



# Environment and Natural Resources Trust Fund

## 2022 Request for Proposal

### General Information

**Proposal ID:** 2022-018

**Proposal Title:** Rare Species Habitat Restoration

### Project Manager Information

**Name:** Brittany Smith

**Organization:** River Bend Nature Center

**Office Telephone:** (507) 332-7151

**Email:** rbncinfo@rbnc.org

### Project Basic Information

**Project Summary:** Preserve and restore rare species habitat and diversity in the Big Woods and Prairies of River Bend Nature Center by managing invasive species, establishing pollinator habitat, and increasing habitat connectivity.

**Funds Requested:** \$223,000

**Proposed Project Completion:** June 30 2024

**LCCMR Funding Category:** Methods to Protect, Restore, and Enhance Land, Water, and Habitat (F)

### Project Location

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

Region(s): SE

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

Region(s): SE

**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.**

River Bend Nature Center (RBNC) has 266 acres of Big Woods biome (maple/basswood and floodplain forests), an ecosystem that is losing ground in Minnesota and is home to a variety of rare species. RBNC is one of few places that has colonies of the federally endangered dwarf trout lily; naturally found in only three counties in Minnesota and nowhere else in the world. What is left of the Big Woods biome, including dwarf trout lily habitat, is being lost in large part by being overtaken by invasive species. It is imperative that RBNC continues to preserve this ecosystem, for the diversity of native plants, including the dwarf trout lily and other rare species by controlling invasive species.

Minnesota once had 18 million acres of prairie habitat and now approximately only 2% remain. This extreme loss resulted in a great loss and strain on species that relied on this habitat for survival. RBNC has an opportunity with over 56 acres of reestablished prairie that were reestablished in the 1990s and managed continuously since. With the rusty patch bumblebee being found in the area, there is increased community interest in learning more and assisting to expand and increase prairie species diversity.

### **What is your proposed solution to the problem or opportunity discussed above? i.e. What are you seeking funding to do? You will be asked to expand on this in Activities and Milestones.**

RBNC's proposal seeks to preserve and restore rare species habitat and diversity in the Big Woods and Prairies by managing invasive species, establishing pollinator habitat, and increasing habitat connectivity. The result of this project would connect 139 acres of continuous high quality native habitat in maple/basswood and floodplain forests and prairie.

RBNC is requesting funds to continue and expand conservation activities that began in 2018 to remove and manage invasive species on 80 acres in the Big Woods biome at RBNC to preserve this ecosystem and its diversity of plants, including the dwarf trout lily and other rare species, and the wildlife that depend on them. RBNC also requests funding to restore eight acres of prairie with increased forb species diversity for pollinator habitat. The main activities include:

1. Continue invasive species management on 80 acres of Big Woods/floodplain forest habitat.
2. Initiate invasive species removal on 15 acres of Big Woods/floodplain forest habitat adjacent to those in #1.
3. Establish eight acres of high quality pollinator habitat through invasive species management and planting native pollinator seed mix.

### **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 expected outcomes include:

1. Increase diversity of plants and wildlife in the maple/basswood and floodplain forests and prairie.
2. Protect federally endangered dwarf trout lily and rusty patched bumblebee habitat.
3. Increase high-quality habitat connectivity with 136 connected acres with active conservation management occurring.
4. Engage and educate at least 300 volunteers and members of the public on the importance of removing invasive species, preserving habitat and increasing native species diversity, and involving in conservation activities on this project.
5. Foster an ethic of stewardship and conservation as visitors are immersed in an important of our natural heritage.

## Activities and Milestones

### Activity 1: Continued Invasive Species Management on 80 acres

**Activity Budget:** \$150,000

**Activity Description:**

1. Management activities will continue with follow-up foliar spraying buckthorn and honeysuckle seedling/saplings in the fall when native plants have entered dormancy but buckthorn and honeysuckle are still active.
2. The sites will be surveyed each spring for patches of garlic mustard and dame's rocket to be mechanically removed.
3. The area will be surveyed again in the fall for follow-up foliar treatment of garlic mustard and dame's rocket. This will continue for consecutive seasons for as long as is needed to ensure success. Invasive species will be surveyed each year to track progress, this will be an ongoing process for success.

