

SB

46

HFIN

FILE

(11)
Date Referred: April 25, 1994

HOUSE COMMITTEE REPORT
FURTHER REFERRALS:

Date of Committee Action: 2/5/94

The FINANCE Committee considered:

CSSB 46(FIN)

CS FOR SENATE BILL NO. 46(FIN)

AUTHORIZE MOOSE FARMING

"An Act relating to moose farming and relating to game farming."

RECOMMENDATIONS:

be replaced with HCS CS SB 46 (FIN)

the same title

a new title

have attached amendments(s)

do pass

do not pass

no recommendations

individual recommendations

additional referral to the _____ Committee

ADOPTS: _____ letter of Intent

ATTACHES NEW FISCAL NOTE(S): (Dept)

APPROVES PREVIOUS: (Dept/Date)

fiscal impact _____

fiscal note(s) DNR 4/25/94

zero fiscal note DPS

zero fiscal note(s) DEC 4/25/94; Fish: game 4/25/94

SIGNING DO PASS	DP	OTHER RECOMMENDATIONS	DNP	NR	AM
<u>E.P. Maclean</u> Maclean	<input checked="" type="checkbox"/>	<u>Ronald J. Larson</u> Larson		<input checked="" type="checkbox"/>	
<u>George Thirion</u> Thirion	<input checked="" type="checkbox"/>	<u>Mark Hanley</u> Hanley		<input checked="" type="checkbox"/>	
		<u>Sean P. Parde</u> Parde		<input checked="" type="checkbox"/>	
		<u>Ben Grussenardt</u> Grussenardt	<input checked="" type="checkbox"/>		
		<u>Jim Hoffman</u> Hoffman	<input checked="" type="checkbox"/>		
		<u>Jay Brown</u> Brown		<input checked="" type="checkbox"/>	

Ronald J. Larson
CHAIRMAN'S SIGNATURE

E.P. Maclean
MACLEAN

**STATE OF ALASKA
1994 LEGISLATIVE SESSION**

BILL NO: HCS CSSB 46(RES)

Revisor Date: 04/26/94 Dept. Affected: Public Safety
 Title: "An Act Authorizing Moose Farming" BRU: Fish & Wildlife Protection
 Component: Enforcement
 Sponsor: Senator Miller
 Requestor: House Finance COMPONENT SERIAL NO. 0490

EXPENDITURES/REVENUES: (Thousands of Dollars) (inflation not included)

OPERATING	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00
PERSONAL SERVICES						
TRAVEL						
CONTRACTUAL						
SUPPLIES						
EQUIPMENT						
LAND & STRUCTURES						
GRANTS, CLAIMS						
MISCELLANEOUS						
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						
1003 GF Match						
1004 GF						
1005 GF/Program Receipts						
1006 GF/MHTIA						
Other						
TOTAL	-0-	-0-	-0-	-0-	-0-	-0-

Estimate of current year (FY 94) impact: \$ _____

POSITIONS:

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

ANALYSIS: (Attach a separate page if necessary.)

No fiscal impact is anticipated.

Prepared By: Capt. Ted Ruddell Phone: 269-5589
 Division: Fish & Wildlife Protection Date: 04/26/94
 Approved by Commissioner: *[Signature]* Date: 04/26/94
 Agency: Richard L. Botten, Dept. of Public Safety

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FISCAL NOTE

5

BILL NO. CSSB46(RES)

STATE OF ALASKA

1994 LEGISLATIVE SESSION

Revision Date: 21-Apr-94 Dept Affected: Natural Resources
 Title: "An Act relating to moose farming and relating to BRU: Agricultural Development
game farming; and providing for an effective date." Component: Agricultural Development
 Sponsor: Senator Miller
 Requestor: Senator Miller Component Serial No. 455

Expenditures/Revenues (Thousands of Dollars)

OPERATING EXPENDITURES	FY95	FY96	FY97	FY98	FY99	FY00
PERSONAL SERVICES						
TRAVEL	5.0	5.0	5.0	5.0	5.0	5.0
CONTRACTUAL			5.0	5.0	5.0	5.0
SUPPLIES						
EQUIPMENT						
LAND & STRUCTURES						
GRANTS, CLAIMS						
MISCELLANEOUS						
TOTAL OPERATING	5.0	5.0	10.0	10.0	10.0	10.0

CAPITAL EXPENDITURES	0.0	0.0	0.0	0.0	0.0	0.0
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CHANGE IN REVENUES ()	0.0	0.0	0.0	0.0	0.0	0.0
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FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts						
1003 GF Match						
1004 GF	5.0	5.0	10.0	10.0	10.0	10.0
1005 GF/Program Receipts						
1006 GF/MHTIA						
Other						
TOTAL	5.0	5.0	10.0	10.0	10.0	10.0

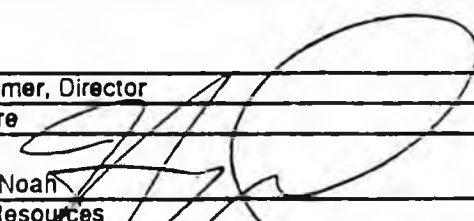
Estimate of any current year (FY94) cost: \$ None

POSITIONS

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

ANALYSIS: (Attach a separate page if necessary)

The Department of Fish & Game currently has authority to declare buffalo and musk oxen surplus and allow for their private use. This bill would allow moose to be declared surplus and thus allow the raising and breeding of moose as domestic stock for commercial purposes, or for scientific and educational purposes. The bill would also authorize the sale of moose meat.

