

Spying On Deer

PART 3

When infrared-triggered monitors are used to observe buck behavior at mock scrapes, some interesting facts are revealed. Here's what this research means to you as a trophy hunter.

by Dr. James C. Kroll & Ben Koerth

Last month, in Part 2 of this series, we discussed how biologists are now using infrared-triggered cameras to obtain more-accurate counts (and even individual identification) of wild deer, which has been an important step forward in research and management. This month, we want to tell you how to set up your own monitors for best results. Then we will reveal the results of our recent camera research on scraping activity, which should make you a far more effective trophy hunter.

When we discovered the utility of these monitors for studying deer, an entirely new door was opened. For the first time in our years of study at the Institute for White-tailed Deer Management and Research, we could actually "spy" on whitetails without human presence influencing their behavior. We now have thousands of photos of deer doing everything from feeding to breeding!

A major advantage offered by these monitors is that each photo is clearly imprinted with the time of day at which these behaviors are being demonstrated. Having this information allows us to relate time of activity to various environmental factors, such as moon phase, weather and habitat type. For example, using this technology, we have tested many popular moon models, in the process discovering that most fall far short of predicting actual activity patterns.

GETTING STARTED

How many monitors does the average hunter really need? Many of you can get by nicely with just one. Most units are reasonably priced, and the life expectancy is quite long, provided you take care of your gear.

We have found the best approach is to place monitors so that they overlook either a bait station (where legal) or a scent station. They work fairly well on trails but are limited by the odds of your having picked the right one.

As noted in Part 1 of this series, there are two basic types of infrared-triggered monitors: active and passive. Active models have separate transmitters and receivers; they must be positioned so that a deer will break the beam, triggering the camera and a computerized event counter.

The best approach with such a unit is to place it fairly low to the ground. (Do not overestimate body height. Many hunters think a deer is much taller than it really is. In most regions, about 2 feet is adequate.)

The distance between transmitter and receiver must be no more than 10 yards. The camera should be mounted so that it covers the area between the two units and thus will photograph any deer breaking the beam. (Most models come equipped with a provision for limiting the number of photos taken in a given time period, so you don't burn up a roll of film on an old doe that decides to pose for a while.)

If legal to do so, put bait about halfway between the units. Limit it to a small pile, to keep the deer in the camera's view as they feed.

Passive units have a single unit that senses changes in temperature. When a warm-blooded animal comes into the field of "view," the



In a controlled experiment, the authors' research team prepared a number of mock scrapes with an assortment of scent treatments and then monitored the sites with infrared-triggered cameras. The results varied, but one finding was consistent: All treatments attracted deer. Photo by Ben Koerth.

MARK S. WERNER

unit and camera are activated. In most such units, however, the area of coverage is much too large, so we cover both sides of the sensor with duct tape to restrict coverage to only a narrow band in front of the sensor. You also need to place the unit high enough to avoid triggering by non-target species, such as raccoons, that might hit the bait.

In areas where baiting is not legal at any time of year, we suggest you position a unit along a well-used trail or use deer scent (discussed in detail later) as an attractant.

We prefer to run our research cameras for at least a couple of weeks during each season of the year. Most hunters, however, are interested only in activity just prior to and during deer season. In such cases, you can set up your cameras a few weeks before opening day.

In addition to recording the date on which a photo is taken, most units store the time of each event, whether the camera was triggered or not. Each time you visit your unit, you thus can review the number and timing of events recorded since you last reset the monitor.

Whether you obtain your activity data from photos, the monitor's memory or both, the next step is to analyze the data to determine activity patterns of deer in the area. The accompanying graph shows just such an analysis and compares activities derived from baiting stations to those from scent stations. These graphs were developed by dividing the 24-hour clock into hourly intervals, then adding up all of the events recorded during each time period.



A Cam Trakker monitor caught this nice buck coming to a scrape. In the authors' October study, most scraping activity by mature bucks occurred at night.

Just count the deer photographed between 12 midnight and 1 a.m. during a two-week monitoring period, then add up all the events from 1 a.m. to 2 a.m., and so on. Using graph paper, make the vertical axis the number of observations for each one-hour time interval and the horizontal axis the 24-hour clock. Notice how a pattern emerges!

Once you get the hang of it, you can get really technical in your analyses. Suppose, for example, you want to repeat our research on the effect of moon phase or position on deer activity where you hunt. All you have to do is total up the number of events for each moon phase or position to see which feature the most deer activity.

