



Environment and Natural Resources Trust Fund (ENRTF)

M.L. 2019 ENRTF Work Plan (Main Document)

Today's Date: 27 August 2018

Date of Next Status Update Report: 31 March 2020

Date of Work Plan Approval: 5 June 2019

Project Completion Date: 30 June 2021

Does this submission include an amendment request? ___

PROJECT TITLE: Red-headed Woodpeckers: Indicators of Oak Savanna Health

Project Manager: David E. Andersen

Organization: U.S. Geological Survey (USGS), Minnesota Cooperative Fish and Wildlife Research Unit (MN CFWRU) and University of Minnesota

College/Department/Division: Department of Fisheries, Wildlife, and Conservation Biology

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Location: Anoka and Isanti Counties, Minnesota

Total Project Budget: \$171,000

Amount Spent: \$0

Balance: \$171,000

Legal Citation: M.L. 2019, First Special Session, Chp. 4, Art. 2, Sec. 2, Subd. 03j

Appropriation Language: \$171,000 the first year is from the trust fund to the Board of Regents of the University of Minnesota to evaluate red-headed woodpecker survival and habitat needs and to use this data to develop and disseminate a long-term oak savanna management plan that supports red-headed woodpeckers and other oak savanna habitat-dependent species.

I. PROJECT STATEMENT:

The red-headed woodpecker (*Melanerpes erythrocephalus*) is the flagship species of the oak savanna ecosystem. It plays a crucial role in maintaining healthy oak savanna by creating habitat for other species in live and dead trees. Red-headed woodpeckers are considered ecosystem engineers and a keystone species, and their presence may have far-reaching effects on species richness and ecosystem health. Historically, red-headed woodpeckers were common across the Midwest, but populations have experienced dramatic regional declines estimated at 67% since 1970. The situation in Minnesota is even grimmer: since 1967, this species has experienced an average annual decline of 6%, representing a cumulative loss of nearly 95% of the population. Although the rate at which red-headed woodpeckers are declining has slowed since 1990, **populations in Minnesota do not appear to have stabilized.**

Fragmented patches of oak savanna exist across Minnesota, and there is considerable interest and effort from public and private land managers to preserve and restore this rare ecosystem. Efforts to support red-headed woodpeckers and other oak savanna specialists through habitat restoration are ongoing at a number of sites, but these initiatives have been challenged by **a general lack of information on the factors that make savannas desirable for this species.** Fortunately, red-headed woodpeckers occur in relatively stable numbers (>100 breeding adults annually) at the Cedar Creek Ecosystem Science Reserve (hereafter “Cedar Creek”) despite dramatic declines in surrounding areas. Since 2008, a citizen-driven initiative of the Audubon Chapter of Minneapolis has been monitoring this species at Cedar Creek, and has generated some basic information on population size and nest cavity use. In 2017, a formal research collaboration was established with partners at the University of Minnesota and the University of Toledo in Ohio to address key information gaps about red-headed woodpecker ecology, with a particular emphasis on identifying the aspects of oak savanna habitat that support nest success, survival, and migration patterns. **Our GOALS** are to address population declines in a charismatic species of great conservation concern, to assess the outcomes of ongoing management and conservation efforts in an endangered ecosystem, and to develop a unified management plan for restoring oak savanna for red-headed woodpeckers and other oak habitat specialist species in Minnesota and throughout the Midwest.

The OUTCOMES we plan to achieve are to:

1. Identify oak savanna habitat characteristics and adult condition and behaviors associated with successful production of young, the factors related to whether and where individuals migrate, and the consequences of migratory status on productivity and survival.
2. Develop a long-term management plan for restoring oak savanna to support red-headed woodpeckers and other oak-savanna habitat specialists in Minnesota and the Midwest.

II. OVERALL PROJECT STATUS UPDATES:

First Update 31 March 2020

Second Update 30 September 2020

Third Update 31 March 2021

Final Report between project end (30 June) and 15 August 2021

III. PROJECT ACTIVITIES AND OUTCOMES:

ACTIVITY 1 Title: Capture and mark 70 red-headed woodpeckers with tracking units in Minnesota, acquire movement and habitat use data for marked birds

Description: We will mark 20 adult red-headed woodpeckers with GPS units during the summer 2019 breeding season at Cedar Creek. Each GPS unit will collect up to 300 precise locations on a pre-programmed schedule throughout the year. Those data will be downloaded when the woodpeckers are recaptured the following year (2020) and used to estimate survival and dispersal. We will mark an additional 50 woodpeckers (15 nestlings and 10 adults each in 2019 and 2020) with radio-transmitters to study fledgling survival, behavior, and habitat associations. Capture, marking, and tracking will be conducted by the postdoctoral researcher (Dr. Elena West) and field technicians assisted by volunteers coordinated by Keith Olstad of the Audubon Chapter of Minneapolis.

ACTIVITY 1 ENRTF BUDGET: \$85,500

Outcome	Completion Date
<i>1. Mark 20 woodpeckers with GPS tracking units</i>	<i>September 2019</i>
<i>2. Acquire high-resolution GPS tracking data from marked woodpeckers</i>	<i>May 2020</i>
<i>3. Mark 25 woodpeckers with radio-transmitters, acquire habitat data</i>	<i>August 2019</i>
<i>4. Mark 25 woodpeckers with radio-transmitters, acquire habitat data</i>	<i>August 2020</i>

First Update 31 March 2020

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ACTIVITY 2 Title: Develop and share long-term plan for managing oak savannas in Minnesota to support red-headed woodpeckers

Description: We will evaluate red-headed woodpecker survival, movement patterns, and habitat use, and use these data to develop a long-term management plan for restoring oak savanna and supporting red-headed woodpecker populations. Dr. Elena West will lead data analysis, writing and dissemination of management plan to local, state, and federal management agencies and the public, assisted by Dr. Caitlin Barale Potter, education and community engagement coordinator at Cedar Creek and Dr. Henry Streby of the University of Toledo.

