BUILDING YOUR OWN
'DEER FACTORY'

A Checklist For Good Deer Habitat

Whitetails need a great year-round food supply, the right types of cover, water and protection from poachers if they're to reach their potential. Here's how to tell if your hunting area measures up.

by Dr. James C. Kroll

Last month, we discussed the concept of "landscaping" a property to maximize its whitetail potential. This month, I want to get you acquainted with the materials and procedures you need to analyze the habitat elements in your hunting area.

HOW DOES YOUR LAND MEASURE UP?

In order to analyze a hunting property, you will need a few important items. The first and most critical is an up-to-date aerial photograph.

Acquiring such photos once presented a problem, as sources were fairly limited and obscure. But, today, aerial photos are available from local resource-management agencies, such as state forestry services and the Natural Resources Conservation Service (the old Soil Conservation Service). For many areas, fairly recent photos also can be obtained over the Internet, through such Web sites as www.terraserver.com.

The next items you will need are a soils map and a topographic map, both of which can be obtained either commercially or through the same agencies noted above. While soil and topo maps often are not as accurate as aerial photos, they are indeed useful for an initial analysis of deer habitat.

Whitetails perceive their world in very simplistic terms. The first and foremost life requirement is food, which is why we have spent so much ink over the years discussing what we call "food-source management." As the deer food on a property goes, so goes the health of the herd.

It is important to understand that, for their size, whitetails eat a lot. Your own stomach will hold about a pound or two of food, which might seem like a lot. However, the average whitetail has a series of "stomachs" that, in total, hold as much as 10 to 12 pounds of food!

Deer need larger stomachs for two reasons: (1) Plant matter is not dense in nutrients, so it takes a lot of it to provide a deer with what it needs; (2) Being prey animals, deer need to gather as much food as they can, as quickly as they can, and then return to hiding to digest their meal.

Under the *best* of conditions, the average native habitat produces only a few hundred pounds of usable whitetail forage per acre per year. Food plots greatly expand this value, with a single acre of food plot sometimes growing enough forage to match the production of 100 acres of unplanted land. This is why a system involving year-round food plots and other food-source management methods pays such tremendous dividends for the manager.

The first step in analyzing your deer landscape is to assess how much food you have on the property and exactly where it is. An aerial photo can help you come up with a rough idea, but in the end, this is one area of management that takes an investment of old-fashioned shoe leather.

Using your photo, walk around the property, stopping periodically to ask yourself, "What and how much food is available here for my deer?" *A good rule of thumb is that prime foraging areas are those that are hard to walk through but do not exceed 6 feet in height.* Of course, not every area of short, thick cover will be made up of good deer food, but this at least will give you a starting point for analyzing the forage supply. As you walk over the land, keep your aerial photo handy and draw in those areas (if any) that are providing adequate deer food.

You probably will find that most areas of low, thick vegetation in your hunting area have only a light canopy of trees, if any. A heavy canopy inhibits the growth of understory vegetation by blocking out too much sunlight. A forest made up of taller trees can supply adequate amounts of deer forage, but it can do so only if the canopy is open enough to permit light to reach the forest floor. This is why we often recommend thinning or even clearcutting timber as part of a management program.

The average deer woods will supply about 300 pounds of forage per year, while a clear-cut or natural opening can provide up to 1,500 pounds per acre. But not all of this is good forage; in fact, in most cases, no more than 50 percent is good forage, so the available portions quickly

You might never grow a giant such as this on the land you hunt, but providing the right habitat components will greatly improve your odds. Photo by Mike Biggs.

reduce to 150 to 750 pounds. Further research has shown we cannot permit deer to eat more than half of this amount without potentially causing habitat damage, meaning we now are down to 75 to 375 pounds of forage per acre per year.

An average whitetail will eat about 10 to 12 pounds of forage per day, but the species evolved in an environment that does not provide equal nutrition throughout the year. Those of us involved in research generally agree that whitetails can get by fine on 210 days of foraging per year, with the rest of the year being rounded out with assorted fruits. Thus, it takes a little over a ton of forage to get an average deer through an average growing season.

