

# **Environment and Natural Resources Trust Fund**

# 2026 Request for Proposal

### **General Information**

Proposal ID: 2026-468

Proposal Title: Strengthening Urban Pollinator Habitats: Understanding and Leveraging Communication

## **Project Manager Information**

Name: Garrett Steede Organization: U of MN - College of Food, Agricultural and Natural Resource Sciences Office Telephone: (612) 625-6639 Email: gsteede@umn.edu

# **Project Basic Information**

**Project Summary:** This project examines communication and outreach strategies to equip Twin Cities pollinator garden owners with information and resources to effectively manage invasive species in their gardens.

ENRTF Funds Requested: \$182,000

Proposed Project Completion: September 30, 2028

LCCMR Funding Category: Small Projects (G) Secondary Category: Fish and Wildlife (D)

# **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? Region(s): Metro

When will the work impact occur? During the Project and In the Future

## Narrative

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

Urban pollinator gardens support biodiversity conservation but also pose challenges due to invasive species. These gardens, often featuring native and non-native plants, influence pollinator behavior and ecological interactions. Invasive plants can disrupt pollinator foraging patterns and outcompete native species, reducing biodiversity.

In 2023, Minnesota enacted a law mandating cities must allow managed natural landscapes, which include both native and non-native plantings, as lawns. While this legislation encourages pollinator-friendly spaces, it also risks fostering invasive species if property owners unknowingly plant non-native, aggressive species. For example, non-native Phragmites is a prohibited invasive species in Minnesota due to its rapid spread. Invasive plants can alter pollinator preferences, as Suni et al. (2021) found, while Staab et al. (2020) noted that exotic plants may supplement or outcompete natives. Additionally, invasive species can harm native pollinators; Baker & Potter (2020) demonstrated that invasive paper wasps prey on monarch larvae.

Despite these concerns, urban pollinator gardens remain valuable, particularly when they incorporate diverse native plants. Programs like Minnesota's Lawns to Legumes have promoted pollinator-friendly landscapes in the Twin Cities. However, knowledge gaps about invasive species persist. Effective communication and outreach are crucial to helping gardeners manage invasive plants and maintain Minnesota's ecological balance.

# 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.

This project aims to assess the awareness, attitudes, and behaviors of urban pollinator lawn and garden owners in the Twin Cities regarding invasive species. It will also evaluate the effectiveness of targeted communication strategies in promoting sustainable gardening practices and invasive species management. We seek funding to conduct focus groups with urban pollinator lawn and garden owners to explore their perceptions, knowledge, and management practices related to invasive species. Insights from these discussions, along with literature review findings, will inform the development of a quasi-experimental survey. This survey will measure the impact of tailored communication efforts on knowledge and planned behavior changes regarding invasive species management.

Research Objectives: 1) Describe pollinator lawn and garden owners' knowledge, attitudes, and practices regarding invasive species, 2) Identify barriers and motivations for incorporating invasive species management into pollinator gardening, and 3) Assess the effectiveness of targeted communication on knowledge and intended behavior change.

Research Questions: 1) What do urban pollinator lawn and garden owners know about invasive species?, 2) How do demographics, gardening experience, and environmental attitudes influence receptivity to invasive species outreach? 3) What management strategies do these garden owners use? 4) Which communication strategies are most effective in increasing awareness and action?

# 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?

Enhancing Biodiversity and Urban Resilience: This project empowers pollinator garden owners to identify and manage invasive species, protecting native plants and fostering resilient ecosystems. Preventing invasive spread supports pollinators and wildlife while maintaining biodiversity.

Minimizing Ecological Disruptions: Invasive species alter pollination networks and outcompete native plants. This research identifies effective communication strategies to promote sustainable gardening practices, reducing these disruptions and ensuring urban pollinator habitats thrive.

Strengthening Conservation Engagement: By improving outreach and awareness, this project encourages urban gardeners to adopt sustainable practices, fostering long-term ecological stewardship and strengthening community participation in protecting Minnesota's natural resources.

## **Activities and Milestones**

# Activity 1: A Focus Group Study of Urban Pollinator Garden Owners Regarding Awareness, Knowledge, and Motivations for Controlling Invasive Species

Activity Budget: \$88,952

#### **Activity Description:**

Focus groups provide an effective method for exploring urban pollinator garden owners' awareness, knowledge, and motivations regarding invasive species management. These discussions foster interactive dialogue, allowing participants to share experiences, reveal diverse perspectives, and uncover social influences that shape decision-making. Unlike surveys or individual interviews, focus groups highlight knowledge gaps, barriers to action, and attitudes toward invasive species. The group setting encourages reflection and idea exchange, offering deeper insights into how gardeners perceive and respond to information.

