

6.7 ASPEN MANAGEMENT

BACKGROUND

Aspen (also known as poplar or popple) stands are the preferred habitat for ruffed grouse, woodcock, Nashville warbler, beaver and other wildlife.

Although aspen is one of the most widely distributed forest types in North America, it is relatively uncommon in New Hampshire covering approximately 2 percent of the state's forest area. Aspen, including trembling aspen and big-toothed aspen, occurs chiefly as a "pioneer" forest type, often growing in close association with white birch. Pioneer types are the first to colonize disturbed areas such as burns and field edges. Big-toothed and trembling aspen are extremely intolerant of shade. They need full sunlight to grow. Disturbances such as fire or clearcutting are needed to regenerate shade-intolerant species such as aspen and white birch. In the absence of disturbance, aspen is replaced by more shade-tolerant trees, e.g., spruce, fir, white pine, or northern hardwoods.

OBJECTIVE

Maintain or expand the aspen type to enhance wildlife habitat diversity.

CONSIDERATIONS

- Aspen seed is extremely small and light. It can be blown long distances but requires exposed mineral soil for successful germination.
- Aspen typically regenerates by root-suckering. When an area containing aspen is clearcut, dormant buds on the roots sprout, often producing several thousand suckers per acre. Because they have an established root system, the suckers (collectively called a clone) may grow 4 feet or more the first year.
- All flowers on an individual tree are the same sex. Male aspens have larger buds and provide more valuable food for ruffed grouse.
- Trembling aspen stands reach maturity and begin to deteriorate at about 40 years old, though deterioration may begin at age 30 on poor sites or age 50+ on good sites. At maturity, aspen trees are generally 10 to 16 inches in diameter at breast height, depending on the quality of the site. Big-toothed aspen grows longer and larger than trembling aspen.
- Once aspen is gone, it is difficult to get it back, requiring cutting aspens to regenerate aspen from root suckers.
- A number of insects and diseases attack aspen. The only feasible method of dealing with them is to keep aspen stands vigorous by harvesting them at an appropriate rotation age.
- Aspen stands managed as feeding and nesting cover for woodcock or grouse are often 1 to 5 acres. Aspen openings as large as 10 to 20 acres are valuable for other early successional songbirds and mammals.
- Older and overmature aspen provide potential nest sites for pileated woodpeckers and other cavity nesters.

RECOMMENDED PRACTICES

- ✓ To regenerate aspen when a stand has at least 10 to 20 square feet of basal area per acre of aspen:
 - Harvest stands before the trees mature and begin to decline in vigor. Fast-growing, pole-sized trees sprout more vigorously than older, slower-growing trees.
 - Create openings with a diameter at least 1½ times as large as the height of surrounding trees to allow sunlight to reach the ground.
 - Clearcut nearly all of the stand; ideally, cut all stems 1-inch diameter and greater to ensure direct sunlight and to stimulate the best root-suckering response. The number of root-suckers is directly proportional to the number of aspen stems removed.
 - Cut aspen when dormant (late autumn through early spring), and avoid disturbance to aspen roots to maximize the density of root-suckers.
- ✓ To increase aspen where it occurs in very small groups or as individual trees mixed with other species such as growing along old woods roads, skid trails, and landings:
 - Locate openings following the above recommendations, so as to cut some, but not all of the aspens.
 - To maximize sunlight and heat exposure to roots and root-suckers, locate openings southwest of the aspens that are kept.
 - Expand these openings in subsequent harvests.
- ✓ Establishing aspen where none exists is more difficult and may require site preparation to enhance the germination and survival of seedlings.
- ✓ Where possible, retain downed logs at least 12 inches in diameter for ruffed grouse drumming.

CROSS REFERENCES

2.1 New Hampshire Forest Types; 2.3 Regeneration Methods; 5.1 Insects and Diseases; 6.4 Overstory Inclusions; 6.6 Temporary Openings Created by Forest Management; 6.8 Beaver-Created Openings.

ADDITIONAL INFORMATION

DeGraaf, R., M. Yamasaki, W. B. Leak, and A. M. Lester. 2006. *Technical Guide to Forest Wildlife Habitat Management in New England*. University of Vermont Press and University Press of New England, Burlington, Vt. 305 p.

Vermont Fish and Wildlife Dept. 1986. *Model habitat guidelines for deer, bear, hare, grouse, turkey, woodcock and non-game wildlife*. The Leahy Press, Montpelier, Vt. 64 p.