Environment and Natural Resources Trust Fund
2017 Request for Proposals (RFP)

Project Title: **ENRTF ID: 123-D**

Maximize Value of Water Impoundments to Wildlife

Category: D. Aquatic and Terrestrial Invasive Species

Total Project Budget: $ 195,000

Proposed Project Time Period for the Funding Requested: 3 years, July 2017 - June 2020

Summary:

Water impoundments function as important artificial wetlands for many migrating and breeding birds. We propose to control invasive hybrid cattail which reduces the habitat quality and functionality of these impoundments.

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Location

Region: Northwest

County Name: Marshall, Polk

City / Township:

Alternate Text for Visual:

Map of Agassiz Valley Impoundment project site with state inset map for regional reference. Comparative aerial images (A & B) showing cattail encroachment over a period of 3 years

_____ Funding Priorities	_____ Multiple Benefits	_____ Outcomes	_____ Knowledge Base
_____ Extent of Impact	_____ Innovation	_____ Scientific/Tech Basis	_____ Urgency
_____ Capacity Readiness	_____ Leverage	_____ TOTAL	_____%

PROJECT TITLE: Maximize value of water impoundments to wildlife.

I. PROJECT STATEMENT

With these funds we will:

- Conduct 3 avian monitoring surveys of migratory and breeding bird species at the project site before, during and after invasive hybrid cattail (*Typha x glauca*) removal/control treatment activities.
- Remove up to 500 acres of non-native hybrid cattail from the Agassiz Valley Impoundment owned and operated by the Middle-Snake-Tamarac Rivers Watershed District (gated water storage area is 6,840 acre feet, ungated is 10,670 acre feet.)
- Develop wildlife management and maintenance plans for the 5 impoundments in the Watershed District that will be used as guidance for existing and future impoundments throughout the region.

In 2012-2013 Audubon Minnesota conducted migratory and breeding bird surveys on five Middle-Snake-Tamarac Rivers Watershed District impoundments in order to better assess their value to wildlife (*Prairie Pothole Joint Venture Flex Fund - Red River Valley Avian Conservation Final Report, Audubon MN 2014*). Survey results reveal that water impoundments function as artificial wetlands and shallow ponds for a large suite of migrating and breeding birds. However, invasive hybrid cattail was a major issue noted while conducting these surveys posing an immediate threat by reducing the habitat quality of these impoundments. We recognize that water control, not wildlife, was the primary function of these sites when constructed and will remain that way in the future. However, the management capabilities at these sites also show they have the potential to provide essential functions for migratory and breeding birds, and other wetland-dependent wildlife.

Based on observations of the Agassiz Valley Impoundment in particular, the extent of open water habitat has decreased substantially in the four years since we first conducted bird surveys, due primarily to the expansion of hybrid cattail. Previous research has shown that wetlands with an approximate 50:50 ratio of open water and emergent vegetation attract the highest diversities of wetland birds. Conversely, wetlands that are dominated by a monoculture of cattail have low wildlife value and are typically only utilized by a small diversity of birds. The reduction and subsequent management of hybrid cattail within these impoundments is essential not only to achieve increased water storage capacity but to provide improved habitat to birds and other wildlife. We propose an invasive hybrid cattail removal project using a combination of site-appropriate best management practices at the Agassiz Valley Impoundment. This cattail removal project is complimentary to the *Cattail Management for Wetland Wildlife and Bioenergy Potential* grant that was awarded by LCCMR in 2014, which is under the supervision of Dr. Dan Svedarsky. Both projects highlight the issue of wetland habitat degradation, due to rapid expansion of invasive hybrid cattail which is universally being recognized as one of the most critical and challenging management issues wetland managers are currently facing throughout the Upper Midwest. Results from this project will inform the maintenance, management and design of existing and future impoundments throughout the region to maximize their value to wildlife.

II. PROJECT ACTIVITIES AND OUTCOMES

Activity 1: Invasive Hybrid Cattail Reduction in Agassiz Valley Impoundment **Budget: $116,000**

Conduct non-native/hybrid cattail removal at Agassiz Valley Impoundment to allow for increased flood control capabilities and to enhance bird and wildlife habitat

Outcome	Completion Date
1. Conduct pre-treatment monitoring of migratory and breeding bird use at the impoundment (1st survey season funding from Audubon and /or assistance from agencies)	*Summer 2017*
2. Prepare a Management Plan for invasive species control at the impoundment, outlining project process, timeline, roles and responsibilities	*Winter 2017*
3. Remove up to 500 acres of invasive hybrid cattail using a combination of prescribed fire, herbicide, flooding, and mowing (USFWS, Watershed District, and contracted entities)	*2018*

Activity 2: Avian monitoring of impoundment pre- and post-treatment activities **Budget: $40,000**

Conduct pre- and post-treatment avian response monitoring of the cattail removal project. Information gathered throughout the monitoring process will be used to better advise the management and design of future impoundments.

