

# White-Tailed Deer Management

White-tailed deer are found in all 67 Alabama counties. In fact, huntable populations of deer thrive close to all major metropolitan areas of the state. Deer hunting pumps millions of dollars into Alabama's economy each year, and recreational demand for deer hunting is growing rapidly.

Increasing numbers of landowners in Alabama are realizing the potential income from leasing their land to deer hunters. Others have capitalized on this demand by opening commercial hunting operations.

Considering their present abundance and the accounts of early explorers to Alabama, it's hard to imagine that deer were once nearly eliminated from the state. Fewer than 10,000 deer, restricted largely to isolated river bottoms of southwestern counties, existed in Alabama during the early 1900s.

Protection, favorable land-use changes, and restocking deer in suitable habitat allowed populations to respond dramatically. Alabama's herd now numbers in excess of 1 million deer.

## Physical Characteristics

The long necks of white-tailed deer and the antlers of mature males give the appearance of an animal of considerable size, but deer seldom stand taller than 40 inches at the shoulder. In fact, most measure less than 36 inches tall.

Size and weight vary according to sex, age, nutrition, and genetic composition. Adult bucks may weigh from 65 to more than 200 pounds. Does generally weigh about two-thirds as much as bucks.

Deer have a keen sense of smell. They rely upon smell to detect danger, identify other animals, and locate food. Deer have large, cupped ears that can rotate, giving them an acute sense of hearing. Their eyesight, though not as well developed as other senses, readily detects movement over a wide field of vision.

Deer, like cows, have compound, four-chambered stomachs that allow digestion of plant materials. Initially, food enters the first chamber or *rumen*. From there, it may be regurgitated and chewed further as

cud. The other three chambers are the *reticulum*, the *omasum*, and the *abomasum*, respectively.

Muscles and skeletal structure of deer are well adapted to running. Deer are capable of exceeding 30 miles per hour for short intervals. Weight is carried on the toes, and some bones of the feet are fused to extend their gait. Bones of the shoulders and front feet are encased entirely in muscle, adding greater flexibility to limb movement.

## Life History

Alabama white-tailed deer fawns are usually born during July, August, and September. However, in some scattered populations, fawns are dropped during May and June. At birth, white-tailed deer weigh only 4 to 6 pounds.

Fawns are born with a reddish-brown coat covered with white spots that allow them to blend naturally with patterns of sunlight and shade. This coat is gradually replaced by brownish-gray winter hair. Weaning usually occurs by 4 months of age, but fawns may remain with their mothers for more than a year.



In Alabama, bucks and does breed during winter, usually from late December through February. Bucks and does normally breed for the first time in their second winter. Much of the breeding by males is performed by older, socially dominant bucks. Consequently younger males, though sexually mature, play a minor role in breeding.

Occasionally, on very good range, does conceive during their first winter and give birth when 1 year old. Does bearing young for the first time usually give birth to only one fawn. Thereafter, does typically have two fawns each year if the food is adequate.

Young bucks start growing antlers during their first spring when they are about 9 to 12 months old. The paired antlers are bony outgrowths from the skull. Growing antlers are supplied with blood vessels and are covered by hairy skin called velvet.

Antler growth is usually complete by late September. The velvet then dries and is sloughed or rubbed off. These hard, polished antlers are kept throughout the breeding season and shed during late winter. Growth of new antlers begins almost immediately.

### Habitat Needs

The white-tailed deer is one of the more adaptable large mammal species in the world. Given adequate protection, deer thrive over a wide array of land-use types and, often, close to humans.

Deer habitats are composed of different quantities and qualities of food, cover, and water. The number of deer that can be supported in good physical condition on any given land area is called the carrying capacity of that habitat.

**Food.** Deer require an abundance and variety of nutritious foods for growth, reproduction, and maintenance. The amount and nutritional content of available food will affect deer productivity, health, size, and antler growth. On the average, a deer eats 4 to 6 or more pounds of food daily for each 100 pounds of body weight. During a year, one deer may eat more than a ton of food.

Deer have been known to feed on thousands of different food items. Generally, food is selected according to its availability, nutritional value, and taste. The preferred food of deer may vary from area to area and may change seasonally. Table 1 lists some of the foods deer eat. Besides foods listed in this table, legumes are also extremely good deer foods.

During spring through early fall, deer eat succulent grasses, legumes, weeds, fleshy fruits, assorted agricultural crops, and the tender growth of shrubs, trees, and vines. During fall and winter, their diet shifts to acorns, evergreen leaves, succulent green growth of small grains, and stems of many woody plants.

