Environment and Natural Resources Trust Fund

2026 Request for Proposal

General Information

Proposal ID: 2026-253

Proposal Title: Collaborative Monitoring to Prevent Avian Building Fatalities

Project Manager Information

Name: Robert Blair

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

Office Telephone: (651) 644-1591

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Project Basic Information

Project Summary: We will bring a bird-building collision monitoring program to Minnesota schools that will generate scientific data and create scalable research protocols to reduce avian fatalities.

ENRTF Funds Requested: $394,000

Proposed Project Completion: June 30, 2029

LCCMR Funding Category: Fish and Wildlife (D)

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.

Bird populations across North America have decreased by nearly one-third over the past fifty years. These species provide critical ecosystem services including pollination, seed dispersal, and nutrient cycling, which are all threatened by continued population declines. Building collisions are a leading cause of these losses, killing upwards of one billion birds annually in the United States. Migratory species are particularly vulnerable to collisions during their seasonal journeys.

While bird-building collisions are preventable through bird-safe window treatments, collision mitigation is often hindered by cost concerns, limited resources and an incomplete understanding of the factors that cause collisions to occur. Nearly 250 species of the 313 species of birds that regularly occur in the state are migratory, making collision mitigation particularly important in protecting the state's natural resources.

Bird collision tracking programs have been established at colleges throughout the country, but no such programs exist for K-12 schools. This represents both a missed scientific opportunity and an untapped educational resource. By establishing Minnesota's first school-based collision monitoring network, we can simultaneously:
1) Generate valuable scientific data on collision drivers
2) Identify high-priority areas for mitigation
3) Engage students directly in conservation science
4) Create scalable protocols for implementation at public institutions nationwide

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.

The University of Minnesota's "Stop the Thud" citizen-science program will serve as the foundation for this initiative. For four years, "Stop the Thud" has efficiently generated collision data at the UMN's Twin Cities campuses through a community-based reporting system. Our project will adapt this successful model specifically for K-12 settings.

This program will deliver two key benefits. First, it will generate crucial collision data across diverse geographic areas and building types. By expanding data collection to K-12 schools statewide, we'll develop a more comprehensive understanding of collision patterns and mitigation opportunities. This information will directly inform building design and collision mitigation recommendations, including Minnesota's B3 Guidelines for state-funded construction. Second, "Stop the Thud" will provide students hands-on experience with real-world scientific research addressing urgent conservation challenges. This engaging STEM opportunity will connect students to Minnesota's natural resources while building scientific literacy and conservation awareness.

Our approach involves:
1. Collaborating with teachers to adapt materials for K-12 settings
2. Initial deployment at 15 Twin Cities metro schools
3. Expansion to 15 schools in Minnesota's Northwoods region
4. Analysis and dissemination of findings to inform collision mitigation statewide
5. Development of scalable protocols that can be implemented beyond the funding period

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?

This project will expand a citizen science program that advances bird conservation by reducing building collisions - a leading cause of avian mortality. The data collected will help researchers understand where and why collisions occur while identifying site-specific mitigation opportunities. The program will directly benefit participating schools through collision reduction and will inform statewide building design guidelines (including B3 standards for state-funded

construction). Additionally, collected bird specimens will contribute to the Bell Museum's research collections through the Salvage Wildlife project, providing long-term scientific and historical value beyond the project timeframe.

Activities and Milestones

Activity 1: Adapt "Stop the Thud" for K-12 schools and collaboratively design the project with three area teachers.

Activity Budget: $64,800

Activity Description:
We will adapt the "Stop the Thud" program from its current university setting to a format conducive for K-12 schools. While "Stop the Thud" has natural ties to the science classroom, we intend for this program to be a school-wide initiative that can be implemented in a variety of settings by a range of practitioners (e.g. conservation clubs, school sustainability initiatives, after school programs, etc.). To enable cross-curricular integration of our program, we'll develop multiple collision reporting pathways with varying levels of complexity, guidance, and technology requirements. We'll collaborate with three local educators (elementary, middle, and high school) who will receive $750 stipends for helping develop the program. Before the school year begins, these teachers will attend a three-hour workshop to outline project goals and generate implementation ideas. They will then pilot "Stop the Thud" at their schools for two months, participating in weekly feedback meetings with our staff. After this pilot period, we'll convene to discuss the challenges and successes the educators experienced with "Stop the Thud". This feedback will be used to refine our collision reporting system and protocols for wider deployment.

