Dr. Deer's™ PRESCRIPTION

Antler Restrictions: More Than Trophies

By Dr. James C. Kroll and Ben H. Koerth

In 1993, a revolution in deer management began in Dooly County, Georgia, when the first antler restrictions were imposed on deer hunters. It began as a grass-roots effort by landowners and hunters in Dooly County, but was supported by the Georgia DNR as a three-year trial program. The motivation behind the trial program stemmed from frustration by landowners in trying to produce older age-class bucks with larger antlers. Steve Vaughn, managing partner with Game & Fish Publications—publisher of North American WHITETAIL magazine—provided financial support to graduate student Micah Goldstein. Micah was studying wildlife management at the University of Georgia, and was one of those rare wildlife biologists who truly like to work with the public. After reviewing scientific data on age-related antler growth, a 15-inch outside spread limitation was imposed. Micah worked closely with hunters and landowners, educating them on important principles. One of the most important interest groups included game wardens, who tend to view a new thing as how it impacts their ability to enforce new regulations. One of the really great approaches was to give wardens more discretion in early enforcement. Wardens could be lenient with a hunter who killed a buck with slightly less than the 15-inch limit.

The wildlife management community greeted the project with tepid support. The main concern, if implemented, would antler restrictions reduce "hunter opportunity"? This concern turned out to be a "straw man" argument. The three-year trial program began with a 66 percent public—landowner and hunter—approval, but just three years later, a follow-up survey revealed that 74 percent of landowners and 89 percent of hunters approved the program. Scientific research revealed buck age structure did increase, with a 156 percent increase in 3½-year-old and older bucks over the course of the study. Even with a very liberal doe harvest, the deer population did not disappear as some hunters initially feared. The quality deer management philosophy, already long in play in Texas, quickly began building steam.

Word of the success of the Dooly County experiment spread quickly and efforts to protect yearling bucks gained support in other states.

In Arkansas, John Butler spearheaded a proposal to establish a points-rule for his state. Again, the state wildlife agency, as well as some local deer hunting organizations, did not support the proposal. Ultimately, John won out and a points-rule is still in place today.

By 2011, 21 states had some type of antler restrictions. Some of these arose, as did Dooly County and Arkansas, by

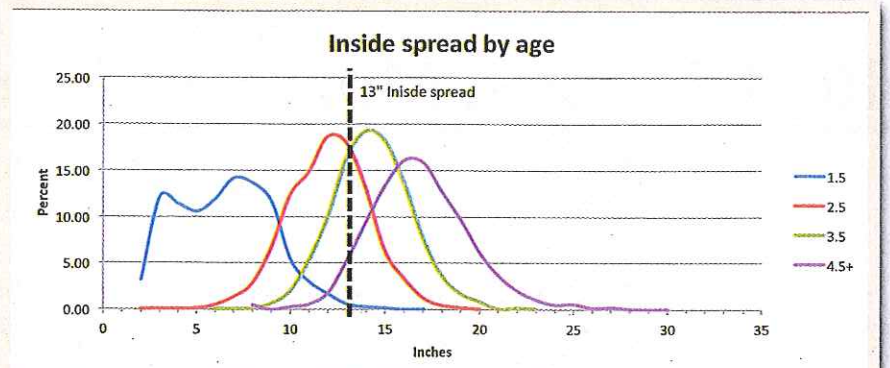


Marty Berry Photos

a grass-roots effort while others such as Pennsylvania were initiated by state action. In general, the former traditionally garner more public support. Our good friend, Dr. Gary Alt learned this the hard way in Pennsylvania. When Gov. Tom Ridge appointed Gary to handle deer management issues, one of his first proposals was an antler restriction to protect the beleaguered yearling buck population. Several "conservation" groups immediately opposed Gary and his proposal with venomous attacks. Although the restrictions have been proven successful, Gary "resigned" his position in 1994, and moved to California for a happier life. Since then, Pennsylvania has annually added more trophy bucks to their state record book than many years combined prior to implementation of antler restrictions.

