

MINNESOTA'S WILDLIFE ACTION PLAN 2025-2035

CONSERVING HABITATS AND BIODIVERSITY

INTRODUCTION



mn DEPARTMENT OF
NATURAL RESOURCES

NONGAME WILDLIFE PROGRAM

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ECOLOGICAL AND WATER RESOURCES
500 Lafayette Road
St. Paul, MN 55155-4040
888-646-6367 or 651-296-6157
MNDNR.gov

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Foreword

Minnesota is known for its lakes, rivers, forests and prairies, which host a diversity of treasured wildlife species. Minnesotans love the outdoors and demonstrate that consistently through their recreational pursuits and their support for investments in Minnesota's natural heritage. The Minnesota Department of Natural Resources (DNR) has a broad array of programs designed to work with Minnesotans to conserve and manage Minnesota's natural resources, and Minnesota's Wildlife Action Plan 2025-2035: Conserving Habitats and Biodiversity is an example of leadership in the arena of wildlife conservation.

Despite Minnesotans' great love for wildlife and many notable conservation successes, many vulnerable species need our active conservation attention due to decreasing numbers, shrinking habitat or other ongoing stressors they face. This Wildlife Action Plan is a roadmap and invitation for all Minnesotans to participate in the protection, restoration and recovery of our state's most vulnerable wildlife and their vital habitats. The Plan identifies 1,142 Species in Greatest Conservation Need, including about 550 animals and 600 plants and lichens. The Plan also describes the significance and conservation needs of 15 primary habitats essential to these species. These habitats, when healthy, not only benefit wildlife, but also provide an array of societal benefits such as flood control, clean water and outdoor recreation opportunities for wildlife viewing, hunting and fishing. Further, the Plan identifies ways in which Minnesotans can take action to assist vulnerable wildlife and plants.

Effective wildlife conservation in our state is realized through collaboration and partnership in the management of our lands and waters. The DNR manages more than 5.6 million acres of state-owned public lands, many of which support rare and threatened species. Minnesota's wildlife species use these lands, in addition to the lands managed and cared for by Tribal Nations, local governments,

other state agencies, federal agencies, private landowners, and conservation organizations. To help facilitate coordinated conservation efforts across all of these lands, this Plan's Conservation Action Network and map of Conservation Opportunity Areas highlight biodiversity hotspots and places on the landscape, irrespective of ownership.

The need for sustained support for wildlife conservation cannot be overstated. Minnesota's Wildlife Action Plan unlocks vital federal funds for the conservation of rare, at-risk and vulnerable species. Since 2000, Minnesota has been awarded nearly \$26 million from the federal government's State and Tribal Wildlife Grants Program, matched with state funds such as the Nongame Wildlife Fund and Reinvest in Minnesota. These funds support essential conservation actions including habitat restoration, direct conservation actions, surveys, monitoring and conservation outreach projects.

I hope that Minnesota's Wildlife Action Plan brings to light the many ways in which we can all work together to research, conserve, and protect our treasured wildlife heritage.

Sarah Strommen
Commissioner
Minnesota Department of Natural Resources

Introduction

The Nongame Wildlife Program, part of the Minnesota DNR's Ecological and Water Resources division, focuses on conserving wildlife species that are not hunted or fished (nongame species). Its mission includes monitoring species groups and restoring declining populations, protecting and enhancing critical habitats, conducting scientific research, and connecting Minnesotans with wildlife through education and community engagement.

Over the past 50 years, Minnesota's Nongame Wildlife Program has made remarkable strides — helping to turn near-extinct species into [wildlife success stories](#). The scope and reach of the program have grown from a single staff person with a shoestring budget to a well-established program with nongame wildlife specialists throughout the state dedicated to fostering wildlife diversity. The work of the past half century has led to a greater understanding of the interconnectedness of ecological systems. This has resulted in an increase in the breadth of what is considered nongame wildlife, expanded from mammals and birds to now include herptiles (e.g., frogs and turtles), fishes, and invertebrates such as butterflies and mussels. For the first time we have also included plants on the Species in Greatest Conservation Need list, an important step in prioritizing ecosystem level conservation efforts.

While the work of the past guides our future actions and provides a solid foundation from which to continue to build success, the changing landscape and increased stressors to all species and ecosystems present new challenges in uncharted territory. The need is urgent, and the issues are many, including developing secure funding structures, broadening public involvement, addressing fragmented habitats, adapting to climate change and uncertainty, identifying and preventing emerging diseases, and reinforcing research capacity.

