

SCDNR Study: Does hunting with dogs help?

Harvest of white-tailed deer through regulated hunting is perhaps the most important tool available to deer resource managers. As wildlife professionals, we are often looked upon as outlets for information concerning not only biological concepts, but hunting in general. The hunting community can pose unique questions and, in some instances, huntingrelated information is not supported by data. The purpose of this study was to attempt to answer questions often posed by sportsmen. We attempted to determine: the importance of a trained dog in recovering deer, how deer react versus shot placement, and differences in the effectiveness of various

OBJECTIVE TO DETERMINE:

Importance of a trained dog in recovering deer

firearms and ammunition.

How deer react vs. shot placement

Differences in firearms and ammunition

STUDY AREA

Data for this study was collected at the Cedar Knoll Club which is a private 4,500-acre hunting club located in the coastal plain of South Carolina. Although Cedar Knoll is a private club it has cooperated in a number of University sponsored white-tailed deer research projects since the late 1980s. The area is typical of the coastal plain of South Carolina with the majority of the area being in some form of intensive timber management. Due to timber management, habitats can best be characterized as being exceptional for deer and for the purposes of this study it cannot be over emphasized how thick habitat components are. An intensive deer management program has been in place since about 1984 and includes various techniques like burning, mowing and fertilization of native vegetation, plantings and direct supplemental feeding.

METHODS

Essentially, the bulk of the data for this study was hunt type data.

Still hunting was the method employed and hunts were conducted in the morning and evening. Hunters were placed in elevated permanent stands based on wind direction and recent use by deer. All stands were equipped with seats and rails to improve safety and facilitate marksmanship.

Deer were harvested with scoped center-fire rifles. After each hunt, participants were picked up at the stand. If a deer was shot and it did not leave the hunter's sight, it was removed to the club for processing. If the deer left the hunter's sight after the shot, a trained dog was used to determine if it had been hit and to attempt to recover the animal.

For this study all shots at deer were recorded as an estimate of the range of the shot. The distance the deer traveled and the type or amount of sign was noted. Information concerning the recovery or attempted



How far did deer travel

Deer recovered, yes or

As it relates to recov-

ering deer, please keep

in mind that there are a

number of factors that

potentially enter into the

Habitat type is one of

likelihood of recovery.

bullet

Weapon and

characteristics

recover of all deer was recorded, as was the involvement of a trail dog. If the deer was recovered, it was assigned to one of four categories describing how difficult the animal was to

recover.
Other data included the caliber of rifle and type of ammunition. Shot placement was determined for all harvested deer when they were processed.

DATA COLLECTED

Number and distance of shots

Trail dog necessary Deer hit, yes or no will be. This particular study area is characterized as being exceptional deer habitat on the basis that most of the land use was in intensive timber management. Southeastern habitats that are under intensively forest management typically are very dense in the under-story, especially early in the rotation, therefore visibility and accessibility can be greatly limited.

Second, we must consider that the times during

the key elements affecting

how easy recovering deer

Second, we must consider that the times during the day when deer normally present themselves to the hunter are not times that offer good visibility. Most deer in this study were taken around sunup or sundown.

Finally, wildlife openings or food plots tend to be long and narrow. All of these factors combine and lend themselves to situations in which hunters can have trouble determining exactly where a deer was standing and the direction it traveled.

SHOT PLACEMENT

As it relates to recovering deer, please keep in mind that

Habitat type affects recovery

■ Deer are often shot in poor light

It can be difficult for hunters to determine where the deer was

standing and the direction it traveled. Particularly on long, narrow roads or food plots.

RESULTS AND DISCUSSION

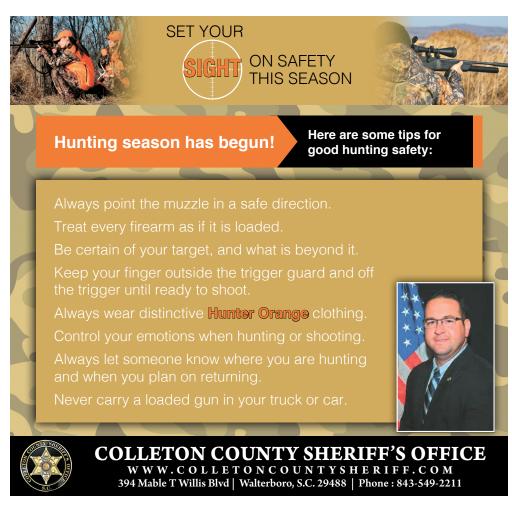
A total of 493 deer were harvested during the study, including 305 antlered deer and 188 antlerless deer. Hunters fired 603 shots to harvest these deer and were therefore, about 82 percent successful with their shooting.

