

PATTERNING YOUR

Big bucks often are highly visible during the long, lazy days of summer. But, when they appear in separate ways in a month or so, they won't seem quite so easy to figure out. Here, we turn sightings into autumn hunting success. by Dr. James C. Kroll



1987 BUCK

*Their antlers harden and they go their
an expert tells how to turn summer*

As a trophy-deer biologist, late summer is my greatest stress period. It is a time when the behavior patterns of bucks change dramatically, and you just don't see many bucks moving about. It is a time when some members of my hunting clubs start yelling, "You see? We told you that we killed all the deer last year!" And, in spite of the fact that I know perfectly well what is going on, I myself begin to have doubts about my management recommendations. My anxiety finally is relieved when the rut brings a lot of bucks running from all over the place and puts smiles on the faces of the hunters.

In this article, I will discuss the late-summer behavior of whitetail bucks, based on my research on the subject, and present some tactics you might employ to harvest that trophy buck in the upcoming season.

BASIC SUMMER BEHAVIOR

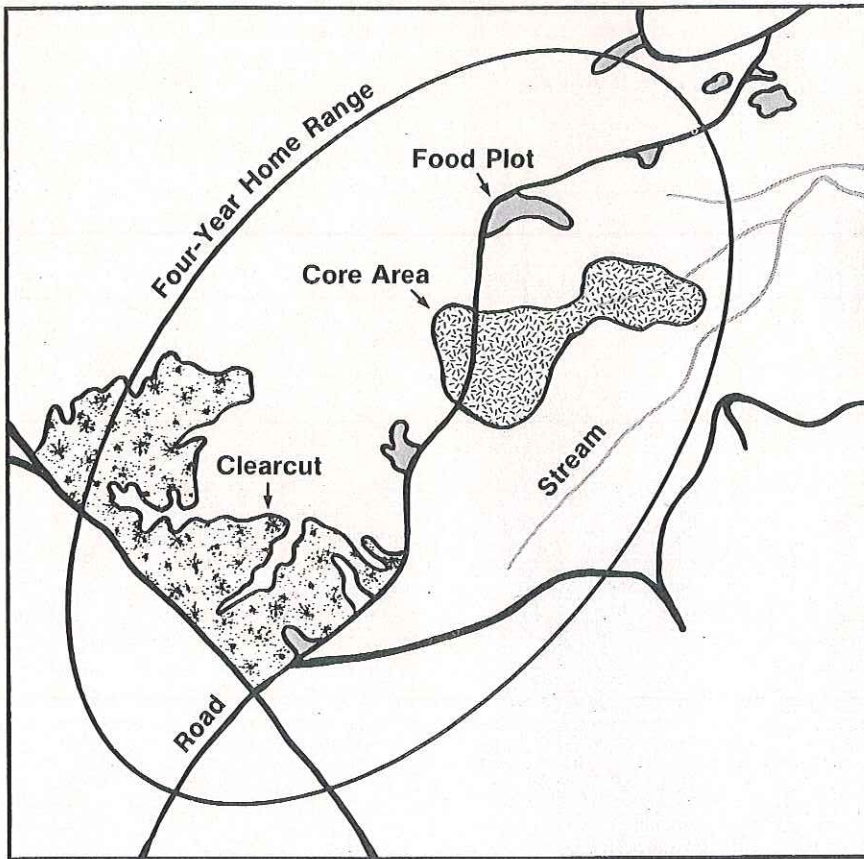
Bucks of all ages spend the summer in social groups made up of two or more individuals. Soon after the antler drop in late winter, bucks that would have fought to the death just a few months previously suddenly become "bosom buddies." The number of bucks in such groups is mostly dependent upon the number of bucks that survived the previous rut and hunting season. A number of my radio-collared bucks spend the rut traveling well over a 7,000-acre area, but come the spring, there they are, right back together. Although I abhor giving human characteristics to animals, I often am amused at the thought of the "boys" getting back together in the spring and telling tales of the rut. This is a time when surviving yearling bucks join social groups.

