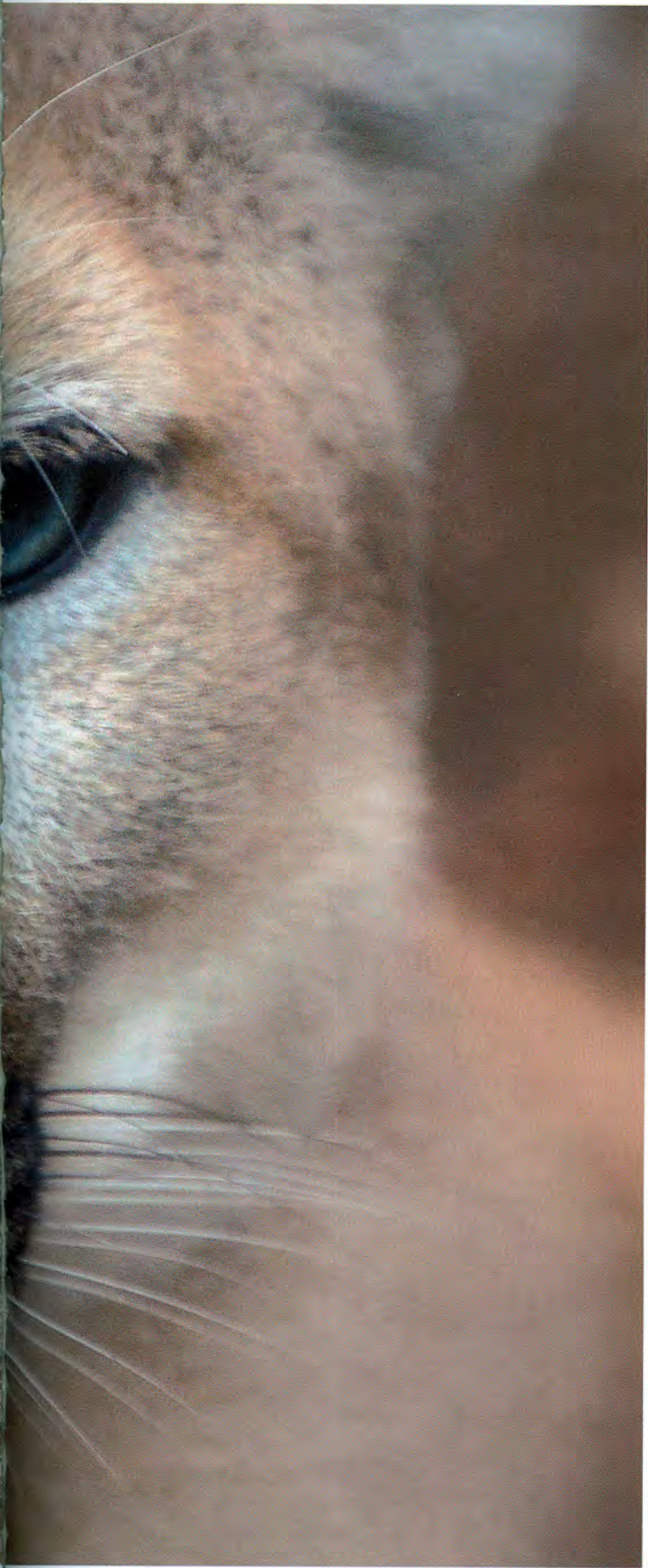




DEER MANAGEMENT





DEER PREDATORS OF TEXAS

ARTICLE BY
JIM HEFFELFINGER

Everyone interested in deer and deer management is aware of the factors that remove deer from the population and those that boost fawn production. Predators are one of the most obvious and easy to understand sources of mortality. It may be hard to fully comprehend how a seasonal lack of nutrition might weaken an animal to the point where disease causes mortality. However, it is very easy to envision a coyote snatching a 2-day old fawn from its bed site.

Because predators are the most obvious sources of direct mortality, it is natural for us to want to do something to limit that drain on the population. It is certainly appropriate that we manage predators in many cases, but there may be others where it makes sense to save your time and money. My graduate school research at Caesar Kleberg Wildlife Research Institute (CKWRI) focused on the intensive coyote control to save mature bucks after the rut. However, when I managed Frank Horlock's Rio Paisano Ranch we were harvesting does to control the deer population and elected to leave the coyotes alone so they could help us.

Predation is a complex subject that is framed by a wide array of opinions and management styles. Regardless, it's important that we have a solid understanding of the deer predators themselves to serve as a solid foundation for understanding the age old struggle between predators and prey.