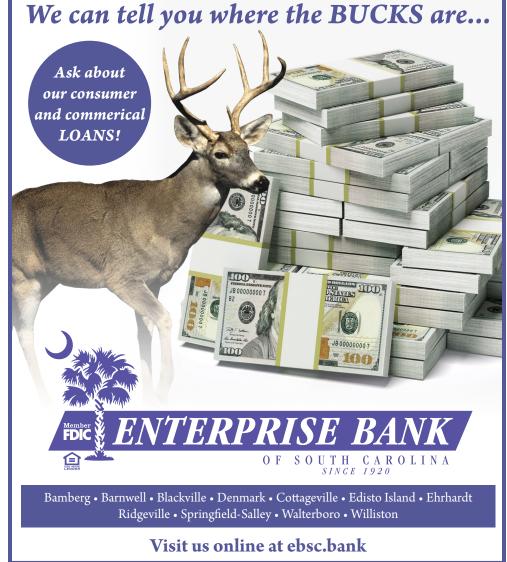
There was no statistical difference between shooting percentage depending on the sex of the deer. We feel that this is a pretty good shooting percentage considering the variable experience levels that the hunters had.

The mean distance of all shots taken at deer was 132 yards. For shots that resulted in a deer, the average was 127 yards. On the other hand, shots that were unsuccessful had a range of 150 yards, significantly further than the distance of successful shots. Intuitively you would assume that marksmanship suffers with increased distance to the target; however, who would have expected a statistical breakpoint between roughly 125 and 150 yards?

HOW FAR WERE SHOTS?

Average distance of all See DOGS, page 3C







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DOGS

Continued from 2C

shots = 132 yards Shots resulting in a deer

= 127 yards Shots resulting in a missed deer = 150 yards

Of the 493 deer that were harvested, 51 percent dropped when shot and 49 percent ran. If there is no consideration given to shot placement, it would appear that how deer reacted was largely random on this study

If shot placement is ignored, how deer react is a

RECOVERING DEER

Using a trained dog to assist in the recovery of deer is a technique that has gained in popularity in recent years. Recovering deer in the traditional sense can be inefficient when conditions such as darkness, rain, thick terrain or when wetlands or water bodies exist. Also, a trained dog can almost immediately determine whether a deer is hit, which ultimately saves time attempting to recover something that is not there. For this study, a dog was used anytime a shot was taken at a deer, regardless of what the hunter thought or said about the shot.

We were able to estimate the importance of a dog in recovering deer by assigning each animal to one of four classes based on how difficult it was to recover. Certainly, assigning deer to these classes was subjective and depended largely on our experience. However, tangible considerations were important in this process and included the distance the deer traveled, the amount of sign where the deer was shot and the type of habitat that the deer entered after leaving the vicinity of the shot. Also, the general feeling from the hunter concerning where the deer was standing, the direction it traveled and their confidence level concerning the outcome.

Class 1 - didn't leave sight, no dog required, 253 deer, traveled less than five vards.

Class 2 - ran short distance, left good sign, 155, 46

Class 3 – longer distance,

poor/no sign, rough habitat, 61, 83 yards

Class 4 - judged unrecoverable without dog, considering all factors: distance, sign, habitat, 24, 152 yards.

It appears that assigning deer to the classes based on difficulty of recovery worked well. Note that dramatically fewer and fewer deer were assigned to the classes which represent the more difficult recoveries. Similarly, the average distance deer traveled varied between each class with deer traveling progressively and significantly further as recoveries became more dif-

If we keep the distance data in mind and look at the more subjective characteristics, it seems that the classes make pretty good sense.

Deer that were assigned to Class 1 either did not run or did not leave the hunter's sight, therefore a dog was not necessary. Obviously, anyone would recover deer assigned to this class.

Deer that were assigned to Class 2 would have also been recovered very easily. These deer ran short distances, often into relatively open habitat and they left very good sign. The average hunter would have no trouble recovering Class 2 deer if an attempt was made.

Class 3 deer, on the other hand, ran significantly longer distances than Class 2 deer and these deer left little or no evidence that they were hit, particularly near the area where they were standing. Also, Class 3 deer generally entered thick terrain where visibility and access was restricted. The

average hunter would get his buddies and struggle to locate Class 3 deer without a dog. It is our opinion that many Class 3 deer would not have been recovered without a dog: however, they were assigned to Class 3 rather than Class 4 based on the criteria.

Class 4 deer were judged unrecoverable without the use of a dog. It turned out that only 24 deer were assigned to this class which represents about five percent of the animals harvested on the study area. Deer in this class traveled significantly further than Class 1-3 deer. There was no evidence that the deer was hit where it was standing and generally, any sign that was discovered before the deer was recovered was a sign that was located by the dog. In addition to significantly longer distances, Class 4 deer traveled into extremely thick habitat that often included wetlands or water.

IMPORTANCE OF A TRAINED DOG IN RECOVERING **WOUNDED DEER**

Thus far we have discussed the characteristics of recovering deer that were found dead. However, during this study an additional 19 deer that were not dead but had been wounded by the shot were recovered using a trained dog. Deer that were still alive typically had suffered a wound to one or more of its legs, a wound to the lower most abdomen or flank or some other significant wound did not involve major organ systems.

