

MANAGEMENT NOTES

Elk and Bison Management on the Oglala Sioux

Game Range

RALPH S. COLE

Highlight: *The Oglala Sioux Indians have recently instituted a range management program involving the production of native game animals for fee hunting. The unique combination of natural habitat, native game animals, and American Indian guides has attracted hunters and resulted in returns that compare favorably with domestic livestock operation.*

The Oglala Sioux Indians in southwest South Dakota instituted in 1970 a range management program involving the production of native game animals for recreation fee hunting. They have two forest-parkland pastures of about 4,000 acres each. These pastures are enclosed by game fences of heavy woven wire, 7.5 feet high. This paper is concerned with these two pastures, referred to as the game range. The Indians also have a 20,000-acre badlands pasture enclosed by natural barriers and a heavy barbed-wire cattle fence.

The game range is a land of rugged topography located near Allen, S. Dak. Its plant cover includes ponderosa pine (*Pinus ponderosa*) forests, open parklands, and savannahs. The steep-sided drainages have good stands of deciduous trees, including bur oak (*Quercus macrocarpa*), green ash (*Fraxinus pennsylvanica*), and American elm (*Ulmus americana*), and deciduous shrubs including

chokecherry (*Prunus virginiana*), skunkbush sumac (*Rhus trilobata*), and American plum (*Prunus americana*). The drainage bottoms have perennial streams.

Between 1970 and 1973, 165 elk (*Cervus canadensis*) and 95 bison (*Bison bison*) obtained from the National Park Service were stocked. Mule deer (*Odocoileus hemionus*), whitetail deer (*Odocoileus virginianus*) and pronghorn (*Antilocapra americana*), naturally occurring within the game range, are managed for increasing populations under limited, special permit hunts.

In January, 1973, 214 elk and 109 bison were counted. This represents an increase of 49 elk and 14 bison during a period when 40 cow elk, 15 bull elk, and 7 bull bison were harvested by hunters. Populations and harvest data were not available for deer and pronghorn.

The 1973 hunting fees charged by the Indians for trophy male animals are: elk—\$1,200; bison—\$1,200; deer—\$375, and for one pronghorn and one deer—\$550. They expect to sell all they have planned for harvest, which attests to hunter acceptance.

Quality hunting is a major goal of management. The male elk, bison, deer, and pronghorn are allowed to reach trophy dimensions before they are hunted. Quality of the hunt is further enhanced by limiting the number of hunters permitted at any one time and by the other services provided to hunters. Female animals are harvested, or live trapped and moved, to keep the range properly

stocked.

The game range is managed by Sioux Indian rangers. Technical guidance is provided by wildlife biologists of the Bureau of Indian Affairs. Personnel of the U. S. Fish and Wildlife Service have also provided technical counseling.

The Soil Conservation Service (SCS) helped develop a range management plan in conjunction with the Oglala Sioux Tribe's participation in the United States Department of Agriculture's Great Plains Conservation Program. The plan is centered on monitoring the composition of plant communities and the vigor of forage plants. This is accomplished using permanent browse photo points and step transects to determine forage use (Fig. 1).

Observations of forage used by elk, bison, deer, and pronghorn on Wind Cave National Park, South Dakota, under similar conditions of confinement, indicate that elk graze both herbaceous and woody plants. Bison and pronghorn take primarily herbaceous plants while deer primarily use wood plants, especially during winter.

The management goal of the Indian game range provides for the sustained production of all classes of forage plants with utilization determinations keyed to the plants considered most important. As the complexity of this operation changes, so may the concern for particular plant species change. Currently, the key browse species on the game range is chokecherry, and the key grasses are little bluestem (*Andropogon scoparius*) on shallow

The author is range conservationist, Soil Conservation Service, Rapid City, South Dakota.

The paper was presented at the 27th Annual Meeting, Society for Range Management, February 3-8, 1974, Tucson, Arizona.

Manuscript received March 18, 1974.

