proposal Title: Pollinator Habitat, Investments, and Community Science in Minnesota

Project Manager Information

Name: Wendy Caldwell

Organization: Monarch Joint Venture

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Project Basic Information

Project Summary: We will support Minnesota pollinator conservation by working with the Conservation Corps to evaluate habitat, share research findings, engage the public in community science, and develop Minnesota-centric education resources.

Funds Requested: \$295,000

Proposed Project Completion: June 30, 2025

LCCMR Funding Category: Foundational Natural Resource Data and Information (A)

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

Narrative

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

Declines of pollinators have resulted in significant investments to reverse these trends and sustain Minnesota's commitment to the environment, economy, and way of life. However, several hurdles prevent Minnesota from conserving its pollinators efficiently, effectively, and inclusively statewide. First, we lack knowledge of existing pollinator habitat distribution and quality statewide. Though some pollinator mapping has occurred, most pollinator data lack habitat context, making it impossible to characterize or replicate quality habitat. A coordinated statewide effort across land use sectors would enhance our understanding of pollinators and their habitat, enabling us to knowledgeably value landscapes and prioritize conservation actions. Second, the impact of Minnesota investments for pollinators isn't well documented. Programs such as Lawns to Legumes make significant financial investments in habitat improvement, but have limited resources to measure outcomes. Such data would ensure the greatest economic impact, as programs could set better targets for achieving the best results for pollinators. Third, there's room for growth in accessible educational materials about Minnesota pollinators. Combining in-person workshops and virtual, customizable, engagement options that can be accessed anytime, improves Minnesota's ability to foster healthy relationships with the natural world and contribute valuable information to community science programs that support statewide pollinator tracking.

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.

Building on actions the state has already taken, we propose to elevate Minnesota's ability to grow and sustain healthy pollinator communities. The Monarch Joint Venture is a national, multi-sectoral partnership that has helped inform conservation targets around monarchs and pollinators in several states. Experience shows us that conservation action is often delayed due to lack of information about the location and value of existing habitat, and thus, an inability to prioritize or set conservation targets. Here, Conservation Corps members will use MJV's vegetation monitoring protocol to assess habitat conditions across many sectors statewide. Additionally, we will collect extensive data on investment sites such as state conserved lands and Lawns to Legumes sites. This will include some baseline data so programs can compare before and after an investment occurs. These data also allow us to compare habitat quality and pollinator value among geographies, land uses, and programs. Finally, we will engage the public in education and monitoring related to pollinators. A combination of in-person workshops and online learning modules housed on MJV's learning management system will be designed for multiple audiences, including youth. Content will focus on pollinators, habitat, and community science, and stress the value of individual engagement in conservation efforts.

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?

Statewide data on pollinator habitat quality available for use by the Interagency Pollinator Protection Team and any future statewide pollinator consortium to evaluate the status of pollinators, pollinator habitat.

Baseline habitat metrics (e.g., floral frequency, composition, milkweed density) across land use types and conservation status statewide.

Expanded documentation of pollinator presence and habitat use via community science (e.g., MN Bumble Bee Atlas) and other in-field monitoring.

A report on the outcomes of conservation investments, including quality or quantity of habitat provided and pollinator use of habitat.

Increased community knowledge and long-term engagement in monitoring pollinators and their habitat.

Activities and Milestones

Activity 1: Evaluate Pollinator Habitat Statewide While Developing Young Adult Work Skill and Opportunities through the Conservation Corps

Activity Budget: \$182,742

Activity Description:

In 2024, we will partner with the Conservation Corps of Minnesota and Iowa (CCMI) to engage young adults in meaningful service, leadership, development, and environmental stewardship. The CCMI engages youth and young adults in service learning related to natural resource management, access, and disaster response. To achieve its mission of guaranteeing equitable access to nature and equipping youth to succeed in career and life, the CCMI devotes 20% of program time to technical-skills training, career-building skills such as resume writing, and educational activities focused on environmental science and technology.

MJV staff will advise three field crews on conducting the Integrated Monarch Monitoring Program (IMMP), a nationwide pollinator habitat survey protocol. Crews will survey randomly selected sites and conservation sites. Sites randomly selected via the IMMP offer a representative look at habitat statewide. They include several land uses that have the potential to provide habitat to monarchs and pollinators; surveys will help us assess their quality, including important factors such as the availability of blooming plants and milkweed density (important for monarchs). Surveys on conservation sites (e.g., state lands, Lawns to Legumes) will quantify outcomes of these investments and enable comparison between conservation and random sites.

