

**Wisconsin's Wildlife Action Plan (2005-2015)  
Priority Conservation Actions & Conservation Opportunity Areas**

**NORTH CENTRAL FOREST ECOLOGICAL LANDSCAPE**

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**HIGH PRIORITY SGCN AND NATURAL COMMUNITIES**

- |                               |                            |                             |
|-------------------------------|----------------------------|-----------------------------|
| ➤ American Woodcock           | ➤ Hoary Bat                | ➤ Harris Checkerspot,       |
| ➤ Bald Eagle                  | ➤ Northern Flying Squirrel | ➤ Jutta Arctic              |
| ➤ Black-backed Woodpecker     | ➤ Silver-haired Bat        | ➤ Laurentian Skipper        |
| ➤ Black-throated Blue Warbler | ➤ Water Shrew              | ➤ Red-disked Alpine         |
| ➤ Boreal Chickadee            | ➤ Woodland Jumping Mouse   | ➤ West Virginia White       |
| ➤ Canada Warbler              |                            |                             |
| ➤ Connecticut Warbler         | ➤ Boreal Chorus Frog       | ➤ Coolwater streams         |
| ➤ Least Flycatcher            | ➤ Four-toed Salamander     | ➤ Ephemeral Pond            |
| ➤ Northern Goshawk            | ➤ Mink Frog                | ➤ Northern Hardwood Swamp   |
| ➤ Olive-sided Flycatcher      | ➤ Wood Turtle              | ➤ Northern Mesic Forest     |
| ➤ Spruce Grouse               |                            | ➤ Northern Sedge Meadow     |
| ➤ Veery                       | ➤ Bog Fritillary           | ➤ Northern Wet Forest       |
|                               | ➤ Brown Elfin              | ➤ Northern Wet-Mesic Forest |
| ➤ American Marten             | ➤ Frigga Fritillary        |                             |
| ➤ Gray Wolf                   | ➤ Freija Fritillary        |                             |

**PRIORITY CONSERVATION ACTIONS**

- Develop clear targets for how much old to old-growth forest we should have.
- Protect existing old-growth stands and defined high conservation value forests on public land, look for opportunities to identify additional areas that can develop into old-growth condition, and connect corridors to accommodate old-growth species movement in the light of climate change. The identified Conservation Opportunity Areas offer the best places to apply this priority.
- Develop tax incentives to preserve relict old-growth forest on private land.
- Provide incentives for reforestation of buffers around old-growth stands and ephemeral ponds.
- Work towards a balanced mosaic of age-classes; older age-classes are currently underrepresented.
- Encourage regeneration or reestablishment of eastern hemlock, Canada yew, white cedar, yellow birch, and other conifer, where appropriate through adaptive management techniques.
- Before the end of fiscal year 2009, assemble a team of wildlife biologists, foresters, researchers, and bird experts to develop a map of priority areas for management of early seral stage forest. The team would focus on the places where the Department could expend limited dollars for applying management to forests where timber sales are problematic. Chosen sites would have the greatest benefit for the greatest number of shrubland species, especially SGCN.

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- If a forested parcel lies within a Conservation Opportunity Area, use data from COA Guide as a resource for MFL applicants to encourage management plans that are complementary to the goals of the COA.
- In working forest areas, encourage enrollment of private land in MFL to maintain a high percentage of land in long-term forest cover.
- Restore complexity to the entire forest landscape by retaining biological legacies such as large and cavity trees, snags, boles, large woody debris on the forest floor, herbaceous and understory plants, and forest floor organic matter.
- Develop demonstration sites for field education and training for foresters, wildlife biologists, and land managers to tie on-the-ground application to the old-growth handbook.
- Inventory and map the locations of ephemeral ponds.
- Develop guidelines for silvicultural practices, water quality, and SGCN retention in and around ephemeral ponds.
- Conduct additional survey work in northern wet forest for boreal birds, invertebrates and other taxa.
- Evaluate the need for and reintroduce, if appropriate, American Marten to enhance existing populations and populate new areas.
- Implement a bioregional monitoring design to complete the status assessment of Northern Goshawk in Wisconsin.
- In areas free of exotic earthworms, minimize the likelihood of invasion by earthworms by preventing transport of worms in soil, potted plants, mulch and compost.
- Focus restoration of stream habitat and morphology on areas where land use and other factors suggest the most successful outcomes for Species of Greatest Conservation Need.
- Long-term monitoring and protection of wood turtle nest sites.
- Protection and restoration of appropriate natural stream habitat with focus on accommodating the habitat needs of wood turtle and water shrew.

