

Forest Management Practices for Birds

By Ellen R. Powell, Virginia Department of Forestry

Forest landowners often have a financial need to manage their land for income, even if they would prefer to manage for birds and other wildlife. The good news is that the two goals don't have to be mutually exclusive. Forests can be managed in ways that benefit both the birds and the bottom line.

Forests go through natural stages of succession, with each stage supporting characteristic plant and animal species. Because different birds have different habitat needs, there is no one forest stage that is best for all birds. Many forest management activities mimic natural disturbances that reset the successional clock. In a forest-heavy state like Virginia, wildlife management often involves manipulating the forest to attain or maintain a desired successional stage.

On a landscape level, having forests in different stages of succession is a key to bird diversity. This type of management is easiest to achieve on large tracts of land, such as State and National Forests. Management on these government lands is for multiple uses: wood products, wildlife, water quality, soil health, recreation, and more. On these lands, harvest intervals tend to be longer than they might be on private lands. Large mature tracts benefit forest interior birds, while younger sites of various ages support other species. Openings created by timber harvest may be small patches or large blocks, each with its own advantages to certain species. Edges tend to be left soft and brushy rather than abrupt and neat. Dead snags may be left standing, benefitting cavity nesters.



Prescribed fire can help maintain an early successional stage.

Photo by: Ellen Powell, VDOF.

Consider a forest that has been reset to its earliest successional stage. When the cycle of forestry is being practiced, a clear cut harvest creates a very young forest stage. Grasses and annual forbs begin to grow almost immediately, soon followed by perennial forbs and shrubs like sumac and blackberry. The grassy stage attracts seedeaters, such as mourning dove and various sparrows, as well as predators like American kestrel. The brushy stage benefits species such as prairie warbler, brown thrasher, yellow-breasted chat, white-eyed vireo, and indigo bunting.

Even if not planted, pines begin to grow on open sites within a few years. Many birders object to the look of trees planted in rows, but birds don't seem to mind. (The visual row effect tends to disappear over time anyway, through commercial thinning or natural mortality.) There is a period as the pine canopy closes when bird diversity declines in pine stands. Pole-sized stands may have crowded trees with low light penetration and little understory. Forest thinning improves bird habitat, by allowing light to reach the forest floor and fueling the growth of herbaceous vegetation. Incidentally, thinning is good for forest health as well. The remaining trees have more space and resources, making them less susceptible to disease and insect attacks.

As pine forestry is practiced by most landowners in Virginia, most pine stands have some hardwood understory. These layers of vegetation tend to increase bird diversity. Species that are common in mature pine forests include pine warbler, red-bellied woodpecker, chipping sparrow, and ruby-crowned kinglet. Some pine growers prefer to control hardwood understory, which can change the bird species present. Prescribed fire is one tool used in this way. It can benefit birds by stimulating new herbaceous growth at ground level. Early successional species like quail benefit from this practice. The longleaf pine ecosystem, now rare in Virginia, must be maintained by fire.

