Wild Game in Texas

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Wildlife is a major natural resource in Texas. Its value is measured in economic, recreational, cultural, and social currencies. Wildlife is a commodity that successfully competes with other land uses. It is complementary to primary uses of the land and it is paying its way (Teer 1984).

A discussion of Texas wildlife would not be complete without some mention of fee and lease hunting. The commercial hunting system or leasing of land for hunting privileges began in Texas during the 1920's and has become the most developed commercial system of game harvest in North America. The roots of commercialization of hunting in Texas can be found in the lack of public lands to which the public has free access (97% of the land in Texas is privately owned); the trespass laws (which are strongly enforced), and the large amount of game on extensive rangelands in the state (Burger and Teer 1981). Estimates of wildlife value in Texas range from $100 to $300 million. Most of the income from wildlife enterprises is generated in the Edwards Plateau region of Central Texas, known as the "Hill Country", and in the Rio Grande Plains of South Texas, which is known as the "Brush Country" (Pope et al. 1983). Henson et al. (1977) reported that hunting leases in some areas of Texas brought up to $10/acre; however, most leases were returning $1 to $3/acre. Today, in the South Texas brush country, it is not uncommon for some ranchers to receive from $7 to $9 an acre for a quail lease and $2,000 to $3,500 for a trophy white-tail deer. The average lease returns $4 to $5/acre.

Various hunting lease systems are used with much variation being found from ranch to ranch, primarily because each operator has developed a system that works for his particular situation. Four general types of leasing arrangements are commonly found: annual lease, day hunt lease, packaged hunt, and a secondary lease to an outfitter or middleman. (Steinbach et al. 1986).

The income potential of wildlife in Texas provides a great incentive for producing wildlife on private lands. At one time the rancher managed domestic livestock to the detriment of game populations. Landowners sought to clear the ranges of all woody cover and destroy key habitat areas such as roost trees for turkeys (Burger and Teer 1981). Today, however, it is not unusual for wildlife to be the major income-producing enterprise on the ranch. The justification for selling hunting

**Fig. 1. Ecological regions of Texas.**

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rights by the rancher is simply that deer compete with commercial livestock for forage. The stocking rates of cattle, sheep, and goats and grazing systems are in many cases decided on their impact upon the wildlife resource.

The economic value of wildlife in Texas has spurred much research by range and wildlife scientists into development of an integrated approach to brush and pasture management (Inglis 1985). Educational programs for the rancher that stress a total range management philosophy have also been developed by the Texas Agricultural Extension Service. The ranchers learn to manage all range resources in an integrated approach under an umbrella of economic decision-making. The present state of agriculture elsewhere in the United States has become an incentive for ranchers and farmers in other states to examine the Texas fee and lease hunting system in order to learn if it might work for them.

Following is a description of some of the more economically important wildlife species in Texas.

**White-tailed Deer**

According to the 1986 survey of the Texas Parks and Wildlife Department, there are approximately 4.2 million white-tailed deer (*Odocoileus virginianus*) in Texas, the highest population estimate for this species on record. The 4.2 million deer is a 13 percent increase over the 1985 estimate, and it further enhances the state's reputation as the nation's number one producer.

The Edwards Plateau region of Central Texas has the most deer of any ecological region with about 1.7 million. Other ecological regions and their estimated deer populations are: South Texas Plains (Brush Country), 752,000; Post Oak Savannah, 490,000; Cross Timbers and Prairies, 323,000; Gulf Prairies and Marshes, 138,000; Rolling Plains, 86,000; Trans-Pecos, 19,000; Blackland Prairies, 14,000 and the High Plains, 1,200 (Fig. 1). The fall 1986 estimate was made after a 1985 hunting season in which a record 383,000 white-tail were harvested.

Texas has been involved in an antlerless deer harvest program since 1955. The goal of this program is to improve deer quality. Experience has indicated that public opinion has not been ready to accept quality in exchange for quantity. Efforts are continuously being made by the Texas Parks and Wildlife Department, the Texas Agricultural Extension Service and several state universities to inform landowners about proper harvest strategies of bucks and does and good habitat management objectives.

In general, the white-tailed deer population in Texas reflects moderate to heavy hunting pressure on bucks but only light pressure on does. Most white-tail populations in Texas contain approximately one buck to three or four does. The exception is in the South Texas Plains, which is known for trophy bucks and the hunting pressure is light to moderate. About one third of the harvested bucks in the South Texas region are 4.5 years of age and older. It is in this region, also, that the highest revenues for deer hunting are obtained (Cook 1985).

Although the leasing system in Texas has done much to improve deer habitat, it has limited the number of hunters who have access to the land. This has resulted in too few deer being harvested in many areas of the state. The future quality of the white-tailed deer herd in Texas lies with the landowners, not only in how livestock production and other range resources are integrated with deer management, but also the extent to which landowners will permit hunters to harvest deer on their lands.

