



# Frequently Asked Wildlife Management Questions

August 2018

Dwayne Elmore  
Extension Wildlife Specialist

Oklahoma Cooperative Extension Fact Sheets  
are also available on our website at:  
**facts.okstate.edu**

## How does fire impact wildlife?

Fire is critical for wildlife biodiversity. Wildlife evolved in plant communities that had fire. Man has changed the fire regime, which has had negative impacts to many species. However, fire can be both positive and negative for a specific species of wildlife, depending on the context. Some wildlife species require frequent fires, while others require less frequent fires. Therefore, the impacts on species of plants and animals are highly variable. To determine the impacts on a particular place a good understanding of individual species' requirements is needed. There are some general notes to consider regarding wildlife: 1) fire temporarily increases the palatability of many plants, which increases forage for herbivores such as white-tailed deer; 2) fire temporarily increases the amount of annual forbs, which many birds, such as northern bobwhite require; and 3) fire temporarily reduces the amount of cover for nesting and escape. How long these conditions last depends on the productivity of the site. It could be as little as one to two years or many years. The important thing to consider when using fire to manage wildlife is to select the appropriate scale (time interval between fires and size of fire) to match the wildlife species of interest. For specific prescription for target wildlife species, consult with a wildlife biologist (<https://wildlifedepartment.com/lands-and-minerals/landowner-programs>) or [dwayne.elmore@okstate.edu](mailto:dwayne.elmore@okstate.edu).

## Does fire kill wildlife?

Rarely is wildlife directly killed by fire. Most wildlife are able to escape an area before it is burned. Many animals retreat underground or fly away as the fire passes. There are some species that are less mobile and are more susceptible to direct mortality. Generally, reptiles and amphibians are more at risk than mammals or birds. Glass lizards and box turtles are two species that are sometimes killed by early spring (late March through April) fire. If managing for box turtle, consider burning before emergence in late March or waiting until July. More important than direct mortality, fire changes the plant composition and structure, which can indirectly impact wildlife either positively or negatively, depending on the wildlife species.

## What time of the year should I burn for wildlife?

You can burn at any time of the year that will meet specific habitat management objectives. Historically, fires

occurred throughout the year, although most locations had specific seasons when fire was more prevalent. In Oklahoma, fires were historically common during the fall and throughout the winter until spring. However, summer fires also occurred. These historic seasons can be problematic for some locations because it may be difficult to safely conduct a prescribed fire. Management objectives and safety will dictate when prescribed fires are carried out. However, managers should not be constrained to a narrow window that has no justification, as this limits the use of fire on the landscape. Late summer or early fall fire can be very beneficial for many species of wildlife (such as white-tailed deer or northern bobwhite), especially when the goal is to maximize forbs. Dormant-season fire is effective to create early spring food resources for some wildlife species such as wild turkey. Early summer (April through June) fire is less useful for most wildlife species, as this is the primary season of reproduction. However, fire frequency is far more important than seasonality. Therefore, regardless of when you burn, make sure to burn often enough to keep the plant composition and structure in the desired condition. For most locations in Oklahoma, that will require burning every two to seven years.

## How often should I conduct a prescribed fire?

The frequency of fire should be determined by management objectives. In Oklahoma, most plant communities are burned every two to seven years. Livestock producers and quail managers will likely want to burn every two to three years, while those managing for white-tailed deer would burn every three to five years in most areas. Other objectives may require longer fire intervals. Contact the local NRCS office (<https://www.nrcs.usda.gov/wps/portal/nrcs/main/ok/contact/local/>) or the Oklahoma Forestry Services (<http://www.forestry.ok.gov/management>) for help with burn plans and specific prescriptions to meet your objectives.

## Should I use supplemental feed for wildlife?

Supplemental feed (i.e. baiting) is legal in Oklahoma and can be used for white-tailed deer hunting on private land. It is not legal to hunt other species of wildlife, such as wild turkey, over supplemental feed. There are many things to consider when using supplemental feed. First,

aflatoxin is a concern for wildlife feeding and should be minimized to the extent possible ([NREM-9021 Aflatoxins in Wildlife Feed: Know How to Protect Wildlife](#)). Feeding is considered unethical to many people and may have implications to the future of hunting in the U.S. due to public opinion of the non-hunting community. Additionally, feeding concentrates animals and can cause damage to the surrounding plant community through excessive animal numbers and concentration.

