

Eye on Nature



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SPRING 2011 A publication of the Wildlife Division — Getting Texans Involved

Managing for Wildlife Diversity through Deer Population Control

By Kevin Schwausch

Diversity is a key element in maintaining healthy wildlife habitats. It is critical to provide the basic elements required for all wildlife species: food, water, cover and space. These elements together make up wildlife habitat and are the building blocks on which diverse habitats are formed. In the Hill Country, exotic and native deer have the potential to impact diversity of native habitat. Excessive white-tailed or exotic deer populations can eat native vegetation faster than it can grow, ultimately reducing the quantity and quality of both the food and cover components of native habitat. Proper management of deer populations is a necessary element to achieving healthy, diverse wildlife habitats.

Wildlife diversity is a combination of the richness (number of different species) and the abundance of wildlife species that occupy a specific habitat. Diversity is important because habitats are more stable when a variety of plant and animal species fill different roles within those habitats, providing a buffer against negative impacts due to natural or human-induced events.

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DID YOU KNOW?

Deer populations in the Texas Hill Country are estimated as approaching **ONE MILLION** animals.

The Texas Hill Country

Hills and canyons, grasslands and forests – these are what we often think of as the Hill Country. Its changing geographic and floral features contribute to a very diverse wildlife community. In this newsletter, authors from a wide variety of backgrounds contribute articles on managing landscapes to maintain that valuable diversity. Deer to hummingbirds, the diversity of the Hill Country is reflected, and one quickly sees the complexity of managing land in Central Texas.



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[Managing for Wildlife Diversity, continued from page 1]

This is because most species are specialists, meaning that they fill a single or a few specialized roles. Diverse habitat will have many species of plants, which will, in turn, support many wildlife species. For this reason habitat degradation, such as the loss of vegetation due to over-browsing by deer, can cause wildlife species to decline or disappear.

Throughout the Texas Hill Country, white-tailed deer populations have expanded to the point that diversity is declining in many areas. In the early 1900s, deer populations in Texas were near 150,000. Hunting regulations, seasons and bag limits brought deer populations back from the brink of extirpation, and eventually these populations began to reach the carrying capacity of the land. Over-protection of the female segment of the population and the eradication of the screw worm, a major predator, along with changes in land-use practices, were catalysts for dramatic increases in deer populations. Today, deer populations in the Texas Hill Country total approximately 1 million and have significantly influenced the vegetation present today.

To understand the impacts a deer population may have on wildlife diversity requires an understanding of carrying capacity. Basically put, carrying capacity is the maximum number of individual animals that a specific habitat can support without having detrimental effects on that habitat. This sounds pretty simple, but it does have a challenging aspect. Carrying capacity is not a value that can be produced by an equation. The number of animals that any given habitat can support is highly dependent on the quality of that habitat. In addition, other factors, such as rainfall, can have a seasonal influence on carrying capacity. These issues make carrying capacity a moving target, which is why wildlife managers attempt to keep deer numbers at a suitable level when natural resources are more scarce (i.e. during winter and periods of drought). If deer populations are not kept below the carrying capacity of the land, habitat and wildlife diversity can decline.

White-tailed deer are primarily browsers—that is, they eat the leaves and stems from woody plants like trees and shrubs. Browse species are the most stable and important component of the habitat because they are less susceptible to impacts from weather conditions such as drought, unlike other preferred forages, such as forbs and mast crops, which are rainfall dependent. To a deer (and most species), not all browse species and other plants are created equal. Some are more desirable than others for their palatability. Like us, deer will readily eat the things that are tasty and leave the foods that are, as my 3-year-old would say, “yucky.” Several of the more desirable

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Native deer and/or exotic species can impact wildlife diversity by altering habitat.





Texas Wild-Rice

Umbrella Species of the San Marcos River

By Jackie M. Poole

It doesn't seem logical to think of an aquatic ecosystem as needing an umbrella. Aquatic systems need water, right? But Texas wild-rice is the umbrella species of the San Marcos River. Because Texas wild-rice requires a certain amount of water flowing over its leaves at all times to survive, this ensures that many other rare and endangered species in the San Marcos River will survive also. Any species with habitat requirements that fall within those of Texas wild-rice will be protected by the Texas wild-rice umbrella.

While adequate water is a necessity, too much water may make the river too deep or the current too swift for even the most tolerant organisms. Although floods are needed to refresh the system, if floods are too frequent or too intense, recovery and restoration may not be possible.

