SB

46

P. O. Box 966
Delta Junction, Alaska 99737
March 7, 1991

Senator Dick Shultz
Pouch V
Juneau, Alaska 99811

I am requesting that you introduce legislation so that I may receive and raise wildlife on a wildlife sanctuary that I am developing in the Delta area. I have developed the sanctuary by introducing bison and will soon be adding elk.

My farm is approved and inspected the the U. S. D. A.who have issued a license (96-C-13) to operate, to keep and to handle large animals. I am subject to periodical and unannounced inspections. The farm is fenced with New Zealand Game Fence. Cort Zachel, a Fairbanks Veternarian provides the medical attention necessary-observing them weekly and is constantly on call.

I will receive any large animal that is injured and salvagable, abandoned animals, starving animals, problem animals around residential areas or animals in danger of being killed. I will receive these animals, give them proper medical attention and feed them in a confined area of 2,000 acres. Ownership of all the animal would remain with the state.

I am requesting permission to conduct a five-year experiment to save these animals. At the end of five years, the legislature and Fish and Game will review the status of the sanctury and decide whether to continue the program.

Currently, the animal with a big problem is the moose. Last winter it is estimated that we lost 8,000 to 10,000 moose by railroad and highway kills and just plain starving to death. This has been going on for years with the number of kills depending on snow depth. Solutions have been a token effort, consequently, the slaughter continues. The latest solution in effect is to feed the moose to the bears, as 100,000 pounds of moose was fed to grizzly bears on the McComb Plateau last winter and will be done again this year. I believe this is a crime when missions and the Salvation Army are pleading for food to feed the homeless, the poor and hungary children. With social program funds being cut, the problem will get worse.

My partial solution to the railroad kills would be, as the snow depth increases and moose are in imminent danger (determined from the previous year kills) to allow me to capture 50 yearlings a year before they are killed and transport them to my sanctuary. I am in the process of obtaining a chipping and pelletizing machine to produce moose feed from aspen dust and Delta barley according to the formula for moose feed developed by the Alaska Fish and Game. Moose fed this ration require far less land area than free ranging moose.

I would appreciate the legislature considering my proposal and any help and support your office can give me.

Sincerely,

Nick Colombo

Nick Colombo

Support

Alaska State Legislature

SENATOR
MIKE MILLER
P.O. Box 55094
North Pole, Alaska 99705
(907) 488-0862

Senate District Q

While in Juneau
State Capitol
Juneau, Alaska
99801-1182
(907) 465-4970

Senate

MEMORANDUM

TO: Rep. Bill Williams, Chairman
House Resources Committee

FROM: Sen. Mike W. Miller, Chairman
Senate Resources Committee

DATE: April 13, 1993

SUBJ: SB 46 AUTHORIZING MOOSE FARMING

Please consider this my formal request that SB 46, An Act authorizing moose farming, to be heard before your committee as soon as possible.

The purpose of this legislation is to amend state law relating to game farming and to allow moose farming if the Department of Fish and Game determines that a surplus of moose exists.

I would appreciate your notification of the hearing date.

Thank you for your consideration in this matter.

Sen. Dick Shultz

Fairbanks North Star Borough Assembly
809 Pioneer Road P.O. Box 71267 Fairbanks, Alaska 99707-1267 907-459-1[illegible]

TO: The Members of the Interior Delegation

FROM: Harold Gillam
Assemblymember

DATE: April 28, 1992

SUBJ: Moose Farming Resolution

The Borough Assembly passed a resolution last Thursday night urging that the legislature pass legislation this session that would allow for "Moose Ranching."

This is not a new concept for it has been done with success in Russia. Wild animal ranching is done in several states of the union. It is also done in Canada. Reindeer ranching is done on a very limited basis today and is restricted to only Alaska natives. Prior to the restriction (1959) it was done on a large scale in Western Alaska and was considered one of the greatest resources, next to mining, in Northwestern Alaska. There has been considerable study by the University of Alaska concerning the Musk Ox.

It is a viable concept that will not cost the State any money to implement, for with a simple change of the law there are people that are willing to invest their own money, time and effort to make it a success.

I would urge you to allow these people the chance to make a success of this endeavor and to show that the State of Alaska is willing to encourage individual initiative.

Sincerely

Harold Gillam

SUPPORTING STATEMENTS

By: Harold Gillam
Introduced: 04/23/92
Adopted: 04/23/92

RESOLUTION NO. 92-039

A RESOLUTION RELATING TO MOOSE FARMING

WHEREAS, there are individuals throughout the state who are interested in the farming of certain wild animals including moose; and

WHEREAS, in other countries, such as Canada, moose and other game animals are raised for both tourist viewing and the commercial sale of meat; and

WHEREAS, moose farming may provide for an increase in the productivity of moose; and

WHEREAS, moose farming, like musk ox farming, would provide the opportunity to study the animals while at the same time, provide for increased tourism. In many cases, it may be the only way some tourists would be able to see a moose in close, safe proximity and which would allow them to take part in "the Alaskan experience"; and

WHEREAS, permitting moose farming would provide further opportunity for economic development; and

WHEREAS, two bills have been introduced, House Bill 479 and Senate Bill 216, and both are currently in the House and Senate Resources committees respectively.

NOW, THEREFORE, BE IT RESOLVED that the Fairbanks North Star Borough Assembly respectfully requests the Resource Committees to report the bills out of committee and the Legislature to enact legislation which would allow moose farming.

BE IT FURTHER RESOLVED that copies of this resolution shall be sent to the Honorable Walter J. Hickel, Governor, State of Alaska; the Honorable Lloyd Jones, Chair, Senate Resources Committee; the Honorable Cliff Davidson, Chair, House Resources Committee; and all members of the Interior Delegation.

PASSED AND APPROVED THIS 23RD DAY OF APRIL, 1992.

Henry "Hank" Hove
Presiding Officer

ATTEST:

Mona Lisa Drexler, CMC

Mona Lisa Drexler, CMC/AAE
Municipal Borough Clerk

Alaska State Legislature

SENATOR
MIKE MILLER
P.O. Box 55094
North Pole, Alaska 99705
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Senate District Q

Senate

While in Juneau
State Capitol
Juneau, Alaska
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SPONSOR SUMMARY

SB 46

The purpose of this legislation is to amend state law relating to game farming and to allow moose farming if the Department of Fish and Game determines that a surplus of moose exists. If there is an existing suplus,it can grant the surplus or portions of it to persons, groups, associations, partnerships or corporations for the purpose of raising and breeding domestic stock for commercial purposes, or for scientific and educational purposes.

This bill also amends existing statutes, to allow the sale of commercially raised moose meat.

Game farming can provide opportunities for food production, economic diversification, and social stability in Alaskan communities where the development of alternative resources is limited or nonexistent. It can provide jobs and productive activity for people on a sustainable basis. Game farming can be a significant economic and social benefit for Alaskans.

In the specific case of farming, permissible species can be raised on private land bases and help add this missing dimension of management to our State goals.

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 opportunties; 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.

Suggested resolution

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 enhancment 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 enties 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.

Dr Wood

WILD GAME ENHANCEMENT/GAME RANCHING/GAME FARMING

INTRODUCTION

Alaska has a diversity of fish and wildlife, much of which is found in relatively low densities, generally in remote situations and/or seasonally. One of the attractions for non-Alaskans, as well as many Alaskans, is the opportunity to view, photograph, catch and shoot one or many individuals from within this renewable resource group. The above provides an economic opportunity which to date has only received limited attention through guiding operations for both consumptive and non-consumptive purposes, and the limited fur industry which includes wild harvest and some fur farming.

The economic opportunities for rural Alaska, particularly with the establishment of large parcels of private land, warrant consideration by private enterprise as well as state government. It is probable that existing state policies will require modification before Alaska will realize the benefits enjoyed by other areas of the world.

To date, Alaska has primarily managed hunters, trappers and fisherman as they practiced wild harvest of fish and game populations. Limited attempts have occurred in the areas of habitat modifications, transplanting and stocking. World-wide experience suggests that habitat enhancement and intensive management of the animals themselves results in increased populations of fish and wildlife. These efforts can range from relatively simple habitat manipulations, through game ranching and aquaculture to intensive game, fish or fur farming. Such efforts in Alaska are likely to benefit Alaskans and a wider diversity of society than is currently enjoyed.

At present, enjoyment and use of much of Alaska's wildlife resource is limited by poor access and undeveloped marketing schemes. In many areas, wildlife is the only renewable resource present. Timber production is marginal or non-existent in most of the state, and farming of agronomic crops is feasible only in selected areas of favorable climate and soils. However, wildlife is present in most of the state in forms which can potentially be used on a sustained basis to provide meat, hunting and viewing pleasure, hides, fiber and other materials for crafts. Considering the renewable nature of this resource in the absence of other such resources, it becomes apparent that ways of more fully [illegible] should be investigated.

Game Farming

Game and fish ranching should not be viewed as a means of greatly increasing wildlife populations. This is particularly true in northern latitudes, such as Alaska, where primary production of plant life in rangelands, streams and lakes is relatively low. However, it is reasonable to expect that more intensive management of wildlife populations and habitat can provide increased opportunities for wildlife viewing, improved conditions or facilities for harvest and/or hunting and fishing, reduced waste, better preservation of game products, culling and manipulation of population structure to better match demand, and control of predatory losses. Habitat improvements resulting in increased carrying capacity and species diversity may also be possible in some situations, particularly where profit taking is possible. These activities will also generate meaningful employment.

Any type of game production system must be based on ecological principles. The first step in its development should be the inventory of available lands in terms of acreages and distributions of habitats for specific animal species. Seasonal availability of food and cover within each habitat must be estimated and possibilities for improvements evaluated. Common use grazing relationships, fire, predation, disease, insect disturbance, snow and other weather conditions all affect the carrying capacity of different habitats. Consequently, considerable understanding of year-round animal requirements and tolerances is essential in the successful management of a game production enterprise. One of the earliest lessons learned in game ranching or farming activities in Africa was that these activities require more, not less, knowledgeable management than do common livestock. Mismanagement of vegetation, soil and water resources can result in disastrous reduction of carrying capacity and catastrophic decreases in animal populations. Losses of this type can be particularly serious when they involve overutilization of vegetation, since recovery may require decades of reduced use.

With increased biological and legal control of animal populations, greater inputs in habitat management are justified. In situations where the game rancher can control the size and structure of populations using his land and be entitled to the profits generated with the animals, inputs to habitat can become practical. Generally, the most cost-

effective inputs are those which manipulate plant succession to produce vegetation more suitable as habitat for a particular species. Removal of spruce by cutting, burning or crushing to enchance production of willow or aspen is an example of the above. Production of supplemental feeds or mechanical manipulation of physical features of the habitat are more costly and change the nature of the ranch more to that of a farm, but are alternatives that may have a place under some goals of ownership.

