

# 6.5 PERMANENT OPENINGS

## BACKGROUND

**Permanent openings up to a few acres in size and dominated by grasses, forbs, brambles, or shrubs provide valuable habitat for many wildlife species.**

Nonforested uplands and wetlands cover a small portion of New Hampshire, but they may contribute a disproportionately high share of wildlife habitat. They provide necessary habitat for about 22 percent of New England's wildlife species and seasonally important habitat to nearly 70 percent, including "species of greatest conservation need" such as eastern towhee and New England cottontail.

Some guidelines suggest maintaining 3 to 5 percent of forest land in permanent openings. The value of these openings depends on the surrounding landscape. They are more beneficial in large areas of continuous forest cover than in areas with a mixture of forest and nonforest habitats.

Permanent openings in a managed forest include (1) remnant meadows, pastures, or orchards on abandoned agricultural land, (2) log landings and roads created during timber harvesting and maintained afterward, and (3) openings where herbaceous forages are planted and maintained as wildlife food plots.

## OBJECTIVE

**Create or maintain permanent openings dominated by grasses, forbs, or shrubs within forest-dominated upland landscapes.**

## CONSIDERATIONS

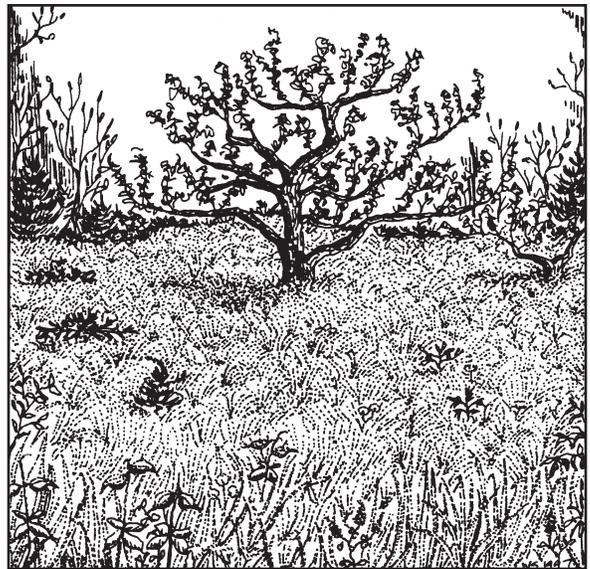
- Openings with a combination of grasses, forbs, brambles, and fruiting shrubs attract and support a greater diversity of wildlife than openings containing less plant diversity.
- Site conditions affect the ability of any given site to support a diversity of plants and structural conditions. Even slight variations in soil moisture or type can result in different plants. Old fields occurring on productive agricultural soils generally revert to a greater diversity of plants and support higher stem densities than do upland forests recently cleared. High stem density is a critical factor in determining habitat quality for species such as American woodcock and New England cottontails.
- Maintaining permanent openings involves a cost. It is usually cheaper to maintain an existing field than to convert a forest into an herbaceous opening. Removing stumps and rocks significantly increases the cost and may require a permit from the N.H. Dept. of Environmental Services. Forest openings maintained as shrub openings often regenerate faster and support greater plant diversity when the stumps aren't removed. Financial assistance may be available to help create and maintain permanent openings.
- It is often more practical, efficient, and cost-effective to create temporary openings as part of regular timber sales, creating new openings in each successive harvest, rather than to create and maintain permanent openings. Small temporary openings can be created by patch cutting trees as part of an annual firewood harvest (6.6 Temporary Openings).
- Openings less than 2 acres usually don't attract wildlife species that don't already occur in the vicinity, though chestnut-sided warblers and common yellowthroats are attracted to small openings. Small openings increase the amount and type of foraging and cover available to species already present.

## 6.5: Permanent Openings

- Openings 5 acres and larger are most likely to attract and support species not already present, especially when created in extensively forested landscapes.
- All openings eventually revert back to trees if they aren't maintained
- Maintaining permanent openings removes some land from timber production. Seeded log landings and woods roads maintained as openings benefit wildlife and remain available for use in future harvests.
- Prescribed fire can maintain permanent openings. Conditions in which fire can be used are specific (e.g., wind speed, temperature, humidity, fuel load) and often unpredictable (7.4 Pine Barrens). Permits are required and trained personnel are needed to plan and oversee the burn. The Natural Resources Conservation Service (NRCS) or UNH Cooperative Extension (UNHCE) can provide more information.

