

**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. Ineli gible** | **% Bene fits** | **# FTE** | **Class ified 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](https://lccmrprojectmgmt.leg.mn/media/map/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