**Exotics**

No one recalls for certain why the first exotics, a group of nilgai antelope (*Boselaphus tragocamelus*), were introduced on the King Range in South Texas in the early 1930s. The story goes that the animals were purchased from a circus for either hunting or aesthetic reasons. Aesthetics is still a major reason for exotics on many Texas ranches. The animals are there simply to look at, and offspring or surpluses are traded among friends or sold. The increasing trend, however, is to use the exotics as a source of hunting income.

*Axis deer.*

By far the most important advantage exotics or non-native animals offer to the hunting lease business is that they are not regulated by state game laws. The only regulatory authority the Texas Department of Parks and Wildlife has is over some aoudad sheep (*Ammotragus lervia*) in the Palo Duro Canyon of the Panhandle and some free-ranging axis deer (*Axis axis*) in Bexar County. Without regulatory authority, the Texas Department of Parks and Wildlife cannot set seasons or bag limits. Thus the leasing of hunting rights for exotics offers the landowners the opportunity of year-round income to supplement his seasonal income from deer or other native game. Exotic leasing is usually done on a "per animal" basis, and hunters vary from those out for a "poor man's African safari" to those wanting to salvage an unsuccessful white-tail hunt. Some ranches even cater to non-hunting tourists and offer photo safaris.
There is little question that the trend in exotic ownership is increasing. The Texas Department of Parks and Wildlife began surveying exotics in 1963, and has continued the surveys at various times since. Since it lacks regulatory authority, Texas Parks and Wildlife has had to rely on voluntary questionnaires and estimates of state biologists and game wardens. The surveys do not include non-game animals or birds, and by their nature the surveys may have missed some ranches altogether. Thus the results of these estimates are probably conservative.

The 1985 survey found 120,000 exotic animals in Texas (Traweek, 1985). Ninety-four species or sub-species were found on 370 ranches in 124 of Texas' 254 counties. Of the individual species, only mouflon sheep (Ovis musimon) and Russian boar (Sus scrofa) were found in fewer numbers than in previous surveys.

By far the major species found throughout Texas is axis deer. There were 38,000 axis deer in Texas in 1985, for 31.3 percent of all exotics. This was an increase of 67 percent in this species over 1979. The other major species were approximately 19,000 blackbuck antelope (Antilocapra cervicapra), 15,000 nilgai, 15,000 aoudad, 10,000 fallow deer (Dama dama), and 8,000 sika deer (Cervus nippon). These five species represented 87.6 percent of all of the exotic animals in Texas. With this many animals occupying the same range as do native game, one might expect problems of competition to develop. In an effort to anticipate such problems, the Texas Department of Parks and Wildlife has conducted research on exotics for a number of years.

Most of the exotic animal research has been done at the Kerr Wildlife Management Area located in the Texas hill country near Hunt. The first studies were of the food habits of axis, fallow and sika deer, blackbuck, and aoudad (Butts et al. 1982). More extensive studies of nilgai were done in south Texas by Texas A&M University (Sheffield et al. 1983). As one might expect, each exotic species displays some dietary overlap with white-tailed deer, but to varying degrees. Far more dramatic have been the direct competition studies conducted at the Kerr Area (Armstrong and Harmel 1981). Groups of 6 white-tailed deer and 6 of either sika, axis or blackbuck were introduced into 96-acre pastures in 1971. By December 1979, the pasture with the axis deer contained 15 axis deer but only 3 white-tails, and the sika pasture contained 62 sika deer and 3 white-tails. The blackbuck did not compete as well, partially due to production of mostly male offspring. A pasture with 6 white-tails only had increased to 14 deer by 1979.

Armstrong and Harmel (1981) felt that the sika and axis deer competed directly with the white-tails for food resources. The exotics were thought to have a better ability to shift to a grass diet during times of drought or winter freezes. Others have suggested natural aggression between species as a cause of these dramatic results (A. Bubenik, pers. commun.). Whatever the cause there is concern among state biologists and others that free-ranging exotics may over-browse our rangelands and deplete our white-tail populations. Since hunting for white-tails is still our primary wildlife economic resource (Pope et al. 1983), such concern has led some ranchers to call for regulatory legislation. In addition, large grazing ungulates such as the nilgai compete with domestic livestock (Sheffield et al. 1983), and this requires ranchers to decide whether such animals should compete.
with or complement their livestock business (Terrill 1975).

Despite the controversy, the introduction of exotics has added a certain uniqueness to the Texas hunting industry. The publicity surrounding exotics no doubt also contributes to an awareness of our native game hunting opportunities. Many members of the Texas Exotic Wildlife Association are also members of the Texas Wildlife Association and the Texas and Southwestern Cattle Raisers Association. These ranchers are interested in promoting hunting of both native and exotic game in order to diversify their ranching operations. There is even a small but growing interest in the commercial production of venison, mostly axis deer, for specialty restaurants. With the established size of the Texas exotic animal population, the economic opportunity that utilization of exotics affords, and the demand for exotics by hunters, they forage on nutgrass tubers, acorns, and bulbs of wood sorrel.