## **CONSERVATION OPPORTUNITY AREAS**

### **Northern Highland Kettle Lakes and Pine Forest – Global Significance**

Large extensive area of pine – oak dominated forest with a continuum of Northern Dry Forest, Northern Dry-Mesic Forest, Northern Mesic Forest, and Northern Wet Forest. Also embedded within the upland features is a concentration of glacial lakes with a continuum of Submerged Aquatic, Submerged Aquatic-Oligotrophic, Open Bog, Northern Sedge Meadow, and Inland Lakes.

**COA(s):** Rock Lake End Moraine (4.12)

SGCN – Four-toed Salamander, Mink Frog, Mudpuppy, Wood Turtle, Bald Eagle, Black-throated Blue Warbler, Canada Warbler, Connecticut Warbler, Least Flycatcher, Northern Goshawk, Olive-sided Flycatcher, Osprey, Red Crossbill, Spruce Grouse, Veery, Whip-poor-will, Eastern Red Bat, Gray Wolf, and Northern Flying Squirrel.

Public Land – Chequamegon-Nicolet National Forest, Sawyer County Forest.

Legacy Places – Chequamegon-Nicolet National Forest.

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**Large Blocks – Old Deciduous – Coniferous Forest (Climate Change Resistant Forest Systems) – Continental Significance**

Features large blocks of forest containing a preponderance of older forest in areas where climate change models indicate the climate should be ameliorated by the cooling effects of the Great Lakes. These forests provide an opportunity to manage for the mature to older age classes. Areas feature a continuum of an extensive matrix of older northern hardwood forest with imbedded lakes, wetlands, and bedrock including Northern Mesic Forest, Northern Dry-Mesic Forest, Northern Wet-Mesic Forest, Northern Wet Forest, Open Bog, Muskeg, Northern Hardwood Swamp, Northern Sedge Meadow, and Bedrock Glades.

**COA(s):** Gogebic-Penoque Ranges (4.01), Medford Hemlock-Hardwoods (4.02), Sawyer-Ashland Hemlock-Hardwoods (4.04), Nicolet Hemlock-Hardwoods (4.06) and Winegar Moraine – Moose Creek (4.09)

SGCN – Boreal Chorus Frog, Four-toed Salamander, Mink Frog, Pickerel Frog, Wood Turtle, American Bittern, Black-backed Woodpecker, Black Tern, Black-throated Blue Warbler, Bobolink, Boreal Chickadee, Canada Warbler, Connecticut Warbler, Golden-winged Warbler (bog edges and stream corridors), Least Flycatcher, Northern Goshawk, Northern Harrier, Olive-sided Flycatcher, Red-shouldered Hawk, Rusty Blackbird, Solitary Sandpiper, Sharp-tailed Grouse, Spruce Grouse, Veery, Wood Thrush, American Marten, Eastern Red Bat, Gray Wolf, Hoary Bat, Moose, Northern Long-eared Bat, Northern Flying Squirrel, Silver-haired Bat, Water Shrew, Woodland Jumping Mouse, Bog Fritillary, Frigga Fritillary, Freija Fritillary, Harris Checkerspot, Red-disked Alpine, Jutta Arctic, Brown Elfin, West Virginia White, and Laurentian Skipper.

Public Land – Chequamegon-Nicolet National Forest, Board of Commissioners of Public Lands, Moose Lake State Natural Area, Dunn Lake State Natural Area, Underwood Wildlife Area, Northern Highland-American Legion State Forest, Pine-Popple Wild Rivers, Border Lakes State Natural Area, Bay Springs Fishery Area, White River Fishery Area, Iron County Forest, Ashland County Forest.

Legacy Places – Border Lakes Region, Chequamegon-Nicolet National Forests, Chippewa Glacial Lakes, Goodman Forest, Moose Hemlock Woods, Pine-Popple River.

Important Bird Areas – Penoque Range, Upper Chippewa Conifer-Hardwood Forest, Owen-Teal Forest, Perkinstown Hemlock-Hardwood Forest, Moose Lake Old-Growth Forest and Muskeg, St. Peter's Dome-North Country, Lauterman Lake, Camp Nine Pines, and Headwaters Wilderness.

**Large Blocks of Predominately Older Northern Forest – Upper Midwest/Regional Significance**

Large blocks of forest containing a preponderance of older forest provide an opportunity to manage for the mature to older age classes. These blocks are farther south, more isolated and potentially more susceptible to climate change, therefore, slightly reducing their significance for maintaining SGCN populations. The area features a continuum of an extensive matrix of older northern hardwood forest with imbedded lakes, wetlands, and bedrock including Northern Mesic Forest, Northern Dry-Mesic Forest, Northern Wet-Mesic Forest, Northern Wet Forest, Open Bog, Muskeg, Northern Hardwood Swamp, Northern Sedge Meadow, and Bedrock Glades.