According to a 2012 report by the Quality Deer Management Association, 15 states have implemented an antler point to a side regulation. Three use a minimum spread, Arkansas uses points to a side and beam length, Mississippi uses minimum spread or minimum beam length, South Carolina uses minimum spread or beam length, and Texas uses a minimum spread or one unbranched antler. This is quite an array of attempts to protect yearling bucks. Eight of the states—36 percent—imposed the restrictions statewide, while the remainder limited restrictions to specific areas. In Texas, for example, antler restrictions have been limited to counties where traditionally there has been a heavy yearling buck harvest, mostly eastern Texas.

By 2014, several more states had joined into an antler restriction program in one way or another. Although quite successful, antler restrictions still have their critics, mostly from hunters who believe they reduce hunter opportunity. Some non-governmental (NGOs) deer organizations continue to oppose antler restrictions, citing reasons such as they are just a "backdoor" means of producing trophies rather than hunting recreation. Another common criticism is that antler restrictions are unfair to young hunters. We disagree totally and the purpose of this article is to focus on the true benefits of antler restrictions.



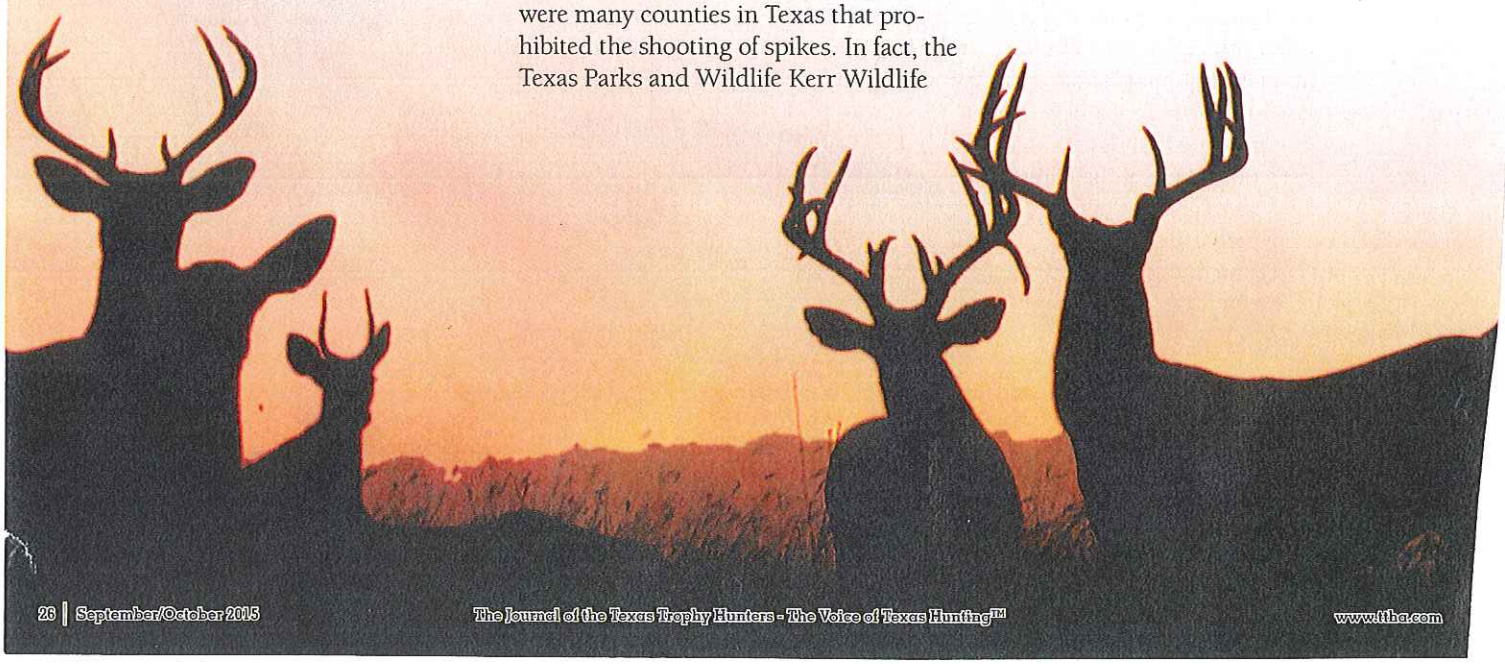
With the 13-inch minimum used by Texas, virtually all yearlings, the vast majority of 2½ year olds and about a quarter of 3½ years olds are protected and have the chance to grow up.

