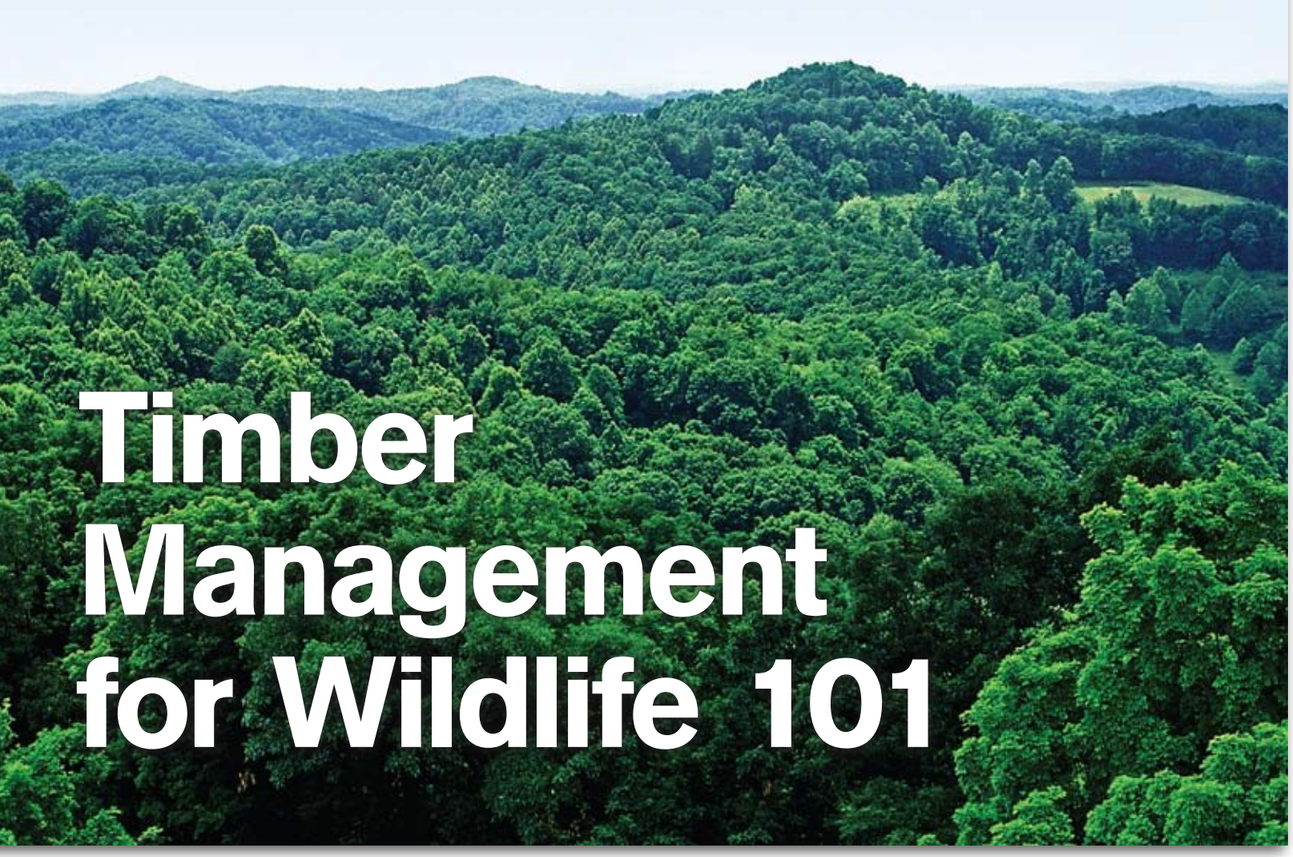

Ron Snow

# Timber Management for Wildlife 101

By Terry Jones

Often landowners don't associate timber harvesting in a positive way with wildlife. What they fail to realize is that they have the power to decide how their timber is to be cut, and that it can be accomplished in a positive way through applying sound forest management with wildlife considerations. Landowners have the best opportunity to increase wildlife populations by wisely using their forest resources. Timber can be used as the monetary tool to create wildlife habitat while paying the mortgage and college education, and keeping up with inflation. Unlike oil and gas exploration, coal mining and commercial development, logging is harvesting a renewable resource. This means that after the resource is used, it will regrow if management is done correctly.

