

ALASKA LEGISLATURE COMMITTEE FILES 1991-1992 8672
7626 SENATE RESOURCES

Renewed interest in game ranching in western Canada stems largely from recognition of the high productivity of wild herbivores, a need for landscape conservation, declining profitability of conventional agriculture, and growing consumer interest in leaner meats. Initial attention focused on ranching natural assemblages of large herbivores including bison (grazer), moose (browser), and wapiti (mixed feeder) (Fig. 13.1). The model for this mixed-species production system was Elk Island National Park (EINP), which seemed to demonstrate that native grazing systems were reasonably productive and practical to manage (Telfer & Scotter, 1975).

Extensive game ranching is a low-input strategy whose economy of scale derives from the relationship between perimeter (fencing costs) and area (production capacity). However, few private landowners control enough land (over 25 km²) to exploit this extensive option (Hudson, 1981; Hudson & Blyth, 1986) although lands controlled communally by native people are suitable. Despite the advantages, the experience of the first extensive commercial ranch in Canada (the Kikino Metis Settlement in north-central Alberta) was that difficulty controlling stock on large properties results in a loss of economic opportunity, such as harvesting velvet antlers.

The alternative is to dilute investment costs by increasing stocking rate on a smaller land base through seeding tame pastures, fertilising, and winter feeding. These operations exploit the advantages of subdivisional fences to manage grazing intensity, maximise stock productivity through supplementary feeding, and capitalise fully on commercial markets.

Current status

Although the concept has been discussed and practised for nearly two decades, the industry in western Canada is still in its infancy and enabling legislation is just now being developed. Only the Kikino Metis Settlement in central Alberta has established a large-scale ranch although interest among Indian and Metis Settlements is high. In Alberta, at least 19 of 39 settlements are embarking on game ranching ventures (G. Lynch, Alberta Fish and Wildlife Division, personal communication). Because of the financial constraints of development and limited availability of breeding stock, most private entrepreneurs are interested in intensive game farming on smaller properties.

In early 1987, there were 251 commercial game ranches and farms in

Fig. 13.1. Primary species considered in a mixed-species grazing system in the boreal forest. Top, bison (grazer); middle, moose (browser); bottom, wapiti (mixed feeder) (reprinted with permission from Renecker & Kozak, 1987).

Alberta, Saskatchewan, and Manitoba holding 5100 bison and 2900 wapiti (Table 13.1). Most of these operations were small (64–128 hectares) with few operations raising more than 200 head of either species.

The plains bison is legally defined as a domestic animal in most provinces (Chapter 19). The wood bison is officially endangered and therefore cannot be used commercially. Wapiti ranching is permitted in Alberta and Saskatchewan, but slaughter is only allowed in the latter. Currently, meat supplies are absorbed by local markets in Saskatchewan but a small number of carcasses serve restaurants in British Columbia, Ontario, Quebec, and several maritime provinces.

Trade of indigenous wildlife has been controlled by stringent provincial regulations except in the Northwest Territories where there is a traditional commercial/subsistence trade among native people. Although game meat is sold in several eastern provinces, most western provinces do not permit the sale of game meat from indigenous wildlife except plains bison. Therefore, the main current commodities are breeding stock and velvet antlers.

Exports of wapiti from Canada to New Zealand from 1984–86 totalled 286 head (J. Parliament, Agriculture Canada, personal communication). Annual sales are predicted to exceed 200 animals in the near future, representing a gross revenue of approximately US\$ 540,000. Records of production and a guarantee of temperament are now standard requirements by New Zealand buyers. Within Canada, domestic trade exceeded 400 head during 1986 at a value of approximately US\$ 2.5 million. Records indicate that 1092 bison were imported from 1980–86 both for slaughter and breeding purposes (A. Dagenais, Agriculture Canada, personal communication).

Table 13.1. *Bison and wapiti on private ranches in Alberta, Saskatchewan, and Manitoba, May 1987.*

Province	Number of ranches	Number of animals
Alberta		
Bison	113	3,500
Wapiti	85	1,800
Saskatchewan		
Bison	18	800
Wapiti	20	1,000
Manitoba		
Bison	13	800
Wapiti	2	100

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Canada's contribution of velvet antler to the primary market in Korea is small compared to the volume exported by New Zealand, China, and the Soviet Union. Canada produced approximately 3200 kg of wapiti velvet in 1986, valued at more than US\$ 204,000. Although the major outlet for wapiti velvet has been Korea, buyers from Hong Kong and ethnic markets within Canada will easily absorb velvet antler produced during the early development of the industry. The major constraint is the lack of a 'marketing desk' where velvet can be pooled and sold in bulk to buyers who normally require quantities of at least one tonne.

Land base and range productivity

Most of northern Alberta, Saskatchewan, northern British Columbia, Manitoba, and the subarctic of the Northwest Territories and Yukon are covered by aspen-dominated parkland and boreal forest, some of which has served for livestock grazing, marginal agriculture, fur trapping, sport hunting, and forestry. Although northern landscapes could be used for wildlife production, most jurisdictions restrict commercial operations to private lands in the agricultural zone. The agricultural area which holds the greatest promise for game production covers about 820,000 km² (Fig. 13.2).

The boreal forest, aspen parkland, and prairie are best described as a continuum. In the southern parkland, prairie grasslands predominate. Aspen (*Populus tremuloides*) and balsam poplar (*P. balsamifera*) become increasing important components of the canopy as the proportion of meadows decreases with increasing latitude. Coniferous trees, primarily white spruce (*Picea glauca*), black spruce (*P. mariana*), and jackpine (*Pinus banksiana*), increase with latitude, dominating boreal forests in the subarctic. Meadows are scattered throughout the boreal forest and are particularly well developed in the Slave River Lowlands and the Peace/Athabasca Delta. Without perturbations, such as flooding, clearing, and fire, meadows are colonised by woody species and commonly succeed to forest (Rowe & Scotter, 1973).

Production of native forage in the parkland and boreal forest is generally high (Table 13.2). However, production varies widely in response to a number of environmental conditions such as thermal radiation, moisture, fertility, and plant community composition. Nutritional quality of forage is an important criterion of range carrying capacity. During winter, forage digestibility is marginally adequate for maintenance as a result of lower protein (5–8%) and dry matter digestibility (27–45%) (Renecker, 1987). However, the growth pulse during spring and summer, although brief, is sufficiently high (protein content of 20–30%; dry matter digestibility of 70–77%) to support rapid growth and fattening of native ungulates (Renecker, 1987).

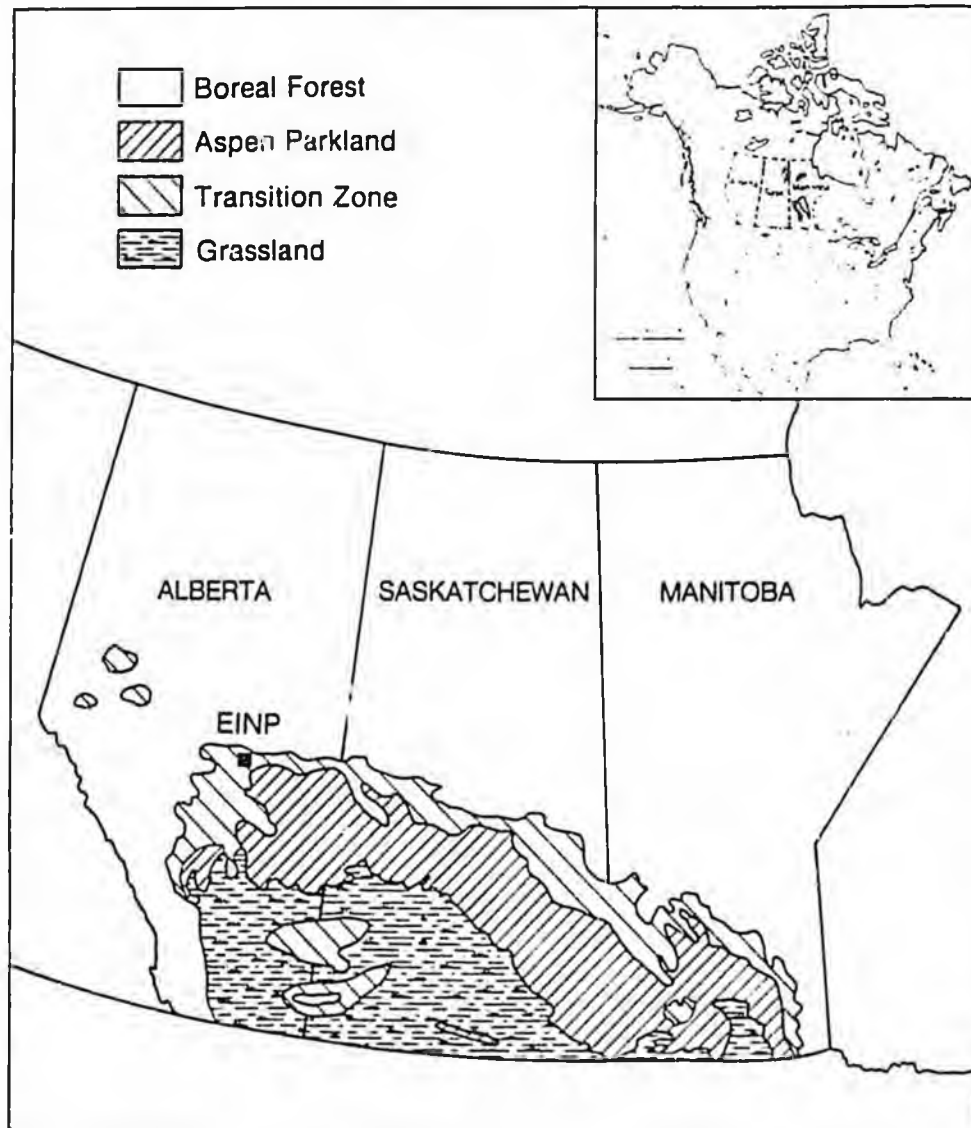
Productivity

Records of early fur traders and explorers describe an abundance of ungulates in the western interior. The journals of Alexander Mackenzie gave an impression of the productivity of the plains in 1793:

All this country, to the south branch of the Saskatchewan, abounds in beaver, moose-deer, fallow deer, elks, bears, buffaloes,

In 1869, Issac Cowie (Ogilvie, 1979) recorded an encounter with one of the last large herds of bison:

Fig. 13.2. Vegetation zones of western Canada, according to Zoltai (1975).



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Based on range areas and carrying capacities, pristine populations of perhaps 60 million bison and 10 million wapiti have been estimated (Seton, 1974). The best information on the dynamics of this grazing ecosystem came from the 80-year history of Elk Island National Park.

Stocking and harvests

Since their introduction, in 1907, plains bison have remained the dominant herbivore at Elk Island followed by wapiti, moose, and deer (Fig. 13.3, Table 13.3). The live ungulate biomass has varied widely around a long-term average of 58 kg/hectare. Although the carrying capacity for bison is high at Elk Island (8/km², 36 kg/hectare), it can be increased ten-fold with supplemental feeding and pasture management. Similarly, stocking rates of wapiti under intense management on private farms can exceed 375 kg/hectare (250/km²).

Table 13.2. Available biomass of forage in habitats utilised by native herbivores.

Habitat	Peak biomass (kg/hectare)	Reference
Boreal-Parkland transition		
Wet meadows	948-2,640	Telfer & Scotter (1975)
Mesic meadows	516-1,298	Telfer & Scotter (1975)
Upland meadows	861	Telfer & Scotter (1975)
Grassland-snowberry	1,082	Renecker & Hudson (1986a)
Aspen forest	1,590	Renecker & Hudson (1986a)
Willow-sedge	3,523	Renecker & Hudson (1986a)
Scrub-poplar grassland	2,322	Renecker & Hudson (1986a)
Open parkland		
Rough fescue grassland	1,207	Bailey & Wroe (1974)
Mixed-wood boreal forest		
Aspen-cranberry	390	Renecker (personal communication)
Aspen-spruce-bearberry	570	Renecker (personal communication)
Boreal forest		
Wet sedge meadow	2,090	Bailey & Penner (1973)
Dry sedge meadow	516-1,316	Gates (personal communication)
Willow sedge savanna	278-650	Gates (personal communication)
Spruce forest	199	Gates (personal communication)
Dwarf birch-willow bog	336	Gates (personal communication)

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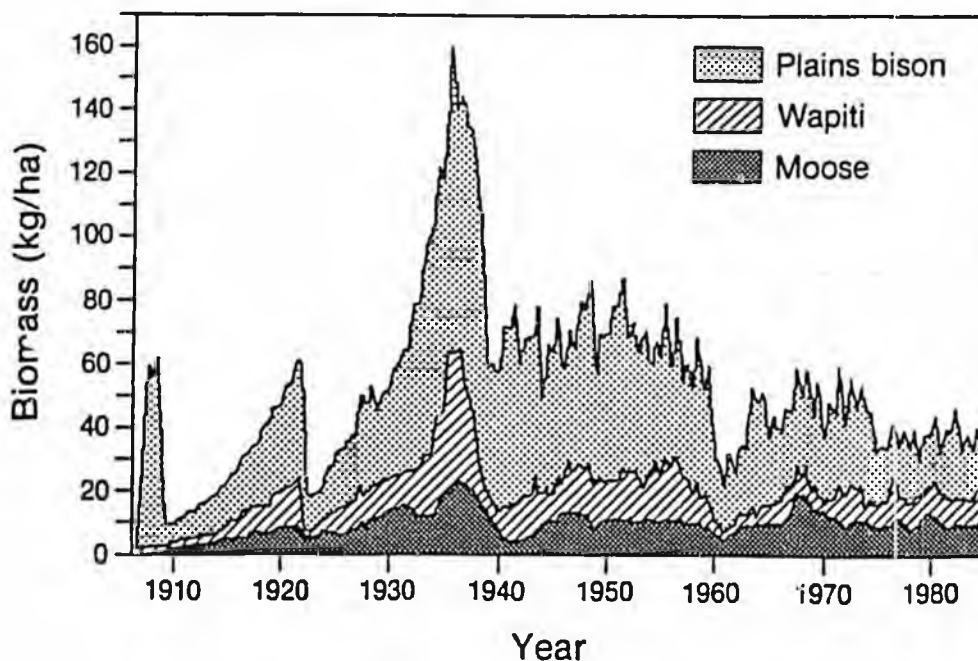
Removals by slaughter and live capture has totalled 17,679 animals since 1907. Although the first harvest occurred in 1928, regular annual harvests to control populations did not begin until 1935. Average harvests from this time until 1960 were slightly over 14 kg/hectare. After major reduction campaigns

Table 13.3. Average carrying capacity and productivity in the northern portion of Elk Island National Park, 1907-85.^a

Species	Herd size (animals)	Density (animals/hectare)	Biomass (kg/hectare)	Herd increment (%/year)	Annual harvest (kg/hectare)
Plains bison	840	0.082	35.6	17.4	5.5
Moose	127	0.029	8.8	—	0.9
Wapiti	511	0.05	12.2	19.1	1.5
Mule deer	118	0.016	0.8	3.8	0.0
White-tailed deer	63	0.005	0.3	46.7	0.02
Total	1,659	0.18	57.7	—	7.92

^aCurrent area 11,000 hectares.

