

PRONGHORN HABITAT NEEDS

By Jim Heffelfinger

Few people understand just how special the North American pronghorn is. When I was lucky enough to get my one and only pronghorn tag, I thought of this critter as just another big game animal. After years of being a big game biologist, it wasn't until I spent two weeks of living among them while scouting to really appreciate just how unique they truly are.


Ice Age Survivors

More than 18 different types of primitive pronghorn-like animals have been described from fossils. All of these are exclusively North American (no relatives anywhere else on Earth) and they all had skeletons that were obviously built for speed. Some people have dubbed them North America's original "fast food." The earliest pronghorn-like animals are found in the middle Miocene about 19 million years ago and were only 20 inches tall and weighed 25 pounds. Different types of primitive pronghorn had very different horns,

from small moose-like palms, to cattle-like horns, small forks, antler-like branches, and even long spirals. Through time, 17 of the 18 types became extinct and the modern-day pronghorn is the sole survivor of this diverse and widespread family of animals.

Animals that successfully run the gauntlet of evolution are truly winners of the most important race of all—survival. Those species making it to safety at the end of the gauntlet rarely come through the ordeal unchanged, both physically and behaviorally. These changes, or adaptations, allowed some species to survive changing environments while others perished. The modern pronghorn survived the Ice Age because it was able to adapt to changing environmental conditions.

In the early 1800s, pronghorn were fairly numerous in grasslands all over the North American West. As humans increased in number and in their capacity to alter the habitat and effectively harvest pronghorn, it became hard for the



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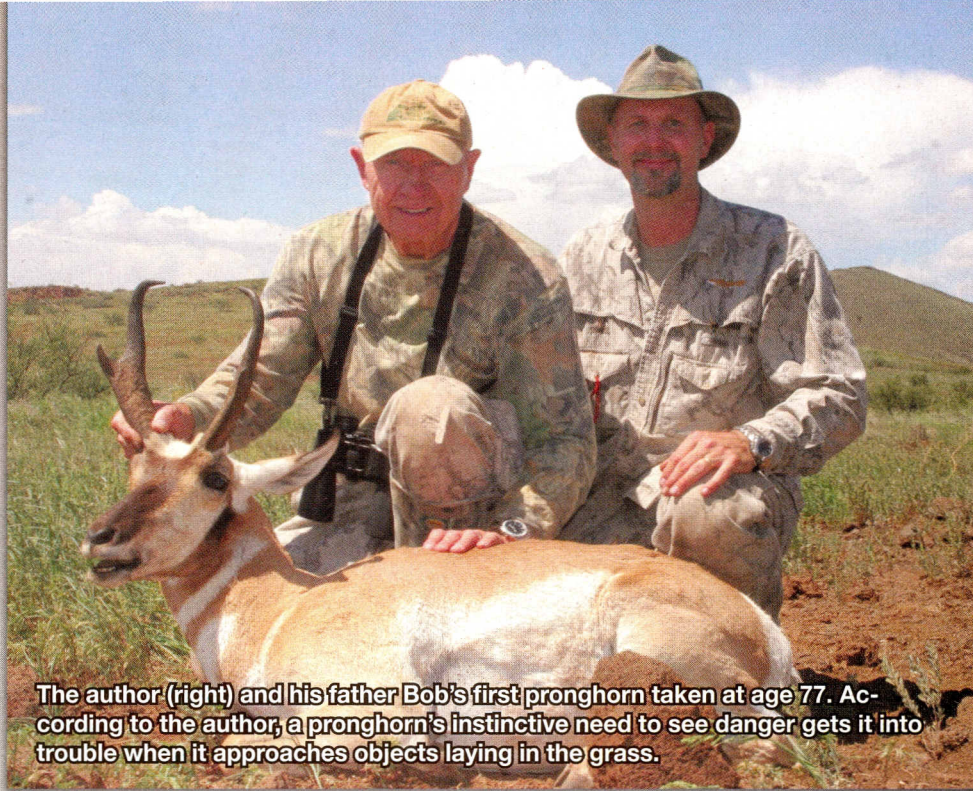
Saving them a place to roam.

pronghorn to adapt quick enough. Adapting to the invention of firearms and miles of net wire fence is going to take a little more time. We almost lost this "Lone Survivor" at that time, but through modern conservation efforts, they have recovered to remarkable abundance in the remaining grassland areas of the West.

