Whitetail Rodeo

QDMA helps capture bucks for research in the South Texas brush country.

by Lindsay Thomas Jr.

Facing Page: The freeze-frame of this South Texas buck being captured with a net-gun doesn't tell the whole story of speed, timing, finesse and instinct.

Like roping a running calf from horseback, capturing a whitetail from the air takes incredible skill, yet the cowboys involved make it look easy. This helicopter team caught 75 bucks in one day of work with researchers and students from the Caesar Kleberg Wildlife Research Institute.

The road from Freer to Aguilares is so quiet at 7 a.m. even the Border Patrol check station is empty. Rush hour here involves a ranch 4x4 passing a natural gas tanker truck without ever tapping the brakes, so at this early hour a convoy of more than a dozen pickups racing across the Nueces Plains, bumper to bumper, might attract curious attention from onlookers, if there were any. Instead, the long string of red taillights snakes on through a gently rolling sea of prickly pear and mesquite with only the occasional wrought-iron ranch gate to serve as a landmark.

In the pickups are sleepy wildlife students, both undergraduates and graduate students, and their professors, heading out for a third full day of tackling and wrangling live whitetail bucks for the 10th season of the South Texas Buck Capture Project, a massive research effort of the Caesar Kleberg Wildlife Research Institute (CKWRI) at Texas A&M-Kingsville. Most of them have done this in previous seasons, but even for the new students the thrill of working with live deer is less keen by this third day. Those who aren't driving are slumped down, arms crossed over their chests, hat brims over their faces, asleep. Many of them are young women. They have stopped bothering to try to remove the cactus thorns from their legs and arms because they are only going to be replaced today.

Net-gunner Eric Bendele checks his equipment before the morning's work begins. The gun is powered by a blank .308 cartridge.

Among them, unusually wide-eyed and curious about the passing terrain, is me. I am here with the QDMA crew that annually treks to Kingsville to put on a Quality Deer Management Short Course. In exchange for conducting the short course, Dr. Mickey Hellickson, chief wildlife biologist for the King Ranch and an adjunct professor at Texas A&M-Kingsville, rewards the QDMA staff with a chance to assist with the capture project. People who live and work in South Texas wouldn't see this as a reward, but we are happily oblivious to the idea that this is hard work. Spend a day helping researchers capture live South Texas bucks? Wouldn't you?

Brian Murphy and Joe Hamilton from the QDMA and Dr. Karl Miller from the University of Georgia have been here many times before and know the area around Kingsville almost as well as they know their hometowns in Georgia and South Carolina. But this is my first time in South Texas, as it is for biologist Matt Ross, QDMA's Regional Director

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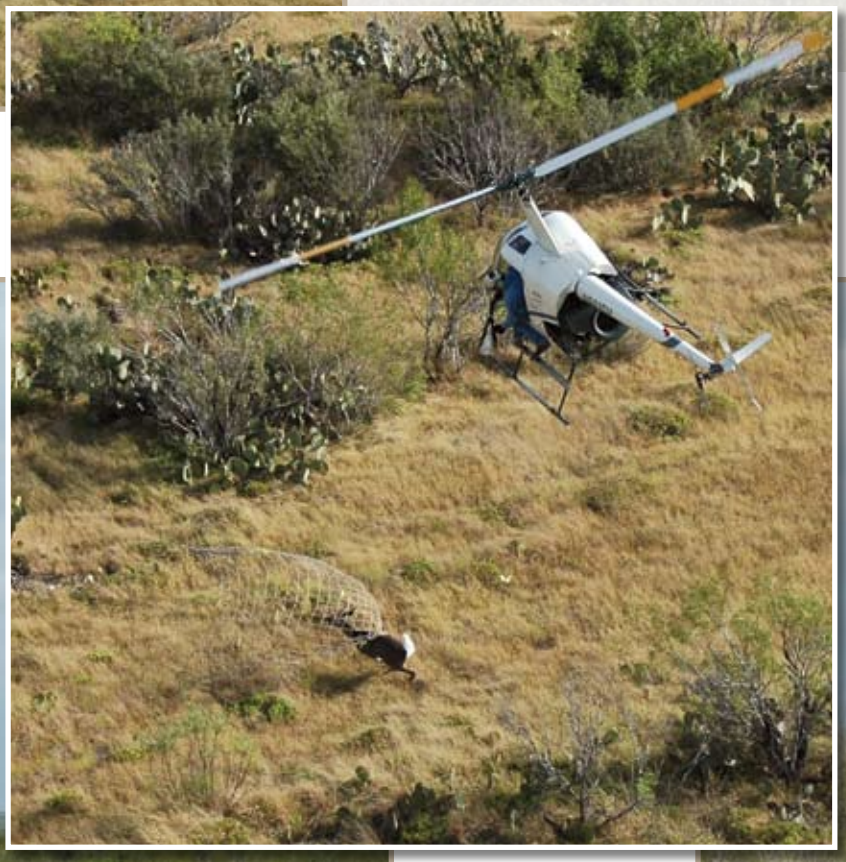
Left: With impeccable timing, pilot Corey Montgomery pushes this buck toward an open sendero, seen in the upper left corner of the photo, then speeds up to close the distance and place gunner Eric Bendele directly over the buck as it crosses the sendero. Eric does his part with a well-placed shot (below), and the buck goes down where the capture trucks can quickly reach it.



