Charting a New Course for CWD Control: Regional Adaptive Management

Dr. Daniel Walsh, Montana Cooperative Wildlife Research Unit

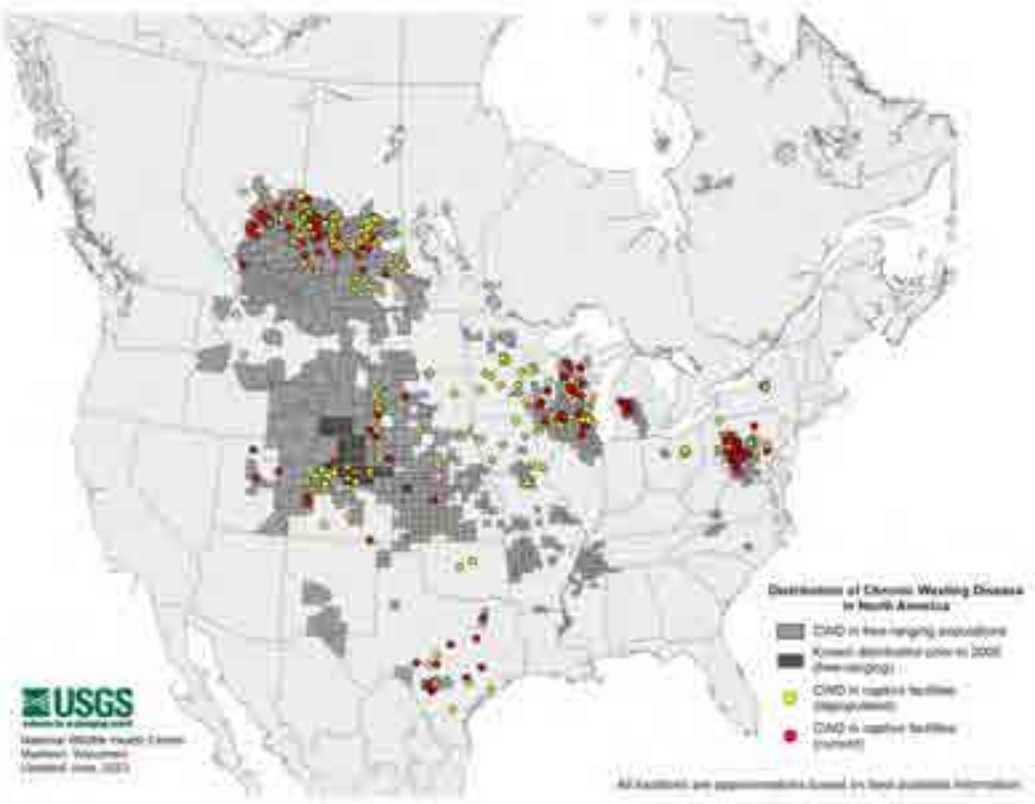
Dr. David MacFarland, WIDNR

Dr. Scott Hull, WIDNR

Mr. Jason Sumners, MDC

CWD - Spread

Pre2000



Current

Need

- CWD research and management efforts have been on-going since early 2000's
- Increased understanding of the epidemiology and potential impacts to cervid populations
- Evaluation of management actions – has been limited
- Research and management has been insular with little coordination across jurisdictions and research groups
- CWD policies from one jurisdiction may influence the trajectory of neighboring jurisdictions
- Impact – slowed learning and high uncertainty

CWD Research Consortium

https://www.cwd-research.com/

- **Multistate Research Project Initiated in 2019**
  - **Funded by NIFA**
  - **NC1209: North American interdisciplinary chronic wasting disease research consortium**
- **Membership – ~65 researchers and managers from state, provincial and federal agencies, and academic institutions**
  - **Broad breadth of expertise from prion biologist – landscape ecologists**
- **Purpose: Accelerate and improve the quality of research and management of CWD nationally**
- **At the initial scoping meeting – members identified 5 key objectives that the Consortium would focus efforts:**
  1. **Disease Transmission and Pathogenesis**
  2. **Development of Large-scale Research Facilities**
  3. **Improving Diagnostic Test for CWD**
  4. **Evaluating Management Strategies Across State Boundaries**
  5. **Enhanced Coordination, Understanding, and Communication of Social Science as it relates to CWD Research and Management**