COYOTES

Coyotes as medium-sized members of the dog family (25-40 lbs.), coyotes are very opportunistic and will feed on just about anything. Studies of coyote diets reveal everything from insects, fruits like prickly pear or watermelon, mesquite beans, lizards, snakes, carrion (animals already dead), rabbits, rodents, all the way up to adult whitetail bucks. They breed in mid-January to early-March and have a litter of 5-7 pups 2 months later. By October or November the pups are hard

Continued on page 64



Coyotes are able to survive on fruits and vegetable matter as well as adult deer. Few predators have such a wide range of dietary options. *Photo by Justin Johnson*



COYOTES ARE THE MOST IMPORTANT PREDATORS ON DEER FAWNS BECAUSE THEY ARE FOUND THROUGHOUT THE STATE IN FAIRLY HIGH DENSITIES AND ARE EFFICIENT PREDATORS OF SMALL TO MID-SIZED PREY.

to differentiate from their parents by body size. Like domestic dogs, they live about 8-10 years.

Any coyote population is made up of individuals that hang out in small groups of 3-7 (containing last year's pups), and pairs, and single animals. Coyotes will pair up for several years, but not necessarily for life as the animal lovers often like to romanticize. Most of the population live in home ranges about 2-3 square miles, but a small percentage (less than 20%) are transients that roam much larger areas of perhaps 20-30 square miles. These transients are the reason any vacant home ranges created by natural mortality or coyote control activities are filled so quickly.

Coyotes have a remarkable history of expanding across

North America under heavy persecution by humans. They are the poster child for animal survivalists. In Texas, they expanded and filled the niche left by the disappearing wolf. As the Red wolf declined in the east and the gray wolf in the west, the coyote simply moved in and set up shop. These areas saw the loss of a larger canine replaced with this ultimately adaptable survivor.

Coyotes are the most important predators on deer fawns because they are found throughout the state in fairly high densities and are efficient predators of small to mid-sized prey. It is not uncommon for research on causes of fawn mortality to reveal that most fawns that die are lost to coyote predation. This sounds alarming, but what is more important is the percent of the total annual fawn production that is lost, rather than the percent of mortalities attributable to predation. In good years, coyotes may not be able to put a dent in the flood of healthy fawns that hit the ground. In drought years, however, when fawns are born underweight and there is sparse hiding cover available, coyotes may have a much greater impact on the population.

Coyotes are not only eating fawns as we found out during my graduate work in South Texas. It was known that small groups of coyotes were attaching and killing mature bucks after the rut. Mature bucks were spending so much time rutting they sometimes lost 20-25% of their body weight and were noticeably weakened after the rut. The ever-adaptable coyotes were taking advantage of this and running down and killing bucks at that time (December through March). After controlling coyotes in large areas while monitoring radio-collared bucks, we concluded that although we may have saved some adult bucks from predation, it wasn't significant enough to warrant the expense of such an intensive coyote control effort.





PREDATORS

Coyotes are classified, as “Nongame” in Texas so there is no closed season or bag limit. You do need a hunting license (unless they are attacking you or your animals) and they can be hunted by any legal means (some public hunting lands may have further restrictions).

BOBCATS

Bobcats are much more specialists than coyotes and focus on small to mid-sized birds and mammals. They are primarily professional rabbit slayers and mouse pouncers. They hunt a lot at night, but are also active at sundown and sunrise. I remember a comical sight on the Camaron Ranch in McMullen County when I watched a bobcat pounce at a covey of blue quail one at a time as they crossed the sendero. It took several quail for the bobcat to figure out how much to lead them. He caught on quicker than I do.

These cats are found all over Texas, but prefer rocky and brushy areas, which account for their Spanish name “Gato Monte” (Brush Cat). Bobcats have been documented to kill adult deer, but they rarely do. Most deer meat found in a bobcat’s stomach is carrion from deer carcasses it finds. Like the larger cousin the Mountain lion, bobcats kill by biting the skull, back of the neck, or the throat. If it is more meat than can be consumed, they rake sticks or leaves over the kill and return to feed again.

Bobcats do not travel in groups. As is typical for the other North American cats, they are solitary except for during the breeding season or with their young of the year. They breed in February in Texas and after a 60-day gestation period give birth to 2-7 young (usually 3). They stay with the mother until she boots them out in the fall.

Although they do feed on fawns, bobcats are not as numerous or mobile as coyotes and thus do not exert the same level of predation on a deer population. Like coyotes, they are also classified as “Nongame” and can be hunted year round.