**Table 1. Deer-Browse Plants In Alabama.**

Common Name	Scientific Name	Rating
Common Persimmon	Diospyros virginiana	H
Strawberry Bush	Euonymus americanus	H
Ashes	Fraxinus spp.	H
Japanese Honeysuckle	Lonicera japonica	H
Southern Crabapple	Malus angustifolia	H
oaks	Quercus spp.	H
Blackberry, Raspberry,		
Dewberry	Rubus spp.	H
Greenbrier	smilax spp.	H
Sweet Pepperbush	Clethra alnifolia	H-M
Hollies	Ilex spp.	H-M
Wild Grapes	Vitis spp.	H-M
Red Maple	Acer rubrum	M
Rattan Vine	Berchemia scandens	M
Trumpet Creeper	Campsis radicans	M
Flowering Dogwood	Comus florida	M
Swamp Cyrilla	Cyrilla racemiflora	M
Yellow Jessamine	Gelsemium sempervirens	M
Virginia Sweetspire	Itea virginia	M
Yellow Poplar	Liriodendron tulipifera	M
Waxmyrtle	Myrica cerifera	M
Blackgum	Nyssa sylvatica	M
Blackcherry	Prunus serotina	M
Sweetleaf	Symplocos tinctoria	M
American Beautyberry	Callicarpa americana	M-L
Eastern Redcedar	Juniperus virginiana	M-L
Sweetgum	Liquidambar styraciflua	M-L
Sweetbay	Magnolia virginiana	M-
Redbay	Persea borbonia	M-L
Elderberry	Sambucus canadensis	M-L
Sassafras	Sassafras albidum	M-L
Blueberry, Huckleberry	Vaccinium spp.	M-L
Boxelder	Acer negundo	L
Buttonbush	Cephalanthus occidentalis	L
Sourwood	Oxydendrum arboreum	L
Rhododendron	Rhododendron maximum	L

H=High

M = Moderate

L=Low

Food items must be from ground level to 4 1/2 feet high to be available to deer. Tender, palatable stems of vines and trees are useless, regardless of their abundance, if they are out of reach for deer.

**Cover.** Deer can inhabit a variety of sites, but the areas providing the best cover include an even mixture of mature hardwoods, croplands, brushlands, and pasturelands.

An uneven aged woodland with scattered openings is best since it produces an abundance of succulent vegetation within easy reach of browsing deer. Such an area also provides plenty of resting and bedding room.

**Water.** Although deer get some water by eating succulent foods, they require free water for drinking almost daily. Streams, ponds, and other wet areas

are used regularly for drinking. Access to water does not limit deer abundance in Alabama. But, during periods of drought, water may influence the habitat they use.

### **Herd Management**

Deer herds are managed primarily by selective removal through hunting. Unlike other game animals in Alabama, deer have few natural predators to keep populations in check. Sport hunting takes the place of natural predators.

If un hunted or lightly hunted, deer increase rapidly until their numbers exceed available food supplies. As this occurs, preferred foods are eliminated, herd productivity is reduced, and the health and size of the animals begin to decline.

Continued population increases often cause long-term habitat destruction. The incidence of disease and parasites increases. Ultimately, natural mortality rises and, occasionally, widespread die-offs occur.

Once a deer population reaches the carrying capacity of the habitat, the growth must be stabilized. About 35 percent of a deer population must be removed annually to stabilize the population. Intensive buck-only hunting rarely removes more than 10 to 15 percent of a population. Removing significant numbers of antlerless deer (does) is necessary to keep a deer herd from becoming overpopulated.

### **Buck Management**

Many sport hunters are interested in increasing their opportunities for taking a trophy buck. Such objectives demand that deer populations be reduced enough to ensure that adequate nutrition is available for good body and antler growth. Hunters must also be willing to conserve younger age classes of bucks and allow them to reach potential trophy age (4 to 7 years).

It is normal for Alabama bucks to have spikes when they are yearlings. Given time and good food, almost all will develop nice racks as they get older. Do not eliminate all spikes because of the mistaken belief that spikes are a sign of genetic inferiority. Removing spikes is not recommended as a way to increase antler size.

Alabama Department of Conservation biologists can help landowners and hunting clubs define management objectives and outline harvest strategies through the Deer Management Assistance Program. If you or your club is interested in this program, write to the Alabama Department of Conservation and Natural Resources, Division of Game and Fish, 64 N. Union, Montgomery, AL 36130.

### **Habitat Management**

The capability of land to support deer is influenced largely by vegetation types and condition, soil pro-

ductivity, and weather patterns. Land may be manipulated to increase the number of deer it can sustain and to improve nutritional plants for existing populations. Ideally, a mixture of habitat types, over relatively small areas, should be provided for deer.

Several land/forest management techniques are very valuable for managing deer habitat. They include prescribed burning, timber thinning, food plantings, and fertilization programs.

