Exotic Mammals Competing With the Natives

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Nilgai antelope, natives of India, were among the first exotic big game animals brought into Texas in 1930 and released on South Texas ranches. During the 1950s, the Texas exotics industry became firmly established when hunter demand created a lucrative market for these animals. Today there are 51 species of exotics in the state, the most common being axis, sika and fallow deer; blackbuck antelope; and aoudad, wild Corsican and mouflon sheep.

The term exotic refers to animals brought into Texas from foreign countries. With the exception of aoudad sheep in eight counties adjacent to the Palo Duro Canyon, exotics are not designated as game animals in Texas, and are considered to be in the same legal category as domestic livestock. They may be hunted anytime in most of the state, although there are exceptions in Bexar, Kendall and Kerr Counties. Surveys show that more than 35 percent of the landowners who reported having exotics on their land do not harvest these animals.

As the number of exotics began increasing throughout the state, wildlife biologists became concerned about the effects they might have on native game animals. This led to a series of statewide surveys of exotic animal populations. At the time of the first survey, in 1963, there were 13 species of exotics totaling 13,000 animals. The latest survey, completed in 1979, indicated 51 species numbering 72,147 animals.

In an attempt to evaluate the impact of these exotics on native game animals, food habit studies were conducted on axis, sika and fallow deer; blackbuck antelope; and aoudad sheep on the Kerr Wildlife Management Area. The exotic game animals' food habits were compared to food preferences of white-tailed deer.

These studies revealed that whitetails preferred forbs (weeds or broad-leaf herbaceous plants) and browse (leaves of woody plants) and consumed very little grass. Exotic animals preferred the same food as whitetails and are direct competitors of the native deer. Additionally, when forbs and browse become scarce, exotics have the ability to shift their diet to grass. Whitetails are not capable of doing this. On ranges where white-tailed deer foods are severely grazed or depleted and sufficient grass is available, exotics can thrive while whitetails may be facing a die-off due to malnutrition and starvation. Exotics, through their ability to eat browse, forbs and grass, also can have an impact on the range's carrying capacity for livestock.

Production and survival studies on axis, sika and white-tailed deer also were started in 1971 in three 96-acre, deer-proof pastures on the Kerr Wildlife Management Area. All grazing animals were removed from the pastures for three years prior to the study to allow for recovery of preferred deer foods. In January 1971, six sika deer (two bucks and four does) and a similar herd of six whitetails were trapped and transplanted onto one 96-acre pasture. Six axis deer (Two bucks and four does) along with a like herd of six whitetails were placed in another 96-acre pasture. In a third 96-acre pasture, two white-tailed bucks and four white-tailed does were placed as a control. No hunting was permitted and animals were allowed to increase and compete for available food supplies. Biologists made weekly checks during fawning seasons to determine fawn production. Extensive observations were made during extremely dry periods and other stressful conditions to determine deaths of the three species.

Sika-White-tailed Deer Pasture

From January 1971 through April 1974, the whitetail population increased to 15 and the sika herd increased to 16. Competition for available food became severe between the two species. This competition, combined with a drought in the summer of 1975, resulted in severe white-tailed deer food shortages, and the whitetail population dropped to six deer by the end of 1976. During this same period, the sika deer population increased to 32 animals. In December 1979, three whitetails and 62 sika deer were present in the pasture. The remaining three whitetails died in February 1980.

Axis-White-tailed Deer Pasture

Axis deer populations increased from the initial stocking of six deer in 1971 to 19 deer by December 1975. A major die-off, which reduced the axis herd to 15 animals, occurred in 1979 when the population had increased to a density of one deer to 4.6 acres. White-tailed deer had increased to 11 by 1979, but a winter die-off reduced the population to six animals. The whitetail population was never able to rebuild after this die-off, and a total of three non-breeding animals remained in the plot at the end of 1979.

White-tailed Deer Only Pasture

Six white-tailed deer were placed in this pasture in 1971. December counts since that time have indicated a relatively stable population with a high of 17 deer in 1974 and a low of 11 deer in 1975. December counts in 1979 revealed a total of 14 deer remaining in the pasture.

Whitetails usually exist on rangeland that already is overcrowded, and competition for food between white-tailed deer and domestic livestock is severe. Although cattle primarily graze on grasses, when the grass is depleted they turn to the same species of weeds and forbs browsed by deer. And the addition of exotic animals to this overcrowded range can only compound deer management problems. Populations of exotics must be controlled to provide desirable habitat capable of supporting quality white-tailed deer. Landowners and ranch managers should seriously consider all of these implications before introducing exotics on their rangelands.

The number of exotics in Texas has increased greatly during the past decade and will continue to increase. As these exotics become more numerous, they will have a detrimental effect on native game populations and habitat, particularly white-tailed deer.

Population Estimates of Exotic Big Game Animals in Texas as Reflected by Statewide Inventories

	1966	**1971**	**1974**	**1979**
Axis deer	6, 450	11,171	19,581	22,799
Blackbuck antelope	4,125	5,470	7,339	9,639
Corsican/Mouflon sheep	10,000	16,169	15,254	9,536
Aoudad sheep	1,300	3,217	3,531	8,451
Fallow deer	445	2,617	4,483	7,922
Sika Deer	875	2,036	3,042	6,217
Other exotics	14,300	4,982	4,089	7,583
Total No. of Exotics	37,495	45,662	57,319	72,147
Number of Species	25	33	37	51