Fig. 13.3. Liveweight biomass of plains bison, wapiti, and moose at Elk Island National Park (drawn as proportion of total biomass).



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in 1959/60, the annual harvest required to control the new lower population was almost half that required during the previous 25 years, averaging 7.3 kg/hectare on a liveweight basis.

These empirical results are close to predictions by conventional stocking calculations and linear programming. Telfer & Scotter (1975) estimated the carrying capacity to be 54 kg/hectare with a sustained yield of 11 kg/hectare/year. Hudson & Blyth (1986) used linear programming to explore optimal stocking patterns which would maximise forage utilisation and sustained yield. The analysis indicated that annual sustained productivity could be increased from 9.4 to 14 kg/hectare by increasing the proportion of grassland and maintaining populations of 14 bison, 8 wapiti, and 2.8 moose/km².

The problem with such calculations is that they do not account for density-dependence. To correct this deficiency, Blyth (1989) used time series analysis to obtain empirical estimates of *K* (density at which population growth = 0) and more importantly MSY (equilibrium density at which maximum sustained yield is achieved) based on 80 years of data from Elk Island (Table 13.4). The high stocking rates can be attributed to the ecological adaptations and dietary specialisation of these ungulates. Although maximum stocking rate and production can be reached at ecological carrying capacity where plant succession reaches a balance with animal density, because of public pressure for pristine systems, EINP has been managed at or below MSY.

Growth and meat yields

Routine winter slaughters and roundups at Elk Island have provided a great deal of information on growth (Fig. 13.4). Sex differences in the weights of plains bison become pronounced after 3.5 years of age. With pasture management and supplemental feeding, growth rates are higher with

Table 13.4. Maximum sustained yields (MSY), equilibrium densities (*K*), and ecological carrying capacities for Elk Island National Park.^a

Species	Maximum sustained yield (no./km ²)	Equilibrium density (no./km ²)	Ecological carrying capacity (no./km ²)
Plains bison	2.5	12.0	19.0
Wood bison	1.0	5.0	6.0
Wapiti	2.4	7.0	10.0
Moose	0.8	2.8	5.3

^aData for most recent representative time period (Blyth, 1989).

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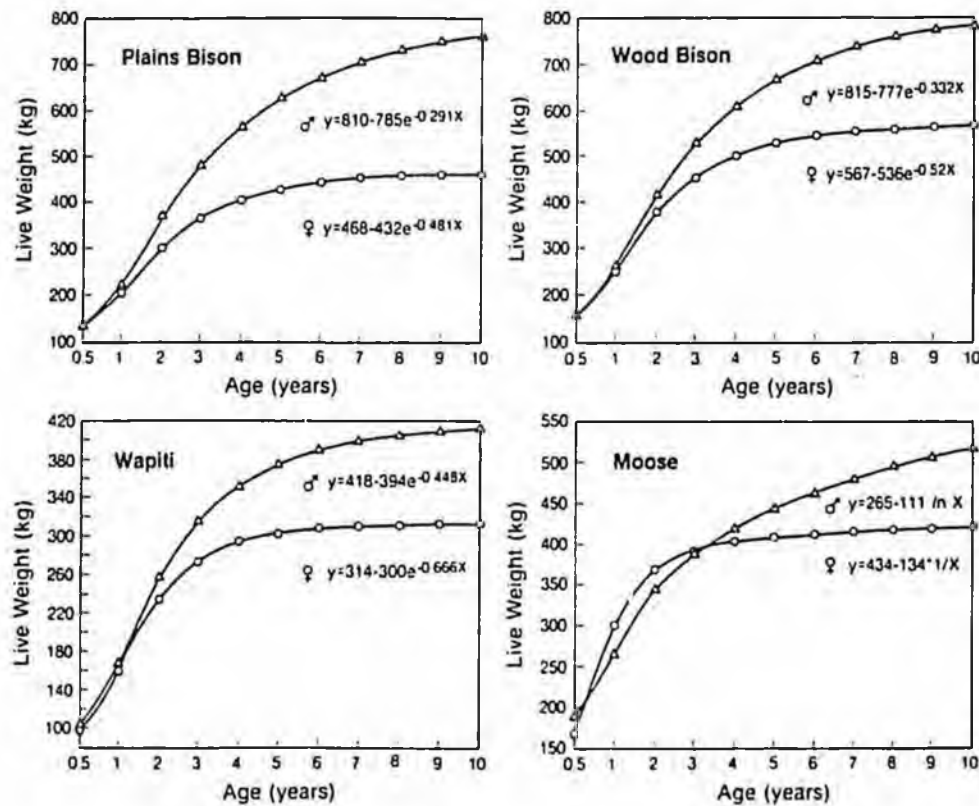
males and females reaching 730 kg and 635 kg, respectively, at 2.5 years of age (S. Biewald, Alexco Foods Ltd, personal communication).

At maturity, female wood bison are larger than female plains bison, but mature weights of males are similar. Wood bison from the Mackenzie Bison Sanctuary in the Northwest Territories had dressed weights which were 54% of liveweights (Gates, personal communication) and 18% higher than carcass weights reported by Halloran (1960) for plains bison.

Wapiti at Elk Island are large relative to other populations of the Rocky Mountain subspecies (Peek, 1982; Blyth, 1989). Dressed weights of males approach 60% of liveweight (Renecker, personal communication). Smith (1973) found that yield of retail meat cuts was 54% of the field dressed weight for wapiti shot by hunters. However, when animals were slaughtered under controlled conditions, the total yield of commercial meat cuts (European style) is 78–81% of the dressed carcass (Renecker, personal communication).

Records of moose weights at Elk Island are incomplete and do not follow a smooth curve, which may reflect some environmental influence upon indi-

Fig. 13.4. Growth curves for ungulates at Elk Island National Park.



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vidual cohorts. Dressing percentages have varied from 47% (Blyth, 1981) to 50% (Blood, McGillis & Lovass, 1967).

Technology and management

Infrastructure

Legislation governing game ranching has evolved as new technology has developed. Initially, the Alberta government stipulated that perimeter fences must be of 9-gauge wire netting at least 2.1 m high, with 15 cm mesh and with wooden posts spaced at 4 m intervals. Such high fencing standards were considered necessary to withstand challenges from bison, wapiti, and moose, especially when animals are first introduced or during the rut. However, with adequate feed and appropriate management of breeding groups, fences are seldom tested by farm-bred stock and standards can be relaxed with substantial reductions in development costs (Table 13.5). Provincial governments in western Canada have since relaxed these requirements acknowledging the effectiveness of lighter high tensile netting.

Adequate yard construction is costly, but the benefits are justified. Handling facilities for bison consist of a working alley of several stanchions separated by sliding gates and with one side hinged for quick release of excited animals. Squeezes constructed for bison are necessarily larger and stronger than those for cattle and are equipped with a stop gate.

Handling facilities for wapiti can be of lighter construction. Animals are sorted using a round drafting corral into small holding pens with 2.4 m walls of vertical boards. They can be moved singly into the crush which has a drop-floor and side panels made of either foam or plywood.

Range management

Knowledge of habitat and forage preferences is fundamental for evaluating stocking rates on extensive properties. For plains bison, sedges and grasses comprise the majority of the diet throughout the year. In spring and summer, browse (primarily willow) is a major component of wood bison diets in the Mackenzie Sanctuary suggesting diet diversification when forage quality is high. However, wood bison depend largely on sedge during winter periods (96% of wood bison diet in the Mackenzie Bison Sanctuary) (Gates, personal communication).

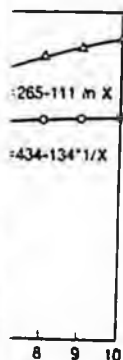
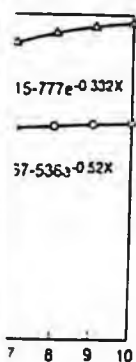
Wapiti are mixed feeders and show greater versatility than bison. In winter, wapiti may include more than 60% browse in their diet; however, during early spring foraging shifts to green growth in sedge meadows and finally forbs and leaves predominate in diets of late spring and summer (Gates & Hudson, 1981, 1983; Nietfeld, 1983). In autumn when forage quality declines

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with plant senescence, wapiti concentrate on leaf litter which can comprise almost 60% of their diet (Nietfeld, 1983). When snow conditions during winter permit, wapiti crater for fine grasses, legumes, and leaves. As snow deepens and available biomass is reduced, woody twigs become increasingly important.

The staple winter foods of moose are woody twigs but dependence on bark increases during early spring (Cairns, 1976; Renecker, 1987). During spring and summer, moose increase intake to about 10 kg dry matter/day by stripping leaves from trees and shrubs (Renecker & Hudson, 1985) and increase their selectivity for green leaves and forbs during autumn when variation in forage quality is greatest (Renecker & Hudson, 1986a). Although moose are extremely cold tolerant they are easily heat stressed and rely

Table 13.5. Specifications and costs of game fencing.

Materials	Specifications			Cost (US\$/km)
	Mesh dimensions (cm)	Smooth wire spacings (cm)	Height (m)	
Perimeter fence				
9 gauge wire netting (Watchman)	15	—	2.1	6,800
12 gauge netting (1.9-2.0 m high) plus 2-wire electric	5-20	20	2.4	3,800
15-wire electric	—	5-20	2.4	2,500
Race fence				
12 gauge netting (2.0 m high) plus 4-wire electric	5-20	20	2.8	3,400
Subdivisional fence				
12 gauge netting (1.2 m high) plus 4-wire electric	5-20	20	2.0	2,300
12 gauge netting plus 1-wire electric offset 30 cm on outrigger	5-20	—	1.9	2,700
15-wire electrified (wood posts every 12 m and 2.4 m fibreglass stays every 3.7 m)	—	5-20	2.4	2,300

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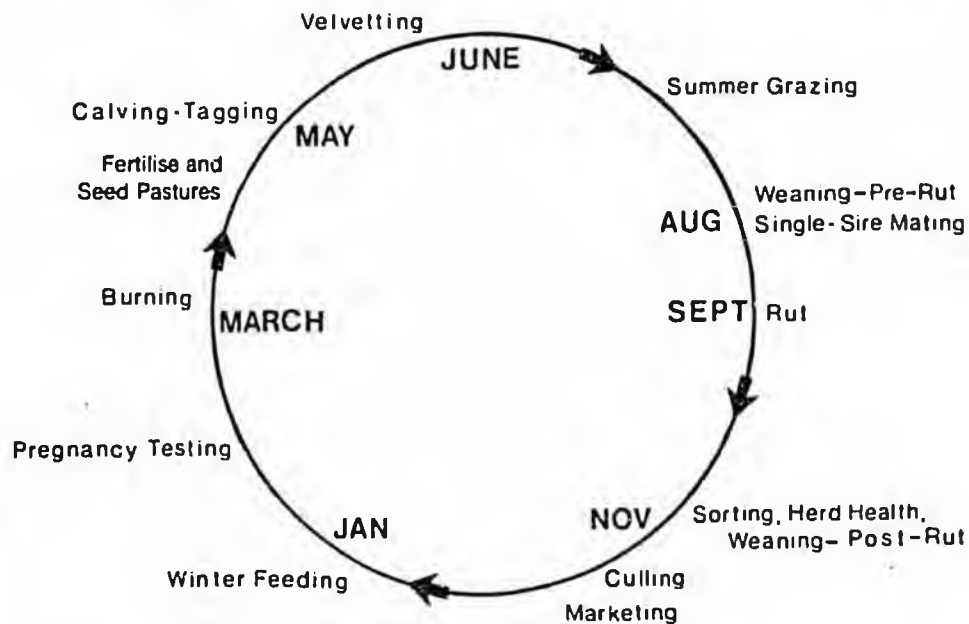
There are benefits to hastening the flush of plant growth in spring. Fire can be used as a tool to remove litter from meadows, topkill shrubs and trees, remove decadent growth, maintain the browse supply, and to recycle nutrients (Wright & Bailey, 1982). Similarly, fire can be combined with herbicide spray programme to reduce forest cover and expand grasslands. However, use of fire is controlled both provincially and regionally in western Canada and may be restricted when forest fire hazards are high.

Husbandry

The cycle of management of a representative commercial game enterprise based on wapiti and bison is illustrated in Fig. 13.5. Calving occurs between mid May and early June for both bison and wapiti. Government regulations in Alberta require that wapiti calves be tagged and registered within 30 days of birth. Hinds are usually placed in small pastures prior to parturition for close observation, protection from predators, and habituation to humans.

Velvet antlers are removed from wapiti stags in early June using methods described by Denholm (1979). Until recently veterinarians have been constrained by lack of a suitable antagonist for xylazine, the general sedative-

Fig. 13.5. Management calendar for a bison-wapiti game ranch or farm.



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analgesic used in the procedure. Recent studies have shown that a combination of yohimbine and 4-aminopyridine is an effective antagonist for xylazine, eliminating problems of prolonged recumbency (Renecker & Olsen, 1986a,b).

There is a controversy of whether to wean wapiti before or after the rut. The advantages of pre-rut weaning in early September are that high-quality forage is readily available. Climatic conditions are usually less favourable when animals are weaned in November which can result in static body growth. On the other hand, if calves remain with the hinds during the autumn rut they learn the location of supplementary winter feed. For bison, the rut begins in mid July when forage production and quality are high. Generally, bison calves are not weaned until the autumn roundup.

As stocking rates increase on intensive operations, supplementary winter feeding is necessary. A feeding programme usually begins in November and can be used to train stock to move into corrals for handling. For wapiti, a combination of alfalfa and whole oats provides an adequate winter ration. Generally, mature wapiti hinds consume 4.5–6.6 kg dry matter/day of alfalfa during winter (Renecker, personal communication). Bison are less selective grazers and can best utilise grass hay supplements. Overwinter loss of perhaps 10% of bodyweight is advisable to capitalise on compensatory gains in spring and to minimise calving difficulties.

Production and economics

Investment and production costs

Only government agencies, community projects, and native groups possess the land base to effectively exploit the extensive management option. Most private operators begin with small parcels of land which meet the minimum government requirements (65 hectares prior to 1987, now 45 hectares in Alberta). To dilute financial investments, fences are usually constructed around 8–20 hectare parcels, the area is fully stocked, and intensive management practices are employed. These operations can expand as a positive cash flow is realised.

Capital investments for game are similar to those of conventional livestock enterprises, but variable costs of production are comparatively low (Table 13.6). Under circumstances where beef is produced at US\$ 1.24/kg, cash costs of production may be US\$ 0.94/kg for bison and US\$ 0.86/kg for wapiti.

Product values

Commercial markets already exist for breeding stock, velvet antlers, meat, and other by-products. Because of limited supply, current prices

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Table 13.6. Representative budget for a wapiti ranch which would encompass 240 hectares when the maximum breeding population is reached.

