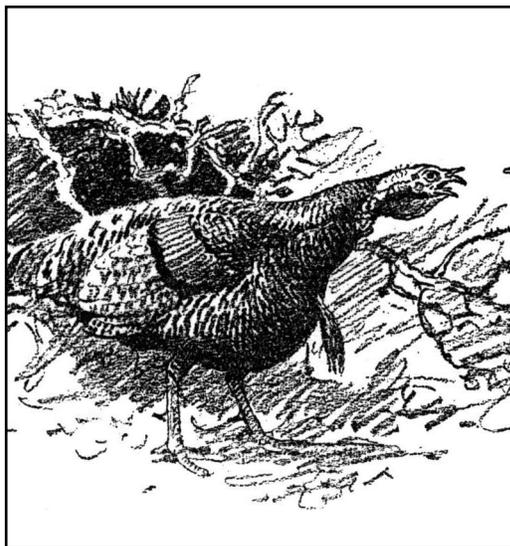


# Forest Management for Wild Turkeys

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Wild turkeys require a variety of habitat types, including forests, open lands, and old fields. Adequate forestland is critical to maintaining viable populations of wild turkeys, particularly when forest management provides a mix of different forest types and ages and openings that can provide various food sources, brood rearing habitat, edges for nesting, and room for courtship. Turkeys do well in forested landscapes with 15 to 65 percent openings, whether in fields, cropland, pastures, or early successional stages of forestland.

## Seasonal Habitat Needs

### *Nesting (Spring)*

Turkey hens nest in a variety of habitat types, including pine forests and young cutovers/regeneration areas, old fields, hay fields, and rights-of-way. Nest sites generally have dense, small plant cover and some

shrub cover at the ground level, with some kind of woody form around the nest. Most nests are within 10 yards of a forest edge, such as a logging road or firebreak. Research indicates that hens nest in pine stands, including unthinned, mature loblolly stands and young (2- to 4-year-old) loblolly pine plantations. They usually don't use plantations younger than 2 years nor older than 4 years.

In large blocks of carefully managed pine plantations, hens nest in 15- to 20-year-old stands that are thinned and burned. Nesting success was much greater in mature pine forests (60 percent) than in the preferred young plantations (less than 20 percent). You can maintain the vegetative conditions necessary for nesting by late-winter burning at intervals of 3 years. You can also mow or bush-hog, but you should not burn, mow, or bush-hog during the spring-early summer nesting season (March-July).

### *Broods (Summer)*

Young turkeys eat mostly insects the first couple of weeks after hatching and then quickly begin to pick up fruits and seeds. For poult protection, vegetation dense enough to afford some cover from predators is necessary. Forest edges next to fields and openings can provide this cover and are excellent brood habitat during this vulnerable time. You can plan forest harvesting to provide a good mix of mature to young forest.

In central Mississippi, broods prefer mature bottomland hardwood forests, where there are sparse shrubs and understory and moderate ground cover of grass-

es, sedges, forbs, and vines. Broods used burned pine plantations older than 10 years but avoided plantations burned less frequently than every 2 years. Plantations 15 to 20 years old that have been thinned and burned often provide good brood habitat. Overall, you can use many different types of forested habitats for hens with broods, as long as adequately dense herbaceous vegetation (for insect production) with some brushy cover nearby is available. Ideally, brood habitat should be mixed with nesting habitat so broods won't have to move far. Thinning and burning pine plantations improve brood habitat conditions. Patchy burns, with burned areas next to unburned areas, provide the best habitat.

### **Range Shifts**

In the fall, turkeys begin to shift their ranges as food sources change to items such as dogwood fruits and oak acorns. Many times forests will provide better winter range for turkeys than other vegetative types, as mast foods, such as acorns, become available. Turkeys may move from pine plantations into mixed pine-hardwood or hardwood stands now, but well-managed (thinned and burned) pine stands may still see heavy use in winter (pine seed is good turkey food). In years when hard mast crops are light, turkeys may heavily use these and other forest types and fields.

In the spring, as winter flocks break up, the birds use a variety of forested habitats, but turkeys tend to move toward areas with more openings (such as pastures). They use openings a lot in the spring breeding season to display and mate. The openings also provide greens and insects for food.

### **Other Habitat Needs**

#### **Roosts**

Turkeys roost in a variety of forested habitats but often prefer to roost in conifers next to water. On upland

forested sites, turkeys frequently roost on slopes near ridgetops or knolls. Many times these roost sites offer protection from bad weather. Turkeys roost in pine plantations, mixed pine-hardwood stands, and bottomland hardwoods. They often use flooded riverfront hardwood forests and bald cypress trees as roost sites in the Delta.

#### **Roads**

Roads can be helpful or harmful to turkeys, depending on management and protection. In large spreads of pine plantation forest, turkey use is related to spur roads. Roads that are daylighted (opened up) will provide more natural green vegetation for insect and seed production, or they can be planted in cover crops to prevent erosion and provide the same benefits of natural vegetation for turkeys. Roads that are closed with locked gates are important for protecting wild turkeys.