What this leads to is that *on the average property, it will take around 25 acres of native woods or 5 acres of openings (re-growth) to support a single deer in good health. Food plots, on the other hand, produce as much as 5 tons of food per acre, thus supporting several deer per acre.*

Using this analysis, divide the native woodlands on your property by 25 and the natural openings by 5 and then multiply the food-plot acreage by 3. The number you get when this has been done is roughly the number of healthy deer that can be supported by the food supply now available on that land.

For example, let's say the property is 235 acres: 177 acres of woods, 52 acres of woods openings and 6 acres of productive food plots. Roughly how many deer is this land now likely to provide enough food for? The answer is easy enough to calculate. Dividing the 177 acres of woods by 25 gives us 7.1, which we would round off to 7. Dividing the 52 acres of openings by 5 gives us 10.4, which we would round off to 10. Multiplying the 6 acres of food plots by 3 gives us 18. Without knowing any more than this, we can come up with an extremely rough estimate of 35 deer (1 per 6.7 acres) as the productive capacity of the land.

But does this mean the property will in fact provide for all the needs of 35 whitetails on a year-round basis? Not necessarily. For one thing, the food supply could be seasonally limited, forcing deer to leave the property to forage in tough times.

But even if there is enough deer food present, the property could be lacking in other ways. Remember the old adage, "Man does not live by bread alone?" So it is with whitetails. Other habitat requirements also can limit the utility of your property for deer, and the most important of these is *cover*.

In earlier installments in this series, I discussed the two basic types of deer cover: thermal and screening. But let's examine these concepts again, because they are so critical to holding deer on a piece of land.

Thermal cover is the type that protects deer from extreme cold or heat, while screening cover protects them from detection. Thermal heat cover is composed of closed canopies with little understory, so air can move freely. *Cold* or *winter cover* is made up of evergreen species that not only protect deer from falling precipitation but prevent the flow of air. As the name implies, *screening cover* allows deer to hide.

There is one final component to the initial analysis of your deer land: its "poachability."

How much cover is enough to allow a property to be fully stocked with healthy deer? Our studies at the Institute for White-tailed Deer Management and Research have indicated that no more than 30 percent of an area needs to be in good cover. (Note that this acreage can and often does overlap with the nutrition side of the equation; cover doubles as foraging habitat in many cases, especially as concerns screening cover.)

Once you have walked the property and pinpointed the locations of these various cover areas, the next step is to mark them on your aerial photo.

Water is the final major habitat element. Although surface water is not as important to whitetails as food or cover, in drier climates a lack of available water can prevent animals from using the landscape completely. Cattlemen have known this for years, and as a result, they distribute water sources to encourage better utilization of the available forage. Again, using the aerial or topo map, indicate the water sources on your property.

There is one final component to the initial analysis of your deer land: its "poachability." Last month, as you might recall, I noted that a public road bisects my own land in East Texas, presenting formidable problems in regard to poaching. If you have a similar situation, thoughtful analysis and assessment of the poaching potential is in order.

Using your aerial photo, maps and an on-the-ground reconnaissance, force yourself to *think like a poacher.*



A soils map, available through various sources, can show your habitat's potential for growing good deer food and cover. Photo by Michael Skinner.

In other words, if you were going to shoot a deer, how would you do so on property to which you have no legal access?

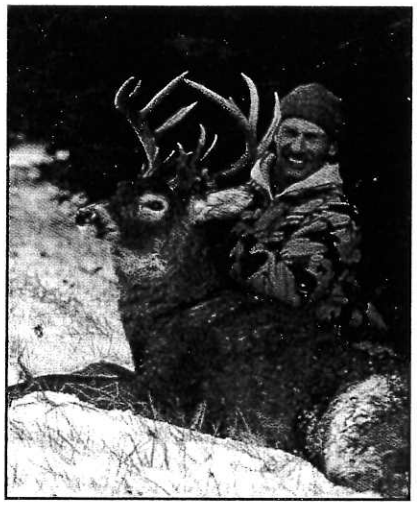
An example of a high-probability poaching area might be a powerline right-of-way that crosses your property. Setting up a property's habitat features to encourage deer to walk out in sight of the public also is asking for trouble. Yet, believe it or not, I have analyzed properties that had food plots planted in full view of public roads.

