

Midwest Association of Fish and Wildlife Agencies: Climate Change Technical Working Committee Report

June 2021

Meeting Time and Place

Committee met by conference call on September 10th 2020 and April 22nd 2021.

Attendance:

In September, 5 states in attendance: IN: Brad Feaster; MI: Chris Hoving, Amy Derosier; MO: Jacob Westoff; NE: Caroline Jezierski; SD: Eileen Dowd Stukel, USGS: Olivia LeDee.

And in April, 6 states were in attendance: IL: Leon Hinz; IA: Katy Reeder; MI: Chris Hoving, Amy Derosier; NE: Caroline Jezierski; SD: Eileen Dowd Stukel; WI: Tara Bergeson; USGS: Olivia LeDee.

Executive Summary:

The committee met twice over the past year. Our first meeting focused on updates from both states and USGS's Midwest Climate Adaptation Science Center. In April, we met to discuss research priorities for the Association of Fish and Wildlife Agencies.

Director Action Items:

1. none

Director Information Items:

1. USGS launched the Midwest Climate Adaptation Science Center (CASC) in FY20, which was an ask by the Midwest states and this committee. The Midwest CASC has filled a niche that our state agencies cannot due to competing internal priorities that are often urgent and immediate. The overall CASC network has been very responsive to the needs of state agencies, both in proactively asking us what we need, as well as funding research projects to address those needs. The Midwest CASC has ensured that states have a role on their advisory committee; Chris Hoving from Michigan is our representative on the committee. Dr. Olivia LeDee, the Midwest Acting Director, also participates on our MAFWA Climate Committee. This has really been a great partnership.
2. On April 22, 2021 the MAFWA Climate Change Committee met to brainstorm and prioritize research needs, for the AFWA Science and Research Committee. We provided climate research needs in each of the 5 categories of interest; we also added a category focused on human dimensions and social science research needs. See attached.

Time and Place of Next Meeting:

In 2021-2022, the committee will meet quarterly by conference call.

Suggested Research Related to Climate Change

In response to AFWA's Science and Research Committee's 2021 request for science and research management needs, the MAFWA Climate Change Committee submits the following research / management questions. Climate change impacts to fish and wildlife cut across all five priority areas. We also added a category focused on human dimensions and social science research needs.

Climate Change and Wildlife Health

What diseases should we be worried about moving north and impacting fish or wildlife in our jurisdiction?

How are vectors of pathogens changing in a changing climate?

Need for greater interdisciplinary collaboration, including wildlife veterinarians and climatologists.

Climate Change and Invasive Species

What changes to invasive species monitoring and rapid response approaches are necessary in the face of climate change?

If invasive species are going to continue to be an ever-expanding problem, how do we think about and manage for novel ecosystems? When is an invasive species just a plant making its way naturally into a new place because the climate is now suitable?

How is climate change altering the ways that we conduct prescribed burns? This need is both a retrospective and a modeling need.

Is climate change altering the effectiveness of control methods?

How does climate change affect the ways that managers should prioritize the needs for invasive species management? (You can't treat everything)

Should management priorities sometimes shift to toleration and even protection if they now fill a gap in a wildlife species' habitat needs or provide a valuable ecosystem service?

Climate Change and Emerging Technologies

Tools to allow managers to quickly use remote sensing of habitat shifts and invasives to provide management relevant information within relevant time periods.

Green energy will be a massive transformation of land use. What are the indirect effects of green energy development on other land uses? What are the cumulative effects of increasing size and density of large green energy development projects themselves? What new technologies can mitigate wildlife impacts?

Climate Change and Inter-agency Cooperation

What research topics are ripe for co-production of knowledge (cooperation between universities and agencies)? How can co-production be done in ways that do not overwhelm (or underwhelm) agency staff?

There is a need for data sharing frameworks that will meet the needs of multiple agencies.

There is a need for common language or lexicon across various jurisdictions. Similarly, there is a need to find common ground with agencies that do not always work together, such as agriculture departments and natural resources departments.

Where geographically are movement corridors that fish and wildlife species might use to move to more suitable climates? Where are the connections between adjacent jurisdictions? Where are there gaps or dead-ends?

Weather and Wildlife

Can wildlife adapt to changing disturbance regimes caused by more frequent extreme weather events? What can managers do to help populations or species cope with changing frequencies of extreme weather events? How can managers change built infrastructure to better cope with extreme events to maintain valuable wildlife habitat (i.e., water control structures in restored wetlands)?

What are the indirect effects of less snow on ecosystems (e.g., drought stress to northern hardwoods), and are there threshold effects?

A national strategy is needed to analyze climate data in ways that are relevant to Wildlife Action Plans for the next revisions. At present analyses are very location-specific.

How do we value novel communities – to decide where to put management resources?

Human dimensions / social science

With the exception of a few high-quality natural areas, climate change and invasive species are causing species mixes without historical precedent. These are called novel communities; and wildlife in them have novel interactions. How do we value novel communities/ecosystems to decide where to put resources towards management? (This was mentioned across three topics and received the most interest across multiple states.)

Methods and approaches for climate change-related management on private lands. What do private landowners need, and how can they best be motivated to engage in climate-adaptation-oriented wildlife management?

Are there opportunities to better connect environmental justice and wildlife conservation?