These challenges are serious and complex; however, this Plan helps prioritize conservation needs, address challenges, consider innovative strategies, implement actions and measure successes, maintain existing partnerships and build new collaborations. This is the third iteration of our Plan which builds from the foundational components of the two previous Plans. While administered and led by the DNR Nongame Wildlife Program, this plan is truly Minnesota's Wildlife Action Plan. Highlighting our programmatic growth over the past 50 years is a sign of success in its own right but also a recognition that the need for collaborative conservation action has increased. This comprehensive Plan revision would have been impossible without the concerted effort of our many partners and conservation allies. Through the 2-year revision process the status and trends of over 7000 species native to Minnesota were assessed and we collaborated with over 60 conservation entities represented by over 300 experts and professionals.

This Plan is tangible, scalable and aspirational. For environmental conservation efforts to succeed and last, the data-driven information and conservation action recommendations in this Plan are just the beginning. We need to consider a multifaceted approach garnered by public support and informed decision makers, including access to long-term and stable funding mechanisms, using science-based recommendations to develop policy, investments in sensible technologies, increased cross-sector collaboration, inclusion of indigenous knowledge, and recognition of equity barriers. Some of these factors may appear to be outside of the scope of this 10-year Wildlife Action Plan, yet they shape the reality in which we live and have a dynamic impact on our collective ability to implement this Plan. As the name suggests, this Plan is grounded in action, let's get to work.

Kristin Hall, Nongame Wildlife Program
Supervisor, Minnesota DNR

How to Use Minnesota's Wildlife Action Plan 2025-2035

Minnesota's Wildlife Action Plan 2025-2035 has been designed in a modularized way with the information seeker – the reader – in mind. The Plan is optimized for online access, based on feedback we received in a State Wildlife Action Plan (SWAP) awareness survey (2023), in which user groups and partners expressed their suggestions to make the SWAP more accessible and searchable. The Plan will eventually be presented online in an interactive website that enables visitors to find, read, and download the information they seek. Presenting information in this way makes the large volume of information contained in the Plan more accessible and able to be applied into various conservation contexts – for researchers, teachers, land managers, interpreters, private landowners, and the public. Access to Plan information will be guided online along several primary pathways:

By Topic or Chapter

If you are interested in learning about the Species in Greatest Conservation Need, refer to Chapter 2. If you are interested in Public Engagement, select Chapter 4, and so on.

By Taxonomic Group

If you are interested in mammals, mussels, or plants, you can directly select to read about a group of species. These reports will bring together information about stressors and actions for these species.

By Habitat

A landowner or land manager might like to learn about the forest or stream on their land. Information will be provided for 15 habitats, including a general description, primary stressors in those environments, associated native plant communities and SGCN, and conservation actions in that environment to benefit SGCN.

By Geography

If possible, we envision the capability for people interested in a specific region within the state, such as a county or ecoregional section, to select those geographical areas on an interactive map to gain information about the habitats and associated species in that area.

On a Map

A spatial data viewer will enable viewers to interact with several key spatial resources. The Conservation Action Network highlights the most important areas for biodiversity and connectivity. Conservation Opportunity Areas highlight places prioritized for on-the-ground partnerships. The viewer will also include layers depicting the habitats in the state, climate resources, and native plant communities.

This Plan will also be available as one document for those who wish to have a complete reference. The next section, Roadmap to the Eight Elements, explains where in the Plan each of the congressionally required elements of State Wildlife Action Plans can be found.

Roadmap to the Eight Elements

State Wildlife Action Plans are required for states to secure State Wildlife Grants from the U.S. Fish and Wildlife Service under the State and Tribal Wildlife Grants Program, established in 2001. The plans have eight required elements, depicted in the table below along with where the material can be found within this Plan.

Table of Eight Required Elements of State Wildlife Action Plans and where the material is found in this Plan.

Element and Description	Location in this SWAP
Element 1. Identify Species of Greatest Conservation Need (SGCN) including species that have low populations or are in decline.	Chapter 2 SGCN
Element 2. Identify the habitats essential to the conservation of those SGCN.	Chapter 3 Habitat
Element 3. Identify threats to SGCN and associated habitats.	Chapters 2 and 3
Element 4. Identify the conservation actions needed to address those threats.	Chapters 2 and 3
Element 5. Describe a plan for monitoring SGCN and their habitats, and the effectiveness of conservation actions in order to adaptively manage them	Chapter 5 Monitoring
Element 6. Review and revise the SWAP at least every 10 years.	Chapter 1 Foundation
Element 7. Develop, review, and implement SWAPs in conjunction with conservation partners including Tribes and federal, state, and local agencies that manage lands.	Chapter 1 Foundation
Element 8. Seek broad public participation in the development and implementation of the SWAP.	Chapters 1 Foundation and 4 Public Engagement

Executive Summary

Minnesota's Wildlife Action Plan 2025-2035: Conserving Habitats and Biodiversity, is Minnesota's third State Wildlife Action Plan (Plan or SWAP), updating information and strategies initiated in the 2005 and 2015 plans.