Game ranching and farming operations in other regions of the world have demonstrated a number of values to society. Increased sustained-yield harvest of animal products has been achieved through professional hunting, use of corrals and fences, salting, spotlighting, and use of portable abattoirs. Simultaneously, significant income has been generated through allowance of fee hunting for trophy animals. Additional income has also been generated by providing accommodating conditions and facilities for tourists and other recreationists.

In some areas, wild species have actually been demonstrated to have the ecological advantage over common stock, providing for more complete use of the vegetation resources. In brushland situations, browsing herbivores (e.g., giraffe, white-tailed deer and moose) are more productive than true grazers. Similarly, reindeer or caribou have a distinct advantage over other species in utilizing snow covered tundra. For centuries, reindeer herding was a main stay of the Lap society, and is a major occupation in the U.S.S.R. today, just as white-tailed deer ranching has become a major income-generating activity in west Texas. Horse and yak production as well as reindeer herding represents a major economic base in nearby northeastern Siberia. Moose farming has also been undertaken in that region. Closer to home, western Alaska once had a thriving reindeer ranching industry of over 600,000 animals, where in fact, little, if any other opportunity for a land-based economy has been developed. Mining may change this picture temporarily, but mines are not renewable.

As stewards of the land we must be careful not to limit our agricultural perspective to those species typically considered in ranching or farming systems. This is particularly true in our state traditional agriculture is relatively limited in potential. Conversely, we must also avoid sentimentality and select game production schemes which are ecologically sound. Our vision and wise action in these matters will tap a huge, relatively untouched, renewable resource which will benefit generations to come.

ISSUES

In order for Alaska to optimize the opportunities available to the broadest segments of society, which is mandated under Alaska's constitution, a number of issues must be explored in depth with regard to existing state policy, laws, and in some cases, as these relate to the federal government. The following is a list of some of these issues, although it is not exhaustive.

Alaska Fish and Game Laws and Regulations:

-Establishment of seasons and bag limits.
-Methods of take.
-Sale of fish and game products.
-Subsistence versus other consumptive and non-consumptive uses.
-Management, including utilization of fish and animals, on private lands.
-Importation of fish and animals which has implication to both existing and imported fish and wildlife as well as to domestic animals from a predator, disease and pest stand point.
-Predator control.
-Baiting.

Land management and regulation:

-Access and trespass.
-Burning or other vegetation manipulation.
-Construction of ponds, fish ladders or other structures on private lands.
-Fencing or the use of natural barriers.
-Determination of carrying capacities.
-Water quality standards and wetland regulations.
-Leases of state or federal land.

Health and inspection standards

-Pre and post slaughter inspections.

-Processing plant standards and inspection.

-Field slaughter opportunities.

-Mobile slaughter facilities.

-By-product processing.

-Meat grading.

-Antler grading.

-Carcass disposal.

-Other waste product disposal.

-Raw product export.

Public and/or private economics

-Capital availability.

-Projected returns to individuals, regions, the state.

-Types of operations.

-Projected demand by type.

-Enhancement of existing tourist industry.

-Regulation and enforcement costs.

CONCLUSION

Existing worldwide experience suggests that Alaska is not optimizing its opportunities relative to fish and wildlife. Presence of large blocks of private land in rural Alaska have altered the status quo of how the state manages and/or regulates this renewable resource. Is the State of Alaska going to play a positive role in optimizing its fish and wildlife resources?

In order to begin to answer the above question, it is suggested that the legislature establish and fund a broad based task force, charged with bringing recommendations back to the legislature within one year.

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Game Production: Agricultural Diversification For Alaska?

Lyle A. Renecker

It has become abundantly clear in recent years that agricultural enterprises must diversify if they hope to survive. North America has wrestled with the concept of alternative agricultural practices for over 20 years. Farmers no longer want to approach this business of agriculture with all "their peas in one pod." Political subsidy wars, stabilization plans, depressed commodity prices, and over-production are among the reasons why traditional farming is less profitable and why farmers are diversifying their conventional farm businesses. To the real people in the agricultural sector—the farmers—any change must offer a positive cash flow. More importantly, it must gain the confidence and general interest of farmers.

Consumer trends have been towards healthier and leaner meat products. Meat from native wild ungulates is a natural candidate because of its lean qualities, low percentage of intramuscular fat, and low energy content. In 1986, a conference was held in Des Moines, Iowa which provided 100 options for diversification of the farming community. Deer farming was among them. Commercial game farming would seem a natural alternative to conventional agricultural enterprises that choose to diversify and attempt to meet the greater demand for leaner meats. Here, I describe some of the history behind game production in North America, important political and conservation considerations that involve the game industry and private sector, and how Alaska may fit into the greater global picture.

Historical Perspective

Man has been associated with the use of native wild herbivores in North America since Paleolithic times more than 100,000 years ago. Prior to the arrival of European fur traders, the Great Plains of North America were abound with wildlife. An estimated 35-75 million plains bison and about 10 million wapiti lived on the continent.

In historic times, native ungulates were utilized as an available source of food first by indigenous Indians and then by explorers and later by settlers who arrived in North America in search of new homes. From his explorations in western Canada, Samuel Hearne in 1770 stated that "moose were the easiest of the deer kind to tame." Homesteaders quickly recognized the favorable disposition of moose and often trained them as beasts of burden or for light farm chores (Figure 1).

However, as this new civilization pushed westward, populations of wild ungulates were slaughtered because of the unprecedented need for food by the frontier settlements and loss of habitat to conventional agriculture. Bison herds were soon decimated in such numbers that between 1873 and 1875 approximately 6.75 million head were killed (most in the United States Midwest). By 1889, William Hornaday estimated that only 635 bison remained in North America. Existence of plains bison today stems from the private efforts of a Flathead Indian and seven ranchers. The roots of plains bison populations were largely derived from 54 wild calves that were caught and raised by these private individuals. This historical event was of great consequence in the conservation of the species and delivers a message about the role of the farmer in wildlife management.

Interest in the commercial production of native herbivores continued to thrive in Canada. In 1915, the Federal Department of Agriculture established a program to evaluate the potential of plains bison x cattle crosses. The purpose was to develop a breed that retained the natural adaptive characteristics of bison to extreme environmental conditions, but maintain the favorable meat characteristics and

Lyle A. Renecker, Assistant Professor of Animal Science (Reindeer), School of Agriculture and Land Resources Management, University of Alaska Fairbanks.

temperament of cattle. The program was terminated in 1973. Based on the research findings over the years of the program, it was determined that cross breeding the two species would not be as successful as concentrating on improving the bison or cattle.

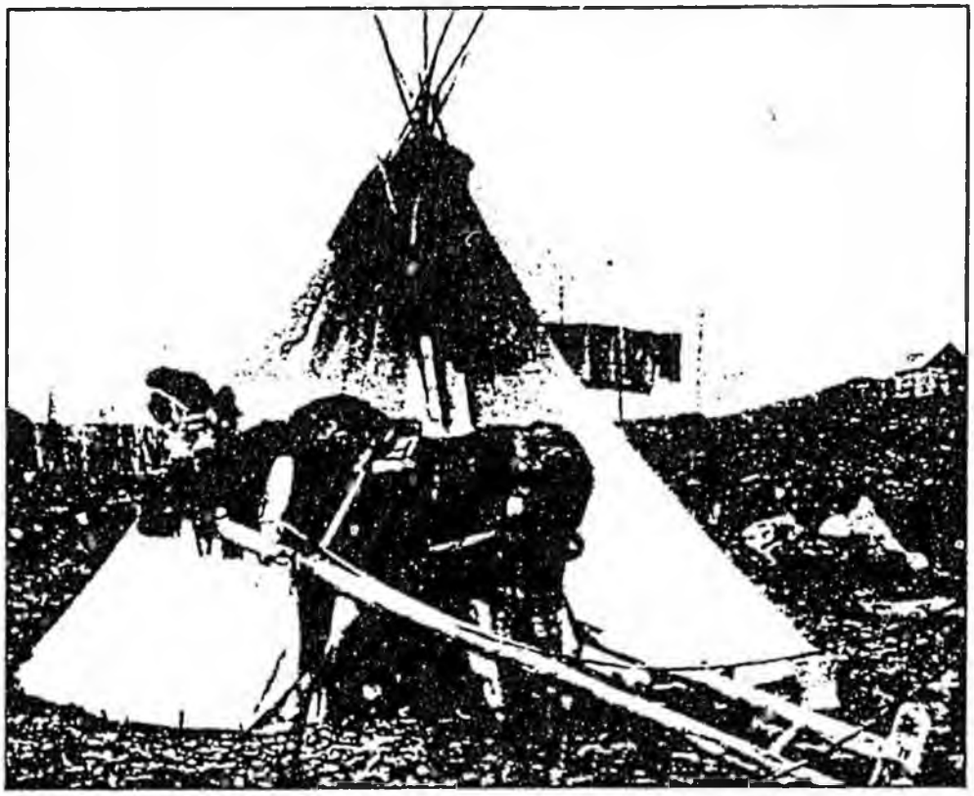

Figure 1. Moose pulling an Indian travois in north central Alberta (c. 1899). Photograph by C.W. Mathers; permission granted by Saskatchewan Archives (Renecker et al. 1989).

Early Interest in Production Strategies

With establishment of Elk Island National Park, a working model of a mixed-species grazing system was initiated. This production strategy utilized an assemblage of a grazer (bison), mixed feeder (wapiti), and browser (moose) which have minimal overlap in their winter food habits. The Kikino Metis Settlement, in North Central Alberta, Canada was the first to apply this large-scale (game ranch) management system to a commercial operation. This strategy dilutes the cost of fencing by increasing the size of the land base to more than 9 ½ miles square and minimizes the labor-input by stocking animals at carrying capacity with no supplementary feeding. However, the experience of the Kikino Wildlife Ranch was one of little control over animal movement and economic opportunities were limited to winter when animals can be baited into corrals or traps. The decision of the Kikino operation was a change in direction to more intensive management.

Few private land owners possess the large contiguous tract of land that is necessary for an extensive game ranch. As a result, most commercial operations have been intensive game farms, on smaller properties, with supplementary feeding, which orchestrates a farm management program that exploits all economic opportunities.

