Audubon

# Forest Bird Conservation on the Mississippi River

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RRAT FALL 2023

# Decline of Eastern Forest Birds

State of the Birds report shows E. Forest birds to be declining by 30% since 1970

Notable forest birds have already lost 50% of their populations during this time, including:

- Black-billed Cuckoo
- Cerulean Warbler
- Eastern Whip-poor-will
- Red-headed Woodpecker
- Wood Thrush

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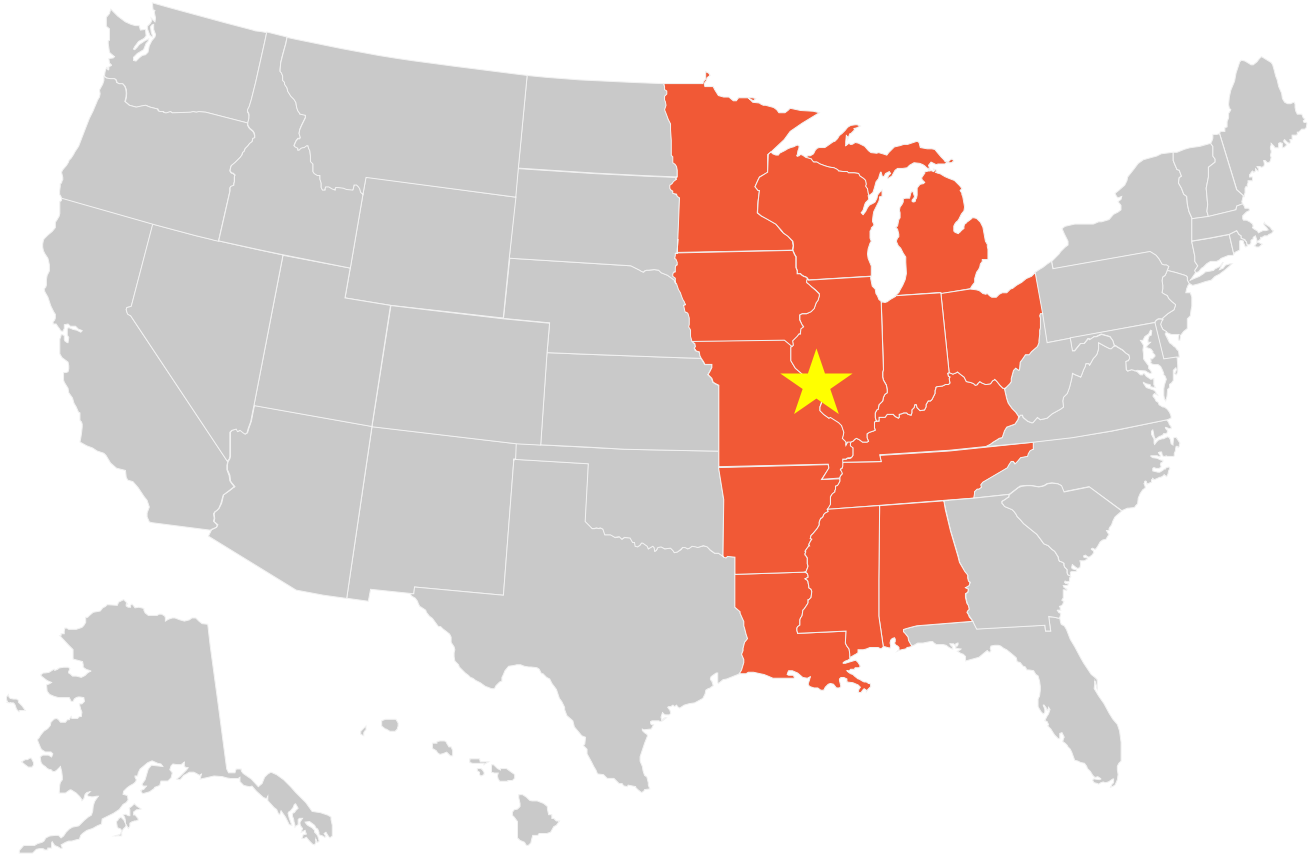
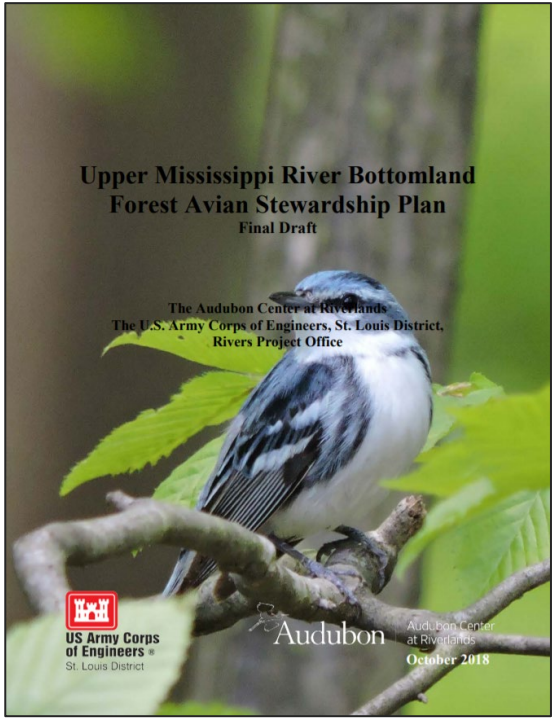
## Mississippi Flyway