Texas wild-rice grows best in water between 6 inches and 4 feet deep with a moderate current. It dies when water levels remain below 6 inches for more than a few days. When Texas wild-rice grows in still, shallow water, it flowers and disperses seeds; in deeper, swifter water, it remains submerged and reproduces vegetatively by rooting at the stem nodes. Having two reproductive strategies is a good plan for living in a constantly changing environment such as a spring-fed river in a semi-arid urban habitat.

The upper San Marcos River, home to several endangered species, relies on springs of the Edwards Aquifer. In pre-European times, the springs were artesian, shooting water into the air over the free-flowing river. Now there are several dams, including the Spring Lake dams, that back up enough water to hide this former fountain. Creation of the lake and deeper water levels led to the extirpation of Texas wild-rice here. Two colonies have been reestablished in the shallower areas of the lake. Other dams on the upper San Marcos River have a similar effect, producing deep, sluggish pools where Texas wild-rice cannot grow.

Other changes to the river include habitat modifications such as dams and channelization (for example, the concrete walled banks in Sewell Park); invasion by non-native plants and animals,

both along the banks and in the river; intense recreation leading to unintentional harassment through trampling and uprooting vegetation; water pollution, including abnormal sediment loads; and the most influential change, pumping of the Edwards Aquifer.

Water levels in the San Marcos River and the Edwards Aquifer naturally respond to climate, depending on the amount of precipitation that falls on the watershed. Various factors can modify how much of this precipitation actually gets into the river or aquifer. While high rainfall causes an immediate rise in the river, recharge of the aquifer takes weeks and can be affected by hard surfaces such as rock, pavement, rooftops, etc., that can cause run-off to be too swift to percolate into the aquifer. During drought the levels of the river and the aquifer fall. This is exacerbated by aquifer pumping for urban, industrial, rural and agricultural needs.

Due to the high number of endangered species in the San Marcos River, as well as recreational uses of the river, and the necessity to have water continue to flow downstream to the bays and estuaries of the Gulf, there is a need to balance the water requirements of all these species and people. The U.S. Fish and Wildlife Service, with the assistance of the Texas Legislature through Senate Bill 3, implemented the Edwards Aquifer

Recovery Implementation Program, a group of stakeholders from all affected groups to work together to achieve a solution to the water allocation problem. After almost three years the program has determined the flow requirements for the endangered species, water management that would allow adequate flows for the endangered species survival and increase, and various mitigation measures that would protect the species during times of extreme drought. For Texas wild-rice this would require restoring wild-rice to as much suitable habitat as possible without removing native species, keeping floating mats of vegetation and debris off wild-rice at all times, and developing a recreation plan that would address river access points, safe sites for wild-rice, and ways to route recreational traffic around wild-rice, especially during times of low flow.

We all need to plan ahead for rainy days and have our umbrellas functional and in good repair. But we also need to have good functional umbrellas like Texas wild-rice that protect us and the San Marcos River during times of drought and keep the San Marcos free flowing.

Jackie Poole is a botanist with the Wildlife Diversity Program at Texas Parks and Wildlife Department working out of Austin.

Edwards Aquifer

Endangered Species Protection

By Cindy Loeffler

Texas Parks and Wildlife Department (TPWD) staff from several divisions have been hard at work protecting rare species associated with the Edwards Aquifer as part of a process called the Edwards Aquifer Recovery Implementation Program (EARIP). The EARIP is an open, voluntary, collaborative, consensus-based stakeholder process with a goal to help recover federally listed threatened and endangered species that depend on the Edwards Aquifer. The Edwards Aquifer extends 180 miles from Brackettville in Kinney County to Kyle in Hays County and is the main source of drinking water for over 2 million people in south-central Texas as well as an important source of water for agriculture, industry and recreation. In addition, the Edwards Aquifer is the source of San Marcos and Comal springs, two

of the largest springs in the southwestern United States. These springs are the headwaters of the San Marcos and Comal rivers and provide important baseflows, especially during drought, to the Guadalupe River and Estuary. There are currently eight federally listed species that depend directly on the Edwards Aquifer system: the fountain darter, San Marcos salamander, San Marcos gambusia, Texas blind salamander, Peck's cave amphipod, Comal Springs dryopid beetle, Comal Springs riffle beetle, and Texas wild-rice. The San Marcos gambusia, last collected in the wild in 1983, may already be extinct. The primary threats to the aquifer-dependent listed species are the intermittent loss of habitat from reduced springflows, water pollution, and competition from non-native species. There are many other rare species associated with the Edwards Aquifer that are not currently federally listed that will likely benefit from actions taken to protect the eight species being addressed by the EARIP.