in New England. We are joined by other guests, including wildlife consultant Neil Dougherty of New York and QDMA life member Marion Burnside of South Carolina. Also along are QDMA members Mike Gilley and Doug Marion of North Carolina, who bought the chance to go on this trip at the Hunt Auction Luncheon during the 2007 QDMA National Convention.

On this morning, waiting for us at one of the five private ranches voluntarily participating in the buck capture project are a pair of Robinson R22 helicopters. Each is trailered behind a pickup with rotors folded back for highway travel. They are small, and they have less horsepower than most bass boats. The men waiting beside the helicopters do not look like pilots. They look like cowboys, which they are. They've simply traded in their four-legged mounts for ones with a better view. Throughout South Texas and other regions of open range in North America, helicopters like these have become as much a part of ranch operations as horses. And they've become an integral part of whitetail management in the same regions. Standing on the ground in country like this, you're hard pressed to see more than a few feet into the low scrub. But viewed from the air, the country looks open, almost clean, a place where you would think you could take an easy stroll. Deer cannot hide. Some areas feature scattered islands of live oaks or other trees – locally known as motts – but flushing deer from a mott with a helicopter is easy, whether your goal is to view or capture deer. Because deer are so visible from the air, helicopter surveys are an important tool out here. The helicopter flies evenly spaced transects back and forth across a ranch, and a wildlife manager in the helicopter counts and sorts the deer he sees along

the route. As with trail-camera surveys, spotlight counts or pellet counts, the math for producing density estimates from this data was worked out through research.

Today we are using the services of Smith Helicopters Inc. to capture bucks, tag and collect data from each, and release them alive within minutes of being netted – no drugs involved. Deer researchers back east put in hours and hours to capture one deer, whether with drop nets or traps or by climbing into deer stands and hunting them down, one by one, with dart guns. But today our target quota is 75, and not just deer but antlered bucks. It's a method made possible by the open terrain, the skill of the airborne wranglers, and a high density of bucks.

To accomplish this goal also requires planning and organization on the ground. The students, researchers and QDMA volunteers are scattered out and assigned to teams. There are three "capture trucks," which follow the helicopters and are the first to reach the netted bucks. They hog-tie and blindfold the deer and, if necessary, drive them out of the scrub to the nearest sendero or dirt road to meet a "processing truck." There are two of these. They take over and collect the needed data before releasing the deer, allowing the capture teams to get back under the helicopters. One of these teams is led by research scientist Dr. Dave Hewitt of CKWRI who, like Mickey Hellickson, has worked on the project since it its inception in 1998. Bouncing between the two processing teams in his own truck is Mickey. His job is to estimate the age of each buck, both a "body characteristics" age, made by eyeballing each deer, and a toothwear and replacement age. This is

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Sometimes the net wraps on a buck's antlers without tangling its legs, and it continues to run, like the buck above. After a short but intense foot-chase, this one was safely tackled (top-right and below).

Texas A&M-Kingsville doctoral candidate John Lewis calls out antler measurements to the assistants while doctoral candidate Jason Sumners tapes the stomach girth of this buck.

the only subjective part of the evaluation where different observers might make different estimates, so the same person collects this data for every deer to avoid error. Over the years, Mickey has repeatedly checked his own age estimates when possible using cementum annuli ages from incisor teeth of captured bucks that are harvested and recovered later.

The final part of the ground team is the helicopter support truck, an employee of the helicopter company who collects used nets from the processing teams, picks out the cactus pads and works out the tangles, then reloads them into canisters to be recycled back to the helicopter.

