



Threatened and Endangered Plants and Animals

in New Hampshire's Forested Habitats

A Guide for Foresters and Other Land Managers



UNIVERSITY OF
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Introduction

The Granite State supports a rich diversity of plants and animals and their habitats. Most of these flora and fauna are common throughout the state or are locally or seasonally abundant. A smaller number are rare in New Hampshire and their future is uncertain. These species are rare for a variety of reasons which may include habitat loss, over-exploitation, pollution, human disturbance, wetland degradation, land use change, and natural succession. There is some legal protection for these rare species. However, awareness and education are perhaps the best ways for New Hampshire to retain all the elements of its rich natural heritage from the common American robin to the rare large yellow lady's - slipper.

This series of fact sheets on New Hampshire's threatened and endangered plants and animals was developed to assist foresters, loggers, landowners, and other land managers in identifying, protecting, and managing these rare species and their habitats. Since more than 80% of New Hampshire's forests are privately owned, foresters and others working in the forest have a unique and critical role to play in conserving rare species. Because the focus of this effort is for forest managers, fact sheets were developed only for those rare plants and animals that occur in forested habitats. Included are fact sheets on four birds, three mammals, and 16 plants. More forest-dwelling species will be profiled in the future.

New Hampshire Laws

In 1979, the New Hampshire Legislature passed the Endangered Species Conservation Act, which provides for the protection of native wildlife species facing possible extinction. Based on recommendations from biologists and input from the general public, the NH Fish and Game Department announced the official list of threatened and endangered wildlife species in March 1980. The threatened and endangered wildlife list was revised in 1987. Today there are 34 wildlife species listed as threatened or endangered in New Hampshire. This list includes three mammals, 19 birds, two fish, one reptile, and nine invertebrates. Some of these species are also on a federal list of endangered species.

The New Hampshire Legislature passed the Native Plant Protection Act in 1987. This Act primarily helps state agencies protect rare plants and their habitats on state-owned lands, and provides a mechanism for communicating information about rare plants and their habitats to landowners and land managers. There are 289 plants listed as threatened or endangered in the state, approximately 20% of the roughly 1,500 native plant species growing in New Hampshire. Although this number of rare plants may seem high, they actually cover a very small portion of the state for rare plants are just that—rare. Further, rare species often share unusual habitats, so many rare plants are found with other rarities.

Threatened and Endangered species are defined as follows:

- Endangered:** any native species of plant or animal whose prospects for survival in New Hampshire are in immediate danger because of a loss or change in habitat, over-exploitation, predation, competition, disease, disturbance, or contamination. Assistance is needed to ensure continued existence as a viable component of the state's natural heritage.
- Threatened:** any species of plant or animal which may become endangered if conditions surrounding them begin or continue to deteriorate.

The Federal Endangered Species Act

In 1973 the Endangered Species Act was passed by the U.S. Congress. It protects wildlife and plant species whose survival is threatened or endangered nationwide.

Contacts for New Hampshire state-listed species:

- **Audubon Society of New Hampshire** is a non-profit environmental organization with 10,000 members statewide, whose mission is the protection of the natural environment for wildlife and for people. Audubon works toward this goal through education, land protection, advocacy, and wildlife monitoring and research. Currently ASNH has five nature centers around the state with the headquarters located at 3 Silk Farm Road, Concord, NH 03301. Phone: (603) 224-9909. Web site at <http://www.nhaudubon.org>
- **NH Fish and Game Department** is the guardian of the state's fish, wildlife, and marine resources. It's mission is to conserve, manage, and protect these resources and their habitats, to educate the public about these resources, and to provide recreational opportunities to use and appreciate these resources. Through its Nongame and Endangered Wildlife Program, the Department serves as the steward for the state's wildlife that are not hunted, fished, or trapped. For more information about this program contact NH Fish and Game, Nongame and Endangered Wildlife Program, 2 Hazen Drive, Concord, NH 03301. Phone: (603) 271-2462. Web site at <http://www.wildlife.state.nh.us>
- **NH Natural Heritage Inventory** finds, tracks, and facilitates the protection of New Hampshire's rare plants and exemplary natural communities (which are different types of forests, wetlands, grasslands, etc.). It is not a regulatory agency; instead, it works with landowners and land managers to help them protect the State's natural heritage while meeting their land-use needs. For further information about rare plant species and management considerations, contact the Natural Heritage Inventory at P.O. Box 1856, Concord, NH 03302. Phone: (603) 271-3623.