Protecting Yearling Bucks

For over 100 years, hunters have been trying to protect yearling bucks one way or another. When we were young, there were many counties in Texas that prohibited the shooting of spikes. In fact, the Texas Parks and Wildlife Kerr Wildlife Management Area spike study was really implemented to "prove" spikes were genetically inferior, and protecting spikes would degrade the genetic quality of whitetails. When this study began, Kerr County had a spike protective regulation in force.

The restrictions had been put in place as an effort to protect yearling bucks, since most spikes are yearlings. By concluding that spikes were genetically inferior, TPWD removed the only antler restrictions in place at that time. As a result, thousands of yearling bucks that otherwise would have grown into quality bucks were slaughtered in many states in the guise of "improving" the deer herd.

On a trip to Florida, I was accosted by managers, who found out I was from Texas, told me they had followed the "Texas Model" to the tee and had eliminated three age classes of bucks. In that area of Florida, bucks commonly have spikes or three points their first two years, because of very poor soil conditions. Our landmark study over 8 years clearly showed yearling bucks with spikes were no more "inferior" than their forked cohorts. This leads to the question: What is the best way to protect yearling bucks—points, spread, beam length, etc.? Would a simple prohibition on shooting spikes suffice?



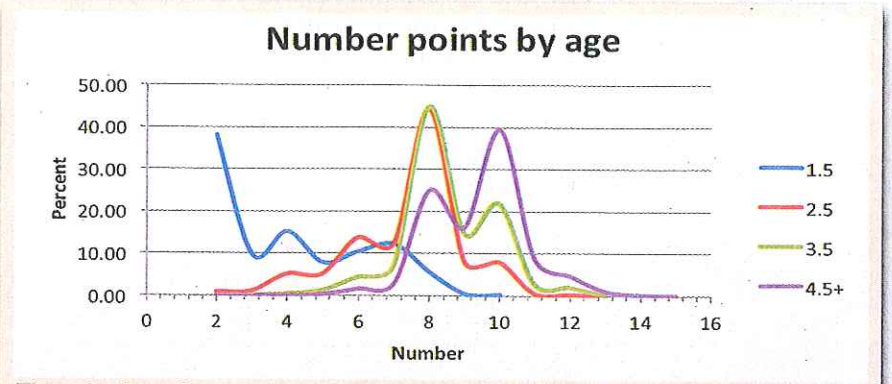
What Works?

In the best of worlds everyone would be able to age a buck before he is shot. Antler restrictions would then be a moot point. We are still amused by a hunter that comes in and tells a story of the deer he saw that day. It usually goes something like this: "He was a 10 point, 18½ inches wide, had two small kickers on the G2s and would score in the 140 class." When asked how old the deer was, the typical reply is something like, "I didn't have time to look."

While some hunters and managers have worked diligently at becoming proficient at aging animals on-the-hoof, we dare say the vast majority of hunters cannot. Therefore, some sort of antler restriction makes sense to protect younger age classes of deer. The easiest antler restriction would simply be the number of antler points. In theory, if you can see the antlers you can count the number of points, even if the animal does not remain still.

Unfortunately, the number of antler points is one of the worst methods to differentiate age classes of deer (see points graph). We used over 8,000 deer we captured over the past 15 years to graph the number of typical antler points from known age deer. What we find is there is virtually no separation between 2½ and 3½-year-old deer. Even bucks that are 4½ or older share a large percentage of their population with the younger age classes. The yearling class could be protected to a large extent if the number of point restriction was high enough. However, 2½-year-old deer would be vulnerable with virtually none but the bottom end being protected to go on and reach older ages.

