



CENTRAL HARDWOOD NOTES

Enhancing Wildlife Habitat When Regenerating Stands

Forest regeneration cuttings affect wildlife habitat more drastically than most forest management practices because a mature forest stand is replaced by a young sapling stand. Regeneration cuttings quickly provide habitat for many wildlife species but they also influence wildlife use of the new stand and adjacent areas throughout the rotation. Retaining snags, cavity trees, potential snags, and den trees in regeneration areas and excluding certain areas from harvest will benefit many wildlife species. (See Note 9.07 Stand Size, Distribution and Rotation Length *for Forest Wildlife*, for other important factors affecting wildlife.)

Overstory Composition

The regeneration method you use influences the species composition of the new stand (see Note 2.04 Choosing a Silvicultural System). Even-aged silvicultural systems or group selection cuts are preferred for regenerating central hardwoods because they favor oaks and other intolerant species. They generally benefit wildlife as well. Mast is an excellent food for many wildlife species in this region, and acorns are especially important. A mixture of both red and white oaks is desirable. Other mast producing trees preferred by wildlife are American beech, hickories, and black walnut.

Cover is often the most important benefit provided by regeneration. For example, sapling and young pole stands provide cover for grouse and woodcock, but only if sufficiently dense. Abundant herbaceous and young woody vegetation in regeneration cuts also provide deer browse. Providing adequate regeneration will benefit both wildlife and timber production.

Slash

Excessive slash in regeneration cuttings hinders movements by deer and ground foraging birds such as ruffed grouse. Grouse prefer good visibility at ground level. If you have difficulty walking through a regeneration cut, or cannot see in most directions at ground level, slash may be too thick for these ground foraging species. Firewood cutting or controlled burning can be used to reduce slash in extreme cases. Moderate amounts of slash are tolerated by these species and provide cover and forage for other wildlife. However, areas of dense slash may protect desirable tree species from over-browsing. The forest practitioner will have to consider all management objectives when deciding upon slash reduction.

Snags and Cavity Trees

Snags and cavity trees are needed by as many as 90 wildlife species in central hardwood forests. The presence of snag- or cavity-using wildlife depends on the tree size or successional stage of the stand. For example, bluebirds and great-crested flycatchers will use cavity trees that are left in clearcuts while barred owls

and white-breasted nuthatches use mature stands. Other species such as the downy woodpecker, red-bellied woodpecker, and black-capped chickadee will use any stand with sufficient snags or cavities.



Leave some snags and live trees with cavities.

The recommended numbers of snags and live cavity trees you should leave in regenerated stands are shown in table 1. Retain the soundest cavity trees present. Give preference to live cavity trees. Consider snag and cavity needs for the entire rotation when making the cut. Many snags and cavity trees left when the stand is regenerated will blow down during the early part of the next rotation. Also, large cavity trees may take 100 to 150 years to develop, longer than the typical rotation age. By retaining some live, mature trees along with snags and cavity trees, you may meet some of the future cavity and snag needs of wildlife. If snags are too scarce, girdling is an inexpensive and effective method to create them.

Snag, cavity, and potential snag and cavity trees can be retained as individual trees or in small clumps. While individual trees may provide better wildlife dispersion, they are subject to wind, lightning, dieback, or mortality after cutting. Retaining one or two live trees with each snag or cavity tree may provide added protection. Alternatively, you can meet cavity and snag requirements by retaining clumps of trees, such as two 1/6-acre clumps or one 1/3-acre clump per 5 acres of regeneration. Some live trees could be retained in each group as potential cavity trees and protection from wind.

Table 1 .-Minimum and optimum numbers of snag and live cavity trees per acre for wildlife

D.b.h. (Inches)	Upland forest				Bottomland forest			
	Live cavity trees		Snags		Live cavity trees		Snags	
	Minimum	Optimum	Minimum	Optimum	Minimum	Optimum	Minimum	Optimum
6-10	1	≥2	1	≥2	5	≥ 9	1	≥2
10-19	2	≥4	2	≥4	7	≥14	2	≥4
>19	1	≥1	0	≥0	1	≥ 2	0	≥1

(Adapted from Titus 1983)

Exclusion From Harvest

Excluding designated stands from regular timber harvest will eventually provide old growth habitat for certain wildlife species. Distinctive features which make old growth valuable for wildlife include a well developed understory and subcanopy and many large cavity trees. Old growth stands and valuable wooded streamside habitats can be protected by excluding from timber harvest a strip at least 100 feet wide along each side of permanent water courses. The size of the area excluded from harvest will depend on your management objectives. If wildlife is to be considered at all, exclude at least five percent of the forest from harvest. For wildlife that needs old growth or mature forest habitat, you should exclude 15 percent or more. Consider stand size too. If the forest property is small, consider cooperating with neighbors, because small, isolated, old growth and mature stands will not provide the wildlife benefits of large contiguous stands.

Management Objectives

Your management objectives should determine what practices you follow to improve wildlife habitat when stands are regenerated. If wildlife diversity is important, provide the optimum numbers of snags, live cavity trees, and old growth to meet current and future needs. If your objective is to feature wildlife that use seedling and sapling stands (such as ruffed grouse), retaining too many small clumps of trees can decrease regeneration density and provide poorer grouse cover. Or, if your primary objective is timber production, with wildlife secondary, snag and live cavity tree requirements can be met by using a single clump of trees 1/3-acre in area per every 5 acres of regeneration.

References

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