Prepared by: John Cramer, Director Phone: 745-7200
 Division: Agriculture Date: 21-Apr-94
 Approved by Commissioner:  Date: 21-Apr-94
 Agency: Natural Resources

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FISCAL NOTE

STATE OF ALASKA
1994 LEGISLATIVE SESSION

BILL NO. HCS CS SB 46 (RES)

Revision Date: _____
Title: An Act Authorizing Moose Farming
Sponsor: Senator Miller
Requestor: House Resources Committee

Department Affected: Environmental Conservation
BRU: Environmental Health
Component: Animal & Dairy

COMPONENT SERIAL NO. 647

Expenditures/Revenues:

(Thousands of Dollars)

OPERATING EXPENDITURES	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00
PERSONAL SERVICES	0.0	0.0	0.0	0.0	0.0	0.0
TRAVEL						
CONTRACTUAL						
SUPPLIES						
EQUIPMENT						
LAND&STRUCTURES						
GRANTS,CLAIMS						
MISCELLANEOUS						
TOTAL OPERATING	0.0	0.0	0.0	0.0	0.0	0.0

CAPITAL EXPENDITURES						
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CHANGE IN REVENUES ()						
------------------------	--	--	--	--	--	--

FUND SOURCE

1002 Federal Receipts	0.0	0.0	0.0	0.0	0.0	0.0
1003 GF Match						
1004 GF						
1005 GF/Program Receipt						
1006 GF/MHTIA						
Other						
TOTAL	0.0	0.0	0.0	0.0	0.0	0.0

Estimate of any current year (FY94) cost: \$ _____

POSITIONS:

FULL-TIME						
PART-TIME						
TEMPORARY						

ANALYSIS: (Attach a separate page if necessary.)

Zero fiscal impact providing number of animals is limited to 1000 or less.

Prepared by: Bob Poe, Director
Division: Information & Administrative Services Division

Phone: 465-5010
Date: 4/21/94

Approved by Commissioner: John A. Sandor
Agency: Department of Environmental Conservation

Date: 4/21/94

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FISCAL NOTE

STATE OF ALASKA
1994 LEGISLATIVE SESSION

BILL NO. HCS CSSB 46(RES)

Revision Date: 4/21/94
 Title: An Act relating to moose farming and relating to game farming
 Sponsor: Senator Miller
 Requestor: House Resources

Dept. Affected: Fish and Game
 BRU: Wildlife Conservation
 Component: Wildlife Conservation
 COMPONENT SERIAL NO. 0473

Expenditures/Revenues

(Thousands of Dollars)

OPERATING EXPENDITURES	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00
PERSONAL SERVICES						
TRAVEL						
CONTRACTUAL						
SUPPLIES						
EQUIPMENT						
LAND & STRUCTURES						
GRANTS, CLAIMS						
MISCELLANEOUS						
TOTAL OPERATING	0	0	0	0	0	0
CAPITAL EXPENDITURES	0	0	0	0	0	0
CHANGE IN REVENUES ()	0	0	0	0	0	0

FUND SOURCE

(Thousands of Dollars)

1002 Federal Receipts						
1003 GF Match						
1004 GF						
1005 GF/Program Receipts						
1006 GF/MHTIA						
Other						
TOTAL	0	0	0	0	0	0

Estimate of any current year (FY 94) cost: \$ 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

ANALYSIS: (Attach a separate page if necessary)

Under this bill, regulatory authority for game farming will rest with DNR and DEC. The department's responsibilities for regulating experimental animal husbandry permits would be accomplished with established permitting procedures and existing staff.

Prepared By: David G. Kellehouse, Director *GB*
 Division: Wildlife Conservation
 Approved by Commissioner: *[Signature]*
 Agency: Alaska Department of Fish and Game

Phone: 465-4190
 Date: 4/21/94
 Date: 4/21/94

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SPONSOR STATEMENT

SENATE BILL 46

The draft committee substitute before you (version "S") accomplishes two main objectives regarding game farming in Alaska. First, it expands the game farming statutes imposing requirements to help ensure the safety of animals and their handlers, the health of the captive animals, adequate record keeping for tracking purposes, and minimal impacts to wild stocks of big game animals. It also sets up a structure for cooperative development and implementation of regulations among the agencies that deal with game farming: the Department of Environmental Conservation, the Department of Natural Resources, and the Department of Fish & Game.

Second, this work draft creates an *experimental animal husbandry permit* which is a special mechanism by which the state may designate moose and caribou as game farm animals, which are presently not allowed to be farmed in statute. This designation would only take place if the Department of Fish & Game deemed it appropriate based on the results of test raising the animals under the experimental permit.

Rather than simply allowing the private ownership of moose and caribou under a game farming license as SB 46 had originally proposed, the *experimental permit* was created to test the success or failure of farming these species. The state would have the responsibility and authority of determining whether moose or caribou are, indeed, game farm animals. If so, private ownership under a game farming license can eventually take place. If not, private ownership of these species remains disallowed.

**DIFFERENCES BETWEEN
HOUSE RESOURCES VERSION AND VERSION "S" WORK DRAFT
OF SB 46**

Version "S" adds the following provisions:

- 1) Contains sections defining moose and/or caribou as game farm animals, but these sections take effect only if the department makes the designation through regulation first. If it does not make the designation, the statutes do not change. This automatic trigger was set up so that if moose and/or caribou are determined to be "farmable," the Legislature would not have to revisit the statutes to add those species to the definition of "game farm animals."
- 2) Adds a penalty clause (class A misdemeanor) for intentionally releasing animals from a game farm by tampering with or damaging fencing.
- 3) Allows an experimental permit holder to charge a fee for the viewing of the animals.
- 4) Requires adoption of regulations for the experimental animal husbandry permit by the end of this year.

How does an experimental animal husbandry permit work?