As with Class 3 and 4 deer, these deer traveled into extremely thick habitats that often involved wetlands or water. Normally the dog located the deer bedded in dense cover. In some cases, the dog would bay the deer which would allow us to determine where the deer was and we would be able to work our way to the location and dispatch the animal. In other cases, the deer would run after being located by the dog and travel some distance before bedding again. This process was repeated until the deer would hold at bay, allowing us to determine where it was, traverse to the location and dispatch the deer. Distance determination was not possible for these deer because they traveled too far and erratically.

Overall, we feel that a trained dog accounted for 15-20 percent of the deer harvest during this study. This can be determined by recognizing that the dog was responsible for many of the 61 Class 3 deer that left little or no evidence of being hit, all 24 of the Class 4 deer that were determined to be unrecoverable without a dog, and 19 deer that were still alive and had been wounded by the shot. This represents approximately 75-100 of the 493 deer harvested on the property, i.e. 15-20%.

Also, by using a dog every time a shot was fired, the efficiency in recovering deer and differentiating deer that are hit from those that are not was greatly increased.

SHOT PLACEMENT

In this study, we were also interested in documenting the importance of shot placement because this is often a point of debate among sportsmen. We have already seen that deer run nearly 50 percent of the time when they are mortally wounded. Certainly, shot placement is the most important factor related to how deer react after being shot.

Several types of trauma can lead to the rapid death of an animal that is struck by a bullet. Significant trauma to the central nervous system, the respiratory system or the circulatory system will all prove effective.

For the purposes of this study, bullet placement consisted of neck, spine shoulder, heart, lungs and abdomen. Since animals that were hit in the extremities or hit superficially were still alive, they were eliminated from this particular analysis in favor of more traditional bullet placement locations.

In this study deer shot in the neck and spine were immediately rendered immobile and succumbed quickly. Deer that were shot broadside in the shoulder ran a mean distance of three vards, while animals hit in the heart, lungs or abdomen traveled 39, 50 and 69 yards respectfully.

So what shot placement is the best? Neck shots worked well in this study, but they can be problematic because the target area is very small and there is a risk of wounding associated with the target. Potential problems include a shot to the esophagus or mandible. Also, spine shots can be ruled out as a recommended shot because few shots are consciously directed at the spine. In other words, most spine shots result from shots that miss their mark high and incidentally hit the spine.

Based on the data collected in this study, we feel that the best shot placement for deer is the broadside shot directed at the shoulder. Traveling an average of only three yards, deer shot in the shoulder traveled significantly less distance than deer shot in the heart, lungs, or abdomen. Also, with such a short distance of travel, deer shot squarely in the shoulder did not generally leave the hunter's sight.

In this study, the broadside shoulder shot essentially gave results similar to what most hunters expect from a neck shot. Presumably the broadside shoulder shot works well because it strikes part of the heart and or lungs, which is a mortal blow. However, a shot through the scapula damages the brachial plexus which is part of the central nervous system thereby rendering the animal immobile. It knocks the animal out and it never regains consciousness. Also, the shoulder is room for error; a high shot hits the spine, a low shot the heart and a shot to the rear hits the lungs.

FIREARMS AND AMMUNITION

Hunters are often very to firearms and ammunimany misconceptions related to the subject. It is still more emphasis on their firearms and ammunition than apparent are skeptical remarks implying that smaller are less effective and result in deer running further and increased crippling rates.

During this study there were in excess of 20 different center-fire cartridges used to harvest deer. To reduce variability the various their respective caliber. This resulted in the delineation of five caliber groups; .243

In order to gain some objective measure of how these calibers performed on deer, we looked at the distance deer traveled. This included all animals regardless of whether they died in their tracks or ran. We found no significant difference in the performance of these caliber groups when comparing how deer reacted. Mean distances deer traveled varied between 14 and 40 yards but there was no apparent relationship with increasing or decreasing caliber size or the inherent differences in velocity or energy that is related to the different caliber groups.

- .243 (6mm)=48 deer, traveled 40 yards
- .25=36 deer, traveled
- .270 =84 deer,
- =160 deer, **.**284 traveled 26 yards

eled 33 yards Factory rifles accounted

fles, 169. In both categories, a very large target offering deer traveled 29 yards. **WHEN YOU NEED A CLEAR PATH**

E II SAFETA

FOR A CLEAR SHOT...

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opinionated with respect tion and similarly, there are common for hunters to place on shot placement. The old saying "I use this magnum because you can hit them in the butt and blow their head off' is still common. Also caliber center-fire firearms

cartridges were grouped by cal., .25 cal., .270 cal., .284 cal., and .30 cal.

- 14 yards
- traveled 31 yards
- .30=116 deer, trav-

for 164 deer and custom ri-

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AMMUNITION

The final question that we addressed in this study dealt with differences in the performance of different bullet types.

With the popularity of hand loading and super accurate shooting sportsmen often debate the merits of different bullet types. For the purposes of this study and because there are so many different bullet types, we placed bullets into two categories.

Group 1 consisted of softer type bullets. In other words, bullets that are designed to rapidly expand on impact. Bullets falling into that group included ballistic tips, bronze points or any other soft point bullet that is of the appropriate weight for the caliber, for southeasternsized deer. For example, a 150-grain ballistic tip bullet in a .30 caliber rather than a 200-grain bullet in the same caliber.