- 60% of migratory North American bird species use some portion of this flyway
- 40% of migratory waterfowl in North America



# Our Conservation along the River

- Focus on avian monitoring and science and forest habitat enhancement
- Benefit birds and the places they need
- Improve habitat restoration and management to benefit forest species and surrounding communities

# Mississippi River Floodplain Forest Enhancement

## Since 2015

- Planted over 140,000 trees
- Enhanced over 3,000 acres of floodplain forest
  - USFWS
  - USACE
  - MN DNR
- Support from Minnesota Outdoor Heritage Fund

# Why Monitor Birds?

1. Indicators of bottomland forest health
2. Charismatic and great public interest
3. Easily detectable
4. Well-studied
5. Found almost everywhere
6. Majority are migratory and wide-ranging

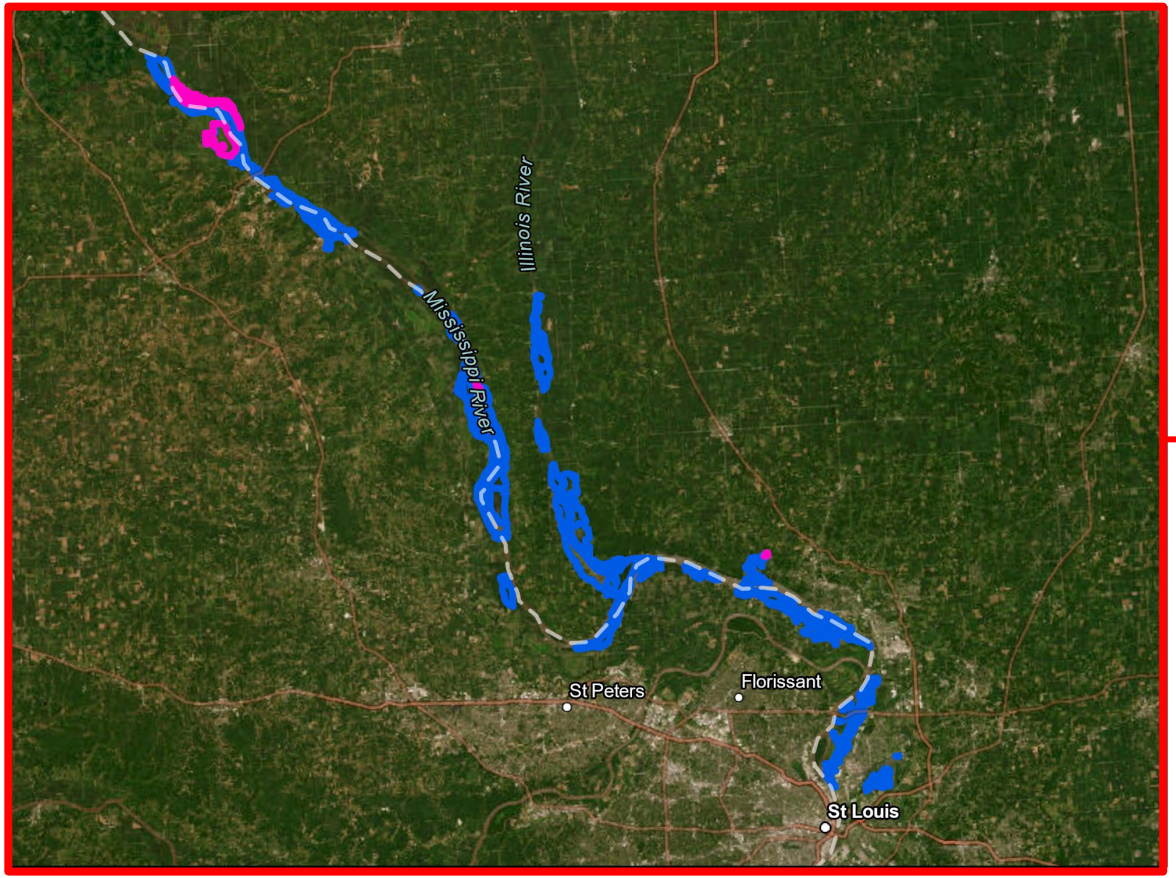
# Bottomland Forests and Birds

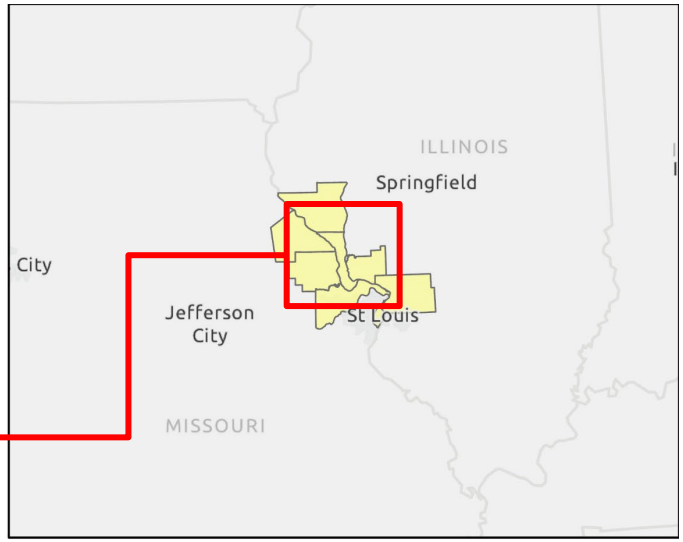
