

Sculpting the Ideal Turkey Woods:

TIMBER MANAGEMENT FOR WILD TURKEYS

By Adam Butler

The scientific name for the Eastern wild turkey, *Meleagris gallopavo silvestris*, can be loosely translated to mean “fowl of the forest.” As the name implies, Eastern wild turkeys are dependent upon healthy forests for their survival and well being, and there are no shortage of forested landscapes in Mississippi. In fact, more than 65 percent of Mississippi’s land base is timbered, and these resources serve as one of our state’s greatest financial boons, annually pumping an estimated \$17 billion into the state economy.

More than 70 percent of the state’s timberlands are owned by nonindustrial private landowners, which place private lands at the center of this commerce. Consequently, forest management decisions made on private lands not only help shape our state’s forest products industry, but also have a tremendous impact on the welfare of wildlife populations, particularly wild turkeys. Decisions on when and how to harvest timber, as well as management actions that are taken or ignored during the long process of growing timber, can mean the difference between thriving wildlife populations, or landscapes of little habitat value. I will provide an overview of the essential components of ideal “turkey woods,” and also offer recommendations that may assist you in making forest management decisions.

Pulling All the Pieces Together

A look around Mississippi reveals turkey populations existing in a wide variety of forest settings, from landscapes that are intensively managed for pine production to vast expanses of bottomland hardwoods, and even regions comprised largely of agricultural fields or pastures. However, wild turkeys have dynamic needs that change with the seasons, and as a result, the aforementioned landscapes cannot often meet all the demands of the birds throughout the year. On the other hand, areas in which all these different habitats are intermixed provide the variety needed for populations to thrive.

This high level of landscape “diversity” does not happen by accident; it requires thorough planning AND management. Creating the ideal turkey landscape begins by identifying a landowner’s management goals and then planning forestry activities so that they enhance, rather than impede, these objectives. Developing a wildlife management plan in consultation with a forester and wildlife biologist is a great first step that can serve as a road map to guide future management activities.

If turkey habitat is a primary objective, forest management must paint the previously described picture of diversity. Harvests and reforestation should be planned strategically. Clearcuts are utilized by wild turkeys for the first few years of growth, but eventually these areas become too thick and movements are restricted until the new stand is old enough to be thinned. Final harvest operations should be well dispersed in both time and space. This insures areas in the earliest stages of forest growth are not adjacent to one another, which affords greater turkey space-use across the landscape.

During the harvesting process, Streamside Management Zones along creeks and streams should leave at least 100 feet of uncut timber on either side of stream channels to provide travel corridors and winter foraging areas. Uneven-aged management practices should be employed where feasible so that the habitat bottleneck created by clear-cutting can be minimized.

Creation and retention of fields and openings is also critical when molding the ideal turkey landscape. A good way of accomplishing this without losing large acreages of timber production is by planning to “daylight” roads. Daylighting refers to the creation of wide shoulders along interior roadways. These areas are allowed to grow into grassy plant communities that increase interspersions of openings and diversify the landscape.

Prior to logging, it may also be important to identify areas that are well-suited for conversion into permanent wildlife openings or food plots. These areas should be evenly distributed across a property so that turkeys are never more than a short walk from open space. In landscapes that are dominated by large pastures or agriculture, corridors of hardwoods or pines may need to be planted to break up fields and provide connectivity between forest stands.

Seeing the Forest from the Trees

With a clear picture of the ideal landscape blueprint in mind, the next step in creating prime turkey woods is making stand-level management decisions. These are the choices that will make or break turkey utilization of your property; the structure and composition of the plant communities within a stand are the key factors that dictate habitat selection by the birds. These are variables that can be controlled through mid-rotation management, timber stand improvements, and harvesting. The type, age, and condition of each timber stand will dictate what actions are most appropriate.



Jacob Brumfield

Pine Stands

Pine is the dominant timber type across much of Mississippi, and many pine stands begin as plantations. As previously mentioned, pine plantations offer some value as habitat during the first few years after planting; however, this time period is short-lived. Once the young stand reaches canopy-closure, scant ground cover exists and the area holds little value for turkeys and other wildlife. For most sites in Mississippi, pine stands are able to receive their first thinning between 12-18 years of age. This marks a major turning point in the life of the stand, and turkey use typically increases dramatically following thinning.

Wild turkeys are not as dependent upon thick ground cover as other game birds, however, nesting hens and young poults do need concealment from predators. To promote the ground cover that they prefer, timber thinnings should open the canopy enough to provide adequate sunlight along the ground. Targeting a 70 ft²/acre basal area is a good tradeoff between timber production and wildlife cover. Basal area is

a forestry term that is used to describe the density of the stems (i.e. trees) that remain after a harvest operation. It represents the total cross-sectional area of all the stems in a stand measured per unit of area most often expressed per acre. Subsequent thinnings should occur whenever tree crowns grow thick enough to shade and suppress understory growth.

The decision of when to conduct the final harvest is also an important consideration for wild turkeys. Generally speaking, longer rotations are favorable for turkeys because they increase the length of time in which stands remain usable to the birds. For turkeys, rotations should be extended to >30 years when economically feasible. Once final harvests have occurred, the decision regarding what species to replant should be well-thought if turkey habitat is an objective. For many landowners south of Interstate 20, longleaf pine should be considered on appropriate sites. Longleaf provides several habitat advantages over more commonly planted pine species due to management options that can be compatible with its growth.



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What's So Special about Longleaf Pine?