Number of antlers points doesn't work to age deer. So, what else might be used effectively and is easy for hunters?



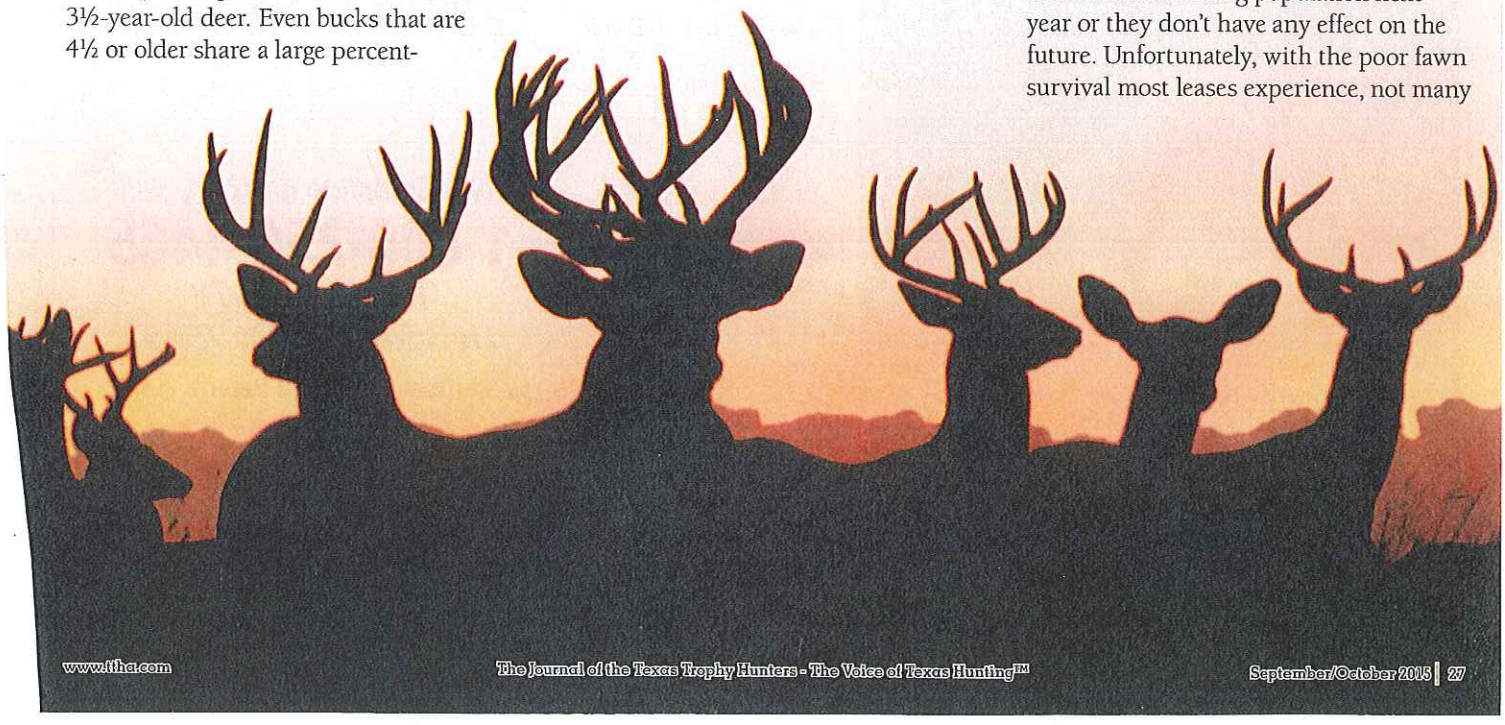
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The next easiest antler measure for hunters to recognize, and the one Texas has adopted, is inside spread. Instead of going with an outside spread like the original study in Dooly County, Texas uses a 13-inch inside spread minimum. While not exact and not a legal measure, the tips of the ears on a typical Texas buck spans about 13 inches when the animal is in an alert position. Using ear width at least gives a hunter something to base their estimate of how wide the antlers are.