Some poaching incidents are highly planned, but others occur when a person who is not hunting unexpectedly sees a buck near a road or other public area. Either way, the manager's goal is to keep deer from being seen by the public. This is where a topo map can be of great help. If the elevation of a road is lower than most of the area, thus reducing visibility from a vehicle, you will have fewer problems. Also, by skipping a few hundred yards to put a hill in the way of passersby, I have had good luck planting food plots on rights-of-way crossing public roads.

The next step is to do some high-tech "snooping" of your own hunting property, as well as that of your neighbors. For this reason, it helps to have a current aerial photo that includes a significant portion of the land around you. That lets you see what neighbors are doing with their land and predict what it means to the deer using your property.

For instance, let's say a neighboring farmer suddenly begins planting soybeans where he never has. His bean field could both help *and* hurt your situation. On one hand, he is providing the local deer with a high-protein food source; on the other hand, he is drawing deer off your land.

Fortunately, soybeans are of the greatest utility to deer outside hunting season, so this planting might not have much negative effect. On the other hand, a farmer planting corn can have a serious impact on the huntability of the herd; even after the harvest, corn continues to draw deer. Also, corn does not provide adequate nutrition, and that can negatively impact fawn survival and/or antler growth. If you have nothing but native forage on your side of the fence, this can be a serious situation.



Thick evergreen cover that blocks cold winds and precipitation is one of the keys to keeping deer on your land all winter. Photo by Tom Evans.

THE FINAL ANALYSIS

Once you have this preliminary analysis completed, the next step is to overlay the basic management unit (an 80-acre block) on your land. Of course, most properties are not square, so it might take some effort to fit an overlay of an 80-acre grid on your map, but it can be done.

I like to show foraging areas in one color (e.g., green) and show the various cover components in other colors. This simplifies viewing of the landscape and helps you to see how the areas relate to each other. Areas that overlap in utility can be given a cross-hatched pattern. You also might use red to show areas with known or potential poaching problems.

The simplest analysis using this system is to ask yourself the basic question: "Does every one of my management units supply all of the needs of deer living there?" As I often have pointed out, the idea is to develop your land to provide "one-stop shopping" for deer. What this means is that every management unit should maximize the necessary landscape elements: food, cover and water.

In this series, we often have noted that using simplified population models can help you determine the number of deer needed to accomplish your management goals. When you combine these goals with a landscape analysis of your habitat, the result is more and healthier deer.

Let's take, as an example, an 80-acre unit that contains 35 acres of open-canopy forest, 10 acres of natural openings, 30 acres of dense hardwoods, 2 acres of food plots and 3 acres of rights-of-way. From a forage standpoint, the area will support about 1,600 "deer-days" per year. Dividing this number by 210 (days), we see that in its current condition, this management unit will support approximately seven deer. Cover provided by the two forest types exceeds the 30 percent level, so it is not a limiting factor. Of course, other deer will share the area, but the seven-deer figure is pretty accurate. This allows you to make sound decisions about the management of your land.

Other analyses you might conduct would include how the various units affect each other and how your units might be affected by what happens on neighboring properties. In each case, however, you now have an effective tool for making your land the best place for deer to live.

When I applied this concept to my own land, I happily discovered it could support many more deer than my neighbors' land, helping me protect more bucks from premature harvest. Because of the demands of research, years later we erected a high fence around the property; however, before we did, *our deer population more than doubled each season*. The reason lay in how I laid out the landscape and how we hunted it.

"How many acres do I need for managing deer?" is one of the most common questions I get. The answer depends on what you want to accomplish, as well as a number of other variables; however, with as little as three management units (240 acres), many managers have significantly improved deer size and numbers. Yes, the more acreage you have, the easier it is to maintain healthy deer and good hunting; however, applying the principles discussed here will allow you to have a positive impact on your herd and your hunting.

(**Editor's Note:** Next month, we'll see how serious private-land management helped an avid Georgia hunter bag the state's top typical buck of 2001.)