Environment and Natural Resources Trust Fund

2021 Request for Proposal

General Information

Proposal ID: 2021-437

Proposal Title: Enhancing Bat Recovery by Optimizing Artificial Roost Structures

Project Manager Information

Name: Edward Quinn

Organization: MN DNR - State Parks and Trails Division

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Project Basic Information

Project Summary: Project will identify characteristics of successful artificial bat roost structures. Data will be used to optimize bat
use and reproduction in these structures to improve survival of WNS impacted bats

Funds Requested: $190,000

Proposed Project Completion: 2025-06-30

LCCMR Funding Category: Small Projects (H)

Secondary 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 and In the Future

Narrative

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

White Nose Syndrome has devastated North America's populations of hibernating bats. In MN, counts of hibernating bats have declined approximately 95%. Strategies to combat the fungus which causes WNS are being researched but to date, nothing has been found that can be operational. Our project instead focuses on identifying and implementing strategies to optimize use and reproduction in artificial roost structures to help improve bat health and survivorship of young during the summer when they are not subject to WNS. This will help boost the numbers and health of bats returning to hibernation enabling better overwinter survivorship.

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.

Summer roosting sites are one of the most important habitat components for Minnesota's hibernating bat species. Natural roosts typically consist of tree cavities or loose bark. Unfortunately, roost in dead trees and even live trees are ephemeral and not always in optimal locations. Artificial roost structures have been shown to provide greater capacity and protection for roosting bats than natural sites. Artificial roost structures can also be placed in optimal locations to maximize use and conditions needed for roosting bats and young. Artificial roost structures, appropriately designed and located, also provide critical habitat where natural roosts have been lost or do not exist (Mering and Chambers, 2014). Outcomes of our project will be disseminated publicly via DNR outreach channels and broadly as part of the WNS Conservation and Recovery Working Group companion effort to have a broader effect on bat survival throughout North America.

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?

1) Identify characteristics of artificial bat roosting structures that optimize bat roosting and reproduction.
2) Utilize that information to install and/or relocate artificial roost structures on state park lands to maximize usage and reproduction.
3) Disseminate the results within MN and throughout North America via the WNS Conservation and Recovery Working Group to achieve better usage of roosting structures and reproduction across a much broader area.

Activities and Milestones

Activity 1: Assessment and Analysis of Artificial Roost Structures, and Application of Information to Optimize Bat Occupancy and Reproduction

Activity Budget: $190,000

Activity Description:
This project will collect and analyze data on existing artificial bat roost structures on state park and state recreation area lands. These data will be used to install or relocate existing roosting structures to maximize bat utilization. Best management practices for constructing, installing and maintaining bat roosting structures will be communicated to the public via the DNR website and other outreach products. The information will also be shared with the North American WNS Conservation and Recovery Working Group which is assembling similar data from across the United States and Canada.

Activity Milestones:

Description	Completion Date
Inventory of existing artificial bat roosting structures on state park and SRA lands.	2021-11-30
Construct and install certain structure styles, locations or orientations if needed	2022-05-31
Summarize data and identify locations of structures to monitor	2022-05-31
Collect and analyze environmental and bat utilization data	2023-06-30
Install or relocate structures at optimal locations, orientation and style	2023-11-30
Continue data compilation and initiate web page and outreach products	2024-06-30
Monitor structures installed to provide optimal conditions for bat utilization	2024-11-30
Summarize findings and finalize web page and outreach products	2025-06-30

Project Partners and Collaborators

Name	Organization	Role	Receiving Funds
Dr. Cori Lausen and student Susan Dulc	White Nose Syndrome Conservation and Recovery Working Group	They are conducting similar work. We are matching protocols to be able to aggregate some data. We will provide our findings to them as part of a effort in the US and Canada to communicate how to best construct, locate and maintain bat roosting structures that best enhance bat survival.	No
Gerda Nordquist and staff	MN Dept. of Natural Resources MN Biological Survey	Gerda and her staff will be providing expertise and staff time to all phases of the project.	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 be funded?

Initial collection of artificial roost structure characteristics, testing of unrepresented designs and usage analysis will occur the first 2 years of the project. Years 3 and 4, structures will be relocated, better designs installed, etc. to achieve higher usage and reproduction. Results will be shared with citizens/agencies in MN and via the WNS Conservation and Recovery Working Group with the intention of leading to better designed structures and placement broadly. The Division of Parks and Trails has adequate funding and staffing to ensure that structures are maintained in state park to provide optimal roost sites for the foreseeable future.

