



Position Statement on Sustainable Forest Ecosystem Management

Purpose

The Minnesota Chapter of The Wildlife Society firmly supports sustainable forest ecosystem management. This position statement provides background and context to this management, what it is, why it is important, especially regarding forest wildlife habitats and populations, and how the Chapter recommends its members, and other individuals and organizations support it. This statement is to be used as a communication tool to inspire sustainable forest ecosystem management, its continuous improvement, and collaboration among all individuals, agencies, and organizations that value it.

Minnesota Forest Management History

Minnesota's forest ecosystems range from aspen parklands in the northwest, pine forests in the northeast, and maple-basswood hardwoods in the east-central, to oaks forests in the southeast. Prior to continuous European settlement, about 31.6 million acres or 60% of the state were forested. Large portions were logged and cleared for settlement and agriculture in the 1800s. By 1900, over 50% of the state's virgin forest was transformed.

This rapid transformation prompted concern and establishment over time of public lands such as Itasca State Park, the Chippewa and Superior National Forests, Boundary Waters Canoe Area Wilderness, and State and County Forests to protect forest landscapes. Strong forest conservation, outdoor and ecological values in turn led to creation of federal, state, county, and tribal plans, statutes, policies, and guidelines. These include, but are not limited to, the Generic Environmental Impact Statement Study on Timber Harvesting and Forest Management in Minnesota (1994); Sustainable Forest Resource Act (1995) and subsequent creation of the Minnesota Forest Resource Council, their Landscape and Site-Level Forest Management Guidelines Programs, and the Minnesota Forest Resources Partnership; and Minnesota Department of Natural Resource's Forest Resource Management Planning (2000). At the national level, the National Forest Management Act and Federal Land Policy and Management Act were also enacted (1976).

Many State Wildlife Management Areas, Aquatic Management Areas, Scientific and Natural Areas, State Parks, tribal, and private lands also protect forest landscapes today. Over 1/3 of Minnesota (16.7 million acres) is currently forested with lakes, rivers, brushlands, agricultural lands and more intertwined. This forested land is about 46% privately owned by citizens, industry, and organizations, and 54% publicly owned.

Minnesota is also home to many non-government organizations which value forest ecosystems and their forest resources. They include, but are not limited to, The Nature Conservancy, Izaak Walton League, Backcountry Hunters and Anglers, Minnesota Deer Hunters Association, Audubon, Minnesota Sharp-tailed Grouse Society, and National Wild Turkey Federation. Professionals societies, such as the Minnesota Chapters of The Wildlife Society, Society of American Foresters, and American Fisheries Society, are also among these organizations.

Threats to Minnesota Forest Ecosystems and Resources

Our Chapter appreciates the many past and current forest conservation efforts and their positive impact. Despite great strides forward, Minnesota forest ecosystems and their resources remain challenged. The Minnesota Sustainable Forest Resources Act defines forest resources as “those natural assets of forest lands, including timber and other forest crops; biological diversity; recreation; fish and wildlife habitat; wilderness; rare and distinctive flora and fauna; air; water; soil; climate; and educational, aesthetic, and historic values.”

Increasing threats to these forest resources include conversion to agricultural and urban lands; fragmentation; parcelization; invasive species, loss of biodiversity, and less diverse forests; competing demands and economic pressure; and increased temperature, precipitation, and extreme weather events from climate change. Lack of and poorly distributed management are also of concern, such as absence of prescribed fire in fire-dependent ecosystems and under or over harvest of trees in some areas. These threats have both immediate and long-term effects on forest resources.

Sustainable Forest Ecosystem Management

To address the above threats and sustain Minnesota’s forest ecosystems and their forest resources, the Minnesota Chapter of The Wildlife Society advocates for “sustainable forest ecosystem management”. It entails the protection, enhancement and restoration of forest resources to deliver optimal ecosystem services now and in the future, with resilience to environmental and social change. The interaction and interdependence of forest organisms and their physical environment promote healthy, resilient, functioning ecosystems. These systems provide life-sustaining goods and services which are integral to society and quality of life. They include food; fiber; fuel; clean air and water; carbon sequestration; fertile soil; control of flooding, erosion and disease outbreak; pollination; biodiversity; genetic material; and recreational, cultural and spiritual benefits.

