

# Forest and Wildlife Benefits on Private Land



## *Firewood and Wildlife Habitat Improvement*

**A**s homeowners look for ways to reduce heating costs, more have begun to cut firewood from private woodlands. If carried out properly, this cutting can improve the quality of the remaining trees as well as improve the wildlife habitat of the entire woodlot. If carried out improperly, however, it can do more harm than good.

Two factors will determine whether firewood cutting is beneficial or harmful: (1) which trees are re-

moved and (2) the amount of space the remaining trees have to grow. At times, trees with little commercial value may be very beneficial to wildlife. At other times, the amount of space left between trees may be good for growing tall straight trees, but may be bad for encouraging ground vegetation which will benefit wildlife. Therefore, tree selection and spacing decisions require careful attention and knowledge of both wildlife and forest requirements.

### **Tree Selection**

When making tree selection decisions, there are three main groups of trees to consider: crop trees, firewood trees, and surplus trees.

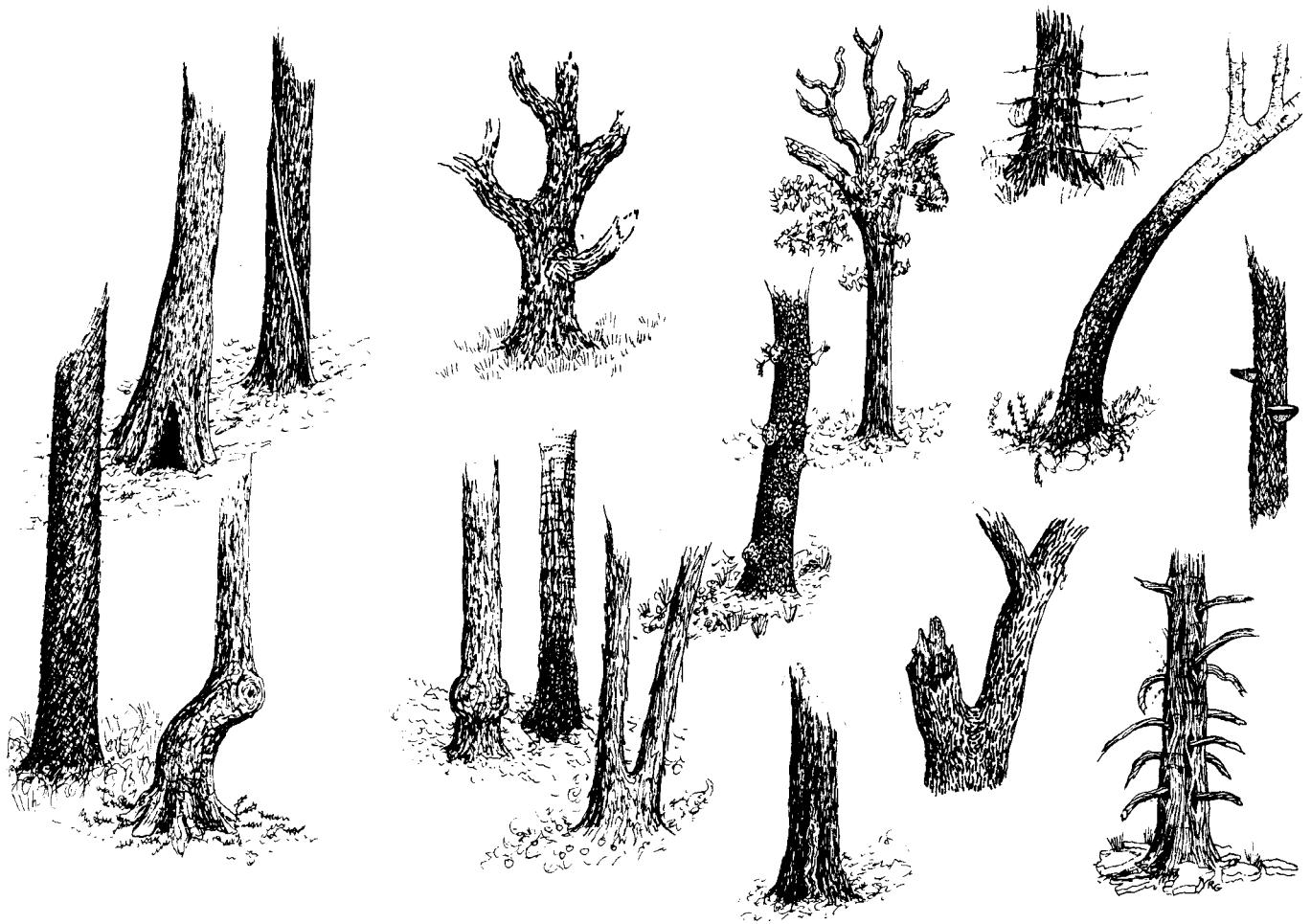
Crop trees are those which have the highest value for the landowner's objectives and which will be allowed to grow the longest period of time. For example, trees grown for wildlife should have characteristics that satisfy wildlife habitat values. Trees grown for wood products should have tall, straight, clear trunks free from large dead branches, insect or disease damage, fire scars, decay or mechanical damage. They should have a full, healthy crown at the same height as other trees in the stand. These dominant trees should be encouraged more than the suppressed trees that are growing under them. Once the crown of a tree is overtopped by competing trees, thinning the stand will seldom restore it to a dominant position.

