

# Mowing

Mowing is one of the most common wildlife management techniques, though many who use it do not realize that they are actively managing habitat. For many landowners, mowing is simply a way to keep their property from growing up into “weeds,” briars, shrubs, and trees or to keep their places “looking good.” However, unless some serious thought is put into when, where, how, and why to mow, wildlife may suffer. The purpose of this article is to encourage landowners to question their reasons for current mowing practices and to offer guidelines on the best ways to mow to benefit wildlife.

There are some key facts that every landowner should be aware of with respect to mowing and wildlife. First, mowing during spring and summer will affect and may kill nesting and young animals, ranging from rabbits to deer fawns to northern bobwhite quail. Second, wildlife need uncut areas that have grown up during summer and fall for winter cover. Third, mowing entire fields in a single year is normally not needed to maintain them, and it is certainly not the most beneficial strategy of mowing. Rotational and pattern mowing are better alternatives for wildlife. Finally, a critical point to recognize is that your mowing objective should not necessarily be to rid your fields of “weeds.” A weed is best defined as an undesirable plant, but many plants generally considered to be weeds are highly desirable for wildlife. For example, foxtail, ragweed, and beggars’ lice are top foods of northern bobwhite quail and mourning doves, and insect-rich fields with “weedy” growth provide crucial habitat for quail and songbird broods.

## Objectives

The practical concerns of mowing, such as timing, pattern, frequency, and height, should be determined by the objectives for the area to be mowed. Mowing is often used to maintain grasses and/or legumes\*, such as in a yard or pasture/hay field setting. Some of the most common objectives and the way those can be met are discussed below.

## Lawns

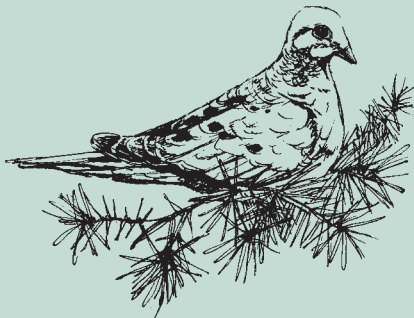
While the height and frequency of cutting for most lawns will limit their benefits to wildlife, they can be enhanced for wildlife by maintaining a grass height of 3 inches, and setting aside extended yard areas, corners, and fencerows for plantings. Order a Backyard Wildlife Kit by calling 1-800-858-1549 to obtain in-depth information on backyard landscaping for wildlife.



Figure 1. Native grasses managed with prescribed burning (above) compared to tall fescue managed with mowing (below). In the burned stand above, note the open spaces at ground level where small animals can move unhindered.



*Many native broadleaf plants commonly called “weeds” are very important to wildlife for food and cover.*



*Many different types of wildlife use areas that are mowed for some part of their life cycle, so mowing constitutes a type of habitat management—manipulating the food and cover plants of wildlife.*

## Haying

The type of forage being used for hay will dictate cutting time. However, making sure that you are cutting at the peak of production may improve the habitat value of the grass or legume being hayed. Grasses should be cut in the boot stage, when the seedhead is just beginning to form and before it fully emerges from the shoot. This is when nutritional quality is highest. For cool season grasses, this means the grasses should usually be cut in late May, which will allow some regrowth to occur or nesting to take place in June-July without the disturbance from mowing. If farmers wait until June or later to cut hay that was ready for cutting in May, the quality of hay will be much reduced and nests of birds like northern bobwhite quail and eastern meadowlarks are much more likely to be destroyed. If only one cutting is needed to meet the hay needs for a particular year, allow the grass to regrow during the following season and omit that cutting. If mowing is used to control summer weeds in cool season pastures\*, wait as late as possible in summer to minimize nest destruction.

Conversion of portions of haylands to native warm season grasses\*, including some late summer producers such as indian-grass and big bluestem, greatly benefits wildlife. These grasses grow most actively from mid to late summer (June-September), so they are cut after much of the wildlife nesting activity has taken place. Contact your local Kentucky Department of Fish and Wildlife Resources (KDFWR) wildlife biologist or call 1-800-858-1549 for more information about these grasses.

## Maintaining Existing Cover

Many landowners mow during summer after the rush of spring activities such as crop planting. If the objective of the maintenance mowing is simply to keep the grass from being overtaken by competition, mow outside of the nesting period (see Timing on page 3). This will allow birds like the northern bobwhite quail and mammals like the eastern cottontail to rear their young during spring and summer without disturbance.

If the objective of mowing is to maintain thickets\* of brambles or young trees for wildlife cover, set up a rotational mowing system. Mow a given strip or plot once every 3-5 years. This will keep woody stems small enough for most mowing equipment to handle.

