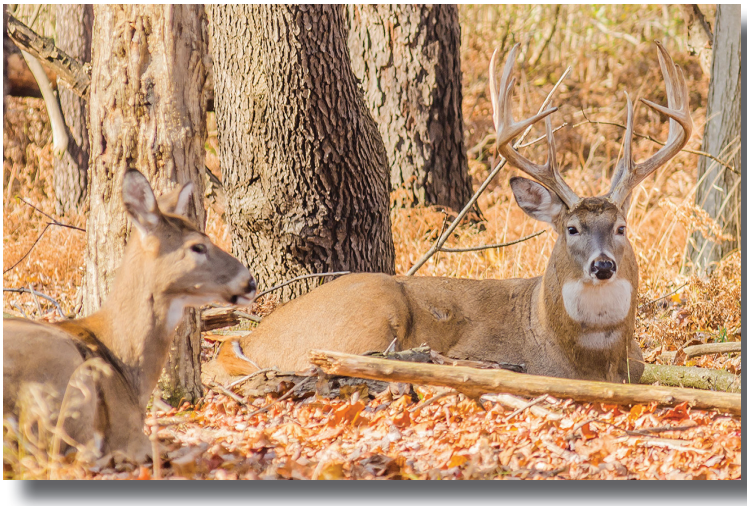
Selecting, Managing, and Planting Trees for Wildlife

by Matthew T. Springer

There are many reasons a landowner can have for managing their forest. Wildlife frequently comes up close to or at the top of that list. We have previously discussed the importance and advantages of having both a forest-management plan and a wildlife-management plan, regardless of your personal goals for your property. To build on that knowledge, or to better understand the wildlife management plan that may be presented to you, let's talk a bit about what trees are beneficial to wildlife and how that may vary by species. Understanding what each species or genus of tree brings to the table for wildlife, both figuratively and literally sometimes, may aid you in comprehending your property's plan, or allow you to do some small-scale management to benefit wildlife on your own.

Wildlife and Trees

Trees provide wildlife many attributes that help them survive. These attributes can include but are not limited to, cover from predators, thermal cover during poor weather, food in the form of mast, vegetation, or the insects that live on them, or nesting habitat for a bird or squirrel on a branch or in a cavity. Many of our tree species provide multiple of these attributes, but we know for certain that trees are vital for the survival of hundreds of the wildlife species that call Kentucky their home.



White-tailed deer rely heavily on mast produced by many Kentucky tree species.

All photos courtesy: Thomas Barnes

Beneficial Trees for Wildlife by Groups of Species

Song Birds

The direct benefit for all bird species is the cover and nesting benefit. Trees provide both from the time they are saplings until they have reached maturity. What is a little more complicated is how trees provide food. There are two manners in which trees provide song birds food. First and most directly, they produce mast and seeds. Second, they are host plants for lepidoptera species—in bird terms, delicious high protein caterpillars. Eastern redcedars offer wonderful cover from predators and thermal cover in winter when found in thick stands, and their berries offer an ample food supply. Serviceberry is an excellent tree to plant for song birds as its substantial production of berries usually are consumed as soon as they are available by many bird species. Dogwood species and sumacs offer wonderful food and cover for many bird species.

A forest stand with a diverse group of plant species will provide ample food for invertebrates like caterpillars which in turn feeds birds and small mammals.

For many of our birds such as our warbler species, they are not keying in on the seeds or mast produced as much as the insects that live on the plants. Species of oak, hickory, and beech are known to host large diversities of lepidoteras, otherwise known as caterpillars, throughout the summer breeding season helping to provide food for their young. Other arthropod species, such as beetles and flies, also key in on these genera of trees providing an additional food source.

Overall, a diversity of tree species within a stand can also help provide the diversity of insects who live on the plants, which translates into a buffet of food for the birds. So really the best advice for song-bird management is keep as many native species around as possible, because that means more bugs, berries, and seeds for them to consume.