A person may raise and breed state-owned moose or caribou in captivity. They may also sell the milk, hide, antlers fur and may charge a viewing fee to help offset the cost of fencing, feed and other related expenses. The animals may also be slaughtered for personal consumption, but the sale of meat under this permit is not allowed.

Raising and breeding moose and caribou under an experimental permit is intended to "test" the feasibility and viability of these species as domestic animals.

If successful, a permit holder would be allowed to request the transfer of the animals from state to private ownership. The state would then make a determination on whether the species is, in fact, a game farm animal, based on the success of the permit holder. The permit duration is five years.

How will a permit holder get moose or caribou to raise in captivity? Where will the animals come from?

There are two ways to obtain animals for the experimental permit:

- 1) the Department of Fish & Game, in conjunction with the Game Board, may declare a surplus in a moose or caribou population, making animals available for permit holders; and
- 2) the Department can provide injured, orphaned or abandoned calves to a permit holder. This option is currently being used by the department for zoos and wildlife parks.

Can moose or caribou be brought into the state for farming?

No. Section 21 of the bill expressly prohibits the importation of moose and caribou.

What about the contraction and spread of disease?

There is some potential for captive game animals and livestock to transmit disease to wild animals due to physical contact through a fence or following an escape. However, the regulatory authority is expanded in this bill to allow DNR and ADF&G to require adequate fencing for game farms. The bill also strengthens the provisions regarding identification and capture of escaped animals. These provisions were added in order to minimize disease and other possible negative impacts on wild game.

What if a person fails to meet the permit requirements, provides inadequate care, etc.?

Under the experimental animal husbandry permit, animals in captivity remain state property, and the department retains the authority to revoke the permit and take possession of the animals if a permit holder fails to comply with the terms of the permit or does not follow other applicable laws.

Back-up

AMENDMENT

I

Applied
NO(UBj)

OFFERED IN THE HOUSE

BY REPRESENTATIVE MACLEAN

TO: HCS CSSB 46(); Version S, dated 5/3/94

Page 4, line 25, through page 5, line 5:

Delete all material.

Renumber the following bill sections accordingly.

Page 8, line 1:

Delete "caribou."

Page 8, line 19, after "AS 16.05":

Insert "; this subsection does not prohibit the department from authorizing a person to take surplus caribou for scientific and educational purposes under a permit issued under AS 16.05"

Page 9, line 29:

Delete "caribou,"

Page 10, line 2:

Delete "caribou,"

Page 10, line 14:

Delete "(a)"

Page 10, lines 18 - 25:

Delete all material.

Page 10, line 29, through page 11, line 4:

Delete all material.

Renumber the following bill section accordingly.

Page 11, line 5:

Delete "secs. 5 - 7"

Insert "sec. 5"

A M E N D M E N T

II
III

NO OBJ
ADOP

OFFERED IN THE HOUSE

BY REPRESENTATIVE MACLEAN

TO: HCS CSSB 46(); Version S, Dated 5/3/94

Page 2, line 25:

Delete "A"

Insert "Except as provided in (f) of this section, a"

Page 3, line 31, through page 4, line 2:

Delete ", including provisions relating to facilities to maintain game farm animals under positive control. The"

Insert ". Subject to (f) of this section, the"

Page 4, after line 3:

Insert a new subsection to read:

"(f) A game farming license is not required, and may not be required, to engage in game farming of reindeer or to possess reindeer as game farm animals."

Reletter the following subsections accordingly.

AMENDMENT

~~III~~ adopted No

OFFERED IN THE HOUSE BY REPRESENTATIVE MACLEAN
TO: HCS CSSB 46() Version S, Dated 5/3/94

Page 3, line 30:

Delete "may"

Insert "shall"

Adopted

8-LS0371NS
Utermohle
5/3/94

HOUSE CS FOR CS FOR SENATE BILL NO. 46()
IN THE LEGISLATURE OF THE STATE OF ALASKA
EIGHTEENTH LEGISLATURE - SECOND SESSION

BY

Offered:
Referred:

Sponsor(s): SENATORS MILLER, Frank, Pearce, Sharp, Taylor
REPRESENTATIVE Therriault

A BILL

FOR AN ACT ENTITLED

1 "An Act relating to moose farming and relating to game farming; and providing
2 for an effective date."

3 BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

4 * Section 1. AS 03.05.010(a) is amended to read:

5 (a) The commissioner of natural resources shall

6 (1) direct, administer, and supervise promotional and experimental
7 work, extension services, and agricultural projects for the purpose of promoting and
8 developing the agricultural industry within the state including such fields as
9 horticulture, dairying, cattle raising, fur farming, game farming, grain production,
10 vegetable production, and development of other agricultural products;

11 (2) procure and preserve all information pertaining to the development
12 of the agricultural industry and disseminate that information to the public;

13 (3) assist prospective settlers and others desiring to engage in the
14 agricultural industry in the state with information concerning areas suitable for

1 agriculture and other activities and programs essential to the development of the
2 agricultural industry in the state;

3 (4) review the marketing, financing, and development of agricultural
4 products inside the state including transportation, with special emphasis upon local
5 production, and negotiate for the marketing of agricultural products of the state with
6 federal and state agencies operating in the state;

7 (5) regulate and control the entry into the state and the transportation,
8 sale, or use inside the state of plants, seeds, vegetables, shell eggs, fruits and berries,
9 nursery stock, animal feeds, medicine and mineral supplements, fertilizers, and
10 agricultural chemicals in order to prevent the spread of pests, diseases, or toxic
11 substances injurious to the public interest, and to protect the agricultural industry
12 against fraud, deception, and misrepresentation; in this connection the commissioner
13 may require registration, inspection, and testing, and establish procedures and fees; and

14 (6) in consultation with the commissioner of fish and game, regulate
15 the farming of game farm animals [ELK IN A MANNER SIMILAR TO THE
16 MANNER IN WHICH THE COMMISSIONER REGULATES DOMESTIC
17 ANIMALS AND LIVESTOCK, TO THE EXTENT THAT IS APPROPRIATE].