Other ENRTF Appropriations Awarded in the Last Six Years

Name	Appropriation	Amount Awarded
Restoring Forests in Minnesota State Parks	M.L. 2018, Chp. 214, Art. 4, Sec. 2, Subd. 08e	$250,000
State Park Pollinator Habitat Restoration	M.L. 2017, Chp. 96, Sec. 2, Subd. 08d	$672,000
Reintroduction and Interpretation of Bison in Minnesota State Parks	M.L. 2015, Chp. 76, Sec. 2, Subd. 03h	$600,000
Saving Endangered Pollinators through Data-Driven Prairie Restoration	M.L. 2019, First Special Session, Chp. 4, Art. 2, Sec. 2, Subd. 08a	$800,000

Project Manager and Organization Qualifications

Project Manager Name: Edward Quinn

Job Title: Division of Parks and Trails Natural Resource Program Supervisor

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

BS degree in Fish and Wildlife and MS degree in Biological Sciences (Ecology emphasis). More than 30 years experience managing native plant communities and associated wildlife in three different states. Have been involved with management of bats, their summering habitat and hibernacula since 1998. I am implementing this project in coordination with the DNR's Animal Survey Supervisor who is also the department's bat expert.

Organization: MN DNR - State Parks and Trails Division

Organization Description:
The Division of Parks and Trails (PAT) manages about 250,000 acres of state parks, state recreation areas, state trails, state waysides and public water access sites as well as recreation areas within state forests. PAT has a 3 part mission for state parks, derived from statute (MS86A.05 subd. 2c) where this project will take place. First, to preserve and perpetuate pre-European settlement natural features, and other significant natural, scenic, scientific and historic features, second to educate and interpret natural resources for visitors/public and lastly to provide opportunities and necessary infrastructure for outdoor recreation consistent with the the above.

Budget Summary

Category / Name	Subcategory or Type	Description	Purpose	Gen. Ineligible	% Benefits	# FTE	Classified Staff?	$ Amount
Personnel								
Bat specialists		Collect and analyze roost structure data. Assist in report preparation and outreach product content.			25%	2	X	$110,000
Division of Parks and Trails staff		Collect structure and usage data. Construct and install or relocate roosting structures.			30%	0.6	X	$7,000
Information and Outreach Specialist		Assist in creating/posting project content on the DNR website. Assisting with creation of other project outreach materials			36%	0.1	X	$11,000
							Sub Total	**$128,000**
Contracts and Services								
							Sub Total	**-**
Equipment, Tools, and Supplies								
	Equipment	Bat acoustic detectors, night vision glasses, data loggers, supplies required for this equipment	Collect roost structure data and bat occupancy					$9,000
	Tools and Supplies	Lumber, hardware	Materials needed to construct optimal artificial roost structures					$5,000
	Tools and Supplies	Outreach materials	To disseminate information about the project.					$1,702
							Sub Total	**$15,702**
Capital Expenditures								
							Sub Total	**-**
Acquisitions and Stewardship								
							Sub Total	**-**

Travel In Minnesota								
	Miles/ Meals/ Lodging	Travel to monitor bat roosts, attend outreach events (mileage, lodging, meals). Expenditures will be in accordance with Commissioner's Plan.	Monitor bat roost structures, attend outreach events to disseminate information.					$25,000
							Sub Total	**$25,000**
Travel Outside Minnesota								
							Sub Total	**-**
Printing and Publication								
	Printing	Printing of outreach materials, roost building instructions	Primarily for outreach to the public and other agencies, organizations.					$2,000
							Sub Total	**$2,000**
Other Expenses								
		Direct and Necessary Costs	Direct and necessary costs to cover HR support ($4,138), Safety support ($749), Financial support ($2,042), Communication support ($1,388), IT support ($9,843), Planning support ($1,138)					$19,298
							Sub Total	**$19,298**
							Grand Total	**$190,000**

Classified Staff or Generally Ineligible Expenses

Category/Name	Subcategory or Type	Description	Justification Ineligible Expense or Classified Staff Request
Personnel - Bat specialists		Collect and analyze roost structure data. Assist in report preparation and outreach product content.	**Classified :** We are requesting approval to use ENRTF funds to cover a portion of the salary of Ecological and Water Resources classified and unclassified personnel while they assist on this project. This funding will be used to pay project-associated costs consistent with the approved work plan. The existence of these positions is partly dependent on funding for this project. Work that otherwise might have been assigned to these positions will be covered by other MBS staff or deferred till a later date.
Personnel - Division of Parks and Trails staff		Collect structure and usage data. Construct and install or relocate roosting structures.	**Classified :** We are requesting approval to use ENRTF funds to cover a small amount of the salary of Parks and Trails personnel while they assist on this project. This funding will be used to pay project-associated costs consistent with an approved work plan. Work of these individuals which needs to be addressed while they are assisting on this project will be covered by other staff at the park or deferred till a later time.
Personnel - Information and Outreach Specialist		Assist in creating/posting project content on the DNR website. Assisting with creation of other project outreach materials	**Classified :** We are requesting approval to use ENRTF funds to cover a small amount of the salary of an Information and Outreach Specialist. This funding will be used to pay project-associated costs consistent with an approved work plan. Work of the Information/Outreach specialist needing to be addressed while they assist on this project will be covered by interpretive staff, information officers or similar positions or deferred till a later date.