To effectively apply forest management to their woodland, landowners must first deal with their own perceptions. They must understand that forests are dynamic systems that change. They should not be naive and believe that trees will maintain good health forever. Humans have had an impact on nearly all forestland, whether by forest clearing for agriculture, mining and development, logging, introducing nonnative invasive species or burning. Even with all of man's intrusion into the forest, West Virginia remains over 78 percent forested.

One of the most productive uses of the forest resource is to create and maintain wildlife habitat. Prior to harvesting timber, a landowner needs to prepare a pre-harvest plan which includes wildlife considerations. All too often, wildlife management is considered as an afterthought, only because most people are enthralled with the revenues they are anticipating to receive from the sale of their timber. When contemplating a timber harvest, landowners need to decide what type of forest management, or silviculture, will give them the biggest bang for their buck. Silviculture may be defined as the theory and practice of controlling forest establishment, composition and growth. They will then have to decide on an even-aged silviculture system under which nearly all the trees are the same age, or an uneven-aged silviculture system which includes a variety of age classes.



In a landowner's pre-harvest plan, an inventory of tree species, forest types, and sizes and ages of trees need to be determined. Using the existing inventory, landowners must decide what species of wildlife they would like to benefit most and the silvicultural system that would most efficiently and economically address the objectives of the timber sale.

Even-aged management in West Virginia for wildlife usually involves clearcutting and shelterwood methods. The clearcutting method removes all trees in an area to allow the growth of tree species that are intolerant of shade, such as young oak and black cherry seedlings. Clearcutting will provide early successional forest habitats so important for species such as the golden-winged warbler and many other songbirds, ruffed grouse, woodcock, white-tailed deer and snowshoe hare. An early successional forest is the initial growth after the trees are cut and typically consists of tree sprouts, grasses and shrubs.

If there are high populations of deer on your property, you should plan clearcuts to be at least 10 acres in size so as to overwhelm the deer with available browse. Otherwise your tree seedlings will not survive. The logging slash (logging debris and tree tops) left in the harvest area, which arouses criticism from uninformed spectators, actually protects seedlings from deer browsing, adds nutrients to the soil, and provides shelter beneficial to many critters. Also consider liberalizing the deer hunting opportunities on your property. Sometimes you may need both to successfully regenerate a timber stand. It is important for landowners to understand that if adequate numbers of preferred seedlings are already established prior to logging, a clearcut should produce a new stand with the landowner's desired species.

Terry Jones

*Huttonsville WMA – A new forest stand three years after being clearcut. Stand has strong oak component. View is looking down reclaimed skid road.*

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*Bluestone WMA – A clearcut in an area with a high deer population. Heavy logging slash left to help protect new seedlings and sprouts from deer browsing.*

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*Chief Cornstalk WMA – A log skidder pulling a log carefully passes between leave trees to prevent damage to them. Leave trees are marked with an orange ring.*

The other important even-aged system of cutting for wildlife-conscious landowners is the shelterwood method. This is the most applicable cutting method to establish wildlife friendly and mast-producing trees when seedlings are not already established before the timber harvest. All too often, in West Virginia, due to past cutting practices and scattered overpopulation of deer, among other reasons, we don't have desirable species established in the understory (lowest level of vegetation in the timber stand).