Item	Cost (US\$)
Capital investment	
Over 8-year period	
Land (@ US\$ 400/hectare)	104,000
Boundary fence	38,000
Yards	8,800
Internal fence	19,000
In year 1 only	
Machinery	
(tractor, front end loader, ATC, truck, trailer, etc.)	30,000
Crush	2,200
Electronic scale	3,000
Breeding stock	
5 mature stags (@ US\$ 3,330)	16,650
45 mature hinds (@ US\$ 2,590)	116,550
Annual variable costs at enterprise maturity	
Velvet antler removal (@ US\$ 22/animal)	3,030
Herd health (@ US\$ 7.4/animals)	4,820
Sorting, culling, etc. (@ US\$ 7.4/animal)	4,880
Supplemental feed	22,940
Fuel, oil, grease, equipment maintenance utilities, taxes	2,370
Pasture management (@ US\$ 14.8/hectare)	3,850
Annual fixed costs at enterprise maturity	
Principal plus interest (20% down payment; loan for 30 year period @ 10.75% interest)	24,617
Depreciation (enterprise maturity)	6,000
Total fixed plus variable costs	72,507
Annual returns at enterprise maturity	
Velvet antler sales (400 kg Super A Grade @ US\$ 92/kg)	36,800
Live animal sales (112 yearlings @ US\$ 2,220)	246,400
Meat sales (culled and surplus stock; 18,485 kg @ US\$ 4.70/kg)	86,880
Total returns	370,080
Annual balance sheet summary at enterprise maturity	
Cash inflow	370,080
Cash outflow (fixed plus variable costs)	72,507
Net profit	297,553

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for breeding stock are high, ranging from US\$ 3330–8600 for mature wapiti stags and US\$ 2590–4700 for mature hinds. Bison bulls are valued at about US\$ 1440 and cows between US\$ 1100–1800.

Both export and domestic markets are strong. New Zealand has been the primary buyer of Canadian wapiti but increasingly animals are being redistributed to meet a growing local demand. A strong domestic market also exists for bison. With renewed interest and a higher price for leaner meats, producers are scrambling to obtain breeding stock, inevitably inflating its value.

Velvet antlers from wapiti stags provide a major source of revenue. However, yields vary widely with both age and plane of nutrition. Stags pastured on native range and offered no supplementary feed will produce approximately one kilogram of velvet antlers at one year of age. Production tends to increase at a rate of one additional kilogram/year until the stag is 8 years old when production remains static or declines marginally. However, with supplemental feeding, production can be increased to at least 1.5–1.75 kg as a yearling with an additional 1.5–1.75 kg of production each year until the animal is 8 years old when production decreases. If harvested at precisely the right time in early June, a mature stag can produce velvet antler valued at US\$ 740.

Ultimately, the industry depends upon the sale of meat. In Saskatchewan, Quebec, and Ontario, the only provinces permitting slaughter of farmed wapiti, the live weight and carcass values of wapiti are US\$ 4.75/kg and US\$ 11.10/kg, respectively. Currently, bison are sold on domestic markets for twice the price of beef (US\$ 2.10/kg live weight and US\$ 4.90/kg carcass weight). Export opportunities exist but the product must be in stable supply and consistent in quality if interest is to be maintained. Because of constraints on meat quality and hygiene required by the European Economic Community, it is doubtful whether field slaughter could be permitted for meat destined for export.

Although hunting of ranched game generally is prohibited, on several Indian and Metis Settlements hunters can purchase a bison hunt. The head and cape are valued at US\$ 3500. Traditional activities of Indian and Metis people, such as horse-back riding, guiding, and camping can be combined to provide spin-off benefits of US\$ 2400/package.

Implications

The main goals of commercial game production are to diversify animal agriculture, to offer a culturally consistent livelihood for native people, and to encourage landscape conservation. At a time when the

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profitability of conventional crop and livestock production in Canada is declining, the combination of low operating costs and high value of bison and wapiti presents a new opportunity for farm diversification. Game ranching offers more efficient use of marginal lands and opens new market opportunities.

Native people are important potential beneficiaries. In a recent report (DIAND, 1984), the Canadian Department of Internal Affairs and Northern Development expressed concern about rising costs of access to fish and game resources for many native people in the Northwest Territories. The report noted a decline in reliance on game and fish resources related to the high cost of harvesting in terms of both capital outlay and operating costs. One of the suggested remedial measures was to develop alternative food production technologies suited to the northern environment. Game production ranks high among alternative technologies which could contribute to regional self-sufficiency and which would be consistent with traditional native lifestyles.

The most controversial aspect of game production is its environmental impact. Hard-fought debates have raged between those who perceive game ranching as an environmentally sensible agricultural alternative, and those who predict the destruction of wilderness values and loss of hunting opportunities. Although game ranching may provide a tangible benefit for private landowners who apply conservation principles to their properties, there is fear that this will be counterbalanced by poaching if the sale of game meat is permitted (Geist, 1985). On the other hand, the constant supply of venison into the marketplace and stringent processing regulations may reduce the incentive to market poached meat (Renecker & Kozak, 1987).

As this new industry develops, the welfare of wild species on commercial operations will come under greater public scrutiny. Procedures such as capture, mechanical restraint, chemical immobilisation, and velvet antler removal will be questioned. For the industry to develop with strong public support, considerable emphasis must be placed on animal welfare. For this reason, provincial game producer associations have developed Codes of Ethics which function as guidelines for the new industry.

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Dr. Wood

Revised

A RESOLUTION RELATING TO THE ESTABLISHMENT OF A COMPREHENSIVE AND PROGRESSIVE POLICY OF GAME AND HABITAT ENHANCEMENT FOR THE STATE OF ALASKA.

GOAL: DEVELOPMENT OF A WRITTEN PLAN FOR THE LONG RANGE MAXIMUM UTILIZATION OF ALASKA'S NATURAL GAME AND HABITAT RESOURCES WITH THE CONCURRENT ENHANCEMENT AND PROTECTION OF OTHER RESOURCE VALUES.

WHEREAS without a working State of Alaska policy which is clearly defined and supported by the people of Alaska, by the Legislature and by the Governor, little progress will be made toward an economically worthwhile program of game and habitat enhancement in Alaska; and

WHEREAS the people of Alaska generally lack the knowledge of the economic and esthetic benefits of a wise game and habitat enhancement program commonly applied in other nations throughout the world; and

WHEREAS the full potential of the wildlife resource in Alaska has not been realized; and

WHEREAS modern methods of habitat enhancement such as wildfire management are not being used to their highest potential; and

WHEREAS game and habitat enhancement can promote economic development and future well being for all Alaskans; and

WHEREAS Alaska has fallen behind other states and nations of the world in optimizing game and habitat enhancement opportunities; and

WHEREAS active terrestrial game and habitat enhancement programs have been neglected while fisheries enhancement programs have demonstrated a profound economic success.

WHEREAS Alaska provides a unique opportunity with the establishment of large tracts of privately owned land with excellent game and habitat opportunities; and

WHEREAS Alaska now produces far less game than enhanced habitat is potentially capable of supporting and does not realize the full potential of modern active management techniques promoting the wise use of the renewable base. This includes but is not limited to; habitat enhancement, game ranching or herding, fur farming, consumer and subsistence food and fur needs, industrial raw materials and aesthetic products at competitive prices on the world market.

WHEREAS Alaska has a minimum of 220 million acres of land capable of supporting game and habitat management programs. The land includes 44 million acres owned by Alaska Natives and 104 million acres owned by the State of Alaska.

WHEREAS there has been a failure to coordinate within the State and between the State and federal government, programs and policies regarding game and habitat enhancement.

BE IT RESOLVED by the Alaska State Legislature that the State of Alaska hereby commits to a policy of game and habitat enhancement that encourages and promotes the wise use of Alaska's renewable resources including, but not limited to the following actions:

(1) The State of Alaska shall promptly determine the most expedient means to promote game and habitat management programs.

(2) The State of Alaska shall identify and remedy current State statutory and regulatory barriers to game and habitat enhancement.

(3) The State of Alaska shall actively assist in the planning and development and when appropriate, in the financing of game and habitat enhancement programs.

(4) State of Alaska agencies shall work closely with private and Native land owners and with federal land owners to cooperatively stimulate game and habitat enhancement programs and to provide for the processing and marketing of game as a result of these programs.

(5) The State of Alaska, in cooperation with educational entities within the State shall develop an information and education program designed to inform and involve the public about the benefits and potential of game and habitat enhancement.

(6) The Legislature, in cooperation with the Governor, shall establish a task force, composed of representatives of forestry, game management, agriculture, business, and consumer interests, which shall be responsible for the study of legislative options for implementing the policies enunciated in this resolution.

THE GAME GROWER

NEWSLETTER OF THE
ALBERTA GAME GROWERS' ASSOCIATION

VOLUME 2 NO. 1

April, 1986

ABOUT THIS ISSUE

The purpose of this news letter is to inform members about key issues in the new industry of game ranching. Articles will emphasize animal husbandry, management ideas, markets and prices, membership drives, executive matters, upcoming field days and meetings and arguments which support the business of game ranching. We will attempt to deal with all species of interest, as information becomes available. Comments, suggestions and contributions are most certainly welcome.

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BUSINESS

2

INFORMATION FROM THE PRESIDENT

The Alberta Game Growers Association held their inaugural meeting in Lethbridge, Alberta from October 31st to November 2nd, 1985. Organization of this meeting to form the Association was through the prime direction of Mr. Gordon Sherman and Mr. Judd Bunnage. At this meeting there was a number of speakers providing information on subjects such as status of game ranching legislation, research and animal productivity studies, fencing requirements for game farms, marketing and an update on the New Zealand scene.

During the business meeting, the purpose of the Association was established and a board of directors were elected. The primary motive for the formation of the organization was to unite game producers in Alberta such as to form an active, official lobbying group promoting the betterment of game ranching in the province. The first issue of the game grower has been sent to all persons interested in game farming. For readers not registered as members of the Alberta Game Growers Association, we request that you join the Association if you wish to receive "The Gamegrower" on a regular basis and attend our occasional field day. The field day will involve a meeting at the home of a producer where a tour of his facilities, discussion on some aspect of game ranching and a social gathering will be conducted. Thus, you should consider this a complementary issue. Join now, we need your support in order to help you. An application form is attached. Complete the application below and send with \$10.00 (cheques made payable to the Alberta Game Growers Association) to:

ALBERTA GAME GROWERS ASSOCIATION
c/o Lyle Renecker
310 Ag/For Center
Department of Animal Science
University of Alberta,
Edmonton, Alberta T6G 2P5

During the November meeting, a Board of Directors was elected and a president and secretary/treasure appointed. These persons are:

President: Lyle Renecker

Secretary/Treasure: Judd Bunnage

Board of Directors: Gordon Sherman
Ken Jones
Dr. Gordon Godkin
Walter Jerram
Frank Crawford

Mr. Bunnage and myself have assembled a constitution for the Association. I have attached a copy to this newsletter and would ask everyone to read this document and suggest changes or omissions, if necessary.

APPLICATION FOR THE ALBERTA GAME GROWERS' ASSOCIATION

NAME: _____

ADDRESS: _____

CITY: _____ PROVINCE: _____

POSTAL CODE: _____ HOME TELEPHONE: _____

BUSINESS TELEPHONE: _____

ARE YOU A PRODUCER?: _____ YES; _____ NO

IF YES: WHAT STOCK DO YOU PRESENTLY POCCESS AND WHAT ARE FUTURE INTENTIONS?

IF NO: ARE YOU INTERESTED IN THE POSITIVE DEVELOPMENT OF THE NEW INDUSTRY OF GAME RANCHING?

CONSTITUTION

4

ALBERTA GAME GROWERS ASSOCIATION

BY-LAWS

1. NAME

The name of the association shall be "Alberta Game Grower's Association".

2. OBJECTIVES

The Association shall have for its objectives the promotion and growth of game farming in Alberta. Game farming has the potential to become a useful and profitable agricultural enterprise. Alberta has the opportunity to become a leader in the industry. To achieve these objectives the Association shall:

- (a) be a non-profit organization of persons, firms, partnerships and corporations engaged in co-operative activities to further the improvement of game farming throughout Alberta;
- (b) promote game farming as a viable new agricultural enterprise.
- (c) provide a forum for discussion of and obtaining solutions to questions concerning game farming in Alberta.
- (d) work closely with government regulatory agencies to (achieve) recommend suitable regulations to govern the game farming industry.

3. MEMBERS

1. There shall be two classes of members:

(a) Active members: Active members shall be those individuals, partnerships, firms and companies incorporated under the laws of Canada or any Province of Canada, which individual, partnership, firm or company is or are actively engaged in the breeding of game animals, who apply for Active membership and are accepted as Active members, and who pay the prescribed admission fee who are farming game animals within the province of Alberta. Provision for Active membership is provided for residents of Alberta engaged in active research involving game ranching or lobbying for game ranching.

(b) Associate members: Individuals, partnerships, firms or corporations may, upon application and acceptance of the Board of Directors, and upon payment of the prescribed admission fee, become Associate members but such Associate members shall not be entitled to vote and shall not hold office in the Association.

4. GENERAL MEETING

(a) A general meeting of the Association (to be called "Annual Meeting") shall be held once in every calendar year at such time and place as the Board of Directors may designate. In addition to the Annual Meeting, the Board of Directors may, whenever they think fit, call a general meeting of the Association (to be called "Special Meeting") at such time and place as the Board of Directors may designate. Thirty days notice at the least, specifying the place, the day and the hour of the meeting, and in case of special business, the general nature of such business shall be given to the members of the Association but the accidental omission to give notice to any member, or the non-receipt by any member of such notice, shall not invalidate the proceedings of any general meeting. The Annual Meeting and a Special Meeting may be convened by one and the same notice. Without any special notice that such other business is to be dealt with, the business of an Annual Meeting shall be to receive and consider the report or reports of the Board of Directors, and officers, and accounts and balance sheet and the report of the auditors thereon, and the election of Directors and to consider and if thought expedient, the approval and ratification of the acts and proceedings of the Board of Directors and officers. All other business transacted at a general meeting shall be deemed special:

(b) Order of business at all general meetings shall be substantially as follows:

- 1) Identification of Active Members
- 2) Reading of minutes of Previous Meeting
- 3) Report of Officers, Directors and Committees where applicable
- 4) Correspondence, where applicable
- 5) Unfinished business, where applicable
- 6) Election of Directors, where applicable
- 7) New business, where applicable
- 8) Adjournment.

(c) Questions arising at any meeting of the Association or at any meeting of any Committee of the Association shall be decided by a majority of votes. In the case of an equality of votes, the Chairperson of the meeting, who shall ordinarily have no votes, shall cast the deciding vote. All votes at any such meeting shall be taken by a show of hands unless a ballot is demanded by any member of the Game Growers Association present, except questions to amend the constitution of the Association which are resolved by a 2/3 majority of those entitled to vote.

(d) A question of procedure at or for any meeting of the Association or any Committee of the Board, which has not been provided for in these By-laws shall be determined in accordance with Robert's Rules of Order.

