



Environment and Natural Resources Trust Fund (ENRTF)

M.L. 2020 ENRTF Work Plan (Main Document)

Today's Date: 02/20/20

Date of Next Status Update Report: April 1, 2021

Date of Work Plan Approval:

Project Completion Date: June 30, 2023

Does this submission include an amendment request? __

PROJECT TITLE: Understanding bird-habitat associations on conservation lands across the Upper Mississippi River

Project Manager: TBD

Organization: Audubon Minnesota

College, Department, or Division:

Mailing Address: 1 W Water Street, Suite 200

City, State, Zip Code: St. Paul, MN 55107

Project Manager Direct Telephone Number: 651.739.9332 x116

Email Address: TBD

Web Address: <https://www.audubon.org/>

Location:

Total Project Budget: \$275,000

Amount Spent: \$0

Balance: \$275,000

Legal Citation: M.L. 2020, Chp. xx, Sec. xx, Subd. xx

Appropriation Language:

PROJECT STATEMENT:

This project is designed to determine habitat associations of breeding bottomland forest birds in relation to forest condition and evaluate their response to habitat restoration actions. This understanding will allow manager and practitioners to target restoration actions to specific habitat conditions or bird species. In the past, Audubon has collaborated with the Minnesota DNR (MDNR), US Fish and Wildlife Service (USFWS), and the U.S. Army Corps of Engineers (USACE) to restore the quality of bottomland forest habitat along the Upper Mississippi River. These forests are under numerous threats, including habitat loss, invasive species, and altered flood cycles. Currently, much of the forest now consists of stands dominated by single species. These trees are expected to live another 50-70 years, after which they will die-off and disappear. Unfortunately, when trees are no longer there, reed canary grass and other invasive species move in and prevent natural regeneration.

In partnership with MDNR and USFWS several restoration sites have been implemented in Winona, Houston and Wabasha counties; and currently Audubon is leveraging Outdoors Heritage funds to implement more restoration. These efforts have been followed by the identification of the best restoration strategies to control invasive Reed Canary grass and establish early-successional forest. These management recommendations are improving our understanding of best practices for controlling promoting forest diversity. However, a better understanding of restoration impacts on wildlife communities is needed.

We propose to use techniques developed by Audubon and USACE at the Audubon Center in Riverlands, to evaluate the abundance, and habitat use of avian communities in bottomland forest. Improved understanding of these bird-habitat associations will allow managers to implement adaptive management and continue more effective conservation along the river. Subsequently these restoration and research efforts will contribute to the Bottomland Forest Avian Stewardship Plan developed by the USACE and Audubon. Restoration efforts often target plant communities, with the implementation of these techniques we have to objective of creating a directly link between land management and the response of wildlife communities. As we develop more understanding of human-wildlife-habitats relationships we will be able to better target conservation efforts along the Mississippi river.

II. OVERALL PROJECT STATUS UPDATES:

First Update April 1, 2021

Second Update October 1, 2021

Third Update April 1, 2022

Fourth Update October 1, 2022

Fifth Update April 1, 2023

Final Report between project end (June 30) and August 15, 2023

III. PROJECT ACTIVITIES AND OUTCOMES:

Activity 1 Title: Determine baseline understanding of bottomland forest bird-habitat relationships along the Upper Mississippi River in Minnesota

Description:

We will conduct surveys within bottomland forest at the Reno Bottoms area of Pool 9 near Reno Minnesota within the Upper Mississippi River National Wildlife Refuge. Surveys will be co-located with USACE forest inventory plots previously conducted at this site. Surveys will consist of a point count with two forms of auxiliary data (distance and time of detection) enabling correction for imperfect detection (Knutson et al. 2016). Survey

locations will be spaced a minimum of 400 meters apart, and associated with forest inventory plots on and surrounding the survey point.

We will model bird-habitat relationships, using both forms of auxiliary data to estimate densities of focal species and detection-corrected counts with habitat variables drawn from forest inventory surveys. This analysis will be used to understand relationships of multiple vegetation variables. These models will be extrapolated to forest inventory sites across Pool 9 to predict species occurrence and abundance given site conditions and management strategies.

