7.1 NATURAL COMMUNITIES AND PROTECTED PLANTS

BACKGROUND

Protecting and conserving natural communities and threatened and endangered plants is essential to maintain native biodiversity.

Natural communities are recurring assemblages (groups) of species found in particular physical environments. Familiar examples include ***hemlock - beech - oak - pine forest***, and sugar maple dominated ***rich mesic forest***. The N.H. Natural Heritage Bureau (NHNHB) recognizes 193 natural communities, of which 42 are wooded uplands and 38 are wooded wetlands or floodplain forests.

NHNHB evaluates the ecological significance of natural communities and assigns a quality rank. Quality ranks are a measure of the ecological integrity of a community relative to other examples of that community. The rankings are based on community size, ecological condition, and landscape context (i.e., where the community is located). Exemplary communities include (1) all viable occurrences of rare natural community types, and (2) higher-quality examples of more common communities. Exemplary natural communities occupy only a small part of New Hampshire.

New Hampshire has about 1,500 species of native vascular plants, about 25 percent of which are protected by the New Hampshire Native Plant Protection Act (RSA 217-A). Another three plants are protected by the federal Endangered Species Act, only one of which—small whorled pogonia—occurs in forests.

Many threatened and endangered plants occur in nonforested habitats such as marshes, riverbanks, and alpine areas. Threatened and endangered forest plants are largely restricted to uncommon habitat types. Black maple, river birch, hackberry, and jack pine are four threatened or endangered tree species that may reach harvestable size. Black maple typically occurs with sugar maple on moist, rich soils of river bottoms in mixed hardwood forests in southern New Hampshire. River birch is restricted to streambanks and other moist places. Hackberry usually occurs on rich, moist sites along streambanks or on floodplains. Jack pine occurs on only a few acidic rocky summits at moderately high elevations in the White Mountains, and in lakeshore settings north of the mountains.

Rich Woods

Rich woods are a special subset of hardwood forest communities. These communities share a diverse assemblage of plants restricted to nutrient-rich conditions. Many of New Hampshire's rare plants occur in rich woods. Sugar maple, white ash, and a species-rich herbaceous layer are hallmarks of rich woods. Ferns, perennial forbs, and sedges are abundant, including many species that flower in early spring, but few shrubs grow in rich woods. In New Hampshire, rich woods typically occur in south-facing locations associated with bedrock types that weather to form enriched soils, a combination of conditions infrequent in the state.

The New Hampshire Native Plant Protection Act, RSA 217-A, protects and conserves plants for human needs and enjoyment, the interests of science, and the state's economy. The NHNHB administers the Act, including collecting and analyzing data on the status, location, and distribution of rare or declining native plants and exemplary natural communities, as well as developing and implementing measures for their protection, conservation, enhancement, and management.

Small Whorled Pogonia

Small whorled pogonia is a federally threatened orchid. It grows in ***hemlock - beech - oak - pine forests*** along with Indian cucumber root, New York fern, partridgeberry, downy rattlesnake plantain, and witch hazel. As of 2008, NHNHB identified 49 populations, although only six have good or excellent viability. The plant tolerates some disturbance and persists in stands managed for timber. Habitat management experiments (e.g., canopy thinning) may maintain population viability, but the long-term beneficial effects haven't been confirmed.

The NHNHB is not a regulatory agency, and its statute specifically gives private property owners the right to take protected plant species on their own lands. The statute directs state agencies to avoid jeopardizing the continued existence of any protected plant species. Prohibited acts include exporting or importing protected species into or out of New Hampshire, transporting protected species within the state, and taking, possessing, and selling any protected species from public property or property of another.

The Endangered Species Act applies to federally listed threatened and endangered species, three of which occur in New Hampshire as of 2009. Rights and prohibitions resemble the New Hampshire Native Plant Protection Act, though the right to take protected species on one's own property is less explicit.

OBJECTIVE

Maintain natural communities and threatened and endangered plants.

CONSIDERATIONS

- Most exemplary natural communities and threatened and endangered plants occur in distinct, small patches in the forest and conflicts with forestry operations are rare. Adoption of appropriate silvicultural and timber harvesting techniques can avoid or minimize impacts. Knowledge of the effect of various forestry practices is limited, but expanding.
- Protecting natural communities and plants may reduce harvest volume and increase planning costs, resulting in a reduced income.
- Some natural communities and plants depend on disturbance (e.g., fire or timber harvest) for their maintenance. Disturbance suppression, combined with succession, may alter or eliminate species or communities.
- Threatened and endangered and other uncommon plants may grow in nonexemplary communities.
- The N.H. Dept. of Environmental Services wetland permit applications require determining if the NHNHB has identified threatened and endangered plants or exemplary natural communities in the wetland. Applicants can use the DataCheck Tool on the NHNHB website to determine whether a plant or community is potentially impacted, or contact the NHNHB.
- Identifying certain threatened and endangered species and natural communities requires specialized training. The NHNHB website includes a list of threatened and endangered plants by habitat type and a photo index of natural communities.
- Working with NHNHB helps avoid or minimize impacts and eliminates or reduces permit effort, cost, and restrictions.

RECOMMENDED PRACTICES

- ✓ Look for threatened and endangered plants and exemplary natural communities during field visits or forest inventories; include your findings and recommendations for their protection and conservation in your management plan.
- ✓ Look for areas with distinct vegetation or extreme site conditions (e.g., very dry, wet, or nutrient-rich) when surveying or working in a harvest area. Contact NHNHB early in your planning for help to determine the presence or absence of protected species and communities in a harvest area.
- ✓ Avoid excessive changes in stand composition and structure, crown closure, forest floor characteristics, and other stand conditions if harvesting in areas with threatened and endangered species and exemplary natural communities. When possible, harvest during the nongrowing season. In general, focus management on communities rather than individual species.

CROSS REFERENCES

1.3 Forest Management Planning; 2.1 New Hampshire Forest Types; 4.2 Wetlands; 4.3 Forest Management in Riparian Areas; 7.2 Seeps; 7.3 Vernal Pools; 7.4 Pine Barrens; 7.5 Old-Growth Forests; 7.6 High-Elevation Forests.

ADDITIONAL INFORMATION

USDI Fish and Wildlife Service. *Endangered Species Act of 1973*. http://www.fws.gov/laws/lawsdigest/esact.html Accessed June 8, 2010.

Maine Natural Areas Program Rare Plant Fact Sheets. http://www.maine.gov/doc/nrimc/mnap/features/plantlist.htm Accessed February 27, 2010.

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RSA 217-A. 1987. N.H. *Native Plant Protection Act*. http://www.gencourt.state.nh.us/rsa/html/XIX/217-A/217-A-mrg.htm Accessed May 27, 2010.

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