Group 2 bullets were just the opposite and included some of the premium types of ammunition loaded with controlled expansion bullets including Partitions, Grand Slams, Barnes X and various types of solids. Also, bullets that are generally accepted as being too heavy for southeastern sized deer were placed in this group. For example, a 200-grain bullet in a .30 caliber weapon is generally considered too much for southeastern deer.

Overall, Group I bullets could be characterized as being explosive on impact, whereas Group 2 bullets were controlled in the manner they expand.

Again, using the distance that deer traveled as a measure of performance we found that deer struck with the more explosive type bullets traveled a mean distance of about 27 yards while those struck with hard or heavy bullets traveled an average of approximately 43 yards. This represents a significant difference, with deer struck by hard bullets

traveling further.

The second method of monitoring bullet performance dealt with the percentage of deer that were dropped in their tracks by the respective bullet groups. Again, explosive-type bullets significantly outperformed the hard/heavy bullets with 58 percent knockdowns compared to 40 percent.

Finally, and more subjectively, we looked at the percentage of deer that ran and left poor sign. Again, we found a significant difference between the two groups indicating that deer struck with more expanding type bullets left poor sign only about 12 percent of the time, compared to over 21 percent for the hard/heavy group.

CONCLUSIONS

- Shooting percentages about 82%.
- The farther the shot, the lower the chance of getting the deer.
- Deer ran about 62 yards on average.
- Shot placement is determining factor. All things considered. broadside shoulder shot worked best compared to others.
- About 50:50, deer run vs. deer don't run.
- Trained dogs expedited recovery of all deer that ran.
- Dogs very important in recovering 61 deer that left poor/no sign, 24 deer judged unrecoverable, and 19 live/wounded deer. Dogs accounted for
- approximately 15-20% of total harvest on hunting area, i.e. 75-100 deer. ■ No difference in effec-
- tiveness of various calibers.
- No difference between factory vs. custom firearms.
- Significant difference between bullet types. This study indicates that rapidly expanding bullets lead to deer running less often and less distance and when they run they leave better sign.









843-909-0836

Shellfish harvesting season opened on Sept. 28

The 2019-2020 season for recreational harvest of shellfish (clams and oysters) in coastal waters of South Carolina opened one-half hour before official sunrise on Saturday Sept. 28. The recreational shell-fish season will remain open through May 15, 2020, unless conditions warrant extending or shortening the season.

In the event of another hurricane, major rain event or pollution spill, shellfish beds may be temporarily closed by the South Carolina Department of Health & Environmental Control (DHEC). It is important for harvesters to check with DHEC to verify whether any closures are in effect. This information is available at 1-800-285-1618 and can be viewed on an interactive map at the DHEC website. DHEC will use these resources and local newspapers throughout the year to announce temporary closures due to unusual rain events or spills.

The South Carolina Department of Natural Resources (SCDNR) maintains state shellfish grounds for commercial and recreational harvesting of clams and oysters. Twenty public shellfish grounds and 13 state shellfish grounds are managed exclusively for recreational gathering. An additional 52 state shellfish grounds are managed for recreational and commercial harvest. All state-managed grounds are posted with boundary signs.

Recreational harvesters should obtain updated public or state shellfish ground maps at the beginning of each season, as areas open to harvest change from year to year. Maps of designated harvest areas may be downloaded from the SCDNR website or accessed online through the Recreational Map Web Application. Printed maps may also be obtained by calling (843) 953-9854 or writing the Shellfish Management Section, Attn: Ben Dyar, SCDNR, P.O. Box 12559, Charleston, S.C. 29422-2559. When requesting maps, please specify the general area where you wish to harvest. Maps for the 2019-20 season will be available prior to season opening on September 28.

Recreational harvesters must have a Saltwater Recreational Fishing License, available from SCDNR, at many fishing supply stores and online. The recreational limit is two U.S. bushels of oysters and



one-half bushel of clams in any one day, limited to two calendar days per sevenday period. One U.S. bushel is equal to eight gallons. There is a maximum possession of three personal limits per boat or vehicle. Clams must be at least one inch in thickness.

Additional rules and restrictions may be found in the SCDNR Rules and Regulations, available where licenses are purchased or online.

Commercial harvest of shellfish requires a commercial saltwater license, mandatory harvester training, and other licenses and permits depending on where the harvest will occur. Call the Marine Permitting Office at (843) 953-0453 for additional information on commercial harvesting requirements.

All harvesters are encouraged to "cull

in place," leaving dead shell and smaller oysters on the shoreline where they will continue to grow and provide habitat for future generations of oysters.

Oyster consumers are encouraged to recycle their shells. Check online or call (843) 953-9397 to find locations near you where shells can be dropped off for recycling. SCDNR uses saltwater recreational fishing license revenues to construct and enhance renewable oyster resources in the coastal counties by replanting recycled shell. All shell collected by the SCDNR is used to restore shellfish grounds in coastal South Carolina.