### **What should I plant in my food plot?**

What to plant in a food plot depends on what wildlife you want to attract and when you want to attract them. Food plots are typically planted for mourning dove, waterfowl, white-tailed deer, ring-necked pheasant and wild turkey. Mourning dove will use many seed-producing plants such as wheat, millet, grain sorghum, corn, soybeans and sunflower. These crops are often manipulated by mowing or burning just prior to the hunting season to increase their attractiveness to dove. See [NREM-9024 Dove Field Management](#) for specifics on planting and managing dove fields. Many of the same plants also are good for waterfowl, especially in or near flooded areas. However, it is NOT legal to manipulate a planted crop for the purpose of waterfowl hunting. Contact your local conservation officer when in doubt. Some of the more useful plants for white-tailed deer in Oklahoma are: oats (southern Oklahoma), wheat, various clovers, alfalfa, soybean, cowpeas, grain sorghum and chicory. Choice of crop depends on whether you want to provide summer forage, early fall forage or winter forage. It also will depend on the soil, the climate of the area and the number of deer on the property. For example, soybean or cowpeas are excellent for providing summer forage and early fall bow-hunting opportunities, but require a fair amount of moisture. Cowpeas are slightly more tolerant of grazing and may be a better choice for areas of high deer density. Alfalfa, grain sorghum or chicory may be more applicable in the drier parts of western Oklahoma because they are drought tolerant. Grain sorghum does not provide summer forage, but is very attractive during the late fall. Alfalfa is a good choice for spring and fall forage, while chicory can provide forage throughout much of the warmer months of the year. Wheat and clovers are attractive during late fall through spring. Wild turkey are attracted to many of the same plants as white-tailed deer. Crimson clover is ideal for a spring food plot for wild turkey. Alfalfa, wheat and grain sorghum are also good choices. Both clover and alfalfa are great for poult due to the high number of grasshoppers they provide. Similarly, ring-necked pheasant benefit from alfalfa and clovers during the fall to early summer. Wheat, grain sorghum and corn are all good for pheasant as well. Wheat also provides good nesting cover for pheasant if harvest is delayed as late as possible. For more information on food plots in Oklahoma, view [E-1032 A Practical Guide to Food Plots in the Southern Great Plains](#) or download the OSU food plot app by searching "wildlife food plots" in the app store.

### **What should I plant for mourning dove hunting?**

Mourning doves will use many seed-producing plants, such as wheat, millet, grain sorghum, corn, soybeans

and sunflower. Corn and grain sorghum are particularly good for late-season hunting. Fall wheat from a May/June harvest can be attractive for dove, although most grain is typically consumed before the September season opens. Newly planted wheat seed is attractive, but check local regulations with your conservation officer to ensure the field is considered legal to hunt. Millet and sunflower are excellent for early season hunting. Sunflower can be hard to grow if deer numbers are high. Soybeans are a good choice for those who want to provide both a summer deer forage and a fall dove field. Be sure to plant a plot of at least three to five acres with soybean or sunflower if dove hunting is a consideration. All of these crops are often manipulated by mowing or burning just prior to or throughout the hunting season to increase their attractiveness to dove. Not only does manipulation make seed available on the ground, but dove require bare ground to forage. Dense litter on the ground will limit dove use of a field. A nearby water source and snags or powerlines for loafing make the field even better. See [NREM-9024 Dove Field Management](#) for specifics on planting and managing dove fields.

### **How do I lease my land for hunting?**

Leasing land for hunting can provide many benefits, such as revenue, control of trespassers and labor. It also has some risk including liability, logistical concerns, and compatibility with farm and ranch operations. If you decide to lease your property, a lease agreement is highly recommended. See [NREM-5032 Lease Hunting Opportunities for Oklahoma Landowners](#) for information on lease hunting and to see a sample lease agreement.