Activity Milestones:

Description	Approximate Completion Date
Host workshop with three pilot educators to outline and develop the project	July 31, 2026
Adapt "Stop the Thud" for K-12 school settings	August 31, 2026
"Stop the Thud" pilot implementation	October 31, 2026
Follow-up meeting to gather project feedback from pilot educators	November 30, 2026
Complete project refinements	December 31, 2026

Activity 2: First implementation of "Stop the Thud", tracking bird-building collisions at schools in the Twin Cities metro region.

Activity Budget: $118,036

Activity Description:
We will focus our first deployment of "Stop the Thud" at a group of 15 schools situated throughout the Twin Cities metro area. We'll use the University of Minnesota's teacher professional development networks to identify and select schools that encompass a wide geographic range and represent a variety of building architectures. Once the schools have been selected, we will host a five-hour workshop for our project partners that includes "Stop the Thud" training, a campus tour of collision hotspots and remediations at the University of Minnesota and distribution of implementation kits that include bird ID guides and mitigation materials. We will cap workshop participation at 30 individuals (two per school).

Project partners will begin to implement "Stop the Thud" at their schools during spring migration (April - May). During this time program staff will be available to troubleshoot issues and perform site visits as requested. We will host a virtual meeting during the summer to check-in with teachers and have them discuss their experiences with the project. A second round of "Stop the Thud" implementation will then occur during fall migration (September - October).

Activity Milestones:

Description	Approximate Completion Date

Select group of 15 schools to implement "Stop the Thud"	February 28, 2027
"Stop the Thud" training and workshop at UMN	March 31, 2027
"Stop the Thud" spring implementation	May 31, 2027
Summer check-in and virtual meeting	July 31, 2027
"Stop the Thud" fall implementation	October 31, 2027

Activity 3: Expansion of "Stop the Thud" into Minnesota's Northwoods region and reaching statewide participants through educator conferences.

Activity Budget: $139,911

Activity Description:
In our second deployment of "Stop the Thud", we will expand the program into the state's Northwoods region. Working again with our teacher networks, we'll identify 15 additional schools that offer geographic and architectural diversity. We'll host a training workshop in or near Duluth to introduce and explain the project as well as distribute implementation kits. We will follow the same structure as the first deployment, wherein project partners will collect data with students in the fall and spring and attend a virtual check-in meeting in the summer.

To spread the word about "Stop the Thud" and advance our goals of wider project adoption, we will present the project at MEA and MTSA educator conferences. At these conferences we will describe the project, outline initial findings, distribute informational materials and solicit educators who are interested in bringing "Stop the Thud" to their home institutions. In this way, we will be able to share our project design, inform the broader public about bird-building collisions and recruit schools for scaling up "Stop the Thud" beyond our directly supported cohorts.

Activity Milestones:

Description	Approximate Completion Date
Year 1 educator conferences	November 30, 2027
Select a second group of 15 schools to implement "Stop the Thud"	February 28, 2028
"Stop the Thud" training and workshop in or near Duluth	March 31, 2028
"Stop the Thud" spring implementation	May 31, 2028
Summer check-in and virtual meeting	July 31, 2028
"Stop the Thud" fall implementation	October 31, 2028
Year 2 educator conferences	November 30, 2028

Activity 4: Project analysis and dissemination of resources to scale-up and support program continuation beyond the funding period.

Activity Budget: $71,253

Activity Description:
Throughout both "Stop the Thud" deployments, we will be analyzing the collected data to learn more about the drivers of bird-building collisions and the specific factors that influence collisions at each of our study locations. For our participating schools, we will provide individualized reports outlining their data contributions, preliminary findings and (if applicable) recommendations for mitigation. Additionally, we will create a webpage where schools can track their individual contributions, see the contributions of other partner schools and access broader project findings. Our cumulative findings will allow us to produce publishable scientific reports and offer revised building design guidelines.

Our experiences with this project will ultimately inform our efforts to further expand "Stop the Thud". Using the knowledge gained from both of our project deployments and through feedback from our project partners, we will be

able to offer "Stop the Thud" as a scalable and flexible citizen science project that can be implemented in a variety of settings across the country beyond the grant period. In this way, individuals concerned about bird-building collisions will be able to adopt and adapt "Stop the Thud" at their building(s) and become active participants in addressing avian population declines.

