



Environment and Natural Resources Trust Fund

M.L. 2020 Approved Work Plan

General Information

ID Number: 2020-022

Staff Lead: Corrie Layfield

Date this document submitted to LCCMR: August 13, 2021

Project Title: Enhancing Bat Recovery By Optimizing Artificial Roost Structures

Project Budget: \$190,000

Project Manager Information

Name: Edward Quinn

Organization: MN DNR - State Parks and Trails Division

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Project Reporting

Date Work Plan Approved by LCCMR: August 13, 2021

Reporting Schedule: January 1 / July 1 of each year.

Project Completion: June 30, 2025

Final Report Due Date: August 14, 2025

Legal Information

Legal Citation: M.L. 2021, First Special Session, Chp. 6, Art. 5, Sec. 2, Subd. 03m

Appropriation Language: \$190,000 the second year is from the trust fund to the commissioner of natural resources to improve the survival of bats by identifying characteristics of successful artificial bat roost structures and optimizing the structures for bat use and reproduction. This appropriation is available until June 30, 2025, by which time the project must be completed and final products delivered.

Appropriation End Date: June 30, 2025

Narrative

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

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.

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

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.	November 30, 2021
Summarize data and identify locations of structures to monitor	May 31, 2022
Construct and install certain structure styles, locations or orientations if needed	May 31, 2022
Collect and analyze environmental and bat utilization data	June 30, 2023
Install or relocate structures at optimal locations, orientation and style	November 30, 2023
Continue data compilation and initiate web page and outreach products	June 30, 2024
Monitor structures installed to provide optimal conditions for bat utilization	November 30, 2024
Summarize findings and finalize web page and outreach products	June 30, 2025

Project Partners and Collaborators

Name	Organization	Role	Receiving Funds
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
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

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.

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

The Minnesota Environment and Natural Resources Trust Fund (ENRTF) will be acknowledged through use of the trust fund logo or attribution language on project print and electronic media, publications, signage, and other communications per the ENRTF Acknowledgement Guidelines.

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 parks to provide optimal roost sites for the foreseeable future.

Other ENRTF Appropriations Awarded in the Last Six Years

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

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 MNDNR 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	Reinvest in MN (RIM) funding	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....

Optional Attachments

Support Letter or Other

Title	File
Background Check Form-Enhancing Bats	9b582011-5cb.pdf

Difference between Proposal and Work Plan

Describe changes from Proposal to Work Plan Stage

There are not substantive changes from the proposal to work plan stage. The timeline in the work plan was updated to correspond with the new date for project funding/initiation which resulted from the pandemic delay.

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?

Yes, I agree to the Commissioner's Plan.

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?

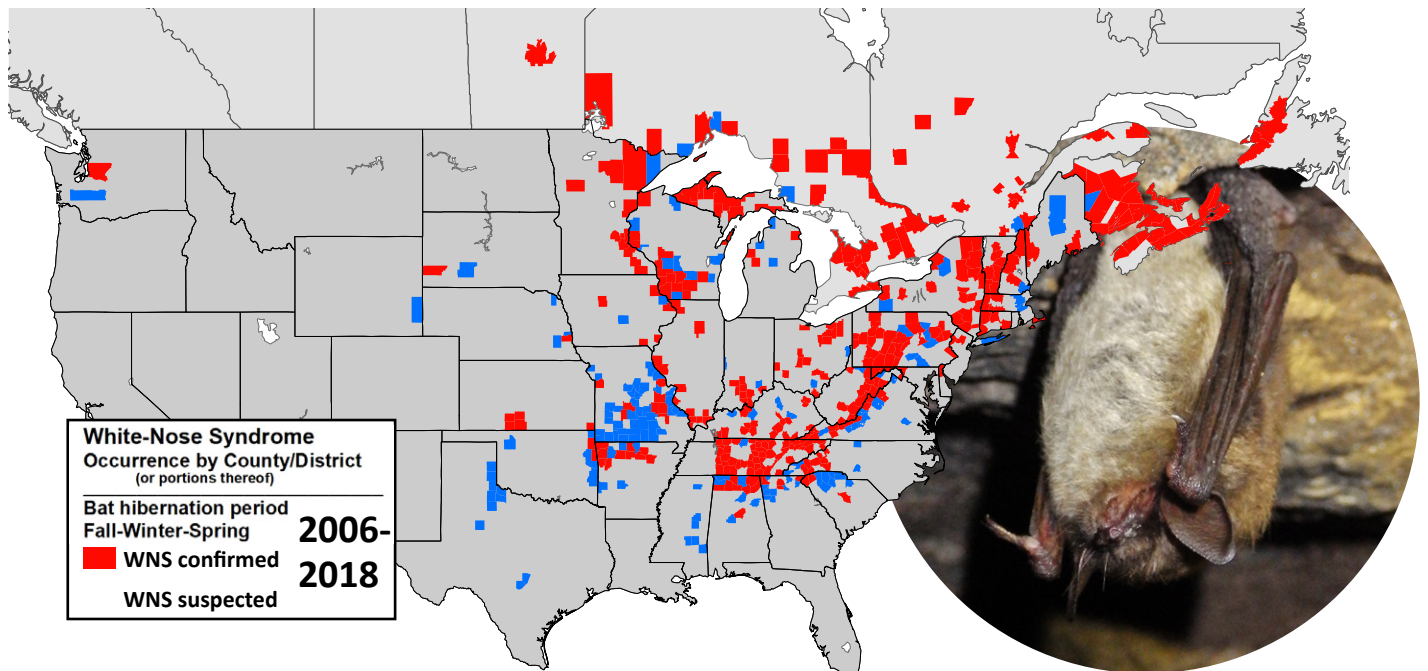
No

Does the organization have a fiscal agent for this project?

No

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.