5. BOARD OF DIRECTORS

(a) The Board of Directors shall have complete power to admit applicants to membership in the Association and the decision of the Board of Directors in that regard shall be final.

(b) The Board of Directors shall have the power to suspend or expel any member who fails to observe any rule or regulation set forth in these By-laws or whose conduct is, in the opinion of the Board, prejudicial to the interests of the Association. A member so suspended or expelled shall, after the expiration of sixty (60) days, have the right to apply to the Board of Directors for reinstatement and may be reinstated at the next meeting of the Board, provided, two-thirds majority of the members of the Board of Directors present thereat vote in favour of such reinstatement. If the Board of Directors refuses to reinstate a person suspended or expelled from membership, such person shall have the right to apply for reinstatement to the next succeeding general meeting of the Association, but reinstatement by general meeting shall be only a vote of two-thirds of the members of the Association present thereat and entitled to vote. No special notice of such an application need be sent to members of the Association and it shall not be deemed to be special business.

(c) The affairs of the Association shall be managed and conducted by a Board of Directors who shall be Alberta residents (Canadian citizens) and who shall be elected by ballot at the Annual Meeting of the Association as follows:

- Two (2) Directors for a 3 year term
- Two (2) Directors for a 2 year term
- Two (2) Directors for a 1 year term.

All directors elected after 1985 shall hold office for a term of three years.

(d) The Board of Directors may delegate any of their powers to Executive Committee.

6. EXECUTIVE COMMITTEE

(a) The Executive Committee shall be appointed by the Board of Directors from within the Board of Directors and shall consist of a Chairman and a Secretary Treasurer who are non-voting members of the Executive Committee.

The Chairman shall:

- (a) be responsible for calling and shall preside at all meetings of the Association;
- (b) be an ex-officio member of all committees without a vote, unless he is specifically planned as a member of that committee;

- c) report to each Annual meeting concerning the operation of the Association;
- (d) be the official spokesperson of the Association;
- (e) carry out such other duties as may be assigned to him by the Association.

The Secretary-Treasurer shall:

- (a) ensure the safe keeping and control of all securities, funds and financial records;
- (b) cause to be prepared and present to the Association an annual budget;
- (c) cause to be prepared and present an Annual report to the Association showing the financial position of the Association, the results of the yearly operation of the Association and any such financial reports which the Association may from time to time require;
- (d) cause to be prepared and present to the Association at each of its regular meetings, a financial statement including financial holdings and transactions of the Association, and such other reports for the preceding months as will enable the Association to judge the activity of the Association;
- (e) in consultation with the Chairman, prepare and distribute the Agenda for each meeting of Association and of the Executive Committee;
- (f) provide such notice as required in these By-laws of all meetings of the Association and of the Executive Committee;
- (g) maintain an attendance record of those attending all meetings of the Association and of the Executive Committee;
- (h) be responsible for the preparation and distribution of the minutes of all meetings of the Association and of the Executive Committee;
- (i) conduct correspondence as directed by the Association;
- (j) be responsible for the safe keeping of the Seal and all minutes, records and documents of the Association;
- (k) perform any other related duties assigned by the Association.

The Executive Committee shall:

- (a) in an emergency, exercise the powers of the Association, but its powers in this respect may not be exercised in conflict with any expressed or established policies of the Association;
- (b) report in detail to the Association at its next meetings on any exercise of emergency power;
- (c) make recommendations to the Association on the goals, objectives and priorities;
- (d) establish methods, including the review of utilization data, for monitoring the effectiveness of all programs and services;
- (e) perform such other tasks as the Association might direct.

7. ANNUAL DUES

- (a) The Board of Directors may determine from time to time the amount of the initiation fee, if any, and the annual dues payable to the Association by members.
- (b) The annual membership shall run from Jan. 1 to Dec. 31 of each calendar year.

8. CONSTITUTIONAL AMENDMENTS

This constitution may be amended by extraordinary resolution at any annual or special meeting of the Association by affirmative vote of three-quarters of the members present. Notice of all proposed amendments shall be given to the Secretary in writing sixty (60) days in advance of a general meeting (unless a spontaneous call for amendments from the floor by a majority of the Board of Directors is made) and they shall be included in the notice calling such meetings, otherwise they should have no power to deal with same.

This By-law may be amended after written notice is given at any regular meeting of the Council. Such notice shall contain the content and the rationales of the proposed amendment, and shall be tabled until the next regular meeting. An amendment shall require an affirmative vote by two-thirds of the members for adoption.

9. BANKING

The Association, from time to time, shall designate (a) chartered bank(s) or (a) credits union(s) in which the funds of the Association are to be kept on deposit, and may authorize the opening of such accounts as may be necessary. The president and the secretary shall have access to these funds.

NEW ZEALAND DEER FARMING

TERRY HAYWARD

Regional Development Branch, Agriculture Canada

The New Zealand deer farming industry is 15 years old now, however, the seeds for it were sown in 1851 when the first deer were imported.

New Zealand has no native mammals except for a species of bat. Early settlers first introduced deer to develop a local food supply and later to develop a sport hunting industry. By 1920, the deer at large in New Zealand were declared a noxious animal. Efforts over the next 30 years were aimed at controlling and reducing the New Zealand deer population. By 1950, a turning point was reached as it became financially worthwhile to recover deer carcasses and export the venison.

In 1970, the first deer farming licenses were issued and by 1975, exports of venison dropped of as live sales, for captured deer, to farmers netted better returns.

From the first deer farm established in 1970, there are now an estimated 2,500+ farms holding upwards of 500,000 deer with very active national and local deer farming associations. In the early 1970's, the few pioneer deer farmers were being watched while they learned the techniques necessary to habituate wild deer. Over the years, the systems have been studied, learned and basically understood. To those early New Zealand deer farmers have come the financial rewards. For them, there was little information from research, less from advisory services and much scepticism from financiers and fellow farmers, a situation not unlike that being experienced in Canada today.

For those interested in following the news from New Zealand on advances in deer farming, you may contact:

New Zealand Deer Farming Association
Box 2678,
Wellington, New Zealand.

This organization puts out an informative magazine titled, "The Deer Farmer", which is only available through subscription to the above address.

The New Zealand deer farming scene is vastly different from the Canadian situation, however, work done in New Zealand over the last decade may point out beneficial shortcuts to our own industry as it evolves.

GAME RANCHING IN THE NORTHWEST TERRITORIES

TERRY HAYWARD

Regional Development Branch, Agriculture Canada

Interest in game ranching in the Northwest Territories, while not widespread, covers reindeer, muskox, caribou and bison.

REINDEER

The Canadian Reindeer Company of Tuktoyaktuk manages between 12,000-15,000 animals. These animals are the result of a seed herd of 2,370 animals that came from Alaska in March, 1935. They were delivered to the then, newly established, Reindeer Grazing Reserve located in the Mackenzie Delta. The reindeer importation was conceived to supplement the dwindling wildlife of the Canadian Arctic, and to improve the economic conditions of the natives. The original policy was to keep a government-owned nucleus from which additional units could be obtained and put under Eskimo management. Over the herd's 50 year history, it has been returned to federal government control for a variety of reasons. In March, 1974, the herd was again sold to private concerns and now belongs to the Canadian Reindeer Company. This company has worked diligently over the past decade in establishing a herd management program, federally inspected slaughter facilities and marketing programs for meat and live animals south of the 60th parallel.

MUSKOX-CARIBOU

The Inuvialuit Development Corporation (IDC) of Inuvik is a native corporation that, this year, conducted a muskox slaughter with federal meat inspectors on hand. The IDC conducted this slaughter firstly to provide inspected muskox meat for the N.W.T. pavillion at Expo 86 and secondly to assess the possibility of future commercialization of this natural resource of the high Arctic. The IDC is also interested in caribou harvesting on a commercial basis, and is presently studying this.

BISON

Recent interest in establishing a wood bison ranch has been expressed by groups in the Fort Smith area. At the present time, it is understood that all plans to pursue this ranch are on hold for a variety of reasons.

Expansion of game ranching/farming in the N.W.T. may be limited in the future to the existing operations as opposed to new entrants into this industry.

GAME FARMING IN THE YUKON

TERRY HAYWARD

Regional Development Branch, Agriculture Canada

The year of 1985 saw the establishment of the first game farm in the Yukon. Mr. D. Nolan of Whitehorse established the Yukon Game Farm and stocked it with 30 elk from southern Alberta. These animals complimented the two elk, 3 moose and numerous dall sheep already resident on Mr. Nolan's farm.

Mr. Nolan's interest in game spans many years. His enthusiasm has prompted others to consider game farming as a natural direction in the agricultural development presently underway in the Yukon. However, availability of land and capital, in the Yukon, are two major stumbling blocks to further game farming units being set up. Nevertheless, interest remains high.

Initially, Mr. Nolan was assisted in establishing his elk herd with a grant provided under the Canada/Yukon Economic Development Agreement. The grant committee viewed the Yukon Game Farm as being able to provide short and long term economic opportunities in the area of tourism, production of stock for domestic and export sales, velvet production, providing animals for relocation in areas where wild stock is approaching depletion and red meat production.

Recently, interest has also been expressed by Yukoners in the potential establishment of reindeer herds. There will be more on this topic as information on this form of game farming becomes available. For those interested in contacting Yukoners re: game farming, it is suggested that you write to the following:

Mr. R. Filteau,
Agriculture Advisor,
Department of Renewable Resources,
P.O. Box 2703,
Whitehorse, Yukon.
Y1A 2C6

THE BISON SCENE

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NEWS FROM AGRICULTURE

JUDD BUNNAGE

Alberta Agriculture, Edmonton

I hope this letter finds everyone excited about spring and looking forward to a new season. I feel that this year may be quite important to the whole game ranching industry what with regulations just around the corner and a processing plant for bison tantalizingly close. More on those in a moment.

This past weekend I was in Winnipeg attending the annual meeting of the Canadian Buffalo Association. They had about 25 people there who seemed quite opportunistic about the future. They do need additional members to carry out some of their plans. The topics receiving the most time were marketing in general and the New Brunswick TB fiasco in particular.

The New Brunswick TB issue was really an unfortunate non-issue. The whole thing started over the discovery of TB reactors in some bison slaughtered in a herd in New Brunswick. The herd was quarantined while testing was conducted. About 12 head were subsequently found to react and the whole herd was ordered destroyed. The owner was very disturbed as you can imagine, especially when he learned that the Government was not going to give him compensation equal to beef prices. Over the protests and advice from several calmer bison producers from Ontario, this producer complained to his MP and other important political people. It was then revealed that 5 of the animals did indeed have early stages of TB (ie. evident in the visera). The animals were perfectly safe to eat, but suspecting another tuna scandal, the opposition parties dragged the Minister of Agriculture through the dirt for several days. Needless to say the public was unduly alarmed and bison meat sales plummeted for quite a while. When it was all over, it was learned that the minister had acted very properly and the meat was perfectly safe. Unfortunately, politicians and the media are not renowned for their attempts to undo the damage caused by unfair reporting. The bison industry will survive. Bison meat is too good of a product to be hurt long because of bad publicity.

Incidentally, the source of the infection has not yet been found. Two other herds, both in Ontario, have been temporarily quarantined pending further blood tests. It has also been rumored that all the herds in Canada will be ordered tested within the next two years. This is a good thing. The publicity around the announcement that all of the remaining herds in Canada are free of both TB and Brucellosis will do us more good than the New Brunswick scandal did us bad. A word of warning, if you don't have facilities to work and restrain your bison, you had better think about doing it now. Agriculture Canada will have a lot of teeth in the proposed test order. It may come down to "test or slaughter them".

I am not sure that the old saying that "no news is good news" applies in the next two items. From what I have heard, the proposed bison slaughter plant has progressed to the stage that the developer is only waiting for the banks to arrange for the transfer of the funds. We are all

keeping our fingers crossed that no new snag hold up construction any longer. The European Economic Community group have given tentative approval to the blue prints. Several European orders are pending. All we need now is the plant and more bison.

The other no news item is the failure of the equally elusive game ranching regulations to appear. They have been promised for several months now. I know the regulations exist as I saw an earlier version, however I understand they have undergone considerable changes recently. I am not sure whether the changes are positive or negative, but they at least allow for game ranching to exist although somewhat inhibited.

The final topic that I would like to address today involves reproduction in bison. From what I have been able to learn, poor calf crops were reported for a number of herds. This affected at least three other provinces as well as Northern Alberta. Most of the problems were on farms in areas that we would describe as bush farms or marginal land types. I don't think that we really know what is the cause, however I would like to propose a few ideas. We have had some tough weather, both summer and winter, for the two previous seasons. Pastures in Northern Alberta have not been in good condition. The bison, being undomesticated, reacts to nutritional stress like a wild animal. If they lack adequate food during the summer, the cows fail to come into estrus or breed. Nature has long ago taught them that if food is not available in the summer, it certainly will not get any better later on in the year, therefore to ensure that the cow will survive through the winter with a minimum of stress, the luxury of breeding is denied. We who have been raising beef cattle have kind of forgotten that we have taught the beef cow reproductive system to not worry and get pregnant anyway because winter feed will come from somewhere. Considering this theory further, it therefore becomes critical for us to provide good nutrition for the bison prior to and during the breeding season. I know of several herds that have had outstanding breeding success, and in all cases, they have had better than average pasture. The idea of reserving a good pasture for the bison to use from about June 15 to September, or several such pastures, makes a lot of sense. The sheep farmers call this flushing. I think we will have to experiment with this idea some because the bison don't like the same types of flushing pastures that sheep and cattle do. One producer turned his herd out onto an oat field but they would not eat the stuff. It may have been too rich for them. Bison don't like high protein pasture like clover or alfalfa. I suspect that a good grass pasture would be better. I plan to do some more work on this question this summer. In the meantime try to reserve some new pasture for your bison to use for the period 6 weeks prior to and during breeding season, if you can. Neither the industry nor likely you can afford another wreck like the summer of 1985.

BUFFALO (BISON) MEAT

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WHY EAT BUFFALO MEAT?

SIGFRIED BIEWALD

Dandy Food Services, Edmonton

Well for one reason, it tastes very good! If you tried Buffalo meat and did not know what you were eating, you would think it was the best tasting beef you ever ate. Buffalo meat is naturally tender and flavoured. It tastes by itself.

Unlike other meats, Buffalo does not derive its flavor from its fat. The average fat content is 2.8%, making Buffalo meat low in calories.

Buffalo meat is 25% to 30% higher in protein than beef. Since the meat is more concentrated, pound for pound you get your moneys worth.

The Buffalo (Plains) is no longer an endangered species and has been successfully raised commercially for a number of years. Due to the nature of the animal, they are handled as little as possible and spend most of their time on grass with minimal time in the feedlot.

NUTRITIVE VALUE OF BUFFALO MEAT

Buffalo meat is a prime source of many essential nutrients in our diet. It contains a high amount of B vitamins, iron and copper. It also contains a high amount of actomyosin, a compound associated with fast muscle action.