The overarching goal of this Plan is to guide, facilitate, and inspire conservation actions that sustain the long-term health and viability of Minnesota's biodiversity, with a focus on species that are rare, declining, or vulnerable (Species in Greatest Conservation Need) and their habitats.

State Wildlife Action Plans provide strategic guidance for conserving Species in Greatest Conservation Need (SGCN) and the habitats they depend on within each state. These non-regulatory Plans outline proactive and voluntary approaches to conservation designed for collaborative implementation by a broad range of partners within states. These Plans reflect a shared commitment to maintaining a healthy environment for animals, plants and people. By guiding conservation efforts before species become critically imperiled, SWAPs help prevent the need for federal or state listing of animals or plants as endangered and reduce reliance on costly, restrictive recovery measures.

State Wildlife Action Plans also enable states to access State Wildlife Grant funds, the primary federal source dedicated to conserving non-hunted or fished wildlife species. In Minnesota, these funds are essential for the conservation of roughly 75% of the vertebrate species including amphibians, birds, fish, mammals, and reptiles. When including invertebrates such as insects, spiders, and mussels, State Wildlife Grant funding supports conservation actions for approximately 96% of all animal species in the state.

Vision: working together to conserve Minnesota's rare, declining, and vulnerable species and their habitats

Three Primary Plan Goals

This Plan is organized around three primary goals, each presented in its own chapter. For each goal, a set of strategies is described and supported by a set of potential conservation actions. The goals are:

- 1. Species:** Conserve rare, declining, and vulnerable wildlife and plant SGCN through targeted actions.
- 2. Habitat:** Protect and enhance the resilience, function, and ability of habitats to support biodiversity, especially for SGCN.
- 3. Public Engagement:** Inspire, motivate, and empower Minnesotans to engage in conservation actions that support SGCN and their habitats.

Species in Greatest Conservation Need

SGCN are animal and plant species that are vulnerable or at risk of decline or extirpation and species of stewardship or tribal significance in Minnesota.

To identify these species, we completed a large-scale systematic conservation status assessment for the more than 7,000 species in the state for which there was sufficient information. We evaluated rarity, trends, and threats, following an internationally adopted process, to generate conservation assessment (S-rank) scores that classify species from secure to highly imperiled. These standardized evaluations then formed the foundation for revising our state list of SGCN, now in this update, totaling 1,142 species. For the first time, we have included plants and lichens, which together account for 599 of the SGCN species.

Another 860 plant and animal species were identified as Species in Need of Information (SNI), species believed to be rare in Minnesota, but for which we do not have enough information to categorize them as SGCN.

Throughout this Plan, we highlight key stressors – factors that pose challenges to vulnerable plant and wildlife species – and outline actions to address them, focusing conservation efforts where they are needed most. We profile 24 stressors following an international threats classification system, adapted to Minnesota’s species groups and habitats described in the sub-chapters below. Among these, climate change receives additional attention, with dedicated strategies and resources for climate adaptation presented in Chapter 6: Implementation.

The species goal is advanced through three strategies:

- 1. Survey, monitor and research** to document the distribution and trends of SGCN, assess the threats they experience, and evaluate conservation actions that support resilient populations.
- 2. Collaborate to deliver conservation actions** that support resilient populations of SGCN and their habitats in partnerships with agencies, Tribes, non-governmental organizations, private landowners, and others.
- 3. Develop and share informational material** to guide conservation actions for SGCN, such as species accounts, threat assessments, recovery plans, relevant regulations, avoidance measures, and beneficial habitat management practices.

Conservation actions under these strategies are described in sub-chapters for eight groups of species: amphibians, reptiles, birds, fishes, mammals, aquatic invertebrates, terrestrial invertebrates, and plants and lichens.

Habitat

Habitat loss and degradation are primary mechanisms for species declines. Directing conservation efforts at the habitat, community, and ecosystem levels is fundamental to conserving SGCN. The habitat chapter outlines five strategies to guide habitat conservation for Minnesota’s biodiversity:

- 1. Protect, buffer, and connect** high quality habitats to optimize biodiversity, SGCN, and landscape benefits, particularly across the Conservation Action Network.
- 2. Restore, enhance, and maintain** lands and waters to benefit habitat quality for SGCN, biodiversity, and ecosystem resilience.
- 3. Collaborate** with conservation partners and landowners to enhance conservation delivery, particularly in the Conservation Action Network and Conservation Opportunity Areas.
- 4. Survey, monitor and research** SGCN, native plant communities, habitats, and ecosystems for changes through time including responses to stressors, natural disturbances, conservation actions, and climatic conditions.
- 5. Connect** to develop, innovate, incentivize, and disseminate evidence-based habitat management practices to benefit SGCN.