Pronghorn currently occupy about 17 million acres of habitat in Texas with about 70 percent of that in the Panhandle region. During the last several years, populations in the northwest and northeast Panhandle have grown and expanded their range. In contrast, populations in the Trans-Pecos have declined from 17,000 throughout the 1980s and 1990s to a low of about 5,000 in 2001. Populations did rebound to around 10,000 in 2007, but then declined again in the last 3 years to a 70-year low according to Shawn Gray, TPWD Pronghorn and Mule Deer Program Leader. In fact, TPWD, Sul Ross State University, and the Trans-Pecos Pronghorn Working Group are doing intensive research to help determine what might be causing this recent decline in the Trans-Pecos during average to above average precipitation in 2009 and 2010.

Pronghorn Preferences

Most people understand that this animal is an icon of the grasslands. They require wide-open spaces with



The author (right) and his father Bob's first pronghorn taken at age 77. According to the author, a pronghorn's instinctive need to see danger gets it into trouble when it approaches objects laying in the grass.

tor of both animals appreciates the different strategies required when attempting to prey on each species. Pronghorn will make every effort to keep potential threats in sight. This instinctive "need" to see danger gets them in trouble sometimes when they approach foreign objects laying in the grass (me and my .30-06). Curiosity kills more than cats. When they determine it's in their best interest to get out of a situation, they can reach speeds of more than 50 mph,

very successful visual defense, and ability to quickly put a mile between them and a threat, is a function of the wide-open habitat pronghorn have adapted to. There is a lot going on these days in our historical pronghorn habitat and not all of it is good for pronghorn. To make sure our activities do not contribute to pronghorn population declines, we must understand the basics of what pronghorn need and work hard to provide as much as we can.

At the most basic level, responsible range management practices that avoid heavy grazing over large areas will assure enough nutrition is left for pronghorn. Even if the same number of livestock were grazed on the range every year, that rangeland may be understocked in wet years and then overgrazed the next if conditions turn dry.

flat terrain or gently rolling hills with good ground cover and some water nearby. The deer's strategy for survival is to hide in the brush and timber using their ears and nose to detect approaching predators. Pronghorn, however, adopted the opposite strategy; they stand in the open and use their incredible eyesight. Anyone who has been a preda-

earning it the nick-name "speed goat."

Their habit of staying in large groups (especially during winter), is another predator-avoidance strategy they developed. More animals in the group means the chances are much greater that one of them will spot danger. Sneaking up to a group is like trying to defeat 15-20 overlapping surveillance cameras. This

Speed Goat Groceries

Like most wildlife populations, the most important thing determining their abundance is the nutrition they have available to them. The nutritional level affects the number of animals added to the population in terms of fawn recruitment and also the number of adults surviving each year. Well-fed animals

are healthier, more productive and able to withstand other harmful factors such as predation and disease.

Pronghorn need a good diversity of forbs (weeds) and shrubs to provide the pregnant does with good nutrition. Forbs can be as much as 85 percent of their diet when we have enough precipitation to produce these highly nutritious plants. Research in the Trans-Pecos showed an average of about 60 percent of their intake was forbs. In northern states, most of their diet is sagebrush, a plant they are very closely associated with throughout much of their range. In the Southwest they rely more on other small shrubs to get them through drier times than forbs are lacking.

It is ironic that they are a "grassland" species and yet eat very little grass. Several research studies have shown that grass makes up less than 10 percent of their annual diets. In spring when it's the only (or first) thing to green up, pronghorn will eat mostly grass but will switch to broad-leaved plants as soon as they become available. Pronghorn do not seem to be as susceptible to poisonous plants as domestic livestock and at times seem to feed extensively on them. If agricultural crops are available such as winter wheat or alfalfa, they will make heavy use of them.