Outcome	Completion Date
1. Conduct a second season of avian surveys –overlap with the ongoing treatment process	*Summer 2018*
2. Conduct a third and final season of surveys	*Summer 2019*
3. Perform survey analysis and write up comparative results	*Fall 2019*

Activity 3: Develop and integrate wildlife management recommendations into Middle-Snake-Tamarac Rivers Watershed District impoundment operational plans **Budget: $ 39,000**

Develop wildlife management plans in coordination with the Watershed District and input from state and federal wildlife agencies for each of the five impoundments in the Middle-Snake-Tamarac Rivers Watershed District. Using lessons learned in the Agassiz Valley Impoundment cattail removal portion of this project, we will work with Watershed District staff to make adjustments, as needed, to the water-level management of the impoundments that will allow them to provide a flood control function, while also benefiting migratory and breeding bird species, as well as other wildlife. This includes enhancing habitat conditions adjacent to these impoundments for grassland nesting birds (e.g., blue-winged teal, marbled godwit), which utilize the wetland impoundments for part of their life cycle.

Outcome	Completion Date
1. Assess wildlife potential value and needs at the four remaining impoundments	*Fall 2019*
2. Draft wildlife management recommendations with the input of agencies and area experts	*Spring 2020*
3. Work with Watershed District on the review, approval and integration of these recommendations into their overall operational structure.	*July 2020*

III. PROJECT STRATEGY

A. Project Team/Partners

USFWS - Laurie Fairchild and Gregg Knutsen - providing area expertise and assistance in planning (in-kind)
Middle-Snake-Tamarac Rivers Watershed District - Danny Omdahl - providing area expertise and assistance in the planning and site coordination (in-kind). Assist in implementation of this project
U of MN Crookston - Dan Svedarsky - providing area expertise and potential assistance with biomass (in-kind)
MN DNR - Christine Herwig - providing wildlife plan review and comment upon completion of draft (in-kind)
Contracted Entity- conduct cattail reduction treatments including aerial chemical application, mowing, and prescribed burns (receiving funds)

B. Project Impact and Long-Term Strategy

This project will inform the management and design of existing and future impoundments throughout the region and the state. We plan to provide summarized reports of this project to other interested entities upon completion. We intend to secure subsequent grants for long term monitoring at the 5 and 10 year stages post-management plan adoption, in order provide data with the management plan in place.

C. Timeline Requirements

Cattail control treatment and subsequent wildlife management plans for the impoundments will be completed within 3 years. Long term monitoring of avian use in this area is recommended at 5 and 10 year intervals. We intend to seek additional funding from Joint Ventures Prairie Pothole Region for the follow- up monitoring activities.

2017 Detailed Project Budget

Project Title: Maximize value of water impoundments to wildlife.

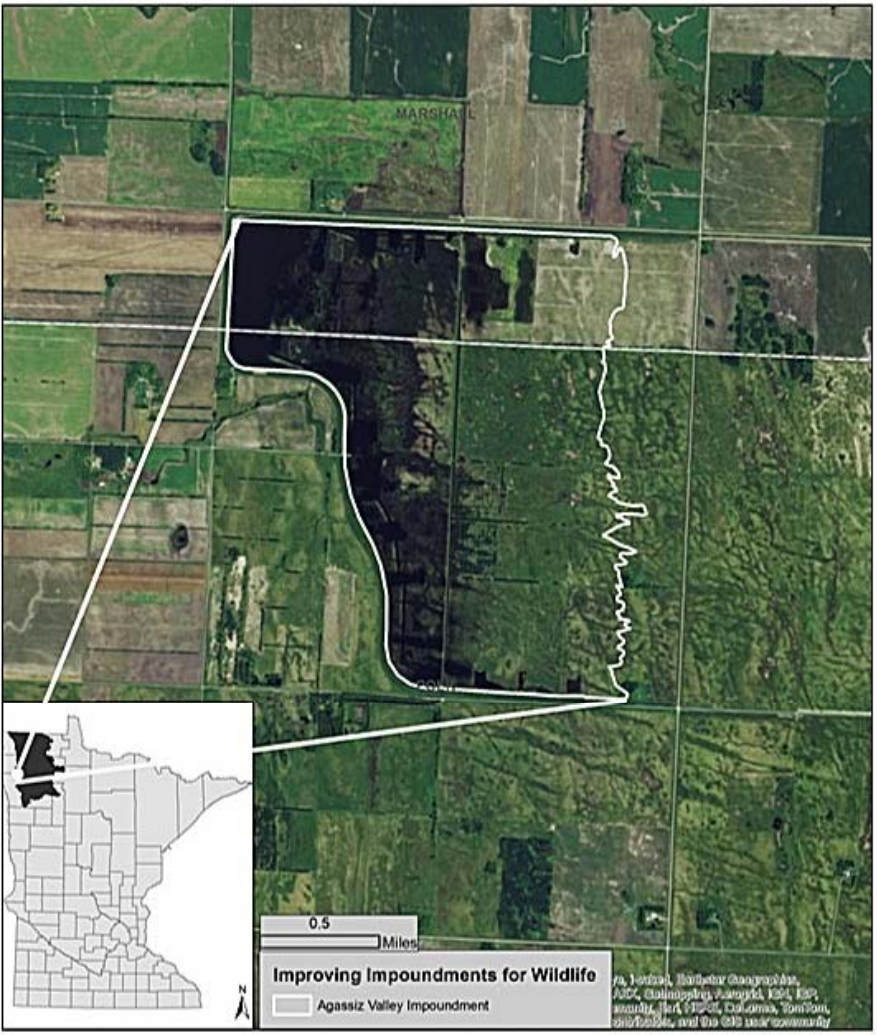
IV. TOTAL ENRTF REQUEST BUDGET: *3* years