Using bottomland forest birds as indicators of environmental condition to:

- Define target forest conditions for species of special concern
- Understand species trends over time and across sites
- Influence management actions that benefit a suite of species
- Establishing monitoring that is standardized and replicable

# Timeline of Audubon's Bird Monitoring Work on the River

- Started in MO in 2011 in Pool 26 with first CESU agreement
- In 2014 expanded to include Pools 24-26
- Root River, Garvin Brooks, Richmond Island and Horseshoe Bend in MN added in 2020 (two-year extent)
    - Surveys began in 2021
- 2022 Signed third 5-year CESU agreement
- Reno Bottoms in MN added in 2022 (two-year extent)
- Prairie Island in MN added in 2023 (two-year extent)
- UMRR project set to start more monitoring work in MN, IA and MO in 2024

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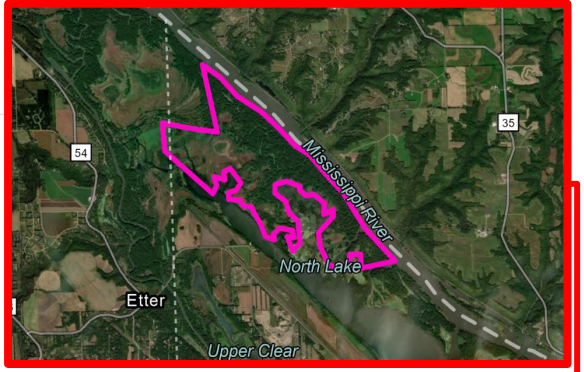
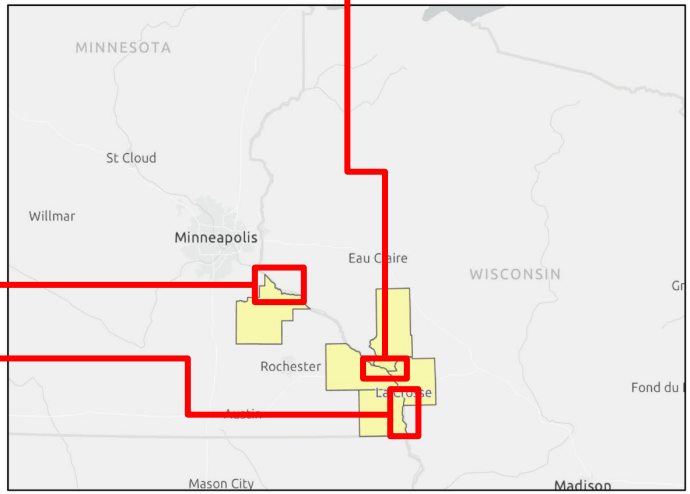
**Legend**

