

# MINNESOTA'S WILDLIFE ACTION PLAN 2025-2035

## CONSERVING HABITATS AND BIODIVERSITY

### FOUNDATION



**mn** DEPARTMENT OF  
NATURAL RESOURCES

NONGAME WILDLIFE PROGRAM

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Cover Photos: Biologists visiting Uncas Dunes Scientific and Natural Area, Leslie Parris; Young birdwatcher at Urban Bird Festival, Mississippi Gateway Park, Grayson Smith, USFWS

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# Chapter 1: Foundation

## The Significance of State Wildlife Action Plans

State Wildlife Action Plans (SWAP) provide strategic guidance for conserving rare, declining, and vulnerable animal and plant species and the habitats they depend on within each state. These plans also serve a critical function by unlocking access to U.S. Fish and Wildlife Service (USFWS) State Wildlife Grant (SWG) funds, the primary source of federal funding dedicated to the conservation of non-hunted or fished wildlife species. In Minnesota, game and sportfish receive targeted federal support through separate programs, but species with take restrictions account for only about 25% of the state's vertebrates (an additional 18% of vertebrate species are unregulated game or fish). This means that SWG funds are essential for the conservation of 57-75% of Minnesota's vertebrate species, including amphibians, birds, fish, mammals, and reptiles. When invertebrates such as insects, spiders, and mussels are included (3,789 species assessed for this Plan), the coverage of SWG funding extends to approximately 96% of Minnesota's animal species. These figures highlight the vital role that SWAPs and SWG play in supporting biodiversity conservation across Minnesota.

Across the nation, SWG funds have distributed over \$1.4 billion to 56 states, territories, commonwealths and the District of Columbia since 2000. Minnesota has received nearly \$26 million from 2002 through 2024. These critical funds have supported wildlife conservation projects dedicated to conserving rare and declining species across the state. Examples include surveys of rare salamanders and fish, restorations of native prairies and oak savannas, and propagating rare mussels for reintroduction.

State Wildlife Action Plans are non-regulatory guides that outline proactive and voluntary approaches to conserving wildlife, designed for implementation by broad arrays of partners within states. These plans reflect a shared commitment to maintaining a healthy environment that includes all animals and plants. By guiding conservation efforts before species become critically imperiled, SWAPs help prevent the need for listing animals or plants as endangered and reduce reliance on costly, reactive, and restrictive measures to recover species from the brink of extinction.

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**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.**

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State Wildlife Action Plans focus on Species in Greatest Conservation Need (SGCN); their habitats; the threats they face; and the conservation actions needed to support their survival, including monitoring and research. These elements are core requirements of each Plan (see Roadmap) and among them, habitat conservation warrants particular emphasis. As our knowledge of species ecology and conservation challenges deepens and as the SGCN list continues to grow, it becomes increasingly clear that species-by-species conservation efforts are often impractical. In many cases the most effective conservation strategies will occur at the ecosystem level, where actions can benefit multiple species simultaneously.

The conservation of Minnesota's SGCN depends on strong, collaborative partnerships across the state, including private landowners; the 11 federally recognized Tribes within Minnesota's borders (Tribes); local, state, and federal land managers; academic institutions;

and non-governmental conservation organizations. This Plan serves as a resource to inform and support the collective efforts of this diverse community of people committed to safeguarding Minnesota's SGCN and their habitats.

## Goals of Minnesota's Wildlife Action Plan 2025-2035

### Vision

Working together to conserve Minnesota's rare, declining, and vulnerable species and their habitats.

### Overarching Goal of the SWAP

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, SGCN) and their habitats.