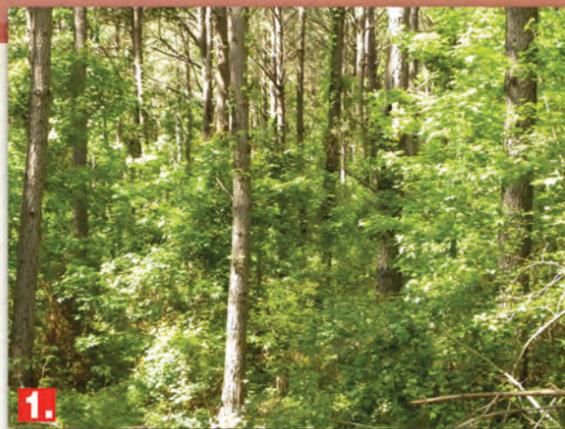
Longleaf pine was historically the dominant tree species across the southern half of Mississippi. In fact, longleaf forests once comprised an estimated 90 million acres across the Southeast. Natural longleaf forests can be described as open, park-like stands, in which frequent low intensity fires maintain a rich herbaceous and grassy understory, providing ideal habitat for game birds like wild turkey and bobwhite quail. Unfortunately, this incredible resource has been neglected, so that today it occupies less than 3 percent of its original extent.

Why should landowners choose to replant longleaf on appropriate sites? Consider the following:



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- **Fire tolerance** – Prescribed fire can be applied to longleaf at younger ages than other pine species, giving you the ability to manage for nesting, brooding, and foraging cover for wildlife at all life-stages of the stand.
- **High-value lumber products** - In today's slumping pulpwood and saw timber markets, longleaf is particularly attractive due to the high proportion of trees that can be harvested for poles – a niche that may increase the value of your stand by more than 50 percent.
- **Flexibility of management** – Natural regeneration of longleaf can be promoted to create a diversity of available product classes, thereby accommodating a variety of management options.
- **Growth form** - Longleaf trees grow in a tighter, less branched form than other species of pine. This avoids the canopy-closure stage prevalent in many developing pine stands, and the increased sunlight develops a lush plant community that provides food and cover for wildlife.
- **Security** – Because longleaf is native to the uplands of the Southern Coastal Plain, it evolved in the face of onslaughts by hurricanes and tornadoes, and consequently is well-suited to survive these natural disasters.



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Of all the management activities used to enhance turkey habitat in pine woods, none are more important than incorporating prescribed burning. Prescribed fire reduces undesirable understory vegetation, and promotes plants that are beneficial for food and cover. The exact length of time between prescribed burns can vary depending upon site and stand conditions. On poor-quality sites, or in densely stocked stands, fire intervals of 3-4 years may be sufficient to maintain a desirable understory. In stands with open canopies or on highly fertile soil, this rotation may need to be as short as 18 to 24 months. This may be particularly true in areas where waxy-leaved species such as yaupon, myrtle, or gallberry can quickly dominate the understory

Step-by-Step

1. Without active management, many pine stands often become so thick that valuable food and cover plants in the understory are shaded out and turkey use is impeded.
2. Thinning is the first step toward improving habitat conditions.



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3. The resulting stand is more open, and increased amounts of sunlight will penetrate to the ground and stimulate growth of valuable food and cover plants.



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4. Prescribed fire is then applied to promote good plants and hinder undesirables.



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5. The resulting stand contains a lush understory that provides excellent nesting and brooding conditions, while remaining open enough that turkey movements are not restricted.

Hardwoods

Hardwoods are important food producers for wild turkeys and hardwood stands are heavily utilized by turkeys throughout the year, particularly in the fall and winter. The hard mast and fruits of oaks, pecans, beech, cherry, hackberry, and tupelo gum are all relished foods that sustain turkeys throughout the year. When turkeys are your priority, stands comprised of these species should be retained; converting these areas to other timber types is a cardinal sin of turkey management.

Although open hardwood stands are beautiful to behold (for aesthetic reasons), they often lack essential turkey habitat components. As with pine woods, these deficiencies can be addressed through proper forest management, although the approach may need to be more delicate.

In hardwoods, multiple selective thinnings can promote nesting/brooding cover and food availability, while also expanding product classes, species diversity, and seedling regeneration within the stand. Under this approach, harvest operations should be both well-planned and purposely timed, with improvements to the vigor of the stand the overarching goal guiding the specific objectives of each cutting.

This regime, often referred to as "wildlife forestry," is a form of uneven-aged management that ensures the stand's future through natural regeneration rather than artificial replanting. Hardwood stands are uniquely suited to this management scenario because of their ability to re-sprout profusely from stumps and seed sources. When applied correctly, managing hardwoods in this fashion maximizes wildlife habitat diversity within the stand while providing an income source to the landowner by allowing for periodic harvests of wood products. Additionally, the successive improvement cuts accommodate a variety of management options and objectives, thereby avoiding the need to implement practices that might be detrimental to turkeys and other wildlife.

Getting Help

Incorporating wildlife needs into timber management planning can be a daunting task, but there is no reason to go at it alone. The Mississippi Department of Wildlife, Fisheries, and Parks provides free on-site technical guidance to landowners on all aspects of habitat enhancement, including forest management for wildlife, so assistance in developing your property's wildlife management plan is only a phone call away. If you would like to request a visit from a wildlife biologist to your property or hunting club, contact the MDWFP at (601) 432-2199. For more information on timber management for turkeys, including guidelines for prescribed burning, wildlife forestry, and other habitat improvement topics, go to the MDWFP Wild Turkey Program website at www.mdwfp.com/turkey.

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