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PERCEPTION VS REALITY: GRASS AS HIDING COVER FOR FAWNS

by Timothy Fulbright

A recent article providing tips for land management in a widely read hunting magazine states that grass serves a key function for deer—to hide young fawns. Observations such as these are commonly based on the experiences of the authors writing the articles. For example,

Editor's Note: Dr. Timothy Fulbright is the Meadows Professor at CKWRI and Regents Professor at Texas A&M University-Kingsville.

perhaps an author through personal experience observed that in years when there was more grass production, there were more fawns, and made the logical connection between the 2 observations.

Researchers refer to such observations as “anecdotes.” Anecdotes are often not reliable information, however, because people often think that something is the cause of what they are observing when, in reality, there is more to it than meets the eye. Just because there are more fawns when there is more grass does not necessarily mean that an increase in grass is the reason for an increase in fawns.

Something associated with the increase in grass may be the reason there are more fawns. Years with high rainfall that produce more grasses also produce more forbs for deer to eat, for example. There is a much clearer link between deer nutrition and fawn production and survival than there is between grass cover and fawn production and survival. While a person's perception might be that more grass can be used for hiding cover, thereby explaining an increase in fawns, the increase in nutritious forbs and other deer forages that occurs along with the increase in grass may actually be the primary explanation.

Wildlife researchers attempt to separate things that are actually responsible for something, such as increased number of fawns, from things that are simply related, but are not the actual cause. Researchers do this by using designed experiments, statistical analysis, and subjecting their work to review by other pro-

This Issue

Hiding Cover and Fawns.....	1
By The Numbers.....	2
CKWRI News.....	2
Did You Know?.....	3
Cougars and Eagle Ford Shale...3	
What Do They Eat?.....	4
Advisory Board.....	4

By The Numbers

- 4 number of toes on the front foot of a nine-banded armadillo (A Field Guide to Mammals of North America North of Mexico, F.A. Reid)
- 40–60 incubation period in number of days for eggs of the Texas banded gecko (Field Guide to Texas Reptiles and Amphibians, R.D. Bartlett and P.P. Bartlett)
- 484 estimated number in millions of dollars spent by deer hunters to access private lands in 2006 (USFWS)



© Timothy Fulbright

White-tailed deer fawns in South Texas select bed sites with thick grass cover that often includes a shrub.

fessionals. As a result, the scientific literature is a more reliable source of information to base management decisions than articles found in non-technical magazines.

I recently read a dozen articles in scientific journals published between 1979 and 2011 by researchers examining where white-tailed deer fawns chose to bed down. These studies were conducted in a variety of locations ranging from the grasslands of North Dakota to the forests of Michigan and to the brushlands of South Texas. One thing that the results of all these studies had in common is that fawns usually bed down in places with thick cover. The type of plants that compose the cover where fawns bed down is not as important as is the thickness of the vegetation. In grasslands, fawns often bed down in dense, tall grasses and forbs; in

savannahs and shrublands, they often bed down beside shrubs.

Wildlife managers reading magazines that talk about the importance of grass for fawning cover might get the idea that clearing woody vegetation and planting grasses are good management practices for white-tailed deer. In most of the range of white-tailed deer, management practices such as these can harm rather than benefit deer.

In addition, the relative importance of “fawning cover” to help fawns avoid being seen by predators is questionable. No research to date has shown that more cover results in fewer fawns being seen and eaten by predators. Coyotes, for example, hunt their prey by hearing and smell as well as sight. One thing fawns may do when they are looking for a place to bed down is to find areas where it is harder for predators to smell them.

Several deer researchers have suggested that fawning cover is more important for shade than it is for predator avoidance. Bedding down in the shade under a bush during midday in July to avoid excessive heat loads definitely makes sense.

The bottom line is this: be careful about basing management decisions on people’s perceptions. Management decisions are best made if they are supported by research that has been subjected to rigorous peer review—then your wildlife management decisions will more likely be based on reality. ~

CKWRI NEWS

Karen Hixon Honored*

Karen Hixon, spouse of CKWRI’s advisory board member **Tim Hixon**, was recognized for her lifetime of service to wildlife conservation by the Rotary Club of Corpus Christi and was presented with the *Harvey Weil Sportsman Conservationist of the Year Award* during a dinner on Saturday, April 28, 2012, at the Rob and Bessie Welder Wildlife Foundation in Sinton, Texas.

Harvey Weil was a longtime South Texas sportsman, attorney, conservationist, and Rotarian who dedicated his life to the preservation of nature and sportsmanship. To perpetuate Harvey’s legacy, a distinguished individual is chosen annually by the Rotary Club of Corpus Christi for this prestigious award.

Karen’s background includes being appointed to the Texas Parks and Wildlife Commission in 2007, and she continues to serve in that role today. She also serves on the Board of Trustees of the Peregrine Fund, on the Texas Advisory Board for Trust for Public Land, and on the Advisory Board for Mitchell Lake Audubon Center in San Antonio, Texas. In addition, Karen has served on the Texas Parks and Wildlife Foundation and on the Board of the Texas Nature Conservancy.



Karen Hixon being presented with the *Harvey Weil Sportsman Conservationist of the Year Award* by Richard Leshin (left) and Mo Moorhead, sponsored by the Rotary Club of Corpus Christi.

* Material from a press release by Lysa Chapman, Rotary Club of Corpus Christi.

