

Forest Management

For Wildlife



For the landowner, wooded areas offer aesthetic beauty, improve water and air quality, provide valuable wildlife habitat, and offer income opportunities.



Forest Management for Wildlife

Wildlife is an integral part of the wooded areas of Kansas and a resource that is favored with little or no loss to timber production. Forests offer wildlife 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 (border where two different cover types come together) and benefit from the management of these areas. For the landowner, wooded areas offer aesthetic beauty, improve water and air quality, provide valuable wildlife habitat, and offer income opportunities.

Management



Photo courtesy of USDA NRCS



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

Before developing forest management plans, consider personal objectives. Almost any woodlot can provide some habitat, but targeting desired species allows for more effective management options. 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.



Photo courtesy of Bob Gress

The eastern spotted skunk is one of several threatened and endangered species that benefits from forests and woodland edges.

Kansas forests have great potential as habitat for a variety of wildlife species. Property managers must know the landowner's intent for the area, what wildlife species the owner plans to manage for, and the income that the property is capable of producing. An inventory of the woodland will enable managers to determine which wildlife habitat components are present or lacking. Proper management practices will increase wildlife habitat and increase forest products. These practices include: timber harvest, timber stand improvement, plantings, forest border development, and protection.

Consult a forester or wildlife biologist for questions not answered in this brochure.

Timber Harvest

A timber harvest not only allows the owner to receive monetary value from the property, but also provides a tool to improve habitat. Cutting trees for logs, posts, firewood, or other products creates openings in the canopy. These openings allow for increased diversity and plant growth. Proper harvests keep a constant supply of timber growing and, at the same time, regenerate wildlife food and cover.

Several methods of harvesting trees enhance wildlife habitat. In Kansas, single-tree selection is the most common, however not necessarily the best. It removes individual trees, allowing a large percentage of the forest



Timber from a properly managed forest provides a source of income while increasing wildlife habitat.

floor to remain shaded. Over time, this process discourages the growth of shade-intolerant species (walnut and oak) and favors less desirable species. To promote the regeneration of desirable mast producing species, increase the opening size by removing or deadening inferior trees in close proximity. Increasing opening sizes also benefits wildlife through development of additional understory vegetation.

When harvesting timber, it is important to leave den trees (trees with natural cavities), standing dead trees, food trees, and shrubs and vines. Usually, about three or four den trees per acre (preferably with south facing openings) are sufficient. In any harvesting operation, leave a few food-producing trees such as oak, hickory, pecan, walnut, or mulberry. These species are used by many different kinds of wildlife.

After harvest, do not burn or destroy treetops and branches. These materials provide excellent ground-level cover for wildlife when constructed as brush piles near the edge of the woodland or logging road. Use large material to build a loose base and then stack smaller limbs on top, creating piles 4 to 5 feet high and 10 to 15 feet wide.



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.

Timber Stand Improvement

Timber stand improvement removes inferior trees to improve the growth rate and/or quality of the best, high-valued trees or crop trees. Use this practice to thin a forest by removing trees that are restricting the growth of higher quality or more valuable trees.

By incorporating some of the following suggestions, both wood production and wildlife benefit from timber stand improvement.

1. Leave around seven den trees of various sizes per acre.
2. Do not remove standing dead trees.
3. Kill poor quality, low-valued trees that inhibit the growth of crop trees or those that are suppressing natural regeneration of favorable species. Deadening the undesirables and allowing them to remain standing can accomplish this. Application of an approved herbicide prevents resprouting.

4. When deadening undesirable trees, chemically treat stumps of undesirable species such as honeylocust and Osage-orange. Sprouts from untreated stumps (such as mulberry, elm, oak, and walnut) provide beneficial browse and low-level cover.
5. Thin around food trees such as mulberry, oaks, persimmon, walnut, hickories, dogwood, and pawpaw.

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

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

6. Kill vines that are growing into future crop trees. Wildlife benefits from vines left in poor quality or low-valued trees, as well as those along forest edges.
7. Place thinning material into brush piles near the woodland edge or in the woods to decompose and provide habitat for invertebrates, which may be important food for other wildlife species.
8. Remember to retain 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 from entering the creek. Generally, wider buffers are necessary to maximize wildlife benefits.

When performing timber stand improvement work, do not aim for a park-like setting where all of the understory vegetation is removed. These ground-level plants are an important source of food and cover to wildlife.

Plantings

New tree and shrub plantings replenish forests and improve habitat. Often, land managers neglect to replant harvested areas, resulting in areas that do not contain species for good timber production or wildlife habitat.



A small field planted to black walnut trees provides a future source of high quality timber.

After a harvest, decide whether to maintain openings or allow them to return to forest. This is an “on site” decision based on the need for increased timber production or openings for wildlife. In an area that is in need of wildlife food production, it could be beneficial to replant forest openings with an oak species. If oak is not needed, plant a more valuable tree such as walnut or plant native grass and shrubs to increase forest “edge.”

Take care to 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 for timber products and if properly planned, also will benefit wildlife. When planting these areas to trees, 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.



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

Forest Borders

Forest borders occur at the edge of wooded areas and contain the transition zone between differing habitats. These edges benefit wildlife because of the variety of food and cover that they offer to different species.

A simple method of creating forest borders is to plant native grass and shrubs along the existing edge. 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.

Along crop fields, it is beneficial to leave two to five rows of unharvested crops adjacent to forest borders. Often, these areas are not agriculturally productive because of the root-sap effect of the existing trees. Crops that benefit wildlife the most include corn and milo.