UMRR Project Site(s)

USACE Rivers Project Boundaries



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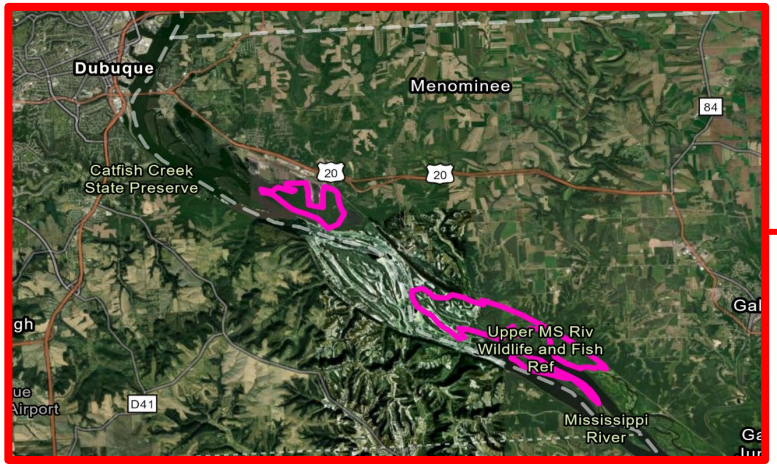
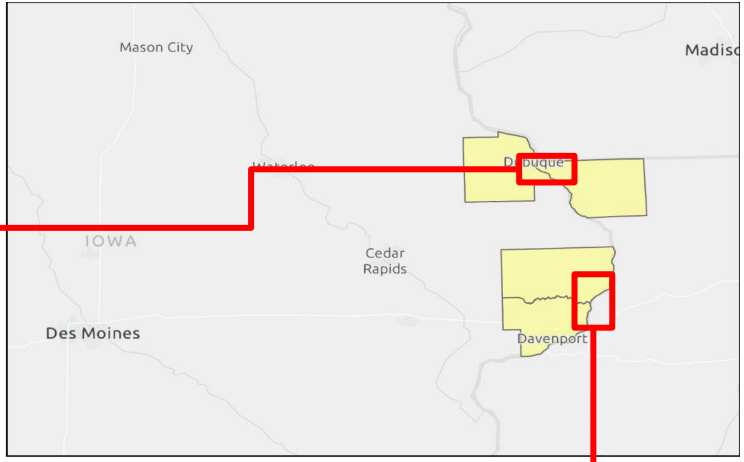
**Legend**

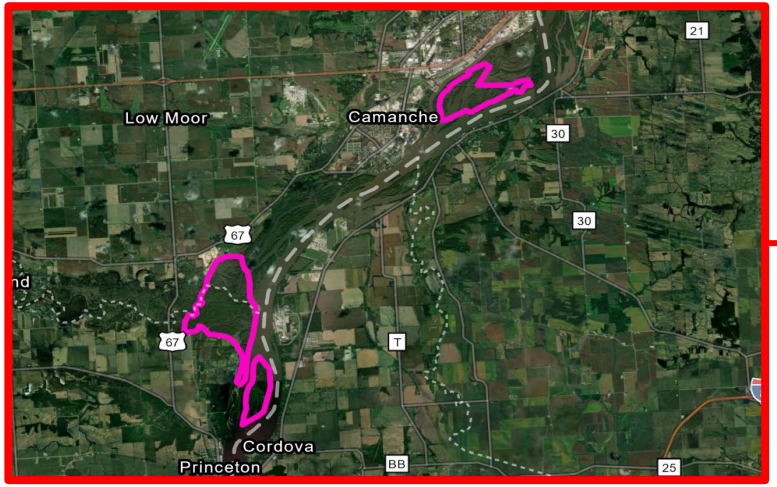
UMRR Project Site(s)