Game farming in some Canadian provinces has been increasing at a rate of 30% per year. There are about 17,700 wapiti and 82,600 plains bison on commercial farms and ranches in Canada and the United States. At this stage of development, the game/bison farm industries are largely constrained by availability of breeding stock. It is logical to predict that it will require about 15-20 years for the industry to grow and reach a stable level that is based on the price of meat. For example, if the commercial population of wapiti in Canada continued to grow with the assumptions of good management and normal harvest of products and animals, by 2004, a respectable over-wintering herd of more than 200,000 head would be present on farms (Figure 2). This stock would produce annually 10,500 tons live weight of wapiti for meat production and 133 tons of velvet antlers (Figure 3) for total gross returns of about $62 million (US).

Industry Development in Alaska at a Glance

Physical Environment

The climate of Alaska is extremely pulsed with short warm summers from June to September and typically cold winters with a mean January

minimum temperature of about -19° F in the Interior. The vegetation varies from temperate forest to montane and tundra types. Only a small proportion of Alaska has a climate and soil base that is suitable for cultivation and crop production. These areas consist of the Cook Inlet-Susitna Lowland and the Tanana Valley of the Interior Alaska Lowlands. Where agriculture is practiced, the principal crops grown in Alaska are cereals (barley and oats), grasses for hay and silage, and potatoes. Because of extremely cold winters and frost conditions forage legume crops are not widely grown in Alaska.

Generally, crop production and grazing in these regions are limited by a growing season which varies from three to four months. However, on Kodiak Island and the Aleutians, grazing can be maintained year round with some supplemental feeding. The best soils for grass production are those with good drainage, have a natural vegetation cover of grasses and forbs, and receive adequate precipitation. Organic soils are poorly drained and susceptible to flooding and erosion. Tundra soils are generally limited in depth and by the environment and not good for intensive agricultural production.

Commercial Game Production

Under the current game farm regulations in Alaska, commercial game production is permissible with bison, musk oxen, reindeer, or wapiti. Commercial reindeer herding has been practiced by indigenous people in the state of Alaska since the turn of the century. During the industry's development, health, management, and marketing programs have been developed and applied. The result has been an extremely important industry to both the Seward Peninsula, where much of the industry is concentrated, and the state as a whole. Because of their adaptive behavior and tolerance to harsh environments, wapiti and bison are other target species that could be easily farmed by the private sector in the agricultural regions of Alaska. For example, wapiti eat less than cattle, adjust quickly to conventional feedstuffs, and their gregarious behavior is compatible with intensive production. Each of these species has adapted to northern environments. With interest in alternative agriculture systems, ecological, physiological, and behavioral adaptations of these wild or semi-domestic species could

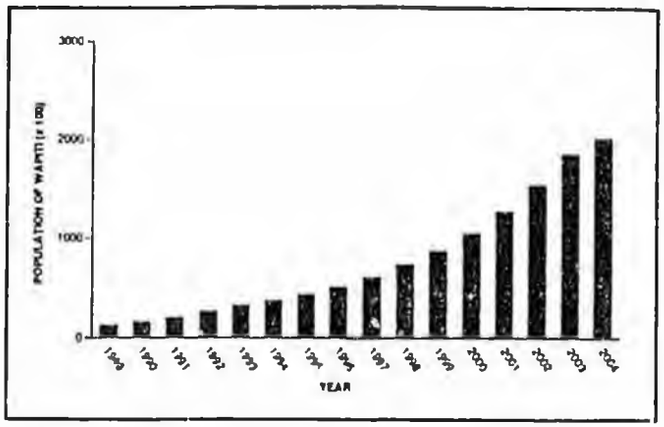

Figure 2. Projected growth of the population of wapiti on Canadian game farms until 2004.

be deployed with an advantage to the farmer. These species have growth cycles adapted to the seasonal food supply and cold tolerance and digestive systems to efficiently utilize native, as well as, domestic forages. For example, bison have adapted to more efficient utilization of low quality feedstuffs than cattle, wapiti are very productive with high growth rates, and reindeer have adapted to both extensive herding in the tundra and, as with other species, they have shown promise for intensive farm operations.

The Private Land Issue

Perhaps the greatest challenge that faces government wildlife agencies is management of resources on private lands. It is difficult to convince a farmer that he should not drain a wetland, clear a forest, or plow a grassland if it translates into more cash returns and less disparity in his annual budget. The farmer requires a tangible benefit in order to fully appreciate the importance of these marginal agricultural lands. Game and bison farming may have created that tangible benefit.

During the winter of 1986-87, there was an estimated 1 million acres of topsoil lost in Western Canada from wind erosion. From pre-settlement to 1985, about 40% of the prairie wetlands disappeared, and during 1984-85, some calculations have shown that forests were being removed at a rate of 80 ac/hr in Western Canada. These areas, like many in Alaska, are marginal, fragile, and probably should never have been altered. They were excellent habitats and range for wapiti and bison and with proper

cies that are naturally adapted to these conditions. With the high value and returns for reindeer, wapiti, and bison, intensive farm operations should seriously consider diversifying conventional agricultural enterprises. If the cost of production is 70-76 percent that of beef and the returns are two-to-three times the price of beef, as has been observed for wapiti and bison (as described by Renecker et al., 1989: p. 264), then it is only common sense to provide the best management possible. Currently, there is one wapiti producer in the state of Alaska. However, it is important for every perspective game farmer to understand the infrastructure, management, and production needs of the species to be farmed and the markets where they can sell their products. But, a new industry must remember that strong public support is maintained through developments that are ethical and logical. There must also be a clear direction in the regulatory procedures of the industry and this originates from consistent definitions mentioned earlier. This new industry of game farming could offer a method of agricultural diversification for Alaskan farmers, however, we will never know unless we conduct the necessary research on which to develop the industry. In a capsule, the needed research is: a) a study of relocation and nutritional stress; b) herd health programs; c) pasture management; d) herd management and productivity; and e) market development, product consistency, supply consolidation. ❑

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BRIEF ON GAME PRODUCTION

by

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Game production is not exactly new to man. Man has been associated with the use of native wild herbivores in North America since Paleolithic times more than 10,000 years ago. Deer farming has been practiced by the Chinese people for more than 2,000 years. Also, reindeer herding has been present in the cultures of northern Europe and Asia for over 2,000 years. The Romans enclosed deer in parks for both pleasure and profit as was stated by Columella in accounts of ancient times that "wild creatures such as red, roe, and fallow deer... sometimes serve to enhance the splendor and the pleasure of their owners, and sometimes bring profit and revenue". He also makes note of deer being in enclosures and given supplemental feed in order that "..when the custom of giving feasts called for game, it might be produced as it were out of store". This is not that different from what we perceive as game farming today.

Agriculture today must diversify in order to realistically anticipate survival. One of the options which has been pursued around the world is game farming. The form and rules vary in accordance with the political jurisdiction, however, the concept is not new. For a complete world wide perspective, see Renecker and Hudson (Wildlife Production: Conservation and Sustainable Development; 1991).

Management Systems

In order to develop and diversify wildlife management strategies, a blend of protective (parks), multiple-use (integrated), and productive strategies should be employed. Protective measures represent parks and wildlife preserves but these areas are small and usually are separated by political boundaries. Multiple-use or sometimes referred to as integrated or compromise systems attempt to satisfy the conflicting demands of several users. Land uses are integrated in this type of management system typical of government jurisdictions in order to maximize benefits, however, there are always trade-offs. Finally, the missing link in complete diversification of wildlife management is productive systems. Here a single resource is managed

intensively for peak performance. Game ranching/farming is one way to provide this missing dimension. Today, present concepts relate to control on removal rates of wildlife and guarantee a supply of wild stock for sport hunting. However, this does not resolve the management issue on privately-owned land where importance is an issue of value.

Demands for Precise Definition

One of the most important considerations in the development of a commercial game production industry is the proper definition of the business at hand. Terms can confuse and suggest different conceptual ideas to various sectors of the public. Therefore it is important that definitions be concise and consistent with biological and agricultural terminology. Specifically, I refer to the confusion that can revolve around the use of either game cropping, herding, ranching, or farming. These are clearly defined by Renecker (Agroborealis 23: 20-24; 1990).

Positives Realized

Growth & Demand - In recent years, conventional agricultural has been subjected to continual pressure of diversification. The farming business continent wide has been plagued with family farm foreclosures as a result of low commodity prices and political subsidy wars. Commercial game production offers a lean, healthy meat product that is in public demand. In return, this health conscious society is willing to pay sound returns for a quality, consistent product. Over the last 5 years, there has been a consistent increase in the trade of farm-raised venison. For example, from 1986 to 1991, New Zealand has increased its export sales of venison from about 1,300 metric tonnes to 3,000. The increase has come with concomitant demand for standards of quality and supply. In 1991, the USA alone bought New Zealand farm-raised venison valued at over $ 1 million which has doubled from the mid 1980's. Clearly, the market will bear a considerable increase in supply, however, growth must occur in the industry world-wide to meet this demand for a quality product. Quality Alaska reindeer, wapiti, or bison are possible candidates for sale in this marketplace.

Culturally-consistent - An additional benefit is the culturally-consistent livelihood it provides for our Native people. Whether, the production strategy is farming or herding, commercial game production can provide employment and financial opportunities and yet attempt to remain in balance with traditional cultures.

Health - Disease regulation and control has been a concern of both opponents and proponents of this new industry. For example, there has been continuous blame placed on the game industry for the outbreak of the tuberculosis situation in Canada and the lower 48 states of the USA. However, is this a realistic evaluation or, in fact, was it the game production industry that has raised important questions that relate to the testing of even domestic ruminants. Precisely, the tuberculosis situation resulted from a breakdown in the screening process - the tests were not accurate enough. This does not open an immediate arena for emotional and erratic decisions but rather the situation must be resolved to allow business to be conducted as usual. Remember, this means the industry will have clean, healthy animals because they can be tested or vaccinated - and the system works. These newly developed techniques can then be applied by biologists to wild populations of ungulates.

Game animals have few unique diseases and are generally are considered to have fewer parasite/disease problems than livestock. Once intensive practices are employed on the range or farm, animals can be managed through normal health program procedures.

Fences and Handling - Fences and handling are incredibly important. As with other animals, facility designs must be utilized that minimize stress and take advantage of the animal's natural behavior to the manager's advantage. Game farm producers have rapidly learned these behavioral principles and adapted methods that facilitate management. For example, any wild or even an animal habituated to the presence of humans will rarely move down a straight alley that ends in a right angle corner or a dark shadow that streams across the end of the passage. It could be referred to as natural instinct or perhaps common sense. However, place a slight bend or curve in the alley and the animal can see there is a possible exit and a place to hide and feel secure from the herder who approaches from the rear. The animal moves around the corner into the security of a holding pen and the gate is closed before realizing that it is captured .