Activity Milestones:

Description	Approximate Completion Date
Compilation and distribution of collision reports for cohort 1	December 31, 2027
Compilation and distribution of collision reports for cohort 2	December 31, 2028
Data analysis, project evaluation and mitigation recommendations	June 30, 2029
Generation and finalization of scalable "Stop the Thud" implementation template	June 30, 2029

Project Partners and Collaborators

Name	Organization	Role	Receiving Funds
Joanna Eckles	American Bird Conservancy	Project advisor and workshop presentor	Yes
Participating School Staff	Participating Schools around Minnesota	Participatory	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 work be funded?

This project will develop a transferable system allowing public institutions (both statewide and nationally) to identify collision hotspots and prioritize remediation. Our ultimate goal is to create a sustainable program that continues beyond the funding period. Successful implementation in Minnesota will support applications for broader national implementation through funding from agencies such as the National Science Foundation. Bird specimens collected through this project will be donated to the Bell Museum of Natural History's research collections through the Salvage Wildlife project, where they will provide long-term scientific value for researchers studying migratory birds and their conservation.

Other ENRTF Appropriations Awarded in the Last Six Years

Name	Appropriation	Amount Awarded
Minnesota Master Naturalist: Nature For New Minnesotans	M.L. 2021, First Special Session, Chp. 6, Art. 6, Sec. 2, Subd. 05d	$293,000
Phenology Investigations in Minnesota Schools	M.L. 2024, , Chp. 83, Art. , Sec. 2, Subd. 05d	$392,000

Project Manager and Organization Qualifications

Project Manager Name: Robert Blair

Job Title: Professor and Head of the Department of Fisheries, Wildlife, and Conservation Biology

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

Robert Blair is a professor in and head of the Department of Fisheries, Wildlife, and Conservation Biology at the University of Minnesota. His research focuses on urban bird ecology: identifying and solving issues in maintaining natural bird species in urban areas. Currently, the work in his lab centers on bird-building collisions which have been identified as the second leading cause of bird death in the United States. The best estimates suggest that between 16 and 42 million birds die each year in the US and Canada by running into windows. This proposal grows out of a small project at the University of Minnesota -- Stop the Thud -- which seeks to identify collision hots spots on the Twin Cities campus and to suggest potential ways to remediate these spots. Besides research, Blair and the people in his lab work with University of Minnesota Extension to bring science into Minnesota classrooms, largely through the tool of citizen science. Blair has managed more than $10,000,000 of grants in this work including those from the National Science Foundation, the Minnesota Office of Higher Education, and the ENRTF. If successful, this grant will be his seventh funded by the ENRTF. Blair will use both his expertise in urban ecology and in providing professional development for in-service teachers in executing this project with members of his lab.

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

Organization Description:
The College of Food, Agriculture, and Natural Resource Sciences (CFANS) at the University of Minnesota discovers science-based solutions, delivers practical education, and engages Minnesotans to build a better future. The combination of CFANS and University of Minnesota Extension helps Minnesotans explore, understand and conserve their environment by creating programs to engage Minnesotans in making a difference in their lives, communities, and environments. Two of its well-known programs are Minnesota Master Naturalist and the Driven to Discover Citizen Science teacher training program.

Budget Summary

Category / Name	Subcategory or Type	Description	Purpose	Gen. Ineligible	% Benefits	# FTE	Classified Staff?	$ Amount
Personnel								
Principal Investigator		The PI will supervise all personnel, maintain budgets, report on grant progress, and participate in instruction at all workshops.			36.6%	0.15		$36,280
Project Instructor		The Project Instructor will schedule activities for the workshop, help design workshop materials and activities, and work with scientists to integrate research activities.			32.3%	0.39		$17,370
Project Coordinator		The Project Coordinator will coordinate recruitment of schools, workshop registration, organizing logistical details for each workshop, ordering supplies and materials, and working with HR on payments and stipends for pilot teachers.			32.3%	0.39		$27,190
Project Assistant		The Project Assistant will help with the workshops by reserving venues, ordering print materials, and organize and transport supplies to the workshop site.			7.4%	0.09		$5,448
Post Doctoral Fellow		The Post Doctoral Fellow will spearhead the scientific research goals of the project, which includes involvement in project design, workshop instruction, project implementation, conference presentations, data analysis and report generation.			25.9%	3		$273,694
							Sub Total	**$359,982**
Contracts and Services								
							Sub Total	**-**
Equipment, Tools, and Supplies								
	Tools and Supplies	Workshop supplies	Workshop supplies used to conduct the workshop for school staff include office/administrative and activities supplies (name tags, pens, chart paper, markers, tote bins, etc).					$412

