

THE SCIENCE OF

HUNTING Mature BUCKS

**MOST DEER BIOLOGISTS
ARE ALSO DEER HUNTERS.
LEARN HOW THEY HAVE CHANGED THEIR
HUNTING TACTICS USING WHAT THEY
HAVE LEARNED THROUGH RESEARCH.**

By QDMA Staff

Gather a group of hard-core deer hunters as the rut approaches, and what do you see? People sharing trail-camera photos, estimating ages, measuring antlers, talking about new bows, and discussing rifle ballistics.

Gather a group of deer biologists as the rut approaches, and what do you see? People sharing trail-camera photos, estimating ages, measuring antlers, talking about new bows, and discussing rifle ballistics.

For some, the phrase “deer biologist” may bring to mind a professor in a lab coat, but the truth is most of the nation’s deer biologists chose their career because they are enthusiastic deer hunters. The research questions they raise usually come from their passion for the pursuit of mature whitetails and their desire to learn more about managing North America’s greatest game species for the benefit of hunting.

Lately, these scientists have turned up a wealth of new knowledge about the behaviors of whitetails, much of it made possible by technological advances like GPS collars and DNA analysis. From travel patterns and home-range characteristics to breeding behaviors and even vision and hearing capability, we now know more about the whitetails we pursue than ever before. How to apply that knowledge in the woods is up to every individual hunter. But what about the deer biologists who conducted the research?

To find out the practical implications of new knowledge on the people who conduct the science, we talked to several trained wildlife biologists who lead, implement or closely follow deer research – and who also hunt. We asked: As a hunter, what have

you personally changed about your approach to hunting mature bucks as a result of something new that science learned about whitetails recently?

DR. MICKEY HELLICKSON, chief wildlife biologist at the King Ranch in Texas, points to his own doctoral research on buck movements, as well as graduate studies conducted by Stephen Webb at Texas A&M-Kingsville, as having the greatest impact on his own hunting decisions.

“These studies helped convince me to stick with my stand choices when hunting because of the general rule that older-aged bucks, on average, have smaller home ranges and are less active than young and middle-aged bucks.”

Mickey said this idea has been especially useful – and in abundant evidence – on his hunting land in Iowa.

“Because a mature buck tends to have a smaller home ranges, when you get trail-camera photos of him, that location is likely in his home range,” he said. “That agrees with what we’ve found with our trail-camera work in Iowa. Out of all of the bucks we’ve photographed and then later killed, 28 out of 30 were killed within a quarter mile of the trail-camera site where they were photographed.”

“We’ve rotated cameras to cover as many as 60 different sites in the past, collecting images for months, and most of these bucks are showing up at only two or three camera sites. A few will show up at four or five sites, but most at two to three. Which also supports the idea they have a small home range. When you get photos of a mature buck at a select few sites, that area is where you

need to be focusing your attention.”

As for one-time photos of unfamiliar, mature bucks that seem to be on “excursions,” Mickey said he would not put any effort into those deer – unless such a photograph is captured near a property boundary, leaving the possibility that the camera site is in the edge of the buck’s home range.

“As a result of what I’ve seen, I think hunters can use trail-camera information to tighten down on a buck’s core area versus moving stand to stand across a property.”

“The biggest change I have made regarding deer hunting in recent years is using age to drive all my buck harvest decisions,” said **DR. BRONSON STRICKLAND**, assistant extension professor at Mississippi State University. Bronson has been directly involved in studies that analyzed antler quality by age class.

“This is really not late-breaking research news, but this is something I think about every time I see a buck,” he said. “The antler size of a really nice young buck and a lower-quality older buck can be the same – all that differs is age. Simply using antler size alone can cause you to make the wrong harvest decision. In my opinion, out of all the decisions you have to make, selecting the right bucks for harvest may have the biggest impact on the success of your deer management program.”

MARRETT GRUND, farmland deer biologist for Minnesota DNR, said that the ever-improving science of trail-camera surveys has had the biggest impact on his hunting by allowing him to “map” deer demographics across a landscape – even on the public land he hunts.

“I’m involved in a trail-camera survey on a 50-square-mile study area located in big woods habitat in northern Minnesota,” said Marrett. “I’ve monitored images of about 60,000 deer over three hunting seasons. The composition of a deer herd in forest interiors is clearly different than in areas near roads where hunting pressure is substantial. We see older-aged bucks and a higher deer density in forest interiors, particularly during our post-hunt surveys. I now hunt in areas at least a mile from places where people can park their car for hunting.”

“It’s a simple finding, but one that most hunters never follow,” said Marrett. “I bet most hunters on public land hunt within 200 yards of their vehicle.”