## Preparing for Other Treatments

Mowing can also be used in preparation for other treatments, such as burning, herbiciding, or overseeding. In the case of prescribed burning\*, mowing can be used around the inside edges of firebreaks to limit flame height and lessen the potential for fire escapes, or on entire fields to ensure that most of the fuel is consumed by the fire. However, a thick thatch can produce more smoke, so if large areas are cut prior to burning you may want to fluff the cut grass with a hay tedder so it will dry more thoroughly before a burn. Mowing may be used before herbiciding to stimulate regrowth and improve herbicide uptake into the treated vegetation. The effectiveness of overseeding legumes during late winter (February) may also be improved with mowing. If a very thick mat of vegetation exists that may block seed from reaching the soil, mow low to the ground and follow with overseeding after the vegetation has decomposed enough to expose some bare soil; if there is a sparse canopy, mowing may be done after seeding to provide a

mulch for the seed.

Mowing is also an invaluable tool for maintaining paths, such as walking trails through fields and woods. Trails can offer you better access for wildlife enjoyment, and they can serve as fire-breaks in the unfortunate event of a wildfire. You should mow these paths only as often as needed to maintain a comfortable height for you and others using them.

### Alternatives to Mowing

Prescribed burning should be considered as an alternative to mowing for managing many fields. Although burning requires more planning, it is usually much less expensive and time consuming than mowing, and produces many wildlife and forage benefits. Consult your local KDFWR wildlife biologist for more information.

Strip disking\* is another good alternative for wildlife instead of just mowing. Rotational disking opens up grass stands and stimulates germination of seed-producing plants.

Sites that are too steep or rough to easily mow may be allowed to naturally revegetate\* with shrubs and trees. Simply abandon the field and allow the wind, wildlife and gravity to establish seedlings. This will likely cut down on erosion and provide more habitat diversity on your property.

### Timing

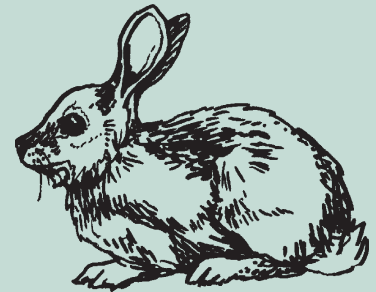
From a wildlife standpoint, mowing should be done outside of the nesting and brood-rearing season, which is mid March to mid August. Thus you should target late winter and late summer for mowing. Late February to mid March and late August to early September are the best times to mow areas that are being managed for wildlife. If an area is being managed intensively for rabbits, winter cutting should be done in January to early February because some nesting begins in late February.

In the case of cool season forages (orchardgrass, timothy, and clovers) that are being managed for hay, it is inescapable that some cutting will have to be done during the peak of nesting season. If you do not need hay from all of your fields to sustain your operation, consider rotating your fields so that portions of your hay fields are left uncut for a growing season or even a year at a time. This will aid wildlife and improve soil and possibly forage quality conditions. A strong advantage of using native warm season grasses (eastern gamagrass, switchgrass, big bluestem, and indiangrass) for hay is that they mature later in the growing season than their cool season counterparts, giving wildlife more opportunities to complete nesting. Do not mow native grasses past September 1 to allow enough regrowth for winter cover and spring nesting habitat. This will also allow the grasses to build up energy reserves necessary for vigorous spring growth.

Fields dominated by broadleaf plants and old field areas that have grown up in woody plants should also be mowed during late winter (February) or early fall (September) to main-



*Figure 2. Prescribed burning is an economical and beneficial alternative to mowing.*



*Perform maintenance mowing in late February to mid March, or mid August to early September, to avoid the nesting season for birds and other animals.*



Figure 3. A field managed with strip mowing.

*The best mowing patterns for wildlife habitat enhancement are strip mowing and random pattern mowing.*



Figure 4. Random pattern mowing creates strips, blocks and islands of cover with different heights.

tain cover and forage for wildlife. The key is avoiding the prime nesting period for birds and other animals.

### **Pattern and Frequency**

Your objectives should determine the mowing pattern. If you are simply using rotational mowing to maintain an area, then it may not matter whether you strip mow or mow in a random pattern, as long as you mow any given piece of ground periodically. On the other hand, if you are mowing field sections for hay, you will want to keep the sections regularly shaped (rectangular or square) to make harvesting more efficient. If you are a rabbit hunter and your objective is visual access, use relatively narrow strips alternated with uncut swaths to allow your dogs

to run rabbits across relatively low cut areas. Whatever pattern you use, try to avoid leaving unmowed cover strips too narrow (less than 100 feet wide) or too small (less than a half acre), as this makes it easier for predators to find the small animals you may be trying to benefit.

#### Strip Mowing

This involves dividing a field into fixed or variable width strips, and rotating your cutting so that a given strip is mowed periodically according to the desired maximum regrowth stage (Figure 3). Most fields that are being rotationally mowed should be cut at least every 3-5 years to keep them from being overtaken by trees. Plots of clover, lespedeza or other legumes should be cut once or twice every year, preferably during the late winter (early March) or late summer (early September) seasons. Areas to be kept in an early successional stage (dominated by grasses and broadleaf plants) for bird brood cover should be clipped only every year or two.