Activity Milestones:

Description	Completion Date
Hire Field Crew and Select and Access Sites	March 31, 2024
Conduct Field Surveys	August 31, 2024
Complete Data Quality Control and Generate Data Summaries	September 30, 2024

Activity 2: Engage the Public in Pollinator Community Science Programs and Create Minnesota-centric Online Learning Modules

Activity Budget: \$58,258

Activity Description:

We will build on Minnesota’s excellent history of community science (CS) involvement by expanding public engagement in pollinator CS programs. The Monarch Joint Venture has helped lead successful community science programs, including the Monarch Larva Monitoring Project and the IMMP, in Minnesota for decades. We are also well-positioned to connect CS participants with other programs that will build our knowledge of the state’s pollinator populations and resources, such as the Minnesota Bumble Bee Atlas or HabiTally (to track monarch habitat).

We will hire a year-long CCMI individual placement and guide them in gathering input from project stakeholders to develop learning tools. We’ll hold in-person and virtual trainings for the public and conservation staff to learn and apply several pollinator CS programs. We will focus engagement in areas where Minnesota’s investments can be monitored, such as neighborhoods engaged in Lawns to Legumes, to amplify the utility of these efforts. Our field crews will also conduct in-person programs as they conduct their statewide surveys, and MJV staff will create age-appropriate online programming with the guidance of local educational staff and the IPPT. Virtual trainings and online learning modules will be available via MJV’s online learning system to ensure continued opportunity for increased engagement.

Activity Milestones:

Description	Completion Date
Pollinator Education Needs Assessment	September 30, 2023

Develop and Release Online Learning Tools	September 30, 2024
Conduct In-Person and Virtual Workshops Promoting Knowledge and Engagement in Pollinator Community Science	June 30, 2025

Activity 3: Share Findings, Tools, and Recommendations with the Interagency Pollinator Protection Team and Other Pollinator Working Groups

Activity Budget: \$54,000

Activity Description:

We will share the findings of our statewide surveys with the IPPT and other relevant pollinator-centric groups. Findings will include recommendations on areas to prioritize for conservation activities and suggestions to create more impactful conservation programs (e.g., Lawns to Legumes). We will also point out when and where monarchs are breeding, and what species of flowers the adults are nectaring on. A key component to this project’s success and long-term impact is ensuring these findings are used in conservation decision-making. Aligned with the IPPT, we will summarize data and ensure it is applicable to state planning efforts. To ensure our summaries and recommendations are grounded in the latest research locally and nationwide, we will also conduct a thorough literature review on monarch conservation and management and incorporate findings from local research efforts as appropriate. We will empower the IPPT and other groups with the Integrated Monarch Monitoring Program’s online data visualization tools, enabling the groups to customize how their data are summarized, and add new data and visualize long-term trends. All raw data will be available to the IPPT and other researchers to help advance additional research and analyses, both within Minnesota and at larger scales.

Activity Milestones:

Description	Completion Date
Answer Specific Research Questions Through Statistical Analyses and Share Findings with IPPT and Other Groups	May 31, 2025
Widely Share and Publicize Research Findings and Data Availability to Benefit Regional Pollinator	June 30, 2025

Project Partners and Collaborators

Name	Organization	Role	Receiving Funds
Mark Murphy	Conservation Corps of Minnesota and Iowa	Executive Director	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?

Findings and recommendations to prioritize habitat conservation and management actions will be provided to the IPPT. The Board of Soil and Water Resources will receive information on conservation investments to refine selection criteria and maximize project quality. Data will be available for any future statewide pollinator consortium as it considers actions for various land use sectors to take. Educational workshops and videos will be available on MJV's online learning system, ensuring long-term access. We'll engage closely with the IPPT and local researchers at the University of Minnesota to ensure data accessibility and support further community science involvement in data collection.

Project Manager and Organization Qualifications

Project Manager Name: Wendy Caldwell

Job Title: Executive Director

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

Wendy has been the Director of MJV for nearly a decade and has been engaged in monarch conservation and research since 2007. Helping to craft the North American Monarch Conservation Plan and involved in the development of the Monarch Joint Venture in 2009, she brings strong leadership and relevant expertise to this work. She has grown the organization from 10 partner organizations to over 110, with much of this growth occurring since 2014. Caldwell has extensive relationships with agencies, researchers, NGOs, and businesses across the North American monarch range, and in her home state of Minnesota.