Buffalo meat is also found to be non-allergenic. Being very lean and high in nutrients, WEIHGT WATCHERS has placed Buffalo meat on their legal list.

SELECTING AND PURCHASING BUFFALO MEAT

The most common Buffalo cuts available are steaks, roasts, hamburger and stew meat.

A. Servings Per/Pound

TABLE 1. Average number of servings cut per pound of Buffalo meat.

Cut of Buffalo Meat	Number of Servings/Pound
Stew, Ground, Cubed	4
Boneless Roasts, Rib and Top Loin Roasts	3
Arm and Blade Pot Roasts, T-Bone and Rib Steaks	2
Short Ribs, Shank Cross Cuts	1 to 2

B. Grading

Buffalo meat is graded at A1, which is the top line of animal. Each carcass is inspected and certified by Federal Meat Inspectors at the packing plant.

CHARACTERISTICS OF BUFFALO MEAT

A. Beef and Buffalo Meat Comparison

TABLE 2. Comparison of the appearance and texture of Buffalo and Beef meat.

Animal Meat	Muscle Colour	Texture	Fat Colour	Bone Colour	Texture
Beef	Red	Connective Tissue Evident	Pinkish	Greyish	Coarse
Buffalo	Cherry Red	Fine Texture	Creamy	Pinkish	Hard

TABLE 3. Composition of Buffalo and Beef meat.

Animal Meat	Water	Protein	Fat	Calories Per Ounce
Beef	44%	24%	27.9%	99
Buffalo	63%	35%	2.8%	47

STORAGE OF BUFFALO MEAT

A. Refrigerated Storage

Fresh buffalo meat which is not to be frozen should be stored in the coldest part of the refrigerator or cooler.

Pre-packaged fresh Buffalo meat should be stored unopened in the refrigerator or cooler in the original wrapping not to exceed two days for steaks, cubes or stew meat and three days for roasts.

Fresh Buffalo meat that is not pre-packaged should be removed from the market wrapping, wrapped loosely in waxed paper or aluminum foil and refrigerated up to a maximum of two days.

Cooked meat should be wrapped or covered to prevent drying and stored in the coldest part of the refrigerator or cooler within one to two hours of cooking. Cooked meat will keep longer if left in larger pieces and not cut until ready to use.

B. Freezer Storage

Fresh pre-packaged meat may be frozen in the original wrapping for one to two weeks. For longer freezer storage, the original package should be over-wrapped with special freezer material.

Wrap fresh Buffalo meat closely and seal tightly in moisture/vapour-proof material, separating individual servings by a double layer of wrapping material. Store at 0 degrees F., -18 degrees C.

Recommended maximum storage time is between 3 to 4 months for hamburger and 6 to 12 months for other cuts.

COOKING METHODS

Here are some examples on how to prepare Buffalo meat. Please note that Buffalo meat is lower in fat than beef and therefore requires less heat or less time to cook. Fat works as an insulator and because of the low fat content in Buffalo meat, the heat penetrates more easily. All red meats will toughen if overcooked, so for maximum success, cut down the temperature that you would use for beef by 25% OR the cooking time that you would use for beef by 25%.

DANDY GOURMET SPICE IS RECOMMENDED IN PLACE OF THE SALT AND PEPPER SEASONING SUGGESTED.

A. To Roast

CUTS: Rib steak or roast, loin and T-bone steaks, tenderloin and roasts from the sirloin.

- season with salt and pepper;
- place meat with fat side up in open roasting pan;
- do not add water, baste nor cover;
- roast in slow oven;
- cook at 75% of the time that is recommended for beef at normal temperatures.

B. To Broil

CUTS: Rib steak and loin, T-bone steaks, tenderloin and steaks from the sirloin.

- season with salt and pepper;
- place meat 2 to 5 inches from flame or element;
- cook at 75% of the time that is recommended for beef;
- cook and turn until desired doneness.

C. To Cook in Liquids

CUTS: All cuts from the chuck, foreshank, brisket and stew meat.

- brown meats on all sides in own fat;
- season with salt and pepper;
- add liquid, cover and cook below boiling point until tender;
- cook at regular times recommended.

Buffalo can also be pan-broiled, fried and braised.

THERE IS NO SUCH THING AS TOUGH BUFFALO IF IT IS COOKED PROPERLY.

For additional ideas and recipes, please write to:

SIGGY BIEWALD,
Executive Chef,
DANDY FOOD SERVICE,
17820-107 Avenue,
Edmonton, AB. T5S 1J1

or call our office at (403) 489-3974 or (403) 489-3983

MANITOBA SCENE

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GAME FARMING ACTIVITY IN MANITOBA

LYLE RENECKER

Department of Animal Science, University of Alberta

The Canadian Game Farmers Association held a meeting on April 5th in Minitonas, Manitoba. The primary thrust of this meeting was to inform and organize personnel interested in game farming in Manitoba. With the return of the incumbent New Democrat Party to power in Manitoba, there should be an increase in the number of game ranching licences approved during 1986. However, there is a hold on the game ranching program until an official cabinet is announced.

Requirements for game farming vary from regulations in Alberta. A land base of at least 40 acres of suitable habitat is required before a permit will be issued. There are no government infrastructure subsidies for entrepreneurs setting up operations in Manitoba, although programs are available through the Department of Manpower to offset labour expenses. The province will insist that fences should be at least 7 feet high and constructed with materials adequate to confine the species listed on their permit. Manitoba also appears adamant against the movement of wapiti from other provinces or the United States into their province. As a result, they have proposed a program whereby wapiti would be made available from the province at no cash cost. The farmer would then return animals to the province on the basis of 2 for 1 over a 10 year period. This strategy will help preserve the integrity of the Manitoba subspecies of wapiti.

Live Sales to New Zealand - In the last 5 years, live wapiti stock exported to New Zealand have ranged from 40-120 animals. It is expected that in 1986 approximately 200 head will be exported. There has been concern that there may be a downturn in sales to New Zealand in the future because of the removal of specific tax breaks protecting game farming investors which reduce overall profits and eventually funding into the industry. However, it is expected that this situation is only temporary.

Discussion of Wapiti Reproduction (Dr. J. Haigh) - The duration of gestation (pregnancy) in wapiti is approximately 253 days as compared to 233 days for the European red deer. Conception occurs during the fall breeding season or rut which peaks in Canada during the early autumn (September 20 to October 10). During this time, the semen is of the highest quality, according to Dr. Haigh, which promotes successful fertilization. By understanding this reproductive cycle, operators can adjust the time and place when cows and bulls are grouped in pens during the autumn rut thereby setting the spring calving time. This can serve as a beneficial management technique to the farmer who may have other priorities during spring such as seeding.

Fencing Costs - It has been estimated that an average cost for 9 gauge Watchman wire fence is about \$15,000/mile in comparison to Cyclone fence which costs \$6,700/mile. These cost estimates include wire, staples, posts, etc., but no labour.

HUSBANDRY AND MANAGEMENT OF WAPITI

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BREEDING STRATEGIES

DR. JERRY HAIGH

School of Veterinary Medicine, University of Saskatchewan

Whether we are farming elk for export to New Zealand or for an internal market, the bottom line that will ultimately keep the bank manager at bay, will be the number of calves born. The more calves that are born early in the season (late May and early June) the better they will look when the buyers come around. Once, and if, a venison market is established here these early calves will also be the ones that bring the better return on the hook.

There is no doubt that buyers, whether they be New Zealanders or not, are keen to know the parentage and pedigree of their purchases. Every buyer likes to fancy him/herself as a judge of animals and the vendor who can confidently define the animals for sale is more likely to make a sale. In time, as the industry grows, we may develop some meaningful production indices and progeny testing. Certainly the red deer in New Zealand are now "computerized" on many properties. The main criteria are growth rate of progeny and antler weight.

How then to ensure the maximum number of breedings as early as possible?

To deal first with the bull/cow ratio, there is little evidence anywhere about the bull elk. In the case of red deer, a wide variety of ratios have been tried. As many as 200 hinds have been served by one stag. Although he got most of them in calf, I do not know what the spread of fawning dates was. In sheep and cattle, where most of these studies have been conducted, ratios also vary quite widely. What is known is that individual males of any species vary in their ability to fertilize females. Until we have some more concrete figures with which to work, we would probably be unwise to ask a mature wapiti bull to handle more than 40 cows. As there are few farmers in the position of even having 40 cows available for breeding, this may not be a problem just now.

The most common practice in New Zealand is "single sire mating". There are a few properties where multiple sires are let into large paddocks, mostly on hill country, and allowed to sort themselves out with the hinds. The single sire system provides many advantages and one or two disadvantages. The principle advantages are the provision of pedigree and the reduced fighting among males. A potential disadvantage would arise if a male turned out to be infertile. This however would be a disadvantage even in a multiple sire development if the infertile male was also the dominant animal (at least until he was demoted).

There has been a little work done on fertility evaluation of red deer and elk. There remains a very long way to go before this is a standard technique. From the findings so far, about eight percent of males of either animal have inferior quality semen throughout the rut. Most of the animals had been known to breed successfully, but if experience with cattle and sheep is anything to go by, they would be less efficient as sires than most and should certainly be used with

caution. The best policy to ensure that all cows become pregnant is probably to put in the first choice bull from about Sept. 10th and let him have one month with the cows. This should ensure two cycles per cow. A back-up bull can then be sent in for another three or four weeks. In order to avoid late calves, the cows should be run without a bull from about the end of the first week in November.

There are several policies that the elk farmer can adopt when it comes time to decide on a strategy for breeding. These will depend not only on the farmer's inclination but also upon the quality and design of the fencing and yard system that has been established.

For the small farmer with only a few animals in a single paddock, there may not be much of a problem initially. Until the herd begins to grow, and some of the male calves mature, the farmer will probably only have a single bull running with whatever number of cows he has been able to obtain. As long as the bull is fertile and willing, and the level of nutrition is correct, all will probably be well.

It will not be long, if nature takes its accustomed course, before this beginning farmer will be forced to review the farm policy. Male calves in their first winter are no threat to the herd bull. Even at the beginning of the second winter, they will come into the rut at least a month later than the boss and will be very unlikely to do any breeding. It will not be breeding that will worry the farmer. It will be the potential for fighting.

In the wild, these young males (and even the two year olds) aptly named "teenagers" by biologist Tony Bubenik, will be kept at bay by the herd bull simply by a combination of visual and auditory effects. The larger antlers, bigger body size, thicker neck and deeper toned bugle will serve to tell anyone in the vicinity that the females in the group are not available. Not that this will necessarily stop these females from chancing a foray away from the herd if they think that they can get away with it.

In the confines of captivity, the continued close proximity of the males may create problems. The degree and severity of the problems will depend very much upon the size and configuration of the paddock. If there is somewhere for the youngsters to remain out of sight of the boss, then all may be well. At least the paddock must be large enough for the males to separate by a hundred meters or so. Even then the young bull(s) will be relegated to a small area and will probably spend a good deal of the time tucked up against the fence.

The most dangerous moment may not come for the youngsters as for the dominant bull. After a period of three to six weeks of full blown rut he will have exhausted himself. This will have very little to do with the number of cows that he has served, the exhaustion will be due to his constant threatening and chasing of the subordinate animals and the fact that he will have eaten very little during this time. With almost no warning one of these animals will take over the herding of the cows. In nature, this system works exceedingly well and provides a "back-up" bull to ensure that the cows are pregnant. The exhausted master bull moves off and leaves the field to his younger rivals. The two and one year olds have developed more slowly than the adults and their semen quality and

testosterone levels will peak a month or more afterwards. This in turn ensures that they are in ideal breeding condition when needed.

In captivity, the tired older bull may not be able to get far enough away. I have even seen a defeated 14 year old bull killed by a vigorous two year old. If you have only a single paddock, it will be essential to have it large enough. Some bluffs or other visual barriers will also be important. If you are in the single paddock situation you will be better off with a long narrow paddock. Feed the females at one end. The herd male will be happy to keep them fairly close to the food and the other male(s) will be able to stay as far away as possible. They can be fed at a different location. Do not forget to provide water at two sites as well if no snow has fallen.

Better yet will be a farm that has been properly designed to allow adequate separation of the animals. Non breeding bulls should be held in an entirely separate paddock. They can be densely stocked and will seldom do more than threaten one another, although there will be dominant animals in the paddock.

If the farm is set up with handling yards and a well designed central race, it will be possible to replace bulls by drafting them when the need arises. The best situation will ensure that the two breeding bulls are not in immediately adjacent pens. I have spent hours watching both red deer and elk sparring through a fence. This not only exhausts the males, but also damages the fence.

A quick look at some of the normal happenings around the breeding season may help with an understanding of events. The first signs of impending breeding will be the increase in neck girth of the bulls. In late August, they will shed their velvet. On the farm this may not be of much help as the velvet will already be in a deep freeze. There are three things that the farmer will readily notice. These are the start of the bugling chorus, the rubbing by the bulls of their antler stubs against anything solid and the so-called "thrash urination" behavior during which the bulls will lower their heads, thrash at real or imaginary objects and vary deliberately spray their bellies and manes with pungent urine. The unwary farmer standing nearby will require a shower before dinner. The intensity of the bugling and any sparring seen will increase over two or three weeks.

It will bear repeating many times that the docile, cuddly, bottle-raised bull will now become as dangerous as a combination of a rattlesnake, an enraged bull elephant and mafia hit man. There is only one place for these animals. For those of you who haven't tried it, elk meat is delicious.

Research has shown that all of these events going on with the bulls serve to stimulate and to some extent synchronise the onset of breeding activity in the females. Certainly when females are raised out of sight and smell of the bulls, the onset of estrus will be delayed. A brief mention here will serve to remind readers that both the males and females should be on a rising plane of nutrition as they enter the rut. Nutrition is a big subject worthy of its own section and will be dealt with elsewhere.

SUPPLEMENTAL FEEDING SYSTEMS FOR WAPITI

HENRY KOZAK

Department of Animal Science, University of Alberta

One of the most frequently asked questions in livestock production (particularly for a recently farmed species such as wapiti) is what to feed and at what level. Different feed types and levels can have profound effects on rates of gain, natural foraging behavior and reproductive performance of the cow.

Currently, I am conducting research which will examine the effects of nutrition in relation to productivity and management of farmed wapiti. Work for this study is being carried out at the Ministik Wildlife Research Station located approximately 50 km southeast of Edmonton, Alberta. This article will discuss some of the preliminary findings of my research as well as my thoughts on winter supplementation of farmed wapiti.

The first topic that I would like to discuss is feeding systems. There are three fundamental goals in developing any feeding system. First, the feeds utilized should be both palatable and safe for the animal. Secondly, feeding systems should be adapted to the system of farming to which they are associated, for example: grain, hay or forage harvesting. Finally, the practice must be economical. The best way to incorporate these goals is to establish what feeds wapiti prefer and then to use locally grown or easily obtainable feeds to meet their needs.