TIPS FOR RECYCLING YOUR OYSTER SHELLS

DO bring your shell to the nearest shell

recycling center. Drop-off locations are available online. If a center is not shown nearby, call 843-953-9397.

DO separate shell from trash. Shell mixed with trash (including shell in bags or containers) is not suitable for recycling. Provide separate containers at your

events for shells and trash.

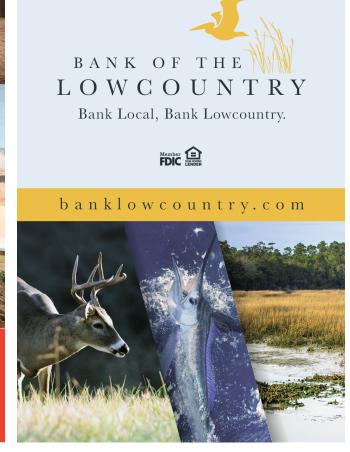
DON'T put live or freshly shucked oysters in South Carolina waters.

If the oysters you purchased were harvested outside South Carolina, it is illegal to place them in S.C. waters.

Placing live oysters in local waters can create environmental problems and may harm local oysters or other animals. To avoid contamination, shell should be recycled to SCDNR and properly quarantined.









Taking Aim: Shooting ranges in S.C.

The SCDNR operates multiple shooting ranges that are open for use during certain hours which are subject to change according to time of year, hunting seasons, etc. All SCDNR ranges are 100 yards or less. To confirm hours of operation, call the SCDNR Hunter Education office at 803-734-3995.

SCDNR PICKENS COUNTY RANGE (PICKENS CO.)

From Easley, take SC Highway 8 approximately 4 miles towards Pickens. Turn left on Breazeale Road. Drive 1/2 mile beyond SC Dept. of Transportation Maintenance Shop and turn left on Porter Rd. Go approximately 1/2 mile and turn left at the red gate. The range is located at the end of the gravel road.

Hours: Tuesday-Saturday: 9 AM-5 PM (EST). Closed Sunday and Monday. For more information, call 864-855-5747.

SCDNR JAMES O. THOMASON SHOOTING RANGE (SPARTANBURG CO.)

From Pauline, take SC Highway 215 approximately .5 mile east toward Glenn Springs. Turn left on Foster Mill Circle and drive 2.5 miles (paved road becomes gravel road). Range is on the left side of the road.

Hours: Tuesday-Saturday: 9 AM-5 PM (EST). Closed Sun. and Mon.

For more information call 864-380-6276.

SCDNR TWIN PONDS RANGE (CHARLESTON CO.)

7492 Willow Hall Rd, Awendaw, SC 29429 Hours: Tuesday-Saturday: 9 AM-5 PM (EST) Closed Sunday and Monday.

SCDNR WATEREE RANGE (RICHLAND CO.)

14068 Garners Ferry Rd, Eastover, SC 29044 Hours: Tuesday-Saturday: 9AM-5PM (EST) Closed Sunday and Monday. Range offers shooting opportunities for rifle, pistol, skeet, trap, five-stand, and sporting clays. There is a charge of \$5 per 25 clay targets on shotgun ranges. For more information, call 803-240-7368.

SCDNR BELFAST WMA SHOOTING RANGE (LAURENS CO.)

6655 Highway 560, Kinards, SC 29355 Hours: Open Wednesday-Saturday. Daylight hours only, Sunday 2 PM-Dark Closed Monday and Tuesday.

SCDNR PALACHUCOLA RANGE (HAMPTON CO.)



Wednesday-Saturday: 8 am-dark and Sunday 1 pm-dark except during deer and turkey hunts. Dates are posted at the range or call 803-625-3569 for more information.

MANCHESTER STATE FOREST SHOOTING RANGE (SC FORESTRY COMMISSION, SUMTER CO.)

\$5.00 per day or \$25.00 per year. Hearing protection required. For more information, call 803-494-8196.

required. For more information, call 803-494-8196. Hours: Open Saturday 8:30 AM-4:30 PM and Sunday 1:00 PM-5:00 PM.

U.S. Forest Service Rifle Ranges

CEDAR CREEK SHOOTING RANGE (OCONEE CO.)

Year round. Fully accessible to disabled visitors. Three of five shooting tables are under a shelter. For more information, call 864-638-9568 or fax 864-638-2659. Hours: Open Thursday-Sunday

CANDY BRANCH SHOOTING RANGE (ABBEVILLE CO.)

Year round, sunrise to sunset. Five firing lines with left or right benches including one accessible to disabled visitors. For more information call 803-637-5396 or fax 803-637-2273.

BEAVERDAM SHOOTING RANGE (EDGEFIELD CO.)

Year round, sunrise to sunset. Eight open firing lines with left or right benches. For more information call 803-637-5396 or fax 803-637-2273.

FAIRFOREST SHOOTING RANGE (UNION CO.), LEEDS SHOOTING RANGE (CHESTER CO.), PHILSON CROSSROADS SHOOTING RANGE (LAURENS CO.), INDIAN CREEK SHOOTING RANGE (NEWBERRY CO.)

