Game Ranching in Western Canada

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Trends in the world meat markets have been towards leaner meats as people become more conscious of fat, cholesterol, and energy values. As a result, beef markets have become depressed. Venison is naturally a lean meat with a low percentage of intramuscular fat but high levels of protein. Thus, the sale of meat from wild ungulates raised on commercial game ranches could serve as an alternative to meet the demands for leaner meats.

Recently, Geist (1985) presented a view that game ranching is a threat to conservation of wild ungulates. Earlier, Odum (1971) showed the need to diversify wildlife management, such that a mixture of protective (parks and reserves), productive, and multiple-use systems are practiced. In this article, we will attempt to clarify many of the misconceptions about game ranching and outline the benefits of this new promising industry.

Historical Perspective

Wild indigenous herbivores have been closely associated with human occupation of North America for thousands of years. Paleolithic man exploited large numbers of herbivores in North America more than 100,000 years ago (Martin 1973). In recent times, wild game has been used as subsistence food. As settlements in North America expanded, there was uncontrolled decimation of wild herbivores. Present management concepts are designed to place controls on removal rates of wildlife and guarantee a supply of wild stock for sport hunting. However, with this view of wildlife management, there is a lack of diversity as outlined by Odum (1971) to service the variable needs of the public. In Alberta, resources are generally managed as multiple-use or compromise systems which attempt to satisfy the conflicting demands of several users. Parks are few and the area reserved for resource protection within their boundaries is relatively small. Game ranching is a means of providing this missing dimension to wildlife management. It adds the concept of conservation to lands allocated to agriculture by reversing the transformation of natural habitat to cultivation. As a result, the many rare and threatened species in the highly productive prairie and aspen parkland will be perpetuated.

Interest in game ranching as a commercial enterprise has grown during recent years in western Canada. Initially, Elk Island National Park, Alberta, Canada, served as the model for large-scale management of a mixed-species assemblage of native ungulates (Telfer and Scotter 1975). The herbivore guild, most suited for extensive game ranching in habitats of prairie parkland and aspen-dominated boreal forest zones of western Canada, is a combination of bison, wapiti, and moose, of which bison is the largest contributor in biomass and productivity (Renecker et al. 1987).

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Game Ranching or Farming

Game ranching is a production strategy whereby high fencing costs are diluted by increasing size of the land base and management inputs are minimized. Here, carrying capacity is maximized through a mixed-species grazing system. Because of this need for a large contiguous land base (>25 km^2) (Hudson and Blyth 1986) there are few opportunities for private landowners to establish extensive ranches.

A mixture of open grassland, and forested areas and wetlands, such as found in Elk Island National Park, are necessary to exploit a mixed-species grazing strategy on extensive ranches.

Indian and Metis settlements are the best candidates for this strategy since they are associated with large tracts of communally owned land necessary for the mixed-species approach (Hudson 1981). Additionally, game ranching is an opportunity for native people to acquire a feeling of self-importance and income in a manner which is compatible with their traditional concepts. For example, the opportunities produced by this new wildlife industry, which are similar to the traditional lifestyle of native peoples, have been realized by the Oglala Sioux in South Dakota for many years (Cole 1975). The first commercial large scale or extensive game ranch in Canada was established in 1980 on land of the Kikino Metis Settlement in north-central Alberta.

With large properties, it becomes more difficult to control animal movements for calving, velvet antler removal, autumn rut and round-ups, and to take advantage of all economic opportunities. For example, the initial direction of the Kikino Metis Settlement venture was towards a large scale management sysem with a low labour requirement. However, experience revealed a greater need for control of animal populations (Renecker and Biewald 1985). The trend of this operation has been to intensify with the addition of subdivisional fences to gain fall control over animal movement. In New Zealand, early game farmers first raised red deer on extensive properties in the harsh environments of mountain hillsides. The trend was soon changed towards an intensive style of pastoral management on lowland ranges with sheep replacing the deer on hillsides. This shift in range use and

management of lands in New Zealand has resulted in higher fecundity and economic returns which offset the costs of fencing (Yerex 1982).

Current legislation of Alberta is being designed to address the promising industry of game ranching. Present policies and regulations discourage the viability of extensive systems. For example, new born calves will require an ear tag and lip-tattoo within 1 month after birth. This is not feasible on large-scale enterprises because of the secretive animal behavior and cryptic coloration of young. It may be necessary to develop management systems whereby ranchers will assign females to smaller paddocks during parturition for identification and tagging. This requirement will identify animals on game ranches and distinguish them from wild stock.