BUDGET ITEM	AMOUNT
Personnel:	
Kristin Hall, Project Manager (75% salary, 25% benefits); 10% FTE for 3 years	$ 22,000
Alex Wardwell, Tallgrass Aspen Parklands restoration specialist and field supervisor (75% salary, 25% benefits), 30% FTE for 3 years	$ 57,000
Susan Swanson, Administrative support (75% salary, 25% benefits); 5% FTE for 3 years	$ 7,500
1 Temporary Field Surveyor (Salary and 12% benefits), 15 weeks for 2 years	$ 18,000
Professional/Technical/Service Contracts:	
Professional/Technical/Service Contracts: Cattail Removal Contract - remove up to 500 acres of invasive hybrid cattail using a combination of prescribed fire, herbicide, flooding, and mowing (estimate $155/acre)	$ 78,000
Equipment/Tools/Supplies:	N/A
Acquisition (Fee Title or Permanent Easements):	N/A
Travel:	
Temp Employees lodging ($215@14 wks) and travel (rental car $200@14 + gas $50/wk @14 wks) to survey sites (7 wks/ yr for 2 years)	$ 6,500
Audubon Staff travel to survey sites (660 miles r/t St. Paul - Warren ~ 5 trips/yr over 3 years)	$ 6,000
Additional Budget Items:	N/A
TOTAL ENVIRONMENT AND NATURAL RESOURCES TRUST FUND $ REQUEST	$ 195,000

V. OTHER FUNDS

SOURCE OF FUNDS	AMOUNT	Status
Other Non-State $ To Be Applied To Project During Project Period: pre-treatment avian survey season costs $12,250 - Audubon MN. Impoundmnet maintenance and management costs $54,000 Middle-Snake-Tamarac Rivers Watershed District	$ 66,250	*Secured*
Other State $ To Be Applied To Project During Project Period:	N/A	
In-kind Services To Be Applied To Project During Project Period: Project Partner in-kind support providing area expertise and assistance	$ 15,000	*Pending*
Funding History: Joint Ventures Flex Fund Grant $20,000. Audubon Funding as Match $23,500 "Red River Valley Avian Conservation. Impoundment Avian Monitoring Project"	$ 43,500	*Complete 2012-2014*
Remaining $ From Current ENRTF Appropriation: Creating a Statewide Wetland Bird Survey 2015 - oridginal budget amount recievced $146,520	~130,000	*project in progress at time of submission*

Project Site: Agassiz Valley Impoundment



A. Agassiz Valley Impoundment 6/23/2010

B. Agassiz Valley Impoundment 8/13/2013. Dashed line shows cattail encroachment

Maximize value of water impoundments to wildlife

Audubon Minnesota: Organizational Description

Audubon Minnesota is the state office of the National Audubon Society. Established in 1979, we share Audubon's 115-year heritage of working to protect our environment. While we are part of the national organization, we establish our own statewide programs and pursue our own funding for Minnesota efforts. The Audubon Minnesota mission is to conserve and restore Minnesota's natural ecosystems, focusing on birds and their habitats, for the benefit of humanity and the earth's biological diversity. Today there are nearly 17,000 Audubon members in Minnesota, organized into 14 geographically-based chapters from Agassiz Audubon Chapter in Thief River Falls to the Coulee Region Audubon Chapter in La Crescent.

Manager Qualifications

Kristin Hall Conservation Manager – Audubon Minnesota
Kristin received her B.S. in Wildlife Biology from the University of Montana in 1996 and her M.S. in Conservation Biology and Sustainable Development from the University of Wisconsin-Madison in 2005. She has worked in the field of conservation biology for the past 20 years and has had the opportunity to study an array of bird species including: the American dipper, sandhill & whooping cranes, trumpeter swans, African hornbills, Hawaiian honeycreepers, Swainson's hawks, rough-legged hawks and bald eagles. She has been with Audubon Minnesota since 2010 where she is currently the Conservation and Important Bird Area Program Manager.