#### Random Pattern Mowing

As the name suggests, this involves passing over a field with random twists and turns of the mowing equipment to produce an irregular-shaped pattern (Figure 4). The randomness created by this type of mowing provides some strips, blocks, and islands of cut and uncut cover.

#### Block Mowing

This mowing pattern is best applied when fields are long and narrow (less than 150 feet wide), where strip mowing or mosaic mowing would create strips of cover that are too narrow. With block mowing, you simply divide a field into thirds or fourths (end to end) and mow each block on a rotation. Mowing entire fields at once should be avoided except in a few situations, such as when you are preparing for other treatments (like spraying, burning, or overseeding), or possibly when you are mowing fields for hay. Another acceptable application of whole field mowing is when you have a series or patchwork of relatively small fields (3 acres or less), where the

entire fields could be mowed on a rotation. Otherwise, mowing an entire field minimizes cover diversity within the field, and increases predation risks for small grassland animals that need the above-ground structural cover that unmowed areas provide.

## Height

The height of mowing is another important consideration. For native warm season grasses, it is critical that you never mow below 6-8 inches or you may damage or kill the grasses. This is because these grasses store a significant amount of their energy in the base of the plant, just above the ground. Native grass seedlings that have strong broadleaf competition the first growing season can be clipped high (10-12") to allow sunlight to reach the seedlings. Cool season grasses are not as susceptible to damage by low cutting, but to provide healthier and more productive stands that will withstand drought conditions you should avoid cutting below 6 inches. In general, areas being managed exclusively for wildlife are best clipped as necessary to about 8-10 inches; this leaves enough stubble to provide some cover until regrowth of the plant canopy occurs. If you are cutting fescue during spring or fall prior to spraying\*, mow it down to 6 inches and allow it to regrow to 8-12 inches before spraying.

## Equipment and Safety Concerns

Mowing can be accomplished with a variety of equipment. Weed trimmers may be used for small areas or fencerows. Lawnmowers with highly adjustable decks may be used for extended yards and some grassland management. Brush hogs (Figure 5) are pull-behind rotary-cutting tractor attachments that are commonly used for mowing grasslands, shrubs, and saplings. Garden and farm tractors with sufficient power can operate brush hogs, which are powered by the tractors' power take-off drives. For higher mowing, some brush hogs may need to have the wheel(s) lowered by inserting blocks above the wheel mounts. For haying, haybines or sickle mowers are often used; these cutting devices have horizontal blades that sever grasses with a single cut, rather than the multiple chops that rotary blades often make to plants.

Mowing can be dangerous, so you should familiarize yourself with accident prevention techniques. The most obvious danger is the cutting mechanism itself; you should never put yourself or another person in close proximity to blades while they are mowing. Another concern is equipment sliding or overturning on steeper slopes. There are many variables that influence tractor stability on slopes, particularly the height and weight distribution of the tractor, so you should follow the manufacturer's safety guidelines for mowing on hills. Operation of mowers on wet grass is also dangerous, so only mow when grass is dry. Another safety concern is debris being thrown from the mower. Mowing equipment should have safety guards, shields, or chains to minimize this danger, but to further reduce it you should never cut with another person close by or in the path that the mower is ejecting debris. Consult with your county Extension agent or equipment manufacturer about available equipment safety information or training.



*Consider using prescribed burning (controlled fire) to manage your fields instead of mowing; it is cost effective, stimulates grasses and legumes, and removes leaf litter that can stifle productivity and impede animal movement.*



Figure 5. Brush hogging is a common mowing technique.

## SUMMARY OF OPTIONS:

### Objectives:

Hay Production,  
Herbaceous/Woody Plant  
Maintenance, Preparation for  
other Treatments

### Timing:

Late Winter, Spring, Summer,  
Early Fall

### Pattern:

Strip Mowing, Random  
Pattern Mowing, Block  
Mowing

### Frequency:

Annually, Biannually,  
3-5 Year Rotation

### Height:

6-8 inches, 8-10 inches,  
10-12 inches

### \*Related *Habitat How-To* references:

Cool Season Grasses  
Cover Thickets  
Edge Feathering  
Fescue Eradication  
Grazing and Haying  
Legumes  
Native Warm Season Grasses  
Natural Revegetation  
Prescribed Burning  
Strip Disking  
Wildflowers  
Wildlife Corridors  
Trees and Shrubs

### *Planning for My Property*



The Kentucky Department of Fish and Wildlife Resources does not discriminate on the basis of race, color, national origin, sex, religion, age or disability in employment or the provision of services and provides, upon request, reasonable accommodation including auxiliary aids and services necessary to afford individuals with disabilities an equal opportunity to participate in all programs and activities.

If you feel you have been discriminated against by this department, contact the Kentucky Department of Fish and Wildlife Resources Commissioner's Office, #1 Game Farm Road, Frankfort, KY 40601.

A portion of this publication was underwritten by the Forest Stewardship Program in cooperation with the Kentucky Division of Forestry.