CKWRI congratulates Karen for her conservation service and well-deserved recognition by the Rotary Club of Corpus Christi. ~

Former CKWRI Grad Student Receives Promotion

One of CKWRI's former graduate students **Jennifer Mock Schaeffer** was recently promoted to Government Affairs Director by the Association of Fish and Wildlife Agencies (AFWA). Schaeffer will oversee and direct the legislative work of AFWA before the U.S. Congress, and the public policy work of AFWA before the federal Executive Branch agencies.

Since joining AFWA in May 2002, Jennifer has served as the Multistate Conservation Grant Program



© Laura MacLean

Jennifer Mock Schaeffer, former graduate student of CKWRI at TAMUK, was recently promoted to Government Affairs Director by the Association of Fish and Wildlife Agencies.

Jennifer received a Bachelor of Science degree in Agriculture with a major in Range and Wildlife Management and a minor in Biology at Texas A&M University-Kingsville. She also received her Master of Science degree at Texas A&M University-Kingsville in Range and Wildlife Management, working with Dr. Michael Tewes on wild cats. ~

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EAGLE FORD SHALE AND COUGAR POPULATIONS

by Michael Tewes

How will cougars fare in South Texas? Breeding populations of cougars presently occur in South Texas and the Trans-Pecos region of western Texas. Previous research has suggested that the South Texas cougar population is relatively small and isolated.

The Eagle Ford Shale development involves an increase in human activity affecting areas that previously were relatively undisturbed. Because the shale play overlaps some of the best cougar habitat in South Texas, this development may impact this wild cat.

The basis for this emerges from our research at the CKWRI in which we identified possible vulnerability of the South Texas cougar population. Small populations are often subjected to threats that are more easily absorbed by larger populations. Also, inbreeding is more likely in small populations.

Our graduate student, Joe Holbrook, found low levels of genetic diversity in cougar samples from South Texas. During the past 50 years in South Texas, genetic diversity has dropped by 9% and the "effective population size" of cougars has declined by 50%. The West Texas population has remained stable and is part of a larger population with habitat that extends into Mexico, New Mexico, and the

Editor's Note: Dr. Michael Tewes holds The Frank Daniel Yturria Endowed Chair for Wild Cat Studies at CKWRI and is a Regents Professor at Texas A&M University-Kingsville.



Courtesy of Texas Parks and Wildlife

Rocky Mountains. Our genetic findings have confirmed that dispersal can occur periodically into and out of the South Texas population. However, the low number of successful dispersers may be too few to maintain genetic diversity.

Another study that we have completed was led by Dr. John Young who used population modeling to assess the survival chances of the small cougar population in South Texas. Results suggested potential threats for cougar survival in this region. Variation in population reproduction, survival, and habitat conditions, including drought, which is frequent, could threaten cougar survival in South Texas.

Our additional research at the CKWRI used an ecological niche computer model that showed most of the likely habitat for cougars in South Texas occurs in the western portion of the region. This habitat is not wide-spread or extensive, but generally localized, which is another reason for concern.

Much of this habitat coincides with the historic and current assessments of cougar distribution and a belief that a population core occurs in the west-central area of South

Did You Know?

The red-winged blackbird has a polygynous mating strategy (1 male to several females). (Handbook of Birds of the World, Volume 16)

Ord's kangaroo rats are considered nocturnal and are most active on dark, cloudy nights. (A Field Guide to Mammals of North America North of Mexico, F.A. Reid)

Texas. These research findings on cougars in South Texas are coinciding with the unfolding development of the Eagle Ford Shale. The Eagle Ford Shale is a recently discovered hydrocarbon formation of significant importance because of its capability of producing more gas and oil than other shale deposits.

Development of the Eagle Ford Shale represents a major transformation of the economic and rural environment in many parts of South Texas, where production from the vast oil and gas field has surpassed forecasts. In the past 2 years, there has been a sharp increase in the infrastructure and extraction activities associated with this petrochemical resource. The number of drilling permits for the Eagle Ford Shale increased from 33 in 2008 to 1,229 in 2010.

Actual development continues to exceed the predictions of rapid growth. The Eagle Ford Consortium estimated that the shale would produce 2.1 million barrels of oil in 2010. Instead, the shale produced

Advisory Board

The Advisory Board of the Caesar Kleberg Wildlife Research Institute provides leadership in all aspects of our work. We are indebted to them for their commitment to CKWRI and its mission.

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4.4 million in the first 11 months of that year. For 2011, production of 8.7 million barrels of oil was forecasted. Almost 22 million barrels of oil were extracted in the January-November period of 2011. A prediction was not given for 2012.

Wildlife biologists visiting the area where the Eagle Ford Shale overlaps the core of the cougar population are amazed at the rapid oil and gas development within the area. There is a major increase in the number of wells and related roads and pipelines. Truck traffic has greatly increased on many of these rural roads, and activities on previously undisturbed ranches have expanded tremendously.

Some industry observers suggest this development may continue for 15 to 20 years. This activity will be a major economic engine for many counties in South Texas, benefitting numerous small communities and extensive rural areas. However, the concern for cougars is that the western portion of the Eagle Ford Shale overlaps much of the historical and current core area of cougars in South Texas.

In summary, the exploration in the Eagle Ford Shale likely poses additional risk to the vulnerable cougar population in South Texas—a risk that needs to be measured. There is an urgent need for information to assess the status of cougars in South Texas, as well as cougar responses to the Eagle Ford Shale development. ~

What Do They Eat?

Northern cardinals forage on seeds, fruits, insects, and snails.
(Handbook of Birds of the World, Volume 16)

Franklin's ground squirrels have an omnivorous diet consisting of seeds, plant material, small mammals, toads, birds, and insects.
(A Field Guide to Mammals of North America North of Mexico, F.A. Reid)

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