Conflict over the Edwards Aquifer has been brewing for decades and was brought to head in 1991, when the Sierra Club filed a lawsuit under the federal Endangered Species Act that resulted in the creation of the

Edwards Aquifer Authority (EAA). The Texas Legislature directed the EAA to regulate pumping from the aquifer, implement critical period management restrictions, and ensure minimum continuous springflows of the Comal and San Marcos springs. Since that time, attempts to manage the Edwards Aquifer to balance pumping with species protection have been contentious and difficult, to say the least. The EARIP was initiated by the United States Fish and Wildlife Service in 2006 and modified by the Texas Legislature through Senate Bill 3 (SB3) in 2007, to create a collaborative process that includes a diversity of stakeholders representing local and state governments, river authorities, environmental interests, recreational and public interest groups, agriculture and industry interests, groundwater and surface water developers and users, and universities.

There are a handful of other recovery implementation programs underway in the United States, but they all deal with particularly complex conservation issues that often include water. Due to the complexity of the issues, RIP processes often take many years to complete and must rely not only on scientists and engineers but also on attorneys and other experts to be successful. TPWD participation in the EARIP is extensive with participation from the Water Resources Branch, Legal Division, Coastal Fisheries Division, Inland Fisheries Division and the Wildlife Division.

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The Edwards Aquifer is the primary source of drinking water for over 2 million people.

San Marcos Salamander

*[Edwards Aquifer Endangered Species Protection,
continued from page 4]*

The EARIP Science Subcommittee (SSC), which was appointed by the EARIP Steering Committee and includes three TPWD scientists, was directed by SB3 to address specific charges including species requirements in relation to spring discharge rates and aquifer levels, as well as pumping reductions and stages for critical period management associated with species requirements. In its peer-reviewed December 2008 report, the SSC recommended springflow regimes necessary for the long-term survival of aquatic communities of Comal and San Marcos springs. These recommendations are intended to ensure the survival and recovery of federally listed endangered species in the wild and are based on assumptions that current conditions would exist regarding invasive species control, management of recreational impacts, sediment management, and parasite control. The EARIP has also retained several technical consulting teams to support analysis of groundwater management alternatives, habitat modeling and ecological restoration options.

For the past three years, the steering committee has been working on strategies for protecting springflows, especially during extreme drought periods. The package of options has been coined the "Bottom Up" approach because it sets forth an incremental, phased approach to reduce aquifer pumping, increase ecosystem restoration

measures and to monitor progress of these actions. Key measures for reducing aquifer pumping include increased conservation by smaller communities, an innovation called Aquifer Storage and Recovery (ASR), voluntary suspension of irrigation pumping during drought, and additional mandatory Critical Period pumping restrictions. Ecosystem restoration measures include habitat restoration, exotic species management, and recreation management. There are still many unknowns, primarily because the severity of future droughts and associated ecosystem impacts cannot be predicted. To help address this uncertainty the incremental, phased approach allows for adaptive management and the ability to adjust protection measures in the future. The "Bottom Up" approach also includes provisions for enhancing the ability to protect species in refugia if a drought worse than predicted does occur.

The estimated cost of the "Bottom Up" package is \$30 million per year. Recently the EARIP Steering Committee approved a proposal to fund EARIP activities that would include a regional sales tax. Alternative funding mechanisms will also be explored. If approved by local voters, the money collected



Fountain Darter

would be used to implement the EARIP and to fund other water issues related to species of concern in the region, with first priority going to EARIP implementation. There is interest among members of the Steering Committee to try to address other, similar water-related endangered species issues, most notably whooping cranes.

The final product of the EARIP will be a plan to protect the federally listed endangered or threatened species while managing the use of the Edwards Aquifer. This plan is to be completed by September 1, 2012.

For more information on the EARIP, visit <http://earip.org>

Cindy Loeffler is Water Resources Manager at Texas Parks and Wildlife Department working out of Austin headquarters.

Introducing our New Small Game Program Director



The Wildlife Division did not have to go far when they began looking for a new Small Game Program Director – **Dave Morrison** was sitting in a cubicle in Austin waiting for the call.