18 * Sec. 2. AS 03.05.011(b) is amended to read:

19 (b) The commissioner of environmental conservation, in consultation with the
20 commissioner of fish and game, shall regulate the farming of game farm animals
21 [ELK IN A MANNER SIMILAR TO THE MANNER IN WHICH THE
22 COMMISSIONER REGULATES DOMESTIC ANIMALS AND LIVESTOCK, TO
23 THE EXTENT THAT IS APPROPRIATE].

24 * Sec. 3. AS 03.05 is amended by adding a new section to read:

25 Sec. 03.05.075. GAME FARMING. (a) A person may not engage in game
26 farming or possess game farm animals without having first obtained an annual game
27 farming license for that species from the commissioner of natural resources. The
28 commissioner shall issue a game farming license, that indicates the species of game
29 farm animal or animals for which the license is issued, to a person who intends to
30 engage in game farming of the game farm animal or animals, and possesses facilities
31 that the commissioner determines are sufficient to maintain the game farm animals

1 under positive control and to prevent injury to game farm animals and their handlers.
2 The annual game farming license fee is \$125.

3 (b) A person who holds a game farming license under this section, shall

4 (1) permanently mark each game farm animal; newborn animals must
5 be marked within six months of birth, at time of weaning, at time of sale, or at the
6 time of transfer, whichever is earlier;

7 (2) register the game farm animals, however acquired, and the progeny
8 of those animals with the commissioner within 30 days after the animals are acquired;
9 newborn animals must be registered as soon as practical but not later than 30 days
10 after marking;

11 (3) construct and maintain a fence that is adequate to prevent the
12 escape of the game farm animals and to exclude wild game;

13 (4) notify the commissioner within 30 days of the birth, sale, slaughter,
14 or death of one or more of the animals or their progeny;

15 (5) notify the commissioner of fish and game within 24 hours after

16 (A) a game farm animal escapes; the person shall submit a plan
17 to the commissioner of fish and game for the recapture of the animal; the
18 commissioner of fish and game may coordinate and assist in the recapture of
19 the animal; or

20 (B) wild big game enters a facility where game farm animals
21 are present.

22 (c) The slaughter of game farm animals and the sale of meat resulting from
23 the slaughter of game farm animals are subject to this title, regulations adopted under
24 this title, and other applicable law.

25 (d) The commissioner of natural resources or the commissioner of
26 environmental conservation may require a person who holds a game farming license
27 under this section to provide at the person's cost for a complete necropsy by a
28 veterinarian approved by the commissioner of environmental conservation to determine
29 the cause of death of a game farm animal if the cause of death is not apparent.

30 (e) The commissioner may exempt, by regulation, the game farming of free-
31 ranging reindeer under a state or federal grazing lease from provisions of this section,

1 including provisions relating to facilities to maintain game farm animals under positive
2 control. The commissioner may not exempt a person from the requirement to obtain
3 a game farming license.

4 (f) The commissioner shall adopt regulations as necessary to implement this
5 section and AS 03.05.010(a)(6).

6 (g) In this section, unless the context otherwise requires, "commissioner"
7 means the commissioner of natural resources.

8 * Sec. 4. AS 03.05.100 is amended by adding new paragraphs to read:

9 (4) "game farm animal" means lawfully owned bison, elk, reindeer, and
10 musk oxen or other lawfully owned mammal species or subspecies designated by the
11 commissioner of natural resources, with the concurrence of the commissioner of fish
12 and game; in this paragraph, "elk" means an animal of a subspecies of *Cervus elaphus*
13 indigenous to North America;

14 (5) "game farming" means an agricultural enterprise engaged in raising
15 and breeding game farm animals as domestic livestock for commercial purposes;

16 (6) "lawfully owned" means ownership was obtained without violating
17 a state or federal law or regulation, or a condition of a license or permit issued with
18 respect to the acquisition of a game farm animal.

19 * Sec. 5. AS 03.05.100(4) is repealed and reenacted to read:

20 (4) "game farm animal" means lawfully owned bison, elk, reindeer,
21 moose, and musk oxen or other lawfully owned mammal species or subspecies
22 designated by the commissioner of natural resources, with the concurrence of the
23 commissioner of fish and game; in this paragraph, "elk" means an animal of a
24 subspecies of *Cervus elaphus* indigenous to North America;

25 * Sec. 6. AS 03.05.100(4) is repealed and reenacted to read:

26 (4) "game farm animal" means lawfully owned bison, elk, reindeer,
27 caribou, and musk oxen or other lawfully owned mammal species or subspecies
28 designated by the commissioner of natural resources, with the concurrence of the
29 commissioner of fish and game; in this paragraph, "elk" means an animal of a
30 subspecies of *Cervus elaphus* indigenous to North America;

31 * Sec. 7. AS 03.05.100(4) is repealed and reenacted to read:

1 (4) "game farm animal" means lawfully owned bison, elk, reindeer,
2 caribou, moose, and musk oxen or other lawfully owned mammal species or subspecies
3 designated by the commissioner of natural resources, with the concurrence of the
4 commissioner of fish and game; in this paragraph, "elk" means an animal of a
5 subspecies of *Cervus elaphus* indigenous to North America;

6 * Sec. 8. AS 03.25.010 is amended to read:

7 Sec. 03.25.010. COMMISSIONER AUTHORIZED TO EMPLOY
8 VETERINARIANS. The commissioner may either independently or in cooperation
9 with the United States Department of the Interior or a college or a university or like
10 institution employ veterinarians for periods found to be to the best advantage for the
11 purpose of aid and service to the fur raising industry and game farming industry, and
12 for the purpose of aid and service to those engaged in raising livestock and other
13 domestic animals.