Social groups originate for two reasons. First, as with doe social groups, there is a great deal of advantage to traveling in a group. The greater the number of eyes and ears, the greater the chance of detecting a predator. Social groups also make finding and efficiently utilizing food a lot easier. And, the social position a buck gains during these times will greatly influence his chances of mating successfully during the coming rut... *Continued*

Socialization of bucks includes many interesting behavior patterns, some of which are quite subtle. Hunters often think of the rut as the time when bucks fight for dominance. Actually, this is true only in the few cases in which two strangers chance to meet. Most of the social dominance is worked out months in advance of the rut. A look here or a gesture there often can mean a lot to another buck. A buck social group is similar to a group of teenaged boys in that dominance often is attained without physical contact. Demonstrations of prowess and strength often can get the message across far better than an actual fight. Bucks will fight during the summer social period, but in odd ways. I have seen bucks in the wild and in my breeding pens bite, kick, butt and even mount each other in attempts to intimidate a rival.

in order to grow antlers. Hence, bucks seek out the plants that are high in protein content and highly digestible. On any range there are plant species that are called "ice cream" plants by biologists. These plants are both high in protein and extremely digestible. They often are high in phosphorus, which is critical to hardening of the antlers. Plants such as honeysuckle, greenbrier and blackberry fall into this group and are relished by bucks.

My telemetry studies also have shown that bucks tend to associate their summer home ranges around drainages. The general foraging pattern of bucks is to feed in the uplands during the spring, while plants there are still succulent and nutritious. Then, in summer, bucks withdraw to the wetter creek-bottom soils, in order to take advantage of the longer growing season there. Consequently,



This map illustrates the fact that, although a whitetail buck may range over a large area during the course of his lifetime, he has only one place he regards as "home." Find it now, and you may bag him during the pre-rut. Map Courtesy: Dr. James C. Kroll.

Home range during the summer probably is quite small throughout much of the whitetail's range. My telemetry studies in the Pineywoods of East Texas have shown that a buck group may occupy on a few hundred acres during the June-August period. Because this is a time when bucks are trying to replenish food reserves lost during the last rut, as well as grow antlers, buck groups often live within the finest forage-producing areas on the range.

Although the food habits of whitetails are geographically variable, there are some generalizations that can be made about the feeding habits of summer bucks. First, bucks require about 16 percent protein in their diets

drainages become the "highways" by which bucks move from one feeding area to the next. And during the coming rut they will be the "travel corridors" between rutting territories.

By the end of the summer, buck social groups begin to break up, and bucks become sedentary and solitary. At this time, buck movements are so abbreviated that the wildlife manager is hard pressed to see a buck on the area. As noted, this is when I begin to have my doubts about the coming season. But what really is happening is that each buck must go through a host of complex physiological and behavior processes during a very short period of time.

It may sound chauvanistic, but the doe

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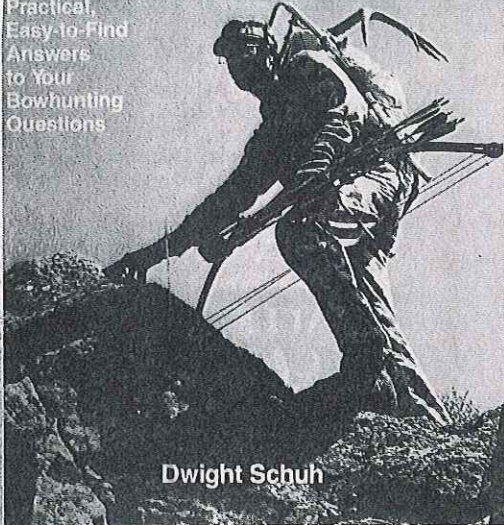
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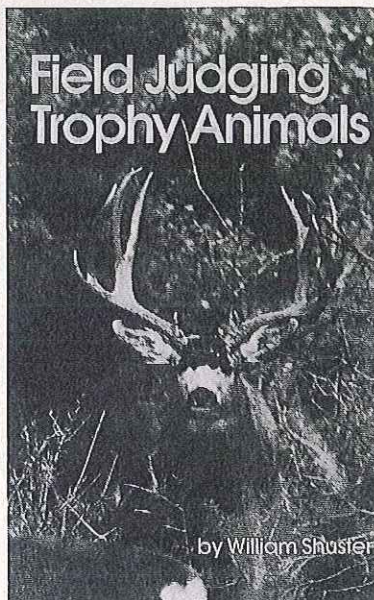
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really has little to face during the coming rut. Except for a brief 24- to 48-hour interval in which she receives a great deal of attention from the bucks, the doe is faced only with day-to-day survival. The buck, on the other hand, must spend the entire rutting period on little food and even less sleep. Therefore, he must prepare his body during the late summer for three to four months of intense activity and stress. The sequence and timing of events is precise. First, he must molt his worn-out red summer coat and replace it with a grayish coat of hollow, insulating hair. This takes a great deal of energy and protein. Next, he must complete velvet-antler growth and then replace the cartilagenous antler framework with bony antler. This requires the movement of large amounts of minerals from the bones to the antlers. Mineral reserves are near depletion when the velvet finally is shed in late summer.