Non ENRTF Funds

Category	Specific Source	Use	Status	Amount
State				
In-Kind	General Fund	For supervision of zoologists (bat specialists) and assist with oversight and guidance on project.	Secured	$40,000
In-Kind	General Fund and Parks & Trails Legacy Fund. MN Statutes 85.53 PARKS AND TRAILS FUND	For NR Program supv. oversight, direction of project. NR program supervisor is project manager for this effort.	Secured	$40,000
In-Kind	General Fund and Parks & Trails Legacy Fund. MN Statutes 85.53 PARKS AND TRAILS FUND	For NR Program Coordinator - database development and administration. Also some data collection and analysis.	Secured	$30,000
			State Sub Total	**$110,000**
Non-State				
Cash	WNS Aid to States and Tribes (USFWS)	Utilized by MN Dept. of Natural Resources for efforts to address White Nose Syndrome	Pending	$10,000
			Non State Sub Total	**$10,000**
			Funds Total	**$120,000**

Attachments

Required Attachments

Visual Component

File: aeabf00a-bc7.pdf

Alternate Text for Visual Component

It shows a map of the US and Canada depicting the locations of White Nose Syndrome confirmed and suspected locations. There are also pictures of bat roosting structures.

Administrative Use

Does your project include restoration or acquisition of land rights?

No

Does your project have patent, royalties, or revenue potential?

No

Does your project include research?

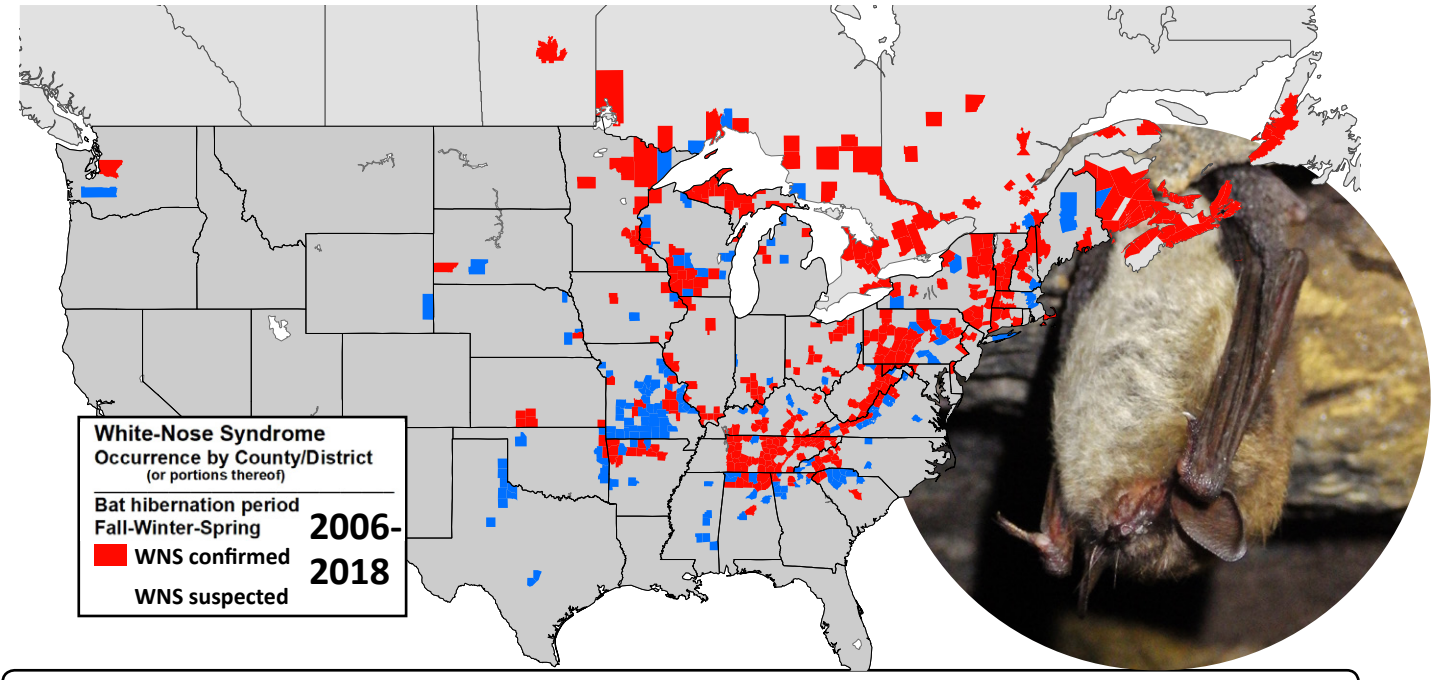
No

Does the organization have a fiscal agent for this project?

No

PROJECT TITLE: Enhancing Bat Recovery and Survival by Optimizing Artificial Roost Structures

Minnesota's Bats Need Our Help to Fight White-nose Syndrome



White-nose Syndrome has caused declines of over 90% among Minnesota's hibernating bats.

Successful artificial bat roosts in state parks will inform citizens and managers about ways to enhance bat recovery.

DEPARTMENT OF NATURAL RESOURCES