Fence materials (hi-tensile netting) have been developed and marketed specifically designed for game farms. Various combinations can be used to meet both practical and legal concerns for the perimeter and management needs of the internal paddocks. There is also wire netting that is designed with smaller openings at the bottom that increase in opening size towards the top. This keeps dogs and coyotes outside and prevents small calves from escaping.

Development Plan - Since facilities are essential it is important that the farm layout and design for the initial construction and future developments are thoroughly considered. A

development plan has helped many game farmers and herders plan their needs for infrastructure and capital many years in advance.

Economics and Markets - The initial investment for physical structures (eg. fences, handling facilities, etc.) is higher than for livestock production. However, barns and calving sheds are not required as they are with cattle. Markets for farmed and herded game animals exist and appear to have the potential to expand in the future. In Alaska, reindeer, wapiti, and bison are potentially three possible source of lean and well-flavored meat which is in consumer demand. Velvet antler is another commodity produced by both wapiti and reindeer that is utilized in Asian pharmaceuticals and traditional tonics. Other markets, such as for breeding stock, viewing, etc., can also be explored and researched.

Poaching - It has been suggested that poaching will increase with the expansion of the legal market for game meat. This will be improbable because of consumer desires for a consistent, high quality product. It implies government inspection and ante and post mortem inspection. In order to obtain the government stamp, the meat must be handled under rigorous standards which will be one of the producer's platforms for marketing a quality specialty-item.

It is obvious that there is potential in this new industry - situations and developments both around the world and here in Alaska have shown this. The industry will require research as it integrates and grows in size. An important issue is the continuous interaction, understanding, and compromises of all persons involved in order to ensure logical business development.

Future of Agriculture Task Force

We submit the Future of Agriculture Task Force's final report in order that this basic resource, enjoyed by every Alaskan every day, can be developed in the best interests of all.

In the past six months, the task force has held thirteen public meetings statewide. Input was sought from every sector of the agricultural community. Members of the task force included men from a broad spectrum: Co-Chairmen Lt. Governor Jack Coghill, DNR Commissioner Harold Heinze; Bob Baer and Mark Kulstad, both in Real Estate in Anchorage; Jim Carter, homesteader from Willow; Jim Drew, Dean of the School of Agriculture and Land Resource Management, University of Alaska Fairbanks; Herb Eckman, owner of Alaska Sausage, Anchorage; Bob Havemeister, second generation Colony dairyman, Palmer; Paul Huppert, owner, Palmer Produce, Palmer; Mike Schultz, grain, hay and grass seed producer, Delta Junction; Ron Sexton, owner, Trinity Greenhouses from Soldotna; and David Wright, an organic grower of vegetables, Harmony Acres of Palmer.

Meetings were held in Palmer, Anchorage, Glennallen, Trapper Creek, Kenny Lake, Kodiak, Ninilchik, Delta Junction, Fairbanks and Juneau.

Governor Hickel asked the task force to examine Alaska's agricultural successes and make realistic recommendations for future state involvement. The following eleven points are submitted to Governor Hickel for implementation into a healthy state agricultural policy.

We thank Governor Hickel for the opportunity to study and serve and hope this plan of action will keep the government from repeating the mistakes of prior administrations and build on the successes for the Future of Alaskan Agriculture.

Sincerely,

Lt. Governor Coghill	Commissioner Heinze	Bob Baer
Mark Kulstad	Jim Carter	Jim Drew
Herb Eckman	Bob Havemeister	Paul Huppert
Mike Schultz	Ron Sexton	David Wright

AGRICULTURAL TASK FORCE

SUMMARY

"Let us never forget that the cultivation of the earth is the most important labor of man. When tillage begins, other arts follow. The farmers, therefore, are the founders of civilization." -Daniel Webster.

The State of Alaska shall establish a positive, solid, forward thinking agricultural policy by establishing a long-term environment suitable for the development of a stable, sustainable agriculture community for Alaskans.

A stable agricultural system includes the people who produce food and fiber, provide financing, carry out processing, transportation, and marketing, and conduct applied research and technology transfer for agriculture. Each of these links must be strong for Alaska's agriculture to provide opportunities that contribute to the economy of the State. The success in developing a quality state policy for agriculture lies in establishing the essential element of continuity. To this end, the Alaska Department of Natural Resources, Division of Agriculture, will prepare an eight-year plan to strengthen and develop these important links.

The State of Alaska's agricultural policy should:

1. Provide greater consumer availability of quality Alaskan grown products in the marketplace through inspection, certification, labeling, marketing, and education programs.

2. Support unrestricted domestic breeding and raising of all animals, including game species.

3. Support the movement of agricultural materials and products through a farm-to-market road priority and an agricultural discount on the state ferry system.

4. Continue the state's investment in agricultural science and technology to protect and enhance the quality of Alaskan soils, seeds, plants, produce, animals, and other agricultural products; and the necessary knowledge transfer.

5. Facilitate the development and use of agriculture in conjunction with other Alaskan resource uses and needs (i.e., fish meal, forestry).

6. Assure the availability of financing sources for agricultural operations that are financially viable.

7. Make state land available for agriculture under a variety of provisions including fee-simple title with fair market value purchase or homestead credits.

8. Continue to make agricultural land available in a range of parcel sizes throughout the state.

9. Make grazing leases available through the Division of Agriculture for up to a 30 year term with contraction at least every ten years to the area developed and utilized.

10. Preserve the long-term availability of agriculture land by the creation of a 500,000 acre agricultural land bank to be managed and administered by the Division of Agriculture.

11. Facilitate the formation and operation of cooperative ownership of major agricultural facilities and the development of farmer's markets.

FINANCING

Financing is critical in the development of successful agriculture. In the past, the State of Alaska has provided direct loans to the agricultural community and has experienced a high number of delinquencies and defaults. The State of Alaska should encourage the privatization of the agricultural loan function by encouraging the commercial banking industry to assist in financing short term capital requirements of the individual farmers and ranchers.

As in the development of other resources in underdeveloped regions, the development stages of agriculture involve more financial risk than in established agricultural regions where the needed infrastructure is in place. The state should assist banks in setting up controlled loan programs which could be guaranteed through the Alaska Industrial Development and Export Authority.

In addition, the state should consider divesting the Agricultural Loan Fund of the existing portfolio of performing agricultural loans, freeing up between $6 to $9 million in capital through selling these loans to individual private financial institutions. This would save the State of Alaska from the expensive role of servicing the loan portfolio.

LAND

Successful agriculture requires a suitable land base. Consequently, agricultural land must be made available for sale or lease throughout the state. Fee simple land should be made available with an agriculture covenant when special price and conditions are offered under agriculture uses. The Division of Agriculture will administer an agricultural land bank of 500,000 acres to ensure the future availability of agricultural land for transfer to farmers. Agricultural land will be made available under a variety of provisions including fee simple title. Land sales will be based on fair market value and carried out through direct sale or a system involving homestead credits.

GRAZING

Alaska's agriculture should include the unrestricted domestic breeding and raising of all animals, including game species. Grazing leases administered by the Division of Agriculture will be made available for up to thirty years with provisions for review of grazing use every ten years. Leases not actively maintained for this purpose will be made available for lease to other livestock producers.

TRANSPORTATION

Transportation is an essential link in an agricultural system, and includes coordination of several levels of transport. Favorable rates throughout the transportation systems are necessary for Alaskan agricultural products to compete in the marketplace. This involves a rate preference for Alaskan agricultural products carried on state-owned railroad and ferry systems, provisions for favorable trucking rates, licensing, and the construction and maintenance of farm-to-market roads.

PROCESSING

Processing is essential to market agricultural commodities and to provide value-added products for consumers. When necessary, facilities for cost-effective processing will be provided by the State until levels of production make it possible to shift these operations to private individuals, corporations, or cooperatives.

MARKETING

State assistance will be provided to establish cooperatives when these entities are deemed appropriate and the State will encourage the development of farmers markets as direct consumer outlets for food and fiber produced in Alaska. A marketing entity could be developed similar to the Alaska Seafood Marketing Institute for Alaskan agricultural products.

QUALITY CONTROL

The quality of Alaskan grown products will be ensured through inspection, certification, and labeling. Agriculturally related inspection (formerly administered by the Division of Agriculture) and seafood inspection should be transferred from the Department of Environmental Conservation to USDA qualified inspectors at the Division of Agriculture to correspond with the administration of inspection in other states.

In addition, promotional and informational programs such as the Alaskan Grown program will be continued within the Division. These programs are essential links in increasing the market share of agricultural products produced and consumed in Alaska.

RESEARCH & TECHNOLOGY TRANSFER

Results of investments in agricultural research and technology transfer provide an essential link for all segments of a sustainable agricultural system. Support for agricultural research and technology transfer will be provided by the State through the Agriculture and Forest Experiment Station and the Cooperative Extension Service to protect Alaska's soil and water resources, and to enhance the quality of seeds, plants, produce, animals, and other agricultural products grown in Alaska. In addition, the State will encourage support for this work from the Cooperative State Research Service, the Agricultural Research Service, and Forest Service Research, USDA, through cooperative, integrated programs.

CONCLUSION

An efficient agricultural system involves small farms, family farms, greenhouse production, domestic red meat, natural animal farming, larger grain framing and other enterprises as well as the multiple use of infrastructure for processing, transporting, and marketing a variety of commodities.

The State of Alaska should let the farmer farm. Agriculture should not be directly managed by the state but supported and encouraged through technological advice and expertise. Then Alaska will have a healthy food and fiber industry that will enhance both Alaska's economy and benefit her people.

END

DEPARTMENT OF FISH AND GAME

POSITION PAPER

Bill No: SB 46 (1/14/93)

Sponsor: Senator Miller

Division: Wildlife Conservation

Bill Title: An Act authorizing moose farming.

Department Position: Speculative benefits of this bill are greatly outweighed by serious concerns described below.

Background/Legislative Intent: This bill would amend AS 16.40.010-.020 to allow moose to be raised as domestic animals for commercial purposes and legalize the sale of moose meat. The department would be responsible for determining when a surplus of moose existed that could be made available for disposition to private ownership.

Analysis of Bill/Program Effects: Public ownership of wildlife and prohibiting sale of game meat are foundations of wildlife management in North America. We believe the passage of legislation legalizing these activities would be a major error and detrimental to successful wildlife management in Alaska. These and other concerns, listed below, are currently causing most other western states and provinces to tighten their laws governing private ownership of big game animals.

(1) Moose are the most highly sought after big game species by hunters, wildlife viewers, and photographers. Approximately 50,000 hunters pursue moose each year, harvesting from 7,000 to 8,000 animals. Thirty-six drawing permit applications are received for each permit available. The demand for moose greatly exceeds supply; surpluses do not exist.