Year round, day use. All have six firing lanes, left and right benches are available, including one bench accessible to disabled visitors. For more information call 864-427-9858 or fax 864-427-3529.

BOGGY HEAD RIFLE RANGE (BERKELEY CO.)

Year round, daylight hours only. Shooting tables, including one fully-accessible to disabled visitors. For more information call Francis Marion Ranger District office at 843-336-2200.

For additional shooting ranges visit http://www.dnr.sc.gov/shooting/







Ricky Varnadoe NMLS 628791 | Sara Lovelace NMLS 619788 529 Bells Hwy | Walterboro, SC | 843-549-1584 | AgSouthFC.com



Fig. 1

Tagging guidelines and instructions for deer

ALL DEER MUST BE TAGGED immediately after harvest before moving from the point of kill.

Do not remove tag until ready to use.

Use of another person's tag(s) is prohibited.

Cut or mark out with a pen the month, day, and WMA notches on the tag prior to tagging.

Remove tag from backing and wrap through the hamstring as shown, pressing adhesive sides evenly and tightly together leaving the entire face of the tag exposed and all of the adhesive ends attached firmly together.

Tag must remain attached until the deer/carcass is quartered or received by a processor.

Tags DO NOT alter daily or seasonal bag limits or use of weapons during special seasons.

Tags are not valid for quota deer on properties enrolled in the Deer Quota Program (DQP).

Tags are valid for the entire season, however, hunters must maintain an active License and Big Game Permit to legally deer hunt.

Tags must be in possession while hunting.

An antlered deer is defined as a deer with antlers two inches or more above the hairline.

The individual antlerless deer tags are NOT VALID for use on Francis Marion National Forest WMAs during Deer Dog Drive Hunts, except one (1) Antlerless Deer Tag that may be used on areas open for Deer Dog Drive Hunts on Dec. 14th.

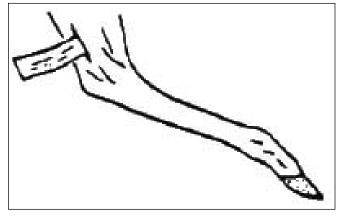
All antlerless deer must be tagged with an Individual Antlerless Deer Tag, these tags MAY NOT BE USED PRIOR TO September 15 in Game Zones 2, 3 and 4 or October 1 in Game Zone 1.

Check the DNR Hunting Regulations Guide for other information and restrictions.

For full text of laws & regulations related to deer tagging refer to S.C. Code of Laws 50-11-315, 50-11-320, 50-11-335, 50-11-390, 50-11-400, 50-11-410 and S.C. Code of Regulations 123-52.

MEASUREMENT PROCEDURES & STANDARDS





FOR ANTLERED DEER

For the two Optional Antler Restriction Tags a deer must have a minimum of four points on one antler OR a minimum 12" inside antler spread.

A point is defined as a projection that is at least one inch long. Points are measured starting at base where it arises from the top of the beam or another point. (Fig. 1)

Inside antler spread is measured at a right angle (perpendicular) to the center line of the skull at its widest point between the main beams. (Fig. 2)

RESIDENTS

When residents purchase a Hunting License and Big Game Permit OR if they currently have just purchased an active Hunting License and Big Game Permit that will be valid when deer season begins on August 15 they will automatically receive a base set of deer tags at no cost prior to deer season.

The base set of tags consist of the following:

Three unrestricted

- Three unrestricted antlered buck tags.
- Two antlerless deer tags that may be used on any day beginning September 15 in Game Zones 2, 3 or 4; and beginning October 1 in Game Zone 1.

RESIDENTS -ADDITIONAL DEER TAG PURCHASES

Residents may purchase two additional antler restriction buck tags for \$5 each. The restriction is the buck must have four points on one antler or a minimum 12-inch inside spread. There is no particular order in which the antlered buck tags must be

As in the past, all residents may purchase up to four individual antlerless

tags for \$5 each. Tags are valid on any day beginning September 15 in Game Zones 2, 3, 4 and October 1 in Game Zone 1 until the end of the deer hunting season. Hunters who purchase all four optional antlerless tags will receive two free bonus tags that are valid for antlerless deer on private land only in Game Zones 3 and 4 to help control deer damage to agriculture.

IMPORTANT INFORMATION

Deer tags are not available over the counter at point of sales vendors (Walmart, Dick's Sporting Goods, etc.). They are available over the counter now at SCDNR offices located in Charleston, Clemson, Columbia (Farmer's Market), Florence, and York. Tags may be requested by phone at 1-866-714-3611 or online at: http://dnr.sc.gov/purchase.html. Tags were mailed in late

BEAM

July

1 inch

minimum

Resident hunters who have an active License/Big Game Permit when deer season begins should have automatically received their base set of tags in late July. Residents whose License/Big Game Permit expired before deer season started should renew their

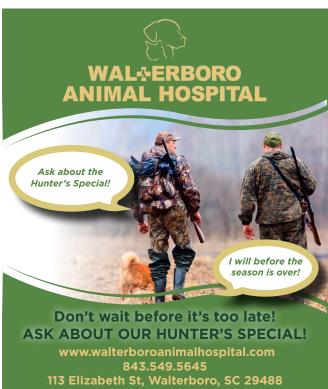
Fig. 2

License/Big Game permit at least 7-10 days prior to deer hunting so their deer tags can arrive in the mail.