A graduate of Louisiana Tech, where he achieved bachelor's and master's degrees, David brings a wide variety of skills to the table. He worked with the Louisiana Department of Wildlife and Fisheries before coming to Texas Parks and Wildlife Department. Dave has held a variety of positions during his career in wildlife management, including wildlife technician at wildlife management areas, district biologist, and program director with the wildlife management area program while in Louisiana. Dave came to Texas Parks and Wildlife as our waterfowl program leader in 2000.

Dave says, "I have worked with alligators to bobcats to deer to ducks." Congratulations, Dave.



DID YOU KNOW?

Of the nearly 360 bird species that breed in Texas, the Golden-cheeked Warbler is the only one that nests exclusively in Texas.

Conservation, Landowners, Government and Real Estate

By Andy Winter

Enter the Critters.

On my last visit to Friedrich Wilderness Park near the outer edge of San Antonio, a male Golden-cheeked Warbler sang above the parking lot. To the north of me, the roar of a bulldozer signaled the triumph of a new spec home. To the east, Interstate 10 growled from the early morning commute, and just behind my truck, a sign proclaimed, “Thousands of pounds of dog poop wash into your water supply every year. Gulp.” The inexorable thought crossed my mind that this poor guy doesn’t stand a chance. How could he? With a projected loss of 458,000 acres of Hill Country habitat over the next three decades, sensitive species like the Golden-cheeked Warbler, the Black-capped Vireo and cave-dwelling invertebrates face an uncertain future. At the same time, economic growth is sorely needed to stimulate the lagging effects

of the recession. For many, growth equals development. For many critters, development equals despair. The challenge in Central Texas is how to accommodate both economic development and habitat conservation without compromising either.

Under the Endangered Species Act (passed in 1973), anyone wishing to remove habitat containing an endangered species must develop a mitigation agreement, usually called a Habitat Conservation Plan, in coordination with the U.S. Fish and Wildlife Service. That plan would outline how and where habitat loss would be mitigated. To comply with the law, a construction project would typically require three years’ worth of field surveys, and an additional two to four years to develop a mitigation strategy, write the plan, and negotiate with state and federal regulators. When time is money, and when money is short, seven

years of delay, and seven years’ worth of legal and environmental consultant fees don’t do much for the local economy. Many times, conservation becomes the afterthought that few are willing to pay for.

Enter the Regional Plan.

Instead of asking each development project to negotiate an expensive and time-consuming Habitat Conservation Plan, communities have the ability to develop an umbrella plan for construction projects called a Regional Habitat Conservation Plan (RHCP). An RHCP is a federal permit that provides a more efficient mechanism for developers and communities to comply with the Endangered Species Act. Under this plan, none of the requirements of the Endangered Species Act are changed or diminished. An RHCP is issued by the USFWS to an

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entity that covers a wide geographic area, such as a county or group of counties. That entity then issues subpermits to anyone that wants to adversely affect sensitive habitat. In exchange, the sub-permittee pays a participation fee to the permit holder that is used to acquire or protect land somewhere else as mitigation. The process typically takes about three weeks. While the participation fee may be more than what would have been required with an individual HCP, the participant saves years of time and money required to develop their own plan.

Community leaders in the City of San Antonio, Bexar County, and several outlying counties are developing the Southern Edwards Plateau Regional Habitat Conservation Plan (SEP-HCP). Centered on the growth sectors of San Antonio, and the possible growth of Kerrville, Boerne, Castroville and Johnson City, the SEP-HCP will provide for economic growth and development of thousands of acres of hill country habitat, while simultaneously providing both the funding mechanism and the infrastructure to protect tens of thousands of acres for conservation.

Enter the People.

Final details of the plan have yet to be decided, but both a Citizen’s Committee and a Science Committee have been working since October 2009 to create a structure amenable to the interests of the conservation community, private landowners, local government representatives, and the real estate community. In fact, each of those groups was asked and agreed to participate in the planning process, and meet at least monthly to develop a workable solution. Thus far, they have set admirable goals of assisting nine listed species: two songbirds and seven endangered cave invertebrates within an area that includes the major growth sectors of this region. All of the people involved want to ensure that public input is collected and private property rights are respected. In fact, the process is legally mandated to ensure that land containing endangered species or endangered species habitat is not devalued through plan actions. Public meetings will be held in April 2011 to get feedback from local residents.

Enter the Concerns.

The SEP-HCP does not give anyone the authority to condemn land, nor does it make the condemnation process either. In fact, it has absolutely nothing to do with land condemnation. It deals solely with

removing barriers to compliance with the federal Endangered Species Act. The SEP-HCP does not alter or diminish the restrictions of the ESA or state regulations concerning wildlife management.