Now, let's look at another way we have used the cameras to study whitetail behavior — one that really took us by surprise.

MONITORING ACTIVITY AROUND MOCK SCRAPES

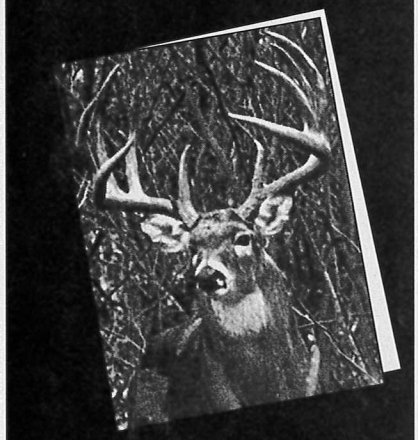
Although many hunters claim to have successfully employed deer scent over the years, through mock scrapes and other tactics, as trained researchers we often have been skeptical of some of the claims about them; in fact, for years we dismissed them as gimmicks marketed to lure hunters more than deer. So, we decided to put these highly touted "hunting aids" to a scientific test, using unmanned cameras to study deer response and behavior to visual and olfactory (odor) cues from scrapes and scents.

What trophy hunter has not reveled at the site of a fresh scrape? Newly pawed dirt virtually steaming from a buck's recent visit is often seen as being akin to finding the Holy Grail! All you have to do is set up within sight of that spot, and the season quickly will end with a big buck in your possession, right?

Unfortunately, the truth about scrapes is sometimes far different from the mystique. To understand what they really mean to you as a hunter, you first have to understand their part in the whitetail's life cycle.

Although scrapes can appear at almost any time of year, we know from numerous studies that they are primarily constructed during the pre-rut and early portion of the rut. Also, we know whitetails use scrapes in order to communicate with each other, through scent deposited in and

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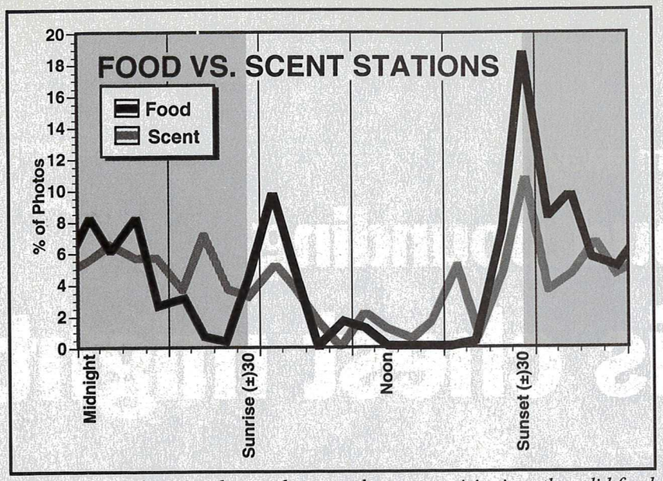
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JAMES VALLEY SCENTS



In the authors' late-October study, scent drew more visitations than did food during daylight. But regardless of the attractant, peak activity was within 30 minutes either side of sunset. Graph by Polly Dean.

around them. What's more, it's not just bruiser bucks that engage in scraping activity; young bucks and even does also make them.

All of this means there is little guarantee that watching a scrape will be productive for a trophy hunter. However, we now are certain that scrapes can be made more attractive, somewhat increasing the probability of a big buck coming to visit during shooting hours. Let's see how.

Whitetails might be living proof of the old adage "Believe none of what you hear and only half of what you see." A deer won't always believe its ears or eyes, but we guarantee it always will believe its nose, because that is its first line of defense. The deer-scent industry has flourished in response to hunters wanting to capitalize on this important tendency. As a result, over the years hunters have been provided with a veritable arsenal of scent formulas purported to attract deer.

Many of these products are designed, at least in part, to be used in conjunction with scrapes. Unfortunately, scrapes do not always occur when or where we hunters would like. Many hunters thus have resorted to making artificial ("mock") scrapes in favored hunting locations. Doctored with a liberal application of commercial scent, a mock scrape is watched intently, in hopes a shooter buck will be lured within sight of the hunter.