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- Purpose: Accelerate and improve the quality of research and management of CWD nationally
- At the initial scoping meeting – members identified 5 key objectives that the Consortium would focus efforts:
  1. Disease Transmission and Pathogenesis
     - ***A. Zoonotic Potential***
     - ***B. Environmental Transmission***
  2. Development of Large-scale Research Facilities
  3. Improving Diagnostic Test for CWD
  4. Evaluating Management Strategies Across State Boundaries
  5. Enhanced Coordination, Understanding, and Communication of Social Science as it relates to CWD Research and Management

Objective 4: Evaluating Management Strategies Across State Boundaries

- Leads: Dr. Scott Hull, WIDNR; Dr. Dave MacFarland, WIDNR; Dr. Daniel Walsh, USGS
- Subcommittee: state and federal agencies, universities
- Need:
  - Disease/host does not respect political boundaries
  - Lack of communication and more importantly coordination of CWD management
  - Difficult to assess effectiveness of historical management actions and unified efforts are lacking
  - Not adaptive – need to accelerate learning
- Working on this Objective since 2020 – progress has been slow

Current State

- USDA WS provided funding to hire a CWD Coordinator
  - Jess Krohner was hired in 2/2023 to help project leads move this objective forward
- Meeting biweekly to design a regional adaptive management strategy for CWD in Midwest
  - Representation: CWD/deer managers from IA, ID, IL, IN, MI, MN, MO, OH, TN, WI as well as USGS, USDA, SCWDS, Michigan State University, and University of Alberta
  - State-led effort with the academic and federal members helping to coordinate and facilitate efforts

Objective 4 Goals

- By applying adaptive management jointly across the Midwest region, we aim to achieve our goals of:
  1) limiting the geographic extent of CWD through the development of more effective and publicly-acceptable management tools that reduce disease intensity
  2) slowing the rate of geographic spread from regions and/or areas within states where CWD is still in the early phases of establishment making the likelihood of management success higher

Structured Decision-Making Process

- Formal process for making complex wildlife management decisions
- Integrates science and human values
- Incorporates multiple objectives
- Incorporates uncertainty and risk tolerance
- Resulting decisions are transparent, inclusive, replicable, and defensible

Define problem

Define objectives

Identify alternatives

Analyze consequences

Evaluate Trade-offs

Implement Decisions

Regional Adaptive Management

- Portfolio of actions determined by SDM process
  - Epidemiological, demographic or sociological actions
  - Implement using a regional adaptive management framework
- Key aspects of this approach
  - Rigorous monitoring/evaluation of the effectiveness of management actions
  - Experimental application
  - Account for lag effects - actions today may require multiple years to see impacts (e.g., density reduction)
  - Leverage the opportunities across jurisdictions
    - Focus on leading edge of endemic areas and newly discovered foci – common CWD currency
  - Re-evaluation of alternatives and adaptation

Ancillary Benefits

- Increased communication among agencies
- Unified CWD messaging across the Midwest
- Standardized data collection – benefit deer management
- Accelerate learning – effectiveness of CWD management actions

Conclusion

- CWD Research Consortium is bringing together researchers and managers to facilitate multidisciplinary applied CWD research
- Efforts around objective 4 and regional adaptive management for CWD in the Midwest represent an exciting opportunity to address CWD experimentally and assess efficacy of CWD management
- Sorely needed given the growing intensity and spatial footprint of CWD across the Midwest that are exhausting agency resources and personnel
- Joint action not just information sharing is critical to achieve agency goals for CWD

Take Home Message

Long-term, sustainable ‘success’ will require coordinating efforts across jurisdictional boundaries through joint adaptive management to fully leverage resources and knowledge and support rapid response under high uncertainty.

