

CENTRAL HARDWOOD NOTES

Treating Immature Stands For Wildlife

Immature stands include those up to 60 years old or in the sapling, pole, and small sawtimber size-class. Immature stands, particularly in the sapling or pole stage, present a challenge to the wildlife manager. Compared to either younger regenerating stands or more mature stands, pole-size trees do not provide much mast or forage beneficial for wildlife (fig. 1).

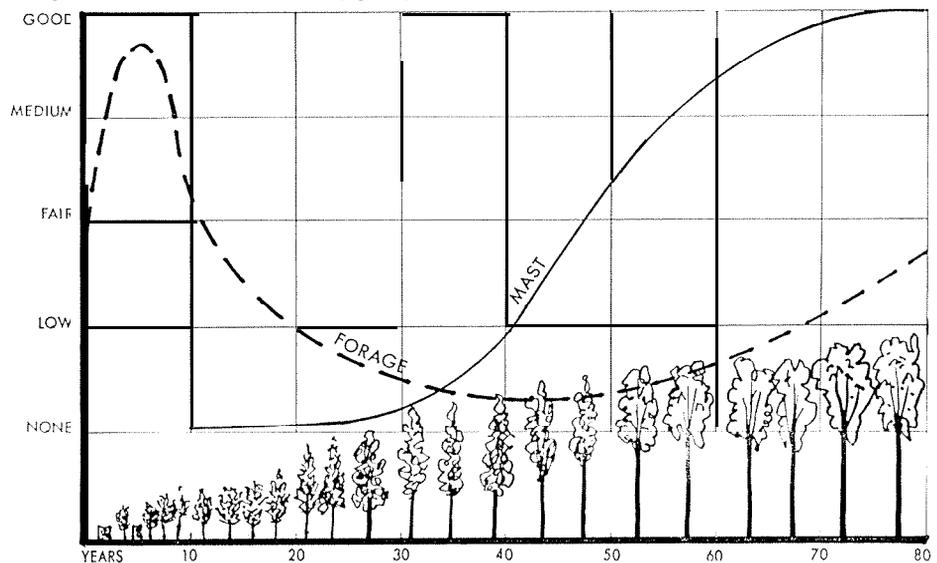


Figure 1 .-Relationship of mast and forage production to stand age for even-aged central hardwood stands.

There are good reasons for the scarcity of wildlife food and cover. Immature stands consist mostly of trees too young to produce abundant mast and too small to provide many dens. Although these stands are usually well-stocked, stem density in pole stands is well below that of seedling-sapling stands which provide the best cover for ruffed grouse, rabbits, and other small mammals. Slash left from the regeneration cut has decomposed by the pole stage. Blackberries, grasses, and forbs abundant in regenerating stands have been shaded out and the shade-tolerant undergrowth characteristic of mature stands has not yet developed. So immature stands tend to be deficient in five important habitat elements: herbage, browse, cover, mast, and cavities.

The options for treating immature stands are often limited by the small size and low value of the trees. Precommercial practices can be used, but in many cases it is best to do nothing and reschedule an examination in 5 or 10 years. The abundance of herbage, browse, mast, and cavities will increase as the stand matures. It is important to remember that in a managed forest the quality of wildlife habitat depends on the entire mosaic of a number of individual stands. It is not necessary to "improve" every pole stand when habitat is provided in nearby younger and older stands.

However, when thinning is practical it can increase herbage and browse, and release mast and cavity-producing crop trees. Thinning to promote understory development for wildlife requires heavier cutting than is usually done for timber production alone. In general, you should thin toward C-level stocking, rather than B-level (see Note 5.02 Stocking *Chaff for Upland Central Hardwoods*). Consider completely releasing the crowns of mast producers and den trees. The gap in the canopy around the ‘wildlife crop tree” will also improve herbage and browse production.

When marking immature stands for thinning, do not discriminate on a species basis; work with what is available in each stand. Favor uncommon species over common ones, good form over poor form, vigorous trees over weak ones, mast producers over non-mast producers, and trees with dens or nests. Thinning at about 10-year intervals will promote understory development, and the temporary disturbances are not detrimental to wildlife.

Retain den and nest trees during thinnings. The best den and nest trees are alive and vigorous. They have internal columns of decay which formed where a large limb was lost or some other injury occurred. Active mammal dens often have fresh gnawing on the callous tissue around the entrance, and bird nest holes will have smooth, worn entrances. In young stands, trees left during the last harvest often provide the only large den trees. Save residuals that have the potential to survive until the next thinning, can produce mast, or have active dens or nests. All trees with mammal dens or woodpecker nests should be reserved from cutting.

Saving all den and nest trees will generally have little impact on timber volume or stand quality. For example, in Massachusetts oak stands, trees with dens and nest cavities accounted for an average of 3.8 percent of the total basal area. Most of the rough cull and rotten cull trees did not contain cavities and could be removed during timber stand improvement.

About half of the cavities in trees are not suitable for dens or nests where young animals can be reared. Although we do not place high priority on these trees, they should be cut only when there is a good silvicultural reason for doing so. Dead trees should be cut only when they can be used or sold.

William M. Healy
Northeastern Forest Experiment Station
USDA Forest Service
Amherst, Massachusetts

Garry F. Houf
Mark Twain National Forest
USDA Forest Service
Rolla, Missouri