14 * Sec. 9. AS 03.25.020 is amended to read:

15 Sec. 03.25.020. DUTIES OF VETERINARIANS. Veterinarians shall

16 (1) visit the fur farms and game farms of the state, study problems
17 incidental to raising fur bearing animals and game farm animals, and advise those
18 engaged in the industry in matters pertaining to the breeding and care of fur bearing
19 animals and game farm animals and the prevention and cure of diseases of fur
20 bearing animals and game farm animals;

21 (2) prepare, publish, and distribute such data as the veterinarian, with
22 the advice and consent of the commissioner, considers useful to those engaged in the
23 industry;

24 (3) make reports to the commissioner when required by the
25 commissioner for transmittal to the state legislature;

26 (4) initiate and carry on experiments, on or in connection with a fur
27 farm or game farm, with relation to the care and feeding of fur bearing animals or
28 game farm animals, the improvements of the breed, or the cure or prevention of any
29 disease to which they may be subject or the extermination of the parasites by which
30 they may be attacked, and in this connection employ and pay for the necessary
31 assistance and rent and use of necessary facilities;

1 (5) perform other duties as may be prescribed by the commissioner as
2 are not inconsistent with the duties specifically imposed by this chapter;

3 (6) study problems incidental to the raising of livestock, [AND] other
4 domestic animals, and game farm animals, and advise those engaged therein upon
5 matters pertaining to the breeding, care, and the prevention and cure of diseases of
6 livestock, [AND] other domestic animals, and game farm animals.

7 * Sec. 10. AS 03.25.250 is amended to read:

8 Sec. 03.25.250. DEFINITIONS [DEFINITION]. In this chapter,

9 (1) "commissioner" means the commissioner of environmental
10 conservation;

11 (2) "game farm animal" has the meaning given in AS 03.05.100;

12 (3) "game farming" has the meaning given in AS 03.05.100.

13 * Sec. 11. AS 03.30 is amended by adding a new section to read:

14 Sec. 03.30.070. INTERFERENCE WITH GAME FARM FENCES AND
15 GATES. (a) A person may not knowingly alter or damage the fence of a game farm
16 in a manner that would allow game farm animals to escape from the game farm.

17 (b) Except with the permission of the owner of the game farm animals, a
18 person may not knowingly open the gate of an enclosure or fenced area where game
19 farm animals are present and

20 (1) fail to close the gate; or

21 (2) allow game farm animals to leave the enclosure or fenced area.

22 (c) A person who violates this section is guilty of a class A misdemeanor.

23 (d) In this section,

24 (1) "game farm animal" includes animals subject to an experimental
25 animal husbandry permit under AS 16.40.010;

26 (2) "knowingly" has the meaning given in AS 11.81.900 and must be
27 construed in accordance with AS 11.81.610(c).

28 * Sec. 12. AS 03.35.070(1) is amended to read:

29 (1) "domestic animal" includes goats, sheep, cattle, horses, [AND]
30 swine, and animals subject to a game farming license under AS 03.05.075;

31 * Sec. 13. AS 03.40.010 is amended to read:

1 Sec. 03.40.010. BRANDS AND MARKS. Any person owning cattle, game
 2 farm animals [REINDEER, BISON, MUSKOX], sheep, horses, mules, or asses [,]
 3 may adopt a brand or mark. After recording the brand or mark as provided in
 4 AS 03.40.030, the person has the exclusive right to its use.

5 * Sec. 14. AS 03.40.050 is amended to read:

6 Sec. 03.40.050. USE WITHOUT CERTIFICATE PROHIBITED. A person
 7 may not brand any horse, cattle, game farm animal [REINDEER, BISON,
 8 MUSKOX], mule, or ass, unless the person using the brand holds a written certificate
 9 of acceptance from the commissioner.

10 * Sec. 15. AS 03.40.270 is amended to read:

11 Sec. 03.40.270. DEFINITIONS. In [AS USED IN] this chapter, [A]

12 (1) "brand" means an identification mark burned into the hide of a live
 13 animal;

14 (2) "game farm animal" has the meaning given in AS 03.05.100.

15 * Sec. 16. AS 16.05.330(a) is amended to read:

16 (a) Except as otherwise permitted in this chapter, without having the
 17 appropriate license or tag in actual possession a person may not engage in

- 18 (1) sport fishing, including the taking of razor clams;
- 19 (2) hunting, trapping, or fur dealing;
- 20 (3) the farming of fish, fur animals, or game reptiles; or
- 21 (4) taxidermy.