Questions

Interstate Collaboration to Improve Management of CWD

Scott Hull (WDNR)

Jason Sumners (MDC)

Dan Walsh (MT Coop Unit)

MAFWA Integration with CWD Consortium

- The CWD research consortiums' objective 4 goal aligns well with the work of the MAFWA Ad-hoc CWD committee
  - Also called for more regional cwd management action and collaboration

MAFWA Integration with CWD Consortium

- The CWD research consortium is seeking:
  - Continued collaboration and participation from the MAFWA ad-hoc CWD committee, fish/wildlife health committee and deer committee in the development of an adaptive management research project centered around potential regional management actions
  - State agency participation in a CWD research consortium hosted workshop in late summer/early fall 2023 to further define a CWD regional adaptive management research project and steps leading to implementation
  - Additional guidance and input from MAFWA directors as the adaptive management project moves from development to implementation over the next calendar year

Midwest Landscape Initiative

Working Across Boundaries to Conserve Our Shared Nature

Midwest Landscape Initiative

MLI Overview

WHO We are a collaborative of partners engaged in the conservation and management of fish and wildlife in the Midwest

WHAT Function as a forum to identify shared landscape-scale priorities and co-develop effective conservation solutions

WHY A thriving landscape of healthy lands and waters supporting wildlife, fish, and plants, embraced by all who live, work, and recreate in the Midwest

Midwest Landscape Initiative

MLI Overview

2017	Conceived as forum to continue and expand regional collaboration efforts
2018	Launched by Midwest Association of Fish and Wildlife Agencies and the U.S. Fish and Wildlife Service
2019 - 2020	Developed consistent with the AFWA Resolution on Landscape Collaboration
2022	Became official committee of MAFWA
Ongoing	Current work in accordance with MAFWA 2019 Resolution to develop a Midwest Conservation Action Plan