Focus groups will be conducted between June and August 2027 at the University of Minnesota – Twin Cities campus, when pollinator gardens are most active and owners are highly engaged. Each group will consist of 5–8 participants, with an estimated total of 50 individuals participating. To ensure a geographically representative sample, publicly available data from the Minneapolis-St. Paul Metropolitan Area (MSP) Long Term Ecological Research Program (MSP-LTER) will be utilized. Additionally, a targeted, purposeful sampling method will be employed to reflect the diversity of Twin Cities neighborhoods. Participants will be compensated \$50 for their time. These focus groups will generate valuable insights to guide effective communication strategies for invasive species management in urban pollinator gardens.

#### **Activity Milestones:**

Description	Approximate
	Completion Date
Identification of focus group participant pool	November 30, 2026
Develop focus group discussion guides and receive UMN Institutional Review Board approval to	March 31, 2027
conduct research.	
Schedule and conduct focus groups	August 31, 2027
Communicate and visualize findings, draft final report	September 30, 2028

# Activity 2: An Analysis of Communication Efficacy Regarding Invasive Species Control in Urban Pollinator Gardens

#### Activity Budget: \$93,048

#### **Activity Description:**

A quasi-experimental survey using communication message testing is an effective method for assessing how science communication influences invasive species management among urban pollinator garden owners. By systematically testing variations in message framing, scientific complexity, and/or visual elements, this approach identifies the most effective strategies for conveying ecological risks and conservation actions. Comparing participant responses across different message conditions provides insights into how communication influences knowledge retention, attitude shifts, and behavioral intentions. These findings will inform targeted, evidence-based outreach campaigns that enhance public engagement with invasive species management, ultimately strengthening conservation efforts in urban ecosystems.

Using insights from focus groups and existing literature, a survey will be developed and distributed to urban pollinator garden owners. The survey will assess motivations for owning a pollinator garden, perceived knowledge of invasive species management, and responses to different science communication tactics. A total of 500 responses will be collected, with participants compensated \$5 each. Offering financial incentives is crucial for increasing response rates,

improving data quality, and reducing dropout rates. Research has shown that compensation significantly enhances participant engagement and ensures more reliable research outcomes (Kost & Rosa, 2018). The results will provide actionable recommendations for improving invasive species outreach and education.

#### **Activity Milestones:**

Description	Approximate Completion Date
Development of stimuli for quasi-experimental survey	December 31, 2027
Develop questionnaire for survey and receive UMN Institutional Review Board approval to conduct research.	December 31, 2027
Distribute, collect, and analyze survey responses	May 31, 2028
Communicate and visualize findings, draft final report	June 30, 2028
Host webinar and make webinar materials available online	September 30, 2028

# **Project Partners and Collaborators**

Name	Organization	Role	Receiving Funds
Michael R. Barnes	University of Minnesota - Twin Cities, Department of Horticultural Science	Michael's experience in urban ecosystem research and human dimensions of horticulture are important for this team as he will help guide the development of the targeted recruitment materials for the pollinator garden owners and will inform the development of the focus group protocol and online survey materials.	Νο
Jon Trappe	University of Minnesota Extension	Jon is an Extension Educator focusing on Horticulture, Turf and Urban Greenspaces. He will help guide the targeted recruitment of participants for the focus groups and dissemination of results to the target audiences, particularly within Extension.	No

# 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?

This project will shape long-term urban pollinator garden management and invasive species control while advancing science communication. Insights will inform educational materials and outreach programs.

Implementation Strategies:

Extension and Community Outreach: Findings can be integrated into Extension programs on urban gardening and invasive species management, providing best practices to educators and community organizations.

Online Accessibility: Resources, including a recorded webinar and communication strategies, will be available online for educators, policymakers, and gardeners.

Academic Dissemination: Results will be shared through conferences and peer-reviewed publications, contributing to science communication and urban ecology.

To sustain this work, future extramural funding will be pursued.

# Project Manager and Organization Qualifications

#### Project Manager Name: Garrett Steede

Job Title: Assistant Professor of Agricultural, Food & Natural Resource Communication

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

I am qualified to manage the project, because I bring extensive experience in grant-funded research, communication, and outreach in agricultural and environmental sciences. Over my seven years at UMN, I have been part of grant teams that have successfully acquired over \$10 million in funding. My expertise spans qualitative and quantitative research methodologies, strategic communication, and public engagement, making me well-equipped to oversee a project such as this. I have led multiple research initiatives examining science communication in agriculture and natural resources, including studies on trust in agricultural policy discussions, wine label messaging, and Extension program evaluation. Additionally, my experience advising students and facilitating collaborations between academic and industry stakeholders ensures effective project coordination.