(2) Moose farming/ranching will require large acreages. Some proponents of this bill have expressed interest in leasing state agricultural lands. Highly productive state-owned wildlife habitat, currently used by the general public, could be removed from production of wildlife. Conflicts between big game farms and large predators are certain to occur. Populations of wolves, black bears, and grizzly bears will be impacted over a large area surrounding any big game farm.

(3) Ensuring the general welfare and humane treatment of big game on farms will become a responsibility of the department. Moose are not herd animals and do not tolerate crowding. High densities of animals in confinement will cause behavioral and disease problems with the potential for spreading diseases to wildlife and domestic animals outside the farms.

(4) Some individuals will use the opportunities provided by this bill to own a few moose as pets, for a hobby, or to promote their tourist businesses. Allowing wildife to be exploited by roadside attractions diminishes the

value of all wildlife and may lead to legal liability for the state if animals are abused or someone is injured by a moose.

(5) Allowing sale of moose meat will create serious law enforcement problems. Poachers will have an added economic incentive that they presently lack. Current and proposed levels of wildlife law enforcement are inadequate to cope with this added burden.

(6) Moose are expensive to maintain in captivity. The high stocking levels proposed for moose farming would require high levels of supplemental feeding. Moose require a special diet and cannot survive on diets that sustain domestic livestock. Moose farming has proven to be uneconomical in Canada where game farms are more common. The Yukon Territory has prohibited the use of moose on game farms. Attempts to domesticate moose in Alberta have been economic failures due to the biology of the animal (moose are unsuitable as beasts of burden, produce small volumes of milk under labor intensive conditions, and are very expensive to feed). To expect moose farming to succeed in Alaska where no infrastructure exists and no market has been established is unrealistic. The state has promoted agricultural projects in the past that resulted in continuing subsidies. The department considers the transfer of publicly owned wildlife to private ownership to be a subsidy.

(7) Alaska's wildlife resources generate hundreds of millions of dollars annually through tourism, guiding, hunting, and subsistence. Tourists list wildlife viewing as their primary reason for visiting Alaska. This experience will be diminished if tourists observe wildlife at roadside attractions and game farms.

(Please refer to the department briefing paper, *Farming of Big Game Animals*, for additional information.)

Commissioner's Signature Ron Somerville by G.B. Date 1/28/93

BRIEFING PAPER, DEPARTMENT OF FISH AND GAME, JANUARY, 1993

FARMING OF BIG GAME AMINALS

INTRODUCTION

This paper will further document the position of the Alaska Department of Fish and Game regarding game farming, and specifically, the proposed legislation authorizing moose farming in the state.

Proposed legislation (SB 46) would amend AS 16.40.010 authorizing the transfer of surplus moose into private ownership as domestic stock for commercial or scientific/educational purposes; AS 16.40.020 would be amended to allow meat from the slaughter of these moose, and their offspring, to be commercially sold.

Alaska's *Species Management Policies*, similar to those throughout North American states and provinces, have long held that the transfer of game animals to private ownership for commercial purposes is not a wise use of these resources. These policies were adopted following public hearings and approval by the Board of Game. The Department has consistently discouraged commercialization and privatization of big game for over 20 years. Past legislation has provided for the transfer of excess wild muskoxen and bison into private ownership. These species, as well as elk (under AS 16.04.050), may now be privately raised in Alaska. *Species Management Policies* must be modified to recognize commercial uses of these species. However the Department continues to have serious concerns that follow many other states and provinces regarding the private ownership of other native big game animals.

Current Status of Moose

Moose are one of the most highly desired big game species in the state. Approximately 50,000 hunters harvest about 7,000 to 8,000 moose annually. There are about 32 drawing permit hunts for moose throughout the state, and for each available permit, 36 applications are received. Clearly, the demand for moose greatly exceeds the supply. Surplus animals do not exist.

Moose are also a major attraction for wildlife viewers, photographers and outdoor enthusiasts. Millions of dollars are

generated annually by these visitors to Alaska. A primary reason why these groups travel to Alaska is to view wildlife, and moose are an important component of that opportunity. Diminishing this experience by privatizing moose or other big game species would not be in the best economic interests of the state.

Economic Considerations

Moose are very expensive to maintain in captivity. Average moose food consumption is 20-30 pounds per day during summer, and 10-12 pounds per day in winter. The most productive natural areas in the state can only support 6-8 moose per mile ^{2} during winter. Moose farming advocates have proposed stocking densities in excess of 16 moose per mile^2. A high level of supplemental feeding would obviously be required. All moose held in captivity throughout the world are fed either native browse (which is very labor intensive to acquire) or a pelleted ration containing 33% aspen sawdust which is very expensive to produce; roughly twice the cost of domestic livestock feed. The Department's Moose Research Center (MRC) spends $15,000 per year on winter supplemental feed for 20 animals.

Fencing required to keep moose contained in an area is a substantial capital cost. Material costs alone (no labor) for fencing adequate to keep moose contained averaged $13,000 per mile (1987 figures). Therefore, a 1 mile^2 enclosure (4 linear miles of fence) would cost $52,000.

Moose farming has not proven to be economically feasible in areas where game farms have already been established and where considerable effort has been spent establishing markets for wild game products. Game farms in Alberta do not commercially raise moose because they are not profitable.

The Yukon Territory Department of Renewable Resources contracted a private consulting firm in 1986 to analyze the economic feasibility of game farming in the Yukon. The feasibility study concluded that moose are not suitable game farming animals because of their tendency to develop density-related disease. The Yukon government subsequently adopted a policy that prohibits the use of moose in game farming. The same study indicated that game farming of other species might be feasible, however the initial investment would be at least $400,000 to 450,000 and annual operating costs would be $17,000 to $20,000 excluding labor.

Proponents of farming moose refer to the reported success of Russian moose farming, where moose have been used as work animals, and for milk and meat production. These reports are not accurate. Alaska Department of Fish and Game biologists have confirmed through literature review and personal discussions with Russian project biologists that moose farming in Russia was unsuccessful.

In the early 1940's, two large farms were built for moose farming; one in the Pechora River Valley and one in central Siberia. By the mid 1960's, the Siberia site was abandoned, and the Pechora Valley site is now only a field research site, similar to the MRC. The experiment was abandoned for the following reasons:

*Moose could only be used as work animals in winter because they do not have sweat glands and summer work caused overheating and death;
*Milk production was low and very labor intensive;
*Intensive management of wild animals produced as many animals as on the farms;
*hand-cutting browse for feeding was too labor intensive;
*there were many behavioral problems with the farmed moose.

Additional costs for a moose farming project, which should be considered in any discussion, are those associated with the oversight, inspection and enforcement of the program. There is no doubt that these costs would be substantial, and would have to be absorbed by either the state or the industry.

Conflicts with Large Predators

Game farming, for moose or other species, would result in significant conflicts with large predators such as wolves, and grizzly and black bears. These predators are common in most places of Alaska were game farming might occur.

Large predators would certainly be attracted to concentrations of farmed animals, and losses to game farm stock would occur. Large powerful predators such as brown bear could destroy fences, resulting in increased maintenance costs to the farmer, as well as the release of stock into the wild. Game farmers would either destroy wild predators attracted to their operations, or expect the state to resolve the problem. Either way, valuable resources belonging to the people of the state would be needlessly destroyed.

Additional conflicts could occur between farmed and wild individuals of the same species. Adult wild bull moose during the rutting period, could be attracted to farmed animals and easily destroy a fence or injure animals during rutting displays or fights.

Disease

This issue is, without doubt, the most serious concern in terms of monetary costs to agencies, as well as to the health of the public and wild populations.

Importation and transportation of wildlife species poses the risk of spreading disease to free-ranging populations. Major diseases of concern include bovine tuberculosis (*Mycobacterium bovis*) and bovine brucellosis (*Brucella abortus*) in elk, rangiferine brucellosis (*Brucella suis* type 4) in reindeer, and bluetongue in elk. Bovine tuberculosis and brucellosis are transmissible to humans as well as native wildlife. In Alberta, over $10 million has been spent in an unsuccessful attempt to control tuberculosis, and at least 30 people have contracted the disease from game farming situations.

Other diseases and parasites potentially present in translocated wildlife include anaplasmosis (*Anaplasma marginale*), meningeal worm (*Parelaphostrongylus tenuis*), carotid artery worm (*Elaeophora schneideri*), and giant liver flukes (*Fascioloides magna*). Quarantine and inoculation of ranched game can reduce the risk of disease transmission to native wildlife, but these measures will fail when animals escape quarantine, when tests for disease are not foolproof, or when an unethical game farmer attempts to circumvent proper procedures. Introduced parasites and diseases could seriously diminish Alaska's wildlife populations and reduce opportunities for consumptive and nonconsumptive users of these species.

Genetics/Hybidization

Individuals or groups of animals that are farmed or herded will eventually escape captivity through accidents or inadequate fencing. For example, bison and reindeer have escaped captivity in Alaska, and elk in Alberta and Colorado. In 1992, at least 5 elk with ear tags were killed during the hunting season in Colorado. Overall, a total of 155 exotic free-ranging animals have been killed in Colorado; all escapees from game farms.

Wildlife that escapes captivity poses the risk of contaminating the genetic integrity and fitness of Alaska's wildlife species through hybridization. Native wildlife populations exhibit particular genetic adaptations to their environment, which have caused them to be successful through time. Some domesticated stocks, especially exotic species, may be able to out-compete wild populations. Colorado has spent over $750,000 in a 3 year program to eliminate genetic contamination from red deer for elk farms in the state.

Habitat Loss

Game farming for some species requires the fencing of large blocks of public land if the operation is to be economically feasible. This would present two major problems:

1) Fencing of the land and the associated habitat (with fencing adequate to contain farmed animals) would preclude use of that area by native wildlife, resulting in a loss of production on these lands and a decline in populations of wild species favored by the public.
2) Fencing would also preclude use of the area by the general public for consumptive and non-consumptive uses, and may increase access or trespass problems.

Some states, for example Colorado, do not allow any public land to be incorporated into game farms. They also can deny any game farm application if it is in a critical habitat area, such as a calving area or migration route.

Poaching

An established commercial market for the sale of game meat introduces an incentive for large scale poaching of free-ranging wildlife species and for illegal sale of game meat. A poacher could sell poached wild meat to an unethical game farmer to mix with farmed meat or sell directly to an unscrupulous retailer.