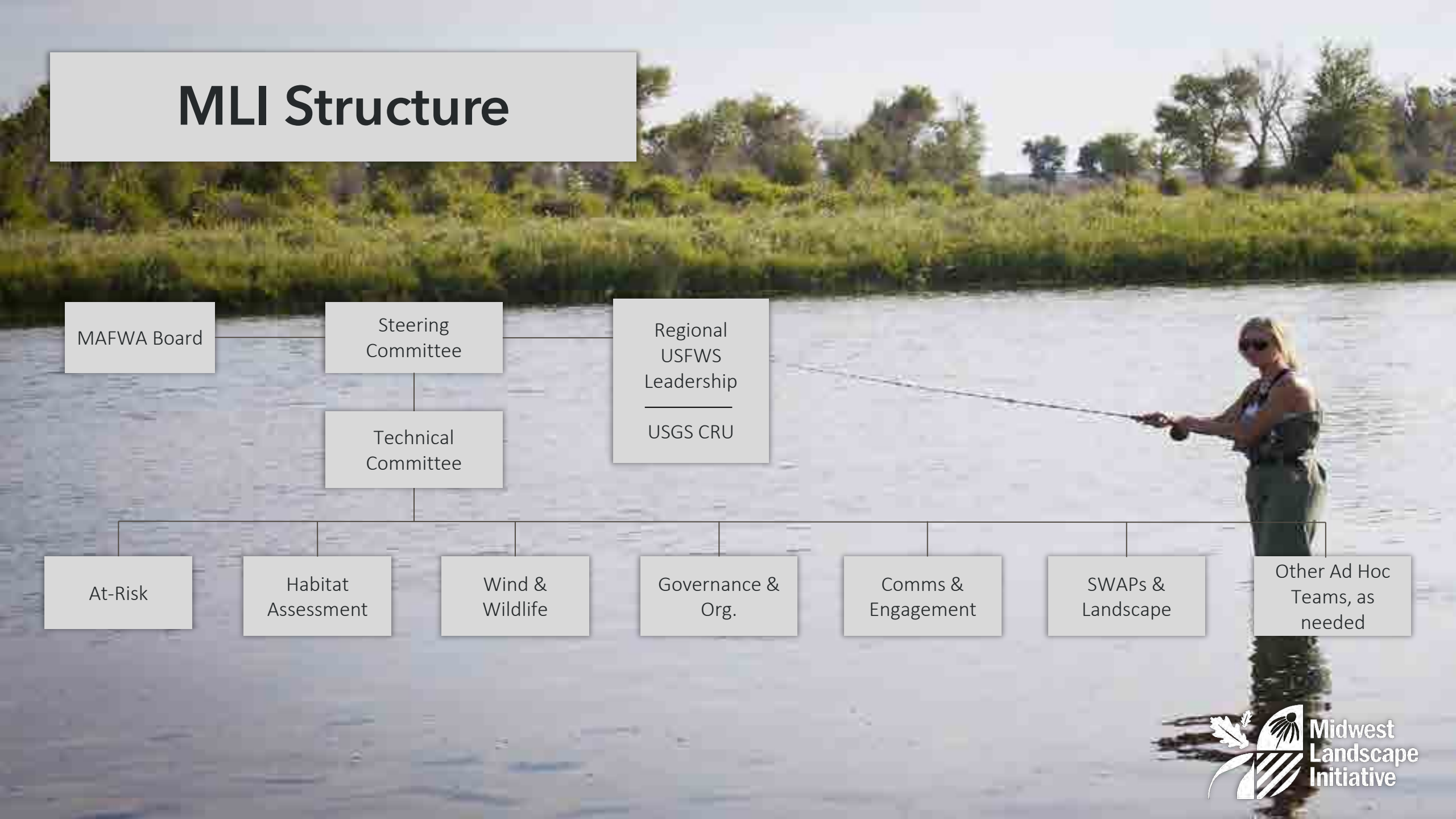
MAFWA Resolution 2019

Directed the MLI to develop a Comprehensive Regional Conservation Work Plan, which is:

- A regional framework, with clear, specific, practical and measurable objectives and performance measures
- Intended to address the co-identified conservation priorities of the MLI and to ***coordinate voluntary conservation actions and investments in the region***

Midwest Landscape Initiative

MLI Structure



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MCAP Products

- At-risk: Regional Species of Greatest Conservation Need compilation and related data
- Wind: BMP/Mitigation Tools
- Wind: Mapping Inventory
- Midwest Conservation Blueprint
- Habitat Assessment Inventory
- Regional Priority Habitats
- Web-based Information & Data Portal
- SWAPs and Landscapes Tool
- Funding Coordination
- Enhanced Networks of Wildlife Professionals

Midwest Landscape Initiative

To What End?

Neal Smith National Wildlife Refuge

VISION

A thriving landscape of healthy lands and waters supporting wildlife, fish, and plants, embraced by all who live, work, and recreate in the Midwest.

GOALS

By 2030, our goals are to achieve:

1. A 10% increase in health and connectedness of Midwest lands and waters, to include conservation of intact landscapes as well as restoration and enhancement of degraded landscapes.
2. Sustainable populations of wildlife, fish, and plant species.
3. An increase in the relevance of nature and the practice of conservation and outdoor recreation behaviors of those who live, work, and recreate in the Midwest.

Midwest Regional Species of Greatest Conservation Need

A product of the Midwest Landscape Initiative

This voluntary effort of the Midwest Association of Fish and Wildlife Agencies and U.S. Fish and Wildlife Service provides an effective, collaborative approach for regional wildlife diversity conservation in the Midwest.

340 Species

340 species, across 13 taxa, identified as species of regional importance and concern, narrowed down from 1,817 state-identified Species of Greatest Conservation Need