Fifteen primary habitat types are described in sub-chapters that provide conservation context, an assessment of the stressors, and actions nested under strategies to address those stressors.

Public Engagement

The Plan's third goal for public engagement emphasizes the role that all Minnesotans can play in natural resource stewardship. This chapter articulates seven strategies for inspiring, motivating, and empowering Minnesotans to support conservation of SGCN and their habitats. The importance and rationale for each strategy is discussed, accompanied by a set of recommended actions to implement it. The strategies are:

1. **Develop and distribute informational resources** and media on SGCN, their habitats, and threats.
2. **Support environmental education** on SGCN and their habitats on a statewide level.
3. **Provide and promote wildlife viewing opportunities** and programs that inspire curiosity, caring, and connection with Minnesota's SGCN.
4. **Foster responsible recreation practices** that reduce recreational effects on SGCN and their habitats while allowing for safe and satisfying access to the outdoors.
5. **Engage and empower communities** to improve wildlife habitats where they live, work, and recreate.
6. **Offer participatory science programming** for Minnesotans to take part in conservation volunteerism that addresses SGCN data needs.
7. **Cultivate financial support** for the conservation of SGCN through the development and promotion of public funding opportunities and public-private partnerships.

Following these three main goals in the Plan, two additional chapters provide tools and approaches in support of the overall goals: Chapter 5: Monitoring and Research and Chapter 6: Implementation.

Monitoring and Research

Though discussed throughout the Plan, Chapter 5: Monitoring and Research emphasizes the critical role of surveys, monitoring, and research in generating foundational ecological data. These activities support surveillance and conservation effectiveness monitoring and help assess the effects of stressors on Minnesota's plant and animal species, habitats, and ecological communities. The chapter defines these tools and explains their application within the framework of the State Wildlife Action Plan. It features a range of projects and programs led by the DNR and its partners, spanning diverse species, habitats, and conservation strategies. The chapter concludes with a practical guide on study design and key statistical principles essential for collecting rigorous, defensible, and repeatable scientific data. These principles are especially valuable in the context of adaptive management, where objectives and scientific understanding evolve over time through iterative learning and refinement.

Implementation

The Implementation Chapter contains information for conservation practitioners about the Conservation Action Network, Conservation Opportunity Areas, and the topic of Climate Adaptation.

The Conservation Action Network (CAN) is a mapped resource identifying core areas in Minnesota for habitat quality, biodiversity (high numbers of SGCN), and locations of SGCN. It also delineates buffers and corridors that protect and connect these areas, while facilitating adaptation to climate change by identifying areas that support habitat resilience and facilitate species movements across the

landscape. The purpose of the CAN is to guide and prioritize conservation actions given limited resources. Building on the Wildlife Action Network developed in the 2015 Plan, it was renamed as the Conservation Action Network to include plant SGCN.

Conservation Opportunity Areas (COAs)

are places where partnerships focus on implementing on-the-ground conservation actions to benefit SGCN and their habitats. These locations are based on the core areas of high biodiversity, highest quality habitats, and corridors identified by the CAN. However, many COAs extend beyond these core areas to include sites where established partnerships are actively collaborating on habitat management projects that support SGCN. Formerly named Conservation Focus Areas under the 2015 Plan, the updated name – Conservation Opportunity Areas – reflects the expanded boundaries that capitalize on partnership opportunities and increase the breadth of ecological benefits at the landscape scale.

The Climate Adaptation section provides resources to understand trends in Minnesota’s climate and to support managers in facilitating adaptive practices in the ecosystems they oversee.

In summary, this Plan provides information, strategies, and example actions to benefit Minnesota’s biodiversity, its Species in Greatest Conservation Need, and the habitats that sustain them. Designed for all Minnesotans, this Plan should help us achieve our vision of conserving Minnesota’s rare, declining, and vulnerable species and their habitats. Our success depends on strong, collaborative partnerships statewide including private landowners; the 11 federally recognized Tribes within Minnesota’s borders; local, state, and federal land managers; academic institutions; non-governmental conservation organizations; and others. We appreciate your interest and participation in the conservation of these valuable and vulnerable species of animals, plants, and their habitats.



Photo: common loons, Carol Henderson