Dr. Deer's™ PRESCRIPTION

The Critical Element

By Dr. James C. Kroll

I receive hundreds of questions each year and I never grow tired of answering them. One reason—I'm a teacher and love to teach. The other—hearing what's on your mind teaches me a great deal about what's happening in the "deer world." If I break these questions down by topic and subtopic, the No. 1 question goes like this: "What can I feed my deer to grow bigger antlers?" Digging deeper, I usually discover the question really focuses on protein; yet, protein may or may not be an issue. It simply is what the average guy has heard or read about. Yet, improving the health and productivity of your deer involves far more than providing protein feed. Let's dig into the critical element few individuals consider when developing a management plan. Water.

Long ago, a scientist named Justus von Liebig popularized what later became a "law" in science, something that seldom happens! Simply put, "Liebig's Law" states if we list all the factors that limit a biological system, then determine which one has the greatest impact, that factor is the limiting factor. It matters not that all other factors are present in great supply, the one most scarce limits the system.

Many times hydrogen hydroxide (water) indeed is the limiting factor. Yet, landowners who commonly consider supplying water to their livestock give little or no thought to their deer. The assumption, I guess, is deer always find a way to get water. And, to some extent this is true. I remember hearing of a fellow who obtained a Deer Management Permit, which is available from Texas Parks and Wildlife, for the purpose of improving genetics on private property. A landowner is allowed to capture does and bucks from the resident property, hold them temporarily in an enclosure for breeding, then release the does and offspring on site. The landowner dutifully opened the gate and ran his captives out, as required at that time. However, he forgot to lock the gate.

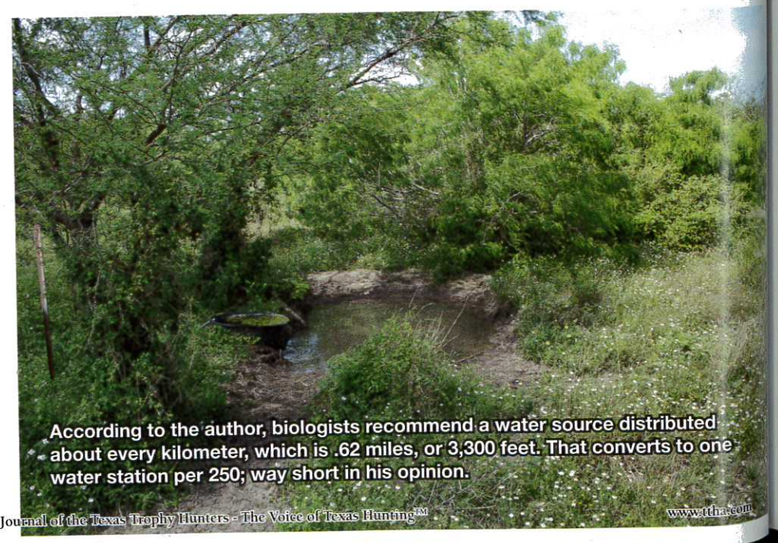
Returning the next fall, he was horrified to find two deer still in the pens, doing quite well even though the water had been turned off the entire time.

How had these deer survived? Fortunately, there was enough green forage within the pen to provide the captive's needs. (Today, regulations require providing a minimum of 20 feet of opening and removing all food and water for at least 30 days.) Yet, there is a big difference between surviving and doing well.

Deer generally drink 0.5-1.5 gallons per day, depending on the time of year and physiological demand at that time. For example, a nursing doe will have a high water demand from producing as much as 72 ounces of milk per day. Water is important for a host of activities, including digestion, blood electrolyte balance, and warmth.

Read most scientific articles and texts about managing whitetails in dry climates, and most authors will state water seldom is a limiting factor. As we saw above, deer can obtain sufficient moisture from succulent vegetation; and, even can manufacture some water as a by-product of digestion (metabolic water). However, I contend attention to the distribution and availability of free-water is one of the most important aspects to intensive deer management.

In general, biologists recommend a water source distributed about every kilometer (.62 miles or about 3,300 feet. That converts to one water station per 250; way short in my opinion. There's a huge difference between a deer being able to "get by" and one operating at peak efficiency. Unfortunately, biologists in general tend to think about deer management in terms of "extensive," rather than "intensive" management. Another problem to consider when providing water or feed is the social interactions deer experience. For example, if you place a trail camera on a deer feeder in October, you will get a very distorted impression of your buck-to-doe ratio. The reason is bucks tend to dominate permanent feeders at this time, and will expel both does and younger bucks. That's why I place cameras on newly established bait piles, rather than free-choice feeders.



According to the author, biologists recommend a water source distributed about every kilometer, which is .62 miles, or 3,300 feet. That converts to one water station per 250; way short in his opinion.



Meanwhile, if you're interested in intensive deer management, the author recommends developing a higher density of water stations.

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The same thing happens with water sources. Deer will try to water 2-4 times per day, usually distributed in late morning, another before dark and one during the night. You can count on deer coming to water almost like clockwork. When they approach the water source, they will stage just like they do around feeders. The first step is to assess the situation in regard to predators. The next is to see who all is gathered for water. If a doe sees a buck or buck group at the water hole, she often will move away; delaying when she replenishes her deficit. Once you exceed 10 deer at a feeder or water hole, there is a definite negative effect.

I learned this information during the early 1980s, working at the Diamond H Ranch near Catarina. Working through a government cost-sharing program, biologist Mark Ellett constructed pipelines for low-pressure water supply. Periodically, we constructed a "leaky" faucet, dripping into a cement basin. The overflow from the basin created small, green islands of vegetation. All sorts of animal species used these water sources. Right away, however, the water stations were working beautifully, but we did not have enough. So, I began playing around with distribution at other ranches, and when combined with camera data, arrived at the "magic" density for intensive management of one per 40 -80 acres, depending on economics.

Recently, I put this philosophy to work at the Dos Gringos Ranch in South Texas. Landowners, Al and Quad Boenker are a joy to work with. If I suggest they implement "X" they implement "X+10." They probably are the most meticulous landowners, when it comes to management for whom I ever have worked.

We installed watering stations constructed of polypropylene tanks, which can overflow into a catch basin. There we have a density of one water station per 20 acres. The water holes are working marvelously, judging by the amount of photographs and the reduced size of deer groups visiting them. We also are seeing a host of species benefiting from them, including barn owls, hawks, coyotes, bobcats, javelina, rabbits, etc. Graduate student Ryan Cantrell is conducting an extensive study on what makes some more popular than others, and I will reveal the results as soon as he finishes his work.

What about the wetter portions of the country? Believe it or not, we have found here in eastern Texas, water also is limiting. More water stations spreads the deer more evenly over the landscape, just as with cattle ranching. However, in such areas you need to conduct a water availability and distribution analysis of your property. Overlay an 80-acre grid on an aerial photograph of your property and identify the seasonal and permanent water sources. If a grid square lacks water 365 days a year, add one.

I'm beginning to consider using the watering stations for trail camera census instead of bait. Studies on baited sites reveal bias for sex and age, but I have not seen this for cameras erected over water. But, I have no sound scientific data yet on this topic. Ryan's study will provide some useful answers.

In the meantime, if you are interested in managing your deer intensively, I would strongly urge you to consider developing a higher density of water stations, which will have equal to or greater impact than feed. You also will increase your enjoyment of other species using them.