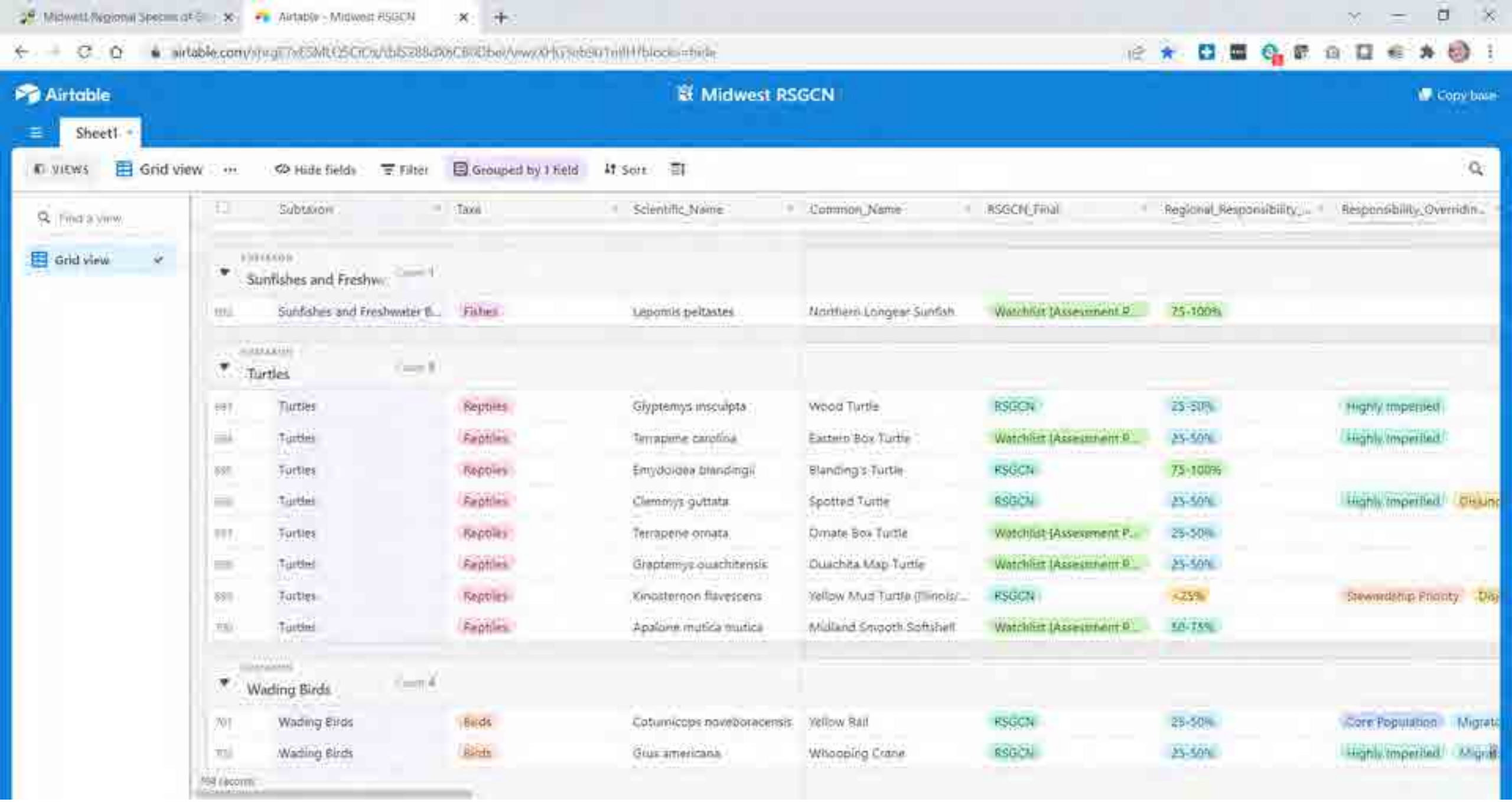
118 Participants

118 taxa team participants, representing 13 states, 3 U.S. Fish and Wildlife regions and 12 academic institutions

1,500+ Hours

Taxa team participants contributed more than 1,500 hours and biological expertise to the project

Catalog development is only the first phase of this effort. Opportunities to utilize this data and engage in defining next steps are endless.


