

# Forest Management for Wildlife



**KANSAS STATE**  
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Extension

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Wildlife is an integral part of Kansas wooded areas and often is of special interest to landowners. For the landowner, wooded areas offer aesthetic beauty, improve water and air quality, provide valuable wildlife habitat, and offer income opportunities. For wildlife, forests offer protection from wind and snow, refuge from predators, and a variety of foods not found in other landscapes. Properly managed forests provide habitat for wildlife such as squirrels, deer, turkey, and songbirds. Other wildlife species such as rabbits, quail, and raptors use the forest edge and benefit from the management of these areas.

### Management

Kansas forests have great potential as habitat for a variety of wildlife species. Before developing forest management plans, consider personal objectives. Almost any wooded area provides some habitat, but targeting desired wildlife species allows for more effective management options.



Photo courtesy of USDA NRCS



Various game and non-game species benefit from forested habitat.



The eastern spotted skunk is one of several threatened and endangered species that benefits from forests and woodland edges. *Photo courtesy of Bob Gress*

Frequently, these options involve focusing on game species, but that is not always the case. Many nongame species also benefit from management, including those with *Threatened and Endangered* or *Species in Need of Conservation* status.

Property managers must know the landowner's intent for the area and what wildlife species the owner plans to attract. An inventory of the woodland enables managers to determine which wildlife habitat components are present or lacking. Proper management increases the quality of wildlife habitat and can include practices such as: forest stand improvement, plantings, forest border development, and protection.

### **Forest Stand Improvement**

Closed canopy and/or unmanaged forests often do not provide as much habitat value as those with lower tree densities. To enhance these areas, deaden specific trees to improve the growth rate and/or vigor of the species that best benefits your objectives. Managing tree density increases sunlight levels to promote desirable understory growth.

By incorporating some of the following suggestions, forested areas have significantly higher wildlife value than locations where a hands-off approach is taken.

## Provide free-to-grow space around desirable trees

- Focus efforts on providing extra space to species that meet your objectives (crop trees). Consider growth form, vigor, and location of the promoted trees. Deaden poor-quality trees and those that are directly competing with crop trees and/or are suppressing natural regeneration of favorable species.
- Thin around food trees such as mulberry, oaks, persimmon, walnut, hickories, pecan, and pawpaw.
- Try to provide seven den trees (trees with natural cavities) of various sizes per acre.
- When deadening trees, chemically treat stumps of undesirable species with an approved herbicide. Sprouts from desirable, untreated stumps provide valuable ground-level cover and produce browse that is high in protein and phosphorus.
- If they are not a safety hazard, deadened trees larger than 10 inches in diameter should be left standing.
- Deaden vines growing into desirable trees. Wildlife benefit from vines left in poor-quality or less-desirable trees, as well as those along forest edges.



Girdling is a process that allows for trees to remain standing dead. To do this, make a continuous encircling cut 1 to 2 inches deep with a chain saw. If herbicides will not be used, double girdle low to ensure favorable sprouts (*see right photo*).



An example of providing free-to-grow space around a young oak tree by deadening trees that were in direct competition.

### **Enhance diversity**

- Promote diversity (different species and age classes) to encourage long-term forest health. Having a nonuniform stand with different stages of growth maximizes the wildlife habitat potential.
- Be aware of existing regeneration. Forested areas are constantly changing; just because desirable trees are currently present does not mean that will always be the case. Taking efforts to promote desirable regeneration helps ensure these areas remain productive into the future.

### **Encourage understory vegetation**

- When performing forest stand improvement work, do not aim for a parklike setting where all the understory vegetation is removed. Ground-level plants are an important source of food and cover to wildlife.
- Areas of increased sunlight and low tree density (e.g., early successional forest habitats) are often beneficial for wildlife. Occasional disturbance treatments like tree cutting and prescribed fire will be required to maintain these conditions.
- Small openings ( $\frac{1}{4}$  to  $\frac{1}{2}$  acre) within the forested areas can create conditions favorable for a variety of wildlife. Not only will these areas create an “edge” effect within the wooded area, but they also can function as perennial food plots, eliminating the need for annual plantings.

## Control invasive species

- Monitor for and control nonnative, invasive species such as bush honeysuckle, callery pear, tree-of-heaven, multiflora rose, and garlic mustard. Left unchecked, these species outcompete native vegetation and are not as beneficial for wildlife.

Take efforts to control invasive species before forest stand improvement efforts since the number of many nonnative species expands with increased sunlight levels.



Nonnative, invasive species like bush honeysuckle (left) and garlic mustard (right) can significantly degrade wildlife habitat.

## Promote water quality

- Maintain wooded buffer strips along creek channels. The Kansas Forest Service recommends leaving a strip of trees and shrubs at least 66 feet wide to protect the stream bank from erosion, enhance fisheries, and to reduce sediment and chemicals entering the creek. Generally, wider buffers are necessary to maximize wildlife benefits.

Even though selling timber products may not be a high priority, a properly conducted timber harvest can be a good tool to improve habitat and receive monetary value for your efforts. When harvesting timber, leave trees that enhance habitat objectives (den trees, food trees, roost trees, standing dead trees) and follow-up with efforts that create favorable future conditions. Postharvest activities can include promoting desirable tree regeneration, culling undesirable species, favoring desirable shrubs and vines, and expanding on areas of lower density to promote low-level browse and cover.

## Plantings

New tree and shrub plantings replenish forests and improve habitat; however, not all species provide equal benefits. Focus efforts on including wildlife-friendly plants that are either not currently present or occur in small numbers. Be sure to select species suited to existing site conditions (soil type and sunlight levels), as well as those that are locally adapted. It is important to use native plant material. Introduced and exotic vegetation may be marketed as superior but can have negative ecological consequences and often does not provide as much wildlife value as native species.

