

## Infrared-Triggered Cameras:

# Unlocking the Secrets of White-Tailed

By Jason R. Snavely



*“I don’t know,”*

I mumbled to my wife in response to her question about the next item on the shopping list. I glanced at my watch for the third time in 10 minutes as if I was late for something important. The truth is, I was not late for anything. I was not even selectively ignoring my wife. I was, however, anxiously waiting for my film to be developed at Wal-Mart’s one-hour photo center. I was confident that those last few photographs taken over that scrape were of the Pope & Young buck I was after.

Those of us who own infrared-triggered cameras know the feeling. Those who don’t are truly missing out. Although many of us have learned how to use this technology to scout from the Lazy-Boy, the truth is very few hunters are taking advantage of infrared-triggered



A beautiful sunset shot taken by Greg Wichman of Bonduel, Wis. Notice, however, that the deer in the foreground is too dark to clearly identify. Because the light source was behind the subject, the “backlit” subject becomes a dark silhouette. When setting up a trail camera, take a compass along to make sure you orient the camera north or south to avoid back-lighting. **Inset Shots Above:** Memorable trail-camera shots from Kevin Young of Niagara Falls, N.Y. (first three from left) and Dale Duvall of Waterloo, Ill. (far right).

cameras to determine herd composition and population estimates on their property or hunting club.

As an undergraduate wildlife science student, I sat through my share of lectures on the various population-estimation techniques currently employed by wildlife biologists and managers. I can relate to the level of boredom most hunters encounter when trying to sort through complicated statistics and formulas. Don't get me wrong. These methods are important aspects of deer management. However, are they really designed for the average landowner or hunting-club member to estimate deer density and population demographics such as buck-to-doe ratio, fawn crop, and age structure? Most often the answer is a resounding no! I can assure you that in a very short time anyone can learn to effectively operate any infrared-triggered camera model on today's market.

This article is the first of a series that will introduce you to the uses of infrared-triggered cameras, including how to survey your deer herd. You will learn basic camera operation, site selection, camera positioning for target species, bait options, set-up techniques, survey methods, camera-survey research, scouting techniques and several other uses. Many of us use cameras to determine what is going on at our stand locations while we are not in the woods. However, I am confident you will agree that using cameras to survey your deer herd will provide volumes of information. Most importantly, infrared-triggered cameras are excellent educational tools.

Remote cameras are not new. Their use in animal behavior research dates back to the late 1800s. In fact, one animal-triggered photograph dates back to 1877. In this photo, a linear series of cameras coupled with trip wires captured

a horse in stride with all four feet in midair. Early remote camera systems were either mechanically triggered using trip wires or were set to take a picture every so often (time-lapse photography) whether an animal was present or not. Obviously, these methods were



### QUALITY CHECK

Test your skills at aging and judging a whitetail buck in a trail-camera photo. This free-roaming buck was captured and tagged as a yearling for a research project in Mississippi, and the photo was taken last September during an annual photo survey. The buck was subsequently harvested by a bowhunter. The age, dressed weight, inside spread and gross B&C score are known. Make your own estimates based on the photo alone, then see how well you did by turning the page to find the actual statistics. Extra Credit: see if you can guess how many antler points this buck had when it was captured and tagged as a yearling.

### Trail-Camera Field Kit

- Extra film
- Extra camera batteries
- Extra monitor batteries
- Small bungee cords, string and straps for larger trees and awkward setups
- Compass for north-south orientation (glare avoidance)
- Camera instruction manual
- Keys (if you are using a padlock to secure your camera)
- Fresh bait (if allowed by law)
- Pocket knife (opening plastic battery packs with your teeth is not advisable — trust me)
- Lens cleaner and cloth for the camera and monitor
- Hand saw and pruning shears to remove vegetation from the monitored site
- Note pad and pencil for documenting set-ups

not cost effective and were difficult to set up. The use of remote cameras was simplified when infrared-triggered camera systems were developed and improved. Using infrared as an “invisible tripwire” has made setting these units up extremely simple and far less intrusive.

There are two types of infrared-triggered camera systems: active infrared monitors and passive infrared monitors. Active infrared monitors consist of two separate units: a transmitter and a receiver. The transmitter shoots an invisible “connecting” beam to a sensor on the receiver. This invisible beam acts somewhat like an invisible trip wire that when interrupted or “broken” by an animal in the field triggers a camera that takes a picture.

Those who have dealt with active units understand that they require more time to set up in the field since they consist of two separate units. Therefore, they tend to be more intrusive, requiring you to make more noise and leave more scent at the observation site. This defeats the purpose of using remote camera systems to observe deer in a relaxed state in their natural habitat.