The velvet shedding and pre-rut period consume a great deal of the buck's energy and nutrient reserves. Because a buck may be called upon to do battle with an invading stranger, he must develop his neck muscles in a manner similar to an NFL lineman. This is accomplished by rubbing the antlers against anything that will present a resistance. Hence, the buck spends most of the early-fall period performing isometric exercises on the vegetation. A single buck will rub an incredible number of trees in a single day. For example, one Ohio nursery experienced several thousand dollars' worth of damage to nursery stock. A hunter was called in, and he harvested a tremendously large buck scoring above 160 Boone and Crockett (B&C) points. To everyone's surprise, the damage ceased immediately, and the nursery lost no more trees. I have recorded as many as 53 rubs produced by one buck in a single day!

During the late-summer isolation period bucks usually limit activity in and around the summer core area. The core area is the place where the buck centers most of his day-to-day routine. The size of the core area usually is small; it may be less than 100 acres in size. I recently examined several buck core areas in order to gain an understanding of their characteristics. In an overwhelming number of cases the core area occurred in conjunction with a drainage and contained very thick vegetation within easy reach.

I also often found signposts near the buck's bedding area. Signposts are large-diameter trees that, provided the buck is not disturbed, are rubbed year after year. The largest-diameter signpost I have seen is better than 10 inches. Although each buck may have a favorite signpost, more than one buck may use the same tree. Finding a signpost almost guarantees you that you have found a core area.

The pre-rut period of early fall finds bucks occupying pretty much the same areas, although home-range size begins to enlarge at this time. The buck social group now has broken up, but bucks still encounter each other regularly without much incident. Young bucks will take advantage of chance meetings to spar and practice their fighting

skills. Yearling bucks, having just left their mothers, often travel together in twos and threes for companionship. It is too late for them to join buck social groups, and the "big boys" want little to do with them. Naive yearling bucks experience high mortality and often are the first to fall to the bow or gun on opening day.

The last remaining days prior to the rut are spent consuming as much high-energy, high-fat nutrition as possible. In years of a good mast crop acorns and soft fruits, such as grapes, are consumed in large quantities. Some browse plants also may be high-energy food sources. In agricultural regions, crops such as corn are highly attractive to pre-rut whitetails. I recently traveled to Wisconsin to study deer-movement patterns during the pre-rut. The deer exhibited a very predictable behavior pattern. They would bed in brush thickets such as tag alder during the day and forage among the corn stubble and residual grain at night.

Just before the rut the whitetail buck is a creature to behold. He is at his physical and mental peak and is prepared for the hardships to come. He is at his prime, but he also is at his most predictable this time of the year. If you take advantage of this, you have an excellent chance of scoring on a big buck.

USING THE BASICS TO SCORE

All of this information about deer behavior is nice, but what does it have to do with actually harvesting a trophy buck? If you understand what bucks are doing at the end of the summer and where they are doing it, you have an excellent chance to outwit even the most wary one during open season. Most states and provinces give the sportsman the opportunity, whether it be by bow or gun, to hunt the pre-rut period. I firmly believe that this is the **only** time when the truly big bucks are predictably accessible — provided you have a well-thought-out game plan. Here are some tips on developing such a plan:

First, as noted, bucks pretty much stick to their summer home ranges and core areas well into the pre-rut period. Hunters often make the mistake of believing that 1,000 acres of woods all are deer habitat. Nothing could be farther from the truth. On close examination, you will see that a buck will utilize only a small portion of the available habitat. That you saw a buck or buck group regularly during the spring and early summer is no indication that you will see a buck in the same location come the season. Remember that deer are basically creek-bottom animals for much of the year. In late summer there is little palatable forage available in the uplands. Besides, bucks are not in need of protein during the early fall. Remember the physiological requirements of bucks in the fall. They are seeking high-energy and high-fat diets.

If you regularly observed bucks in a general area during the social period, obtain an aerial photograph or topographic map of the area and find the nearest drainage system. You pretty well can be assured that the bucks will be concentrating their activities in and around

one of the nearby drainages. They will try to utilize a drainage that has (1) thick escape cover nearby; and (2) a ready supply of high-energy food. The latter may take the form of a heavy acorn crop or an agricultural crop. Identify several such areas on your map. You now are ready to go to the field.