Wapiti are classified as mixed or intermediate feeders utilizing both grasses and browse in different proportions depending upon the season of the year and quality and quantity of the forage. As a general rule, wild wapiti consume a diet of approximately 60% browse and 40% grasses during the winter months. High stocking rates on marginal ranges would soon deplete the natural forage thus, the need for supplemental feeds arises.

Wapiti can be suitably supplemented with either grains or hay or a combination of both. The type of feed supplied can have a profound effect on natural foraging behavior. Studies comparing pelleted, cubed and baled alfalfa have shown that feeding pelleted hay as a supplemental ration caused increased grazing, browsing and stripping of bark from trees when compared to the other feed types. Studies at Ministik have also demonstrated an increase in the utilization of natural forage when pelleted supplementation is provided as compared to supplementation with alfalfa/brome hay. As a result, the physical form of the feed supplied can be utilized as a management tool to obtain the degree of range utilization desirable for each particular ranching operation.

The second question to deal with is the level of supplementation. Feed requirements of wapiti vary according to the age class of stock, season and actual level of animal performance desired at that time. Feeding for weight gains in weaned calves is desirable in order to ensure that target

weights are reached for breeding the next fall, although conception rates may be reduced in overfat animals. Feeding for gain in mature wapiti cows may also have deleterious effects. Mature pregnant cows should be fed at a maintenance level or even allowed weight losses through the winter months. Studies at Ministik have shown that, as in domestic cattle, overwinter weight losses of 10% from peak fall weights will ensure successful calving. Wapiti possess the ability to adequately compensate for overwinter tissue losses after green-up in the spring.

Studies have established that about 17.5 g dry matter of good quality feed per kg of body weight per day is required to maintain body weight of confined pregnant wapiti. An additional energy requirement of 30 percent is required for free-ranging wapiti and would bring the estimate of dry matter required for maintenance up to 22.75 g/kg/day. Feeds generally contain 10% water and thus are 10% less in weight on a dry matter basis. Therefore, maintenance intake of free-ranging wapiti cows during gestation can be expected to equal approximately 6.38 kg/head/day of good quality hay (on the basis of a 250 kg cow).

At present, feed costs of wapiti look low in comparison to the price of stock and many ranchers feel that feeding their wapiti all they want to eat is caring for them in the best possible manner. Studies at Ministik have shown that overfeeding of pregnant cows, especially during the last three weeks of pregnancy, can seriously affect calving success. Dystocia, stillborn calves and lactation failure after calving are all possible repercussions of overfeeding.

Due to the variability in diet preference of wapiti, there is a great flexibility in designing a supplemental feeding system and no one particular system is suitable for all regions of the province. In summary, feeding systems should be both practical and convenient for each ranching operation making use of locally available feed supplies. Feeding levels should be adjusted to each age class of animals and overfeeding of pregnant hinds should be avoided. Although costly, perhaps the most serious consequence of overfeeding is lowered productivity and a reduced calf crop which ultimately translates into dollars lost.

SHORT ISSUES ON GAME FARMING

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FOR YOUR INTEREST

LYLE RENECKER

Department of Animal Science, University of Alberta

1. Livestock Feed Security

Recently, The Minister of Agriculture in Alberta, the Honourable LeRoy Fjordbotten, introduced the new Canada-Alberta Livestock Feed Security plan for Alberta livestock producers in Alberta during 1986. The program includes several types of eligible livestock producers who can receive assistance towards the purchase of feed when shortages exist. However, this program does not provide any scope for the new agricultural industry of game ranching. Perhaps, the Alberta Game Growers Association should inform the Minister of this omission and suggest that Alberta Agriculture also provide coverage for game farmers.

2. Velvet Antler Brokers

There has been several enquiries about prospective brokers for velvet antlers. I have obtained the names and telephone numbers of two brokers in Canada:

Chung Lee, Vancouver: 604-594-5663

John Chai, Manitoba: 204-738-4342

Although the largest importer of velvet antler is undoubtedly Korea, many producers may find it advantageous to pool their harvest and pursue local markets initially. You may actually find the demand of this market to be large and will provide a short-term sink for antler products.

3. Velvet Antler Prices

The velvet antler market has been extremely volatile in recent years resulting in price fluctuations from \$75-250/kg. Recently, R. Bryant stated, in the February/March issue of 'The Deer Farmer', that velvet prices in New Zealand will vary between \$18 for D Grade to \$120 NZ for Super A velvet antlers. This translates to approximately \$14-96 Can. for the two grades, respectively.

Export of velvet from New Zealand has increased steadily in recent years, from 4.9 T in 1982-83 to 18.8 T in 1984-85. The March 12, 1986 issue of the New Zealand Deer Report stated that 14 T of processed velvet may be exported from New Zealand this year.

4. Animal Safety and Immobilization

If you are an entrepreneur interested in wapiti farming, undoubtedly the potential sales of velvet antlers from your bulls will be of interest. It is unlikely that operations will be established for the production of velvet alone, however, returns from these sales could provide equity to supplement budgets.

If velvet antlers will be harvested from your bulls, then some form of chemical restraint must be administered. The restraint is important because it ensures that care and safety of both animals and man have been considered. Xylazine (commonly known by its trade name Rompun) is one of the most commonly used drugs by veterinarians to tranquilize wapiti (elk). It has the advantage of being relatively safe for animal sedation and readily procurable by veterinarians. Perhaps most important, xylazine is quite effective. However, all benefits generally have tradeoffs which compromise effectiveness. Although wapiti respond rapidly to an injection of xylazine, and thereby permit handling, animals recovering from the drug may require 2 to 5 hours of "baby sitting" until they can maintain a sternal posture, eructate (expel gas accumulations in the rumen - prevent bloat), thermoregulate and be safe from the potential damage to muscles and nerves in the limbs. I have been aware of a white-tailed deer which was extremely sensitive to xylazine and required 24 hours to recover from the effects of the drug.

Recently, there has been experimentation with reversal agents for the sedative effects of xylazine. The results from numerous experimental studies with both domestic and wild species are promising in that recovery times can be reduced to 2 to 15 minutes. To the wapiti producer, this relates to man-hour requirements and ultimately to dollars saved. However, these drugs are not commercially available at present.

5. Velvet Antler Quality

Only prime velvet antlers will provide high returns to the producer. There are two criteria which are very important in obtaining Grade A velvet. First, velvet antlers reach their prime for the commercial market during a very brief period in late spring. During this period antlers are rapidly growing and a difference of only a few days could mean a reduction in Grade from A to B or C. The other factor which can influence grade is damage which could occur during immobilization. Thus, the need for an effective means of restraint. In other words, know the "do's and don'ts and the when's and the why's" before you and your veterinarian proceed.

6. Animal Weights

Sooner or later your operation will require a platform scales for weighing animals. With the advancement of technology, there are electronic scales which average animal weights as they walk across the platform. Most importantly, these units do not require motionless animals to obtain

an accurate weight. There are several brands of units available which you may want to consider for your game farm.

7. Support for the Alberta Game Producers

Recently, letters have been sent from the Canadian Game Farmers Association and the Canadian Buffalo Association to the Honourable Don Sparrow in support of Game Farmers in Alberta. However, we must continue to reaffirm our position and needs. This can be most effectively conducted with letters or telephone calls to Mr. Sparrow.

8. Yield of Velvet Antlers

Expectant yields of velvet antlers is a concern of any wapiti producer. Extra yields result in additional funds which maximize farm returns. If your animals have been only offered range pasture, a rule of thumb is to expect a yield of 1 kg of velvet/yr from wapiti bulls up to 8 years of age. With supplementation, these velvet yields can easily be increased to 1.5kg/yr or better. A substantial increase which can subsidize the necessary expense of immobilizing drugs and a veterinarian.

9. Live Animal Sales to New Zealand

In recent years, there has been numerous shipments of wapiti breeding stock to New Zealand aboard wide body aircraft. The collection points for these flights have been either Toronto or Vancouver. However, there has been an indication that flights could leave from Edmonton if a sufficient group of animals was assembled to fill the aircraft. Producers may want to keep this possibility in mind and combine efforts to coordinate a gathering of sales and shipment.

10. Adequate Records

Whether your enterprise is centered around the production of bison, wapiti or both, the need for maintenance of herd records will become more apparent over time. Records on reproductive performance and weight gains are a necessity when selling breeding stock, especially to New Zealand.

Another benefit relates to feeding programs. A working knowledge of weight gains and losses of adult, yearling and calf groups will inform producers of appropriate times to provide supplementary feed. What does this mean? It means more money in the bank!

This is only a brief list of the benefits and the next question is how to keep records efficiently. As your breeding herd increases in size it will become more difficult to maintain records on cards or animal record sheets. If you have purchased a computer and hope to adapt it to your game farming operation than you will need an appropriate software program. For

those readers interested in such a package, I will have a program available in the near future for IBM (and the compatibles) users.

11. Membership List

I have enclosed a membership directory for the Alberta Game Growers Association. Encourage other members to join the Association.

12. Game Grower Articles

I am interested in contributions for the Game Grower newsletter from any member. If you would like to share your vast experience, knowledge or expertise in any aspect of the industry please call or write me.

13. June Meeting

There has been many delays in the last several months which have eliminated the chance for an April meeting. I am planning a June field day at the Ministik Wildlife Research Station at the time when velvet antlers will be removed. Keep this in mind and more information will be provided as time unfolds.

ARGUMENTS SUPPORTING GAME RANCHING

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ABOUT THIS ARTICLE: This article was written as a rebuttal to arguments presented by people opposed to game ranching in Alberta. The article was accepted for publication in *Western Canada Outdoors* 1986.

GAME RANCHING IN ALBERTA: AN INDUSTRY WITH A FUTURE

HENRY KOZAK AND LYLE RENECKER

Department of Animal Science, University of Alberta

Revisions to the Alberta Wildlife Act (Fall 1984 Session of the Legislature) have provided the opportunity to legalize game ranching and game farming as an agricultural industry in Alberta. Since that time, the tabled legislation has become somewhat controversial and the concept of game ranching met with some criticism. The purpose of this article is to discuss the concepts behind game ranching in Alberta and to try and alleviate some of the concerns presently being expressed about game ranching.

The concept of game ranching in Alberta was originally based on the mixed-species production strategy. This system implies that large tracts of marginal lands would be enclosed and management inputs minimized. Experimental game ranches in Alberta, such as the Kikino Wildlife Ranch near Lac La Biche, have demonstrated the impracticality of extensive game ranching because of the need to control animal movement. As a result the idea of game farming, as opposed to mixed-species ranching, has been growing in popularity. In this system small tracts of highly productive lands are utilized to intensively raise wildlife. This trend was also experienced in the New Zealand situation where game farming has been practiced for 20 years. In New Zealand, ranches had their beginnings on marginal hillsides but soon moved to highly productive sheep ranges when it was learned that the low productivity of deer on marginal ranges would not offset the high fencing and operational costs.

As the legislation in Alberta stands today, game ranching is only allowed on privately owned lands. This restriction, along with trends towards intensive game farming (rather than game ranching) makes the idea of widespread privatization of public lands for this new enterprise highly improbable.

In Alberta today, any resident can operate a game ranch on private lands for the purpose of live animal sales. The sale of game meat however, remains an unresolved issue due to concerns about poaching of wild stocks. These concerns are basically unfounded due to regulations being imposed upon game ranches. All calves must be eartagged and lip tattooed to identify them as farm raised animals. Monthly and yearly inventories of all farm stock must be submitted as well as an individual record of any animal acquired, sold or slaughtered by a rancher. In addition, meat from game ranched animals can be vacuum packaged with a government seal to identify it as originating from a legal source. Once

game ranching becomes established, it will take many years to satisfy demands for breeding stock and meat sales will remain secondary. In New Zealand, meat sales are still secondary to the sale of breeding stock after 20 years of operation. However, the sale of meat is required to provide future incentive and stability in the marketplace; a necessity for any developing industry.

The velvet antler market is a highly volatile one, and since a nearly sufficient world supply is available, it demands a high quality product. Velvet antler is only prime for about one week during the antler growth cycle. Removal of antlers before or after this period results in an inferior product that commands a very low price. Also, damage to these prime velvet antlers, during removal by inexperienced persons, renders them virtually unmarketable. As a result, the poaching of velvet antler from wild stocks is an almost impossible task. In addition, game ranching will provide a sufficient and steady supply of game meat and by-products thus driving these prices down and making poaching even less economically viable.

Existing game ranching regulations provide a "once only" opportunity of acquiring six animals from the government for a nominal fee. The rancher has no choice in the sex or age ratio of animals he receives and since six animals is far from a viable operation, additional animals must be purchased from existing game ranches at market prices. It will soon become apparent that the acquisition of ranch-raised stock is preferable to wild stock since they are more easily managed, handled and less susceptible to stress related diseases as experience has shown at the Ministik Wildlife Research Station operated by the University of Alberta. As a result, acquisition of wild stock illegally is improbable due to the above reasons and the close monitoring and regulation of game ranch activities. In addition, capture and safe transport of wild animals without the public or government officials being aware is practically impossible due to field logistics.

Since animals must be acquired from other existing game ranches, the movement of animals across provincial and federal borders is also a concern. Quarantine procedures presently in practice for domestic stock will be required for the movement of wild stock as well. This will serve to eliminate disease and parasite spread from animals introduced from outside Alberta's borders. Only native Alberta species are candidates for game ranching in Alberta, therefore there will be no introduction of exotic species for the purpose of game ranching.

With world trends turning towards leaner meats, game ranching provides the opportunity for existing farmers and ranchers to diversify their income. The concept of game ranching has also been met favorably with several native groups in Alberta and can provide them with a new industry and a feeling of self sufficiency. The creation of regulations governing

game ranching in Alberta has been a laborious process with the utmost consideration given to all confounding aspects. The careful attention given to these issues will ensure the preservation of wildlife and the right to hunt wildlife in Alberta. In no way is game ranching a threat to wildlife conservation, but rather it is an industry that can be of benefit to all Albertans.

COLORADO CONSERVATION OFFICIER'S OPINION

HENRY KOZAK

Department of Animal Science, University of Alberta

As many of you are well aware of, one of the main arguments against establishing game ranches in Alberta is the concern that it will promote the poaching of wild game. As a result, some people anticipate that enforcement costs would increase considerably.

I could not see how game ranching could possibly affect poaching or enforcement. Thus, I decided to contact Mr. Mike Bauman a conservation officer in the State of Colorado. Colorado allows game ranching under special permits called 'Commercial Wildlife Park Permits' issued by the state licensing section. Approximately 75 licenses were issued during 1986 in Colorado.

The state does not capture or sell animals to prospective ranchers. As a result, operators must purchase their stock from established ranches and animals must be marked for identification. The state allows the sale of meat, velvet, and live animals as well as paid hunting on Commercial Wildlife Parks. Meat is not specially packaged but must be invoiced and the carcass must have an appropriate identification seal attached to it. Mr. Bauman claims that the meat can easily be traced back to its source and feels that meat sales in no way promote poaching of wild game. In addition, he states that he knows of no increase in enforcement costs that can be attributed to game ranching. In conclusion, there is no adverse feeling concerning game ranching among the conservation officers in the State of Colorado and no feeling that game ranching poses any threat to wild populations.