Above: Mountain lions have increased their Texas distribution in the last 30 years and now play a role in deer population dynamics in some areas. *Photo by author.*



Left: Mountain lion predation is usually obvious because of their feeding behavior. Lions kill with a bite to back of the neck or throat and start by eating some of the internal organs. *Photo by author.*

MOUNTAIN LIONS

The scientific name of the Mountain lion is “Puma concolor” which means a cat of one color. True it doesn’t have spots or stripes, but does have more than one name. This uniquely American cat has been called a cougar, puma, catamount, panther, and painter. They are deer killing specialists and many western deer have met this animal on a brushy hillside and not lived to tell about it. Most of a lion’s diet is deer, but they do supplement their nutritional intake with porcupines, rabbits, skunks, and other animals bigger than a bread box (some of them owned by the local rancher). It kills with a bite to the skull, the base of the skull, or the throat and its meals are covered with sticks and leaves like the bobcat, but mountain lions scrape debris from a much larger radius and usually leave a paw print or two.

Lions are smaller than most people would guess. Throughout the Southwest, healthy adult mountain lions average only about 100-150 pounds, but almost all of it is muscle and sinew. These big cats can live up to 10 years and normally have a litter every 2 years because it takes a long time to train up the young to successfully ambush animals its own





size. They are solitary animals except for the 3-5 days it takes to breed. Well known for their large home ranges of 50 to 200 square miles, the males' larger home ranges overlap the range of several females.

By 1960 this cat was limited to mountains in the Trans-Pecos due to persistent human-caused mortality, but by the 1980s we started to document lions in other parts of Texas. They are currently found over much of Trans-Pecos of West Texas, the southern two-thirds of the hill country and large part of South Texas. Populations seem to be stable now, but genetic research from a team at CKWRI shows those in South Texas are a little more isolated from West Texas.

During a 10-year New Mexico study, lion predation did not impact a deer population that was stable or increasing during years of adequate rainfall. However, when the study area was hit with a multi-year drought, deer recruitment declined drastically and lion predation became the major cause of mortality for deer, which accelerated the decline. Studies like this reinforce the belief that the condition of the habitat is what primarily regulates deer populations.

These big cats are built for killing 100-150 pound mammals, which makes them dangerous to humans on rare occasions. The latest incident occurred in November 2012 when a female hiker was attacked by a lion in Big Bend National Park. This followed a scarier incident in the same park earlier that year when a 6-year-old boy was attacked and dragged into a nearby bush by a mountain lion. He and his parents were leaving the Chisos Mountain Lodge after dinner and the cat snatched the young boy. The parents pursued the lion and after some beating by mom and dad (and a little more stabbing by dad) the cat let go and ran off into the darkness.

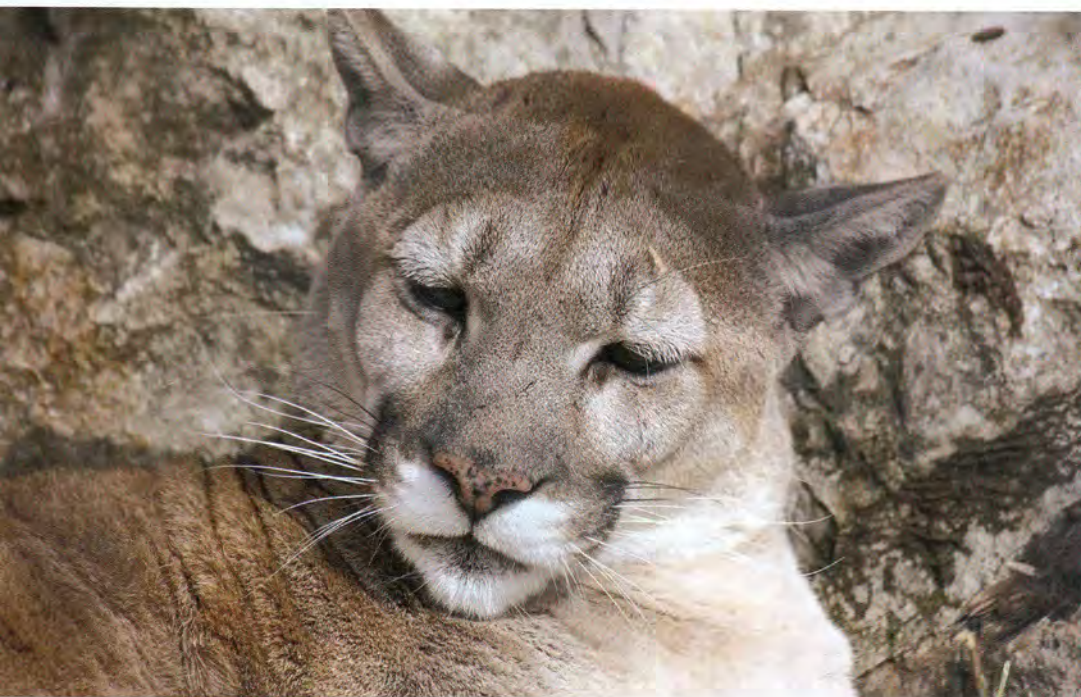
There is no bag limits or closed season for mountain lions, but you do need a hunting license (unless you are forced to resort to your pocket knife to save a loved one).