**Activity Milestones:**

Description	Completion Date
1st Follow-Up Treatment of Previously Cut Buckthorn, Honeysuckle, Garlic Mustard, and Dame's Rocket	December 31 2022
2nd Follow-Up Treatment of Previously Cut Buckthorn, Honeysuckle, Garlic Mustard, and Dame's Rocket	December 31 2023

### Activity 2: Initiate Invasive Species Management on 15 acres (expansion)

**Activity Budget:** \$53,000

**Activity Description:**

1. Removal of buckthorn and honeysuckle will be done from mid-October to mid-February to reduce disturbance to soils, native woodland vegetation, and allow the Dwarf Trout Lily to be fully dormant. Cut and treat stems over 1" diameter with herbicide to prevent re-sprouts. Cut stems less than 1" and over 1/2" diameter but do not stump treat; they will be managed later with the fall foliar herbicide after re-sprouting.
2. Foliar spray buckthorn and honeysuckle seedling/saplings in the fall (mid-October) following initial cutting; native plants have entered dormancy but buckthorn and honeysuckle are still active.
3. Survey project area for patches of garlic mustard and dame's rocket and apply foliar herbicide with backpack sprayers using 2% solution of Glyphosate mixed with water (Rodeo will be used in areas near the river) in late fall between mid-October and mid-November. In the spring, mechanically cut or hand pull plants that survived fall spraying once plants have bolted and are in bloom but have yet to form seed pods.

**Activity Milestones:**

Description	Completion Date
Initial Removal of Buckthorn and Honeysuckle	February 28 2023
Mechanical Removal of Garlic Mustard and Dame's Rocket	June 30 2023
Follow-up Foliar Treatment of Buckthorn, Honeysuckle, Garlic Mustard, and Dame's Rocket	December 31 2023
Follow-up Mechanical Removal of Garlic Mustard and Dame's Rocket	June 30 2024

### Activity 3: Establish Pollinator Habitat and Increase Species Diversity on 8 acres

**Activity Budget:** \$20,000

**Activity Description:**

The objective is to establish high quality pollinator habitat by increasing species diversity with native forb seed mixture at RBNC.

1. Initial control of invasive species including, but not limited to, Canada thistle and wild parsnip will begin in the fall with an herbicide treatment.
2. Seeding site prep will begin with an early spring burn. The site will then be planted with pollinator specific mix, using a no till drill.
3. The prairie areas will be surveyed, after the planting, during the months of June and July for any invasive plants. Plants will be removed prior to going to seed through mechanical methods. The areas will be surveyed again in the fall and a fall foliar treatment, September-mid October, will be done if needed. This method will be repeated for the following years.
4. Regular prescribed burns will be used to manage the native prairie as well as continued follow-up of invasive species.

**Activity Milestones:**

Description	Completion Date
Invasive Species Control	December 31 2022
Site Prep: Spring RX Burn and Pollinator Mix Seeding	June 30 2023
Follow-up Invasive Species Control	December 31 2023
2nd Follow-up Invasive Species Control	June 30 2024

## Project Partners and Collaborators

Name	Organization	Role	Receiving Funds
Jake Froyum	Minnesota Department of Natural Resources	Community Forester Consultant with RBNC on invasive species management	No
Derek Anderson	Minnesota Biological Survey, Minnesota Department of Natural Resources	Botanist/Plant Ecologist Dwarf Trout Lily Specialist Consultant with RBNC on managing for dwarf trout lily	No
David Schmidt	The Nature Conservancy	Conservation Coordinator Consultant with RBNC on Land Management and conservation activities TNC owns bordering lands to RBNC.	No
Megan Benage	Minnesota Department of Natural Resources	Regional Ecologist Consultant with RBNC on conservation activities	No
Amy Rager	University of Minnesota Extension Master Naturalist Program	Program Director RBNC works in collaboration with the MN Master Naturalist program to provide trained volunteers to help with natural resource management activities and public education.	No
Peter Jacobson	Faribault High School	Field Biology Internship class teacher. The class has been helping implement natural resource activities at RBNC to prepare students for careers in natural resources.	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 be funded?**

Results from this project will be implemented and continued in future, ongoing restorations and shared through RBNC's environmental education programs with K-12 students, college students, outreach programs, and the general public. Continued management activities will be crucial to maintain a healthy woodland and prairie habitat to build on the invasive species management that was accomplished. These activities will be built into ongoing land management plans. RBNC will fund the ongoing management activities through fundraising with donors, seeking other grant funding, and through dedicated volunteers.

## Project Manager and Organization Qualifications

**Project Manager Name:** Brittany Smith

**Job Title:** Naturalist/Natural Resources Manager

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

Brittany Smith, RBNC Naturalist/Natural Resources Manager will lead implementation of this project. Brittany has a Bachelor of Science degree in Ecology and has ten years of natural resource conservation experience with Conservation Corps MN, Minnesota DNR, and River Bend Nature Center. She is a licensed pesticide applicator, MN Tree Inspector, and

has experience managing natural resources to protect rare species in Minnesota.