The ground crews stay in touch with each other by radio, but the helicopters don't talk to the ground crews. They don't want to. There's enough radio chatter and confusion on the ground as it is. Instead, the wranglers use visual signals to communicate with the teams on the ground.

As the rotors begin to spin and the engines rev, we all scatter for our assigned vehicles. Hoping to get photography of the action, I'm riding with one of the capture teams. Each of the three capture teams features a graduate student at the wheel and a truck bed full of undergrads who get to feel every bump, hole, feral hog and rock that passes beneath the tires. Amazingly, these F250 Super Duty crew cabs are rented vehicles, and the rental company knew these trucks would be driven by students at high speeds in places where there are no roads – and they still rent out the trucks. Every year. I think of this with disbelief as I grip the handle on the ceiling of the cab and watch chunks of prickly pear fly over the hood. I lean quickly away from the open win-

While antler and stomach-girth measurements are being taken, Joe Hamilton, QDMA's southern director of education and outreach, punches out a tiny sample of this buck's ear. Later in a lab, DNA will be isolated from the sample and used to establish relatedness of bucks in the study. Color-coded ear tags are then applied, with the color corresponding to the estimated age of the buck at the time of capture. These codes become useful when bucks are recaptured in later years. Of particular value to the study are bucks first captured as fawns or yearlings, when aging by toothwear is precise. Data produced later by these "known-age" bucks is like gold.

dow as some kind of needle-covered plant swipes across and goes screaming down the paint-job.

Cody Zabransky, the graduate student driving the capture truck in which I am riding, looks down at the gauges on the dashboard.

"It's telling me I'm losing tire pressure again," he says. "But it said that all day yesterday and we didn't get a flat. It's just a pin hole."

Or thirty. Everything in this place has thorns. Prickly pear are the most common. The long, vicious-looking yellow thorns don't hurt as bad as they look when you accidentally brush a pad. Later that night I use tweezers to pull at the tiny heads of the thorns in my forearm. The irritation is minimal, like a tiny splinter, so it is dismaying when you find a good half-inch of thorn under each of those tiny heads. But prickly pear are nothing. Everyone is sure to show me the tasajillo cactus, the one you really don't want to fall on. The tips of these spines not only swell once they are in you, but the spines take on a life of their own and begin to work their way deeper. It's going to hurt when you yank them out, but you better not wait.

And whitetails live out here?

I look around at the scrub habitat. Though everything in this habitat will skewer you, it is a surprisingly diverse mix of plants, shrubs and small trees. Most of it looks impossible to eat given the thorns, but in fact, the experts along on the trip assure me, almost everything in this habitat is quality whitetail food, including plenty of high-protein legumes.

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Left: Dr. Dave Hewitt takes antler measurements while a student volunteer assists. Meanwhile, Dr. Mickey Hellickson examines both toothwear and body characteristics to estimate the age of every buck (right).

Left: Two tiny PIT tags are injected under the skin of each buck, one in the neck and one in the lower leg. When the bucks are recaptured or harvested in years to come, an electronic scanner can detect the tag and identify the buck by its individual code. Right: QDMA member Mike Gilley keeps a buck immobile while data are gathered.

The helicopters lift off and speed over us, just higher than the brush. Usually only one helicopter is involved in these jobs, but schedules allowed for two to join us today. One of them is piloted by Jay Smith, who flies alone and serves as a spotter who helps locate the next antlered buck, haze a running buck toward an opening to set up a capture, or rendezvous with their own support crew to pick up reloaded nets. The other helicopter is flown by Corey Montgomery and carries the net-gunner, Eric Bendele.

We watch the two choppers zip across the plains, apart but within sight of each other. They fly in straight lines or in long, slow curves, low to the ground. Then, less than five minutes into the morning's work, their flight patterns change. They suddenly spin, cut, drop, roll. They fly backwards. They lunge. Like a good cutting horse working a calf away from the herd, the helicopter is working a buck, and the maneuvers are so quick and smooth it is as if the machine, like the horse, is doing a lot of the thinking.

In our truck, Cody speeds up to close the distance. There's more than a little friendly competition between the students in each capture truck to see who can get to each buck first. The challenge is staying with the chopper and getting to the buck quickly by working your way through an unfamiliar network of senderos, dry creekbeds, dirt roads and random openings in the brush. There's a lot of luck involved. And when an opening is needed and there isn't one, you sometimes make your own. When all else fails, you get as close to the buck as you can, jump out and run the rest of the distance.