LCCMR Project Site

JV Project Sites

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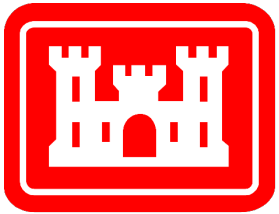
**Legend**

UMRR Project Site(s)

## Partnerships

- Mutually beneficial partnerships set to answer research gaps and needs
- Monitoring feeds into habitat associations and forest management plans
- Opportunity to conduct impact monitoring of restoration sites such as HREPs
- Delivers bird datasets for focal areas under management



US Army Corps of Engineers®

USGS
science for a changing world

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PROW

Density per ha

5
2
0
-2

12 Mile
6 Mile
American Bottom
Angle
Batch

AMRE

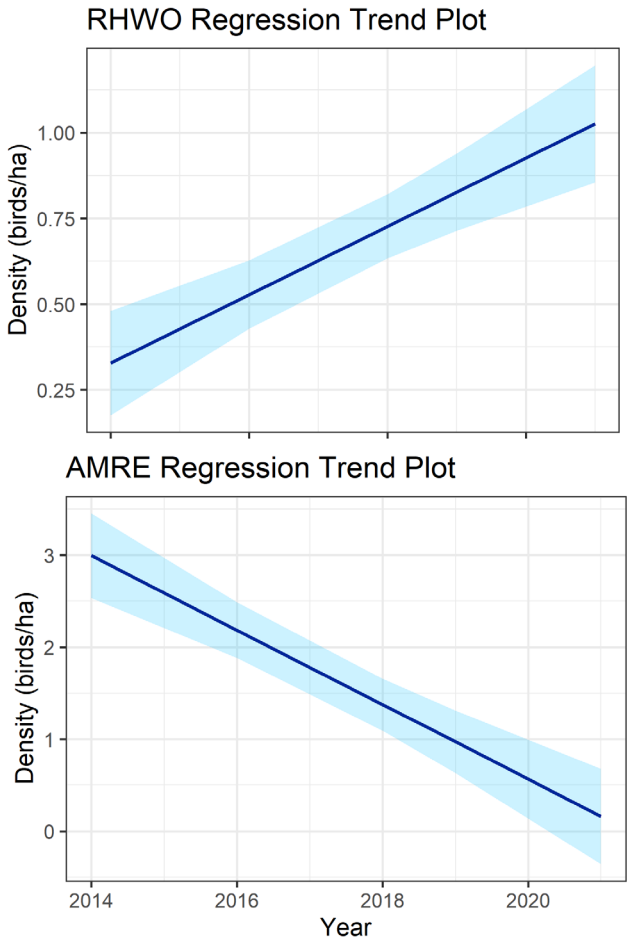
Density per ha

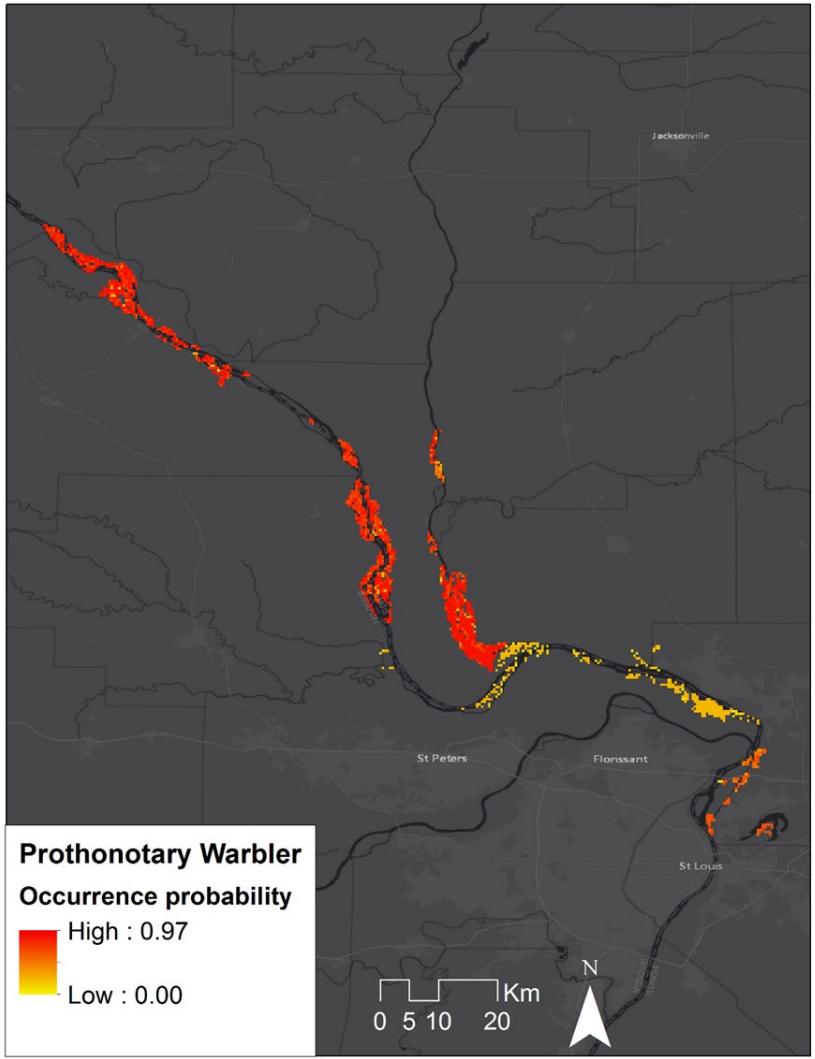
0.9
0.0

Garvin Brook
Hayshore Lake
Reno Bottoms
Richmond Island
Root River

Lake
The Glades
West Alton
Westport
Willow

| Declining (14) | Stable (21) | Increasing (1) |
|---|---|---|
| Acadian Flycatcher | American Robin | **Red-headed Woodpecker*** |
| American Crow | Baltimore Oriole | |
| **American Redstart*** | Blue Jay | |
| Black-capped Chickadee | Brown-headed Cowbird | |
| Blue-gray Gnatcatcher | Carolina Wren | |
| Downy Woodpecker | Common Grackle | |
| Great Crested Flycatcher | Common Yellowthroat | |
| **Indigo Bunting*** | Eastern Wood-Pewee | |
| Norther Parula | Fish Crow | |
| Northern Cardinal | Great Blue Heron | |
| Red-bellied Woodpecker | Mourning Dove | |
| Red-eyed Vireo | Pileated Woodpecker | |
| Tufted Titmouse | **Prothonotary Warbler*** | |
| Yellow-billed Cuckoo | Red-winged Blackbird | |
| | Ruby-throated Hummingbird | |
| | **Warbling Vireo*** | |
| | White-breasted Nuthatch | |
| | Wood Duck | |
| | Wood Thrush | |
| | **Yellow-breasted Chat*** | |
| | Yellow-throated Vireo | |






# Example of Outcomes

Modeled for 24 different species from (2014-2017)

- Determine habitat characteristics most important to species and relatable to forestry management
- Occurrence probability based on trees per acres
- Can be used to influence timber stand prescriptions to benefit wildlife