### Food value of common forest trees, vines, and shrubs for wildlife

		Species	Songbirds	Upland Game Birds	Big Game	Small Game	Furbearers
Trees	Elm	Poor	Fair	Good	Fair	Poor	
	Hackberry	Excellent	Fair	Good	Good	Good	
	Mulberry	Excellent	Good	Excellent	Excellent	Excellent	
	Oaks	Excellent	Excellent	Excellent	Excellent	Excellent	
	Osage-orange	Poor	Poor	Poor	Fair	Poor	
	Pecan, Hickory	Fair	Fair	Fair	Good	Fair	
	Persimmon	Excellent	Good	Excellent	Excellent	Excellent	
	Redcedar	Good	Fair	Poor	Poor	Poor	
	Walnut	Poor	Poor	Fair	Good	Poor	
Vines	Grape	Excellent	Excellent	Excellent	Excellent	Excellent	
	Virginia creeper	Excellent	Excellent	Excellent	Excellent	Excellent	
	Greenbriar	Excellent	Excellent	Excellent	Excellent	Excellent	
Shrubs	Blackberry	Excellent	Excellent	Good	Excellent	Excellent	
	Coralberry	Fair	Fair	Good	Poor	Poor	
	Dogwood	Excellent	Excellent	Excellent	Fair	Fair	
	Elderberry	Excellent	Excellent	Excellent	Excellent	Excellent	
	Plum	Excellent	Excellent	Excellent	Excellent	Excellent	
	Sumac	Fair	Fair	Fair	Poor	Poor	
	Viburnum	Excellent	Excellent	Fair	Excellent	Excellent	

Some species in this table may be available through the Kansas Forest Service Conservation Tree Planting Program. Visit [www.kansasforests.org/forestry/conservationtreesandshrubs.html](http://www.kansasforests.org/forestry/conservationtreesandshrubs.html) for more information.

Protect young trees when planting in, or near, existing timber. Deer damage can be a common problem in young plantings because of browsing and/or rubbing. There are several different control methods including cages, shelters, repellents, and fencing, each with varying degrees of success and expense.

Quite often, odd areas or idle acres (unproductive small acreage of farmland) are unsuited for crop production due to flooding or are just too small to farm efficiently. These areas are ideal for planting trees and shrubs that benefit wildlife. If planting these areas to trees for timber products, favor wildlife by establishing an occasional food-producing tree or shrub. For example, in a walnut plantation, plant four or five oak trees per acre and include some fruit-producing shrubs between trees within the rows.

Use new plantings to tie small woodlots together and create travel lanes (protective cover for wildlife travel) between woodlands or from woodlands to water. A tree and shrub mixture is best suited for travel lane plantings.

## **Forest Borders/Edge Management**

Forest borders occur at the edge of wooded areas and contain the transition zone between differing habitats. Often, this includes abrupt changes from grass or crops to tall mature trees. Creating a transition zone of early successional vegetation (young trees, shrubs, vines, and herbaceous plants) can help to “feather” forest edges. These types of “soft” edges benefit wildlife because of the variety of food and cover that they offer to different species.



A transition zone from crop land to mature trees will enhance wildlife habitat.

Crop yields along wooded edges are typically lower than other portions of the field due to competition for moisture and sunlight with existing trees. Instead of continuing to spend resources on areas with low return on investment, use these locations to maximize wildlife habitat, especially for early successional species such as quail and rabbits. This can include leaving two to five rows of unharvested crops adjacent to forest borders or planting native grass/wildflowers and shrubs in areas of lower crop productivity. Financial assistance programs, such as CRP, provide possible options for offsetting the costs associated with taking ground out of production.

Planting native grass/wildflowers and shrubs along the existing edge is a method of improving forest edge habitat. Shrubs might include species such as chokecherry, fragrant sumac, golden currant, and American or sandhill plum. It also is possible to allow a strip of ground to naturally transition into native vegetation. This may involve disking or applying herbicides to the area, especially if it is composed of grasses such as brome or fescue.

On larger forested areas, an alternative to planting is to deaden large trees along the forest border to allow shrubs and small trees to grow in their place. Cutting and dropping all trees within 30 to 50 feet of the wooded edge will create the desired results. Another option for this transition zone is to half-cut (or hinge-cut) trees so their tops or branches touch the ground, thereby creating “living” brush piles. To do this, make cuts 3 to 5



Example of edge feathering by cutting/dropping existing trees; notice the connecting strip of bark left intact for trees that will be hinge cut. *Photos courtesy of Tyler Warner, KDWP (left) and Wes Sowards, KDWP (right).*

feet off the ground, opposite the desired direction of the fall. Make cuts just deep enough so the trees can be pushed over, leaving a connecting strip of bark. Candidates for half-cutting include mulberry, Osage-orange, boxelder, and elm.

## Protection

A good forest protection program is essential to good forest and wildlife management. Grazing by domestic livestock can be one of the worst offenders of a good forest-wildlife program. Keep livestock out of new tree plantings and closely monitor or remove them from mature forests. Research conducted in Kansas indicates that the presence of cattle may reduce growth and natural reproduction of desirable hardwood trees and valuable herbaceous vegetation. Fencing and alternative watering sources are good management tools to limit livestock damage to forests and essential wildlife habitat.

Fire has historically been discouraged in most wooded areas in Kansas; however, recent research indicates that prescribed fire within forests can be a good management tool in specific situations — especially for oak regeneration, invasive species control, and in promoting early successional species and herbaceous vegetation. There are also certain instances, however, where fire may not be recommended. Visit with a local forester and/or wildlife biologist when deciding whether prescribed fire is a good option for your property.



Livestock can degrade forest habitat and damage tree health.



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