BEARS

Black bears in Texas stand about 2-3 feet at shoulder and weigh 200-400 pounds, not the 600 pounds everyone thinks when they see one in their campground. The Southwest is known for the high proportion of cinnamon-colored black bears and this is also the reason for much confusion in the historical accounts when early settlers referred to "brown" bears. Bears are classified as carnivores, but they are really omnivores because they feed on everything they can get their paws on, from acorns, berries, carrion, deer fawns, grass, fruit trees, bee hives, hummingbird feeders, and hot dogs from your favorite camping cooler. In fact, half their diet is vegetable matter. In West Texas they especially like the base of the sotol plant and eat it like a wild artichoke heart.

Bears are not true hibernators as they are often depicted; instead they go into an extended sleep with a decreased body temperature and lower heart rate for most of the winter (November -March). In dry years, when they didn't get a chance to put on enough fat, they may get up and forage and then go back to sleep. They breed in summer (June/ July) but females give birth in the dens during their winter sleep (January/February) and the cubs nurse and grow until it is time to emerge from the den. It takes so much energy to raise cubs that females only give birth every 2 years. Since females don't breed until 3-4 years old, this low reproductive rate means harvest and other mortality has to be closely monitored so it doesn't exceed reproduction.

In Texas, bears were mostly gone by 1900, but a few stragglers hung on until the 1950s. They never completely disappeared from mountains in nearby Coahuila and Chihuahua. This Mexican population eventually served as a source for natural recolonization into the Trans Pecos. By the mid-1990s, a small population of black bears had reestablished in the



Above: Bear droppings reveal that a large part of their diet is plant material. *Photo by Brian Haver.*

Left: The Puma, or Mountain Lion, is a deer killing machine *Photo by L.T. Shears*





Coyote predation on fawns represents an important source of mortality for many deer herds Photo by B. C. Glasscock.

Chisos Mountains of Big Bend National Park. Black bears are now reported annually in the Dead Horse, Glass, Del Norte, Davis, and Guadalupe mountains. In 2011 a black bear was even killed in Kerr County, north of San Antonio. A similar recolonization is occurring with the endangered Louisiana black bear filtering into available habitat in east Texas.

Although black bears do eat fawns when they encounter them, they usually do not impact deer populations as a whole because they are not as effective, nor as dense, as coyotes. Bears are listed as "threatened" in Texas and cannot be hunted.



Captain Samuel J. Richardson, commander of Company F, 2nd Texas Cavalry (2nd Mounted Rifles) with his trousers made from the hide of a jaguar.

JAGUARS AND WOLVES

There are two species no longer in Texas, Jaguars and Wolves, but they seem to garner more headlines these days than all other predators combined. Jaguars historically roamed the eastern half of the state in low numbers, but the last Texas jaguar was killed in 1948 near Kingsville. Jaguars were mostly attracted to brushy river courses and probably ate a healthy diet of javelina and deer, but because of their lower density may not have impacted deer

populations. They are now listed as federally "endangered" with the nearest population about 75 miles south of the Rio Grande Valley in Mexico.

The gray wolf roamed over the western two-thirds of the state, but that last two were killed in 1970 in West Texas (Brewster County). As with wolves everywhere, they probably played a key role in limiting deer abundance in the Southwestern landscape. East Texas and the coastal plains was the range of the red wolf. There is a lot of disagreement in the scientific community about exactly what a red wolf is (and was) in relation to other types of wolves and coyotes. These animals looked a lot like coyotes, but were twice the size (60-80 pounds). Their nose pads were substantially wider (more than 1") than the pointed snout of coyotes, giving them a more wolf-like appearance.

The red wolf was nearly extirpated and the remaining animals interbred with coyotes until it was difficult to find a purebred red wolf. Red wolves thought to be pure were brought into captivity and bred. That stock was later reintroduced along the South Carolina coast, but continued hybridization with coyotes has caused the program to fail.