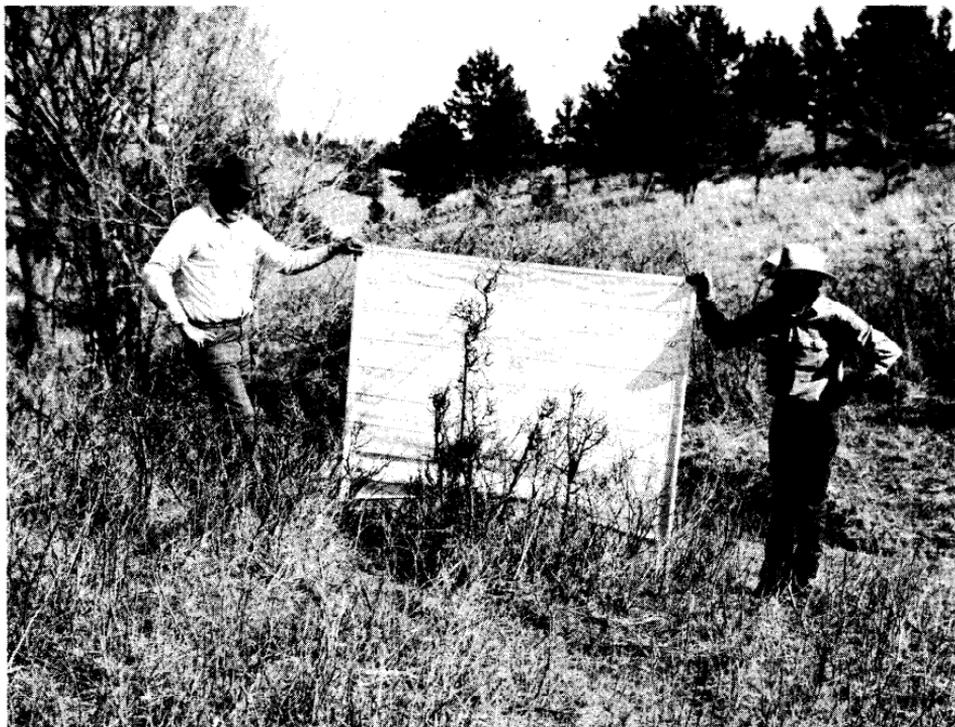


Fig. 1. Leo Dubray and Russel Loudhawk, Indian rangers, obtaining browse utilization information at permanent photo point.

soils and western wheatgrass (*Agropyron smithii*) on deeper soils.

The status of these key forage species provides a basis for exercising a number of options for managing the four species of big game—elk, bison, deer, and pronghorn. Economics as related to hunter preference, the population dynamics of each game species, and the competition for forage and space among game species, along with the management complexities concerning both animals and forage resources, will undoubtedly require that adjustments in the overall management plan be made in the future.

The Department of Wildlife and Fisheries Sciences of South Dakota State University has set up transects to determine plant use and is also making stomach analyses to determine plant use by animal species.

Licensing of hunters is coordinated with state authorities. In this instance, through the cooperation of the Department of Game, Fish, and Parks, legislation was passed permitting special hunting seasons, regulations, and licenses for the game range.

It appears that native game animals produced for fee hunting may bring as good a financial return to the Indians as would domestic livestock. Examining a hypothetical comparison of elk and cattle is quite interesting. Elk are fee hunted at \$1,200 for bulls and \$200 for cows, or an average of \$700. A 100-elk herd would provide

25 harvestable animals annually. At \$700 each, the return would be \$17,500. Using the same amount of range for domestic livestock, 86 cows and 3 bulls could be grazed for 9 months. They should produce 75 calves weighing 450 pounds each. If the calves brought 65 cents per pound, this would be a gross return of \$21,937. Subtracting \$3,440 for cost of hay for 3 months and \$830 for bull costs, the return for cattle is \$17,667 compared to \$17,500 for elk.

There are other costs to each kind of production such as labor costs for feeding cattle, labor costs for guiding hunters, and equipment and facilities depreciation and maintenance in either activity. A factor of considerable importance, not included in the preceding comparison, is the high initial investment for a game fence, which runs from \$6,000 to \$10,000 per mile. Maintenance costs of either kind of fence would be similar.

Although this may be a suitable activity for the Oglala Sioux, it would be difficult to say what the opportunity for others might be to develop a similar operation—particularly if it were necessary to acquire habitat where not only the range would be satisfactory but where an esthetically pleasing hunt could be offered. It is also interesting to speculate what problems might occur if a source of free or low cost elk or bison for initial stocking were not available.