Airtable - Midwest RSGCN
Airtable
Midwest RSGCN
Copy base
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VIEWS
Grid view
Hide fields
Filter
Grouped by 1 field
Sort
Find a view
Grid view
Subtaxon
Taxa
Scientific_Name
Common_Name
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Reptiles
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Wood Turtle
RSGCN
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Highly Imperiled
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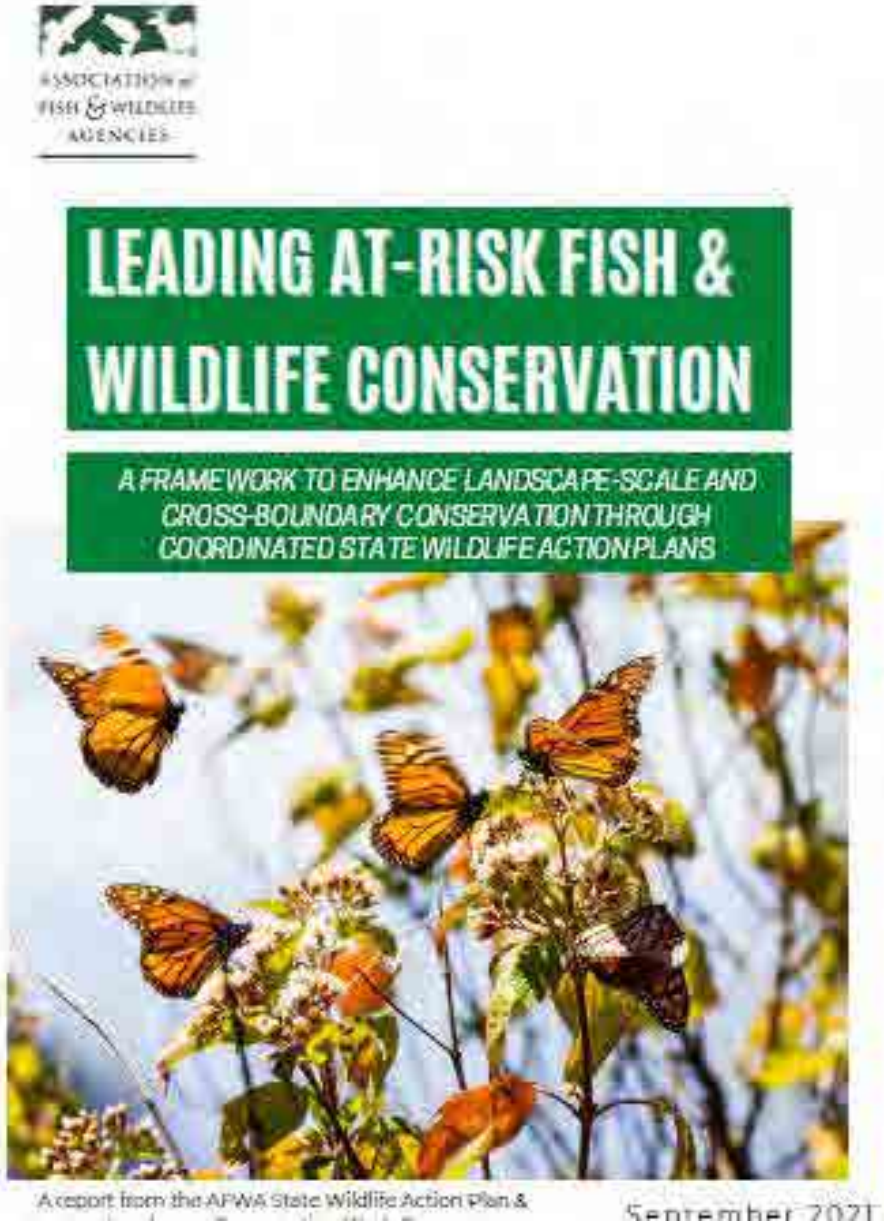
Spotted Turtle
Terrapene ornata
Ornate Box Turtle
Graptemys ouachitensis
Ouachita Map Turtle
Kinosternon flavescens
Yellow Mud Turtle (Illinois/...
<25%
Stewardship Priority
Apalone mutica mutica
Midland Smooth Softshell
50-75%
Wading Birds
Wading Birds
Birds
Coturnicops noveboracensis
Yellow Rail
Core Population
Grus americana
Whooping Crane
Highly Imperiled
104 records



Midwest SWAPs and Landscapes Team Deliverables

- A **report that evaluates the Midwest state's implementation** or possible implementation of the SWAPs and Landscape Report and actions thereunder.
- A **tool that will collate and compare SWAPs across MAFWA states** for the purpose of informing how the region can identify and apply regional and shared approaches across the SWAPs with the goal of increasing consistency and alignment of the SWAPs across the states where feasible and desired.
- **Recommendations on what additional actions** should be taken to establish a framework for a Midwest Wildlife Action Plan that could be used by all the MAFWA states, which should **also include key funding considerations to pursue actions under coordinated SWAPs or a regional Wildlife Action Plan**.