### **My land is mostly cropland, what can I do for wildlife?**

In areas dominated by crop fields, cover is typically limited for most wildlife species. Consider creating or maintaining adjacent fields of native grass, shrubs or trees as appropriate. For some species, such as northern bobwhite, a significant portion of the land should be in native cover to have a large quail population. Shrubs are critical for quail. White-tailed deer and wild turkey can be numerous with less cover, but it is still required. If entire fields cannot be maintained in native vegetation, consider converting field borders at least 30 feet wide to native vegetation. Planting usually not necessary, simply allow natural plant succession take place. Also, consider leaving the outer row of some crop plants (e.g. wheat, corn, milo) standing and unharvested for wildlife. Be cautious about herbicide drift out of the crop field into native plants. Maintain tree cover for wild turkey roosting and loafing. Also, keep the understory of trees open for wild turkey. Some crop fields can be flooded in the winter to increase waterfowl use. For hayfields, delay mowing until mid-July to minimize mortality of deer fawns; rabbits; and quail, turkey and pheasant nests and broods.

### **Are cattle and wildlife compatible?**

Absolutely, but they can be competitive at high stocking rates. Cattle generally consume mostly grasses. Grasses make up a small part of the diet for white-tailed deer, wild turkey and northern bobwhite. Grass does provide cover, especially for ground nesting birds, such as turkey and

quail. Therefore, high cattle stocking rates on the majority of a property can limit nesting success. Also, as cattle stocking rates increase, consumption of potential wildlife forage (especially broad leaved plants) increases. From a wildlife perspective, low to moderate cattle stocking rates are recommended. Additionally, white-tailed deer can become numerous enough that they affect cattle forage, especially on winter wheat fields. Wintering geese also can compete for winter wheat forage. Hunting can help displace geese and reduce deer numbers.

**How do I reduce wildlife mortality from haying and mowing?** The period of April through July is when the majority of wildlife reproduction is taking place. This is when most ground-nesting birds nest and when white-tailed deer have their fawns. Consider delaying hay harvest in native grass fields until mid-July to avoid this period. Not only will this help wildlife, but it will optimize native hay quality/quantity. Consider starting to cut in the interior of a field or working from one side to the other. Ringing the field will trap wildlife in the center and they can not flee. Carefully consider whether mowing is actually needed if not for production. Most mowing is simply for aesthetics and could be reduced. At a minimum, consider mowing only once per year and avoid the April through July period. August or February (depending on the reason for mowing) are generally better times to mow from a wildlife perspective. See [NREM-5006 Reducing Mortality of Grassland Wildlife During Haying and Wheat-Harvesting Operations](#) for more information.

**How do I convert a Bermudagrass/fescue field?**

Aggressively and persistently! Bermudagrass and fescue are difficult to eliminate. If not eliminated completely, they will grow back and dominate the site. Do not rush the initial eradication. Several applications of herbicide is necessary. For Bermudagrass, mow or burn the site in early spring. Once the grass is actively growing in June, spray with glyphosate at a rate of 5 quarts per acre. Follow up with another spray in August or September. Typically, another application will be needed the following summer. Alternatively, you can spray imazapyr once (see label as it varies depending on concentration) in mid-summer. Allow 18 months for the herbicide to work, as imazapyr is soil active and residual. Fescue can likewise be sprayed with glyphosate although only 2 quarts per acre is needed. The first application should be in October and a second application applied in April when the fescue is actively growing. Be sure to mow or burn the site in late summer or early fall prior to the first herbicide application. Alternatively, consider cropping the Bermudagrass or fescue field for two seasons. The combination of cultivation and herbicide application will usually eliminate the perennial grasses. Once the site is clear of the exotic grass, either let natural plant succession happen or plant a native plant mix. Very often, a desirable plant community quickly establishes from the seed bank at no cost to you. Planting is expensive and should only be done when a desirable plant response is not expected on a site or when specific plant species are desired that may not be present in the seed bank. Consult with your local NRCS office (<https://offices.sc.egov.usda>.

[gov/locator/app?service=page/CountyMap&state=OK&stateName=Oklahoma&stateCode=40](http://gov/locator/app?service=page/CountyMap&state=OK&stateName=Oklahoma&stateCode=40)) to discuss options. Regardless of whether you replant or let plant succession happen, follow up by spot spraying for unwanted plants.