Contacts for federally-listed species in New Hampshire:

- **U.S. Fish and Wildlife Service**, part of the Department of the Interior, is responsible for many of our nation's fish and wildlife resources. The Service provides federal leadership for the conservation and protection of migratory birds, certain marine mammals, and threatened and endangered species, as well as habitat protection. In New Hampshire, endangered species biologists work with non-government, state, and other federal agencies to monitor and restore ten federally-listed threatened and endangered species. For more information, contact the U.S. Fish and Wildlife Service, New England Field Office, 22 Bridge St., Concord, NH 03301. Phone: (603) 225-1411. Web site at <http://www.fws.gov>
- **USDA Forest Service–The Northeastern Area State and Private Forestry** provides technical and focused financial assistance to partners for sustainability of state, municipal, and non-industrial private forest lands in the 20 states that comprise the Northeast and Midwest. For more information contact Northeastern Area, State and Private Forestry, USDA Forest Service, P.O. Box 640, Durham, NH 03824-0640. Phone: (603) 868-7690. Web site at http://hp1.nena.org/NA_home

Contacts for wildlife habitat and forest management assistance:

- **UNH Cooperative Extension** is the educational outreach arm of the University of New Hampshire. Its Forestry and Wildlife Program provides research-based information and educational programs to natural resource professionals, landowners, teachers, communities, industries, and organizations helping them to protect, manage, and sustain New Hampshire's natural resources. For more information on Extension's programs contact the Forestry and Wildlife Program at UNH Cooperative Extension, 108 Pettee Hall, 55 College Rd., Durham, NH 03824. Phone: (603) 862-1029 or check the Web site at <http://ceinfo.unh.edu>

Credits

The plant fact sheets were written by the NH Natural Heritage Inventory: Michael Duffy, Dan Sperduto, and David VanLuyen. The wildlife fact sheets were written by Ellen Snyder and Geraldine Tilley, University of New Hampshire Cooperative Extension. Information contained in wildlife fact sheets by Audubon Society of New Hampshire was invaluable in developing this new series. The authors thank additional project committee members Toni McLellan, USDA Forest Service, Northeastern Area and John Kanter, NH Fish and Game Department for their comments, assistance, and funding. Additional thanks go to Charlie Bridges, Meade Cadot, Ted Chapin, Laura Deming, Eric Orff, Chris Marten, David Payer, Jim Sweeney, and Will Staats for review of several wildlife fact sheets. Funding was provided by a grant from the USDA Forest Service, Northeastern Area, State and Private Forestry. Desktop publishing was provided by UNH Cooperative Extension Educational Marketing and Information Office.

List of Wildlife Species

Eagle, Bald (*Haliaetus leucocephalus*)

Harrier, Northern (*Circus cyaneus*)

Hawk, Cooper's (*Accipiter cooperii*)

Osprey (*Pandion haliaetus*)

Bat, Small-footed (*Myotis leibii*)

Lynx, Canada (*Lynx canadensis*)

Marten (*Martes americana*)

List of Plant Species

Bitter Cress, Bulbous (*Cardamine bulbosa*)

Buttercup, Early (*Ranunculus fascicularis*)

Dragon, Green (*Arisaema dracontium*)

Fern, Goldie's (*Dryopteris goldiana*)

Foxglove, False (*Aureolaria pedicularia*)

Garlic, Wild (*Allium canadense*)

Ginseng (*Panax quinquefolium*)

Goldenrod, Sweet (*Solidago odora*)

Lady's-Slipper, Large Yellow (*Cypripedium pubescens*)

Sickle-Pod (*Arabis canadensis*)

Twayblade, Auricled (*Listera auriculata*)

Twayblade, Heart-Leaved (*Listera cordata*)

Twayblade, Lily-Leaved (*Listera convallarioides*)

Violet, Palmate (*Viola palmata*)

Waterleaf, Northern (*Hydrophyllum virginianum*)

Wintergreen, Pink (*Pyrola asarifolia*)

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