Midwest Landscape Initiative

Midwest Conservation Blueprint

Learn more and provide feedback at:
tinyurl.com/mlibluepprint

WHAT Map of priority areas for conservation in the region

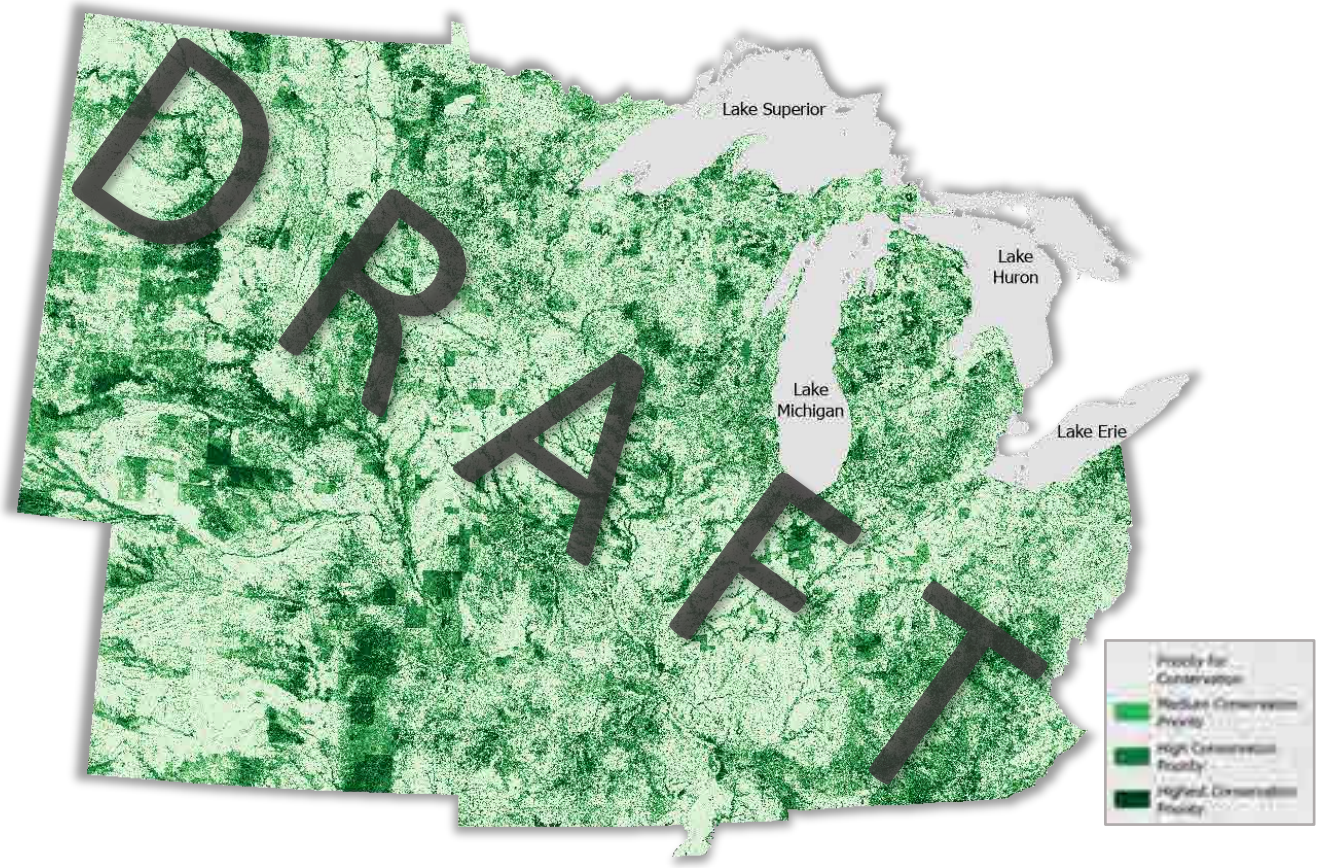
WHY Invitation to coordinate voluntary conservation actions and investments

1. Focus and align work across jurisdictions and the region
2. Attract and direct funding sources for conservation
3. Connect with conservation partners and open the door to all audiences

WHO Anyone doing conservation in the Midwest

HOW Process Steps:

1. Identify and collect data for regional goals and indicators
2. Define ecological stratification for spatially balanced design
3. Select core areas and corridors through prioritization software



2023 America the Beautiful

Midwest Regional Priorities

Midwest Landscape Initiative

1. Functional, connected grassland systems
2. Health and function of aquatic systems
3. Improved, interconnected and dynamic woodlands