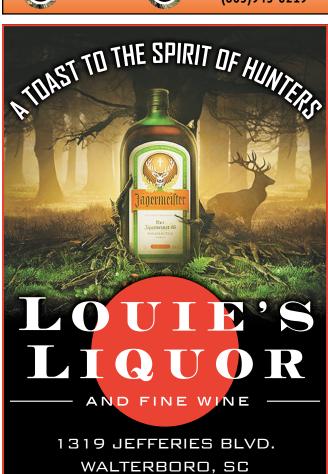
12 inch minimum

INSIDE

Tags are valid for the entire deer season; however, hunters must maintain an active License/Big Game Permit to legally deer hunt.





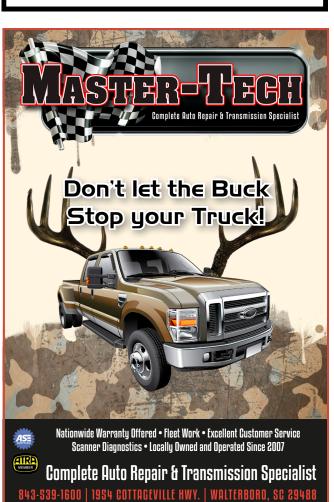


843-549-2921 • MON-SAT 9-7









Clemson's hunting classes teach shooting, hunting techniques

By JONATHAN VEIT Clemson College of Agriculture, Forestry and Life Sciences May 15, 2015

On a crystalline April day, 16 young women gather in the Clemson Experimental Forest for a final exam in a course formally called LS 1340, but more commonly known as Women's Hunting.

Instructor Susan Guynn has been in the woods for several hours already, walking through the shade of a pine stand and dropping red dye on leaves, logs, rocks and pine

Today she will have her students simulate tracking a deer that's been shot. But first they surround Guynn as she explains some gory details essential to understanding how far the injured deer might have fled and how long to wait before pursuing it.

"If the blood is pink and frothy, what can that tell you about where you hit that deer?" Guynn asks.

There's a moment of hesitation. "Lungs?" one student

"That's right," Guynn says. "The blood is frothy because it has a lot of oxygen in it. A deer can't go too far with a lung shot. Blood that has a greenish tint or is mixed with plant matter means it was probably gut shot, you might have hit it in the rumen. And bright red blood means you shot it in or near the heart."

The idea for a women's hunting class originated with Clemson natural resources specialist Rick Willey. Willey noticed that many female students were dropping his coed hunting class. He wondered if they might be more comfortable in a women's-only hunting class, so he approached Guvnn.

Guynn began hunting

small game with her father when she was about three years old, and she attended Clemson where she met her future husband, wildlife biologist David Guynn, who introduced her to big game hunting.

She now holds a Ph.D. in wildlife with an emphasis on the human dimensions of wildlife. For her doctoral dissertation, she researched the psychological benefits of hunting.

"Hunting has taught me patience, humility, and an appreciation for nature and the circle of life," Guynn said. "One of the things that I hope my students take with them from the class is that they can hunt without being dependent upon someone else to take them into the woods."

Guynn's course is designed to teach the fundamentals of hunting, including safety, wildlife biology and behavior, and how to clean and handle prey after a hunt. Her students hear lectures about why people hunt in modern times and hunting ethics. They complete a series of hunter education quizzes and take a hunter education exam. They learn turkey calling, land navigation, stalking and tracking, and the importance of camouflage. Of course, they learn shotgun, rifle and archery shooting. Her spring semester class goes squirrel, turkey and rabbit hunting.

Women's Hunting is part of a suite of classes that include Women's Hunting Traditions, Women's Shotgun Shooting, and Women's Riflery.

She estimates she's had 193 students since she started the class in 2008. Some have never held a gun, while others have hunted with their fathers, grandfathers or boyIn 2018-2019, Clemson offers:

■ Women's Hunting Traditions: hands-on instruction in shooting sports and the sport of hunting, including safe and responsible use of firearms and archery and how to participate safely in hunting.

Hunting and Wildlife Management: techniques to harvest renewable wildlife resources with respect to their roles in sound management practices as well as effects of selected hunting regulations on wild populations, safety and ethics.

Hunting Traditions: basic, hands-on instruction in the shooting sports (shotgun, rifle and archery) and the sport of hunting, firearms safety, safe hunting practices and the opportunity to complete SCDNR Hunter Education certificate. ■ Turkey Hunting: skills, techniques and history of turkey hunting including gun and hunting safety; shotgun, muzzleloading and archery hunting techniques; tracking and

Mara Parmenter, a sophomore animal and veterinary science major from Boone, N.C., hunts squirrels and deer with her boyfriend. Guynn's class was her first time hunting with a shotgun, and she enjoyed handling bigger guns like the .22-250. "Hunting brings me closer to nature and is a more ethical way to

obtain meat," Parmenter said.

