

Managing Pine for Wildlife in Kentucky

by Tom Barnes

Wildlife biologists often refer to dense pine thickets as biologic deserts, meaning they provide little in the way of wildlife habitat. Is this an accurate description? Yes, no, maybe? The real answer is a bit of yes, no and maybe. Yes, pine forests can provide habitat for some game and non-game species if managed correctly. For instance, during periods of severe winter weather in states north of us, pine siskins, crossbills, red-breasted nuthatches and other pine-dependent species can be attracted to mature pine forests. That is why these birds typically pass through Kentucky and end up in the Piedmont area in those years. Maybe pine forests can be managed for quail, deer and turkey if they are taken care of and thinned judiciously, followed up by hardwood brush control and prescribed fire. Pine forests are of little wildlife value if they are not intensively managed in this state and taken care of.

There is little in the way of true pine forests in Kentucky, and most of the pine in the state is in the form of planta-

tions in the western and southern parts of the state. With little doubt, if left unmanaged, these plantation forests can quickly become biologic deserts as the canopy closes, blocking sunlight from reaching the forest floor that allows for the growth of food plants for quail, turkey or deer. However, if managed appropriately for lumber (not pulp) a mature pine stand can be quite good habitat for quail, turkey, deer, and some songbirds. The key to pine management for wildlife is selecting the appropriate pine species, which means our native pitch or shortleaf (sometimes called yellow pine) and obtaining an optimum basal area (basal area refers to the cross-sectional area of a tree at 4.5 feet above the ground) that can provide wildlife habitat and trees that can be harvested for lumber.

Why use our native species for pine plantations in Kentucky? There are several reasons, with the first being that these are adapted to our growing conditions and do not have the potential to escape and cause problems in natural areas. For example, white pine would not be a good choice, even though it is native, because it reproduces and spreads rapidly and is causing problems in many hardwood forests in eastern Kentucky. Many years ago the U.S. Forest Service put in plantations of white pine on ridgetops, and now, two to three decades later, it is looking at using fire to keep these trees from literally “taking over” the hardwood forests surrounding them. In a similar vein, one could suggest planting loblolly, a native species to the South, but in Kentucky these trees may not overwinter and reach maturity. Of course you could plant the “improved” cold-tolerant loblolly or the hybrid pines promoted by some timber companies, but they would not provide the same quality of habitat as our native species.

What is the optimal basal area for wildlife in pine plantations?

At the first thinning you should try to get to 60 sq ft/acre of basal area if wildlife is one of your goals. This level of thinning opens up the canopy sufficiently to allow for the growth of plants that will provide food for quail, turkey, deer and songbirds. If wildlife is more of a consideration than timber production, going down to as low as 30 sq ft/acre in later thinning operations will provide enough cover for deer, roosting and feeding sites for turkeys and decent grassland habitat for quail. The first thinning should probably not go down as low as 30 sq ft/acre, as many trees might be damaged by ice or windstorms. Once the canopy has been cut back, you will end up with issues related to hardwood brush control, because pine plantations are not a true “natural” com-

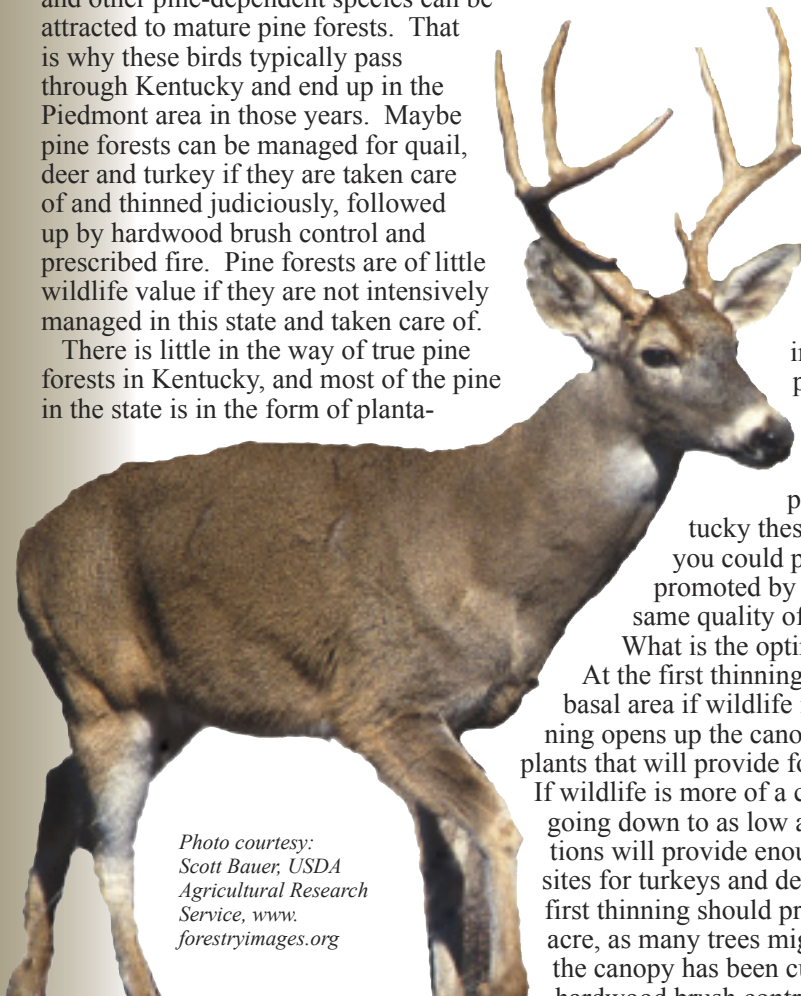


Photo courtesy:
Scott Bauer, USDA
Agricultural Research
Service, [www.
forestryimages.org](http://www.forestryimages.org)





Mature white pines growing on a rich hardwood site. Photo courtesy: Steven Katovich, USDA Forest Service, www.forestryimages.org

munity type in Kentucky. It is the very nature of the hardwood trees to invade and take over the site. To manage this issue you will need to either burn the forest every few years or use herbicides like Arsenal™ to control the hardwood sprouts.

You should also consider this question: If I am going to put in a pine plantation, where should it be located? The easiest answer to this question is to look at your land and observe where pines are already growing. In eastern Kentucky this is most likely to be on ridgetops and southwest-facing upper slopes. In the remainder of the state, the best place may be on land that is unsuitable for growing hardwood trees, pastures or agriculture crops. While productivity will be lower in these environments, it will still provide an opportunity to have some type of forest cover on the land.

Finally, if you do have any native grass stands or natural grassland or savannah communities, do not plant pines in these habitats, as they are rare in this state and should be kept and managed as open grasslands, not pine plantations, which has happened in the past.



Photo courtesy: John Cox

A nest of quail eggs at the base of a pine tree. Photo courtesy: James Solomon, USDA Forest Service, www.forestryimages.org

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