Using the same set of bucks mentioned earlier we graphed the inside spread of known age bucks. With this method we see there is definite separation between the different age classes. With the 13-inch minimum used by Texas, virtually all yearlings, the vast majority of 2½ year olds and about a quarter of 3½ years olds are protected and have the chance to grow up (see inside spread graph).

Now, we know there will be some naysayers who look at this and feel vindicated in their belief. They will zero in on the handful of mature bucks that didn't make the 13-inch minimum. In their minds, these narrow bucks protected by antler width restriction are running wild and breeding every doe on the place. Ultimately, these antler restrictions will end up with the entire population turning to narrowed antlered bucks that can never be shot.

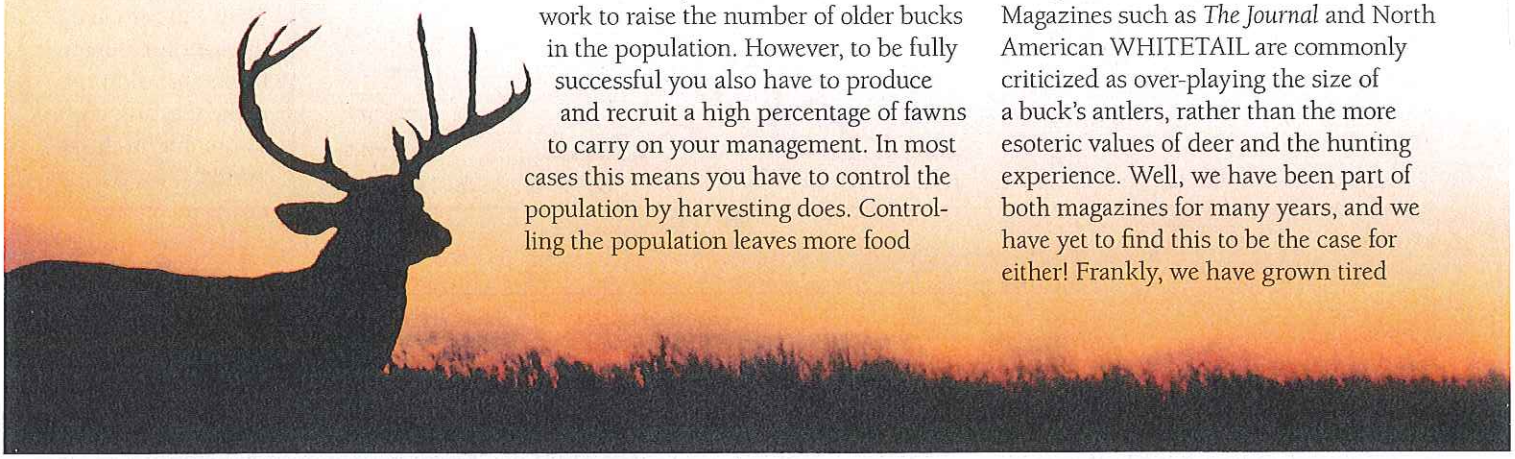
If you think about this logically and not emotionally you will understand that wholesale changes in the deer herd are not going to happen from a small percentage of narrow bucks. First, research has shown repeatedly that even the most aggressive, dominant buck on the place rarely gets to breed more than two or three does in a year. Of the fawns born from that mating, they must survive to enter the breeding population next year or they don't have any effect on the future. Unfortunately, with the poor fawn survival most leases experience, not many



fawns make it that far.

Second, the buck is not the only part of the equation. It is not his contribution alone that determines antler size of his progeny. The doe has at least equal genetic input and definitely more biological input. Her social status, milking ability, digestive efficiency, etc., gets those new babies off to their start in life and has a great deal to do with how they develop to maturity.