### **Prescribed Burning**

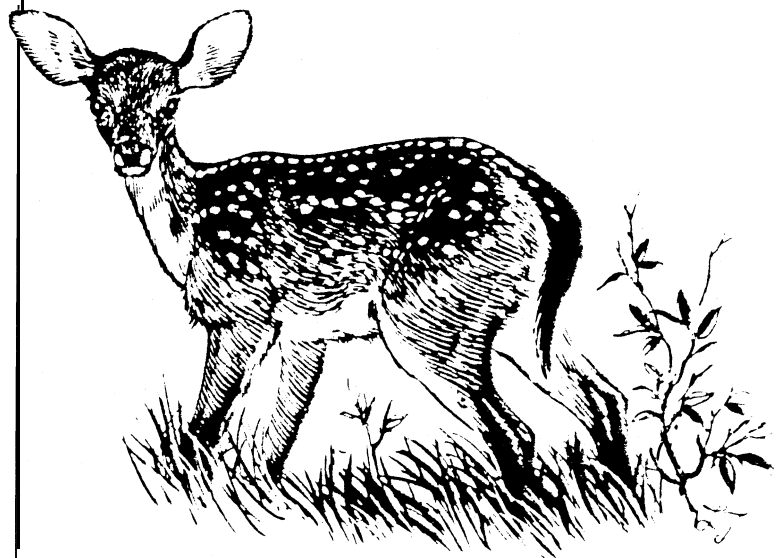
Prescribed burning is an effective method of increasing the abundance and improving the quality of deer forage in old fields and pine-dominated woodlands. Additionally, prescribed fire is an excellent timber management tool.

On most sites, deer forage is increased by burning small blocks of woodlands on a 3- to 5-year cycle. This is attained by burning about one-fifth to one-third of all suitable areas each year. Preferably areas no larger than about 200 acres should be burned in any one block. For deer, restrict fire use to February and March.

The Alabama Forestry Commission and private forestry/wildlife consultants can provide technical assistance to landowners who are inexperienced in prescribed burning. The commission also will plow fire containment lanes at a small fee for landowners.

### **Thinning/Cutting**

Extensive stands of mature timber allow very little sunlight to reach the forest floor. As a result, little plant growth is found in the 0- to 4 1/2-foot range where deer feed. Thinning or clearcutting small blocks of timber (1/2 to 10 acres in size) opens the forest canopy and allows more sunlight to reach the forest floor. Consequently, deer food abundance and availability are increased.



Logging roads and food plot margins are often good sites for cutting or thinning. The edges of these areas may be maintained in deer forage production by periodic burning or mowing (every 3 years). When thinning or cutting, try to avoid cutting down trees that are producing good deer food. Good, natural deer foods are listed in Table 1.

Manage forest stands to maximize different types of food for deer. Manage large stands of timber on an uneven-age basis so that trees of all sizes and ages occur throughout the stand. Small, even-aged stands provide good habitat if they are mixed in among other stands of different ages.

### Food Plantings

Food plots are frequently planted to supplement native foods and to attract deer for hunting. Small grains and clovers are planted as a winter grazing source for deer. Seeds of corn, grain sorghum, beans, and peas are energy-rich foods that are suitable for food plots and are planted during the spring and summer.

Food plots should be from 1 to 5 acres in size to help ensure adequate food production and availability. Larger plots may be needed for summer plantings of beans or peas in areas where deer populations are high.

Soil test; then lime and fertilize according to recommendations. The correct lime and fertilizer is absolutely necessary for optimum production, nutrient quality, and use of food plantings by deer. Table 2 gives recommendations for several fall green

field plantings. County agents can help with suitable plant varieties, planting dates, and methods.

### Fertilizing

Fertilizing woodlands and patches of native vegetation is an effective but underused method of attracting deer. Nutritional content and production of Japanese honeysuckle may be increased by light, periodic applications of complete fertilizer during spring and summer. Deer are attracted to these natural food plots by the improved nutrition and taste of fertilized plants.

Acorn yields of oaks may be increased by applying regular fertilizer from spring through summer. Apply a complete fertilizer under the drip-line of selected trees, beginning at flowering (usually during early April) and every 6 weeks thereafter through September.

**Table 2. "Green Field" Crop Planting Recommendations.**

Crop	Seeding Rate Per Acre
Clover, Crimson	20-30 pounds broadcast
Clover, White	2-4 pounds broadcast
Wheat	90-120 pounds drilled or broadcast
Ryegrass, Winter Mixture:	40 pounds broadcast
Clover, Crimson	15 pounds broadcast
Clover, White	2 pounds broadcast
Ryegrass	10-15 pounds broadcast
Wheat	60-90 pounds broadcast



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**For more information**, call your county Extension office. Look in your telephone directory under your county's name to find the number.

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