Because of their dietary preference of forbs and shrubs, pronghorn do not consume large amounts of forage used by cattle. Domestic sheep and goats are a different story; they have very similar feeding habits as pronghorn resulting in the potential for competition between those animals. Cattle grazing helps pronghorn by removing grass and allowing more forbs to grow. Generally, high numbers of pronghorn will not affect cattle nutrition, but high numbers of cattle grazing too heavily, can impact the nutrition available to pronghorn because cattle will eat grass and forbs with indifference.

At the most basic level, responsible range management practices that avoid heavy grazing over large areas will assure enough nutrition is left for pronghorn. Even if the same number of livestock were grazed on the range every year, that rangeland may be understocked in wet years and then overgrazed the next if conditions turn dry. Every rancher knows how the car-

rying capacity of the habitat can change dramatically from year to year and the numbers of animals have to be adjusted accordingly.

Drought will trigger nutritional problems and population declines. The most stressful time of the year for Texas pronghorn is February and March because of the lack of available forage. Precipitation in late summer and early fall are important to pronghorn surviving through the winter and early spring. Large pronghorn population declines in the 1960s, 1990s and recently have been tied to drought-induced malnutrition, which is exaggerated by net-wire fences limiting movement to find forage. Malnutrition opens the door for increased disease and predation mortalities, though the relationship between these factors is difficult to assess.

We can't do anything about drought itself, but we can manage habitat to lessen the effects of extremely dry periods. During drought, pronghorn are forced to eat more shrubs and then as conditions worsen, they turn to less-desirable shrubs. Excessive grazing and impassible fences make it very difficult for pronghorn to meet their nutritional requirements during these times.

Room With A View

Nutrition is not the only factor to consider in what vegetation pronghorn need. With their need for room with a view, landowners must consider the structure of the habitat also. Tall vegetation will obstruct their view (especially their view of predators). Some areas

may contain all the things pronghorn need except the ability to see for a distance and that can be a deal-breaker for them. They will not use habitat if it doesn't satisfy their instinctual need to keep an eye out for predators. Some pronghorn habitat improvements in the past used bulldozers to clear mesquites and leave them in piles around the landscape. This seemed to create open pronghorn habitat, but subsequent research showed that even the piles of brush obscured vision enough to make it unsuitable for pronghorn use.

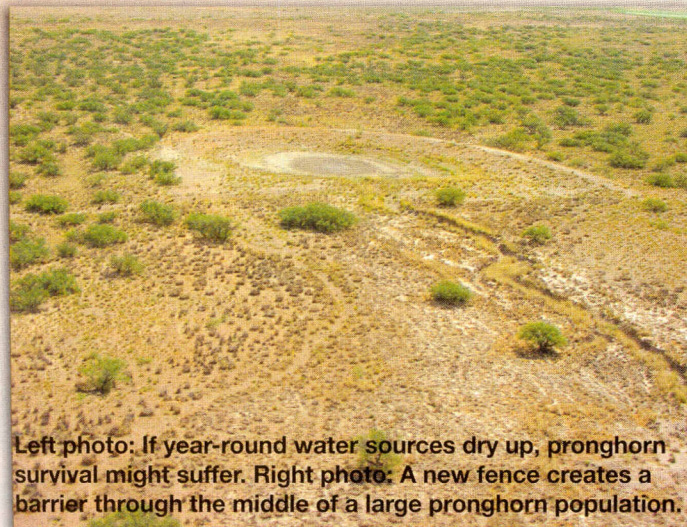
The general rule of thumb is that pronghorn are going to prefer areas with most vegetation less than 18 inches tall. There is plenty of research to show this is a nearly universal truth regarding pronghorn in the Southwest Deserts to the plains of Alberta and Saskatchewan. Habitat that is otherwise suitable for pronghorn, but with more than 40 percent shrubs can be treated with chemicals or machinery to reduce the brush component of the habitat and allow pronghorn use. Vegetation that is too low can also be a problem, however, especially if you are a fawn trying to hide from a coyote. During the fawning season (late-April to early June), there should be at least 12 inches of cover available to protect fawns during the first few weeks of life.