DR. CRAIG HARPER at the University of Tennessee, when asked if he had changed his hunting as a result of new science, thought about it, then said, “No.”

“I have never been one, for example, to hunt scrape lines,”



TES RANDLE JOLLY

he said. “I have always tried to hunt where the does are when the rut comes in because that’s where the bucks are going to show up. There has been nothing new in science, no research, to show any need or reason to change that, so I haven’t.

“Way back when, somebody told me: ‘Don’t shoot young bucks if you want to shoot old bucks.’ That was my revelation in deer hunting, and I will never forget the first buck I passed up, hunting on public land with a bow. I dare say the deer went 300 yards and somebody shot it with a rifle, but I still felt good about that decision.

“There have been some very interesting things come out in recent research, but it really hasn’t changed the way I hunt.”

Continued.

ROD CUMBERLAND, deer biologist for the Canadian province of New Brunswick, which borders the state of Maine, has applied new knowledge about deer vision to his bowhunting decisions.

“A lot has come out lately about vision, and that has changed how I hunt quite a bit,” Rod said. “For example, we know a deer’s effective vision is in a 300-degree arc, leaving only a small blind spot behind the head. They are very good at detecting movement in their periphery. When I’m trying to draw my bow on a deer, I think about that, and I try to wait until the deer is looking straight away from me or has its head behind a tree or brush.”

Rod also mentioned behavioral cues like tail movements. In 2006 and 2007, while working to capture and collar fawns for a fawn survival study, Rod spent a lot of evenings spotlighting does and watching their behavior for clues to the presence and location of any nearby fawns.

“We would bleat at the does, trying to get some kind of reaction that would tell us a fawn was close by,” said Rod. “But what I also studied was the movement of the tail, unrelated to what we were after. When the doe was tense, nervous or startled, that tail was stiff and straight. But when she relaxed, you would see that little flick of the tail from side to side, indicating that everything’s fine. So, again when I’m bowhunting and a deer is close, I also watch the tail. When you see that tail flick from side to side, you know the deer feels safe, and it’s a good time to try to draw.”

“I can think of two things,” said **MATT ROSS** of Vermont, QDMA’s certification programs manager. “The first is Mickey Hellickson’s work on rattling and calling. He found that louder rattling sessions brought in more bucks, and that also goes hand in hand with what we’ve learned about deer hearing – their hearing ability is about the same as ours. So, whether I’m rattling or calling with a grunt call, I’m not afraid to be loud about it.”

“The second thing,” he added, “is what Bryan Kinkel found about patterns in signpost rub locations. That has helped me focus my scouting and concentrate on areas that are more likely to be productive for buck sign, like habitat edges, early successional cover, and secondary points connecting ridgelines with valleys – or combinations of all these. I think I save time by going straight to the most likely areas.”

“That’s a hard question,” said **DR. KARL V. MILLER** at the University of Georgia, “because for the past few years I’ve been spending most of my time sitting in a deer stand with my boys, and your goals are different than when you’re hunting alone. However, my sons are getting to the point where they can hunt alone, and they’re also thinking more about hunting a nice buck.”

Thinking further, Karl mentioned a number of things that have changed about the way he hunts.

“One of the things I probably changed my mind about more than anything is the idea of hunting over scrapes,” he said. “At one time we thought a scrape was *the* hot-spot to kill a buck, and the science at the time indicated it was. More recently we’ve learned scrapes are more complex. Most visitation is nocturnal, and a scrape is not visited by just one buck. We now know more about the whole progression of stages in the breeding season and how buck behavior changes at each stage. Scrapes are just one of the signals we need to be able to read and adapt our hunting techniques. I’ve learned that as the rut progresses, whatever I’m doing one week, I should be ready to do something different the next

week. After the bachelor groups break up, I’m looking for the new fall food sources they are using. When scraping activity begins to peak, I know that for the next two weeks or so, bucks are going to be roaming their home range, so maybe I need to shift my focus to look for travel corridors. Breeding usually peaks about two weeks after the peak of scraping activity, maybe a little longer, so then, instead of looking for traveling bucks, I’m looking for those out-of-the-way places where I may find a buck tending a doe.”

Karl also talked about knowledge of deer vision.

“We can’t look at camo in terms of how we perceive ourselves and think that’s the way a deer sees us,” he said. “Kill the blue, kill anything shiny, and make sure movement is minimized. It doesn’t matter that you’re sitting out in the wide open as long as you’re not moving.”

Has Karl changed what he wears?

“I always hunted in blue jeans,” he said. “I used to wear blue jeans religiously. I don’t anymore, unless I’m too lazy to change or I’m hunting in a box blind.”