### RECOMMENDED PRACTICES

- ✓ Contact the UNHCE wildlife specialist or a N.H. Fish and Game wildlife biologist for site-specific recommendations such as (1) where to locate openings, (2) the appropriate size to meet your objectives, (3) options for creating and maintaining openings, and (4) information about financial assistance programs.
- ✓ Maintain existing fields, old-fields, wet meadows, pastures, or orchards to develop and keep the type of plants and plant structure desired.
  - Mow openings with grasses or other nonwoody vegetation at least once every three years to keep woody plants from dominating. The plants desired and the site growing conditions determines mowing frequency.
  - Maintain shrub openings by periodically removing individual trees as they begin to overtop the shrubs. Mowing shrub openings often isn't needed once desired shrubs dominate. Remove non-native, invasive shrubs.
- ✓ Mow openings after August 1 since most wildlife have completed breeding and the young are fledged. Specific management objectives may dictate mowing earlier or later than August 1.
- ✓ Rotary mowers (e.g., brush hog), forestry mowers (e.g., brontosaurus, skid-steer mounted mowers), and hand tools (e.g., chainsaw, brush saw) are commonly used to maintain permanent openings.
  - Allow shrub openings maintained with a rotary mower to grow to the point that, if they were to grow any longer, they would be difficult to mow—this usually means mowing about once every 5 years. Rotary mowers mow material up to 1-inch diameter efficiently.
  - Mow shrub openings with a forestry mower about once every 6 to 10 years, depending on the specific mower and how fast the shrubs and trees are growing. Forestry mowers mow woody material larger than 1-inch diameter, with the largest mowers capable of efficiently mowing trees up to 6 inches.



## 6.5: Permanent Openings

- Use chainsaws and brush saws to remove individual trees or small groups of trees as soon as they begin to overtop desired shrubs. Brush saws are generally effective at mowing trees up to 1 inch.
- ✓ Mowing part of the opening one year and the remainder a year or more later maintains a diversity of plant heights and types.
- ✓ Retain old apple trees and prune and release them to maintain their vigor.

### Recommendations for establishing new openings

- ✓ Orient openings to incorporate a variety of soil types. For example, orient the opening to run across, rather than parallel, to changes in soil types.
- ✓ Locate openings so they abut habitat edges such as wetlands, fields, and power lines. These nonforest habitats often contain plants and structure similar to what will regenerate in the openings. Locating openings adjacent to these habitats increases the functional area occupied by that structure and tends to provide a greater benefit than a similar size opening located within a closed-canopy stand.
- ✓ Retain hard and soft mast trees and shrubs, large-diameter trees, and snags along the edges of the openings.
- ✓ Retain pockets of softwoods along the edges as year-round cover. For example, patches of dense, young white pines along the edges of openings often attract eastern towhees and Nashville warblers that otherwise might not use the openings.
- ✓ Make the perimeter of the opening irregular to maximize the amount of edge.
- ✓ Keep slash, coarse woody material, and other cover objects intact in most openings to minimize the effects of soil-drying on amphibians and to provide temporary cover, nesting sites, and perches while the cut regenerates.
- ✓ Remove slash from openings created specifically as singing grounds or nesting and foraging cover for woodcock as it is difficult for woodcock to forage and move through slash.
- ✓ When clearing forested sites, cut trees as low to the ground as practical to ensure full use of harvested trees, to allow for brush hogging, or to ensure browse remains as accessible for as long as possible (i.e., sprouts from tall stumps grow beyond browsing height faster than those from short stumps). Some large stumps and rocks may need removal. If you don't have a way to keep woody plants from invading, removing stumps will be a wasted effort.
- ✓ To convert forest to herbaceous opening, stump and grade to create a suitable seedbed and allow for regular mowing; follow seeding recommendations below.
- ✓ Clear landings and selected woods roads of debris, level and smooth the ground. Plant with a recommended seed mix only if necessary to stabilize the soil, meet wildlife objectives, or improve aesthetics. Otherwise let natural vegetation establish itself. Contact the NRCS or UNHCE for information on site-specific seeding options.
  - If landings and woods roads are planted to high-quality forages such as clovers, chicory, or brassicas, apply lime and fertilizer according to a soil test before planting.
  - Don't spread hay on areas planted to high-quality forages. Hay will introduce weeds and compete with desirable forages.
  - Clover plots require mowing at least three times a year. If mowing only once a year, select a less expensive seed mixture with a combination of perennial grasses and forbs such as clover, vetch, and birdsfoot trefoil.
- ✓ Don't plant invasives, and regularly inspect openings for invasive plants introduced by birds or other means.

## **CROSS REFERENCES**

3.3 Aesthetics of Skid Trails, Truck Roads and Landings; 5.2 Invasive Plants; 6.6 Temporary Openings; 6.13 Wildlife Species of Greatest Conservation Need; 7.4 Pine Barrens.

## **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.

Olson, D., and C. Langer. 1990. *Care of Wild Apple Trees*. UNH Cooperative Extension, Durham, N.H. 8 p.

Tubbs, C.H., and L.J. Verme. 1972. *How to Create Wildlife Openings in Northern Hardwoods*. USDA For. Serv. NA—State and Private Forestry. 6 p.