Additionally, the SEP-HCP will not require anyone to participate. The administrators of the plan will interact only with voluntary participants. The citizens developing the SEP-HCP are intent on providing private landowners only additional choices in the management of their property. If a landowner in the Plan Area wants to sell to a neighbor, a developer, or anyone else, he or she is free to do so.

If a landowner thinks they might have endangered species on their property, with the SEP-HCP, they will have the option to get paid for protecting that commodity. Certainly conservation easements have been around a while, but the legal and time constraints often overwhelmed even the most willing participant. The SEP-HCP will create a streamlined process for the landowner to be compensated for protecting sensitive hill country habitat. As in other conservation easements, landowners that accept compensation for land protection measures will still retain the ability run livestock, family or lease hunt, and buy or sell land. And the plan only deals with willing participants, so nobody is required to participate, regardless of what their neighbors do or don’t do.

Return of the Warbler.

I checked up on that brave male warbler at the end of the breeding season. As it turns out, a successful nest was documented close by. The young fledged successfully and the chipper song of the male is expected back this spring. Perhaps the SEP-HCP, like that male warbler in an island of urban expansion, is an indication that Central Texas can find a balance between growth and responsible stewardship of even our most sensitive neighbors.

Andy Winter is Bexar County Environmental Engineer and coordinator of the Southern Edwards Plateau Habitat Conservation Plan.



Black-capped Vireo

Males sing to attract mates and defend territories, which are usually 2 to 4 acres in size. Vireos return year after year to the same area to nest.

Hummingbird Research Near San Angelo

By Charles Floyd

The Hummer House has long been noted as a special place for hummingbirds. Although it has some unique records for west-central Texas and a hummingbird species list much longer than expected for this area, it is the presence of large numbers of Black-chinned Hummingbirds that make it famous. When the term “large numbers” is used, it signifies swarms of these delicate birds coming and going from strings of feeders like bees around a bee hive. It means hundreds and even thousands of hummingbirds living and nesting among great oaks of the ranch year after year. At the end of 2010, hummingbird researchers had banded more than 11,800 Black-chinned Hummingbirds at this site. More than 1,900 have been banded in a single year and 608 have been banded in a single day when a group of hummingbird researchers gathered at the ranch.

Various experts have estimated the population of hummingbirds within a short distance from the Hummer House at more than 3,000. Banding efforts have been conducted annually at two other ranches near the Hummer House. One is one half mile distant and the other is a mile distant. Data compared from all three sites suggests that a few hummingbirds travel those distances between sites to feed but a large majority

of birds seldom leave their home ranch to feed.

How does a place like the Hummer House come to be? A favorable habitat is important. The ranch surrounding the Hummer House with its scattered oak woodland joining with the oak and pecan trees hugging the banks of the South Concho River offers perfect habitat for these birds. The ranch is home to 256 species of plants with many flowering plants that are attractive to hummingbirds. However, the ranch would not exist as it does today without years of extensive management. There has been a concerted effort over the years to control invasive plants and to foster native wildflowers. Much of the ranch has not been grazed by livestock in many years and where grazing has occurred it has been carefully controlled. Wildlife has also been managed to prevent overgrazing. Much of the ranch exists today as it did generations ago.

Not only does the habitat welcome the hummingbirds, they are welcomed in many ways. Sugar water feeders are in place very early and very late in the season. More than 25 large feeders are in place around the ranch headquarters by mid-summer. These are managed on a daily basis to insure that the sugar water is fresh and to insure that

bees and ants are not a problem. Fifteen hundred pounds of sugar is mixed for these feeders during an average season. More than 50 years of consistent feeding has resulted in the current population at the ranch because hummingbirds will return to the same area year after year if they possibly can. Hatching year birds will return to the area where they were hatched to breed and nest. Banding records for the site include the record of a male bird that was originally banded as a hatch year bird at the ranch. When it was recaptured last season, it was 9 years old.

Red fabric is always hanging in place as a signal to hummers that they are home. Cotton batting is provided for nest building. The plants that have been added to the yard are always varieties that are attractive to hummingbirds. A water fountain feature is placed near the observation room for hummingbird bathing, socializing and drinking. Many other water sources are available across the ranch. In short, hummingbirds are always welcome.

The Hummer House also has banding records of seven other species of hummingbirds and one additional confirmed sight record of a Broad-billed Hummingbird for a total of nine species of hummingbirds confirmed on the ranch. More than 1,400

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DID YOU KNOW?