ENRTF BUDGET: \$[MV1]**137,500**

Outcome	Completion Date
<i>1. Completion of point count surveys</i>	<i>September 2022</i>
<i>2. Analysis of baseline bottomland forest species-specific bird-habitat relationships</i>	<i>January 2023</i>
<i>3. Evaluation of species-specific bird response to implemented restoration efforts</i>	<i>January 2023</i>
<i>4. Scenario modeling predicting bird response to future restoration efforts</i>	<i>January 2023</i>

First Update April 1, 2021

Second Update October 1, 2021

Third Update April 1, 2022

Fourth Update October 1 , 2022

Fifth Update April 1, 2023

Final Report between project end (June 30) and August 15, 2023

Activity 2 Title: Determine response of bottomland forest birds to habitat restoration

Description:

We will follow a Before After analysis, implementing bird surveys following the Knutson et al. (2016) protocol at restoration and control sites both before and after restoration. Bird-habitat relationships will be modeled as described in Activity 1, with the addition of two predictors: year and management strategy. This design enables managers to evaluate species-specific response to restoration action, and can be used in scenario modeling to predict bird response to management.

ENRTF BUDGET: \$137,500[MV2]

Outcome	Completion Date
<i>1. Completion of all survey bird points bird.</i>	<i>July 2022</i>
<i>2. Analysis of habitat used data.</i>	<i>January 2023</i>
<i>3. Evaluation of species-specific bird response to implemented restoration efforts</i>	<i>January 2023</i>
<i>4. Scenario modeling predicting bird response to future restoration efforts</i>	<i>January 2023</i>

First Update April 1, 2021

Second Update October 1, 2021

Third Update April 1, 2022

Fourth Update October 1 , 2022

Fifth Update April 1, 2023

Final Report between project end (June 30) and August 15, 2023

IV. DISSEMINATION:

Description: Audubon maintains productive collaborations with key partners in the Upper Mississippi River region, including UMRBA, USACE, USFWS, USGS, and Minnesota DNR. This proposal was developed in conjunction with scientists from USACE and USFWS, and through coordination with scientists at USFWS, Minnesota DNR, and other organizations. Audubon will be leading this effort, including hiring and managing field technicians who will be conducting the structured point count surveys.

The results and selection models will be shared with partners from government agencies and other NGOs working to restore and manage bottomland forest across the Upper Mississippi River region. In addition, these results will add to similar work undertaken by the USACE and the Audubon Society in Riverlands in Missouri. A more robust and diverse data set will allow to further develop exciting models and contribute to the extrapolation to other stretches of the UMR.

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 April 1, 2021

Second Update October 1, 2021

Third Update April 1, 2022

Fourth Update October 1 , 2022

Fifth Update April 1, 2023

Final Report between project end (June 30) and August 15, 2023

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:

Enter Total Estimated Personnel Hours for entire duration of project: 5616	Divide total personnel hours by 2,080 hours in 1 yr = TOTAL FTE: 3
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Total Number of Full-time Equivalents (FTE) Estimated to Be Funded through Contracts with this ENRTF Appropriation:

Enter Total Estimated Contract Personnel Hours for entire duration of project:	Divide total contract hours by 2,080 hours in 1 yr = TOTAL FTE: [MV3]
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VI. PROJECT PARTNERS:

- A. Partners outside of project manager's organization receiving ENRTF funding
- B. Partners outside of project manager's organization NOT receiving ENRTF funding [MV4]

VII. LONG-TERM- IMPLEMENTATION AND FUNDING:

The aim of this project is to inform bird habitat conservation efforts across the Upper Mississippi River region and significantly increase the understanding of the impact that the different bottomland forest management strategies have on promoting wildlife habitat. The project team will be able to increase the impact that Outdoor Heritage and other funds have already had along these important forest habitats. Audubon and other partners are committed to improve the restoration and bird conservation efforts along the Mississippi River and tributaries, and this work will help to understand what conservation practices are more effective to promote wildlife habitat. The outcomes of this project will help to guide the investment of funds on the restoration and management of bottomland forest along the upper Mississippi River.