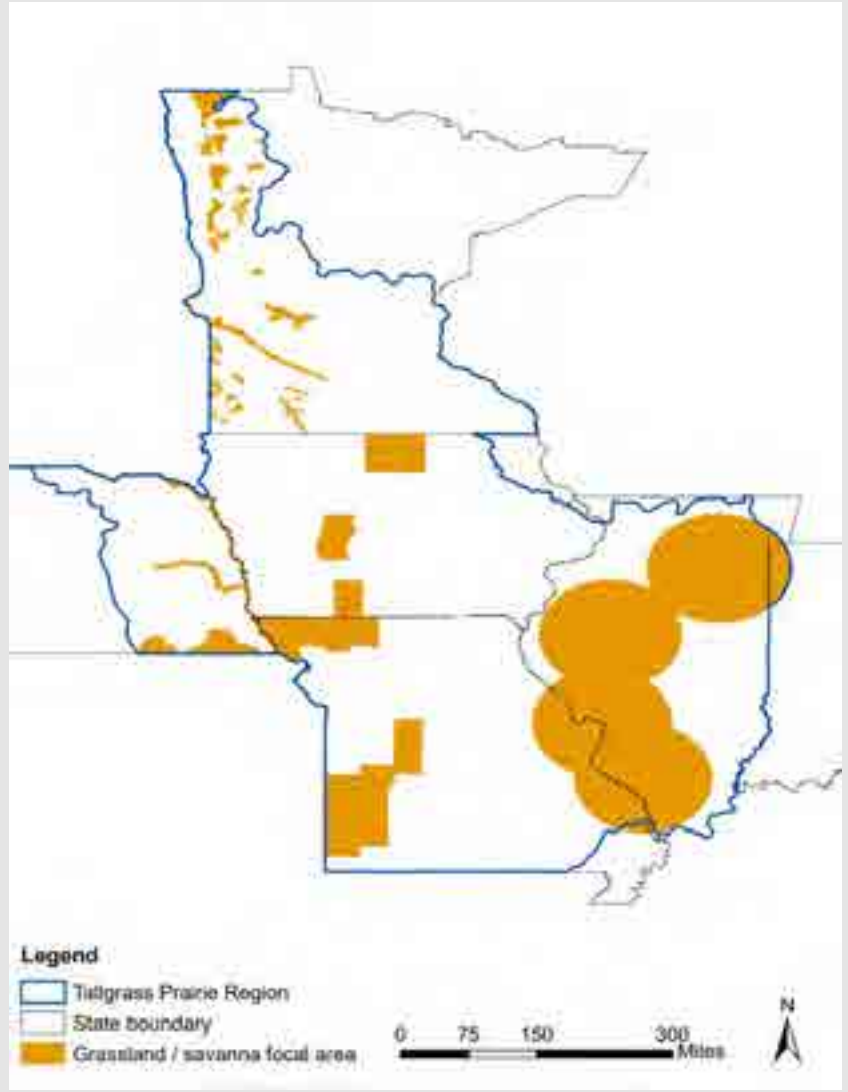
“Block” project submitted- Grassland prairies and oak savannas in Tallgrass Prairie Ecosystem (Illinois, Iowa, Minnesota, Missouri, and Nebraska)

Cumulative Outcomes:

Invasive treatment – 22k acres

Prescribed fire – 53k acres

And more… 100k acres total



Making Science Accessible

Web accessible Summer 2023

An ArcGIS portal to maps, data, documents, and other resources intended to coordinate voluntary conservation actions and investments in the Midwest

Midwest Landscape Initiative

MLI Structure

MAFWA Board

Steering Committee

Technical Committee

Regional USFWS Leadership

USGS CRU

Where we are trying to expand engagement very broadly!

- At-Risk
- Habitat Assessment
- Wind & Wildlife
- Governance & Org.
- Comms & Engagement
- SWAPs & Landscape
- Other Ad Hoc Teams, as needed

Midwest Landscape Initiative

Thanks!

- v1.0 of Midwest Conservation Blueprint & Web Portal will be released summer 2023
- Learn more about the Midwest Landscape Initiative and sign up for our email list: mlimidwest.org
- Contact us with any questions or to get engaged:
  Katherin_Parsons@fws.gov
  Lorisa.Smith@mdc.mo.gov

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