You could go on and look at other antler measures like circumference measures or beam length. You could combine different measures. For example, you could use a spread measure combined with main beam length. Or you could use a minimum spread or a minimum beam length. Using multiple antler measures probably would slightly increase your ability to separate age classes. However, the more complicated you get the harder it is for people to use particularly in a hunting situation when you may only have seconds to make your decisions. The best method is to keep the process as simple as possible and still achieve acceptable results.



Undoubtedly, antler restrictions can work to raise the number of older bucks in the population. However, to be fully successful you also have to produce and recruit a high percentage of fawns to carry on your management. In most cases this means you have to control the population by harvesting does. Controlling the population leaves more food to be consumed by the ones you leave. Also, if you have a skewed sex ratio with many more does than bucks, this means you need to shoot more does than you have been. A more even sex ratio means a higher proportion of does are bred by the older, high quality bucks you have raised by protecting young bucks.

Antler Restrictions Are Only About Trophies

Trophy management, in spite of media hype about huge bucks taken each year, has been maligned by hunters, agency biologists, and academics for many years. Magazines such as *The Journal* and North American WHITETAIL are commonly criticized as over-playing the size of a buck's antlers, rather than the more esoteric values of deer and the hunting experience. Well, we have been part of both magazines for many years, and we have yet to find this to be the case for either! Frankly, we have grown tired



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of folks who feel trophy management somehow is evil. The reality is every tenet of sound trophy management represents a sound ecological philosophy, certainly better than traditional management, which promotes heavy buck harvest.

What are the tenets? First of all, we want to develop a sound nutrition program, involving native forage management and nutrition supplementation. The next step is to hold the population at a level well within the ability of the system to support them, in order to maximize health and growth. Then we want to maintain a "natural" age and sex structure; followed by harvesting the right deer at the right age to maintain genetic diversity.

The third tenet certainly applies to the implementation of antler restrictions. In a perfect world, every hunter and landowner would do what is right for the land and the deer. In the real world, this seldom is the case, especially in areas with small land holdings and/or where hunting is mostly done by the public. The Dooly County project came about because landowners were tired of trying to increase age structure by letting young bucks walk, then hearing a shot ring out shortly afterwards on their neighbor's land.

The good Lord meant for deer herds to have balanced age and sex structure. Those that are "hammered" each season by hunters just wanting to say, "I got my buck," have skewed sex ratios and buck age structure. So, why is buck age structure so important? You may have read some article about DNA research that showed all bucks contribute fawns to the next generation. We have reviewed all of the published studies, and yes, they did find out even yearlings father offspring in many herds; yet, natural selection or survival of the fittest works on the number of offspring produced by each individual. If one deer produces three fawns, and another six, the latter is more successful. Getting your genes into the next generation is the "name of the game." Most studies clearly show a lion's share of the fawns are produced by older age-class bucks, given there ARE older age-class bucks in the herd. Why is it so important to have older bucks produce more offspring?

A buck fawn is born into a world where the most aggressive, the most competitive survive. From the time he hits the ground, he is vying for dominance over the other fawns. Older age-class bucks definitely dominate younger bucks. There always are exceptions, but exceptions are not the rule. The only way they get to breed is either have skewed sex ratios (an over-abundance of does), or when a dominant buck is not around. Whitetail males mature at 4½ years of age, when they achieve adult body weight; and the fourth year is when many bucks join the "breeding pool," the bucks contributing the most offspring. If he is lucky, a mature buck will have two, maybe three years to be a dominant buck. So, a buck