### Three Primary Goals

#### Goal 1. Species

Conserve rare, declining, and vulnerable wildlife and plant SGCN through targeted actions. (see Chapter 2: Species in Greatest Conservation Need)

#### Goal 2. Habitat

Protect and enhance the resilience, function, and ability of habitats to support biodiversity, especially for SGCN. (see Chapter 3: Habitats)

#### Goal 3. Public Engagement

Inspire, motivate, and empower Minnesotans to engage in conservation actions that support SGCN and their habitats. (see Chapter 4: Public Engagement)



Photo: Young birdwatcher at Urban Bird Festival, Mississippi Gateway Park, Grayson Smith, USFWS

## Building on the Strengths of the 2005 and 2015 Plans

Minnesota published two previous ten-year State Wildlife Action Plans; this document represents the third version and is consistent with the earlier versions. Each of the earlier plans provided valuable guidance that continues to inform conservation efforts today. This updated Plan builds upon those foundations by incorporating current approaches, new information, and refined strategies. The key strengths of the previous plans are briefly summarized below.

### 2005-2015 Plan: Tomorrow's Habitat for the Wild and Rare

#### Species in Greatest Conservation Need Identification and Distribution

Minnesota's initial State Wildlife Action Plan, [Tomorrow's Habitat for the Wild and Rare](#) (DNR, 2005) established criteria to objectively identify Species in Greatest Conservation Need. A total of 292 SGCN were identified, including 189 vertebrates and 103 invertebrates.

#### Habitat Focus

The 2005 Plan identified that the primary threat to SGCN was the significant loss and degradation of habitat. It emphasized that effective conservation depends on the ability to identify and protect the habitats these species require. The Plan identified 16 key habitats and associated SGCN with key habitats.

#### Ecoregional Profiles

To provide greater specificity, the Plan also included summaries for each of Minnesota's 25 ecoregional subsections, as defined by the state's Ecological Classification System. Each subsection profile featured maps illustrating the distribution of key habitats and SGCN richness by township, summaries of the key habitats used by SGCN and which habitats are most important to the greatest number of SGCN. In addition, ten-year goals, management challenges, strategies, and conservation actions were outlined for each subsection.

### Minnesota's Wildlife Action Plan 2015-2025

#### Species in Greatest Conservation Need Update

For Minnesota's second Plan, [Minnesota's Wildlife Action Plan 2015-2025](#) (DNR, 2015), technical advisory teams conducted a comprehensive review and update of the 2005 SGCN list, adding 111 species and removing 59 species, resulting in a revised total of 346 SGCN. Stressors affecting each species were assessed to determine which SGCN would benefit from a habitat-based conservation approach and which required more targeted actions.

#### Wildlife Action Network

For species that would most benefit from a habitat-based approach, the 2015 Plan introduced the Wildlife Action Network (WAN), a map to illustrate the distribution of high-quality habitats for both terrestrial and aquatic SGCN. To prioritize the implementation of on-the-ground conservation efforts, sites within the WAN were assigned priority rankings based on five metrics, including SGCN population viability and species richness.

#### Conservation Focus Areas

Acknowledging the limited fiscal and human resources available to implement conservation objectives, a prioritization system was developed to guide habitat conservation efforts more effectively. The WAN rankings helped identify 37 Conservation Focus Areas (CFAs), specific locations for partnerships and funding to support habitat restoration and management efforts across organizational and jurisdictional boundaries. The CFA approach has been an effective strategy for fostering partnerships and leveraging shared resources to address the habitat needs of SGCN across Minnesota.

## Strategies, Stressors, and Actions

Strategies for implementation of the Plan are described within each of the chapters that address the three primary goals (Chapter 2: Species in Greatest Conservation Need, Chapter 3: Habitats, and Chapter 4: Public Engagement).

Stressors, or threats, are factors that create conservation challenges for habitats or species. These are first explained in Chapter 2: Species in Greatest Conservation Need, then specifically elaborated within each of 15 habitat sub-chapters and 8 species group sub-chapters. Stressors are depicted with a set of icons that are used to connect to Conservation Actions.

Potential Conservation Actions are described in each sub-chapter to illustrate ways to implement strategies. Actions in the species and habitat sub-chapters are related to stressors with the use of icons.

## Monitoring and Research

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.



Photo: Biologists visiting Uncas Dunes Scientific and Natural Area, Leslie Parris

## Implementation

Chapter 6: Implementation explains in detail three elements that assist in our delivery of the Plan in Minnesota: the Conservation Action Network, Conservation Opportunity Areas, and Climate Adaptation.