An important factor of game farming is that meat production is not an important strategy until sufficient breeding stock is available. After 20 years of commercial production in New Zealand, meat production remains a secondary strategy to live animal sales[1]. Currently, populations of deer on farms in New Zealand exceed 500,000 animals and until stock numbers increase to 1 million head, supplies will not be sufficient for demands of world venison markets[2]. In Alberta, time will be required for similar acquisition of breeding stock.

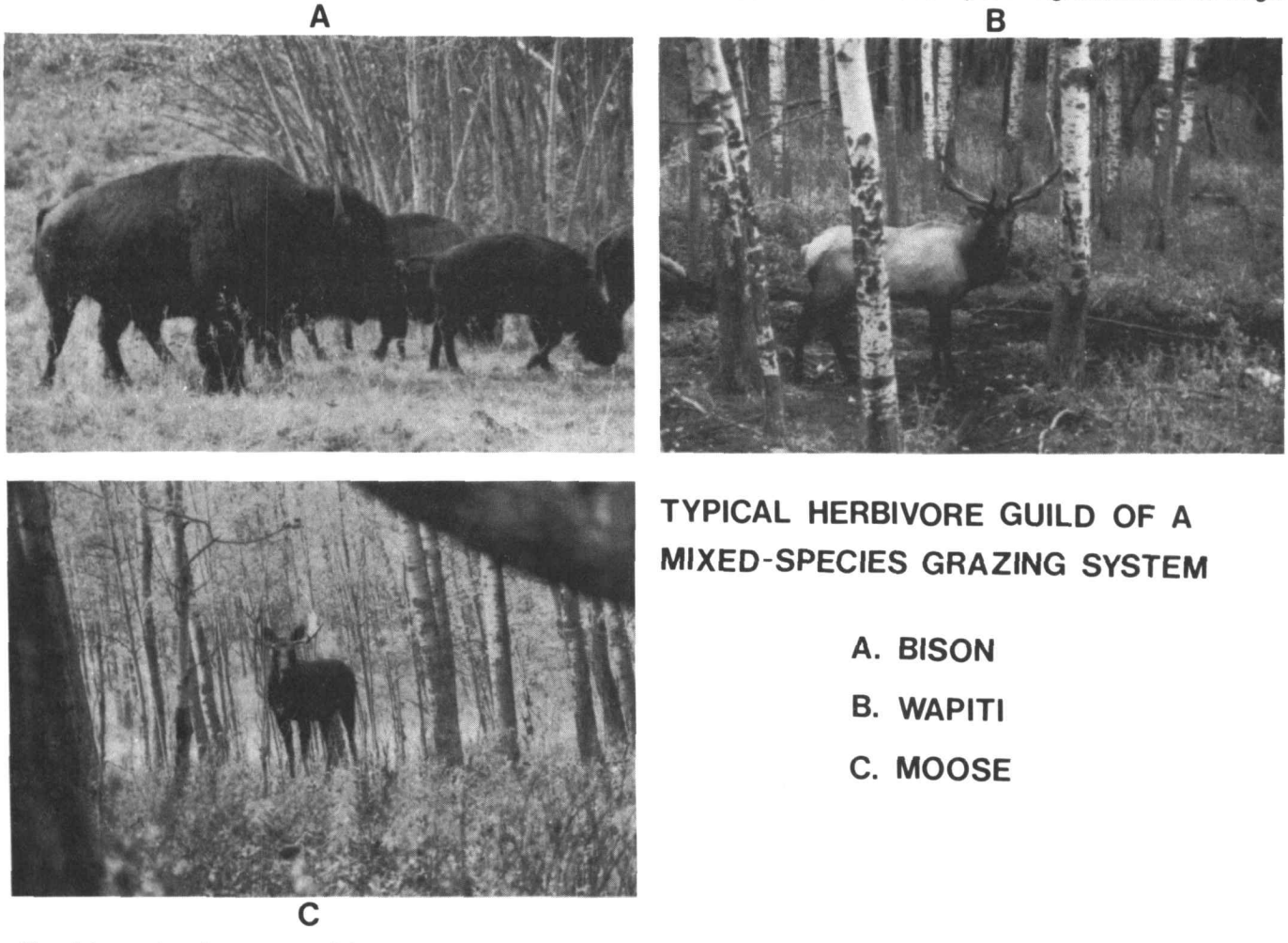
[1]K. Drew, Invermay Agric. Res. Center, New Zealand, pers. commun.
[2]T. Hayward, Agric. Canada, Canada, pers. commun.