ACTIVITY 2 ENRTF BUDGET: \$85,500

Outcome	Completion Date
<i>1. Assess survival, year-round habitat use and selection patterns of RHWO</i>	<i>September 2020</i>
<i>2. Dissemination of findings to management agencies and the public</i>	<i>June 2021</i>

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IV. DISSEMINATION:

Description: Results from this project will provide information about red-headed woodpecker habitat needs that will be disseminated to local, state, and federal management agencies, published in the peer-reviewed literature, and made available to the general public via our project website (rhworesarch.org) and popular press articles.

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](#).

First Update 31 March 2020

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V. ADDITIONAL BUDGET INFORMATION:

A. Personnel and Capital Expenditures

Explanation of Capital Expenditures Greater Than \$5,000: N/A

Explanation of Use of Classified Staff: N/A

Total Number of Full-time Equivalents (FTE) Directly Funded with this ENRTF Appropriation: 2.77

Total Number of Full-time Equivalents (FTE) Estimated to Be Funded through Contracts with this ENRTF Appropriation: N/A

VI. PROJECT PARTNERS:

A. Partners outside of project manager's organization receiving ENRTF funding N/A

B. Partners outside of project manager's organization NOT receiving ENRTF funding

Dr. Caitlin Barale Potter, Cedar Creek Ecosystem Science Reserve, University of Minnesota (Activity 2)

Keith Olstad, Chair, Audubon Chapter of Mpls Steering Committee (Activity 1)

Dr. Henry Streby, Assistant Professor, University of Toledo (Activities 1 and 2)

VII. LONG-TERM- IMPLEMENTATION AND FUNDING:

The proposed project will support and expand an ongoing collaborative partnership to 1) address critical knowledge gaps about the habitat needs of red-headed woodpeckers, and 2) inform oak savanna restoration activities to benefit this species and other oak habitat specialists. Following the completion of this specific

effort supported through ENTRF funds, continuing data collection and information dissemination will be carried on by volunteer from the community.

VIII. REPORTING REQUIREMENTS:

- Project status update reports will be submitted 31 March each year of the project and 30 September 2020
- A final report and associated products will be submitted between 30 June and 15 August 2021

IX. SEE ADDITIONAL WORK PLAN COMPONENTS:

A. Budget Spreadsheet

B. Visual Component or Map

C. Parcel List Spreadsheet N/A

D. Acquisition, Easements, and Restoration Requirements N/A

E. Research Addendum *pending*

Attachment A:

Environment and Natural Resources Trust Fund

M.L. 2019 Budget Spreadsheet

Legal Citation: M.L. 2019, First Special Session, Chp. 4, Art. 2, Sec. 2, Subd. 03j

Project Manager: David E. Andersen

Project Title: Red-headed Woodpeckers: Indicators of Oak Savanna Health

Organization: U.S. Geological Survey Minnesota Cooperative Fish and Wildlife Research Unit and University of Minnesota

Project Budget: \$171,000

Project Length and Completion Date: 2 years; 30 June 2021

Today's Date: 1 March 2019



ENVIRONMENT AND NATURAL RESOURCES TRUST FUND BUDGET	Budget	Amount Spent	Balance
BUDGET ITEM			
Personnel (Wages and Benefits)	\$ 149,484	\$ -	\$ 149,484
Elena West, Postdoctoral Researcher, \$121,000 (100% FTE, 79% salary/21% fringe for 2 years)			
2 field technicians per year (2019 and 2020) @ 11 weeks per year \$28,484 (42% FTE for each of 2 years, 92.1% salary, 7.9% fringe)			
Equipment/Tools/Supplies (for capturing and tracking woodpeckers):	\$ 18,996	\$ -	\$ 18,996
GPS Pinpoint Units \$7,800 (20 @ \$390 each; deployed in 2019)			
Radio transmitters \$6,250 (50 @ \$125 each; 25 deployed in 2019 and 25 deployed in 2020)			
Miscellaneous supplies \$4,946 (harnesses for GPS unit and transmitter device attachment, mist-nets, radio-telemetry receivers and antennas)			
Travel expenses in Minnesota (field technicians and postdoc travel to capture RHWO at Cedar Creek):	\$ 2,520	\$ -	\$ 2,520
4-wheel drive vehicle mileage \$2,520 [1 (2019 and 2020) vehicle @ \$0.56/mile x 25 miles/day x 90 days/year]			
COLUMN TOTAL	\$ 171,000	\$ -	\$ 171,000

OTHER FUNDS CONTRIBUTED TO THE PROJECT	Status (secured or pending)	Budget	Spent	Balance
Non-State: Minneapolis Audubon (2017 - 2018 project support)	<i>Secured</i>	\$ 40,000	\$ 40,000	\$ -
State:		\$ -	\$ -	\$ -
University of Minnesota); PI salary (U.S. Geological Survey, 1 month/year x 2 years	<i>Pending</i>	\$ 120,340	\$ -	\$ 120,340

PAST AND CURRENT ENRTF APPROPRIATIONS	Amount legally obligated but not yet spent	Budget	Spent	Balance
Current appropriation:		\$ -	\$ -	\$ -
Past appropriations:		\$ -	\$ -	\$ -