An understanding of forest ecosystems, including associated forest disturbances and threats, is vital to applying scientifically sound forest management practices (i.e. best management practices). These practices emulate dynamic forest spatial and temporal patterns and processes within the range of natural variation to which their plant and animal communities are adapted. Processes may occur slowly through natural succession, or suddenly from wildfire, insect and disease infestations, windstorms, heavy snow and ice, or drought. Wildlife life cycles; habitat needs; population dynamics; and interactions with prey, predators and the remainder of their ecosystem must be understood. Aldo Leopold’s philosophy of “intelligent tinkering” should be employed during management to retain all cogs and wheels of an ecosystem. And “precautionary principle” used when knowledge and understanding are lacking to make the best possible choice among available alternatives, prevent hazards, and minimize risk.

Forest Wildlife Habitat Needs

An understanding of ecosystem interactions and habitat management needs is crucial to sustaining the wildlife species that inhabit Minnesota’s forest ecosystems. These species range from the common to the rare. Over 100 of the 346 Species in Greatest Conservation Need in Minnesota, as noted in the Minnesota Wildlife Action Plan 2015-2025, require habitats within Minnesota’s forest region. They are native wildlife whose populations are rare, declining, or below levels desirable to insure their long-term health and stability. They include all state and federally listed species, as well as species for which Minnesota has a stewardship responsibility. The northern long-eared bat, Canada lynx, moose, sharp-tailed grouse, Connecticut warbler, wood turtle, and four-toed salamander are examples. Forest management practices or policies that diminish important wildlife habitat features can contribute to federal listings of wildlife

species and/or result in non-compliance with U.S. Fish and Wildlife Service regulations. When listing or non-compliance occur, complexities and costs associated with planning and management increase.

Keeping common wildlife species common must also be considered. Forests must be managed for a variety of habitat conditions. For example, old forest distributed across landscapes provide canopy required for winter deer habitat, age diversity for ruffed grouse, and mature oaks for their mast. They also offer structure and large cavity trees for marten, fisher, hooded mergansers, wood ducks, and numerous other cavity dependent species. Keeping common wildlife common reduces planning and management costs, time, and effort in the long-term.

The need for a coordinated effort by agencies, organizations, landowners, stakeholders and citizens to implement sustainable forest management through efficient and effective plans, programs, projects and practices has never been greater. To sustain wildlife habitats and populations, the desired plant communities, compositions, ages, structures, patch sizes, and arrangements must be achieved across landscapes and ownerships over time. Stewardship of expansive, young brushland to rare, old growth forest habitats must occur. Ecological values, such as wildlife habitat, must be given equal consideration with social and economic values to achieve true sustainability.

Recommendations

The Chapter's position is to support sustainable forest ecosystem management, especially as it pertains to inspiring, empowering and enabling wildlife professionals to sustain wildlife habitat and populations. **The following actions are recommended and supported:**

Planning

- 1) **Coordinated forest landscape-based planning across all land ownerships** to sustain forest ecosystems, their forest resources, and ecological services. Planning should consider wildlife habitat and population goals; involve local, professional expertise, stakeholder and citizen input; consider existing and new assessments and plans such as the Minnesota Wildlife Action Plan; identify a network of priority core areas/landscapes and corridors for targeted management; protect reserves and refugia for biological reference points; protect primary forests, especially black ash, black spruce, and white cedar; ensure representation of all plant community and habitat successional stages; and ensure adequate spatial distribution of habitats across landscapes and over time to meet wildlife species' needs within their home ranges.
- 2) **Development of landscape-based, wildlife habitat and population goals and strategies** to support landscape planning efforts and meet Minnesota government's responsibility to manage wildlife as a public trust resource (See The Wildlife Society's [*The Public Trust Doctrine, Technical Review, 2010*](#). This doctrine is a founding principle for the management of our fish and wildlife resources and North American Model of Wildlife Conservation.)
- 3) **Development of recovery strategies for wildlife species at risk** that use an ecosystem approach broadly over space and time to provide continuous and sustainable habitat.
- 4) **Equal consideration to ecological values in planning and decision-making** as social and economic values. As noted, healthy, resilient, functioning ecosystems provide life-sustaining goods and services integral to humanity and quality of life.