Deer, Elk, Bears and Other Animals with Fur

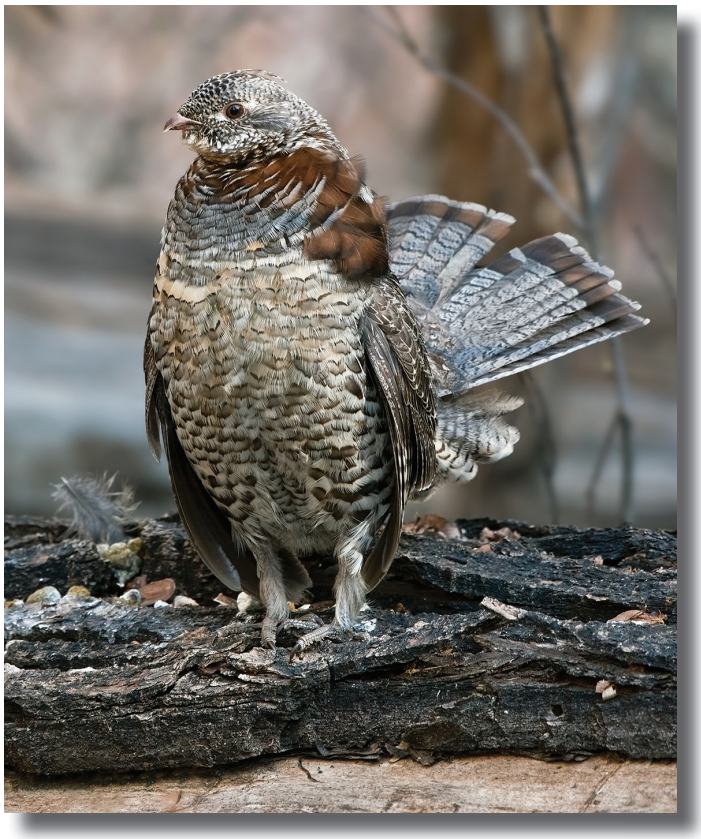
Mast is the name of the game here. Remember that these wildlife species are going to consume both hard and soft mast during the year along with some browsing of branches by our deer and elk throughout the year. New growth is especially nutritious and will be favored, therefore any management that increases forest

Many of our wildlife rely heavily on hard mast to make it through tough winter months.

regeneration will succeed in providing those conditions. Older stands that include a substantial number of oak and hickory species are especially important to this wildlife group as acorns are highly desired and play vital roles in fattening them up prior to the lean times of winter. Other species of tree that still can offer a vital role in the survival of wildlife include hawthorns, whose fruit are eaten by squirrels, deer, foxes, and rabbits. Dogwoods, sassafras, mulberry, and persimmon also support a wide variety of wildlife, from beavers to groundhogs. Even our Kentucky coffeetree fruits are favored by squirrels, opossum, raccoons as well as song birds.

Turkey, Ducks, Quail, and Grouse

These species of wildlife are going to key in on two main services trees provide, food and cover. For the food aspect, samaras from the maple species are consumed by many game bird species. Ash trees and tulip poplar seeds also offer value to turkey and quail. Pin oaks are a great species to promote or plant in areas with turkeys or ducks, as they are especially a favorite item for wood ducks who will walk into the forest to gobble them down when they are not falling into the ponds and sloughs they inhabit. Black cherry is one that



Grouse was once a common bird in Kentucky but due to the loss of young forest stands their numbers have dwindled.

can benefit grouse in particular, as their buds are a good food source.

In terms of cover, these species are looking for age classes of stands more than anything else. Turkeys will look for a mix of very early successional habitat to mature oak and pine stands. Ducks will use areas that are flooded by nature, but will choose to roost in ponds protected from the elements with thick trees that provide cover from predators. Quail will look to use the edges of woods with young age classes, especially during winter when the fields they usually inhabit may not provide the cover from predators they do in the spring and summer. Grouse especially will key in on stands that are about 5-15 years old for both food and cover.