SUPPORT DRIVE

HELP FORTIFY OUR POSITION ON GAME RANCHING

As everyone probably realizes, the greatest opposition against the development of the new agricultural industry of game ranching is the Fish & Game Association. Recently, they have been escalating their activities against game ranching and have been passing out self-addressed cards, such as the sample provided immediately below. These were inturn signed and sent to the Minister. I have formulated a letter defending our position on game farming and addressing our needs in Alberta. A copy is attached to this newsletter and I would ask everyone to place their address on this letter, sign it and send the letter to the Honorable Don Sparrow. The letter requests a response, therefore Mr. Sparrow should respond. Also, please ask as many people as possible to send letters which address the same issues or stating that they simply do not agree with the stand of the Fish & Game Assoc. on the issue of game ranching. A clip-out form is provided in this newsletter which can be clipped out, signed, dated and mailed to Mr. Sparrow. Remeber, one letter represents about 1000 votes to politicians.

SAMPLE OF MOST RECENT ANTI-GAME RANCHING PROPAGANDA
FROM THE ALBERTA FISH & GAME ASSOCIATION

Date _____

Dear Mr. Sparrow:

Game ranching is a retrograde step in the otherwise sound history of game management in Alberta. Wildlife should remain in the public trust. I would like to see all sections dealing with the promotion of game ranching for the sale of meat or other products removed from the Alberta Wildlife Act.

Signature _____

PLEASE CLIP OUT THIS NOTE. GIVE TO OTHER INTERESTED PERSONS AND MAIL

.....

Date _____

Honourable Don Sparrow
Associate Minister
Public Lands and Wildlife
Legislature Building
Edmonton, Alberta T5K 2B6

Dear Mr. Sparrow:

I am a person who is interested in the wildlife and outdoors of Alberta, but do not support the views of the Alberta Fish & Game Association on their attitude towards game ranching. I feel the new agricultural industry of game ranching will greatly benefit our province and the government should move immediately towards solidifying the concept of game ranching in the regulations of the Wildlife Act. Furthermore, the arguments represented against game ranching are emotional and lack a factual basis. Game ranching is merely a productive option which diversifies wildlife management practices.

Sincerely,

.....

Honourable Don Sparrow
Associate Minister
Public Lands and Wildlife,
Legislature Building,
Edmonton, Alberta T5K 2B6

Dear Mr. Sparrow:

I believe that the concept of game ranching will be a sound investment for the province of Alberta and that this new agricultural industry will in no way jeopardize the principles of wildlife management. However, I am disappointed that your government has again delayed the passing of regulations which will formalize the new industry of game ranching. There is a large sector of the voting sector who are interested in game ranching and awaiting final placement of the regulations. As a result, development of this new industry is delayed which only injures this province's position as a production center.

There is no question that with high returns from live animal sales that producers will gear production towards the demand for breeding stock. Ultimately, the stability of this new industry will hinge on the sale of meat. As a person interested in game ranching, I must emphasize that sale of meat should be included in the new regulations. There are measures which can be used to prevent illegal trade.

There are factual reasons why game ranching is a sound agricultural practice and should be supported by your government. Producers and interested people in the province need your support on this issue and request that entrenchment of game ranching in the regulations of the Wildlife Act be as soon as possible. I am highly in favor of game ranching and as a concerned Albertan request a response to this letter. Thank-you for your response.

Sincerely,

SALES

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BISON STOCK FOR SALE

1. NORTH DAKOTA - There are 30 yearling and 30 two year old female bison for sale. The first set of blood tests have been completed so interested buyers should pursue immediately. Contact: Siouxland Buffalo, Grand Forks, North Dakota.
2. HIGH LEVEL - Approximately 50 head of bison for sale. Contact: Carl Harris, High Level, Alberta.

ELK ISLAND NATIONAL PARK BISON SALE

A closed bid auction of approximately 150 bison will probably take place in December, 1986 or early 1987. Producers interested in purchasing additional stock should keep this future sale at Elk Island National Park in mind. More information will be provided as the sale approaches.

MEMBERSHIP DIRECTORY

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MEMBERSHIP DIRECTORY

Arthur R. Lee
Box 566,
Vermillion, Alberta, T0B 4M0

Godkin, Gordon
Box 1468,
Innisfail, Alberta, T0M 1A0

Blyth Freda
R.R.# 1, Site 4,
Fort Saskatchewan, Alberta, T8L 2N7

Haigh Dr. Jerry
Large Animal Clinic,
Univ. of Saskatchewan,
Saskatoon, Saskatchewan,

Boake Matt
General Delivery
Bonanza Alberta T0H 0K0

Hainstock, B. Wade
Box 112,
Hazel Dell, Saskatchewan, S0A 1G0

Buhrmann, Hans
Box 207,
Pincher Creek, Alberta, T0K 1W0

Hayward Terry
Agriculture Canada,
Cornerpoint Building, 10179-105 Street
Edmonton, Alberta, T5J 1E2

Bunnage Judd
Alta. Agriculture,
7000-113 St,
Edmonton, Alberta T6H 5T6

Hudson, Robert J.
Dept. of Animal Science,
310 Ag/For Centre, University of Alberta
Edmonton, Alberta, T6G 2P5

Coles, Ralph
Box 1329,
Pincher Creek, Alberta,

Jackson, Rob
Triple J Farms
R.R. #1,
Andrew, Alberta, T0B 0C0

Crawford, Frank
F.J. Ranch,
Box 1198,
Athabasca, Alberta, T0G 0B0

Jerram, Walter
R.R. #1,
Legal, Alberta, T0G 1L0

Curry, Clay & Jean
Box 654,
Elnora, Alberta, T0M 0Y0

Jones, Ken
R.R. #1,
Cheadle, Alberta, T0J 3H0

Dixon, Fred A. & Ann
Pincher Creek Ranches,
Box 1893,
Pincher Creek, Alberta, T0K 1W0

Klassen, Ernest
Wardlow, Alberta, T0J 3M0

Gallicia, Oscar
Box 275,
Blairmore, Alberta, T0K 0E0

Kolodka Stan
Stan Kolodka Constr. Ltd,
Box 213,
Bonnyville, Alberta, T0A 0L0

Kozak Hank
#10 Martin Close,
Red Deer, Alberta, T4N 0H1

Kozak, Henry M.
Dept. of Animal Science,
310 Ag/For Centre, University of Alberta,
Edmonton, Alberta, T6G 2P5

Matthew, Llewellyn
Dept. of Rural Economy,
515 General Serv. Bldg., University of Alberta,
Edmonton, Alberta, T6G 2H1

McDougall Bruce
5928-99 Street,
Edmonton, Alberta, T6E 3N9

Murto William
Box 69,
Benalto Alberta TOM 0H0

Orcheski, Joe & Georgina
Round Hill, Alberta, T0B 3Z0

Patten, Dan
9240-110 Ave.,
Grande Prairie, Alberta, T8V 3A7

Rebkowich, Paul
Box 38,
Wandering River, Alberta, T0A 3M0

Renecker, Lyle A.
Dept. of Animal Science,
310 Ag/For Centre, University of Alberta,
Edmonton, Alberta, T6G 2P5

Sawatzky Brian P.
Box 1573,
Peace River, Alberta T0H 2X0

Sherman, Gordon & Sandy
Box 7,
Site 10,
Cardston, Alberta, T0K 0K0

Smulan, Randy
Box 277,
Wanota, Saskatchewan, S0G 5A0

Troescher Ernest A.
15207-96 St.,
Edmonton, Alberta, T5E 6C3

Twa, Jim
2410-20 Ave. S.,
Lethbridge, Alberta, T1K 1G6

Underwood George
P.O. Box 1225,
Peace River, Alberta T0H 2X0

Wells, Shelley
Sleepy Valley Game Farm &
Petting Zoo, R.R. #1,
Rocky Mtn. House, Alberta, T0M 1T0

Welsh, George
14332-92 Ave.,
Edmonton, Alberta,

Wong David
Alta Indian Agr Dev Corp,
#202, 5940 MacLeod Trail South,
Calgary, Alberta, T2H 2G4

Zoratti Barney & Anne
Box 1780,
Pincher Creek, Alberta, T0K 1W0

FISCAL NOTE

STATE OF ALASKA
1992 LEGISLATIVE SESSION

BILL NO. SB 216

Revision Date: _____

Department Affected: Fish and Game

Title: An Act authorizing moose and
caribou farming.

BRU: Wildlife Conservation

Component: Wildlife Conservation

Sponsor: Senator Dick Shultz

Requestor: Senate Resources Committee

COMPONENT SERIAL NO.

0	4	7	3
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Expenditures/Revenues: (Thousands of Dollars)

OPERATING	FY 93	FY 94	FY 95	FY 96	FY 97	FY 98
PERSONAL SERVICES						
TRAVEL						
CONTRACTUAL						
SUPPLIES						
EQUIPMENT						
LAND & STRUCTURES						
GRANTS, CLAIMS						
MISCELLANEOUS						
TOTAL OPERATING	0.0	0.0	0.0	0.0	0.0	0.0

CAPITAL	0.0	0.0	0.0	0.0	0.0	0.0
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REVENUE FUND SOURCE: 1024	0.0	0.0	0.0	0.0	0.0	0.0
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FUNDING: (Thousands of Dollars)

GENERAL FUND						
FEDERAL FUNDS						
OTHER FUND SOURCE:						
TOTAL	0.0	0.0	0.0	0.0	0.0	0.0

POSITIONS:

FULL-TIME	0	0	0	0	0	0
PART-TIME	0	0	0	0	0	0
TEMPORARY	0	0	0	0	0	0

Estimate of current year impact: No FY 92 impact.

ANALYSIS: (Attach a separate page if necessary.)

This analysis assumes that (unlike farmed elk, bison, muskoxen, reindeer) surplus moose or caribou are not defined as "domestic mammals;" the sale, transfer or transport of live animals may be regulated by the department; passage of the bill will not result in widespread, uncontrolled private ownership of these species.

Prepared By: Phil Koehl *PK*

Phone: 465-4190

Division: Division of Wildlife Conservation

Date: 4/1/92

Approved by Commissioner: *[Signature]*

Agency: Department of Fish and Game

Date: 4/2/92

March 31, 1991

Senator Jones
Alaska State Senate
Pouch V
Juneau, Ak 99811

Dear Senator Jones:

Myself and the enclosed list of Alaskans are strongly AGAINST SB 216, "Moose & Caribou Farming" that is currently in the Senate Resources Committee.

After extensively reviewing data and studies done by Lyle Rennicker at the UofA, and Wayne Regelin of Ak. Fish&Game, and articles on the failed Russian and Canadian moose farming, not to mention a multitude of defunct farms of domestic animals here in Alaska that proved to be a dismal failure, i.e. Matanuska dairy farming, Fairbanks pig farming, Delta chicken ranches, Seward chicken ranches, Mat. valley and Kenai peninsula beef cattle farming, and at least 6 fox farms.....

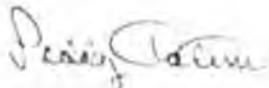
We feel moose and caribou should be left in the wild and not subjected to domestic farming or private ownership.

The law (AS 16:40) already allows musk ox, reindeer, and buffalo to be lawfully farmed under certain regulations...

Let's leave the wild game of Alaska, that belongs to all Alaskans, just that, Wild.....

I would like to hear from you and your views, of the 40 persons I spoke with on this matter, only 2 were undecided, the rest were definitely against it.

Sincerely,



Paddy Tatum
mile 276 Parks Hwy
Senana, Ak. 99760

cc: Schultz, Frank, Cotten, Eliason, Halford, Menard, Zharoff

PETITION AGAINST SB 216 - MOOSE & CARIBOU FARMING

We the undersigned do hereby make it known we are AGAINST SB 216 "Moose and Caribou Farming" sponsored by Schultz and Frank. After weighing the facts of both sides of the issue -- our conclusion is this idea is unfeasable, unsound biologically and financially, detrimental to wildlife, and serves the purpose of only a few, whereas the wild game of Alaska belongs to all the people.

- 1 Paddy Talum AT. 2 Nenana, a.k. 99760 582-2535
- 2 Jerry Waldhoff Po Box 3121 Siderior AK 99744 None
- 3 ~~Debra Schornberg~~ Box 574 Clear AK 99704 582-2559
- 4 ~~Alfred C. Rockard~~ Box 40124 Clear AK. 99704 582-2164
- 5 ~~Alfred C. Rockard~~ Schield Box 40123 CLEAR AK 99704 582-2523
- 6 Carl Shields Box 40123 Clear AK 99704 582-2523
- 7 Paul Schornberg Box 574 Clear AK 99704 582-2559
- 8 Carl H. Larsen Box 40052 Clear AK 99704 582-2319
- 9 Harold A. Bennett Box 611 Clear AK 99704 582-2355
- 10 Gail Fluvent Box 40060 Clear AK 99704 582-2384
- 11 Donald H. Mackey Box # 422 Clear, AK 99704 582-2604
- 12 ~~Charles Williams~~ Box 43 Hill, AK 99743 582-2525
- 13 Samantha Smith Box 655 Clear, AK 99704 582-2115
- 14 Bert A. Kawate Box 509 NENANA, AK 99760 582-2534
- 15 Margie G. Peley Box 7 Nenana, AK 99760 832-5530
- 16 Robin Ridlington Box 202 Nenana, AK 99760 832-5816
- 17 Kristine L. Luy Box 265 Nenana, AK 99760 832-5690
- 18 Margaret Tolat Box 690 Clear AK 99704 832-2730
- 19 Larry B. Dool Box 690 CLEAR AK 99704 582-2750
- 20 John M. Dool Box 581 Clear AK 99704 582-265
- 21 Joyce E. S. Srenslaci Box 386 Clear AK 99704 582-2576
- 22 Kent R. Sorenson Box 636 Clear AK 99704 582-2507
- 23 Keith Hardina Box 479 Clear AK 99704 582-2512
- 24 Mary E. Fisher STR 2 Nenana 211 99760 582-2704
- 25 Myrtle C. Fisher STR 2 NENANA AK 99760-582-2784
- 26 Barbara G. Cox P.O. Box 378 Nenana AK 99760 582-2524
- 27 Arthur J. Schumack P.O. Box 343 Nenana AK 99760 832-5435
- 28 Helen A. Schumack P.O. Box 343 Nenana, AK. 99760 832-5435
- 29 Ludwig W. Schumack P.O. Box 40042 Clear AK 99704 582-2300
- 30 ~~Edna M. Hoy~~ Hwy 2 40042 Clear AK 99704 582-2374

- | | | | | |
|----|------------------|----------|-------------------|----------|
| 31 | Paul Turnquist | Box 419 | Clear AK 99704 | 582-2696 |
| 32 | ALBERT MADUX | Box 4001 | Clear AK 99704 | 582-2310 |
| 33 | Steve Holmes | Box 598 | Clear AK 99704 | 582-2918 |
| 34 | Steve Hockin | Box 3044 | ANDERSON AK 99744 | 582-2785 |
| 35 | Rick Duffy | Box 3031 | Anderson AK 99744 | 582-2928 |
| 36 | Maurice Dupraw | 40117 | Clear AK 99704 | 582-2423 |
| 37 | LESLIE MORTENSON | 459 | Clear, AK 99704 | 582-2476 |
| 38 | Helaine Michael | 481 | Clear, AK 99704 | 582-2476 |

UTILIZATION OF MOOSE FOR
SUBSISTENCE VALUE

The management of domesticated moose is a matter of great importance as sources of meat, of milk, and as draught animals, (tools, clothing, jewelry, animal feed, fertilizer).