Do these setups really work? Is the class of buck you are looking for going to be attracted to a mock scrape in daylight? Do commercial scents make scrapes more attractive? Do different kinds of scents attract does vs. bucks, or big bucks vs. small ones? These are just a few of the questions we had in mind when we put our infrared-triggered cameras to work on the topic.

Our study was conducted during the last two weeks of October in an area where deer normally breed from late October into early November, so we were in what might be called the "early rut" period. Active scrapes were apparent throughout the area at this time.

We wanted to test the relative effectiveness of various scrape and scent combinations in this study, so we came up with a number of treatments. They were as follows:

(1) mock scrapes with no deer scent of any type applied;

(2) mock scrapes with "rutting buck" scent applied;

(3) mock scrapes with "estrous doe" scent applied;

(4) mock scrapes with both "rutting buck" and "estrous doe" scents applied;

(5) "rutting buck" scent poured directly onto the ground, with no mock scrape; and

(6) "estrous doe" scent poured directly onto the ground, with no mock scrape.

Four sets of each treatment were randomly assigned; then a monitor-and-camera system was set up on each, so we could get photos of every deer visiting the scent stations.

Keep in mind that *this was not a product test. Our intention was not to make statements about one brand over another — and we have no plan ever to endorse one product or another. We only are reporting on deer responses to various scrape treatments. We purchased a popular deer scent line from a local sporting goods store. This ensured that all of our treatments were from the same lot and not confounded by differences in one batch/brand vs. another.*

Despite making no particular effort to purchase anything other than "standard issue" products off the shelf, we got some exciting responses from whitetails in the area. (See graph.) Looking at deer in general, activity patterns at our scent stations were almost identical to feeding patterns; although there were minor differences, the same basic pattern occurred, with major peaks at virtually the same times. It seems that deer have an innate activity pattern, causing them to cycle through alternating periods of high and low activity throughout both the light and dark hours.

Just as with feeding, a high percentage of deer activity at scent stations was at night. Of course, as a hunter you're not able to take advantage of that nocturnal activity in a direct sense, though it clearly is helpful to know it is occurring.

Note that *in midafternoon, there was more activity at scent stations than at feed stations.* This probably was caused by hormones making deer be a bit less cautious than usual. (Breeding was about to begin.) Also, keep in mind that while our scent stations were in relatively open areas in the woods (typical of locations for natural scrapes), they were not totally exposed, as were the feeders. In shooting light, deer might well have simply felt safer visiting areas that afforded them some protection.

However, here's where the rubber meets the road: *All of the treatments attracted deer.* If you think about it, this was not surprising, as whitetails are curious by nature. Eternal vigilance is necessary for their survival, so it makes sense for them to notice anything different in their surroundings. This curiosity is borne out by our finding that *almost as many does and fawns were attracted to the scent stations as were bucks.*

But while both sexes and all age-classes of deer visited our scent stations, not all treatments attracted the same kind of deer in the same numbers. *Does were photographed more often at "estrous doe"-only scent stations than anywhere else.* They presumably were largely interested in investigating the possible breeding status of other does, or perhaps were just checking out the presence of "unknown" does.

Bucks, on the other hand, seemed to favor mock scrapes treated either with "rutting buck" and "estrous doe" scent together or with "estrous doe" scent alone. This makes sense, as bucks want to know not only if there is a nearby doe in breeding condition, but also if there are any potential rivals for her attention.

Although presented in a nutshell, this all sounds great. *At least some commercial scents do seem to attract deer.* Also, by using scents in combination with a visual cue, such as a mock scrape, you can increase the probability that a deer visiting your scent station will be a buck. Then it should just be a matter of waiting for Mr. Big to appear, right?

Unfortunately, it's not always that simple. While almost half of our photos of young bucks (1 1/2 or 2 1/2 years old) were taken in daylight, only one-fourth of the photos of mature bucks were shot then.

In addition, *no individual buck visited any scent station more than once during the test period.* They came by, checked it out and moved on. That could mean that if you do lure in a monster, you'd better be there the first time he comes in, or you could miss your opportunity.

The point is, scents (used with or without mock scrapes) are but one "tool" in your "toolbox" of hunting tricks. They can be effective if used correctly and at the right times.

IN CONCLUSION

Hopefully, this series has shown you the enormous potential of infrared-triggered monitors, not only for studying and managing deer, but also for hunting them. If you want to get a better feel for whitetail patterns on your land, using this technology is a great way to do it.