The second group of trees to consider are those which will be removed in future firewood thinnings, but are needed in the meantime to fill growing space. When managing for wood products, it is important to keep the proper number of trees on a given acre in order to take full advantage of the space available. Too many trees crowded in one space will not reach their full growth potential. Too few trees will waste growing space and may produce large lower limbs which reduce tree value. However, some kinds of wildlife would prefer the open spaces and would utilize trees of poor timber quality.

The final category of trees to consider are the surplus trees which will be cut in the first thinning. These trees are the least desirable in the stand because of species or form. Things which make the trees in the



*By removing some trees those left can take full advantage of the available space.*



***Obvious defects or poor form are indications that a tree could be removed.***

second and third categories undesirable as crop trees for timber are:

- ▶ undesirable species,
- ▶ multiple sprouts from one stump,
- ▶ low-forked or crooked,
- ▶ swellings or bumps on the trunk which indicate internal damage,
- ▶ fire scars or other damage to the trunk, or
- ▶ cull trees or wide-spreading trees with excessive limbs.

When improving the stand for wildlife habitat, it is often desirable to leave some of the trees from groups two and three, and it may be desirable to cut a tree from group one.

Trees to leave for wildlife habitat are:

- ▶ den trees; living trees with a cavity. Leave up to seven per acre.
- ▶ wolf trees; trees with a short trunk but wide spreading crown. These are especially important if they pro-

duce large amounts of mast (acorns or nuts) and are in an area dominated primarily by small trees that have not reached mast producing age. Leave up to one tree per 2 acres.

- ▶ tall fruiting trees such as hackberry, black cherry, mulberry, blackgum, and persimmon.

Many landowners commonly select standing dead trees (snags) as their first choice for cutting firewood. However, snags often do not make very good firewood since they are already partially rotted. A snag has, or may eventually have, a cavity which can provide nesting habitat and food for birds and other wildlife. Even when it falls to the ground, a snag will continue to provide habitat for several kinds of wildlife until it is completely decomposed and incorporated back into the soil.

Snags do not affect the growth of other trees since they are not using any of the available sunlight, soil moisture, nutrients, or growing space in the woodlot. If your woodlot lacks snags, you can girdle living trees that are not

already den trees, rather than cutting them for firewood. Seven snags larger than 6 inches in diameter per acre are recommended.

Avoid attempts to make your woodland look like a park by removing brush and small trees in the understory. Low growing fruiting shrubs (ironwood, redbud, dogwood, hawthorn, serviceberry, hophornbean, sassafras, and many others) are important to wildlife because they provide food and cover without severely competing with the taller trees. They would take unneeded effort and expense to remove.