Management

- 5) **Protection, enhancement and restoration (i.e., management) of forest ecosystems** on private and public lands, especially within priority core areas/landscapes and corridors to prevent further conversion of forests. These activities should be implemented through plans, programs, projects, and scientifically sound practices for site specific conditions, such as Minnesota Forest Resource Council Site-Level Forest Management Guidelines. Implementation on public lands as an example and catalyst for implementation on private lands is encouraged.
- 6) **Public lands established and managed for wildlife habitat and populations**, and compatible recreational uses, such as state Wildlife Management Areas and Aquatic Management Areas. As noted in Minnesota Statute 86A.05, Wildlife Management Areas are managed for “production of wildlife, for public hunting, fishing, and trapping, and for other compatible outdoor recreational uses” and Aquatic Management Areas “to protect, develop, and manage lakes, rivers, streams, and adjacent wetlands that are critical for fish and other aquatic life, for water quality, and for their intrinsic biological value, public fishing, or other compatible outdoor recreational uses.” The achievement of habitat and population goals must be the primary driver of management on these public lands. Management plans should be developed for them and based on landscapes, wildlife habitat and population goals, and condition of surrounding habitat.
- 7) **Retention of biodiversity in forest ecosystems** through the above planning, protection, enhancement and restoration, “intelligent tinkering”, and use of “precautionary principle”.
- 8) **Habitat initiatives that benefit of a suite of forest wildlife species** by focusing on umbrella and flagship species.

Assessment, Monitoring, Research, and Adaptive Management

- 9) **Collection and organization of basic data on forest habitats and wildlife species** across land ownerships into an accessible system is critically needed. Current forest habitat type and age data is needed, especially at the finer scale required for analyses of habitats within wildlife species’ home ranges. Data on wildlife species’ distributions and abundance, and habitat associations and requirements are also essential. This data will facilitate the identification of a network of priority core areas/landscapes and corridors.
- 10) **Development and use of a holistic, streamlined monitoring system** for forest wildlife habitats and populations is needed to establish benchmarks, track changes, and improve management.
- 11) **Research to improve all aspects of sustainable forest ecosystem management.** Research forums to communicate forest wildlife research needs, identify priorities, coordinate research, share results, and implement their practical use are highly supported.
- 12) **Adaptive management** driven by new data from assessments, monitoring and research to continually improve sustainable forest ecosystem management.

Funding

- 13) **Development and procurement of funding and other resources** for organizations and individuals to effectively and efficiently implement plans, programs, projects and practices. Numerous state, federal, and private organization funding opportunities exist on which to capitalize and leverage.

Partnering and Outreach

- 14) **Partnering to achieve progress and unity toward a common goal** of sustainable forest ecosystem management. Collaboration among and within agencies, organizations, stakeholders, citizens, and landowners through information, idea and resource sharing, and project implementation across land ownerships is supported. The Minnesota Forest Habitat Collaborative and Minnesota Forest Resource Council regional landscape teams are prime examples.
- 15) **Education about sustainable forest ecosystem management** to students, biologists, managers, foresters, stakeholders, citizens, and landowners by academic institutions and natural resource agencies and organizations. Education opportunities include annual meetings and workshops of The Wildlife Society, American Fisheries Society, Society of American Foresters, and the Sustainable Forestry Education Cooperative.
- 16) **Increased connection of citizens to wildlife habitats and populations**, and the natural environment of Minnesota's forest region. This connection will increase relevancy and support for forest resources and sustainable forest ecosystem management, especially by non-consumptive users.

Policy

- 17) **Communication with decision makers and elected officials to facilitate policy** that is well informed; considers sound science, wildlife habitat and population goals; and provides robust funding to support sustainable forest ecosystem management.

Innovation

- 18) **Innovative markets for local, renewable forest resources** that support forest habitat management practices needed to meet wildlife habitat goals, as well as local businesses, economies and communities. Examples include harvest of wood for heat, energy, and other products to facilitate management of early successional habitats such as prairie, brushlands, young forest, and wildlife openings. Achieving the desired distribution of forest harvest over landscapes will help meet wildlife habitat goals, including old forest goals.

“Our duty to the whole, including the unborn generations, bids us to restrain an unprincipled present-day minority from wasting the heritage of these unborn generations. The movement for the conservation of wildlife and the larger movement for the conservation of all our natural resources are essentially democratic in spirit, purpose, and method.” - Theodore Roosevelt (1916)

Questions and comments regarding this position statement can be sent to Minnesota Chapter of The Wildlife Society at minnesotatws@gmail.com

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