VIII. REPORTING REQUIREMENTS:

- Project status update reports will be submitted April 1 and October 1 each year of the project
- A final report and associated products will be submitted between June 30 and August 15, 2023

IX. SEE ADDITIONAL WORK PLAN COMPONENTS:

- A. Budget Spreadsheet
- B. Visual Component or Map
- C. Parcel List Spreadsheet
- D. Acquisition, Easements, and Restoration Requirements
- E. Research Addendum

Attachment A: Project Budget Spreadsheet
 Environment and Natural Resources Trust Fund
 M.L. 2020 Budget Spreadsheet

Legal Citation:

Project Manager: TBD

Project Title: Understanding bird-habitat associations on conservation lands across the Upper Mississippi River

Organization: Audubon Minnesota

Project Budget: \$275,000

Project Length and Completion Date: Three-year, June 2023

Today's Date: 9/13/2019



ENVIRONMENT AND NATURAL RESOURCES TRUST FUND BUDGET		Budget	Amount Spent	Balance
BUDGET ITEM				
Personnel (Wages and Benefits) 32% fringe			\$ -	\$ -
Project Manager:		\$ 126,950		\$ 126,950
Science associate		\$ 25,390		\$ 25,390
Office administrator		\$ 12,695		\$ 12,695
Quantitative ecologist		\$ 38,085		\$ 38,085
Engagement Lead		\$ 50,780		\$ 50,780
Professional/Technical/Service Contracts				
2 Field technicians (Selected through a competitive process)		\$ 12,000	\$ -	\$ 12,000
Equipment/Tools/Supplies				
binoculars (2 Vortex Viper HD)		\$ 1,600	\$ -	\$ 1,600
Capital Expenditures Over \$5,000				
		\$ -	\$ -	\$ -
Fee Title Acquisition				
		\$ -	\$ -	\$ -
Easement Acquisition				
		\$ -	\$ -	\$ -
Professional Services for Acquisition				
		\$ -	\$ -	\$ -
Printing				
<i>Reports</i>		\$ 500	\$ -	\$ 500
Travel expenses in Minnesota				
Field travel (Travel to field sites, approx. 3000 mi/year)		\$ 5,000		\$ 5,000
Travel to sites and partner visits (Trip to/from Twin Cities area, approx. 1000 mi/year)		\$ 2,000	\$ -	\$ 2,000
Other				
		\$ -	\$ -	\$ -
COLUMN TOTAL		\$ 275,000	\$ -	\$ 275,000
SOURCE AND USE OF OTHER FUNDS CONTRIBUTED TO THE PROJECT	Status (secured or pending)	Budget	Spent	Balance
Non-State:				
McKnight Foundation	Pending	\$ 200,000	\$ -	\$ 200,000
USFWS	Secured	\$ 125,000	\$ -	\$ 125,000
US Army Corps of Engineers	Pending	\$ 60,000	\$ -	\$ 60,000
State:				
In kind:				
Other ENRTF APPROPRIATIONS AWARDED IN THE LAST SIX YEARS	Amount legally obligated but not yet spent	Budget	Spent	Balance
M.L. 2017, Chp. 96, Sec. 2, Subd. 06f	\$ 86,696	\$ 195,000	\$ 108,304	\$ 86,696
M.L. 2019, First Special Session, Chp. 4, Art. 2, Sec. 2, Subd. 03k	\$ 124,000	\$ 124,000	\$ -	\$ 124,000

Attachment A: Project Budget Spreadsheet
 Environment and Natural Resources Trust Fund
 M.L. 2020 Budget Spreadsheet

Legal Citation:

Project Manager:

Project Title:

Organization:

Project Budget:

Project Length and Completion Date:

Today's Date:



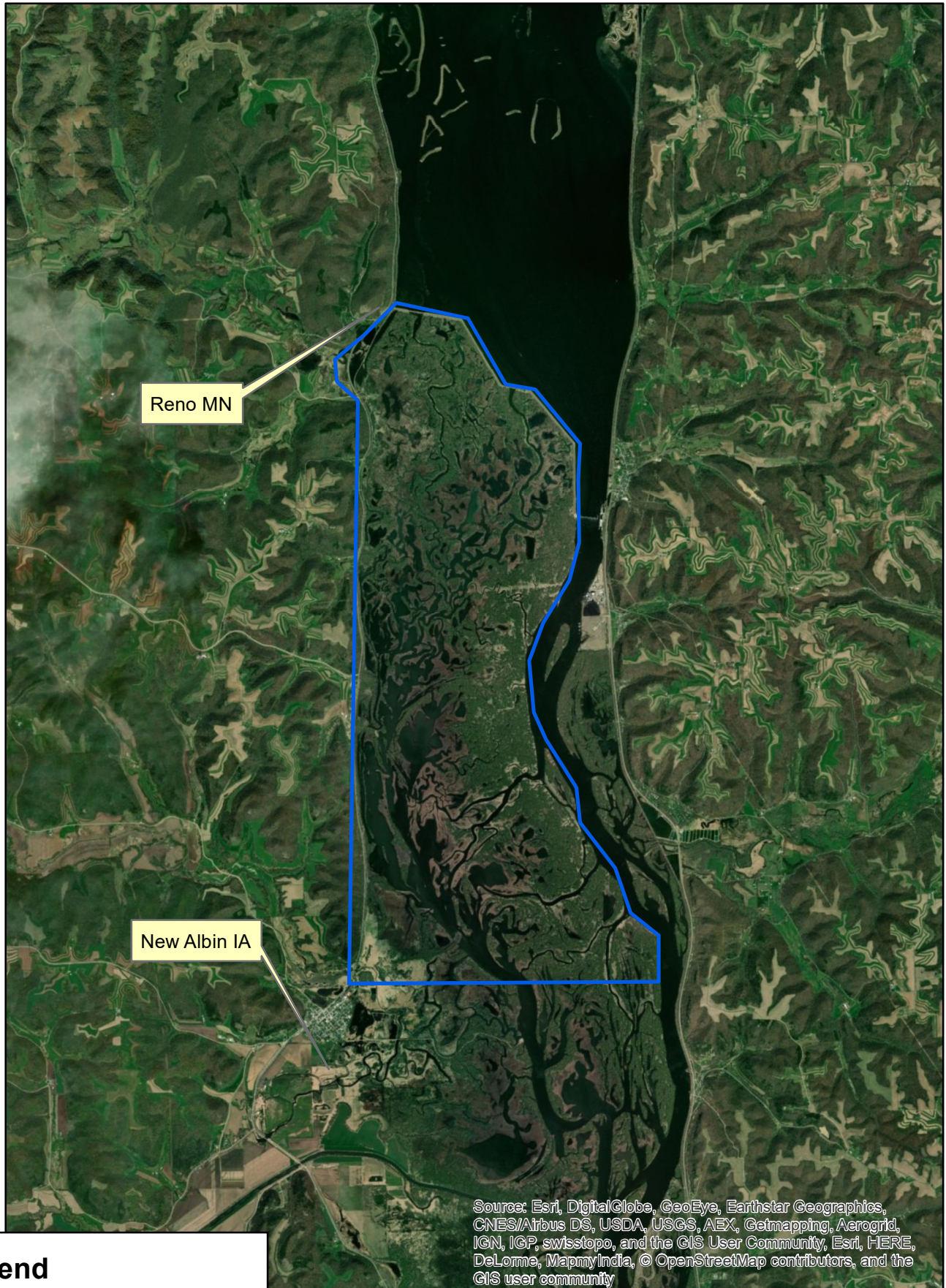
ENVIRONMENT AND NATURAL RESOURCES TRUST FUND BUDGET	Budget	Amount Spent	Balance
BUDGET ITEM			
Personnel (Wages and Benefits)	\$ -	\$ -	\$ -
<p>List who is getting paid to do what and what is the % of full-time employment for each position. List out by position or position type—one row per position/position type. For each, provide details in this column on the inputs: i.e., number of people in the position/position type, estimated \$ allocation toward the position/position type, % dollars toward salary, % dollars toward benefits, time period for position/position type, and breakdown of FTE effort during the time period. Add rows as needed.</p> <p>The Personnel budget is intended to be tracked at an overall level with initial estimates of allocations for each position/position type listed in the details of this column.</p>	Provide \$ Total Personnel Budget Above	Leave Blank	Leave Blank
Example: Position/Position Type 1, \$ Amount (%salary %benefits), %FTE each year for # of years	Leave Blank	Leave Blank	Leave Blank
Example: Position/Position Type 2, \$ Amount (%salary %benefits), %FTE each year for # of years	Leave Blank	Leave Blank	Leave Blank
Professional/Technical/Service Contracts			
<p>List out proposed contracts. Be clear about with whom the contract is to be made and what services will be provided. If a specific contractor is not yet determined, specify the type of contractor sought. List out by contract types/categories - one row per type/category.</p> <p>State how contracts will be selected for example through RFP, competitive or quality based bids, or single-source. Provide additional justification as might be needed per the Guidelines On Allowable Expenses. Add rows as needed.</p>	Total Amount per Contract Type/Category		
Example 1: Contract with TBD to do XYZ will be selected through a competitive bid process.	\$ -	\$ -	\$ -
Example 2: Contract with Company ABC to do XYZ was selected through a competitive bid process or provide justification for single source contract.	\$ -	\$ -	\$ -
Equipment/Tools/Supplies			
<p>List out general descriptions of item(s) or category of item/s and their purpose—one row per item(s)/category of item/s. Include estimated quantity of items or list of items in categories and costs for those items. Add rows as needed. If a single piece of equipment will exceed \$5,000, list it under "Capital Expenditures over \$5,000" instead.</p>	Total Amount per Item/s or Category		
Example: Item/s, # of items, \$ amount each if more than one.	\$ -	\$ -	\$ -
Examples Category: Field supplies such as list of items, # of items, \$ amount	\$ -	\$ -	\$ -
Capital Expenditures Over \$5,000			
<p>List specific item/s (one row per item). Include quantity and cost per item. Add rows as needed.</p>	Total Amount for Item/s		
Example: Item/s, # of items, \$ amount each if more than one.	\$ -	\$ -	\$ -
Fee Title Acquisition			
<p>Indicate proposed number of acres, parcels, and name of organization or entity that will hold title.</p>	Total Fee Title Cost		
Example: # of acres, 3 parcels, and name	\$ -	\$ -	\$ -
Easement Acquisition			
<p>Indicate proposed number of acres, parcels, and name of organization or entity that will hold title.</p>	Total Easement Cost		