### Conservation Action Network

The 2025 Conservation Action Network (CAN) is a mapped resource representing important areas to the SWAP, including core areas of high biodiversity (high numbers of SGCN), highest quality habitats and landscapes, and buffers and corridors to further protect and connect core areas ( Figure 1.1). Three main steps were implemented in developing the CAN. First, core areas were identified from over XX GIS map layers representing SGCN concentrations, high quality or rare plant communities, and significant landscapes. Then, connectivity analyses of forests and prairies were conducted to identify the best paths of connection between core areas represented in the CAN. Finally, the network was scored using a subset of layers to prioritize where multiple layer features overlap. The purpose of the CAN is to guide and prioritize conservation actions given limited resources. It also addresses the growing effects of climate change by identifying areas that allow for essential ecosystem processes, habitat resilience, and the movement of species across the landscape.

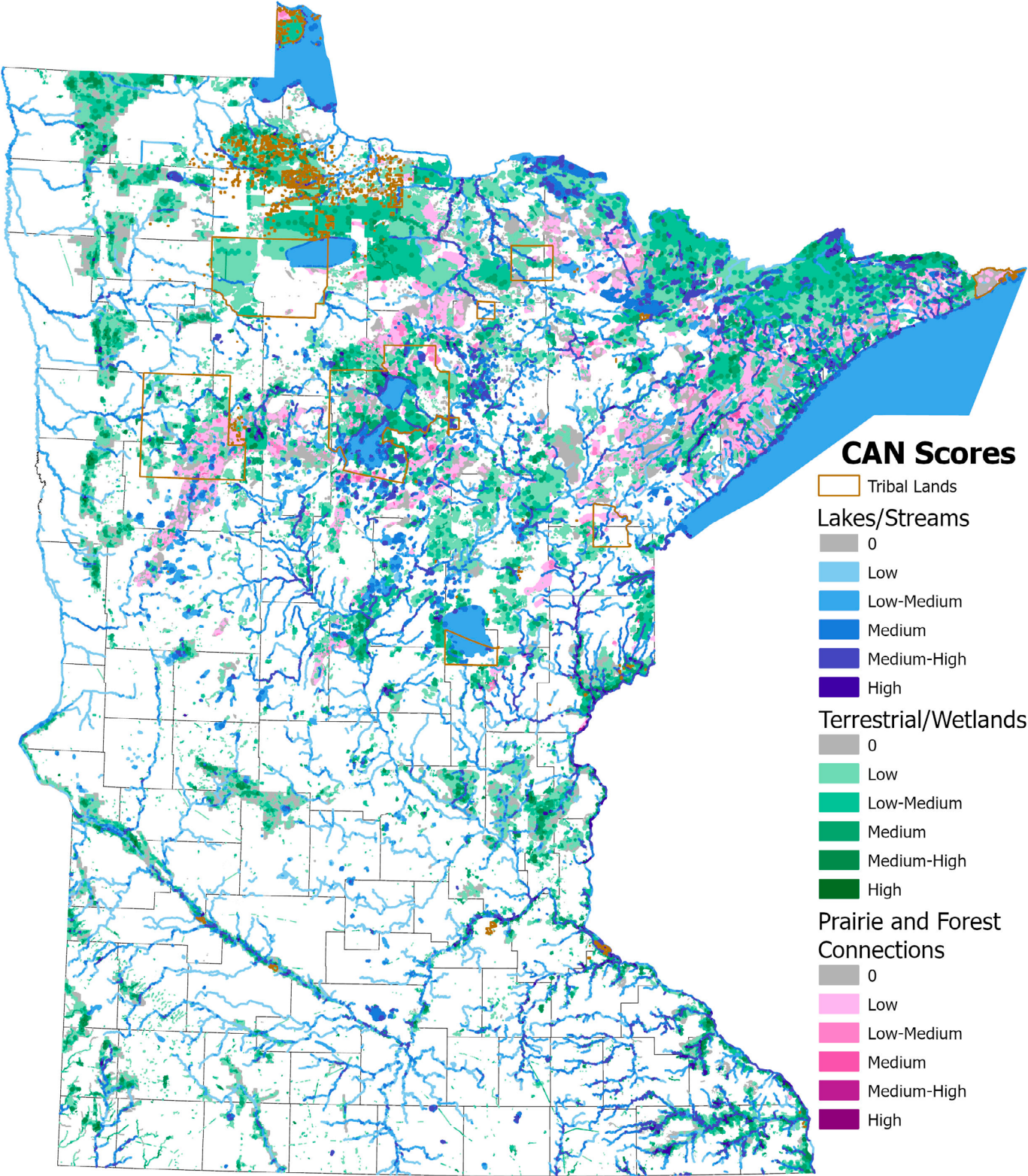


Figure 1.1 The Conservation Action Network (CAN) is built from a series of data layers including richness of Species in Greatest Conservation Need, areas of outstanding biological significance and places with strong landscape connectivity. A higher CAN score represents areas where more of the source layers overlap and indicates the highest priority for conservation actions.

## Conservation Opportunity Areas

Conservation Opportunity Areas (COAs) are based on the Conservation Action Network, with many expanded a bit beyond the CAN to incorporate established partnerships that can actively collaborate to deliver habitat management projects to benefit SGCN (see Figure 1.2). These partnership efforts present unique opportunities to capitalize on established working relationships and shared conservation goals.

COAs are not meant to represent all of the important areas in the CAN for SGCN. The goal is to identify the highest priority areas for conservation work to occur within the larger partnership framework that exists within a COA. This allows our COA Coordinators to focus their efforts and capitalize on existing partnerships that are already addressing similar habitat concerns.

