



Hardwood Corridor Thinning: An Alternative Forest Management Practice

Figure 1

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Throughout the U.S. there is an abundance of family-owned hardwood Tree Farms having forests that are over-stocked and are experiencing reduced growth. These forests have potential of producing quality hardwood timber at rates faster than current growth indicates. The average growth rate on individual trees is restricted, often increasing only one-to-two inches in diameter per ten years.

The Situation

Time and again the owners of these Tree Farms desire to begin thinning their forests and even seek technical assistance for that purpose. Yet, professional foresters often have difficulty with management recommendations due to a lack of product marketability, or landowner objectives and/or financial constraints. For instance, commercial thinning may

not be viable because markets for small or poor quality trees are either non-existent, or extraction is not profitable. Further, the expense of rehabilitation practices such as timber stand improvement is simply out-of-reach for the landowner. In cases such as these, professional foresters typically recommend doing nothing and suggest re-evaluating the Tree Farm in ten years. Although this recommendation has application, many landowners desire revenue-generating, active forest management, and are simply not accepting of the “do nothing and wait ten years” recommendation. They are seeking a new and innovative method that both improves the forest and provides income.

A Possible Solution

“Mechanical thinning” is a forest management practice regularly applied in

conifer (pine) Tree Farms during early and mid-rotation. Mechanical thinning could be applied in dense hardwood Tree Farms, too. With this, trees are harvested without regard to their species, quality, or crown position. Rather, trees are designated for thinning based on a predetermined spacing or pattern. Mechanical thinning can be applied both pre-commercially (in overstocked sapling stands) or commercially (when markets exist for the trees to be thinned).

Thinning forests accomplishes several things: alters or improves species composition, redistributes growth to fewer but more desirable trees, reduces stocking, shortens rotation, improves tree (and forest) health, diversifies wildlife habitat, and when possible, provides moderate income. Mechanical thinning is normally overlooked in the management of hard-

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wood stands, yet most of the above-mentioned benefits can be realized. Here is introduced *hardwood corridor thinning*.

The Procedure

Implementing hardwood corridor thinning (HCT) requires cooperation between landowner, forester, and logger. Adequate local markets must also exist for the products to be harvested, typically pulpwood and small sawtimber. Occasionally larger sawtimber may be present depending on the previous land use.

HCT is not a complex model to implement. Essentially one-third of the trees are removed by harvesting linear strips, or *corridors*. Typically the corridors are 20 feet wide, repeated on 60-foot centers. All trees within the 20-foot corridors are harvested, and 40 feet of undisturbed trees on either side of the corridors are left. The sequence is then repeated.

In some cases, trees within the corridors are actually delineated for removal by professional foresters, while in other cases the loggers are directed on the thinning design and they are allowed to create the corridors themselves. Once the thinning is complete, the corridors are obvious when viewed linearly (figure 1), but are much more discrete when they are viewed from a radial direction (figure 2).

Modifications

Modifications in HCT can be made to suit a variety of ownership objectives, and include:

- Along with harvesting all trees within the corridors, additional thinning (or crop tree release) can be conducted in the 40-foot retention areas, thereby more fully releasing future crop trees. This will help avoid the development of lop-sided crowns that potentially form from a one-sided release.
- Rather than aligning the corridors in a systematic, linear fashion, they can be aligned to follow elevation contours creating a more natural (or wave-like) appearance.



Figure 2

- The corridors can periodically be shifted to harvest around especially desirable trees, leaving them for the future.
- “Swells” within the corridors of one-half acre or more can be made to enhance wildlife nesting and other habitat needs.

Unsolved Questions

HCT is an under-utilized forest management practice with some uncertainties. Often fresh approaches are first tested and analyzed, then modified and implemented. Presently, research is lacking but developing in this area of hardwood management. Unsolved questions and genuine concerns exist. For instance, the propensity of the crop trees located along the corridor edge to become damaged could be problematic. Damage can result from epicormic (undesirable) branching, wind throw, or the logging operation itself. There is also uncertainty with the composition and quality of the regeneration (new seedlings) that originates within the corridors following the harvest. Another hesitation relates to

the appearance and utility of a forest. To many landowners, the corridors will be considered an improvement by providing access for recreation, vistas for wildlife viewing, and lanes for fire protection and hunting. Others may dislike the linear appearance.

Concluding Remarks

Hardwood corridor thinning offers a means of providing a modest income in some forest stands that have been traditionally overlooked or left unmanaged. It offers a “walk lightly” approach with minimal disturbance or damage to the residual trees, enhancing conditions for wildlife and recreation, all while retaining or even enhancing aesthetic values.

Landownership objectives change and forest management techniques should move concurrently. Many landowners claim scenery, wildlife, and hunting as higher ownership objectives than timber production. For them, alternative forest management approaches are needed to improve the forest and provide periodic timber income, without compromising the other benefits (figure 3). Most professional foresters and landowners desire to maintain flexibility for future management considerations. HCT may be the opportunity they seek. 📌



Figure 3