Deaden large trees along the edge of a woodland to allow shrubs and small trees to grow in their place. Create living brush piles by half-cutting trees so their tops or branches touch the ground. To do this, make cuts 3 to 5 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. Do not damage or remove potentially valuable trees in this process. Candidates for half-cutting include mulberry, boxelder, elm, and hackberry.



A fire scar on a black walnut tree. This will decrease value as a sawlog and can lead to decay.



Livestock can degrade forest habitat and damage tree health.

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. Fencing and alternative watering sources are good management tools to limit livestock damage to forests and essential wildlife habitat.

Although fire is used as a forest management practice in various parts of the country, it is not a practice recommended for most wooded areas in Kansas. To protect forests from fire, maintain a firebreak around the woodland edge. In dense forests, fire provides benefits to wildlife species such as bluebirds, kingbirds, bobwhite quail, and turkey but will definitely decrease financial values. Only burn forested areas through close cooperation with a local forester and/or wildlife biologist.

For assistance, contact: Kansas Department of Wildlife and Parks or Kansas Forest Service offices.

Kansas Department of Wildlife & Parks

Office of the Secretary

1020 S. Kansas Ave,
Ste 200
Topeka, KS 66612-1327
(785) 296-2281

Pratt Operations Office

512 SE 25th Ave
Pratt, KS 67124
(620) 672-5911

Region 1 Office

P.O. Box 338
1426 Hwy 183 Alt.
Hays, KS 67601
(785) 623-8614

Region 2 Office

300 SW Wanamaker
Topeka, KS 66608
(785) 273-6740

Region 3 Office

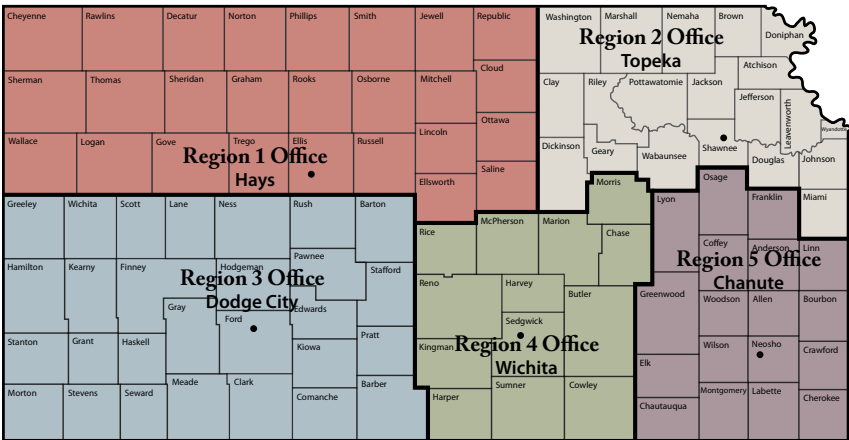
1001 W. McArtor
Dodge City, KS 67801
(620) 227-8609

Region 4 Office

6232 E. 29th St. N.
Wichita, KS 67220
(316) 683-8069

Region 5 Office

P.O. Box 777
1500 W. 7th
Chanute, KS 66720
(620) 431-0380



Kansas Forest Service

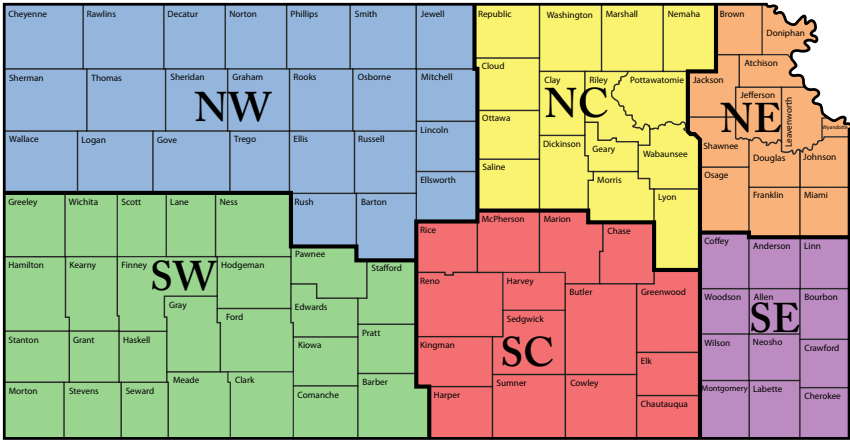
Kansas Forest Service

2610 Claflin Rd.

Manhattan, KS 66502

(785) 532-3300

www.kansasforests.org



Thad Rhodes
Kansas Forest Service

Mike Mitchener
Kansas Department of Wildlife and Parks

Brand names appearing in this publication are for product identification purposes only. No endorsement is intended, nor is criticism implied of similar products not mentioned.

Publications from Kansas State University are available
on the World Wide Web at: www.ksre.ksu.edu

Contents of this publication may be freely reproduced for educational purposes.
All other rights reserved. In each case, credit Thad Rhodes and Mike Mitchener,
Forest Management For Wildlife, Kansas State University, August 2009.

Kansas State University Agricultural Experiment Station and Cooperative Extension Service

MF-2899

August 2009

K-State Research and Extension is an equal opportunity provider and employer. Issued in furtherance of Cooperative Extension Work, Acts of May 8 and June 30, 1914, as amended. Kansas State University, County Extension Councils, Extension Districts, and United States Department of Agriculture Cooperating, Fred A. Cholick, Director.