Potential projects within the COAs will be prioritized based on their location related to the priority areas designated by the CAN. Focusing habitat management, restoration, and protection within the CAN will enhance core areas of habitat and connections between habitats. This focus will also allow land managers/owners to incorporate existing partnerships while focusing their efforts on priority areas. This will increase efficiency by facilitating the coordination of management, prioritizing outreach efforts, and targeting technical assistance.

Conservation Opportunity Areas may contain multiple partnership groups that are actively collaborating on project implementation. Each of these groups may have a slightly different approach to their efforts and/or a slightly different set of habitat types in which they work. Rather than having a set of standards that each COA must meet to be considered active, the 2025 Minnesota Wildlife Action Plan will consider a COA active if there is at least one partnership group present, regularly meeting with the intent of implementing habitat improvement projects.

It is hoped that the COA approach will increase the number of active partnership groups that the COA Coordinators can engage with as well as the coordination of those partnership groups across a broader geographic area.

## Climate Adaptation

The Climate Adaptation section presents scientific data, concepts, and strategies to support effective conservation in the face of a changing climate. While climate change was prominently featured in the 2015 Plan, current trends in temperature and precipitation continue to intensify, as clearly illustrated through updated charts and statistics. The effects of rising temperatures and shifts in rainfall patterns, including increased flooding, shorter winters, and altered growing seasons, are being felt across all ecosystems. The climate-related stressors are addressed throughout the habitat sub-chapters, as they influence nearly every aspect of ecological function. Climate stress also interacts heavily with many other stressors, such as the spread of invasive species, fire regime alterations, and the emergence of diseases and pathogens. In this section of Chapter 6: Implementation, we provide background information, actionable strategies, and illustrate case studies to help conservation practitioners better understand and incorporate climate adaptation into their work.