							Sub Total	**$412**
Capital Expenditures								
							Sub Total	**-**
Acquisitions and Stewardship								
							Sub Total	**-**
Travel In Minnesota								
	Miles/ Meals/ Lodging	Mileage for Staff Travel to partner schools, workshops, & educator conferences (10,160 miles x $.70/mile)	Staff will travel to off-site locations for school site visits to collect data on the architectural features of each school building and provide site-specific recommendations to participating schools. There will be 3 pilot schools and 15 additional Cohort 1 schools in the Twin Cities Metro area within a round trip distance of 90 miles. An additional 15 schools in Greater MN will be visited over the course of 6 days (2-3 visits per day) at approximately 340 miles round trip from UMN campus. Site Visit Mileage: [(18schoolsx 90miles) + 6tripsx340miles)] = 3660 miles. Greater MN workshop & educators conferences = 4 vehicles x 5 round trips x 325 miles = 6400 miles. 3660 + 6500 miles = 10,160x $.7/mile = $7112					$7,112
	Miles/ Meals/ Lodging	Meals and Lodging for Staff for Greater MN workshop, site visits, and educator conferences (6 staff members x eight overnights @ $178 day & night for meals and lodging)	6 staff members will require eight overnight lodging and meals for the Greater MN instructional workshop to expand Stop the Thud in Northern MN schools (one night), site visits for consultation and support for school staff (5 nights to reach 15 schools) and educator conferences (2 nights). The					$8,544

			standard per diem rate for lodging and meals for Minnesota is $178 per day.					
	Miles/ Meals/ Lodging	Conference Fees for MnSTA/MnCose Educator conferences	4 staff members will require registration for educator conferences for years 2 & 3. MEA is a free conference, but the Minnesota Science Teachers Association (MnSTA) Conference on Science Education is $450 for the 3 day conference x 4 staff x 2 years.					$3,600
							Sub Total	**$19,256**
Travel Outside Minnesota								
							Sub Total	**-**
Printing and Publication								
	Printing	Printing program resources and curriculum handouts for workshops.	Print promotional, educational, and implementation materials for participating partners. (33 schools x $125 per school)					$4,125
							Sub Total	**$4,125**
Other Expenses								
		Teacher Stipend (3)	Stipend ($750/person x 3 teachers) paid to teachers piloting the protocols and instructional materials to be paid for attending training, implementing the program, and providing feedback on their successes and challenges.					$2,250
		Speaker Honorarium	A specialist on bird building collisions from American Bird Conservancy will present for the pilot teachers and two educator workshops on the topic of participatory science practices of collecting data and expert advice to create and implement conservation and sustainability strategies benefitting					$1,500

			people, birds, and other wildlife. $500/day x 3 events					
		Rental Facilities for Greater Minnesota Cohort	The second school workshop will be held in Greater Minnesota, at a site near Duluth, MN in order to reach schools in a wider geographical range. The venue requires a rental fee to use the facilities at approximately $700 per day.					$700
		Participant books and course materials	Participant course materials include items participants will need to complete the activities in the workshop (bird field guides, clipboards, notebooks, folder, etc.). 33 schools x $75					$2,475
		School Implementation supplies	Implementation supplies are items that schools will use to collect data, including dead birds, and mitigate bird collisions. (bags, gloves, and bird safe tape for windows, etc.). 33 schools x $100					$3,300
							Sub Total	**$10,225**
							Grand Total	**$394,000**

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
State				
			State Sub Total	**-**
Non-State				
			Non State Sub Total	**-**
			Funds Total	**-**

Total Project Cost: $394,000

This amount accurately reflects total project cost?

Yes

Attachments

Required Attachments

Visual Component

File: 87a598da-577.pdf

Alternate Text for Visual Component

We present images that outline bird migration in Minnesota, bird-building collisions, individuals studying birds and bird-safe glass installed at a window. Below these images, a series of text boxes describe the goals for our project accompanied by our project logo, which depicts a bird sitting on a stop sign....

Supplemental Attachments

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

Title	File
UMN SPA Authorization	4a291aea-59b.pdf

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:

Andrew Hallberg, Jess Paulson, Jennifer Schultz

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