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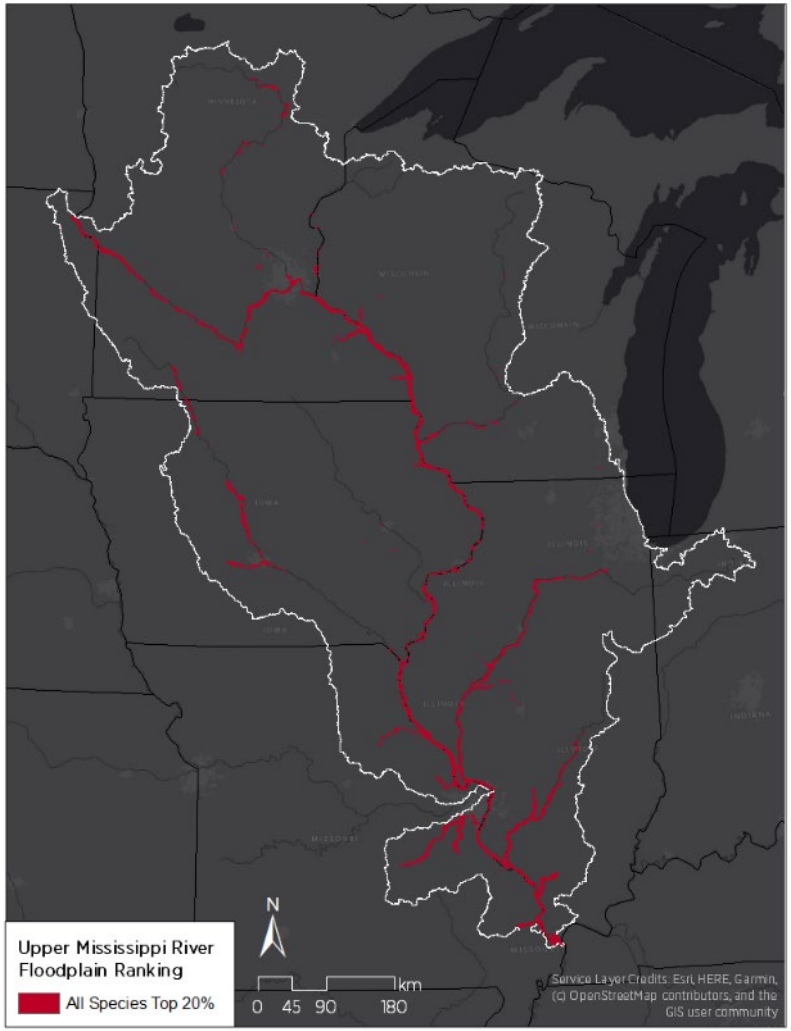
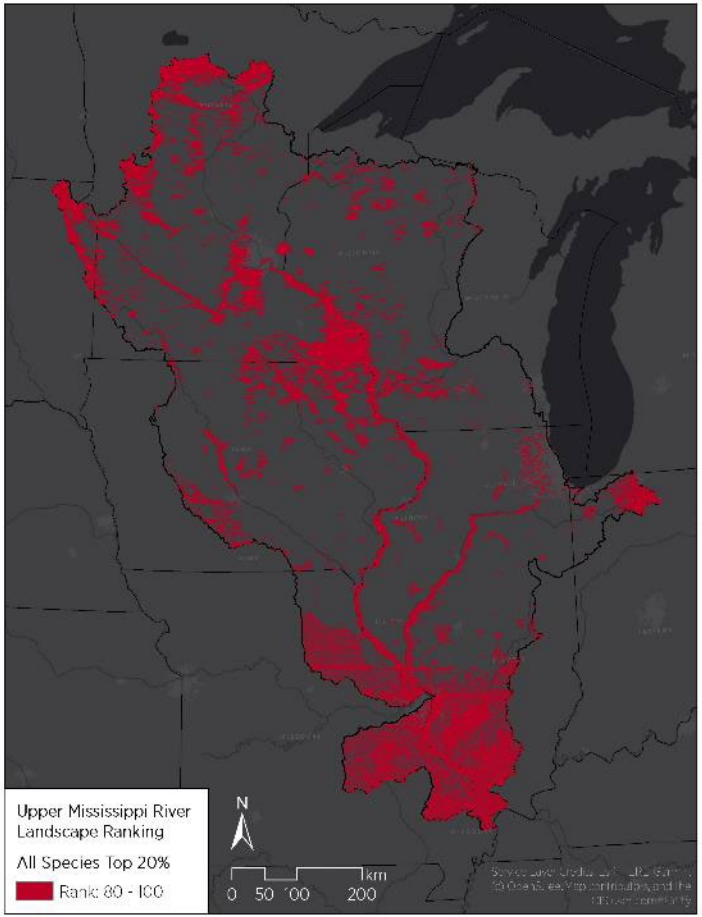

Upper Mississippi River
Floodplain Ranking
All Species Top 20%
N
0 45 90 180
km
Service Layer Credits: Esri, HERE, Garmin,
(c) OpenStreetMap contributors, and the
GIS user community


Upper Mississippi River
Landscape Ranking
All Species Top 20%
Rank: 80 - 100
N
0 50 100 200
km

# Through the Lens of Birds

- Long-term data is the only reliable way to track populations and habitat trends over time
- Expand reach of survey areas temporally and spatially
- Fine tune bird-habitat interactions and spatial prioritization
- Develop clear management outlines to benefit bottomland forest birds


# Thank you!

QUESTIONS?

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