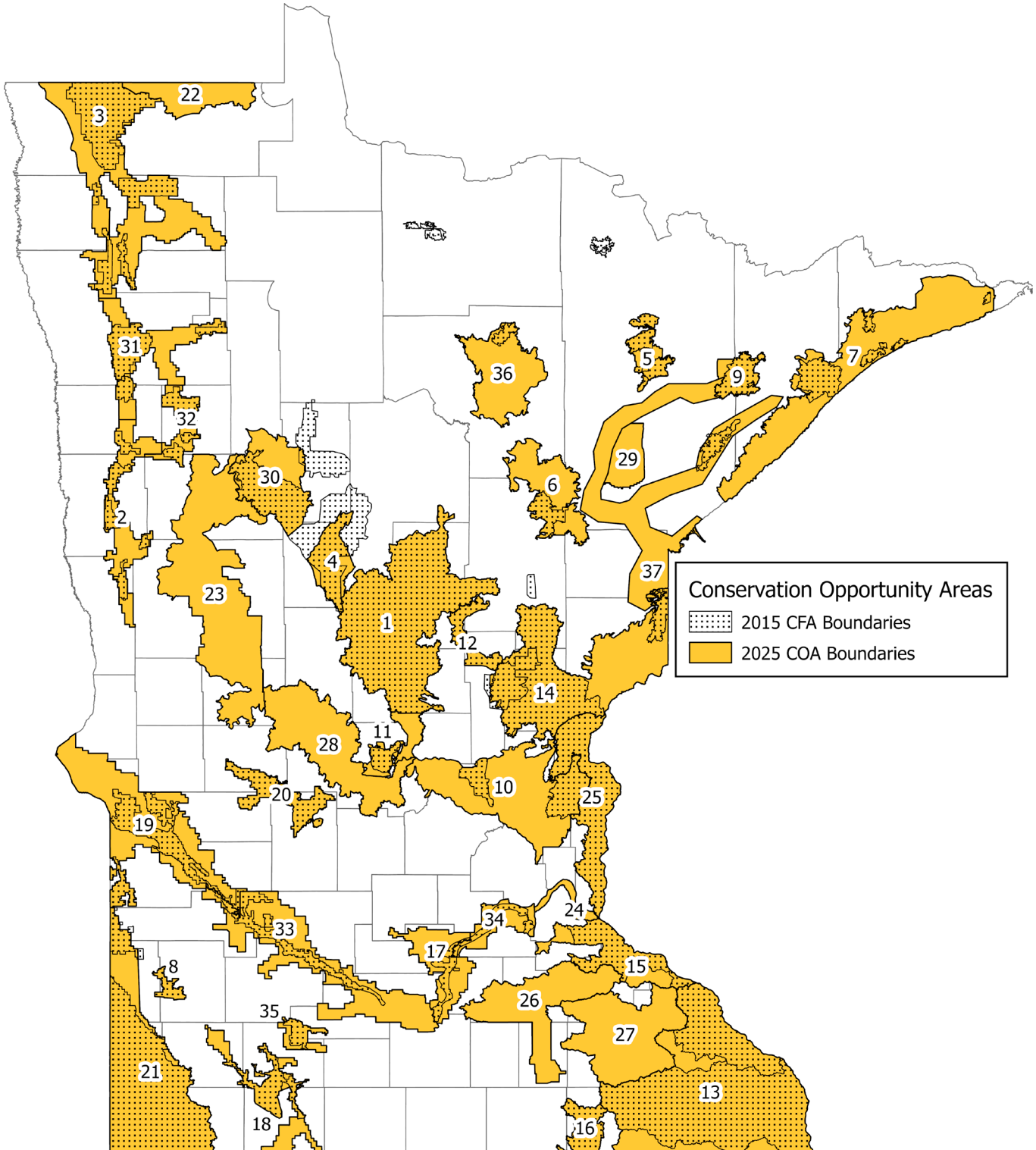


Figure 1.2. Map of Conservation Opportunity Areas (COAs) for 2025-2035, developed with input from internal and external partners to revise the 2015-2025 Conservation Focus Areas. After some COA's were added, some were merged, some were split, and some were removed altogether, the number of COA's remained at 37. Two additional COAs proposed in north central Minnesota require further consultation with Tribes for delineation and were not depicted on this map.

## Plan Revision Including Public and Partner Input

Minnesota DNR is committed to comprehensively reviewing and updating or revising our State Wildlife Action Plan at an interval not to exceed every ten years. Revisions are done following guidance documentation from the USFWS. For the 2025 revision, we examined Minnesota's entire Plan, completed updates and ensured that all 8 elements (see Roadmap to the Eight Elements) were properly fulfilled. The section below provides details about the 2025 revision, highlighting involvement by many partners (Element 7) and the public (Element 8). We plan to conduct another comprehensive review of the Plan within ten years by 2035.