"Some women think hunting

is a man's job but this class is

empowering. Now I can imag-

ine myself hunting by myself

or with some girlfriends."

basic calling techniques.

Before taking the class, Brianna Berry, a sophomore business management major from Charleston, had some preconceived ideas about the kind of people who hunt.

"I came from a high school where a lot of kids wore camouflage and hunted, but I never went because I didn't think it was my thing. But Susan really changed my mind about hunting," Berry said. "She's so knowledgeable, and she helped me realize that hunting is a skill that needs to be studied."

Guynn hopes her students gain the confidence to hunt or go into the woods by themselves.

Berry also sees her newfound hunting knowledge as a way to relate to fellow students and to help in future business relationships.

'Clemson has a lot of students studying wildlife and natural resources, and I want a way to connect with them. Also hunting is a popular pastime in the South and I plan to stay in the South, so I think this class can help me relate to future coworkers and bosses who are hunters," Berry said.

Berry had the most fun hunting turkeys she said. "There's a lot of strategy to hunting them because they're so aware of their surroundings."

Now the women start their walk into the woods, scanning the forest floor. They stop here and there to point out the "blood" on the ground.

They are continuing in a strong tradition of women hunters. It is said that Queen Elizabeth I hunted deer and stags with her courtiers, and would happily cut the throat

of her quarry. Annie Oakley could shoot the head off a quail when she was just a girl. In Greek mythology, Amazon women were raised by their mothers and trained in agriculture, hunting and the art of war.

About 50 yards into the woods, the students find their quarry tied to the trunk of a tree. No venison today. Instead, the trail of food coloring has led them to sustenance of a different kind - a bag of doughnuts is their reward for a job well done.

As they eat their treats, these women gather around Guynn while she tells a pointed story about shooting an elk in Idaho.

"I knew it was a perfect shot," she says. "But my husband questioned whether it was as perfect as I thought, and that caused me to question it, too. So we waited a long time before we tracked it. Then we found it dead in its tracks. Perfect shot, just as I thought. Always have confidence in your shot. If it's a good shot, don't let anyone talk you into thinking otherwise.'



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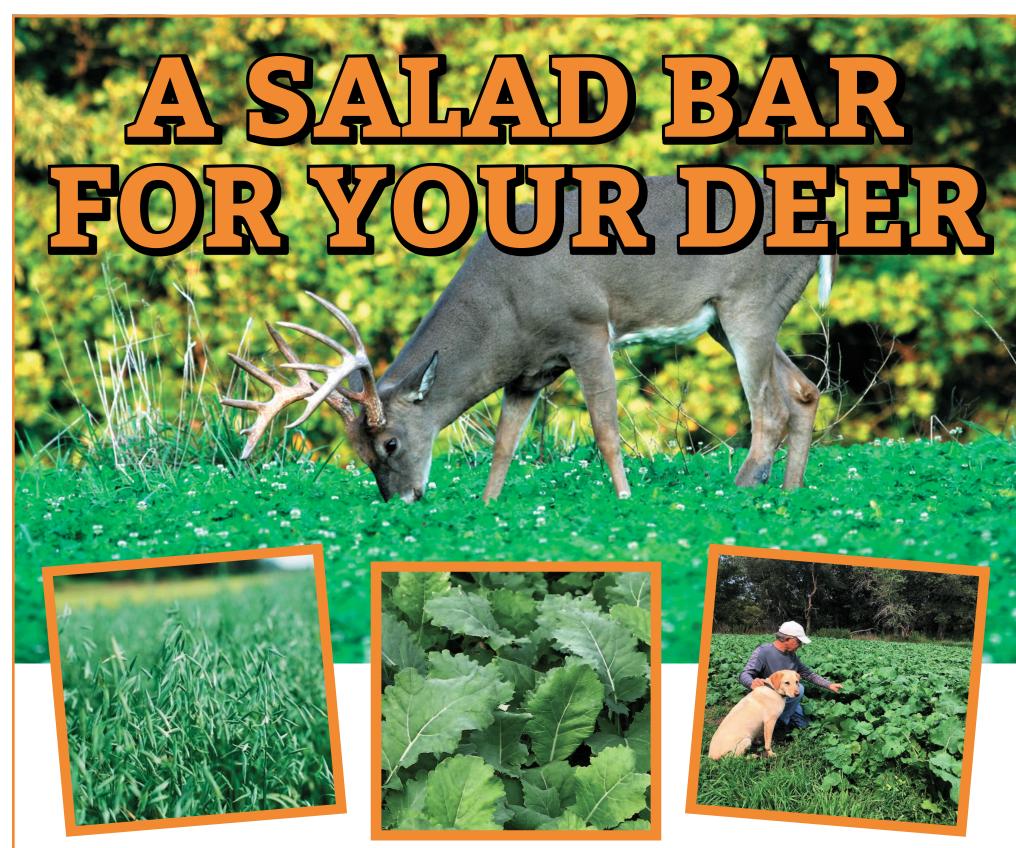
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