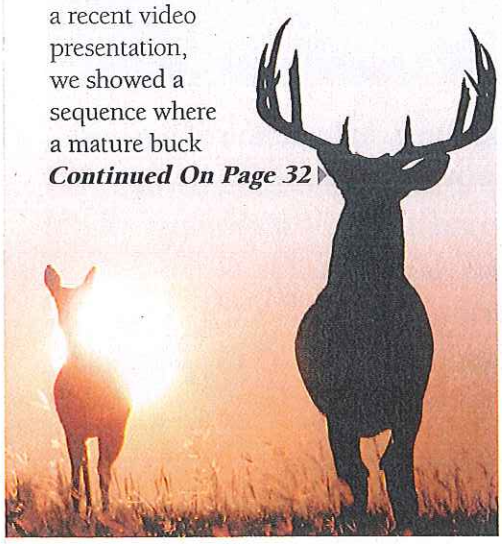
that lives to be old enough to join the breeding pool, has survived three or four years of a rather tough existence! The first year, he has dodged countless coyotes and other predators. Approaching maturity, he might also have survived a drought, a terrible winter and many other trials. In short, he has earned the right to be in the breeding pool. Our good friend and colleague, Dr. David Guynn, pointed out: "... to survive as long as they have, deer long ago developed social rules or mechanisms that would keep deer herds and their individual members fit and competitive."

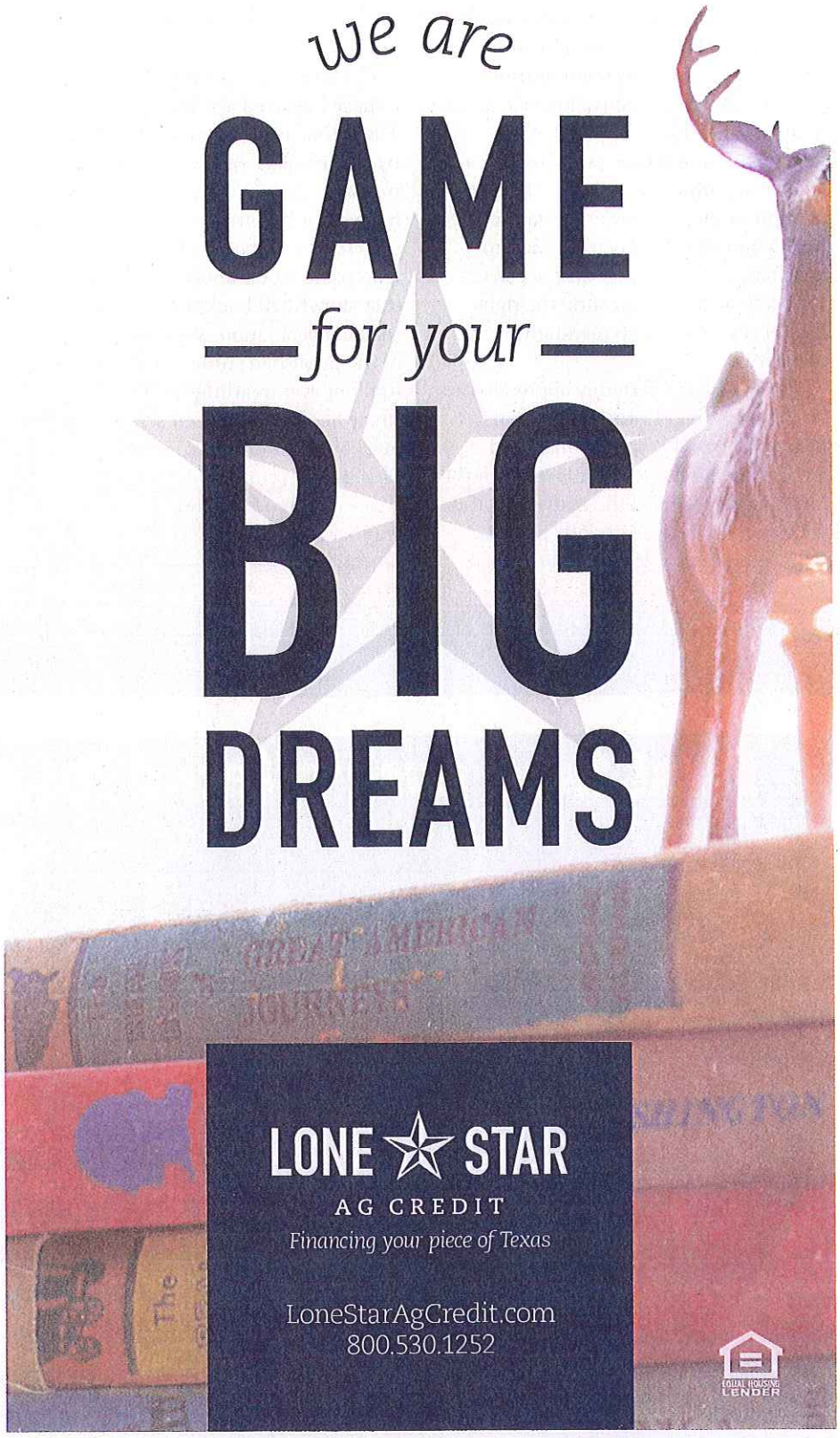
In areas where traditional deer management has been the norm, the resulting skewed sex ratios create a "free-for-all" approach to breeding. A yearling has as much expectation of producing offspring as the 3-year-old buck—a rare individual in traditional deer management. You can see why we have little patience with those who accuse trophy management of not being ecologically sound. The REAL reason for antler restrictions is to develop a more natural buck age structure; making trophies a secondary benefit.