A key emphasis of this revision of the State Wildlife Action Plan (the Plan) has been broad engagement across a diverse array of people to help shape its content and enhance its relevance for on-the-ground conservation. Contributors to the preparation of this Plan include 317 people representing more 64 organizations (see List of Plan Contributors at the end of this document). This network of individuals and entities who contributed to the development of the Plan will also play a vital role in sharing its vision and connecting others to implement its conservation actions.

We began the revision of the Plan in 2022 with a survey of individuals who use the SWAP. We asked what they valued most about previous Plans and what they hoped to see most in the new revision. Of the 136 responses received, 89 came from DNR staff and 47 from a broad range of conservation partners, including conservation organizations, federally recognized Tribes, federal agencies, local governments, and academic institutions. The feedback showed overwhelming support for the SGCN list, which continues to serve as a cornerstone for conservation planning and

implementation statewide. Respondents also emphasized the lasting value of the habitat-based information introduced in the 2005 Plan and interest in refreshing that information. From the 2015 Plan, they highlighted the following elements as especially helpful: the Wildlife Action Network, the identification of Conservation Focus Areas, and the Plan's clear orientation toward action. A new request for this revision was the development of an interactive, online version of the Plan to allow users to easily access and tailor information to their specific needs.

In 2023, we invited a broad coalition of partners including Tribal representatives, conservation organizations, government agencies, academics, educators, and staff from all DNR divisions to participate in the Plan revision process. This collaboration took shape through a series of seven in-person workshops held within each region of the state. Prior to the workshops, a questionnaire was distributed to gather specific input from potential participants. Through these workshops, a total of 161 participants, representing more than 25 organizations, contributed their perspective and expertise to help shape foundational content on the most critical stressors and actions to be highlighted in this updated Plan. During the workshops, participants shared insights about the stressors affecting vulnerable species and ecosystems, identified conservation actions to address those threats, and discussed barriers to effective implementation. They also worked together to propose solutions for overcoming those challenges, helping ensure that this Plan reflects both on-the-ground realities and shared conservation goals.



*Participants in Wildlife Action Plan Revision Workshop, Alison Cariveau*

Following the workshops, we assembled volunteer teams to assist in developing of content for the revised Plan. More than 210 individuals participated across 11 teams, contributing their expertise to identify Primary Stressors and Priority Conservation Actions for key habitat types and taxonomic groups of plants and animals. Contributions were made during online working meetings. In addition, many of these volunteers also assisted in drafting chapters, collaborating through shared online documents to ensure the Plan reflects a broad base of knowledge and practical experience.

We also engaged more than 50 technical species experts to support the conservation status assessment (S-rank) process for all regularly occurring animal and plant species in Minnesota with sufficient data. Relevant datasets were compiled, species were evaluated, and S-rank scores were assigned to inform the identification of SGCN (see Chapter 2: Species in Greatest Conservation Need) and Species in Need of Information (SNI; see New for 2025 section below). The draft lists of SGCN and SNI were subsequently reviewed by species experts, volunteer team members, and DNR staff, all of whom were invited to provide feedback and comments.

To gather additional input for the development of Chapter 5: Public Engagement, including strategies to meaningfully engage Minnesotans in the stewardship of the state's rich natural resources (see New for 2025 section below), two final workshops were held in December 2024 and January 2025. These events brought together a total of 90 participants from 29 organizations, including strong representation of environmental educators and conservation outreach professionals, to identify barriers to reaching Minnesota's increasingly diverse population and to explore strategies for more effective engagement with local partners and communities. Follow-up meetings were held with a smaller working group, during which participants collaborated to craft the public engagement strategies and actions presented in this Plan.

To ensure input from Tribal Nations, we maintained regular communication with representatives from Tribal natural resource departments, meeting with them in some cases, and inviting their review of various sections of the Plan, including the draft list of draft SGCN.

The final stage of the public review involved posting the full draft Plan online for 21 days during July and August 2025, during which comments were collected through an online submission form. A second form was used to incorporate review by DNR employees during the same timeframe. All comments were reviewed and tracked in a spreadsheet. If changes were requested, we implemented the change if appropriate and replied via email to the requestor to explain if and how the requested changes were implemented.

