

Virginia's Future Hardwood Forests: Improvement Through Intentional Management

By: Joe Rossetti, Virginia Department of Forestry

Virginia's forests face many challenges, as described by Dr. Carter in the Spring edition of the Virginia Forest Landowner Update Newsletter (<https://forestupdate.frec.vt.edu/newsletter/archives.html>). However, a quick review of their history gives us hope. Virginia's forests have faced many challenges in the past and fortunately, they have shown much resilience.

Virginia was, at one time, just 20% forested. The forested areas were typically inaccessible because of steep slopes, rockiness, or swamps. Virginia is now about 62% forested. This means that 2/3 of today's forestlands had crops or cattle on them at some point in the last 150 years. Your forest probably had crops or cattle instead of trees.

The largest State Forests in south-central Virginia were worn-out crop lands when they were purchased from private landowners and made into State Forests. The first forestry assessment of them was that they were the worst sort of land, not suitable for growing anything. Today they are beautiful forests, growing their second or third generation of trees, and generating enough income through timber harvesting to be financially self-supporting.

Many of Virginia's current hardwood forests were clearcut multiple times to supply wood to make charcoal used in iron production. Large amounts of fuel, in the form of harvesting residue (branches and limbs), and sparks from the trains used to extract the logs, meant that severe fires were frequent in these areas. Fortunately, harvests, fires, and abandoned agricultural land have resulted in today's



Hardwood charcoal was used to fuel iron furnaces. It is estimated that it took an acre of wood (in the form of charcoal) every day to keep a furnace operating. Photo by: Jennifer Gagnon, Virginia Tech.

naturally regenerated, beautiful, productive forests that are full of wildlife. I suspect that if we saw the farms and timber harvests of the early 1900s, we would be shocked and amazed that these areas became our current forests.

Of course, the historic factors that shaped the development of today's forests can't be repeated in the same way, nor should they be. But this history demonstrates that Virginia's forests are remarkably resilient and can thrive following disturbance.

Forest management was in its infancy in the United States in 1900. At that time, very little was known and documented about Virginia's hardwood forests. Today we have an enormous volume of research by the USDA Forest Service, universities, and state forestry agencies on how our forests respond to changes. We do not know everything about every situation, but a great deal of information is available to forestry professionals.

Unfortunately, in many hardwood forests, this knowledge hasn't been widely accepted and applied to forest management. It is time to put this knowledge into action to help hardwood forests thrive and be productive for future generations. This is the goal of the Hardwood Forest Habitat Initiative - to improve hardwood forests through intentional management.

There are many strategies to improve hardwood forests through intentional management. These include:

- Creation of a Hardwood Assessment Tool to establish a consistent method of forest inventory and assessment statewide to help professionals make data-driven recommendations.
- Training for professionals to ensure foresters, harvesters, and forest service providers are familiar with the techniques and activities needed for improved hardwood management.
- Development of demonstration sites to provide professionals with places to practice and learn, and landowners with visuals of what the techniques look like.

- Opportunities to educate landowners about hardwood management and realistic expectations of time and expenses.
- Development of more businesses to serve the needs of forests and forest landowners.
- Formation of financial assistance programs for landowners that offset the cost of forest management activities that take a long time to bring financial return.
- Engagement of groups who are interested in improved hardwood forest management.
- Finding ways for low value, renewable wood products to be profitably utilized.



The Hardwood Forest Habitat Initiative involves training service providers (left) and Virginia Department of Forestry foresters (above) on how to implement techniques and activities needed for improved hardwood management. Photos by: Virginia Department of Forestry.

Once all these elements are fully implemented, intentional management will be the norm in hardwood forestry. When will all of this happen? We probably won't know until it is happening. There are strategies in the works already, but this is a problem of many chickens and many eggs! And nothing happens fast with hardwoods.

The Virginia Department of Forestry started by creating the Hardwood Assessment Tool, a Hardwood Stakeholders Advisory Group, training their own staff and service providers, completing several demonstration sites, and beginning a small cost-share program. What's been done so far is just a start, but every journey starts with a first step.

When I think about what success will look like for the Hardwood Forest Habitat Initiative, I think about the journey pine management has been on over the last 60 years.

It started with concern over a declining resource in the 1950s and 1960s. First, the Seed Tree Law was passed, requiring mature trees to be left until there was adequate pine regeneration. Next, several methods of site preparation were developed to help ensure successful regeneration (either from seed or planted), including bedding, windrows, drum chopping, burning, and chemical methods. Over the years, we began planting fewer and fewer pine trees to the acre because we improved survival and growth. Today, we plant seedlings with improved genetics, resulting in higher volumes and quality. Finally, and most importantly, today's landowners expect to do site preparation and replant pine seedlings after harvesting.

I see a day in the future when hardwood forest management is done as intentionally as pine management – preparing and establishing sites for new, young forests; final harvests of valuable timber; mid-rotation activities to improve growth and ensure survival of the best trees; and commercial thinnings. With active management, we will find that rotation times can be shortened (not as short as pine, but shorter than current hardwood rotations). I see this in the future, but to get there, we need to take steps together.

Together, through intentional management, we can ensure a productive hardwood resource for future generations. Forestry professionals in Virginia are stepping into this future. Are you ready to walk along with us?

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