Whenever they can, the wranglers run bucks toward open access routes and net them in the opening – a feat of timing and

With the processing over, the buck is pointed toward cover, the blindfold is removed, and the handlers count to three before releasing and getting clear. Here, Neil Dougherty, assisted by Matt Ross, sends one back into the mesquite. At the top of the page, Drs. Dave Hewitt and Karl Miller release a mature 10-pointer.

skill that reveals the pilot's connection with both his machine and the running deer. At the last moment, he pitches left to hang the gunner almost directly over the deer. Now the gunner's skills come into play. While hanging out of the helicopter, both boots on the strut, secured by nothing more than a standard automobile seatbelt, he must lead the running deer and hit it with the net just as the helicopter passes over. Amazingly, this high-speed synchronization of deer, opening, helicopter and net happens the majority of the time.

Eric's net-gun looks like a prop out of a futuristic post-nuke movie in which humans have cobbled weapons out of parts recovered from garbage heaps. It features a sawed-off single-shot rifle breech, improvised pistol grips fore and aft, and a four-way barrel that launches four cylindrical weights attached to each corner of the net – all held together, of course, with duct tape. Keeping it operative is all part of the wrangler's profession. A box of miscellaneous spare parts rides under the seat of the chopper for in-flight repairs. It fires blank .308 cartridges, and it hefts a kick. Before takeoff that morning, while talking with the helicopter crew, Doug Marion asked if he could try the net-gun. After firing it into the air and stumbling back a step or two, he looked around.

"You shoot this thing all day long?" he asked Eric.

To the skill set needed to be a helicopter net-gunner, add the ability to take the gun's punishment repeatedly for hours and still fire with accuracy. Of course, there are a few clean misses. Sometimes, the net wraps in the buck's antlers without also

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entangling its legs, and it continues to run. A second net is fired, or, if a catch truck is close enough, the ground crew tackles the deer. So, to catch 75 bucks in a day, the net-gunner may fire the gun 80 or 90 times.

Across the plain, the white helicopter, the one with Eric aboard, goes into a hover and switches on his running lights. Corey is signaling that he's sitting over a netted buck. Working his way there using any path that appears, Cody gets us as close as he can, then everyone bails out and runs through the dust kicked up by the chopper. The buck is tangled in a heap, almost completely immobilized by the net, and as soon as we spot it, the helicopter thumping above us peels off to find the next deer.

The capture team subdues the buck, hog-ties three of its legs, slips a cloth sleeve over its face and eyes to calm it, picks it up carefully and heads for the truck. Back at the nearest dirt road, a processing team is just pulling up to meet us. We unload our deer as the processing team jumps out with their equipment, and then we're off again to catch up with the helicopters, which by now have already netted another buck or two. The action is non-stop. To meet the quota of 75 bucks by the end of the day will mean capturing one buck every 6 to 10 minutes. There's also the goal of minimizing stress on the bucks, which means finishing data collection and releasing them as fast as possible. When multiple bucks pile up around a processing team at work, they keep an eye on which bucks were captured first and focus on processing them in order.

In addition to age, the researchers measure the antlers of every buck to get a gross Boone & Crockett score, and they measure chest and stomach girth. The main objective of the project is to examine how whitetail antler size changes with buck age, with factors like annual rainfall, and other variables. This year, the tenth season of capture, an additional 481 bucks brings the total sample size to more than 4,500. There are also projects within the project, including a study using GPS collars to track buck movements during the rut which is being partially funded by QDMA's *REACH* program.

The QDMA volunteers are scattered among the teams. Brian Murphy and Karl Miller are double-teaming bucks, pinning them down while others collect data. Matt Ross and Neil Dougherty are doing the same, as is Mike Gilley. This is a critical job, because the rope around each buck's legs is removed before the data is collected to allow for various measurements. If a hind leg gets free and kicks, it can easily punch through or peel back someone's skin, and controlling the antlers is even more important. There is a right and a wrong way to pin a deer. Brian, who has worked with live deer in research settings for more than 20 years, has seen careless folks end up gored.

Joe Hamilton, meanwhile, is punching out a tiny sample of each buck's ear, bagging it and labeling it. DNA will be extracted from each sample to build buck "family trees" on each ranch in the study.