Organization: Monarch Joint Venture

Organization Description:

Since 2009, the MJV has brought together partners from across the United States in a unified effort to conserve the monarch migration. This diverse partnership includes federal and state agencies, other nonprofits, community groups, businesses, and academic programs that work together to implement science-based conservation actions in the form of education, habitat, and science. These actions are organized in the Monarch Conservation Implementation Plan, which guides conservation planning for individuals, partners, or other interested stakeholders nationally.

As a leader in monarch conservation, the MJV supports monarch conservation planning and implementation efforts on a broad scale by facilitating information sharing, partnership building, and carrying out identified conservation priorities.

We facilitate multiple working groups that focus on things like communications, agriculture, and monitoring.

Additionally, the MJV funds our partners to carry out priority actions identified in the Implementation Plan. Beyond this, we provide key and accessible information on monarchs and their conservation to various sectors and the public.

To reach our nation's ambitious monarch and habitat targets, commitment from a diverse set of stakeholders is required. The MJV works to recruit, educate, engage, and inspire to action a broad spectrum of individuals and entities, both partner and non-partner.

Budget Summary

Category / Name	Subcategory or Type	Description	Purpose	Gen. Ineligible	% Benefits	# FTE	Classified Staff?	\$ Amount
Personnel								
Project Manager		Oversee project development, train field staff and direct field data collection, advise staff on educational tool development, conduct analyses and share findings			26%	1.5		\$108,000
							Sub Total	\$108,000
Contracts and Services								
Conservation Corps of Minnesota and Iowa	Sub award	Hiring, housing, and logistics to run a 6-mo, 12-person seasonal field crew and a 1-yr full-time position to obtain access to survey sites, conduct urban habitat surveys, and develop and share educational tools.				1		\$183,292
							Sub Total	\$183,292
Equipment, Tools, and Supplies								
	Tools and Supplies	4 Integrated Monarch Monitoring Program kits, batteries for GPSs, pencils, staples, binders for datasheets	To enable proper field data collection, power to run our navigation systems, writing utensils to record data, staples and binders for paper organization					\$680
							Sub Total	\$680
Capital Expenditures								
							Sub Total	-
Acquisitions and Stewardship								
							Sub Total	-
Travel In Minnesota								

	Miles/ Meals/ Lodging	2 trips for 1 project manager to visit central field data collection sites	1 trip for initial training & 1 trip mid- season to advise on novel sites and provide in-field support					\$2,228
							Sub Total	\$2,228
Travel Outside Minnesota								
							Sub Total	-
Printing and Publication								
	Printing	800	Datasheet for recording pollinator habitat data					\$800
							Sub Total	\$800
Other Expenses								
							Sub Total	-
							Grand Total	\$295,000

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				
Cash	Conservation Corps of Minnesota and Iowa/AmeriCorps	CCMI/AmeriCorps funds and provides professional development training to its youth corps members	Secured	\$55,845
			Non State Sub Total	\$55,845
			Funds Total	\$55,845

Attachments

Required Attachments

Visual Component

File: [464e9621-52b.pdf](#)

Alternate Text for Visual Component

Title: Pollinator Habitat, Investments, and Community Science in Minnesota. TOP: INPUTS. People collecting data in the field and people collaborating around a table. BOTTOM: OUTPUTS. Example graphs and maps that could be produced with project data, including statewide map of habitat quality. Also youth conservation corps member collecting field data....

Financial Capacity

File: [03bcf8f3-a45.pdf](#)

Board Resolution or Letter

Title	File
Board Resolution	cfa8b770-2ba.pdf

Optional Attachments

Support Letter or Other

Title	File
Letter of Support from Iowa DNR	fcf755db-d49.pdf
Letter of Support from Metro Blooms	a90de92e-be5.pdf

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

Pollinator Habitat, Investments, and Community Science in Minnesota:

A statewide pollinator habitat assessment to aid in conservation goal-setting and tracking

INPUTS

FIELD DATA: **Data on habitat** metrics across many land use types and ownerships in Minnesota

COMMUNITY DATA: **Records of pollinators and habitat** metrics on conservation investment sites (e.g., state parks, Lawns to Legumes)

COLLABORATIVE INPUT: **Guidance from state pollinator leaders and educators** on their priorities and needs



OUTPUTS

UNDERSTANDING: **Relationships** between state investments, conservation management, and habitat qualities

PRIORITIES: **Findings & recommendations** to help state pollinator leaders prioritize pollinator conservation actions statewide

LEARNING & GROWTH: Youth **professional development**, more highly **engaged community** scientists, and **long-term learning** modules for students