Unauthorized capture of wild animals, in this case moose, to supplement farmed breeding stock could also occur. In some areas where these farms would be located, it would be very easy to capture wild adult or calf moose for commercial sale or harvest. In Colorado for example, 3 prosecutions in 5 years have been made for capturing wild animals to stock game farms. A large regulatory network and inspection force would be necessary to reduce the incentive for illegal take and sale of game. Current levels of law enforcement are inadequate to cope with this situation.

The public would be the eventual losers in this situation, as public wild resources would become scarce in areas adjacent to unethical farms, and reductions in hunting opportunity would be necessary to maintain wildlife populations at minimum levels.

Experience in Other States

Wyoming, in the mid 1970's, declared a total ban on all forms of game farming.

Washington, in 1992, approved permanent regulations prohibiting the importation, propagation and movement of native deer, elk, moose and caribou in the state. These regulations were established to "protect the state's free-ranging animals from disease, interbreeding and other risks..." from game farm animals.

Utah prohibits ownership of all native big game except bison, and all exotics except fallow deer.

California has a moratorium on importation of any new, non-domestic stock pending development of new disease testing protocols.

Oregon is currently working to adopt new regulations concerning the private holding of all deer species (cervids).

Yukon Territory has banned moose farming.

Alberta had spent over $10 million and destroyed over 2,000 game farm animals in an unsuccessful attempt to control an outbreak of Tb.

Montana, in May 1992, adopted a new, more restrictive set of regulations covering game farming in that state. New legislation, modifying game farming operations was introduced in January 1993.

FISCAL NOTE

STATE OF ALASKA
1993 LEGISLATIVE SESSION

BILL NO. SB 46

Revision Date: _____

Department Affected: Fish and Game

Title: An Act authorizing moose farming

BRU: Wildlife Conservation

Component: Wildlife Conservation

Sponsor: Senator Miller

Requestor: Senate Resources

COMPONENT SERIAL NO. 0473

EXPENDITURES/REVENUES: (Thousands of Dollars)

OPERATING	FY 94	FY 95	FY 96	FY 97	FY 98	FY 99
PERSONAL SERVICES	0	0	0	0	0	0
TRAVEL	0	0	0	0	0	0
CONTRACTUAL	0	0	0	0	0	0
SUPPLIES	0	0	0	0	0	0
EQUIPMENT	0	0	0	0	0	0
LAND & STRUCTURES	0	0	0	0	0	0
GRANTS, CLAIMS	0	0	0	0	0	0
MISCELLANEOUS	0	0	0	0	0	0
TOTAL OPERATING	0	0	0	0	0	0
CAPITAL	0	0	0	0	0	0
REVENUE FUND SOURCE:	0	0	0	0	0	0

FUNDING: (Thousands of Dollars)

1002 Federal Receipts	0	0	0	0	0	0
1003 GF Match	0	0	0	0	0	0
1004 GF	0	0	0	0	0	0
1005 GF/Program Receipts	0	0	0	0	0	0
1006 GF/MHTIA	0	0	0	0	0	0
Other	0	0	0	0	0	0
TOTAL	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 (FY93) impact: $ 0

ANALYSIS: (Attach a separate page if necessary.)

Prepared By: Larry Jones

Phone: 465-6085

Division: Administration

Date: January 25, 1993

Approved by Commissioner: Ron Somerville

Agency: Department of Fish and Game

Date: 1/28/93

PREPARER TO PRO[redacted]E OFFICE

(Rev 12/92)

Page 1 of 1

ADFG FISCAL NOTE

Guest Opinion–

The time has come for moose farming

By DOUG WELTON

As I go through this life here on planet Earth, amidst all the confusion and grime, I am constantly aware of how unsettled society is–the soaring crime, suicide and destruction.

I get up in the morning and turn on the radio and hear the day's recital of what we are doing to ourselves, and to each other, and what our government is doing to all of us. And then I compare the way I live my life, and the way I treat others, and think about what I want to do in this crazy world. And I can only wonder how what I want to do is illegal, while all the grief and greed and grossness of the world is apparently acceptable.

What do I want to do? My family and I have for four years now studied and dreamed about a way of life separate from all that we see going wrong in this world. All we want to do is salvage the orphaned, the hurt, and the problem moose, and put them to good use.

Through our extensive research, we have concluded that not only is this quite possible, but is exactly what is being done successfully in other countries, such as Russia. It may not be the biggest breakthrough since man on the moon, but it is definitely an option to the present policy of allowing moose to be hunted and killed only.

The Alaska Department of Fish and Game has this attitude that our wildlife should not be used commercially, or be privatized. But again, as I look out on this world, I see big game guides making millions carting people around, and getting paid to kill, kill, kill. I am also aware of people being allowed to display these animals, and charging others to have a look. Then, how about the research facilities that have for decades been allowed to privately conduct every imaginable kind of experiment on these animals?

Why can these people exploit our wildlife, and I cannot? While game farming science doesn't hold the moose to be the most economically viable species, in my view it is the most loved and desirable and enjoyed of them all. Most game farms in Canada keep a couple around, just because. And the fact that we've not yet realized how to capitalize on the potential, doesn't mean the potential is not there.

It's known for a fact that moose tame as easily as calves, that they give the most nutritious milk on earth, that they will pull a sleigh or a cart, that they can be ridden in places other animals would find inaccessible, can breed at one year of age, and generally throw twins from the second calving on.

When raised in captivity, they grow year round, and achieve larger size. When castrated they don't participate in the rut and continue to gain weight. They can provide a reliable source of meat to a family, and don't require watering in winter like all other farm animals. The antlers, hides, hooves, and bones provide materials for crafts and clothing, and yet it is not legal to raise them here in Alaska.

The Alaska Department of Fish and Game says that raising them would ruin the "Alaskan experience" for our visitors, and that they simply cannot be raised. I can't believe that this one department in our corrupt government has been allowed to become so powerful. They are a dark cloud over this state, and I wish the people would wake up and see the truth.

I suppose if I were Oscar Meyer, I would get somewhere, but I'm not. I'm just a little ol' Alaskan. Do you have to be a mult-national corporation or millionaire to to develop an industry, or even a way of life, in Alaska today?

Our legislators have all thrown in the towel, and won't even dispute what our so-called experts say. However, they have an opportunity with two bills legalizing the raising of moose, and predictably, Fish and Game will say no. Who owns this state anyway, and who owns all the wildlife and other renewable resources?

House Bill 478 and Senate Bill 216 would do more than legalize moose and caribou farming. It would give people like us a purpose and something to do. Are our children going to be forced to seek their fortunes elsewhere? Or are we going to open opportunities to enrich their lives with the resources with which this state has been blessed? Or is Alaska just for the rich and powerful?

I am sick of hearing no, of denial and discrimination. I'm tired of getting nowhere and numb from the cold evasiveness of politics as usual. I'm not wanting any damned welfare or privileges; I'm not looking for a hand out, just a hand.

I see opportunities and I've sought them, but not got them. This country was built by dreamers and doers, not the passive and the politicians. Exxon us and BP you! Funny, they seem to get to do whatever they want to do. It doesn't matter what it takes, whether it's a park or refuge or forbidden place, they seem to run this whole damn human race.

Please consider what I've had to say; there is a better way!

Doug Welton is president of the Alaska Game Rancher's Association, a thirteen year resident of Alaska, and an advocate of the legalization of moose farming for the past four years.

Moose are not grazers, they're browsers, Franzmann said. They'd rather munch on tree branches and leaves than grass. The half-ton adults have to eat a lot, and they enjoy aspen and birch trees, but willow is their "ice cream" plant. Franzmann said. On the Kenai Peninsula, willow is less abundant than birch, so in this part of the state, birch makes up about 70 percent of their diet.

When moose aren't walking or sleeping, they're eating, Franzmann said. By late summer, they may even forgo sleeping for eating because they have only four months to increase their body weight 30 percent to 40 percent. That fat reserve will sustain them through a winter with much less food readily available.

This means a 1,000-pound cow must eat at least 3 percent of her body weight daily, or 30 pounds of food, to stay alive. That's figured in dry matter, Franzmann said, because the weight varies dramatically if moisture is included in the calculations. Adding moisture weight could increase the figure

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"Our tame animals are fed, and the wild ones get hooked on it as well."

Wildlife Institute of India. For six months, he worked with a variety of animals—none of which were moose. He enjoyed the project so much that last year, Franzmann retired from his MRC post and pursued similar work in other countries.

Although he had many such professional honors to his credit, Franzmann preferred to talk about his animals and the Moose Research Center than himself.

As we bounced down the Swanson River Road and onto a side road, Franzmann told me about the beginnings of the Moose Research Center. In the early '60s, officials from several state and federal agencies gathered for the first Alaska Interagency Moose Meeting. They decided that before wise management decisions could be made, they needed more research on habitat and wildlife, with an emphasis on moose, and the MRC was conceived.

While he drove, Franzmann pointed out remaining evidence of two large forest fires that swept the Kenai Peninsula in 1947 and in 1969. In time, these natural burns created excellent foraging areas for moose—and the moose responded by increasing their numbers where there was abundant regrowth.

Left: Past studies included comparing the moose's activity level with the amount of food it has eaten. (Helen Rhode)

Above: These twins, like their mother, were raised by hand and lived as test animals for the Moose Research Center on the Kenai Peninsula. (A.W. Franzmann)

Right: Bottle feeding this big baby is just a trick to get him on the scale for weigh-in. Wildlife biologist Wayne Regelin plays substitute mom. (A. Franzmann)

years improved, but in 1986, with a 150,000-pound harvest, most of the fishermen still were unable to make their boat payments. In 1987, the catch came to 250,000 pounds.

Building a federally backed boat harbor on each island boosted the local economy, and the harbors should help the bottomfish industry. Again, the Aleuts find resistance from animal rights activists who question if the harbors will affect seal numbers.

"Given a choice, I think our people would not have opted for the boat harbor," Merculieff says, adding that the people have mixed reactions. They have to have an economy, but recognize the possibility of damage. "Our leaders are listening to the elders about what we should be trying to protect.

"Our people have shown that we can adapt, and we're going to learn the new ways." Merculieff says it like he means it.

Closer to self-reliance than ever before, the Pribilofs also are perilously close to economic collapse.

"The future is uncertain at this point," Merculieff says. "One thing that we have learned in 10,000 years in the Bering Sea area, is Aleut people are survivors. We must produce answers, and not tears." ☆

Tricia Brown is Regional Editor of Alaska' magazine

Moose

Continued from page 29

by as much as 80 percent, he said. In winter, a 1,000-pound cow needs to eat at least 11½ percent of her body weight.