Brittany has been managing nearly 120 acres of grant funded restoration projects at RBNC for the past three years. These projects include Conservation Reserve Program, Environmental Quality Incentives Program, and Conservation Partners Legacy.

**Organization:** River Bend Nature Center

**Organization Description:**

River Bend Nature Center (RBNC) is a 501c3 nonprofit organization serving education, conservation, and outdoor recreation in southern Minnesota since 1978. RBNC partners with Faribault Public Schools to provide field trips and outdoor science education for PreK-6th graders who visit RBNC two to three times a year for this hands-on learning. In addition to that, other local schools (PreK-college) participate from about a 50-mile radius. Naturalists provide field trips for small groups, online learning, and travel to school sites, as well as lead a variety of summer camp experiences. Audiences include schools, homeschools, families, senior living, group homes, scouts, day care centers, and the general public.

RBNC relies on community support both financially through memberships and donations and by volunteering time which support the ongoing education and conservation programs as well as provide continued year round access with no entrance fees to 743 acres of forests, prairies, and wetlands with ten miles of multipurpose trails and a broad diversity of plants and wildlife including the federally endangered dwarf trout lily and other rare species.

## Budget Summary

Category / Name	Subcategory or Type	Description	Purpose	Gen. Ineligible	% Benefits	# FTE	Classified Staff?	\$ Amount
<b>Personnel</b>								
							<b>Sub Total</b>	-
<b>Contracts and Services</b>								
TBD	Professional or Technical Service Contract	Removal and control of non-native and invasive tree species, including but not limited to buckthorn, honeysuckle, Siberian elm, etc. Work will comprise of mechanical removal and follow-up herbicide control.				0		\$150,000
TBD	Professional or Technical Service Contract	Site preparation and maintenance for native prairie restoration and pollinator habitat. Including but not limited to, invasive species control through mechanical and herbicide treatment, as well as conducting prescribe burns, and seeding.				0		\$10,000
TBD	Professional or Technical Service Contract	Management of garlic mustard and dame's rocket in Big Woods biome through mechanical removal and herbicide follow-up treatment.				0		\$50,000
							<b>Sub Total</b>	<b>\$210,000</b>
<b>Equipment, Tools, and Supplies</b>								
	Tools and Supplies	Herbicide	Herbicide to be used in the control of non-native, invasive species.					\$3,000
	Tools and Supplies	Native Pollinator Seed Mix	Establishing eight acres of pollinator habitat					\$10,000
							<b>Sub Total</b>	<b>\$13,000</b>
<b>Capital Expenditures</b>								
							<b>Sub Total</b>	-
<b>Acquisitions and Stewardship</b>								

							<b>Sub Total</b>	-
<b>Travel In Minnesota</b>								
							<b>Sub Total</b>	-
<b>Travel Outside Minnesota</b>								
							<b>Sub Total</b>	-
<b>Printing and Publication</b>								
							<b>Sub Total</b>	-
<b>Other Expenses</b>								
							<b>Sub Total</b>	-
							<b>Grand Total</b>	<b>\$223,000</b>



Classified Staff or Generally Ineligible Expenses

Category/Name	Subcategory or Type	Description	Justification Ineligible Expense or Classified Staff Request
---------------	---------------------	-------------	--

## Non ENRTF Funds

Category	Specific Source	Use	Status	Amount
<b>State</b>				
			<b>State Sub Total</b>	-
<b>Non-State</b>				
In-Kind	River Bend Nature Center, INC	River Bend Nature Center will be funding the staff time needed to coordinate the grant activities and manage this grant funding.	Secured	\$10,000
In-Kind	River Bend Nature Center, INC	Dedicated volunteers will aid in the restoration efforts through removing invasive species.	Potential	\$5,000
Cash	Members and Donors of River Bend Nature Center, INC	These funds will be used to supplement any grant funds.	Potential	\$10,000
			<b>Non State Sub Total</b>	<b>\$25,000</b>
			<b>Funds Total</b>	<b>\$25,000</b>

## Acquisition and Restoration

### Parcel List

Name	County	Site Significance	Activity	Acres	Miles	Estimated Cost	Type of Landowner	Easement or Title Holder	Status of Work
1804225001 Big Woods Biome	Rice	Forest/Floodplain with rare and endangered species	Restoration	69	-	-	Public		In progress
1805400001-Big Woods and Pollinator Habitat	Rice	Forest and Prairies with rare species	Restoration	34	-	-	Public		In progress
<b>Totals</b>				<b>103</b>	<b>0</b>	<b>-</b>			

## 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.**

The land the restoration activities will take place on are owned by the City of Faribault and managed by River Bend Nature Center.