To compensate for this lack of desirable plants close to the ground we need to remove the trees by partially cutting the stand two or more times. To accomplish this, superior trees must be left, evenly dispersed across the cutting area. These trees will provide seed and shelter for the establishment of seedlings and the eventual regeneration of the forest. Once the new seedlings are established (usually three to ten years, depending on the species), it will be time to remove the trees that were initially left during the first cut. Shelterwood cuttings are applicable to the mixed oak and northern hardwood (with black cherry trees) forest types in West Virginia, in addition to other forest types. Black cherry has become more important at higher elevations within West Virginia because another important wildlife species, American beech – a favored mast producer – is succumbing to beech bark disease and is rapidly disappearing from the forest.

The alternative to even-aged management is uneven-aged silviculture, which primarily consists of single-tree and group selection. The single-tree method involves individually selecting trees based on pre-set criteria established by the landowner, which may involve timber value, species and tree vigor.

Group selection removes a group of trees, again designed by pre-harvest criteria. The most common

harvest covers a ¼-acre to two-acre stand. Because there will be considerable number of tall trees left after each cut, shade tolerant species such as sugar maple and birch can become established. These offer limited benefit for wildlife. The selection method can be modified into a "conditioning cut" system, which will thin stands in order to optimize mast conditions for high value wildlife trees such as red, black and white oak. Gray squirrels and scarlet tanagers may benefit from the selection method. The continuity of the forest canopy will exhibit minimal changes under this method.

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*Bluestone WMA – Active tree cavity used by squirrels. This tree would not be cut in a timber harvest planned with wildlife considerations.*

Landowners need to know that there are many modifications to even-aged and uneven-aged forest management that are beneficial to wildlife. Many wildlife management practices may be used to supplement the harvest methods previously mentioned. Log landings can be converted into wildlife clearings and planted in clover and annuals (oats and winter wheat) to create turkey and grouse brood habitats. Shelterwood cuts can be modified into oak savannahs, which are heavily thinned oak stands with herbaceous understories maintained by prescribed fire or mowing. Logging equipment can be used to construct small water holes, used by many species of wildlife. For example, bats frequent water holes to feed on the abundant insects flying above the water's surface. Leaving snags (dead trees) and cavities will benefit wildlife such as woodpeckers, raccoons as well as West Virginia endangered species such as the Virginia northern flying squirrel and Indiana bat. Cutting back woody growth on field borders to encourage saplings and shrub growth to revitalize edge habitat is another beneficial wildlife practice. Many other ways exist to help wildlife with timber dollars. Study your favorite species and be creative with habitat.

Applying the concepts of diversity and interspersion is basic to wildlife habitat improvement. Diversity refers to the amount of variation in plant communities. High plant diversity results in a high diversity of animal populations. Diversity can be created by applying either even-aged or uneven-aged harvest methods, or a combination of both. The result will be a habitat with different tree species and ages melding together to create edges. A diversity of forest age classes will appeal to a variety of wildlife species.

Applying interspersion involves creating a diversity of successional stages and vegetation types within the travel range of the wildlife species under consideration. An example would be the dilemma of cutting a 40-acre clearcut block versus four smaller 10-acre cuts. The smaller cuts would intersperse open areas with forests in four places within the property. Diversity and interspersion can be combined to create wildlife habitat where many species of wildlife find places to forage, escape from predators, nest and breed.

Before attempting a timber harvest, a landowner needs to realize that no silvicultural system is universally good or bad for all wildlife species within a property. Fist prioritize your preferred wildlife species for management purposes. Then review what the property offers in the way of forest types, tree species present and availability of markets to handle certain tree species and tree diameters. To complete your pre-harvest plan, think about what possible detrimental effects your actions may have upon your woodland and surrounding properties. Two important cautions a landowner needs to exhibit when contemplating a timber sale is whether non-native invasive species are present on the property and whether there is a possibility that the planned harvest will introduce or help establish such species from areas adjacent to the property. Japanese stiltgrass, garlic mustard, tree of heaven, tartarian honeysuckle and asiatic bittersweet are some of the invasive species that will displace native vegetation and literally take over your woodland if not controlled.

Remember, harvesting your timber is not the removal or eradication of the forest. With the application of sound forest management, it is the regeneration or renewal of the forest.

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