A banded Black-chinned Hummingbird residing near Christoval is known to be 9 years old.



Black-chinned Hummingbird

Ruby-throated Hummingbirds have been banded there along with a few Rufous, Broad-tailed and Calliope hummingbirds scattered over the years. Single records exist for Lucifer, Anna's and Allen's hummingbirds. Even migrating Black-chinned Hummingbirds stop over as they come and go each spring and fall. It is believed by some researchers that the South Concho River is a flyway that is used by migrating hummingbirds. Perhaps the sound of all the Black-chinned Hummingbirds draws migrating birds to the Hummer House.

Just why these vast numbers of hummingbirds are present at the Hummer House can be debated by experts but the fact remains that they are there. People of all ages come from far and near to marvel at them. During hummingbird season,

programs describing their habits and characteristics are presented several times each week. Researchers and bird banders from across the country gather to study these birds. From the observation room, or the porches of the cottages, guests can get up close and personal to these birds from morning until dusk. Deer, turkey and many species of other birds share the ranch with the hummingbirds. In fact, many songbirds inhabit the ranch in very impressive numbers but the ranch continues to be about the hummingbirds.

Charles Floyd is a permitted hummingbird bander who is working at this location near Christoval, Texas.



A Book Review | BY MIKE KRUEGER

Stanley, Jim. 2009. *Hill Country Landowner's Guide*. Texas A&M University Press. ISBN – 13: 978-1-60344-137-7

After I moved to TPWD's Kerrville office in April, 2007, some of the first non-TPWD folks I came in contact with were Jim and Priscilla Stanley as they worked to maintain the wildscape in front of our building as volunteers with the Hill Country chapter of the Texas Master Naturalists (TMN). It didn't take too many interactions with Jim and Priscilla around the office and at various meetings and programs to realize that these folks were something special in regard to how completely they've immersed themselves in volunteering with several nature-based non-profit organizations such as TMN. But most impressive is their dedication to learning as much as they can about the ecology of the Texas Hill Country in the relatively short time that they've lived here. Their broad-based knowledge of ecological concepts, including plant identification, hydrology, soils, herbivore population management, and habitat management, exceeds that of many of even the most long-term residents of the region and rivals that of many of us natural resource professionals who at times tend to be a little too single-issue focused. And I have no doubt that their desire and dedication to continue learning even more is non-stop.

It's fortunate that Jim Stanley took the time to write the *Hill Country Landowner's Guide* so that his knowledge can be shared with his primary target audience—new owners of Hill Country property, many of whom may have little if any experience in managing a piece of Central Texas rangeland. But even those landowners who have been here a while and think they know a thing or two about taking care of their property can benefit from this book that is written in an easy, conversational style by one of their own. Jim acknowledges that he also was new to the land not that long ago, and experienced many of the same trials and tribulations that many of them most likely are experiencing. He has learned through experience, research, and lots of reading, attending classes, and consultations with

experts in their fields to overcome many of the land stewardship challenges.

The book is segregated into several easy-to-digest sections. The first few chapters provide a very good background on what the Hill Country landscape likely looked like prior to settling by European man, why it looks the way it does today, and the challenges faced by the current owners of pieces of that landscape. The meat of the book is a chapter by chapter discussion, more like one-on-one chats with the reader, on the numerous "tools" that landowners have to manage their properties to help ensure that the region's resources are conserved for future generations. These chapters include identifying and remedying the region's ubiquitous issues of overgrazing/overbrowsing by domestic livestock and native and exotic wildlife, cedar encroachment, erosion, and oak wilt. There are chapters on prescribed burning and protection from wildfire, managing riparian areas and songbird habitats, restoring native plant communities, and miscellaneous topics such as rainwater harvesting, and proper techniques for planting and pruning trees. The book wraps up with a chapter that provides contact information for the various federal and state government agencies and nature-related organizations that are available to provide assistance to landowners, as well as with a couple of plant appendices and a glossary.

This book is a must-read for any Hill Country landowner, old-timer or newbie, big place or small. Substitute a few different plant communities and I think that the principles and practices discussed by Jim Stanley also have much applicability to many other ecoregions of the state, at least those in proximity to the Hill Country.

Mike Krueger is District Leader for the Edwards Plateau District of the Wildlife Division with Texas Parks and Wildlife working out of Kerrville.