### **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.**

RBNC management plan for these parcels will address the following:

1. Continue invasive species management on 80 acres of Big Woods/floodplain forest habitat.
2. Initiate invasive species removal on 15 acres of Big Woods/floodplain forest habitat adjacent to those in #1.
3. Establish eight acres of high quality pollinator habitat through invasive species management and planting native pollinator seed mix.

The expected outcomes include:

1. Increase diversity of plants and wildlife in the maple/basswood and floodplain forests and prairie.
2. Protect federally endangered dwarf trout lily and rusty patched bumblebee habitat.
3. Increase high-quality habitat connectivity with 136 connected acres with active conservation management occurring.
4. Engage and educate at least 300 volunteers and members of the public on the importance of removing invasive species, preserving habitat and increasing native species diversity, and involving in conservation activities on this project.
5. Foster an ethic of stewardship and conservation as visitors are immersed in an important of our natural heritage.

All management plans are filed both electronically and paper copied. RBNC continues to use past restoration plans as references for future planning. RBNC is able to identify issues and adjust and adapt as needed as time goes on. RBNC's overall strategy for long-term success and plan implementation is to continue to engage the public throughout the restoration projects both as volunteers, donors, and lifelong learners. The community gains a sense of ownership and investment through their volunteering, financial gifts, and education which drives them to continue to be involved both at RBNC and beyond with conservation and stewardship of the environment. In addition, RBNC continues to work and collaborate with natural resource professionals across a variety of agencies on these long-term projects.

### **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.**

Restoration efforts will utilize and follow the Board of Soil and Water Resources "Native Vegetation Establishment and Enhancement Guidelines" throughout every aspect of the project. Consideration will be made when preparing for native prairie seeding so that the site is prepared the best it can be and seeded at the correct time as to not waste seed. Choosing herbicide that is appropriate for the site as well as choosing means appropriate for invasive species control in sensitive areas will be used.

### **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.**

Long-term maintenance activities will be written into the ongoing Land Management plan and accomplished through dedicated staff and volunteers. RBNC will continue to fundraise and seek grant funding to maintain and continue to improve upon the work and investment so far by engaging contractors and other specialists to ensure the greatest success.

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

Consideration will be given to contracting with Conservation Corps of Minnesota for restoration activities. RBNC has contracted with Conservation Corps Minnesota on previous restoration activities and the work that was completed was great quality. This also helps young professionals gain experience that will help them in their careers.

**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.**

Restoration sites will be evaluated on success of invasive species control and changes in biodiversity by vegetation surveys of GPS transects, at minimum, at the completion of the restoration activities, three years after, and every three to five years after that. We will strive to complete surveys on a biannual basis to identify any problems with implementation and/or ways to improve future restoration efforts.

## Attachments

### Required Attachments

#### *Map*

File: [01939685-d47.pdf](#)

#### *Alternate Text for Map*

The attached map depicts the areas that are part of the Big Woods restoration; 95 acres of removal and management of invasive species including buckthorn, honeysuckle, garlic mustard, and dame's rocket, for the preservation of rare species habitat. This area follows the boundary of the Straight River, extending from the floodplains to the hillside hardwood forest. This map also depicts the eight acres that are part of the Pollinator Habitat Establishment project, to increase native biodiver...

#### *Financial Capacity*

File: [49c26996-ae1.pdf](#)

#### *Board Resolution or Letter*

Title	File
Board Resolution / Letter	<a href="#">1c5d44cf-71a.pdf</a>

### Optional Attachments

#### *Support Letter or Other*

Title	File
Letter of Support-David Ruff-The Nature Conservancy	<a href="#">8642c611-6e8.pdf</a>
Letter of Support-City of Faribault	<a href="#">34a35779-75a.pdf</a>
Letter of Support-Derek Anderson-MN DNR, MSB	<a href="#">fae68ec7-7ce.pdf</a>

## Administrative Use

**Does your project include restoration or acquisition of land rights?**

Yes: Restoration,

**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

# Rare Species Habitat Restoration

River Bend Nature Center  
Faribault, MN

## Legend

- Big Woods Restoration
- Pollinator Habitat Establishment



Google Earth

© 2021 Google



1000 ft