## New for 2025

For the 2025-2035 Plan we have added several main new elements.

### Conservation Status Assessments

We employed a systematic, nationally standardized approach to assess the conservation needs of over 7,000 species of animals and plants in Minnesota, often referred to as S-ranks (see Chapter 2: SGCN). This method offers a repeatable approach for future reassessments and provides consistent, comparable information to support conservation at regional, national, and international conservation scales.

### Plants and Lichens

For the first time, the list of SGCN has been expanded to include plants and lichens (see Chapter 2: SGCN). This reflects a growing recognition of the need for closer integration between plant and animal conservation efforts, as encouraged by national initiatives such as the Restoring America's Wildlife Act, which also recognized the importance of plants. While plants and fungi are not currently eligible for SWG funding, their inclusion in this Plan lays the groundwork for a more comprehensive biodiversity conservation strategy. Plants are foundational to ecosystems and form the structure of habitats, serve as essential resources for specialist animal species, and provide critical ecosystem services that support life across the landscape.

### Species in Need of Information

Through the systematic review of all Minnesota plant and animal species with available data, it became evident that an additional classification of species was needed. Species in Need of Information (SNI) are those for which insufficient data currently exist to determine whether they warrant designation as SGCN (see Chapter 2: SGCN). This new category highlights the need for targeted survey and monitoring efforts to fill critical information gaps.

### Species of Tribal Significance

We introduced new criteria for identifying SGCN to include species of cultural significance to Tribes in Minnesota, recognizing the deep and enduring connections that Tribal Nations have with the plants and animals with whom we share the land. This addition allows Tribes to nominate species they consider vulnerable, even if those species do not meet the biological criteria for SGCN designation. As a result, wild rice (*Zizania palustris*) and snowshoe hare (*Lepus americanus*) were added to the list. Wild rice – *Manoomin* in Ojibwe and *Psin* in Dakota – is a culturally and spiritually important food traditionally harvested by Indigenous peoples, and it is vulnerable to many disturbances in the waters where it grows. Snowshoe hare – *Waabooz* in Ojibwe - is a culturally important prey species valued for its meat and fur, particularly in winter, and which is much reduced in population size and extent. In addition, there is concern about its status in the future due to less extensive snow cover in shorter, milder winters under our warming climate.



*Snowshoe hare, Julia Geschke*

## Public Engagement

In this Plan revision, the topic of public engagement was significantly expanded into a full chapter including seven strategies and many recommended actions. Chapter 5: Public Engagement highlights the vital role people play in conservation. It reflects the DNR's Nongame Wildlife Program commitment to better understanding and connecting with Minnesotans and our partners in conservation science, outreach, and education. This chapter emphasizes the importance of sharing information broadly and expanding the community of individuals and organizations actively working to conserve SGCN and their habitats.

## Conservation Action Network

Although not new to this Plan, the Conservation Action Network (CAN), formerly known as the Wildlife Action Network (or WAN), has been renamed to better reflect our expanded commitment to biodiversity conservation, including plant species as SGCN. The content of the CAN also has been updated with current data and new connectivity analyses. For complete information about the CAN, see Chapter 6: Implementation.

## Conservation Opportunity Areas

As with the Conservation Action Network, this component is not new in the 2025 Plan but has been renamed from Conservation Focus Areas to Conservation Opportunity Areas (COAs; see Figure 1.2). Updated and expanded boundaries to COAs were informed by extensive input gathered during in-person regional workshops, ten targeted mapping meetings with local partner groups, DNR staff, and external regional partners across the state. These discussions brought up the need to expand existing boundaries to capitalize on current partnership opportunities and to increase ecological connectivity. The new name, Conservation Opportunity Areas, better reflects these expanded boundaries and the broader, landscape-scale conservation opportunities they represent. It also aligns more closely with where partners are located, thereby facilitating collaboration and providing connectivity among core areas of the CAN. For more information refer to Chapter 6: Implementation.