[The Back Porch, continued from the back page]

for wildlife and hunting with kids provide the backbone of TYHP. Both receive the personal satisfaction of knowing they have contributed to the future of hunting by providing the opportunity for kids and their parents to experience the lasting memories that come with their first hunt. Dedicated volunteers, who organize paperwork, buy groceries and cook meals, and teach everything from marksmanship to sausage making are key to ensuring enjoyable outdoor experiences for participants and their families.

On TYHP hunts, youth hunters understand that while they are having fun, they can also help manage wildlife by assisting private landowners in accomplishing their management goals. Managing high densities of deer and exotic ungulates is often a challenge for landowners who want to maximize native wildlife and plant diversity. If you are a landowner working to achieve

your harvest goals, please consider supporting the next generation of hunters by offering a hunt to TYHP. The program provides liability insurance and runs safe, mentored, educational youth hunts. Landowners can be as involved as they want to be. TYHP just needs a place for at least four youth to hunt safely and volunteers will manage the logistics, regardless of the facilities. The program needs all types of year-round hunts and can assist you in achieving your wildlife management goals.

For more information about the Texas Youth Hunting Program, please visit www.texasyouthhunting.com

Linda Campbell is the Private Lands and Public Hunting Program Leader at Texas Parks and Wildlife Department working out of Austin.

[Managing for Wildlife Diversity, continued from page 2]

deer forages in the Hill Country include Texas oak, kidneywood and cedar elm. On the other hand, species such as live oak, ashe juniper and Texas persimmon are less desirable deer forages. Once the more desirable plants have been reduced (or removed) the less desirable are utilized more. With this in mind, habitat quality can be evaluated based on these factors.

By this time you are probably wondering how to evaluate habitat for indications of deer overpopulation and wildlife diversity. Well ... most habitats in the Hill Country that are not under some deer population control are more than likely exceeding carrying capacity and thus reduced in diversity. A clear indication of habitat overutilization is the presence of a browse line. This is characterized by the lack of leaves on woody vegetation from the point as high as a deer can reach (about 4–5 feet) to the

ground. Less noticeable indications of deer overpopulation would be reduced plant species diversity. When you are looking at the native range in the Hill Country, there should be a wide diversity of vegetation. When the habitat is dominated by just a few woody species (like the less desirable ones listed earlier), wildlife diversity is reduced.

Texas has many methods to control deer populations on a localized ranch scale. First and foremost, hunting is the most readily available method to maintain white-tailed deer populations at carrying capacity of the native habitats. It merely requires a hunting license and landowner permission in order to begin. Hunting also can provide a source of revenue for the landowner, which can, in turn, be used to improve the quality of the habitat for all wildlife species. Additional methods of deer population control include Managed Lands Deer

Permit (MLDP), Antlerless-Spike Deer Control Permit (ADCP), Trap/Transport/Transplant (TTT) permit, Trap/Transport/Process (TTP) permit, and Depredation permit. Detailed information regarding the requirements and conditions of these permits can be found on the TPWD website at www.tpwd.state.tx.us/business/permits/

I do not want to leave the impression that controlling deer populations is simple, nor do I intend to suggest that you need only to lower the deer population in order for the plant and wildlife diversity to instantly come back. It takes an extended period of time coupled with other management practices in order to recoup lost habitat and diversity. But if deer populations are not at or below the carrying capacity of the land, no matter what habitat improvement techniques you try, the vegetation will take much longer to recover, if at all.

For more information on how to maintain diverse wildlife habitats or deer population control methods, please contact your local TPWD wildlife biologist at www.tpwd.state.tx.us/landwater/land/technical_guidance/. The TPWD technical guidance program provides technical assistance to landowners on a wide variety of wildlife management strategies.

Kevin is a Technical Guidance Biologist working out of Burnet.



Habitips

Simple things you can do on your land to enhance wildlife value.