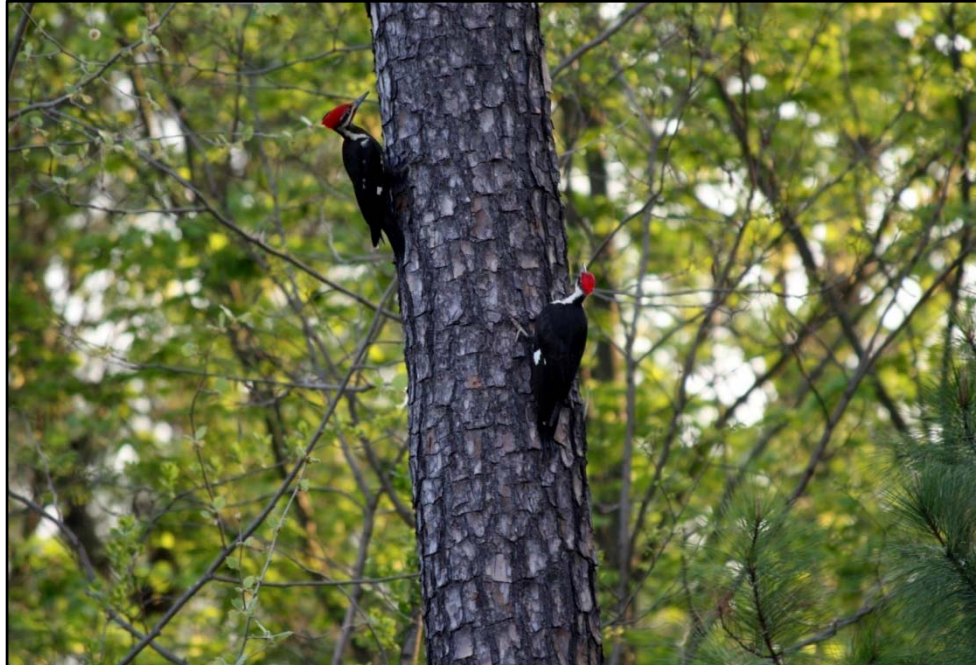


Thinning allows light to reach the forest floor.

Photo by: Ellen Powell, VDOF.

The endangered red-cockaded woodpecker succeeds where regular fires control encroaching hardwoods.

Mixed pine-hardwood forests are transitional in the march toward successional climax. These woodlands have a high diversity of birds, including a few holdovers from earlier stages and new entries by birds more typical of hardwood forests. Birds of mixed woodlands include downy woodpecker, tufted titmouse, blue jay, Cooper's hawk, and many warblers.



*Pileated woodpeckers in transitional pine-hardwood forest.
Photo by: Ellen Powell, VDOF.*

Mature hardwood forests are often considered the gold standard of forest types, particularly for wood warblers, vireos, ovenbird, and wood thrush. Bird diversity in general tends to be high here, owing to the complex layered canopy with a midstory and shade-tolerant understory. These forests are most beneficial to forest interior birds when they are large enough to minimize edge. This reduces the effects of disturbance, such as nest access by cowbirds. Selective cutting can be used to maintain an uneven-aged, mature hardwood forest and still generate income.

Water quality best management practices, and actual laws in some parts of Virginia, require leaving forested riparian buffers along streams. Buffers create travel corridors for birds and habitat for streamside species, such as wood ducks and barred owls. One hundred feet is a standard buffer width, but wider buffers are even better for birds.

Controlling invasive species is in the best interest of the landowner, whether managing for boards or birds. Invasive plants provide little quality food for birds. For example, compare the nonnative tree-of-heaven with a native such as white oak. Tree-of-heaven seeds and foliage are not eaten by many species. White oaks, on the other hand, produce acorns, an excellent hard mast source for birds and wildlife. Perhaps most importantly for songbirds, oak trees also grow caterpillars. Over 500 species of moths and butterflies use oaks as their larval food source, compared with 6 for tree-of-heaven. For almost all songbirds, caterpillars are a preferred food source for raising baby birds.

Some people simply do not like the idea of managing forests and prefer to let nature take its course. Over time, this approach can result in more mature forests and fewer young ones, at the expense of early successional bird species. Ironically, it can also result in more conversion of forest land over time. Most forest lands in Virginia are privately owned. Landowners who can make money from their land are less likely to sell to developers. A managed forest is better for birds than a parking lot any day! Encouraging forest owners to manage their woods is a good way to keep land in forest for the future.

Sources:

Tallamy, D. W. 2007. Bringing nature home: How native plants sustain wildlife in our gardens. Portland, Or.: Timber Press.

Dickson, James G.; Thompson, Frank R.; Conner, Richard N.; Franzreb, Kathleen E. 1993. Effects of silviculture on neotropical migratory birds in central and southeastern oak pine forests. In: Finch, Deborah M.; Stangel, Peter W. (eds.). Status and management of neotropical migratory birds: September 21-25, 1992, Estes Park, Colorado. Gen. Tech. Rep. RM-229. Fort Collins, Colo.: Rocky Mountain Forest and Range Experiment Station, U.S. Dept. of Agriculture, Forest Service: 374-385

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***A barred owl using a riparian buffer.
Photo by: Ellen Powell, VDOF.***