3.7 CAVITY TREES, DENS AND SNAGS

ISSUE **Retention of snags (dead or partially dead standing trees) and den trees (live trees with existing cavities) helps to maintain populations of cavity-nesting wildlife.**

Table 1.
Minimum tree diameters for cavity-using species *(From Tubbs et al 1987, Harrison 1975)*

<8"	>18"
Black-capped chickadee*	Wood duck
Downy woodpecker*	Common goldeneye
Boreal chickadee*	Hooded merganser
Tufted titmouse	Common merganser
House wren	Turkey vulture
Winter wren	Barred owl
Eastern bluebird	Pileated woodpecker*
	Silver-haired bat
	Gray squirrel
6-12"	Red squirrel
Northern saw-whet owl	Porcupine
Hairy woodpecker*	Marten
Yellow-bellied sapsucker*	Fisher
Red-breasted nuthatch*	Long-tailed weasel
White-breasted nuthatch	
Brown creeper	
Chimney swift	**>24"**
Southern flying squirrel	Little brown bat
Northern flying squirrel	Big brown bat
Ermine	Gray fox
	Black bear
	Raccoon
12-18"	
Eastern screech-owl	
Three-toed woodpecker*	* Primary cavity excavators
Black-backed woodpecker*	
Northern flicker*	
Great crested flycatcher	
Northern long eared bat	
Indiana myotis	

Ten species of New Hampshire's forest birds excavate cavities for nesting and roosting (*Harrison 1975*); another 15 birds and 18 mammals use natural or excavated cavities in forested habitats for nesting, roosting, or denning (*Tubbs et al. 1987*). In addition, the brown creeper nests under loose flaps of bark, attached at the top, on standing dead trees. These species require a range of cavity-tree size classes to provide suitable shelter (Table 1). Larger trees accommodate more species.

OBJECTIVE

Maintain cavity and den trees, particularly trees with diameters exceeding 18 inches.

CONSIDERATIONS

- U.S. Occupational Safety and Health Administration (OSHA) regulations regarding dangerous tree removal should be consulted prior to timber harvesting. These regulations may be in conflict with the recommendations of this section. They require the removal of all snags by mechanical means. If the tree is to be left standing, it must be marked and no work conducted within two tree lengths of the tree, unless the employer demonstrates a shorter distance will not create a hazard for an employee.
- Providing for cavity trees in uncut patches and/or focusing on the following choices for retention trees will minimize safety issues: live trees with natural cavities or woodpecker holes, broken-topped live trees exceeding 12-inch DBH, secure standing dead trees, especially those with top-attached bark flaps, large aspens, longer-lived species (white pine, red spruce, eastern hemlock, sugar maple, beech, yellow birch), and/or saw-timber size individuals of species which persist for long periods as standing dead trees (yellow birch, sugar maple, elm, oaks, white pine).

- Riparian zones, roadside buffers, scenic areas, and small uncut patches contribute to snag retention goals for an ownership.
- Even distribution of snags on the landscape is desirable for some species, but there are many benefits to clumping snags as well (*Elliott 1988*). Uniformity is not always operationally practical or desirable.
- On smaller ownerships it may be necessary to manage snags on an acre by acre basis; on larger ownerships it is usually more practical to take a landscape-level approach — making sure that some areas of the ownership emphasize snag retention, while in other areas less priority may be placed on snag retention.

RECOMMENDED PRACTICES

✓ In areas under uneven aged management, retain a minimum of 6 secure cavity and/or snag trees per acre, with one exceeding 18 inches DBH and 3 exceeding 12 inches DBH *(NHDRED 1995)*. In areas lacking such cavity trees, retain trees of these diameters with defects likely to lead to cavity formation.

✓ In areas under even aged management, leave an uncut patch for every 10 acres harvested, with patches totaling 5% of the area *(USDA Forest Service 1986, Elliott 1988)*. Patch size may vary from a minimum of 0.25 acre. Use cavity trees exceeding 18 inches DBH or active den trees as nuclei for uncut patches. Remember, the larger the tree, the more species that can use it. Riparian and other buffers can help to satisfy this goal.

✓ Retain live trees with existing cavities.

CROSS REFERENCE

Wetlands and Riparian Areas 2.1; Overstory Inclusions 3.1; Mast 3.6; Dead and Down Woody Debris 3.8; Forest Structure 5.2.

LITERATURE CITED

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