Calves are the first to die when food is scarce because they are the least able to build fat reserves in summer. Next are the yearlings, followed by the bull moose. Storing fat in August is especially important for bulls because they lose their appetite in rutting season, and more, they expend a lot of energy during the rut.

Studies at the MRC have shown that temperature does not cause moose to migrate, but snow can be a big factor. The animals will dig through the snow, or "crater," in search of lowbush cranberries if their preferred food is out of reach or below snow level. Biologists like Franzmann are concerned by this behavior.

"Cratering is a sign that the habitat is not as good as it should be," he said. "If they have to crater for all their food, they're in a world of hurt because they're into negative energy."

Wildlife biologists and land-use planners want to know more about the relationship between moose and where they choose to live. For instance, just how many animals can a given habitat feed? Conversely, how much territory does a given number of animals need to find enough food? These and other questions have been studied since the Moose Research Center opened in 1969, cutting a place for Alaska as a leader for moose studies.

"Nowhere else in the world has there been anything like it," Franzmann said, "and now there are some others beginning. The Swedes, for example, came over here to see the MRC, and then they built a similar facility."

Last year, 14 tame moose lived at the center in one of four square-mile pens. Later, they were joined by about six free-ranging moose who were temporarily enclosed. These "guests" were trapped in the facility and were released later. Sometimes getting them to leave isn't easy.

"Our tame animals are fed, and the wild ones get hooked on it as well," Franzmann said. "That's our biggest problem."

All the animals were familiar subjects to the leaders of several research projects. Depending on which study they were part of, some moose worked harder than others to sustain themselves, and all were watched closely.

Through the years, some of the most respected names in wildlife biology have "graduated" from the MRC: Art Bratlie, Bob LeResche, Jim Davis, Paul Arneson, Bob Seemel, John Oldemeyer and Wayne Regelin among them.

Nine graduate students, most from the university in Fairbanks, have completed their advanced-degree research at the MRC. Others have been part of mini-studies involving veterinary schools in the Lower 48. And since the MRC opened, the staff has included many volunteers who [illegible]'s merely for room and board.

They live and work in an assortment of log buildings constructed by the staffers and students themselves. The facilities include two resident cabins, a telemetry and lab building, storage area and a generator building. The generator can provide all their power, but they don't use it full time. There is no phone, but they do have radio contact with Soldotna, 50 road miles away.

The log outbuildings house the metabolism chambers, a scale house, small holding pens and a fully equipped mini-lab. These are connected to two 15-acre pens used

to shuffle the animals from the larger enclosed ranges.

For humans, driving through the four enclosed areas involves a number of stops to open and close gates. For moose—and some other creatures—getting in and out of the pens is as simple or as impossible as the biologists and technicians desire.

In ongoing research, scientists are examining the effects of late breeding in calf survival. Cow moose have two estrus cycles, and researchers question whether calves conceived in the second cycle are born too late in the spring. Do they have enough time to grow fat in the summer, before their first long winter? Several females were bred during the first estrus and others in the second. This fall, the calves will be recaptured, weighed and measured. Researchers will repeat the experiment next year, said Chuck Schwartz, the current MRC director.

In the past, studies have measured how an animal responds to its surroundings, Franzmann said. "For instance, documenting a moose's behavior and physiology by sampling its blood or hair—these are but a few of the ways in which we can check how a moose is responding to its environment."

Sally Zeylemaker's dozen bottlefed calves were part of a four-year study on moose digestion and nutrition. Two sets of the orphaned moose calves were monitored to measure how much food they ate, how fast it went through their digestive tracts, and how much protein and energy was used as a result. The initial studies of what went in and out of every moose were followed by more restrictive testing. Zeylemaker recorded their metabolic rates—lying down versus standing up—and compared them with the amount of nutrients consumed.

"Through these studies," Franzmann said, "we'll learn how much a moose needs to eat in order to sustain certain activities."

Later in the study, John Bevins, a UAF master's degree candidate, drew even more specifics. He wanted to know when the moose were walking, feeding, bedding down or cratering. With leg transmitters on the moose, Bevins was as good as there. He measured how an animal's metabolic rate changes depending on what it's doing and how often it needs to "re-fuel" as a result.

Another test was a clear case of the haves versus the have-nots. In two of the pens, radio-collared moose chose from an abundance of highly nutritious food; in the other two, the residents didn't have it smorgasbord-style. Bevins expect-

ed to see significant differences in the moose's activity levels.

In a separate feeding trial, biologists checked blood samples of four tame moose to see how their energy level is related to what time of day they eat.

Although the MRC certainly centers on moose-related experiments, it also serves as a logistical base for "non-moose" studies. One Swedish man used the facilities for two summers while studying four pairs of loons that live on a nearby lake. And Chuck Schwartz concluded nine years of work studying black bears on the Kenai Peninsula—their movements, home ranges, population and love of devil's club.

Franzmann sees part of the work at the MRC as vital to wildlife management in Alaska. Animals there are often test subjects for research that involves developing and testing new techniques and veterinary drugs. The drug Ivermectin, used to counter outbreaks of lice on wolves, was tested here, as was Carfentanil, what Schwartz calls the "drug of choice for immobilizing moose." Current tests on the drug R-51163 will determine if moose will respond as well to the new tranquilizer as do elk, big-horn sheep and caribou.

With volunteers like Chief and Charlie to help researchers better understand how moose operate, results of the work at the Moose Research Center will aid policymakers who must decide when and where to develop land and other natural resources, yet ensure natural habitat for wildlife. ☆

Karen L. Lew a 20-year Alaskan and free-lance writer on outdoor subjects, lives in Juneau where she is working on a book about another aspect of her home state.

Homer's Own

Continued from page 33

It's a Saturday night in February, and Tom and his wife, Debi, are celebrating with friends at a Homer rock 'n' roll club called Alice's Champagne Palace. Most everyone is out on the plywood dance floor, up by the stage where a local band, the Rock Doctors, are blasting out an Elvis Costello tune. Tom tips a shot of whiskey and a beer sent to the table by a well-wisher.

He doesn't look at all like he sounds, or even how he writes. "People expect me to be in my 50s, fat and ugly," he says. In reality, he's a fit 33-year-old with longish brown hair and gray-blue eyes, who wears wire-rim glasses, and on this occasion, leather tennis shoes, pleated pants and a thin leather tie.

On the radio, Bodett tells his tales in a slow, folksy, almost Southern drawl; off-mike, his speech is less affected, flatter, sounding more like the Michigan native he is.

He drags on a Marlboro and reaches across the bar table to shake a buddy's hand.

"We did twice as good as I thought we'd do," he yells over the music. "It's a winner. If it doesn't go, it's not because we didn't give it our best."

Bodett and crew had just come from the high school's Mariner Theater, where they'd given two performances of story-telling and music-playing to a sell-out crowd of nearly 1,000 people.

"The End of the Road Review" was the biggest thing to happen to Homer all winter, and it held promise for bigger things in the town's future.

The show, created by Bodett and Homer pianist-composer Johnny Bushell, was a pilot for a nationally syndicated commercial radio variety show originating in Homer every week.

The target date for the first live broadcast from Homer is Sept. 1. Stations throughout the country received tapes of the pilot and Bodett made a sales pitch to radio executives when he flew to the National Association of Broadcasters annual meeting in Las Vegas last spring. "We're getting all green lights," he said.

Dick Brescia, a former CBS executive who heads the New York company marketing the program, plans to line up at least 100 stations to air it. Motel 6, naturally enough, was the first sponsor to sign.

Regardless if the show flies on national airwaves, the folks in Homer loved what they heard that night. Bodett told them in his opening remarks, before the tape started running, that he was aiming the show at a guy 80 miles west of Omaha who's driving home with a six-pack of beer to watch reruns of "Alf."

"What I want him to do is sit in his driveway, and listen to the rest of the show," Bodett said.

The show was patterned after radio variety programs of the 1940s, a format revived on public radio in the mid-1970s by Garrison Keillor's "A Prairie Home Companion."

This one included several original rags and boogies by Bushell, a loose-jointed piano jockey whose flailing elbows and bouncing legs kept the audience wondering if he'd fall off the bench. Bodett profiled a few of Homer's more colorful characters, roughly based on real towns-

people, who'd be regulars if the show is syndicated.

There was Tamera DuPrey, the vegetarian activist who'd make gagging noises if you got in front of her at the grocery with a package of hamburger; Pastor Frank, a black-belt fundamentalist from the First and Last Baptist Church, whose wife got so upset at a lecture on evolution that she pursed her lips together and dislocated her jaw; and the town's self-appointed mystic, Rev. Sapphire, who claims spiritual kinship with cosmic dust, rocks and the like, having fallen out of the sky and gathered himself up on the beach.

Comparisons between "End of the Road" and "A Prairie Home Companion" irk Bodett, but they're inevitable. Bodett has some of the same gifts that made Keillor successful, an easy touch in writing and delivery. One of the biggest differences is that Homer, unlike Lake Wobegon, is a real place.

"It's all Homer," Bodett said as the last of the crowd filtered out of the auditorium. "I can't say it enough. The support from people here is unlike anything you can describe."

□

Homer hasn't always been Bodett's home.

He grew up in Sturgis, Mich., one of five brothers and sisters, and spent his high school years wrestling and writing self-described bad poetry. A 107-pound lightweight who was called "Boda" by his friends, he worked summers in the recreational vehicle factory across the border in Lagrange, Ind.

Bodett went on to college at Michigan State and spent a year-and-a-half in the writing program there.

"I was frustrated," he recalls. "I realized I hadn't a damn thing to say. I had nothing to write about."

So he headed toward the West Coast, earning money as a carpenter. By 1976, he was working in canneries, and logging and building in Petersburg, an island town south of Juneau in rainy southeastern Alaska.

During his travels, Bodett regularly wrote his high school friend, Debi Hochstetler. He invited her to Petersburg, and before she realized it, she was a mail-order bride.

Here she was, an art teacher in a small fishing town that already had the only art teacher the schools needed. The place was nothing like where she'd come from. It rained all the time—106 inches a year—and the only roads were around town. In six months, the teaching job opened, and she took it. But deep

3/23/92 ADN M

Farming task force urges specialization

By BRIAN O'DONOGHUE
Staff Writer

The future of agriculture in Alaska depends not on seeding big projects with state dollars, but on tree farms, moose ranching and other efforts that market specialized, quality products, according to a task force preparing recommendations for Gov. Walter Hickel.

After months of public hearings around the state, Hickel's 11-member task force is nearing completion of drafting recommendations on a new state agriculture policy for the 1990s.