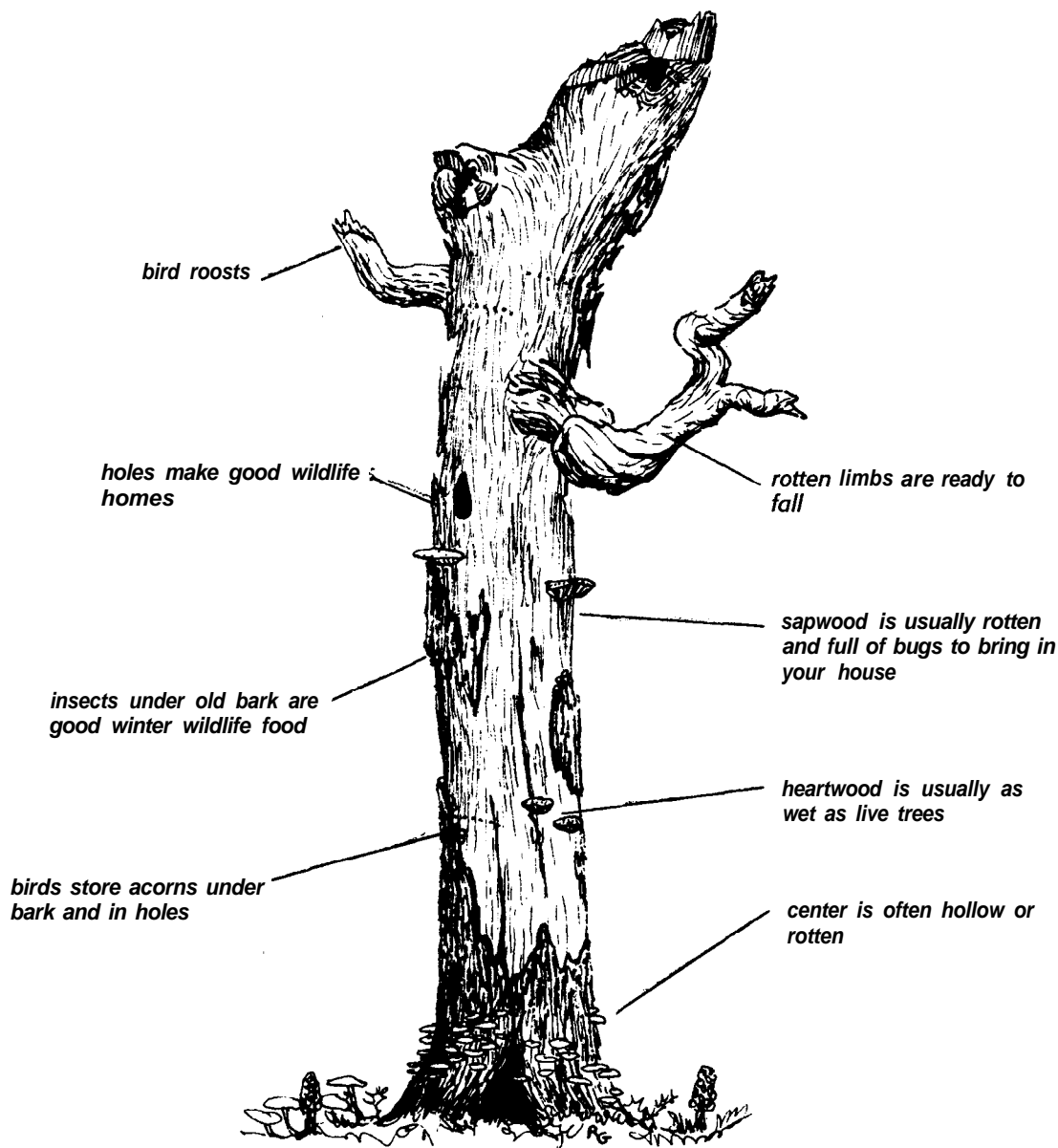
## Tree Spacing

Besides carefully selecting which trees to remove, firewood cutters must also pay close attention to the amount of space between remaining trees. Trees growing close together have smaller root systems than less-crowded trees.

Suddenly opening the stand by cutting can create conditions for windthrow.

For commercial timber purposes, spacing should be great enough between crop trees to allow them ample sunlight and soil moisture, yet the trees should be close enough to encourage natural pruning of the lower limbs. For wildlife habitat purposes, spacing between crop trees should be somewhat greater. This will allow more sunlight to reach below the tree crowns, encouraging ground vegetation to grow for a greater number of years.

To decide how much space to leave, landowners can use the "diameter times two" rule of thumb. To apply, determine the average diameter of the trees in the stand, measured in inches. Multiply this number by two to get the number of feet to be left between the trunks of the remaining trees. For example, in a stand where trees average 4 inches in diameter, the desired spacing is 8 feet. If the average diameter is 6 inches, the desired spacing is 12 feet.

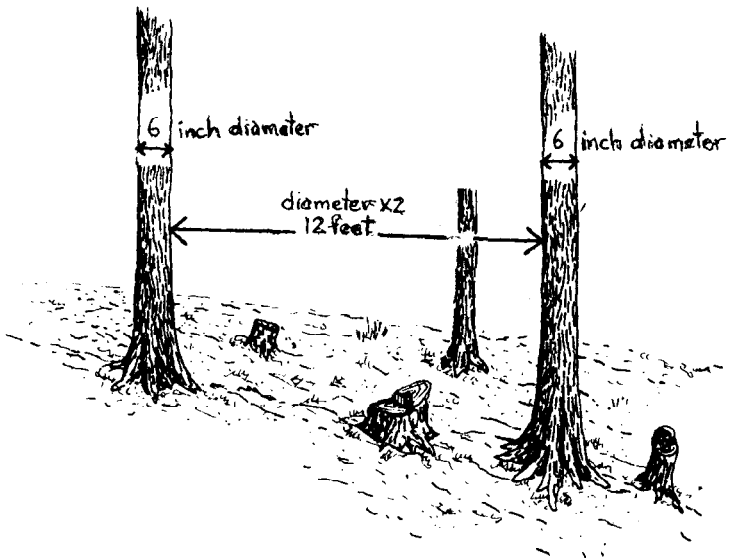


*Standing dead trees have little firewood value but are important to wildlife.*

This rule of thumb provides relatively close spacing and is suitable for maximizing wood products. To help wildlife more, add 2-4 feet to the spacing recommendations.

Whether from a timber or from a wildlife standpoint, remember to measure the distance between the trunks of dominant trees. Since trees do not naturally grow evenly spaced and come in many sizes, it is impossible to strictly follow any rule of thumb. For instance, two good trees may be left with their crowns touching. If they have enough open space on two other sides, they will have enough growing room. In crowded stands, it may be necessary to remove some good trees as well as the defective ones to maintain proper spacing.

Using these recommendations, simply try to get as close as possible to meeting individual spacing requirements. For additional assistance, contact the Missouri Department of Conservation forester in your area.



The "diameter times two" rule provides adequate spacing.

Several layers of tree heights provide diverse habitat.