Doug Marion is with me in Cody's capture truck, and the students, in their teens and 20s, are impressed with this middle-aged man's enthusiasm. Doug is often the first person to arrive at the deer and the last to climb back into the truck. He tackles and carries bucks, he dives through walls of cactus, and he collects the most impressive set of puncture wounds of any of us.

At mid-morning I get a rare opportu-

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nity to ride with Jay Smith in the "spotter" helicopter. If the acrobatics of the helicopters were impressive viewed from the ground, I quickly gain an even better appreciation for the skill of these pilots. Jay is not even maneuvering for capture, he's just spotting and hazing bucks into position for the net, but his agility in the air is incredible. Even more amazing is how much wildlife we see below us, especially deer.

As the day progresses and we whittle away at the quota, I realize that we've caught a lot of mature bucks but very few with antlers like I expected in South Texas. A Muy Grande behind every mesquite tree is one of many misconceptions that the South Texas Buck Capture Project is helping to dispel. If you were asked to guess the *average* Boone & Crockett gross score for South Texas bucks aged 5½ and older, what would you say?

While a few high-scoring mature bucks were captured on this day, most mature bucks were not "muy grande." Out of thousands of bucks in the study, the average South Texas buck aged 5½ and older gross-scores 128 inches.

"The average is 128 inches," said Dave Hewitt. "That's the *average*, so that means about half of these mature bucks score less than 128 inches, which shocks a lot of people."

Looking at years of data and thousands of bucks from the project, you find that of all bucks aged 5½ and older, 11 percent score higher than 150 inches. Bump the threshold up to 160-plus and you eliminate all but 5 percent of mature bucks. Bump it up to 190-plus and the percentage is 0.1 – literally one in 1,000 bucks.

"If you took mature bucks from the Midwest and compared them to Texas, on average Texas bucks will have smaller antlers," said Dave. "It's not necessarily because they all grow big that South Texas produces a lot of record-book deer, it's because there are a lot of mature bucks, and you get that one-in-a-thousand more often."

There are several lessons in this for Quality Deer Management. For one thing,

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DAVE HEWITT, TEXAS A&M UNIVERSITY-KINGSVILLE

Dr. Dave Hewitt didn't plan to stand directly in the path of this buck as it was being released by Dr. Karl Miller (left) and Brian Murphy. The buck just didn't follow instructions. The result was this dramatic photo that Dave snapped before getting out of the way.

not every buck that makes it to age 3½ and beyond will have high-scoring antlers. In fact few will. Yet for a buck to reach this age is an achievement in itself for a QDM program, emphasizing the importance of appreciating a buck's age as much as you appreciate antler inches. Second, producing bucks with high-scoring antlers means producing a lot of mature bucks, something that is far easier to do with the vast acreage and low hunting pressure of South Texas than with the more realistic scenarios faced by most hunters. But that's why Trophy Deer Management (TDM) is feasible in South Texas while Quality Deer Management (QDM) is a realistic goal most everywhere else.

By 6 p.m. we are almost done. Everyone is gathered in one place again, processing and releasing the last bucks of the day. Now that everyone has time to talk, stories are told of the day's events. There are the obligatory alien-abduction jokes involving the dialogue of the deer if it could talk to its friends upon returning home.

"You won't believe what happened to me today!"

"What are these things they put in my ears?"

For the day there were a few broken antlers, snapped off accidentally when they were hit by the weights on the flying net. One buck had to be euthanized after it broke its leg in the fall – a rare occurrence. According to an evaluation done by graduate students John Lewis and Stephen Webb, mortality at time of capture was 0.6 percent – 20 out of 3,350 deer. Estimates of the number of bucks that die shortly after being released due to stress are in the same range. Compared to other capture methods, mortality rates with helicopter capture are extremely low.

"I find that amazing," said Dave. "They're running hard for several minutes, they're handled, they undergo a lot of stress, so the mortality rate is remarkably low. These are resilient animals."

Fortunately, so are the volunteer researchers. Doug Marion has to recruit some help to get the spines and thorns out of the places he can't reach with the tweezers, but otherwise he'll survive. Mike Gilley has his share as well. Like the rest of us, they are dirty, hungry, exhausted and full of holes. Unlike the rest of us, they paid to come out here and dive through cactus to roll in the dirt with a kicking whitetail. Maybe that doesn't add up to some people, but as they pick at the splinters, Mike and Doug are already laying plans for this year's National Convention and the Hunt Auction Luncheon. If the bidding goes in their favor, they'll be back.

***About the Author**: Lindsay Thomas Jr. is the managing editor of Quality Whitetails.*