Organization: U of MN - College of Food, Agricultural and Natural Resource Sciences

#### **Organization Description:**

The Agricultural Education, Communication and Marketing program works to prepare students for high-demand careers

within the agricultural, food and natural resources (AFNR) community through hands-on classes, highly-applicable course material, and a collaborative and supportive professional community of students, professors, and alumni. We believe that our students are the future leaders and communicators in the AFNR industries.

# Budget Summary

Category / Name	Subcategory or Type	Description	Purpose	Gen. Ineli	% Bene	# FTE	Class ified	\$ Amount
				gible	fits		Staff?	
Personnel								
Project		Project Manager			36.6%	0.08		\$31,039
Manager								
Researcher		Researcher			36.6%	0.3		\$30,419
Graduate		Graduate Student Research Assistant			23.2%	1		\$102,263
Research								
Assistant								
							Sub	\$163,721
Contracto							Total	
and Services								
							Sub	-
							Total	
Equipment,				1				
Tools, and								
Supplies								
	Tools and	Nvivo and SPSS Qualitative Data Analysis Software	Both qualitative (Nvivo) and					\$4,000
	Supplies		quantitative (SPSS) data analysis					
			software will be needed to analyze the					
			These data analysis software					
			subscriptions are renewed annually.					
							Sub	\$4,000
							Total	
Capital Expenditures								
•							Sub	-
							Total	
Acquisitions								
and								
Stewardship								
							Sub	-
Travel In							Total	
Minnesota								

	Miles/ Meals/ Lodging	UMN parking for 48 focus group participants @ \$12/each. Travel for 3 project members @ MN State rate of \$.70/mile to conduct focus groups.	Travel for project members to conduct focus groups & day-rate parking for focus group participants during the data collection process.			\$1,500
					Sub Total	\$1,500
Travel Outside Minnesota						
	Conference Registration Miles/ Meals/ Lodging	One trip for one team member in year 1 (conference registration, flight/travel, lodging, & per diem); One trip for two team members in year 2 (conference registration, flight/travel, lodging, & per diem)	Most research and academic conferences rotate locations yearly, with the locations to be determined within 6 - 12 months of the conference, but often not prior. Thus, funds for out- of-state travel will be needed in order to disseminate results of this research to an academic audience. These funds will allow for attendance of a respected and applicable conference such as those hosted by the Association for Communication Excellence in Agricultural, Natural Resources, and Life & Human Sciences, the International Association for Society and Natural Resources, the North Central Regional Meeting of the American Association for Agricultural Education, and/or others.	x		\$7,879
					Sub Total	\$7,879
Printing and Publication						
					Sub Total	-
Other Expenses						
		Research Subject Payments	Financial compensation for human subject research. Focus group members will be paid \$50 each for their time; Survey respondents will be paid \$5 for their survey response.			\$4,900

			Sub	\$4,900
			Total	
			Grand	\$182,000
			Total	

# Classified Staff or Generally Ineligible Expenses

Category/Name	Subcategory or Type	Description	Justification Ineligible Expense or Classified Staff Request
Travel Outside	Conference	One trip for one team member in	The attendance is to participate in a formal presentation of project findings to a
Minnesota	Registration	year 1 (conference registration,	regional/national audience that will allow the communication to impact conservation,
	Miles/Meals/Lodging	flight/travel, lodging, & per diem);	stewardship, and communication & outreach efforts.
		One trip for two team members in	
		year 2 (conference registration,	
		flight/travel, lodging, & per diem)	

#### Non ENRTF Funds

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

Total Project Cost: \$182,000

This amount accurately reflects total project cost?

Yes

# Attachments

#### **Required Attachments**

*Visual Component* File: <u>d68562c8-bd1.pdf</u>

#### Alternate Text for Visual Component

A visual of the 7-county MSP Metro area along with pollinator garden programs within the area....

#### Supplemental Attachments

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

Title	File
Letter of Approval	<u>35387eb8-5bf.pdf</u>

#### **Administrative Use**

Does your project include restoration or acquisition of land rights?

No

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?

Yes

Does the organization have a fiscal agent for this project?

Yes, Sponsored Projects Administration

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 proposal:

#### None

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

N/A