As a source of meat the domesticated moose is highly productive. First, the loss of meat due to wounded animals getting away when hunted in the wild is avoided. Second, domestication permits the meat productivity of moose to be managed by selection and feeding. Third, castration of Bulls excludes the appreciable losses in their meat output caused by the abrupt drop in their fatness and weight during the mating season (Sept.-Oct.). Sexually mature domesticated bulls, during the mating period, will lose up to 20 per cent of their meat output, on the other hand, castrated domestic bulls remain in their well fed state until the beginning of winter, when the slaughter of meat animals begins.

In natural conditions, when the most nutritious green fodder is exhausted the calves stop growing for the whole winter. Consequently, six-months-old and year-old calves usually have the same live weight. But when the domesticated calves on the farm were given additional forage in the form of potatoes and fodder root crops, they continued to gain weight through out the whole winter, by as much as 40-80 kg. This enabled the farm to obtain year-old calves with the record live weight of 208 kg. ---THE JOURNAL OF THE FAUNA PRESERVATION SOCIETY - DEC. 1964

Doug Welton
6810 Steese Hwy
Wetlain (FAI) AK 99712



Alaska State Legislature

Please enter into the record my testimony to the Resources
 committee on S.B. 216 - Moose/Carbon Farming committee name
dated 4-10-92
 bill/subject

Unfortunately, I was not allowed to rebuttal after Dave Kellyhouse spoke, and now today I can't speak.

Again, & Again, they speak about all these problems.

But, why don't there these problems (mainly disease) at the MRC.

If this bill doesn't pass I will personally see to it that the MRC is shut down immediately so as not to be subjected to

the chance of contacting disease from their

"Tame Moose Herd". You need to talk to Dave Johnson (ex-moose herder for 11 years at MRC) He has a

P.O. Box in Soldotna but I've lost it. You should also contact Paul Reusch

Signed: _____

Wong Wilton

Testifier

Rural - ALASKANS

Representing (Optional)

Address

Phone No.

Fisheries Biologist in Soldotna.

He raises orphans from the Kenai Pen. area.



Alaska State Legislature

Please enter into the record my testimony to the 5 Resource committee name

committee on SB 216 , dated 4/3/92 .
bill/subject

The task force developed by the Commission and related to agriculture has stated that Native animals are viable industries which need to be pursued. Ted Kern at the St. Division of Ag. office has told me that he sees native species as what may be the only profitable animal agriculture business. Why can't we as citizens even give it a shot. I support SB 216.

Signed: [Signature] Robert Shumaker
Testifier

Representing (Optional)
P.O. Box 3712 Palmer
Address:
746-4453
Phone No.



Alaska State Legislature

Please enter into the record my testimony to the Resource Committee (Senate)
committee name

committee on S.B. 216, dated April 3
bill/subject

We the undersigned sat patiently for 2 hours
waited to be heard at the scheduled tele-conference
from 1:30 PM - 3:30 PM

- 1) Doug Wilton 6810 Steese Hwy. Fbks. AK 99712
- 2) RICHARD ROBERTSON 672 LOVE RD 99712
- 3) William KRUSE 6955 Johnson Rd Seward AK
- 4) Joseph L Carlson 49 1/2 mile Elliott Hwy Jay AK.
- 5) Nancy J. Carlson 49 1/2 mile Elliott Highway Jay Ak
- 6) John BREWSTER 32 23223 FBKS, AK 99707 452-2047
- 7) Eval Wilton 6810 Steese Fbks. ALASKA 99712 474-9583
- 8) DIXIE THOMPSON 656 Keeling Rd N.P. AK. 455-3995
- 9) Gary Thompson 656 Keeling Rd N.P. AK. 455-3995

Signed: _____
 Testifier

Representing (Optional)

Address

Phone No.



Alaska State Legislature

Please enter into the record my testimony to the Resource
committee name

committee on SB 216, dated April 3, 1972
bill/subject

We have a farm 60 miles north of FBKS where we raise and sell several kinds of farm animals. Our prime purpose is not to make money and not for food - however, we make enough to pay for feed and raise our own meat & eggs. Our prime purpose is for what we call "animal therapy" - we have 12 adopted children and 5 home made children. Many have been abused and neglected before coming to our home. This means that they have no idea how to be caring, nurturing & loving. We give them animals to care for. This is a learning process and animals are a non-threatening relationship. Besides developing a nurturing and caring attitude, the child learns to be responsible & be a hard worker.

We have 25 years experience in raising abused and neglected kids. We chose rural Alaska for our home 15 years ago. Some ranching exp explained moose or caribou would go hand in hand with our type work...
... Changing the lives of ~~these~~ "abused children".

Signed: Nancy J. Carlson
Testifier

Alb. Game Ranching Assoc.
Representing (Optional)

P.O. Box 71185 FBKS AK 99707
Address

Message # 485-2016
Phone No.



Please enter into the record my testimony to the Sen Resources committee name

committee on Moose/Caribou SB , dated April bill/subject

~~3 1/2~~ 3 1/2 years ago one of our Biologists told me about the Herds of F+G "They won't outright lie to you they just won't tell the whole truth"

F+G says there is no surplus in the wild stocks of Moose, — they try to gloss over the orphaned moose which will do nothing but die if left to nature.

Surplus NEEDS to BE defined as orphans, hurt, or when a herd is up to its carrying capacity.

Disease? We have visited the "Moose ^{Research} Center" — they have NEVER had any disease problem. THE ^(Dave Johnson) herdsman — who worked there for 10 yrs. said they rarely ever had vet.s come in to look at the moose.

We have been learning about Moose Farming for 4 years now, we've been told by lifelong Alaskans that people in the interior have wanted to Moose farm for over 30 years. This would help the small Family Farms supply fresh healthy milk and meat for their children.

Signed: _____
Testifier Opal Walton

Representing (Optional) _____
6810 Stearns Hwy, Ft. Kenai AK 99712
Address _____
474-9883

Phone No. _____

We must not look at the economics of raising moose as a huge enterprise, we must consider the individual Alaskans, and the hundreds of wayward moose in our society that make up this "Big Picture". OK! The researchers haven't figured out how to capitalize on the moose by farming or ranching them, but they have figured out how to raise them. Are we going to stick to the present study; shoot mentality, and harvest them through hunting seasons and with cars trucks; trains only?

Dave Johnson, a retired herder from the MRC, admits that he can't count all the calves that died from diarrhea over his 11 years, ~~and~~ but also admitted that he never tried simply adding fresh willow to the milk they fed, or even a little cod liver oil or vitamin E, that successfully cures scours. He said they lost so many, that year ago they had to just let the cows feed them!

Nor did Paul Beach, a soldierfish biologist who raises orphans every year, ever offer any of his successful techniques to the herders of MRC moose.

)) So if disease is truly a major problem or concern of the Dipts. I would like to advise you all to take whatever steps

Necessary to shut down the MRC and remove the "tame moose herd" from the premises.

Opening back up 4 sq. miles of prime moose hunting to the public. Of course that will mean the good ol boys will have to hunt elsewhere! How hasn't there been a major spread of disease from the place, when in fact there has been lots of wild moose mingling with the captive herd for 25 years. Thru the fence line traps the wild animals have come and gone, but the biggest problem has been the wild ones getting in and not wanting to leave. Think we can get a tally on how many bears and wolves have had to be destroyed to protect their Tame Moose herd?

The willingness and adaptableness to being milked cannot be disputed, these animals don't give a lot, but it's the most nutritious milk on earth and could nourish people in remote areas and villages across the State.

So what if it can't be a big dairy project, and why should it matter to F & G how many times they have to be milked.

The fact that the moose doesn't have sweat glands doesn't matter either, for most of the year the temperatures are low enough

to allow for these animals to be utilized for work and recreation, opening up country that is unpenetrable to most people now. You don't have to carry feed or water, they find for themselves making them my kind of ride. Just because you guys don't want or need one for this purpose, shouldn't mean we should be ignored and criminalized, they used these animals for these purposes forever. That is until the formation of F&G.

It's believed that at one time the moose was just as domestic as the cat and dog is today, and it's obvious that they still are. The animals that come into our society should be looked at as gifts, not grief. It's time there was awareness and education of how to deal with these animals instead of other policy we have now. I'm sick and tired of the officials killing these animals. It has to be stopped and I will see to it that it is.

Go ahead and listen to these guys as they show their omniscient knowledge. If they really gave a hoot about the moose more than their cushy jobs and paychecks, they

would have long ago supported my offer and plans, to put moose to better use, and to enhance the habitat to keep the moose away from the roads, rails and city streets. What really gets me is these people that are representing the opposition, are from a Dept. called Wildlife Conservation.

And certainly its not FIG's worry nor should the costs have anything to do with their position, can they honestly say they care about how much the people of this State pay for the feed for their moose herds. They don't even have to pay for the wire or posts that hold them in.

Don't they want the oil companies to donate pipe to anybody but them?

Mr Swartz has had to try harder and harder to justify the existence of the MRC for years. What can they possibly learn now about nutritional needs, they know exactly what the moose requires and they know exactly what needs to be done to the habitat to make more moose, that concerns me! The Division of Wildlife Conservation isn't doing it!

(5)

OK! I can only raise a few moose,
I want make millions, but my family
will eat good, and we will have pride
in ourselves for having been able to stick
up for the moose and this little guy and for
providing people with a meaningful purpose
and something to look forward to.

I want you all to think long
and hard about this, if guys that mount
machine guns to their airplanes and slaughter
wolves from the air are going to have the
final say about our FIG in this state,
we are in big trouble. I'll bet Dave
Kellhouse was never been to the MRC,
and is simply telling you all exactly what
Chuck and Wayne are telling him to say.

In fact few of our so called moose
managers in this state have ever been there
These boys need to get their heads out
of the books and get with the program.

This year, the program is, we
take care of the Orphaned, abandoned,
lost, hurt, and problem moose that keep
cropping up in our cities and neighborhoods
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these animals and show some responsibility.

For the F&G Dept. to even mention "humane treatment" is a disgrace. I could read some excerpts from their own journals that would make you sick and the fact that they have allowed for thousands of moose to get slaughtered along the railroad tracks is exemplary of how much they really care.

They should shut-up and go home, cuz sooner or later the people of this state will prevail.

It's more than a moose people!

Please move this legislation out of this pissin' match and vote it into existence, let's start saving moose now.

The moose has been held hostage on this political pedestal long enough

Thank you!

2 more things - moose are selling for 6,000 to 12,000
Orphans are auctioned now because of the demand
Calves sold 2 years ago for \$3,200 for a breeding pair

• It's learned that optimum carrying capacity is 6-8 and some areas
are 12. (not 3-4 moose)

①

It is a fact that orphaned moose will have a 99% chance of dieing, it is a fact that within the 1st week of birth these babys will imprint a human as its mother, they will remain tame, gentle and tractable, if taught with a bugle (Russia) or whistle (M.R.C. ALASKA) they return to these calls. An older orphaned moose ~~and~~ cow may never become as gentle and tame as the newborn orphans, however, it is not necessary for them to go into the winter alone to die, our M.R.C. (Moose Research Center, ALASKA) states that tame moose Fed all winter are able to breed at one year of age, they could provide us with young which are the most desirable since they are the ones which become so tame. Also a one year old tame bull moose will have a rack (one moose at 1 yr old had 7 tines on one side and 8 tines on the other side!) A young bull moose which has been gelded will remain gentle and tame taking no part in the rut, they continue to gain weight in the fall and winter, ^{their meat remains} good even to old age (Russia). ^{also Canada} Russia has proven that Moose milk is 5 times richer than cows milk, it churns into excellent butter, is like cows cream when added to coffee, (I make yogurt, and from all I've read of Moose milk, I believe it would be well suited to make into yogurt, and yogurt is extremely healthy) I can not express to you how ANGRY I am

(2) (1)

That this information has been kept from the Alaskans especially the peoples in remote villages, people who live out of town or in the bush, these people, with so much of their lifestyle being filled with such struggles, I believe it is criminal that the heads of F+G of ALASKA (some of these heads have had this knowledge!) have kept this "Reliable" source of meat and FRESH-HEALTHY milk products from our Children. It is becoming more and more talked of that according to Alaska's Constitution in Article 8, that it is already legal for Alaskans to Moose farm. F+G disagree. This issue has never been settled in court. It takes very little study to find that Alaska's Wildlife is at a record low - this is how F+G have been game-wonching the wildlife. Who do they work for? I can no longer refer to F+G as "ALASKA's" or "Ours". There is some good ^{honest} people in this dept., 3 yrs. ago one of the biologists (who, after about 30 yrs has recently retired) stated about the heads: "They won't put right lie to you, they just won't tell the whole truth." The 4 sq. miles of the M.R.C. with their approx. 25 tame moose, in all the years of operation has never had a single disease problem. We visited the M.R.C. and spoke with the herdsman of 10 yrs about this and other interesting facts. I asked Dave Johnson

(3)

point blank, and he answered that "Moose can be just as domestic as any other tame animal"

Doug expressed to Dave Johnson that he wished the F&B would take him seriously - Dave responded that "they do! They do!", We expressed that if the heads of F&B are so certain Moose Farm would fail, why not let us give it a shot, they could make a "laughing-stock" of us and once and for all prove their point, he agreed that they wouldn't allow us to Moose farm because it would succeed.

The Native organizations are open to us teaching interested villages who want to Moose farm, ^{beginnings of} orphans could become their tame moose heads (small scale) we have a couple cabins, which they are aware of, which ^{are} open to their people to come learn from here. Also Moose which prove to ~~be~~ be too stubborn to become gentle could be relocated in areas with low moose populations, the M.R.C. ^{ALASKA} reports states successful transplants of moose which populated those areas.

Alaska has a great need for habitat enhancement, the State of ALASKA (except where there has been recent fires) is covered with old growth, (old growth provides approx.

1/2 inch of moose food, new growth provides ^{more} than a yard!) If you don't know the diff.

If you would think there is lots of moose food

because of all the willow you see. The M.R.C. of ALASKA has done research ^{about 1975} on habitat enhancement, twenty some years later they do not teach and encourage or implement their knowledge into Alaskas public. Also In the Swedish Moose Symposium books from about 1988, F+G heads go into details ~~and~~ of the wonders of habitat-enhancement.

There could be so much wildlife in Alaska that there would be no issue over subsistence.

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