**COA(s):** Diamond Roof (4.08), Drumlin Hardwoods (4.07), Blue Hills (4.05) Upper Flambeau Woods (4.10), and Skinner Creek (4.11)

SGCN – Four-toed Salamander, Mink Frog, Pickerel Frog, Wood Turtle, American Bittern, Black Tern, Black-throated Blue Warbler, Canada Warbler, Golden-winged Warbler (bog edges and stream corridors), Least Flycatcher, Northern Goshawk, Northern Harrier, Red-shouldered Hawk, Rusty Blackbird, Solitary Sandpiper, Veery, Wood Thrush, Eastern Red Bat, Gray Wolf, Hoary Bat, Northern Long-eared Bat, Northern Flying Squirrel, Silver-haired Bat, Water Shrew, Woodland Jumping Mouse, Bog Fritillary, Harris Checkerspot, West Virginia White, and Laurentian Skipper.

Public Land – Chequamegon-Nicolet National Forest, Board of Commissioners of Public Lands, Beverly Lake Fishery Area, Devils Creek Fishery Area, Sawyer County Forest, Rusk County Forest, Barron County Forest.

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Legacy Places – Blue Hills, Chequamegon-Nicolet National Forests, Laona Hemlock-Hardwoods, Pipestone Hills.

Important Bird Areas – McCaslin Brook, Blue Hills.

**Medium-sized Rivers and Streams – Upper Midwest/Regional Significance**

Medium-sized river systems including riparian communities and impoundments – Coldwater Streams, Coolwater Streams, Warmwater Rivers.

**COA(s):** Upper Wolf River (A.05), Pine-Popple Rivers (A.09), Jump-Lower Flambeau Rivers (A.40), and Middle Chippewa River (A.36)

SGCN – Gilt Darter, Greater Redhorse, Lake Sturgeon, Longear Sunfish, Four-toed Salamander, Mink Frog, Mudpuppy, Pickerel Frog, Wood Turtle, Bald Eagle, Black tern, Canvasback, Lesser Scaup, Osprey, Solitary Sandpiper, trumpeter Swan, Eastern Red Bat, Hoary Bat, Northern Long-eared Bat, Silver-haired Bat, Water Shrew, Lancet Clubtail, Pygmy Snaketail, Elfin Skimmer, Extra-striped Snaketail, St. Croix Snaketail, Crawling Water Beetles, Broad-shouldered Water Strider, Armored Mayflies, Humpless Casemaker Caddisfly, Long-horned Casemaker Caddisfly, Giant Casemaker Caddisfly, Water Measurers, Riffle Beetles, Predaceous Diving Beetles, Water Scorpions, Riffle Beetles, Bullhead, and Purple Wartyback.

Public Land – Chequamegon-Nicolet National Forest, Flambeau State Forest, Sawyer County Forest, Ashland County Forest, Price County Forest, Rusk County Forest, Taylor County Forest, Chippewa County Forest, Langlade County Forest, and Florence County Forest.

Legacy Places – Chequamegon-Nicolet National Forest, Flambeau River State Forest, Goodman Forest, Pine – Popple River, Pipestone Hills, Upper Forks of the Flambeau.

**High Quality Wetland Communities – State Significance**

Large blocks of bog and swamp containing little touched forested wetlands providing an opportunity to manage for large blocks of muskeg. This area features a continuum of an extensive matrix of bog land including Northern Wet-Mesic Forest, Northern Wet Forest, Open Bog, Muskeg, Northern Hardwood Swamp, and Northern Sedge Meadow.

**COA(s):** Bootjack Bog (4.03)

SGCN – Four-toed Salamander, Mink Frog, Pickerel Frog, Wood Turtle, American Bittern, Black-backed Woodpecker, Boreal Chickadee, Canada Warbler, Connecticut Warbler, Golden-winged Warbler (bog edges and stream corridors), Northern Goshawk, Northern Harrier, Olive-sided Flycatcher, Rusty Blackbird, Solitary Sandpiper, Sharp-tailed Grouse, Spruce Grouse, Veery, Eastern Red Bat, Gray Wolf, Hoary Bat, Moose, Northern Long-eared Bat, Northern Flying Squirrel, Silver-haired Bat, Water Shrew, Woodland Jumping Mouse, Bog Fritillary, Frigga Fritillary, Freija Fritillary, Red-disked Alpine, Jutta Arctic, and Laurentian Skipper.

Public Land – Chequamegon-Nicolet National Forest, Board of Commissioners of Public Lands.

Legacy Places – Bootjack Bog.

Important Bird Areas – Bootjack Muskeg.