Agricultural and Conservation Benefits

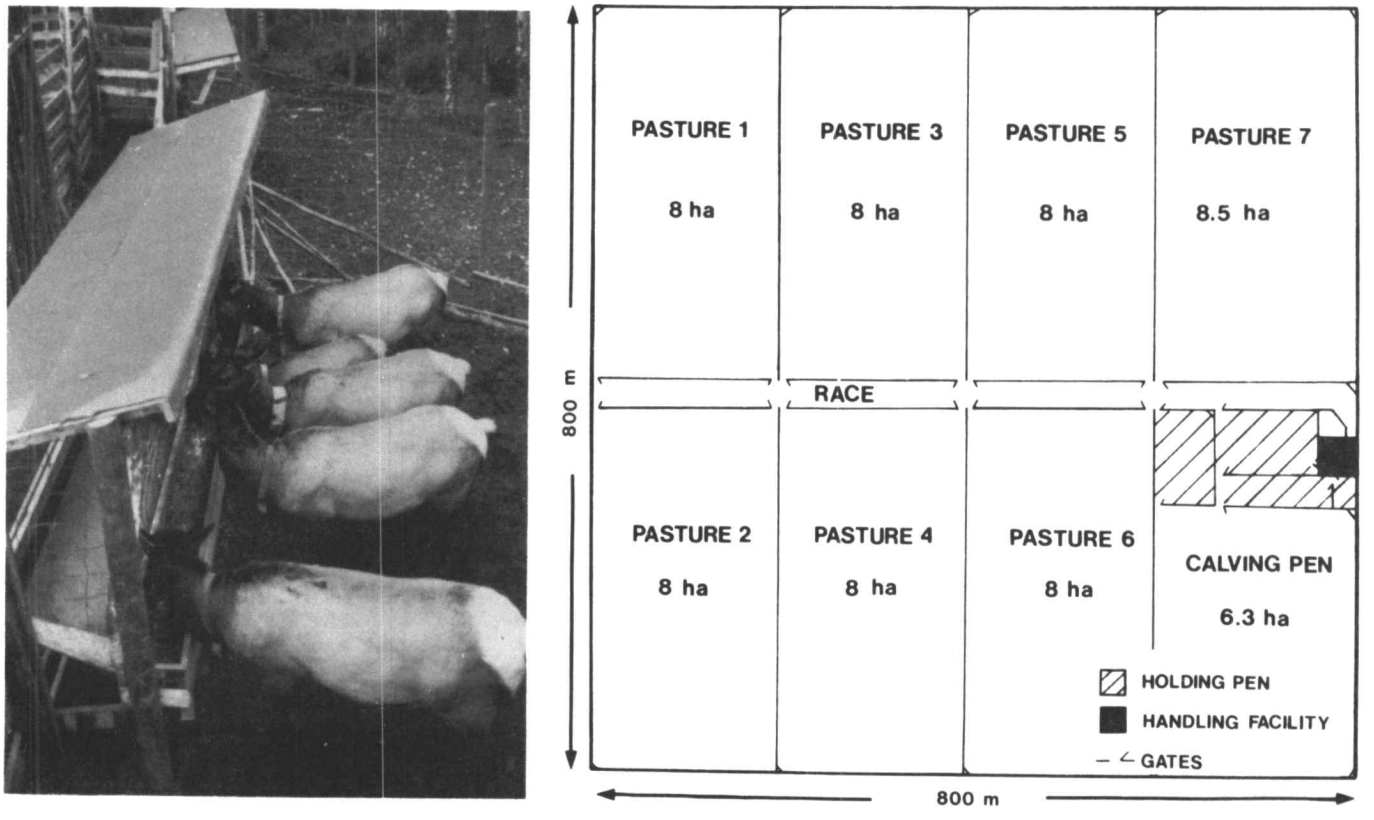
Game ranching was first proposed and investigated on extensive tracts of marginal lands in the aspen boreal forest zone of western Canada by Telfer and Scotter (1975). Land costs, the need to control animal movements, and maintenance of a high level of fecundity will require private enterprise to intensify operations with high stocking rates on smaller paddocks. The game farms will not push the frontier into wilderness lands. In the near future, game ranches will probably replace conventional agriculture on productive lands as was experienced in New Zealand (Yerex 1982). With the development of game farms, lands would be restored to grassland communities where wapiti would replace cattle as the dominant herbivore. Because of their adaptability, wapiti have been recognized as the most productive species in an environment with a mosaic of habitat types and are equally as productive as cattle on good pastures (Alsager and Alsager 1984). So far, only a few game farms have been established for production of valuable breeding stock.

