

ELK STATUS IN ARIZONA

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By the late 1800's native elk (Cervus elaphus merriami) were believed to have been extirpated from Arizona. Consequently, Arizona's current elk herds are a result of reintroduction efforts which took place in the early 1900's. In 1913 the B.P.O.E. Lodge in Winslow succeeded in obtaining 86 animals from the Yellowstone herd. The animals were transported by rail to Winslow. From Winslow they were transported south by horse drawn wagon some 40 miles and released near Cabin Draw, in what is now the Apache-Sitgreaves National Forest (White 1968). Several additional reintroductions took place between 1913 and 1928. These early efforts are credited for reestablishment of elk in Arizona.

The transplanted animals rapidly expanded their range. In 1935 Arizona's newly formed Game and Fish Commission authorized the first hunt and issued 276 permits to Arizona sport hunters. The first hunt was a success. Hunters reported harvesting 145 bulls. Annual seasons continued until 1944. During the two year span of 1944-45, elk season was closed in Arizona. Sport hunting resumed in 1946 and has been continued to date without interruption.

Population Status

All historical elk habitats are currently occupied in Arizona. In general, most ranges are either near or at carrying capacity. Some major ranges in eastern Arizona are capable of supporting more animals than are currently present and management efforts are underway to encourage herd expansion. Elk are, in some instances, becoming numerous in previously unoccupied habitat. This is the case along the south rim of the Grand Canyon where herds of up to 40 animals have been observed recently feeding adjacent to the runway at Grand Canyon Airport. Populations transplanted to marginal ranges such as the Hualapai mountains near Kingman appear to be hanging on, but only barely.

Currently we estimate 10,000 to 12,000 elk inhabit 6,884 square miles of habitat in Arizona. Most of the elk habitat, 83% to be exact, is under jurisdiction of the U.S. Forest Service. This estimate does not include elk found on the Fort Apache, San Carlos, and Hualapai Indian Reservations.

During the past 3 years, statewide prehunt calf survival has averaged 57 calves per 100 cows. During this same period, prehunt bull:cow ratios have averaged 34:100. At the present the majority of Arizona's elk herds are healthy and very productive.

Management Problems

Timber Harvest. Commercial timber harvest practices in Arizona have been based primarily on a shelter wood, modified shelter wood, or strip cut harvest techniques. The overall effect of saw log harvest to date appears to have been beneficial to elk, however, other associated silvicultural practices such as precommercial thinning and commercial thinning have an undefined status. The loss of concealment cover is accelerating annually. The importance of this cover is not fully understood in the ponderosa pine forests of Arizona. The Department is presently active in assisting the U.S. Forest Service in

development of Land Management Plans. Hopefully adequate safeguards can be written in these plans to adequately protect elk habitat until additional information on habitat preferences is available.

Grazing. In general elk range conditions are fair to good at present. Several livestock permittees in the Flagstaff area have become critical of our elk management program. They contend permit reductions on their allotments resulted from over use of forage by elk. These criticisms will no doubt increase in the future.

Encroachment. Many valuable meadow lands were lost to summer home development during the 1960's. The rate of loss slowed as a result of rising energy costs and tougher zoning laws during the mid 1970's. Recently there appears to have been a rejuvenation of demand for remote homes and at present several critical areas are either in jeopardy or have been recently lost. The department land purchase program is inactive at present because of an austere budget.

Illegal Taking. Illegal taking was on the upswing in the early 1970's, but appears to have stabilized in the late 1970's. It is still a significant problem, especially in light of the upswing in the numbers of remote homeowners.

Predation. Predation does not appear to be an important factor in Arizona elk herds. The presence of remote subdivisions and associated dogs are a greater threat to elk than native predators.

Disease. Blindness in elk produced by the blood parasite Elaeophora schneideri is a problem in Arizona elk herds. Smith (1969) reported infection rates as high as 85%. More recent information from eastern Arizona, where the problem appears to be most severe, resulting from trapping operations in 1974 through 1978, indicates 7% of 213 yearling or adult elk exhibited external symptoms of the disease. In contrast, the rate in north-central Arizona has been less than 1%.

Seasons and Harvest

All elk hunts held in Arizona are on a permit basis. Permits are obtained through a computerized drawing administered by the Arizona Game and Fish Department. Permits are equally available to both residents and nonresidents.

Firearm (including muzzleloader) hunters are eligible to apply every third year after obtaining a permit. Archery hunters are eligible to apply each year; however, an archer must wait 3 years to apply for a firearms permit after obtaining an archery permit.

Several seasons are available for hunters to choose from. An early firearms season in early October (6 days in length), a late firearms season beginning on Friday after Thanksgiving (10 days in length), and an archery season during the last 2 weeks of September (13 days in length) provide a wide selection.

Firearms Hunt Statistics. During the period of 1979-81 a mean of 5,705 firearm elk permits were issued annually. Hunter numbers during this period averaged 5,368. These hunters harvested an average of 1,494 elk (1,010 bulls, 407 cows, and 77 calves) annually during this period and the harvest resulted in an average annual hunt success of 31%.

Archery Hunt Statistics. Archery elk hunting was initiated in 1972. Archery elk permit numbers have increased from the initial 750 bull permits in 1972 to 3,450 bull and any elk permits in 1981. The harvest also has increased from 22 bulls in 1972 to 221 bulls, 91 cows, and 9 calves in 1980. Our 5-year Elk Strategic Plan (1980-85) dedicates 15% of the total elk harvest to archers by 1985. Archers claimed 17% in 1980 and 11% in 1981.

Research Status

At present only one elk research project is active in Arizona. This project will be detailed in presentations given by Jon Rodiek and Glenn Delguidice.

A second investigation has met with serious financial problems recently. This investigation, begun in 1973, involves the capture and marking of elk to determine herd discreteness within specific wildlife management units. To date, in excess of 650 elk have been marked in 8 locations utilizing both permanent corral traps and portable clover traps. Trapping has occurred on both summer and winter ranges, with summer range trapping so far being the more efficient method.

During the past 2 years 20 elk have been radio instrumented. At present 14 are being monitored in the Flagstaff area. Austere budgets and unforeseen emergencies have severely limited monitoring efforts and nearly curtailed trapping efforts. The future of this investigation is uncertain at present.

Prospects for the Future

Arizona like many western states is enjoying productive elk populations at present. The continuation of the condition depends primarily on being able to manage habitats which are to become targets for exploitation during the upcoming decade. To our knowledge we have no energy resources in our elk habitats, however, our elk habitats do support large quantities of timber and range forage, and possess potential for recreational development.

Overcoming the "get more quick" hysteria now prevalent to insure proper use of elk habitats will be the challenge of the 80's. Properly utilized Arizona's elk habitats can continue to produce timber, forage, recreation, and elk indefinitely if we can overcome the stigma of short term gains at the expense of long term production.

LITERATURE CITED

- Smith, R. H. 1969. Wildlife Research in Arizona. Arizona Game and Fish Dept., Phoenix, AZ. pp97-99.
White, R. W. 1968. Elk in Arizona. Arizona Game and Fish Dept., Phoenix, AZ. 66pp. Unpublished manuscript.