**Should I develop water for wildlife?**

Water is usually well distributed in most of the state, and adding water for wildlife is rarely warranted. Further, water for wildlife is an unproven practice for most species. While wildlife often use water, it has rarely been shown to actually benefit them. Wildlife receive almost all their water from the foods they eat. For example, research in Oklahoma has shown that water can concentrate quail, but it did not increase the number of quail even during drought years. However, using water can increase hunting efficiency for some species, such as white-tailed deer and especially mourning dove. If using water to attract dove, make sure there is a gradual sloping area free of litter to encourage dove use, as they need bare ground to feed and drink. Also, having a perch (dead tree, powerline, etc.) nearby will increase dove use of a water source.

**How much land do I need to manage for wildlife?**

This depends on what wildlife you want to attract and your expectations. Migratory game, such as mourning dove and waterfowl can be attracted to areas of only a few acres if there is abundant food resources and limited hunting pressure. A 5- to 10-acre dove field can produce hundreds of dove during the course of the season, when properly managed. Resident species, such as white-tailed deer and wild turkey require large areas for their annual needs. If you wanted to provide everything a population of wild turkey or white-tailed deer require without relying on neighboring land, hundreds or even thousands of acres of habitat would be required. Most landowners do not control enough land to fully support deer or turkey populations. However, even small properties can provide good hunting, provided it is surrounded by large areas of good habitat. In other words, a 40-acre property that is surrounded by several thousand acres of good wild turkey or white-tailed deer habitat can provide outstanding hunting, assuming the 40 acres has habitat that is attractive to the deer and turkey. But that same 40 acres surrounded by miles of uninterrupted wheat fields, will likely be poor for turkey and deer, since there is not enough habitat to support populations. Therefore, it is context specific. Other species, such as northern bobwhite, require large areas to provide quality hunting, as hunters desire many encounters per day. A quarter section (160 acres) of good habitat would typically support four to six quail coveys in a good year. You could reasonably expect to locate about half of those in a typical day. Therefore, if you wanted to encounter four to six coveys in a morning hunt, you would need access to about 320 acres. If the land is only marginal for bobwhite, more land would be needed to have desirable encounters.

**Does oil/gas production affect wildlife?**

There have been several studies that have examined the effects of oil and gas production on wildlife. The results are mixed, depending on the species of wildlife and the density/intensity/distribution of oil/gas development. For example, prairie-chickens and wild turkey have been

shown to avoid oil/gas production areas and the associated roads under some circumstances. Other species such as northern bobwhite, do not appear to be very sensitive to oil/gas activity. In general, areas with limited development should be expected to have low impacts to most wildlife species. As activity increases and more habitat is converted, negative impacts can increase for wildlife.

#### **How many white-tailed deer should I harvest?**

This will vary wildly between properties and depending on objectives. Harvest recommendations could be as many as a deer per 50 acres to no deer harvest during a given year. Consult with a wildlife biologist (<https://wildlifedepartment.com/lands-and-minerals/landowner-programs>) to help determine this. They will need to know your management objectives, evaluate the habitat and estimate the number of deer.

#### **Can you shoot too many northern bobwhite?**

Yes, although this is often not a problem on most properties. Bobwhite have a low annual survival and a potentially high reproduction (assuming the weather is favorable). They can quickly bounce back from low populations. Further, quail can disperse from surrounding properties. Due to these factors, bobwhite can sustain fairly high levels of hunting loss. Harvesting less than 20 percent (including crippling loss) of a population is not likely to cause a reduction in next season's population potential. However, when you harvest can matter as well. For example, quail alive in November have a much lower chance of surviving until the following breeding season than quail alive in February (as much as a 4 times the difference). Practically, this means that many of the quail that are harvested in November would not have survived the winter to be a potential breeding quail in May, whereas many of the birds that are alive in February will survive until May. Therefore, late-season harvest has a higher potential chance of being negative than does early season harvest. This does not mean that you should not shoot birds in February, but it does imply that more thought should be given to late-season harvest in some situations. For example, if you are hunting an isolated small population with little chance for quail immigration from surrounding properties, harvest is potentially more impactful.