22 * Sec. 17. AS 16.05.340(a)(18)(A) is amended to read:

23 (A) Game [MAMMAL OR GAME] reptile farming biennial
 24 license \$250

25 * Sec. 18. AS 16.05.940(10) is amended to read:

26 (10) "domestic mammals" include game farm animals, as defined in
 27 AS 03.05.100 [MUSK OXEN, BISON, ELK, AND REINDEER, IF THEY ARE
 28 LAWFULLY OWNED];

29 * Sec. 19. AS 16.40.010 is amended to read:

30 Sec. 16.40.010. DISPOSITION OF SURPLUS GAME ANIMALS [BUFFALO
 31 AND MUSK OXEN]. Whenever it is determined by the department that a surplus of

1 bison, caribou, elk, moose, or musk oxen exists [IN THE HERDS OF BUFFALO
2 AND MUSK OXEN UNDER ITS CONTROL], the department may, under regulations
3 adopted by it, authorize a person to take [GRANT] the surplus or portions of the
4 surplus [IT TO PERSONS, GROUPS, ASSOCIATIONS, PARTNERSHIPS, OR
5 CORPORATIONS] for the purpose of raising and breeding the animals as domestic
6 stock for commercial purposes, for experimental animal husbandry purposes, or for
7 scientific and educational purposes. A person [, GROUP, ASSOCIATION,
8 PARTNERSHIP, OR CORPORATION] may receive animals for

9 (1) commercial purposes only after

10 (A) obtaining an appropriate game farming license under
11 AS 03.05.075; and

12 (B) paving a reasonable fee that covers the costs to the
13 department of supervising and assisting with the taking and transfer of the
14 animals;

15 (2) experimental animal husbandry purposes or ly after obtaining
16 a permit issued by the commissioner in consultation with the commissioner of
17 natural resources and the commissioner of environmental conservation; or

18 (3) scientific and educational purpose, only after obtaining the
19 appropriate permit issued under AS 16.05 [PROVING TO THE SATISFACTION
20 OF THE DEPARTMENT

21 (1) INTENT TO RAISE AND BREED THE ANIMALS; AND

22 (2) POSSESSION OF FACILITIES FOR MAINTAINING THE
23 ANIMALS UNDER POSITIVE CONTROL].

24 * Sec. 20. AS 16.40.010 is amended by adding new subsections to read:

25 (b) After a person acquires an animal under this section for commercial
26 purposes, a license or permit from the department is not required in order to possess
27 the animal. The importation, exportation, possession, and utilization of game farm
28 animals, as defined under AS 03.05.100, are subject to the provisions of AS 03 and
29 regulations adopted under AS 03. A license or permit from the department is not
30 required in order to import, export, or possess a game farm animal for commercial
31 purposes under a game farming license.

1 (c) A person may receive a permit to possess surplus animals under this
2 section for experimental animal husbandry purposes if the person proves to the
3 satisfaction of the department that the person intends to raise and breed the animals
4 and possesses facilities for maintaining the animals under positive control. Animals
5 received under an experimental animal husbandry permit remain property of the state
6 while in possession of the permit holder and may not be sold or otherwise transferred
7 out of the possession of the permit holder. Subject to regulations adopted by the
8 department, a permit holder may slaughter animals possessed under the permit, may
9 sell milk, antlers, horns, fur, and other products from live animals, and may charge a
10 fee to the public for viewing of the animals. The department may summarily revoke
11 a permit issued under this subsection and take possession of animals held under the
12 permit if the permit holder fails to comply with the terms of the permit or a statute or
13 regulation governing the possession of the animals. The department shall adopt
14 regulations necessary to implement this subsection and (d) of this section in
15 consultation with the Department of Natural Resources and the Department of
16 Environmental Conservation.

17 (d) A person who holds an experimental animal husbandry permit, has
18 possessed animals under the permit for at least five years, and intends to raise the
19 animals for commercial purposes may request title to the animals in the person's
20 possession. The department shall grant title to the animals if the person has

21 (1) obtained a game farming license under AS 03.05.075 for each
22 species of animal for which title is to be granted;

23 (2) demonstrated the ability to properly care for and maintain the
24 animals in the person's possession; and

25 (3) complied with the terms of the experimental animal husbandry
26 permit and with statutes and regulations governing the possession of animals for
27 experimental animal husbandry purposes.

28 (e) The department shall dispose of nonfatally injured, or live abandoned or
29 orphaned calves of, bison, caribou, elk, moose, or musk oxen that cannot be returned
30 to the wild to a person who holds an appropriate game farming license under
31 AS 03.05.075 or a permit for experimental animal husbandry purposes or for scientific

1 or educational purposes.

2 (f) A live bison, caribou, elk, moose, or musk oxen may not be captured from
3 the wild or released into the wild without a permit from the department.

4 * **Sec. 21.** AS 16.40 is amended by adding a new section to article 1 to read:

5 Sec. 16.40.060. IMPORTATION PROHIBITED. Notwithstanding AS 03 and
6 other provisions of this title, moose and caribou may not be imported into the state for
7 commercial or animal husbandry purposes.

8 * **Sec. 22. REGULATIONS REGARDING DESIGNATION OF GAME FARM ANIMALS.**

9 Before December 1, 1995, the commissioner of natural resources, with the concurrence of the
10 commissioner of fish and game, shall adopt regulations establishing criteria for designating
11 a mammal species or subspecies as a game farm animal under AS 03.05.100(4), added by
12 sec. 4 of this Act.

13 * **Sec. 23.** AS 16.40.020 and 16.40.050 are repealed.

14 * **Sec. 24.** (a) Section 5 of this Act takes effect only if the commissioner of natural
15 resources has designated, with the concurrence of the commissioner of fish and game, moose
16 as a game farm animal. The commissioner of natural resources shall promptly inform the
17 revisor of statutes of a designation under this subsection.

18 (b) Section 6 of this Act takes effect only if the commissioner of natural resources has
19 designated, with the concurrence of the commissioner of fish and game, caribou as a game
20 farm animal. The commissioner of natural resources shall promptly inform the revisor of
21 statutes of a designation under this subsection.

22 (c) Section 7 of this Act takes effect only if the commissioner of natural resources has
23 designated, with the concurrence of the commissioner of fish and game, moose and caribou
24 as game farm animals. The commissioner of natural resources shall promptly inform the
25 revisor of statutes of a designation under this subsection.