It's difficult to sell a regulation that promotes a more stable age structure, simply by saying, "Well, it is the right thing to do!" It's more effective to point out antler restrictions increase age structure, and older bucks have larger antlers for the most part. There are even more benefits to a balanced buck age structure. Over the last 30 years, we have learned in herds with a rigid social structure, there tends to be less breeding by immature bucks, and the rut tends to be earlier and more concise.

We have considerable video evidence that dominant bucks tend to serve as "regulators" in the deer community. In a recent video presentation, we showed a sequence where a mature buck

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was working a scrape, when two immature bucks nearby began threatening each other. The old buck turned, assessed the situation, then walked deliberately between the two young bucks, and that was that, no fighting on his watch—unless they wanted to take him on!

A more concise rut is critical, not only the herd, but to a sound management program, as well. Most biologists agree there can be more than one breeding peak; the first represents the older does, the second older does that did not conceive earlier, and the last mostly composed by fawns large enough to be sexually mature. Yet, our experience is that with balanced herds, the second peaks tend to be less developed; and, the majority of does get bred over a very short time. We know that about 200 days after a buck and doe "meet," the fawns are born. After another 45 to 60 days, they are weaned and on their own. In a quality habitat a balanced herd will have their fawns over a very short time period, effectively overwhelming the predators with numbers. In a deer herd with a poor buck age structure, the rut tends to be more like a "trickle," and fawns are born over a protracted period; in effect providing a sustained yield of fawns for the predators.

We also have observed that well-managed herds, with good buck age structure, also tend to breed earlier than unmanaged or improperly managed herds. Our point above about when fawns wean is one of the reasons deer subspecies, or even local populations, rut when the do. After all, once a fawn is weaned it is on its own in regard to food. Yes, the fawns tend to remain associated with mother well into their second year, but she is not going to feed them.

South Texas is an excellent example. In that region, deer tend to breed later than East or Central Texas populations, but why? If you study the rainfall patterns of South Texas, most of it falls in the late summer to early fall—hurricane season. Anyone who has spent time in South Texas will tell you, in short order after a rain, the range explodes in green! A recently weaned fawn then will have an abundant supply of nutritious forage. Our studies here in eastern Texas have shown, a fawn conceived just one estrus cycle late will have less chance of survival. The majority of rain falls in spring and winter in that region, according to the Texas Water Development Board data (https://www.twdb.texas.gov/publications/state_water_plan/2012/04.pdf).

We hope to have convinced you antler restrictions are about far more than growing trophies. Any measure that is proven to increase age structure of bucks has a dramatic impact on both the genetic diversity and health of a deer herd. There are signs supporting deer herds in at least 31 states are declining; and, we may be experiencing the "good old days" of deer hunting. IF we are to have quality whitetails to hunt in the future, the American hunter will have to make the transition from "hunter-consumer" to "hunter-manager."