Potential Problems

One anticipated problem about game ranching is that there would be an increase in poaching. Motivation for illegal



Ungulate species of a game ranch in the aspen-dominated boreal forest.



Intensive wapiti farms are smaller properties with internal fences which adopt full control over animal movements and permit supplementary feeding programs.

harvesting of wild stocks is already at least equal to the regulated harvest for some ungulates (Renecker et al. 1986). By legalizing the sale of meat and other by-products from farmed native ungulates, pressure is removed from wild populations as world markets become saturated. Illegal ventures would become less profitable as prices are controlled thereby reducing the motivation to poach and the entry of illicit products into the marketplace.

Velvet antlers and venison are wildlife tissues stimulating the most concern because of their commercial value. Arguments state that velvet antlers can easily be taken at any point in time during their development. However, velvet antlers are only of commercial value to Korean buyers as a folk medicine for about one week each year. Decimation of wild stock for velvet antlers is not a real problem because of the low opportunity for encounter of wild stock in boreal and montane habitats. Super A Grade velvet antlers occur in early June prior to the last bifurcation of the growing antler. Complete sedation and restraint of the animal are required to ensure that the animal and its antlers can be handled with the necessary care. Damage to the velvet immediately dictates a lower grade and eliminates a profit margin and the motivation for illegal entry of this product into the marketplace. It would be impossible for persons without experience in techniques of animal immobilization, animal behavior and velvet antler removal to remove a product of any value. Also, world supplies have been high, markets extremely volatile and few buyers will deal with quantities of less than one tonne. Because supply now meets demand, there are more constraints on quality of Super A grade velvet which leads to lower overall prices. As a result, most commercial operations in New Zealand are not orientated specifically for velvet antler production. In order to sell antler velvet in Alberta, an individual must be in posession of a valid big game farm permit. The permit holder is obligated to submit monthly records of animal inventory to the Government. The sale of products must match the animal inventory thereby eliminating the entry of illegal products to the marketplace.

Illicit sales of meat from wild stock has been forseen as a potential problem of the sale of meat from commercially raised animals. Currently, the federal meat regulations require ante-mortem inspection which ensures observation before slaughter. The marketplace will also stipulate conformity in carcass quality such that the cosmetic characteristics and moisture content of the carcass will be standardized by grain feeding animals for 30-60 days prior to slaughter. This will assure foreign and domestic buyers of a consistent and high quality product for the marketplace. European markets have rigorous standards for slaughter facilities in countries which export venison into the European economic community. Initially, only one such facility will be available in Canada. Finally, all saleable cut meats can be vacuum packaged with a distinctive government seal, thus policing "street pedalling" and illegal marketing of venison. Ultimately, the fact remains that commercial buyers of this specialty product will not trade with illicit sources and jeopardize their

business licence when a consistent legal supply of venison is available. Game ranching may not serve to curb the poaching problems that currently exist but it certainly will not augment them since it is the consistent quality of the game ranched product that is desired by the consumer.

Predictably, game meat from ranches and farms will supply the world demands for venison. With the development of the game ranching industry, a constant supply of meat will be distributed to world retailers.

In southern Alberta, the spread of agriculture has been a limiting factor to pronghorn antelope populations (Barrett 1982). As the population of people relative to animal density in North America increases, management systems for wildlife change. These needs will be independent of the development of game ranching.

Currently, the scale of the game ranching industry in Alberta is small. There are approximately 2,700 privately owned wapiti on 85 ranches which encompass about 4,900 ha. If herd growth and expansion of the land base were equal to 20% per year, by the year 2000, we would expect about 29,000 wapiti on 52,400 ha. This would be equal to approximately 0.08% of the area of Alberta or 0.2% of the area of the State of Colorado. At present, conventional agriculture encompasses 29% of Alberta's land area (Anon. 1981).

It must be emphasized that this industry will develop with sound and factual concepts. Positive interest in game ranching is high as it offers viable alternatives to conventional agriculture on marginal lands. It is an enterprise which offers traditional benefits and a feeling of self respect to Native and Metis people. Game ranching provides an opportunity to reverse the transformation of wilderness lands into cleared rangelands required by conventional agricultural practices while landscapes on existing marginal agriculture lands could be enhanced by selecting animals adapted to these environments. If we take time to realize the advantages, it will be possible to recognize that game ranching is diversifying, not replacing wildlife management concepts.

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