26 * **Sec. 25.** Section 5 of this Act takes effect on the effective date of a designation under
27 AS 03.05.100(4), added by sec. 4 of this Act, by the commissioner of natural resources, with
28 the concurrence of the commissioner of fish and game, that moose are game farm animals.

29 * **Sec. 26.** Section 6 of this Act takes effect on the effective date of a designation under
30 AS 03.05.100(4), added by sec. 4 of this Act, by the commissioner of natural resources, with
31 the concurrence of the commissioner of fish and game, that caribou are game farm animals.

1 * **Sec. 27.** Section 7 of this Act takes effect on the effective date of a designation under
2 AS 03.05.100(4), added by sec. 4 of this Act, by the commissioner of natural resources, with
3 the concurrence of the commissioner of fish and game, that has the effect of designating
4 moose and caribou as game farm animals.

5 * **Sec. 28.** Except for secs. 5 - 7 of this Act, this Act takes effect immediately under
6 AS 01.10.070(c).

DIVISION OF LEGAL SERVICES

LEGISLATIVE AFFAIRS AGENCY STATE OF ALASKA

(907) 465-3867 or 465-2450
FAX (907) 465-2029
Mail Stop 3101

130 Seward Street, Suite 409
Juneau, Alaska 99801-2105

MEMORANDUM

May 5, 1994

SUBJECT: Sectional Summary of House CS CSSB 46() [version S, dated 5/3/94]; An Act relating to moose farming and relating to game farming; and providing for an effective date. (Work Order No. 8-LS0371\S)

TO: Representative MacLean
Utermohle

FROM: George Utermohle
Legislative Counsel

You have requested a sectional summary of House CS CSSB 46() [version S, dated 5/3/94]; An Act relating to moose farming and relating to game farming; and providing for an effective date.

A sectional summary of a bill is not an authoritative interpretation of the bill. The bill itself is the best statement of its contents.

Section 1 of the bill amends AS 03.05.010(a) to include responsibility for matters relating to game farming within the responsibilities of the commissioner of natural resources and to require the commissioner to regulate game farming in consultation with the commissioner of fish and game.

Section 2 of the bill amends AS 03.05.011(b) to require the commissioner of environmental conservation to regulate game farming in consultation with the commissioner of fish and game.

Section 3 of the bill adds a new section to AS 03.05 to provide for the issuance of game farming licenses and the regulation of game farming.

Section 4 of the bill adds new definitions to AS 03.05.100 to define the terms: game farm animal, game farming, and lawfully owned.

Section 5 of the bill replaces the definition of game farm animal established by sec. 4 of the bill with a new definition that expressly includes moose, if the commissioner

of natural resources, with the concurrence of the commissioner of fish and game, designates moose as a game farm animal.

Section 6 of the bill replaces the definition of game farm animal established by sec. 4 of the bill with a new definition that expressly includes caribou, if the commissioner of natural resources, with the concurrence of the commissioner of fish and game, designates caribou as a game farm animal.

Section 7 of the bill replaces the definition of game farm animal established by sec. 4 of the bill with a new definition that expressly includes moose and caribou, if the commissioner of natural resources, with the concurrence of the commissioner of fish and game, designates moose and caribou as game farm animals.

Sections 8-10 of the bill amend provisions of AS 03.25.010, 03.25.020, and 03.05.250 to include service to the game farming industry within the duties of veterinarians employed by the commissioner of environmental conservation and to define the terms: game farm animal and game farming.

Section 11 of the bill adds a new section to AS 03.30 making it a class A misdemeanor to interfere with game farm fences and gates.

Section 12 of the bill amends the definition of domestic animal for purposes of provisions relating to grazing districts (AS 03.35) to include animals subject to a game farming license.

Sections 13-15 of the bill amends provisions of AS 03.40.010, 03.40.050, and 03.40.270 to provide that game farm animals are subject to the branding and marking provisions of AS 03.40 and to define "game farm animals" for purposes of AS 03.40.

Section 16 of the bill amends AS 16.05.330(a) to require that a person obtain a license issued under AS 16.05 in order to engage in farming of fur animals and game reptiles. This amendment eliminates the requirement for a license under AS 16.05 to engage in the farming of game.

Section 17 of the bill amends AS 16.05.340(a)(18)(A) to eliminate the fee for a game mammal license. This amendment conforms to the changes made by sec. 16 of the bill.

Section 18 amends the definition of domestic mammals to include game farm animals for purposes of AS 16.

Section 19 of the bill amends AS 16.40.010 to authorize the Department of Fish and Game to allow persons to take surplus bison, caribou, elk, moose, or musk oxen for commercial, experimental animal husbandry, or scientific and educational purposes.

Section 20 of the bill adds new subsections to AS 16.40.010 to

(1) exempt game animals acquired for commercial purposes and game farm animals from regulations by the Department of Fish and Game;

(2) set out provisions relating to the issuance of experimental animal husbandry permits and to the possible transfer of animals held under an experimental animal husbandry permit to private ownership;

(3) provide for the dispositions of injured, abandoned, or orphaned calves of bison, caribou, elk, moose, or musk oxen to certain persons; and

(4) prohibit the capture or release of bison, caribou, elk, moose, or musk oxen without a permit issued by the Department of Fish and Game.

Section 21 of the bill adds a new section to AS 16.40 prohibiting the importation of moose or caribou into the state for commercial or animal husbandry purposes.

Section 22 of the bill requires the commissioner of natural resources, with the concurrence of the commissioner of fish and game, to adopt regulations setting out the criteria for designating a mammal species or subspecies as a game farm animal under AS 03.05.100(4), added by sec. 4 of the bill.