April	June	August
<ul style="list-style-type: none"> ■ Monitor grazing program to provide nesting cover and plant diversity. ■ Continue controlling feral hogs through hunting or trapping. ■ Clean and store prescribed burning equipment. ■ Develop a checklist of birds you see in various habitats. ■ Clean your hummingbird feeders every three to four days. ■ Continue to trap brown-headed cowbirds. ■ Protection of roost sites is essential in areas with limited numbers of large roost trees. Turkeys prefer a lot of open space adjacent to roost sites. ■ March, April and May are prime wildflower blooming. 	<ul style="list-style-type: none"> ■ Monitor grazing program to provide nesting cover and plant diversity. ■ Continue to control feral hogs through hunting or trapping. ■ Leave some unharvested winter crops next to edges of field. ■ Before mowing, walk through hay meadows in order to reduce wildlife mortality, and consider leaving unmowed strips. ■ Do not mow wildflowers until the seedpods have matured. Mowing at the proper time will ensure reseeding for a good crop for following years. ■ Make sure summer wildlife water sources are operable. ■ Clean your hummingbird feeders every three to four days. 	<ul style="list-style-type: none"> ■ Monitor wetlands for signs of botulism. Notify TPWD of any disease problems. ■ Monitor grazing pressure on rangelands and move cattle accordingly. ■ Conduct spotlight deer counts. ■ Roadside disking will promote germination of both warm and cool season forbs. ■ Defer grazing in some pastures to ensure nesting cover for ground nesting birds. ■ Provide supplementary water for wildlife when necessary. ■ Clean and maintain bird feeders. ■ Clean and maintain nestboxes when birds have finished. Prepare some boxes to serve as winter shelter. ■ Increase the concentration of sugar in hummingbird feeders to prepare for migration.
May	July	September
<ul style="list-style-type: none"> ■ Leave some unharvested winter crops next to edges of field. ■ Monitor grazing program to provide nesting cover and plant diversity. ■ Prepare ground and plant summer food plots. ■ Clean your hummingbird feeders every three to four days. ■ Monitor wildlife food plots. High-protein foods in May and June are critical to good antler growth. ■ Continue controlling feral hogs through hunting or trapping. ■ Cowbird trapping season ends May 31. Report all trapping data to TPWD. ■ After dispersal of wintering flocks, juniper and mid-story hardwoods should be thinned adjacent to roost sites when they become too dense to provide for open space from the ground to tree branches where turkeys roost. ■ Begin fire-ant control as daytime temperatures reach 85 degrees. 	<ul style="list-style-type: none"> ■ Monitor/fluctuate water levels in wetland areas. ■ Monitor grazing program to provide nesting cover and plant diversity. ■ Continue to control feral hogs through hunting or trapping. ■ Provide supplemental water for wildlife as necessary. ■ Complete wetland dike repairs as needed. ■ Defer grazing in some pastures to ensure adequate nesting cover for ground-nesting birds next spring. ■ Start planning for fall youth hunts to assist in reaching wildlife management population goals. ■ Clean your hummingbird feeders every three to four days. 	<ul style="list-style-type: none"> ■ Prepare ground and plant winter crops. ■ Conduct soil tests on food plot sites. ■ Shred or disk sunflowers, millet or goat weed for dove feed. ■ Shred around tanks to facilitate doves coming to water. ■ Continue control of feral hogs. ■ Begin flooding moist soil units for ducks. ■ Defer grazing on some pastures to protect nesting cover for ground nesting birds. ■ Hummingbird migration peaks this month, begin providing additional feeders for winter hummingbirds.

Show Your Support for Wildlife!

Help protect native non-game species like the Horned Lizard with the purchase of the Horned Lizard license plate. The cost is just \$30*, with \$22 going directly to benefit the conservation of wildlife diversity in Texas.

Order online today and get your plate in just two weeks!

www.conservation-plate.org/nature

*In addition to regular vehicle registration fees





The Back Porch

Getting Kids Outdoors Through the Texas Youth Hunting Program

By Linda Campbell

For eight years I have been participating in what is billed as the “Largest Youth Hunting Event in the World.” We figure that if it is the largest in Texas, it must be the largest in the world. This year the annual Cave Creek Wildlife Management Association SuperHunt hosted 59 youth hunters and well over 200 total participants, including landowners, parents and volunteers. Texas Youth Hunting Program (TYHP) partnerships with Austin Woods and Waters Club and Safari Club International-Austin made the hunt possible.

The Cave Creek hunt is one of 140 TYHP hunts around the state that provide opportunities for nearly 1,000 youth, along with numerous siblings and family members, to experience the outdoors, learn about wildlife and spend



quality time together. Since 1996, the Texas Wildlife Association (TWA) and Texas Parks and Wildlife Department (TPWD) have joined forces to offer safe, educational and affordable youth hunts through TYHP. Throughout the state, TPWD field biologists and game wardens participate by teaching youth and their parents about wildlife management,

hunting regulations, safety and ethics. A number of TPWD employees also serve as Huntmasters to organize and conduct hunts for TYHP.

Landowners who generously open their gates to TYHP and Huntmasters willing to share their time and passion

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