#### **How do I attract more wildlife to my home and yard?**

When providing habitat for wildlife, consider food, cover and water. Different species of wildlife have varying requirements. Many homeowners wish to increase the presence of various songbirds and pollinating insects. White-tailed deer and rabbits are desired by some homeowners, but due to potential damage to ornamental plants, they are often discouraged in the home landscape. To attract a variety of birds, provide a mixture of trees and shrubs scattered across the landscape. Some of these woody plants should be dense to provide cover and others should provide fruit for food. Blooming plants will be attractive to insects and hummingbirds. Try to have plants that vary in bloom period to provide food resources throughout the year. A clean water source is attractive to many species of birds throughout the year. Brush piles and dense ground cover will attract

snakes and lizards. While snakes are feared by many people, they are beneficial animals that can add some excitement to your landscape. Bird houses will be used by some cavity nesting bird species as well as bats and squirrels (depending on the size of the house). Consider retaining dead trees, assuming they pose no risk to your home, as they will attract woodpeckers and other cavity nesting birds. Minimize the use of pesticides so insects are abundant. Not only will the insects themselves provide interest to your landscape, but many of them are food for birds.

#### **How much should I thin my forest for wildlife?**

Thinning forest for wildlife is an extremely beneficial practice. It is one of the most dramatic things that can be done to a property to benefit wildlife, but yet few landowners practice it. Forests can be thinned by commercially harvesting trees, cutting, herbicide or with fire, depending on the circumstances. For northern bobwhite, the forest should be aggressively thinned so that at least 60 percent of the canopy is opened to sunlight. Reducing the overstory to only 25 percent would be better for quail. To maintain this open canopy, fire every two to three years will be needed. For wild turkey and white-tailed deer, thinning the forest so 50 to 75 percent of the canopy remains and burning every three to four years would be desirable. Which trees to remove and which to retain will depend on the forest stand composition and the desired wildlife species. Consult with a forester for specific management recommendations (<http://www.forestry.ok.gov/management>). Thinning forests will also benefit many species of nongame animals, such as box turtles and eastern bluebirds.

#### **What can I do for wild turkey?**

Rio Grande wild turkey are distributed across most of Oklahoma and the eastern wild turkey occur in southeastern Oklahoma. Both have similar habitat requirements. The primary needs are adequate nesting cover (dense grass, shrubs or fallen trees), brood cover (broad leaf herbaceous plants and insects) and roosting cover (trees). Ensure stocking rates of cattle are light to moderate, so adequate nesting cover exists. Delay mowing and haying until mid-July. Use periodic fire or disking (disking only on previously cultivated sites) to increase forbs and insects for wild turkey and their broods. Thin large areas of dense forest to allow sunlight into the forest and stimulate forbs. Burning these thinned forested areas every two to four years will be beneficial. Food plots can concentrate birds during the spring hunting season. Clovers, oats, wheat and alfalfa are especially attractive during the hunting season. In areas of western Oklahoma where tree cover is limited, maintain large cottonwood, hackberry and elm for roosting cover. Keep the understorey of roosting trees clear of shrubs and eastern redcedar. For more information about managing wild turkey, see [E-1045 Ecology and Management of the Rio Grande Wild Turkey in Oklahoma](#).

#### **How do I improve the habitat for white-tailed deer?**

First, if you have dense forest, thin it! This cannot be stressed enough. Thin the midstory and overstory so at least 25 percent of the canopy is open to sunlight and



then burn the forest every three to four years. Retain some mast-producing trees, such as oak. Cut elm and hackberry and allow the stumps to resprout because they provide excellent browse, assuming deer can reach the leaves and stems. If you have open grasslands and shrublands, burn every two to four years and keep cattle stocking rates low to moderate. Minimize herbicides, except when controlling undesirable plants, and then spot spray to retain desirable plants. Deer mostly eat forbs (broadleaf herbaceous plants) such as ragweed, sunflower, lambsquarters, etc. during most of the year. During the winter, vines and short-statured woody plants are consumed. If spraying these plants across your pastures, do not expect many deer. Convert areas of non-habitat (e.g. Bermudagrass and fescue) to fields with forbs, vines and shrubs. Many vines provide good deer food. Leave blackberry, greenbrier, and Virginia creeper alone along forest edges and old fence rows. These dense thickets will be used by deer heavily during winter. If bedding cover does not exist, create it by felling some trees in scattered locations near food sources. Ideally, use hinge cuts when creating cover. To do this, cut the tree at about waist high and only cut one side until the tree falls over. Allow the tree to stay connected to the stump so it is elevated on the stump. This provides more cover. Food plots can be part of the habitat mix, but that should NOT be all you do. See [E-979 White-tailed Deer Habitat Evaluation and Management Guide](#) for more information.