The most efficient method I know for locating potential trophy-buck areas is to search for signposts and other rubs. The interesting thing about bucks during the pre-rut period is that they are more than happy to show you exactly where they are and the paths over which they travel. It is almost impossible for a buck to travel from its bedding to its feeding site **without** stopping to rub small trees on the way! Over a period of several days the exact path(s) a buck takes will stand out as clearly as if the animal had painted a white line on the ground. If left undisturbed, over a few years' time a buck will leave an unmistakable trail of its pre-rut activity pattern. I map these trails on my aerial photo every year, until I have developed a "highway" map of my hunting territory. Even if a buck is harvested from an area, other bucks soon will adopt the vacant territory and use the same trails. The bigger bucks occupy the prime territories, so smaller bucks are quick to jump in when an old patriarch is dead.

It often is useful to determine which direction the buck takes from his bedding to the feeding area. Early in the pre-rut period it is possible to study the rubs themselves for clues. A tree generally is rubbed on the side from which the buck approached it on his travel pattern. Bucks tend to rub more in the morning than in the evening during the pre-rut. I really do not know why, but they do; it probably is a result of penned-up emotions during the night. The rubs make an excellent release for the frustrated buck. Later in the season trees may become rubbed completely through, and it then may be impossible to judge the buck's direction of travel.

I also use a little trick to work out the timing of a buck's travel. Wearing rubber boots, I walk adjacent to the buck's trail and note the location of each rub. A small piece of plastic tape on a tree easily marks each rub's location. I walk this "survey line" three times a day and examine the trail with binoculars. I carefully note the time period in which new rubs are worked or old rubs re-worked. With a little practice and some careful note-taking you can develop the ability to discriminate a freshly worked rub from an old one.

It also is useful to obtain some idea of **where** a buck travels each day. A little common sense will help in this case. Conduct a survey of food sources within a reasonable distance of the core area. Remember, just because a stand of hardwoods is nearby does not mean that the buck will be traveling there to feed. Oaks are notorious for being unpredictable in acorn production. It is very rare for a single tree to produce a heavy crop of acorns two years in succession. A little knowledge about the fruiting habits of oaks would be helpful.

White oaks produce fruit in the same year

in which the flowers are pollinated. Red oaks, on the other hand, flower one year and produce acorns from these flowers the following year. Consequently, white oaks can respond to a favorable year immediately, while red oaks must wait until the next season to produce a good crop of fruit. Again, careful record-keeping will pay off! If you record a heavy acorn crop this season and the majority of the stand is made up of red oaks, you can be pretty sure that the area will *not* produce well the next year. You then might limit your search to a white oak-dominated stand.

A good pair of binoculars also comes in handy in predicting the acorn crop. A close examination of the limbs during late summer will tell you something about the potential acorn crop. Most hunters feel that a bumper acorn crop will make hunting easier, but this is not necessarily so. I have found that a reduced acorn crop is most beneficial, because in such cases bucks will be searching for those few trees that have acorns. You likewise should search out these trees and concentrate on them. White oaks usually are the preferred acorn, so I **always** map the location of these oaks on my game-plan map.

Stand location is critical in hunting pre-rut whitetails. Some hunters locate their stands too close to bedding areas. I locate bedding areas only to give me an idea of the direction a buck will travel when leaving its bed. I limit my hunting, however, to the trails leading to and from the pre-rut feeding areas. The proximity of stand location to the bedding area is determined by the number of potential feeding areas. In an abundant mast year, it is better to locate the stand closer to the bedding area, because the buck has more options for feeding. In poor mast-crop years, however, a single oak may receive most of the buck's attention. In such cases fewer trails will be utilized, and the hunter should take the "safe" tactic of hunting farther from the bedding area.

I may be sounding like a broken record by now, but **do not** use permanent stands to hunt trophy whitetails. Stand placement is critical to success, and too many hunters set their stand location in cement. That is, the hunter will decide exactly where he is going to place his stand, and then he places it there no matter the scent condition. A well-placed stand upwind from the buck's travel corridor is worthless! There is only one way to assure that your stand is always in the proper position: Carry it in with you on the day of the hunt, and carry it out when you leave. Pick two or more possible stand locations for each buck and trail hunted, and be prepared to adjust for the wind, sun and other conditions.

In these days of increased demand for trophy bucks, it is becoming more and more difficult to score. The best edge you have is to study the late summer and pre-rut behavior patterns of your bucks, and develop a strategy accordingly. Remember: Once the rut begins, no amount of telemetry research ever has been able to predict what a rutting buck will do. Why not put your best effort into hunting that trophy buck when he is most predictable?