#### **Water**

The relationship between turkey populations and being able to get water is not certain, but turkeys can move long distances to get free water or can get water from vegetation, fruits, and insects they eat. Free water may be important during drought.

### **Forest Management**

Forest Service projections show a slow decline in forest acreage across the Southeast over the next several decades. The area currently in pine plantations is projected to double in this period. Natural pine forests are projected to decline by about half, and mixed stands are projected to decline by about 22 percent. Some agricultural land is being reforested under programs such as the Conservation Reserve Program.

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## **Tips for Improving Wild Turkey Habitat**

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#### **General**

- Create forest stands up to 100 acres in size.
- Distribute stand ages.
- Maintain SMZ's of hardwoods.
- Establish long rotations in hardwoods (60 to 90+ years).
- Thin timber frequently during rotation.

#### **Prescribed Burning**

- Burn frequently (3 to 5 years) to encourage herbaceous growth.
- Limit burns to winter months.

#### **Regeneration**

- Keep mixed stands when possible.
- Regenerate pine types by clearcut or seed tree methods.
- Encourage up to 50 percent of hardwood types as hard mast species.
- Do not change bottomland hardwoods to conifers.
- Keep roost trees and cypress ponds.

#### **Direct Habitat Improvements**

- Provide openings planted with clover.
- Eliminate fall tillage of crops and leave some grain unharvested.
- Avoid nesting and brooding areas from March through June.

### *Pine Plantations*

As pine plantation acreage increases in Mississippi, more intensive management will be required to maintain diverse turkey habitats. Rotation length should be 40 to 60 years, if it's economical. Harvest cut areas should be kept as small as possible (10 to 100 acres), with age class dispersion of unharvested, adjacent stands of at least 5 to 7 years. Shapes of clearcuts should provide edges for turkeys to nest along - but not so they will encourage predators to build their nests.

Stream-side management zones (SMZs) should be marked before harvest and treated as separate, unburned, manageable stands from harvested pine plantations. If possible, keep at least 15 percent of the pine plantation area in SMZs. They can be particularly important to turkeys for travel areas, roosting sites, and for mast and other food source production not normally found in plantations. Protecting islands of mast-producing trees in clearcut areas can provide more food sources. You should do prescribed burning in stands as early as possible and, preferably, do patchy winter burns on a 3- to 5-year rotation after plantations are 10 years old. Burning improves taste and nutrition of understory plants, stimulates some types of fruit production, and maintains open understories. You should do commercial thinning at least twice during the rotation of a stand, and, if affordable, protect volunteer hardwoods that provide food within plantations.

### *Mixed Upland Pine-Hardwood Forests*

You should keep mixed stands as natural stands where feasible. In harvesting operations, maintain a good mix of hardwoods and pines of mast/fruit-producing age. You can do thinning, seed tree or shelterwood regeneration cuts, and burning to promote mast production and maintain needed herbs and shrubs in the understory. Protect mid-story species such as flowering dogwood and other fruit producers.

### *Bottomland Hardwood Forests*

Bottomland stands can produce lots of hard mast in one year. Maintain bottomland hardwoods in a vigorous state to take advantage of the potential during these good mast-production years. Rotation lengths of 60 to 90+ years should provide adequate age distribution of healthy mast-producing trees. Frequent, selective improvement harvests, thinnings, and group select cuts provide needed timber harvest while maintaining turkey habitats. Keep fire out of bottomland stands. Keep roost trees that are next to water sources as well as SMZs along bayous, sloughs, and minor and major creeks and rivers.

In general, all timber management operations should include erosion control and site restoration work, where you replant disturbed areas with species such as clover, bahia grass, wheat, or others that may provide feeding, nesting, or brood-rearing cover.

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## **Wild Turkey Foods by Habitat Type**

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<b>Habitat</b>	<b>Foods</b>		
<b>Openings</b>	<b><i>Grass/Seeds</i></b>	<b><i>Forage</i></b>	<b><i>Insects</i></b>
	Paspalums	Clovers	Grasshoppers
	Panicums	Grasses	Millipedes
	Legumes	Sedges	Insect Larvae
<b>Moist Bottomland</b>	Snails	Insects	Worms
<b>Pine Plantations</b>	Grasses, legumes, seeds	Herbaceous green forage	Insects, soft mast, pine seed
<b>Mixed Pine/Hardwood Stands</b>	<b><i>Soft Mast</i></b>		<b><i>Seeds</i></b>
	Dogwood	Grapes	Longleaf Pine
	Blackberries	Dewberries	Sweetgum
	Huckleberries	Blackhaw	Magnolia
	Blackgum Spice Bush	Cherries	
<b>Mature Hardwood</b>		<b><i>Hard Mast</i></b>	
	Acorns	Beechnuts	Pecans

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