The main advantage of active units is that they allow you to minimize photographs of non-target species such as raccoons, squirrels and other small mammals. Since the only way to trigger the camera is for something to physically “break” the invisible beam between the two units, the monitored area is more easily controlled. Active units do not trigger upon the detection of body heat; therefore, they will not take false photos as the sun warms up vegetation in the morning.

Passive infrared monitors, on the other hand, only require one unit. Therefore, they are generally easier to set up, and the initial cost of the unit is lower. They emit a series of invisible, infrared pulses across the monitored site, generally in a cone-shaped beam. The camera is triggered either upon the interruption of the infrared pulses or the detection of body heat. Passive units have one disadvantage: the increased occurrence of false events. Since they also detect body heat, false events can occur while the sun warms the vegetation in the early morning hours. False photos can also occur due to the broader field of

*Continued on next page.*



## QUALITY CHECK

The whitetail buck in the trail-camera photo on page 75 was killed last season by a Mississippi bowhunter.

He was

6 1/2 years old, having been captured and tagged as a yearling five years

before. He weighed 165 pounds field-dressed, had a 20 4/8-inch inside spread and a gross B&C score of 155 4/8.

Extra Credit: See the photo. He was a spike when he was first tagged as a yearling. Thanks to Dr. Harry Jacobson, professor emeritus at Mississippi State University, for our "Quality Check" buck.



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view of the cone-shaped detection zone. If the necessary steps are taken while selecting a site and while positioning the camera, false events can be minimized.

The advantages of passive units clearly outweigh the disadvantages. The simple fact that passive units are much more popular than active units is evidence. In a recent seminar that I gave to a local Branch of the QDMA, all attendants who raised their hands to show that they owned a camera system owned passive units.

It is important to remember when selecting a camera site to scout for areas with heavy deer activity. Great spots include deer trails, food plot edges, stand locations, scrapes, rubs, log landings and logging roads, feeding stations, mineral licks, water sources, edges of sanctuaries and agricultural fields. One of the most neglected steps in camera set-up is failing to clear all vegetation in a 10-foot radius. By doing so, you will minimize false events from a wind-blown branch or fern. Check this vegetation regularly since some species like ferns have rapid growth rates.

While setting up the camera on a solid tree, position it so it is facing north or south to avoid sun glare and backlighting in the photographs. If necessary, take a compass along to determine your direction. To avoid photographs of non-target species such as small mammals, set your monitor approximately 24 to 30 inches above the ground. This may take some practice and a few rolls of squirrel photos to perfect. Adjust your setups, and keep notes so you know exactly how you set your camera up in order to adjust it in the future.

It didn't take me long to realize that if I didn't buy a backpack strictly for my camera equipment I would end up forgetting extra batteries, film, bungee cords, etc. I have included a list of supplies that I always carry with me when setting up or checking cameras. I think you will find this list helpful when you head into the woods to check your camera. You can add your own over time.

What is the best bait to use to attract white-tailed deer to your cameras? This is a popular question I often hear from hunters and landowners. One study done in Texas set out to determine the answer to this question. Researchers offered shelled corn, protein pellets, minerals and salt. They found that deer preferred the corn to other bait types. Corn is also excellent because it is relatively cheap and easily obtained. Minerals are often used with great success from early spring to late summer when does are lactating and nursing and bucks are growing antlers. I have found that using minerals during these months virtually elimi-

nates unwanted photos of non-target animals. Another method for attracting deer to camera stations during the hunting season is to use various scents. Don't be afraid to get creative. One study actually had more visits using "new car smell" spray compared to some of the commercially available deer scents. Of course, before using any bait, familiarize yourself with the laws on baiting and feeding in your state and region.

How many times have you sat around the camp fire or in the bunk house at deer camp and listened to the old timers in the club argue with the younger members about whether there are too many or too few deer? In the next article you will learn how to conduct your own deer survey and determine deer-density estimates, buck-to-doe ratio, age structure and fawn crop on your property or hunting club. You will also learn about the value of educational opportunities and how you can create a catalog of the bucks roaming your property or club. I guarantee you will get pictures of bucks you never knew existed on your property. With a little luck, we will even settle years of arguments around the deer-camp firepot about deer numbers and whether there are any bucks on your property.



**About the Author:** Jason R. Snavely owns and operates Drop-Tine Wildlife Consulting (DWC) in Millville, Pa. He received his wildlife science degree from Mississippi State University. This is his first article for **Quality Whitetails**.