<i>Example: # of acres, 3 parcels, and name</i>	\$ -	\$ -	\$ -
Professional Services for Acquisition			
<i>List costs associated with fee title and easement acquisition transactions. Indicate expected number of transactions and average costs per transaction.</i>	<i>Total Acquisition Professional Services Costs</i>		
<i>Example: 3 appraisals at \$5,000 each for 3 transactions</i>	\$ -	\$ -	\$ -
Printing			
<i>List types of printing costs anticipated.</i>	<i>Total Printing Costs</i>		
	\$ -	\$ -	\$ -
Travel expenses in Minnesota			
<i>Provide a breakdown of the amount and type of travel expenses being requested. Generally, only in-state travel essential to completing project activities can be included. State as Commissioner's Plan or UMN Policy as required in Guidelines On Allowable Expenses.</i>	<i>Total Cost of Instate Travel</i>		
<i>Example: Travel to, for what, estimated # of trips, and estimated # miles in accordance with Commissioner's Plan or UMN Policy</i>			
Other			
<i>List any additional budget items that do not fit above categories. List by item(s) or category of item type(s). One row per item/s/category. Provide additional justification as might be needed per the Guidelines On Allowable Expenses. Add rows as needed.</i>	<i>Total Amount per Item/s or Category</i>		
	\$ -	\$ -	\$ -
COLUMN TOTAL	\$ -	\$ -	\$ -

SOURCE AND USE OF OTHER FUNDS CONTRIBUTED TO THE PROJECT	Status	Amount	Spent	Balance
Non-State:				
<i>Indicate any additional non-state cash dollars secured or applied for to be spent on the project during the funding period and how those dollars will be used. Add rows for each source/request.</i>	Indicate Secured or Pending	\$ -	\$ -	\$ -
State:				
<i>Indicate any additional state cash dollars (e.g., bonding, other grants) secured or applied for to be spent on the project during the funding period and how those dollars will be used. Include legal citation, title, and dollar amount for state funds such as OHF and CWF. Add rows for each source/request.</i>	Indicate Secured or Pending	\$ -	\$ -	\$ -
In kind:				
<i>Indicate any in-kind service(s) or goods(s) secured or applied for to be spent on the project during the funding period. Add rows for each source/request.</i>	Indicate Secured or Pending	\$ -	\$ -	\$ -
Other ENRTF APPROPRIATIONS AWARDED IN THE LAST SIX YEARS	Amount legally obligated but not yet spent	Budget	Spent	Balance
<i>Include legal citation, title and dollar amount from any current ENRTF appropriation for any directly related project of the project manager or organization. Add rows for each appropriation.</i>	\$ -	\$ -	\$ -	\$ -
<i>Example: M.L. xxxx Chap. xx Sec. xx Subd. xxx</i>	\$ -	\$ -	\$ -	\$ -

Reno Bottoms

Upper Mississippi National Wildlife and Fish Refuge



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community, Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, and the GIS user community