During a public hearing Friday at the University of Alaska Fairbanks, a consensus took shape within the task force in support of the following points:

- Better marketing efforts are needed, possibly in conjunction with an improved state inspection program.
- The state should continue to make land available for farming, but in smaller blocks under a variety of sales conditions and homesteading options.
- The Legislature needs to address problems created by the restricted titles conveyed in recent agricultural land programs. These programs have left farmers dependent on state loans for development, as the ag-titles are "not bankable," as task force chairman Harold Heinze put it.
- The state should support practical research, while doing a better job of spreading the news about successful products and technologies.
- The state needs to assure the availability of farm operating loans to finance seed, fertilizer or other annual purchases.
- Tree farming and other select forestry programs should be managed as a form of agriculture, giving farmers on state "ag parcels" the option of raising such crops.
- The task force supports "unrestricted ownership and domestic breeding of all animals, including game species.

"That little point there will be controversial," Heinze said, alluding to Fish and Game's past opposition to moose farming legislation.

Task force member Mike Schultz suggested the recommendations should be linked to specific production goals. "I thought one of our duties would be to set a goal of where we ought to be eight, 10 years from now," said the Delta Junction farmer.

Lt. Gov. Jack Coghill agreed. "I think we're all on the same wavelength of having an overall agriculture policy," said Coghill. "That plan has got to be put in there someplace."

Heinze said he favored more general policy statements.

"One of the problems of putting in goals is it sounds like the mistakes of the past," Heinze said. "Let the marketplace control. We've heard a lot from small family farms. They're alive and well. Most of them are just telling us to get out of the way."

Members of the task force include Heinze, Coghill, Schultz, Jim Carter, Dave Wright, Bob Havemeister, Rob Sexton, James Drew, Herb Eckman, Mark Kulstad and Bob Baer.

Game ranching idea deserves consideration

William R. Wood

Views expressed here do not necessarily represent those of the Daily News-Miner

In the continuing quest for the wisest and best use of the lands of Alaska, the idea of modern game ranching now merits serious consideration. Game ranching could have an important role in any reasoned scenario for use of Interior Alaska lands today and tomorrow.

There are successful models elsewhere, notably in Africa, Australia, and for a very long time in parts of Europe. There is growing interest in New Zealand and Canada where preliminary assessments of the practical as well as the potential are most encouraging.

Appearing in the May 1975 issue of the Journal of Range Management, a fine article by Telfer and Scotter, "Potential for Game Ranching In Boreal Aspen Forests of Western Canada," is an eye opener for those of us unfamiliar with the extensive and rapidly growing body of professional literature on the topic. The Canada-based article is of particular significance for Interior Alaskans where similar favorable conditions exist for successful game ranching operations: large acreages of marginal agricultural and forest lands, with "shallow snow cover, productive soils, variety of vegetative types, and a variety of native wild ungulates, in- [illegible]

For the last two species named, it would be appropriate to suggest caribou and perhaps musk ox for our taiga, muskeg, hill and valley country of Interior Alaska.

Telfer and Scotter define game ranching as "the keeping of wild mammals, principally large ungulates, either in fenced enclosures or under close surveillance, so that efficient systematic harvesting of meat is possible. The animals thus kept in semi-domestication may be either exotic or native species, but game ranching usually refers to the latter."

In its broad application game ranching has been practiced extensively for years in the Lower 48: For example, pheasant farms in the Midwest, quail and wild turkey private game preserves in the Southeast and South, bison, elk, and antelope projects in Montana and Wyoming, some under joint public/private state-of-the-art management practices.

In the last half dozen years game ranching in the form of aquaculture featuring both public and privately financed salmon and trout hatcheries has rejuvenated a diminishing fishing industry, as well as greatly improved increasingly popular sports fishing in Alaskan waters. A most dramatic instance of successful big-scale game ranching is, of course, the turnaround [illegible]

of Lake Michigan from the status of the dying to that of the vigorously alive. The successful transplanting of Alaska silver salmon, "Cohos," turned the trick. Both sport fishing and commercial fishing were never as good at any time in history as they are now in Lake Michigan.

Earlier this year a realistic and exciting proposal for the introduction of game ranching in Interior Alaska, featuring bison (our beloved and berated Delta buffalo), moose, caribou, and possibly musk ox, was made by Bud and Martha Helmericks of Fairbanks, long-time, well-known authors and Arctic consultants. For many years they have lived with their three sons, one now a Rhodes Scholar at Oxford after graduating from Lathrop High with honors in 1976, in their headquarters home at the mouth of the Colville River on the coast of the [illegible]

guiding, flying, Arctic engineering and information services while studying the High North and writing about it successfully.

Harmon "Bud" Helmericks and Martha are prominent pioneers of the last half of the 20th century. His "Last Of the Bush Pilots" has been highly acclaimed by the general public as well as the Arctic buffs.

The Helmericks' proposal, which has been submitted to state administrative and legislative leaders and to University of Alaska agriculture and wildlife managements experts, should be given the closest scrutiny and serious consideration for accomplishment during the 1983 legislative session.

Setting aside in some appropriate manner marginal agricultural and forest lands of Interior Alaska for a pilot game ranching project of 25,000 to 30,000 acres, approximately 40 to 50 square miles, makes good sense. The first effort might well be in the Delta area as a complementary undertaking to the agriculture project. A second might be planned jointly with the Nenana agriculture proposal.

Game ranching is compatible with the multiple-use principle of sound land utilization. In addition to scientifically managed wildlife enhance- [illegible]

and winter recreation outlets are pro vided, from an opportunity for tou ists actually to see big game animal of Alaska in their natural habitat t skiing and other winter sports for re sidents.

There are, of course, many ques tions to be raised and answered, posi tive and constructive viewpoints to b discussed, in order that appropriat action can be taken on a sound basi during the 1983 session in Juneau.

Game ranching for Interior Alask is a worthwhile idea whose time ha come. In a subsequent article let' take a look together at some of th aspects of game ranching that woul be of particular interest to resident of the area. Typically some of thes interests may be in conflict, perhap in most cases from lack of basic in formation.

Fortunately we have available t all of us the good counsel of well informed and experienced special ized talent, such as that of Bud an Martha Helmericks. We need not ven ture alone into the dark on yet anothe wild-goose chase as we address a fun damental fact of life: that idle re sources are a luxury no people however richly endowed, can lon afford. Let's put "our lands where ou dead lie buried" to sensible good us [illegible]

Alaska could benefit from game ranching

Of Alaska wilderness and wildlife, elative to the rest of the nation, there s a very great amount. Empty lands? Not necessarily.

After the large acreage transfers uthorized under the historic land settlement act have been accomplished, he state of Alaska will own about 104 nillion acres, about 28 percent of the otal Alaska land mass; Alaska Native people will own an additional 44 nillion acres, about 12 percent, or oughly ⅛ of all Alaska. Together the on-federal lands will represent a bit hore than two-fifths or 40 percent of he total. The federal government will etain ownership of nearly three-ifths or 60 percent of Alaskan lands.

This vast acreage apparently is delicated almost entirely to wilderness nd wildlife purposes. Initially after ransfer much of the land in Native rivate ownership will remain essenially wilderness with minimum use y people. Of the state's portion, near-y ⅗ has been classified for fish and vildlife. A tiny amount has been clas-ified for agriculture, about 2 percent, nd only 16 percent for commercial rrestry production.

Then an inescapable fundamental op-priority question facing all Alas-ans, including Native Alaskan communities, is working out some reasonable balance in the use of their lands.

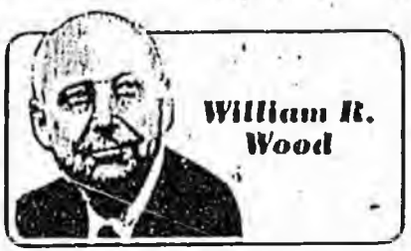
To resolve the fundamental "All Alaska" question will take more than emotionalism, fixed ideologies of any extreme, and selfish specialized interests, however attractive out of context, or in isolation from consideration of the general good.

Any acceptable resolution will require a painfully realistic assessment of potential land resource uses, creative concepts for immediate, mid-term, and long-range uses that fit into a reasoned and well-balanced design for utilization. Truly this is a process without end—so long as the human mind and spirit prevail on earth. There is no quick fix in prospect.

Given the above, is there a common-sense approach to bringing Alaskan wilderness and wildlife into greater production for the benefit of residents in an all-inclusive sense? That is what our endless quest for an answer to our land issue is all about.

The goal of leaving a place better than we found it, over-simplified for clarity, exemplifies husbandry-at-its-best of the natural resources available to us, in reality merely lent to us for a brief time.

For some of the state's marginal



William R. Wood

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lands, including private ownership lands, game ranching holds much promise. It may offer the soundest approach to bringing a portion of Alaskan wilderness and wildlife into greater production to enhance the several "good-life" styles we enjoy in the North.

A strong case can be made for game ranching in Alaska, particularly in the Interior, but also in Southcentral and southwestern and northwestern areas. In Southeast Alaska the game ranching principle already is being used successfully in the fishing industry. The good case for can be spelled out readily in outline from successful game ranching operations elsewhere. Such experience and state-of-the-art practices must be examined closely in relation to the particular Alaska project or series of projects that undoubtedly will be proposed this year and subsequently.

For discussion, to whom does Alaska state wilderness wildlife belong? All of us? Then how can we best preserve it and increase its productivity in multiple ways for the common good?

How can a reasonable portion of Alaska state and private lands be set aside for game ranching, beginning perhaps with a pilot project or two?

There are several types of game ranching operations, including but not limited to: those government-operated for preservation of species and tourism, with culling of herds open for recreational hunting, including trophy taking, on a limited permit basis; private club-type operations with access limited to members and their guests only; and private operations for profit, featuring a wide range of income-producing possibilities, from meat production and trophy taking to general recreation, sightseeing, picture taking, and esthetic fulfillment to be derived from wilderness and wildlife.

Paramount for consideration of continued success for private enterprise game r. nching is not only the preservation but the enhancement of scientific principles of both wilderness and wildlife. Attempts at "exploitation for profit only" are doomed to fail promptly. An enlightened, well informed people will not tolerate them.

To what extent might limited game ranching, especially in Interior Alaska, relieve pressure upon other wilderness lands and their wildlife? That pressure is building up dramatically. In particular, might a game ranching pilot project featuring Delta buffalo serve more than one good purpose, including resolution of the present farmer vs. buffalo conflict in the Delta agricultural area? Both/and rather than either/or.

Let's think this game ranching prospect through together beginning with a positive and constructive analysis of possibilities as well as problems. Let's reason together and act sensibly for the general good without political posturing or attempted manipulation. Is this too much to ask in face of the number one priority basic issue of land utilization in Alaska?

There is urgent necessity here that demands immediate attention.

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