**Diverse Aquatic Communities – State Significance**

Medium-sized river systems including riparian communities including Coldwater Streams, Coolwater Streams, Warmwater Rivers.

**COA(s):** Upper Forks of the Chippewa River (A.43), Flambeau River (A.41), and Brunet and Thornapple Rivers (A.53).

SGCN – Gilt Darter, Greater Redhorse, Lake Sturgeon, Mink Frog, Mudpuppy, Wood Turtle, Bald Eagle, Osprey, Solitary Sandpiper, Eastern Red Bat, Hoary Bat, Northern Long-eared Bat, Silver-haired Bat, Water

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Shrew, Lancet Clubtail, Pygmy Snaketail, Extra-stripped Snaketail, St. Croix Snaketail, Spectacle Case, Mapleleaf, Salamander Mussel, Bullhead, and Purple Wartback.

Public Land – Chequamegon-Nicolet National Forest, Flambeau State Forest, Sawyer County Forest, Ashland County Forest, Price County Forest.

Legacy Places – Chequamegon-Nicolet National Forest, Flambeau River State Forest.

Unique concentrations of kettle lakes that contain lake communities harboring many SGCN invertebrates

**COA(s):** Birchwood Moraine (A.50), Chippewa Moraine (A.49) and the Harrison Hills (A.51) Lakes

SGCN – Bullfrog, Blanding's Turtle, Wood Turtle, Boreal Top, Honey Vertigo, Bog Fritillary, Delicate Emerald, Elfin Skimmer, Least Clubtail, Riffle Snaketail, Sand Snaketail, Holarctic Clam Shrimp, Giant Casemaker Caddisfly, Predacious Diving Beetles, Water Scavenger Beetles, Velvet Water Bug, and Crawling Water Beetles.

Public Land – Washburn County Forest, Chippewa County Forest, Lincoln County Forest.

Legacy Places – Birchwood, Chippewa Moraine, Harrison Hills.

Bedrock influenced headwater streams harboring many SGCN invertebrates.

**COA(s):** Blue Hills Headwater Streams (A.38)

SGCN – Longear Sunfish, Least Darter, Pugnose Shiner, Weed Shiner, Bullfrog, Blanding's Turtle, Wood Turtle, Bog Fritillary, Elegant Spreadwing, Elfin Skimmer, Extra-striped Snaketail, Least Clubtail, Riffle Snaketail, Sand Snaketail, Giant Casemaker Caddisfly, and Crawling Water Beetles.

Public Land – Barron County Forest, Rusk County Forest, Sawyer County Forest.

Legacy Places – Blue Hills.

**High Quality Wetland Communities – (unmapped) State Significance**

Large bogs and muskeg features containing little touched forested wetlands providing an opportunity to assess the impacts of a changing climate. These large wetlands have been relatively stable in composition for millennia and occur mostly in isolated basins. Even though the protection of the diversity found in these bogs is better addressed in Canada, our large extensive bogs provide a unique opportunity for assessing the resiliency and resistance to climate change. For this primary purpose and many others, these communities should be managed for their stability. These areas feature a continuum of an extensive matrix of bog land – Northern Wet-Mesic Forest, Northern Wet Forest, Open Bog, Muskeg, Northern Hardwood Swamp, and Northern Sedge Meadow.

SGCN – Four-toed Salamander, Mink Frog, Pickerel Frog, Wood Turtle, American Bittern, Black-backed Woodpecker, Boreal Chickadee, Canada Warbler, Connecticut Warbler, Golden-winged Warbler (bog edges and stream corridors), Northern Goshawk, Northern Harrier, Olive-sided Flycatcher, Rusty Blackbird, Solitary Sandpiper, Sharp-tailed Grouse, Spruce Grouse, Veery, Eastern Red Bat, Gray Wolf, Hoary Bat, Moose, Northern Long-eared Bat, Northern Flying Squirrel, Silver-haired Bat, Water Shrew, Woodland Jumping Mouse, Bog Fritillary, Frigga Fritillary, Freija Fritillary, Red-disked Alpine, Jutta Arctic, and Laurentian Skipper.

Public Land – Langlade County Forest (Bogus Swamp and Kelly Lynn Bogs), Lincoln County Forest (Tomahawk, Squirrel, Budinga, and Bradley Bogs), Chequamegon-Nicolet National Forest (Hiles Swamp), Price County Forest (Million Acre Swamp), Washburn County Forest (Lost Lake Bog and Crystal Bog), Oneida County Forest (Enterprise Swamp).

Legacy Places – Bogus-Kelly Lynn Bogs, Chequamegon-Nicolet National Forest, Lincoln County Bogs.

Important Bird Areas – Lincoln County Muskegs and Bogus Muskeg-Kelly Lynn Bog.