C.J. WINAND, Maryland wildlife biologist, outdoor writer and columnist for *Bowhunter* magazine, has also changed his mind greatly about scrape hunting.

“I don’t waste my time on scrapes anymore,” said C.J. “Years ago, I wasted countless hours hunting over scrapes. After thousands of hours in a treestand, the end result was one mature buck. Research with cameras is now clear: Visitation by bucks at scrapes is primarily a night-time activity, say 85 percent. Unless you’re only hunting immature bucks, scrapes are not your ticket to success, at least not as an actual stand location. They may be indicators of a good general area, and they are great sites to put a trail-camera, but I don’t hang a stand there.”

DR. MARK CONNER, wildlife manager of DuPont’s working research facility, Chesapeake Farms in Maryland, has been directly involved in groundbreaking GPS studies looking at buck movements and home-range size in a free-roaming, hunted population – among the first studies to document buck “excursions.” Mark said he has taken two important principles from his work that he applies to his hunting.

“First, the more time you spend in the woods, scouting and running cameras, getting to know the habitat and the deer that are out there, the greater your probability of encountering a buck,” he said.

“The second thing is this: Let’s assume you’ve been hunting an area, you have scouted it thoroughly, you’ve been operating trail-cameras across the property, you watch the fields and food plots in the summer, and you are very familiar with the deer in your area and the individual bucks that you see regularly. If that describes you, and you’re on stand, and you see a buck you’ve never seen before, and he fits your criteria for harvest, you should *take him right then*. Chances are you’re not going to see that buck again. He’s on one of these excursions, and he’s probably not coming back. You may think you should let him go because you might see him again, or you might be hunting a different buck and want to wait. If this one’s just as good or better, take him. You probably won’t get another chance.”

KIP ADAMS of Pennsylvania, QDMA’s Director of Outreach and Education in the North, said his hunting has changed in two major areas: how he interprets trail-camera information relative

to buck “huntability,” and how he manages hunting pressure.

“A lot of the buck-movement data coming out of Chesapeake Farms in Maryland and several Texas studies is suggesting some bucks are wanderers and have larger home ranges, and some bucks are home-bodies and have smaller home ranges,” said Kip. “On our farm in Pennsylvania, we get literally thousands of photos of bucks in summer and fall on trail-cameras, and in the past there have been specific bucks I tried to kill based on a trail-camera photo. Since that research has come out, I have focused less time on bucks we have seen once or twice, that are likely wanderers, and more time on bucks with multiple photos. I think this is more efficient use of my time, and it paid off last year when I killed a buck that was estimated to be 8½ years old.”

Kip was also impressed by studies conducted by Dr. Grant Woods and Bryan Kinkel in which hunting pressure “hot spots” were mapped across a property.

“This was very relevant to me, because where I hunt in Pennsylvania, everybody used to go to *their spot* and sit down and wait for a yearling buck to go by. That worked pretty well the first day, and after that we would go drive deer. To this day, I just love going to that spot I used to go to on opening day. I think a lot of hunters become attached to a specific spot, but it’s clear that mature bucks pattern us really quickly. So, these days, we all try to pick a spot that nobody else has been, and it has worked. The 8½-year-old buck I killed last year was in a spot we *never* used to sit.”


Kip added that he has taken other steps to manage pressure on the farm, such as reducing the number of hunters per day,

reducing ATV use, and creating sanctuaries. Two types of sanctuaries are involved: those that are off-limits to all hunters, all year, and those that are open only to a specific hunter.

“I think the most important thing I’ve learned from all of the GPS-based movement studies is that each buck is a unique individual, just as humans are,” said **DR. GRANT WOODS** in Missouri. “The only things that seem to be constant are the need to feed and the need to breed. Beyond that, I’m looking for the bucks that I have the most chance to interact with. On my personal property, that means I’m going to hunt a specific buck based on observations or trail-camera photos that indicate this buck has a tighter, smaller home range. I pay less attention to the bucks that only show up in one or two photos.”

Far-ranging movements outside of a home range, or “excursions,” are interesting from a curiosity standpoint, Grant said, but photos captured of a buck just passing through on an excursion are useless when developing a hunting strategy.

“I do a lot of stalk hunting, and when I’m doing that, I’m trying to make contact with a particular, individual deer in a place where I think he’s likely to be bedded,” said Grant. “Trail-cameras help me define the area of my property where contact is most likely.”

However, Grant admitted that knowing about excursions added an element of surprise. “I’m cognizant that another great buck might drift through the area I’m stalking. If anything, I’m more alert when I’m hunting than I’ve ever been before.” 

About This Article

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