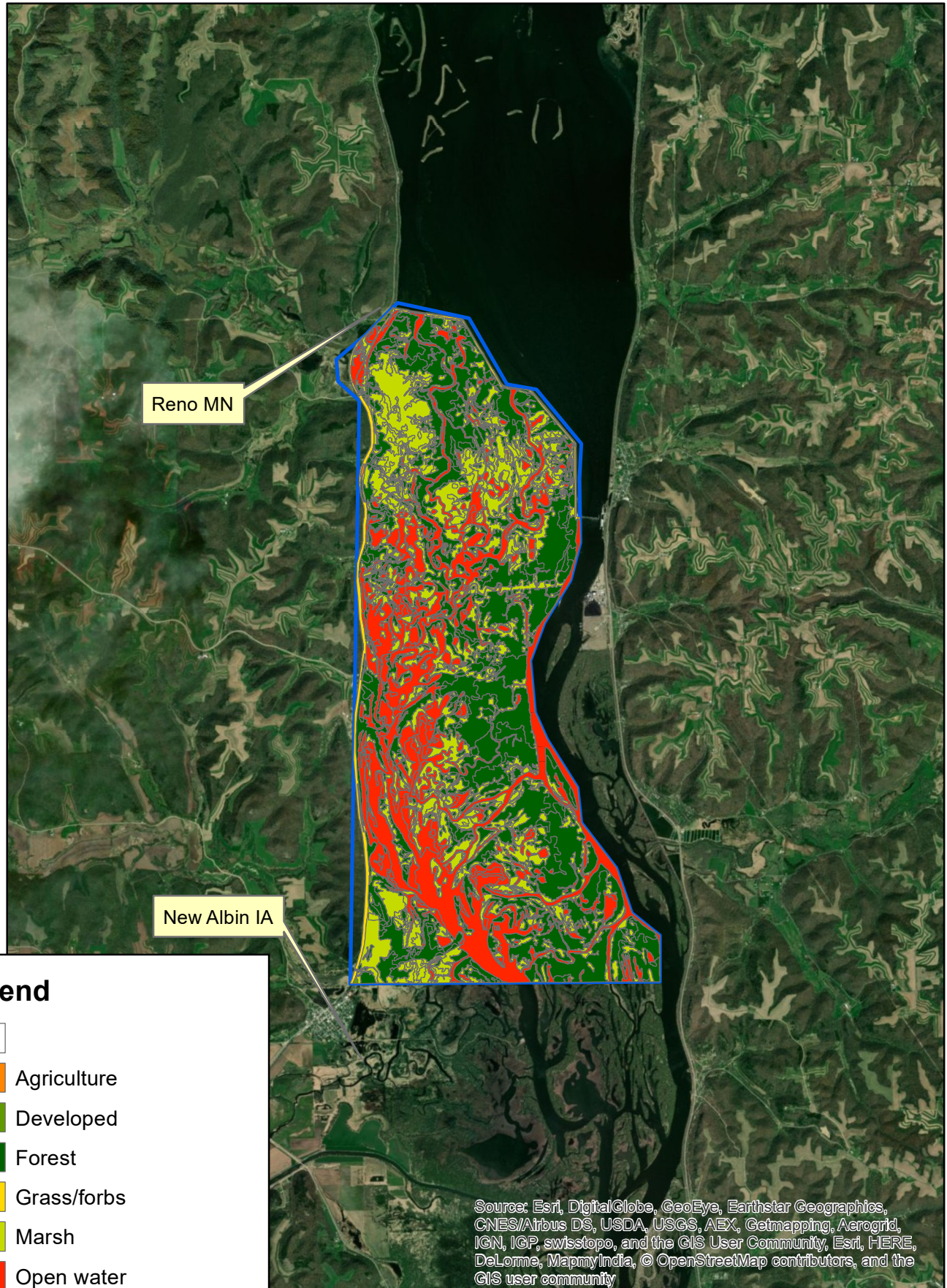
Legend

 Reno Bottoms Boundary









0 0.75 1.5 3 4.5 6 Miles

Reno Bottoms

Upper Mississippi National Wildlife and Fish Refuge



Legend

- 
-  Agriculture
-  Developed
-  Forest
-  Grass/forbs
-  Marsh
-  Open water
-  Reno Bottoms Boundary

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community, Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, and the GIS user community

0 0.75 1.5 3 4.5 6 Miles