#### **When should I draw down and flood my wetland for waterfowl?**

Timing of drawdown and flooding will vary depending on the site. For flooded crop fields (e.g. corn and soybean), drawdown is typically either as soon as waterfowl season is over or waterfowl start to depart. At a minimum, drawdown the field with enough time so it dries out for cultivation and planting. The site should be flooded once the crop is harvested and waterfowl start to arrive (October). Note that soybean deteriorates quickly when submerged. Therefore, if hunting a flooded soybean field in late season, the field should not be flooded until November or December. For moist soil areas that have native plants or planted millet, the flooding timing will typically be October as well, but the drawdown timing will often be different. Generally, a slow drawdown through the early summer provides a better plant response than does a rapid winter or early spring drawdown. However, depending on the seedbank, this is not always the case. Cocklebur can be very problematic with summer drawdowns. Experimenting with different drawdown timings is often helpful to determine what works best on your site. Herbicides may also be needed to manage undesirable plants such as cocklebur, Johnsongrass, sumpweed and shoreline sedge. Contact your local NRCS office for help (<https://www.nrcs.usda.gov/wps/portal/nrcs/main/ok/contact/local/>).

#### **How can I have more pheasants?**

Ring-necked pheasants occur in north-central and north-western Oklahoma (including the panhandle). Despite many attempts, pheasants do not persist in central or southern Oklahoma. Pheasants are not native to the

US. They do best in landscapes that have a mix of grain crops and dense grass cover. In areas of crop, such as wheat, corn and grain sorghum, there is great potential for pheasant. In areas where grain crops are limited, food plots may be useful. However, the limiting factor for most areas in Oklahoma is cover. Pheasant need grass cover for nesting and loafing. This is usually tall, native grass, but cattails and brushy fences rows are also used. Make sure there are large patches of dense cover spread across the property and that it persists throughout the year. Leaving the corners of center-pivots in grass or planting tall grasses in waterways across crop fields can increase pheasant numbers. Delay mowing and haying until mid-July to increase nest and brood success. Consider delaying wheat harvest as late as possible because pheasant often nest in wheat fields. Leaving some standing crop through the winter can be beneficial to pheasant, as it will enable them to feed with overhead cover. This is especially important for sorghum and corn. Heavy hunting pressure will push pheasant off of the property, so consider how many people are using the property and for how many days. For more information on pheasant management, visit [NREM-9017 The Ring-Necked Pheasant in Oklahoma](#).

#### **What can I do to increase prairie-chickens on my ranch?**

Most properties in Oklahoma have far too many trees to support prairie-chickens. If prairie-chickens are an objective, trees in the uplands should be removed. Assuming the landscape is mostly treeless, native grasslands and shrublands should be maintained with periodic fire (every two to four years) to keep the landscape from becoming forested. To provide nesting cover, make sure that 25 to 50 percent of the prairie is unburned each year as prairie-chickens strongly prefer one to two years residual growth for nesting. This is especially important near existing prairie-chicken leks (where males congregate in the spring), as most hens will nest within about 2 miles of leks. Cattle stocking rates should be low to moderate to ensure grass cover persists throughout much of the year. Minimize herbicide use. Prairie-chickens require forbs (broadleaf herbaceous plants) for food. Plants such as ragweed, Illinois bundleflower and sunflower are important plants for prairie-chickens. Indiscriminate pasture-wide spraying is not compatible with prairie-chicken management. Instead, spot spray problem weeds, such as sericea lespedeza, Johnsongrass and musk thistle.

#### **Why the concern about the lesser prairie-chicken?**

The lesser prairie-chicken (LPC) has experienced dramatic reductions in distribution and abundance in the southern Great Plains, including Oklahoma. The species was briefly listed as a threatened species under the Endangered Species Act, but is currently not listed. Two of the primary factors that have led to the reduction in LPC are the conversion of grasslands and shrublands to crop and eastern redcedar encroachment. Programs that provide incentives to convert crops back to grassland (e.g. Conservation Reserve Program) and to remove trees from upland areas are important to recover the LPC. For more information about the LPC, see [E-1014 Habitat Evaluation Guide for the Lesser Prairie-Chicken](#).