Swinging southeast towards Brownsville, one passes through the fabled Brush Country en route to the lower Rio Grande Valley. Most of the valley is devoted to agriculture—cotton, sorghum, and citrus. These crops serve as food and cover for white-winged doves, a species somewhat larger than mourning doves. Whitewing season—generally 2 separate weekends—injects about $20 million into the regional economy.

Another unique game bird along the Rio Grande is the chachalaca. The raucous "song" of this species (chachalak-chachalak-chachalak) emanates from dense brush on the banks of the Rio Grande and the oxbows and resacas associated with the river. Slate blue to olive green in color, chachalacas are easily observed and photographed at Santa Anna National Wildlife Refuge near Pharr.

The Gulf Coast and associated wetlands support thousands of wintering waterfowl. The major species are snow geese, redhead ducks, pintails, and scaup. This area really is of major importance to birds. The Coastal Bend—that stretch of coastal prairie roughly between Kingsville and Port Aransas—is the richest area in North America in terms of the number of bird species that live within its bounds or pass through on migration.

The Pineywoods of eastern Texas is the land of loblolly pine and palmetto and home to woodcocks and wild turkeys. Turkeys, of course, inhabit many portions of the state. Small flocks occur along timbered bottomlands of the Rolling Plains of northern Texas; the Cross Timbers and Prairies of northcentral Texas supports higher numbers of birds. Even higher populations roam the bottomlands and cedar thickets of the Edwards Plateau in the central part of the state. However, the highest densities of wild turkeys in Texas occur in the eastern Rio Grande Plains. On the King Ranch in Kleberg and Brooks counties, it is possible to see 100-200 turkeys in a morning outing.

Wherever turkeys range, you also are likely to find bobwhites. However, bobwhites have a more extensive range than do turkeys. The bob inhabits rangeland throughout Texas, except for portions of the Trans-Pecos in the far west. The climate of Texas, particularly the brush country of the eastern Rio Grande Plains, is second to none for bobwhites. Notwithstanding occasional severe droughts, there is a near-perfect mix of wet spells, dry spells, and mild temperatures that fosters ideal habitat and living conditions for these birds. The very brush that bedevils the livestock grower provides food and cover for bobwhites. In general, the more diverse is the brush community, the more stable and dense is the bobwhite population.

Quail hunting in Texas is renowned the world over. This is partly because, acre for acre, no other region has such densities of bobwhites. Routinely, South Texas rangeland supports 75 to 150 birds/100 acres come hunting season. With no management other than grazing and brush control, 220 birds/100 acres have been recorded. With intense management, it is possible to achieve densities of 300 birds/100 acres.

The high densities and hunting popularity of bobwhites translate into profits for landowners. Lease privileges in the better habitat sell for $5 to $10/acre. Truly, the bobwhite is an

![Happy hunters.](image)
The Texas I&E Program: It Works!

Tommy G. Welch and C. Wayne Hanselka

The information and education program of the Texas Section, Society for Range Management (SRM), has been very successful. Recent successes began with reorganization of the I&E Committee by Joe Norris in 1977. The organization developed by Joe divided the committee into sub-committees. One sub-committee deals with activities outside the Section and the other sub-committee provides information for Section members. This two sub-committee structure is now used by other Sections of SRM.

Committee Structure and Function

The current two sub-committee structure of the Texas Section I&E Committee has worked very well. The chairman of I&E appoints the chairman of the two sub-committees and provides overall leadership and guidance. The chairman is responsible for public relations with agencies and other organizations to increase public exposure of SRM and for coordinating Section I&E activities with those of the SRM I&E Committee.

The sub-committee responsible for outside Section activities develops information for public news media including publicity and reports for field days, tours, annual meetings, awards and other pertinent information on rangeland. These releases are sent to major and weekly newspapers, farm and ranch magazines, television outlets and radio stations. Members of this sub-committee are responsible for obtaining information from field days and tours including photographs. The information is provided to the newsletter editor as well as developed for release to public news media. This sub-committee has responsibility for obtaining information to the Denver office concerning happenings in the Texas Section and assists with obtaining sponsors for the Section newsletter.

The inside Section sub-committee works primarily with the Section newsletter. Thus, the committee is chaired by the newsletter editor. In addition to preparing the newsletter, the newsletter editor and other members of the sub-committee assist with obtaining sponsors for the newsletter, maintain a working relationship with the printer and distributor of the newsletter, and assist with maintaining an up-to-date newsletter mailing list.

Section Brochure

Probably the most noteworthy venture conducted in recent years by the Texas Section I&E Committee was the development of a brochure to inform the general public about rangelands in Texas. Preparation of the brochure was initiated in 1979 by Wayne Hanselka, then chairman of the I&E Committee. A draft copy of a brochure was developed using an Old West Regional Commission brochure as a model.

Under the direction of Tommy Welch, 1980 I&E Committee chairman, the brochure, entitled Enjoy Texas Rangelands, was completed and printed. It includes a description of range-

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