Water

Pronghorn will drink out of any kind of water source, natural or man-made. The consumption of water changes seasonally with pronghorn not need-

Netwire "sheep fence" along highways are not only barriers, but also become death traps. If a pronghorn does make it onto the highway, it becomes trapped there.





Left photo: If year-round water sources dry up, pronghorn survival might suffer. Right photo: A new fence creates a barrier through the middle of a large pronghorn population.



ing water at certain times of the year when they have lush carpet of green plants available to them, or may drink more than a gallon each day during drier times. Reproductive condition can also increase the need for water, as is the case for lactating females. It was thought for many years that the endangered Sonoran pronghorn never drank water and instead obtained its water from cactus fruits and moist forbs. Recently automatic cameras at water sources in the Sonoran Desert revealed the first proof of them actually drinking.

When the locations of thousands of pronghorn seen on surveys were plotted on a map, it was found that almost all were within 4 miles of a water source, but that figure was closer to 2 miles in the Southwest. During the dry months they are found close to water, but as soon as the rains come, they disperse throughout the rest of the habitat farther from water.

Managers should strive to make sure all good pronghorn habitat is within 2 miles of a reliable water source. Water sources for pronghorn should be very open so they feel comfortable when coming in to water. If there is heavy livestock use in the area, the water sources may have to be fenced so that the amount and quality of the water is preserved for pronghorn.

Don't Fence Me In

It's a well-known fact that North Americans can't jump, and our native pronghorn are no exception. Their evolution on the flat and wide-open grasslands of North America proceeded for millions of years with not one thing

that needed to be jumped over. Pronghorn simply walked (or ran!) around an obstacle. This all changed when we started crossing the landscape with fences. Barbed wire fences that are not too tight or too close to the ground give wildlife a chance to wiggle through in places. However, the miles of sheep fence that was built in pronghorn habitat throughout the West from past sheep and goat operations has been a very damaging thing to pronghorn as a whole.

In the Rocky Mountain states and Intermountain West, pronghorn need to make long distance movements to get out of deep snow in the winter and to lower-elevation areas. Even in Texas, pronghorn sometimes need to move from mixed prairie in the summer to rolling or rough terrain in the winter to escape nasty weather and because these areas provide a greater diversity of browse and forbs.

The motto for the Arizona Antelope Foundation is "*Libertas ad Vagor*" which is Latin for "*Freedom to Roam*." This group of concerned hunters has spent nearly 20 years working on behalf of pronghorn including several work projects each year to alter or remove fences that are restricting pronghorn movements. Through research we have learned what fence designs are best for allowing pronghorn to move around the landscape. Ideally, the bottom strand of wire should be smooth and placed 20" above the ground. Recommendations call for 16-30 feet between fence posts with no fence stays between the posts if they are less than 20 feet apart (and only 1 stay if separated by more than 20 feet). In cattle country, this is an

adequate fence to keep livestock, and allow pronghorn, to be where they need to be. When livestock are moved to another pasture, the gates should be left open to allow for wildlife movements from one area to the next.

No Country For Old Pronghorn

Habitat is changing rapidly and many of our grasslands and grassland critters are at risk of becoming casualties of this change. We will have to pay attention to what pronghorn need in our changing world or we are in danger of losing this fragile animal that has so far out-run extinction. Disease and predation also present threats to the health and abundance of populations, but pronghorn and pronghorn managers have learned how to deal with these age-old factors. We are learning more about disease occurrence and how that might affect pronghorn, and we know that predation on fawns can be managed in the short term given enough money and effort.

In the long-term, however, we need to keep the focus on the landscape we are leaving them. Humans are drawn to live in places where the deer and antelope play, but we must make room for them amid all the other activities on the landscape. If we are serious about keeping them around we need to pay attention to not only what they need, but what we can do to enhance their populations and keep them from declining any more. Their uniqueness and iconic presence on our western grasslands justifies saving a place for them on the rangelands, lest they follow the rest of their family into the abyss of extinction.