**Is climate change real, if so does it affect wildlife?**

The overwhelming evidence presented by climate scientists from around the world concludes that the climate is rapidly warming. Climate has never been static, but the evidences strongly suggests that the current changes being seen are related to the carbon emissions from humans. This is already affecting many wildlife species due to sea-level rise, changes in precipitation, heat stress, timing of migration, spread of invasive plants, changes in food availability, etc. Climate change can be both negative and positive to various species of wildlife and is something that everyone will have to account for in future management plans. Some ways that climate change is anticipated to affect wildlife in Oklahoma include: delayed migration of waterfowl, stronger boom/bust cycles in northern bobwhite and increased heat stress on nesting prairie-chickens.

**Should I be concerned about the Endangered Species Act?**

Many landowners are understandably concerned that regulations associated with the Endangered Species Act (ESA) will restrict their options. While this is possible, it is not likely under most situations. Alternatively, many landowners are able to access financial or technical resources due to an ESA species that might not have otherwise been available. For information on the ESA and what it might mean for you, visit [NREM-9018 What You Need to Know About the Endangered Species Act](#).



# The Oklahoma Cooperative Extension Service

## WE ARE OKLAHOMA

The Cooperative Extension Service is the largest, most successful informal educational organization in the world. It is a nationwide system funded and guided by a partnership of federal, state, and local governments that delivers information to help people help themselves through the land-grant university system.

Extension carries out programs in the broad categories of agriculture, natural resources and environment; family and consumer sciences; 4-H and other youth; and community resource development. Extension staff members live and work among the people they serve to help stimulate and educate Americans to plan ahead and cope with their problems.

Some characteristics of the Cooperative Extension system are:

- The federal, state, and local governments cooperatively share in its financial support and program direction.
  - It is administered by the land-grant university as designated by the state legislature through an Extension director.
  - Extension programs are nonpolitical, objective, and research-based information.
  - It provides practical, problem-oriented education
- for people of all ages. It is designated to take the knowledge of the university to those persons who do not or cannot participate in the formal classroom instruction of the university.
  - It utilizes research from university, government, and other sources to help people make their own decisions.
  - More than a million volunteers help multiply the impact of the Extension professional staff.
  - It dispenses no funds to the public.
  - It is not a regulatory agency, but it does inform people of regulations and of their options in meeting them.
  - Local programs are developed and carried out in full recognition of national problems and goals.
  - The Extension staff educates people through personal contacts, meetings, demonstrations, and the mass media.
  - Extension has the built-in flexibility to adjust its programs and subject matter to meet new needs. Activities shift from year to year as citizen groups and Extension workers close to the problems advise changes.

Oklahoma State University, in compliance with Title VI and VII of the Civil Rights Act of 1964, Executive Order 11246 as amended, and Title IX of the Education Amendments of 1972 (Higher Education Act), the Americans with Disabilities Act of 1990, and other federal and state laws and regulations, does not discriminate on the basis of race, color, national origin, genetic information, sex, age, sexual orientation, gender identity, religion, disability, or status as a veteran, in any of its policies, practices or procedures. This provision includes, but is not limited to admissions, employment, financial aid, and educational services. The Director of Equal Opportunity, 408 Whitehurst, OSU, Stillwater, OK 74078-1035; Phone 405-744-5371; email: eeo@okstate.edu has been designated to handle inquiries regarding non-discrimination policies; Director of Equal Opportunity. Any person (student, faculty, or staff) who believes that discriminatory practices have been engaged in based on gender may discuss his or her concerns and file informal or formal complaints of possible violations of Title IX with OSU's Title IX Coordinator 405-744-9154.

Issued in furtherance of Cooperative Extension work, acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, Director of Oklahoma Cooperative Extension Service, Oklahoma State University, Stillwater, Oklahoma. This publication is printed and issued by Oklahoma State University as authorized by the Vice President for Agricultural Programs and has been prepared and distributed at a cost of 20 cents per copy. 0818 GH.