Turkeys rely on trees for roosting habitat as well as the mast produced by them. Up to 50% of their winter diet can be acorns from the fall mast crop.

Planting Trees

Many times when we are trying to improve our property in the forestry world, we are not thinking about planting trees but are thinking of managing the trees we already have. In certain cases with wildlife we may be trying to supplement certain aspects of a survival requirement for a certain species. In this situation we generally know what species we are managing for, what they need to survive, and how tree selection can aid in their success. The situation that arises then becomes site selection of the trees you want to plant. In the Forestry 101 article just before this one, the basics of tree planting and how site selection is a major component to the success of a planting was discussed. Tree planting is usually a straightforward task but sometimes it can get more complicated if you have multiple types of tree stand age classes present, areas of forest edges, or large stands of mature trees with little opportunities to plant other than in shaded locations. For instance, say we want to plant more soft mast species and we select persimmons and plum to enhance food abundance for almost all the wildlife species on the property. These are wonderful tree species for wildlife, but they really need to be planted on the edge of a forest, not somewhere they have to compete for light. So the main message here is that a little thought is needed for both what trees you need to help your wildlife and where it needs to be planted to help the trees thrive and therefore provide all the wildlife benefits for which you hoped.

Many wildlife species also depend on soft mast like persimmons and these tree species should not be ignored when planting or managing to promote wildlife on your property.

Photo courtesy: Rebekah D. Wallace, University of Georgia, Bugwood.org

Managing Forests for Wildlife Trees

Promoting certain tree species does not require you to plant them. If you already have a wildlife management plan for your forest, it should include one or multiple forestry management prescriptions to benefit wildlife. Some of these prescriptions may be straightforward. For instance, having a patch-cut harvest within your forest will allow you to potentially generate income off of your trees, but it also will offer a new age class of forest within your property that favors soft mast producing species and substantial amounts of cover and nesting habitat for many of our wildlife species. One that is less obvious may be a crop-tree release. This is a common tool used to allow the growth of individual trees for particular objectives, such as favoring trees with more income potential within a forestry prescription. We can use the same tool to help "enhance" our wildlife friendly trees. Releasing maturing or mature white oaks or other mast trees should lessen the competition on it, hopefully allowing it more resources to produce more abundant mast crops in future years, increasing high value food for many species of wildlife.

Prescribed fire is another tool that is becoming more readily used across the country and within Kentucky to help enhance wildlife habitat in both fields and forests. The idea is that oaks are more fire tolerant and species such as maple and beech are not able to survive a fire disturbance, especially when they are younger. There is some evidence that supports this, however the results that fire favors oaks is not as clear as we once thought or hoped. The overall wildlife-management idea is that oaks are a much more valuable wildlife tree than maple or beech. Thus, any way we can increase the presence of oaks in a forest that is seeing increasing rates of maple and beech composition within stands is a good thing. Caution needs to be warranted as anytime you use fire there are many potential problem areas and safety concerns. You should always use professional help when implementing this practice.

Take Home

Trees offer many benefits to wildlife and should be utilized to accomplish wildlife-management goals on your property. Even though wildlife-management goals will vary by the individual, the key elements that trees provide such as food, cover, and breeding habitat will hold true for all of them. Identifying your wildlife goals will help start the process for successfully using trees to meet those goals. As usual, don't forget to use the professional resources available to you through the Kentucky Division of Forestry, Kentucky Department of Fish and Wildlife Resources, county Extension office, or Natural Resource Conservation Service to help obtain your goals on your property.

About the Author:
Matthew Springer, *Ph.D., Assistant Extension Professor of Wildlife Management with the UK Department of Forestry and Natural Resources works on a variety of wildlife management needs for private landowners, farmers, and governmental agencies.*

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