Bucks exert themselves so much during rut, they are vulnerable to predation by groups of coyotes while recuperating in the post-rut period. Photo by B. C. Glasscock.



Research employing radio collars has taught us a lot about the sources and rates of mortality in Texas deer populations. Photo by Author

TEXAS DEER AND PREDATORS

Without a doubt, coyotes impact deer populations more than any other Texas predator, but other carnivores, such as mountain lions, black bears, bobcats, and golden eagles also kill deer. Historically, wolves and transient jaguars also removed deer from the population. The population-level effects of these predators are variable and depend on how

productive the deer population is, the ratio of predators to prey, what other predators are present, and what other prey species are also feeding the local predators. These predator-prey relationships are complicated because deer population fluctuations are not simply a matter of one factor determining deer abundance. Modern deer managers must understand the current assemblage of predators and consider their potential impact as part of a holistic herd management program.

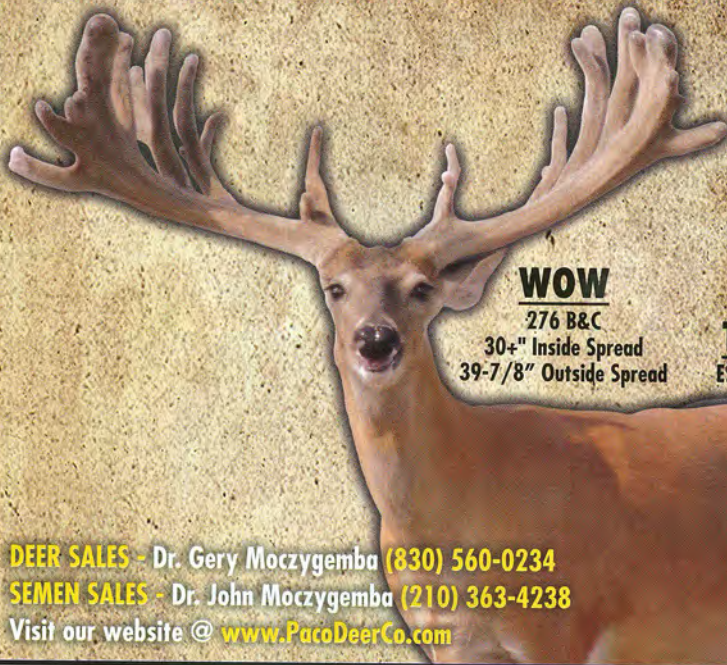
Paco Deer Co., Inc.

BREEDER/STOCKER BUCKS, DOES AND SEMEN AVAILABLE FROM TEXAS' FINEST GENETICS

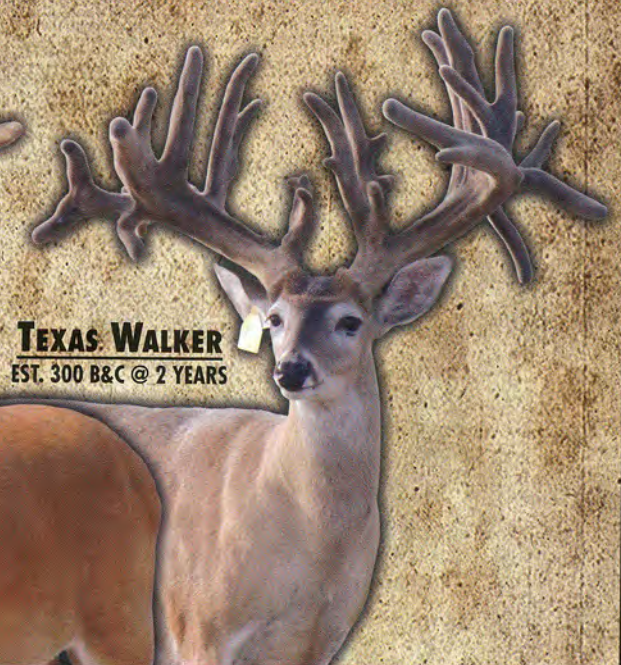
PACO
THE ORIGINAL TDA CHAMP
100% South Texas!

1999 TDA
Best Mature
Breeder
Award

1999 TDA
Best of Show
Award



WOW
276 B&C
30+'' Inside Spread
39-7/8'' Outside Spread



TEXAS WALKER
EST. 300 B&C @ 2 YEARS

DEER SALES - Dr. Gery Moczygmba (830) 560-0234
SEMEN SALES - Dr. John Moczygmba (210) 363-4238
Visit our website @ www.PacoDeerCo.com