Section 23 of the bill repeals AS 16.40.020 (relating to the sale of meat of certain buffalo and musk oxen) and 16.40.050 (regulating elk farming), because these provisions are superseded by other provisions added by this bill.

Section 24 of the bill contains technical provisions relating to the taking effect of secs. 5-7 of the bill (definition of game farm animal).

Sections 25-27 of the bill contain special effective dates for secs. 5-7 of the bill.

Section 28 of the bill provides that the bill (except for secs. 5-7) takes effect immediately.

GU:gc
94-322.glc

SB 46 An Act authorizing Moose Farming

The bill is intended to increase Alaskans' options to provide red meat for personal and commercial use.


As rural cash sources deplete under declining state budget scenarios, it will become more important that tools exist for citizens to provide or acquire food supplies for their families. Personal use species will acquire more significance in the non-urban economy. The animals envisioned as breeder stock for this use are indigenous Alaskan animals which bear no risk of importing disease or contamination from other geographic areas.

The animals which are determined to be "surplus" would generally be from two sources: orphaned calves which would not be expected to survive on their own; and animals which would have elevated mortality due to natural conditions leading to diminished carrying capacity of the animal's natural habitat.

Over a 4 1/2 year period, an average of 200 animals was killed or mortally wounded along the Alaska Railroad corridor. This statistic omits the extreme winter of 1989-90 when 722 moose were killed between October and April. This condition of unnatural risk-taking was the result of high snows and limited mobility as well as limited food supplies except in the rail corridor where young hardwoods had grown. The net impact was a decrease in local animal populations, as well as local hunting opportunities.

We support this legislation in order to give greater opportunity to Alaskans to provide for their families and have the option of selling meat to others. We support the development of appropriate regulations which would put domesticated animals under the supervision of the DNR/Division of Agriculture. This would allow technical assistance and economic monitoring of the moose projects in a similar manner to other private agricultural projects.

The DCED/Division of Tourism is standing by to offer technical assistance to moose farm owners to add a tourism/educational component to their operations. As many visitors are unable to observe these unique animals in the wild, we support the additional economic opportunity that observation facilities will provide to the moose farm operations.



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

FARMING OF BIG GAME ANIMALS

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 9,000 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 mile² during winter. Moose farming advocates have proposed stocking densities in excess of 16 moose per mile². 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 mile² 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 where 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/Hybridization

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.

POSITION PAPER

Farming of Big Game Animals in Alaska

Department of Environmental Conservation
Department of Fish and Game
Department of Natural Resources

February 1994

INTRODUCTION

Interest in farming big game animals as alternative livestock is increasing in Alaska. Recent legislation authorized farming of North American elk and a bill currently before the legislature would authorize farming of moose. Alaska needs a comprehensive review of game farming to:

1. formulate a state policy on this issue;
2. recommend legislation to authorize and regulate game farming, and;
3. develop fair and effective regulations that will protect the domestic and game farm industries, Alaska's wildlife resources and provide a climate for game farming to grow and prosper.

Representatives from the Departments of Environmental Conservation, Fish and Game and Natural Resources held a series of meetings to discuss game farming. These discussions resulted in this position

paper that outlines the state's policies on game farming. All three departments endorse these recommendations. A representative of the game farm industry in Alaska has also reviewed and endorsed this position paper.

STATUS OF GAME FARMING IN ALASKA

Current laws in Alaska allow four species of big game to be farmed. They are elk, reindeer, bison and muskoxen. Reindeer, bison and muskoxen are defined as domestic animals when privately owned. No permits or licenses are required to farm these animals. North American elk may be privately owned for the purposes of farming under a game mammal farming license issued by the Department of Fish and Game. Private ownership of all other big game species is prohibited by Fish and Game regulations adopted by the Board of Game. The only exception to this is for animals held by zoological parks. Zoological parks own some animals in their possession and retain others owned by the state under educational permits.

There is one muskoxen farm in Alaska. This farm is located near Palmer and has about 50 animals. The animals are owned by "OOMINGMAK", a muskox producers co-operative. This co-operative provides wool to about 200 knitters in many villages in Alaska for production of woolen products.

There are about 45,000 reindeer in Alaska, most are located on the Seward Peninsula in Western Alaska, Nu'ivak Island and Umnak Island. The federal "Reindeer Act" of 1937 limits ownership of reindeer in Alaska to Alaska Natives. This Act defines reindeer as "reindeer and such caribou as have been introduced into animal husbandry..." Reindeer herding is a growing industry in Alaska. Products include antlers, meat and breeding stock.

There are several small herds of privately owned plains bison in Alaska. The largest farms are near Kodiak, Nenana and Delta. The total number of farmed plains bison in Alaska is about 200, the largest herd has 70 animals.

Alaska has two licensed elk (also called wapiti) farms. The largest, near Soldotna, has been raising elk since 1989 and has about 70 animals. One other farmer near Homer has three elk. Several other people have expressed interest in elk farming and hope to enter into the business in the future. Products from elk farms are antlers, meat and breeding stock.

Current laws and policies allow only the four subspecies of North American elk to be farmed in Alaska. There is interest by some farmers to import red deer for farming. Red deer are a European subspecies of elk. They readily hybridize with the North American subspecies.

Individuals have expressed interest in owning moose for farming. Native and non-Native Alaskans have expressed an interest in owning caribou although the ownership of reindeer and caribou (by definition) is restricted to Native Alaskans by federal law. At this time, no one has expressed interest to the Division of Agriculture or Wildlife Conservation in farming any other species of big game in Alaska.

FUTURE OF BIG GAME FARMING IN ALASKA

Needs of Game Farm Industry

Game farming in Alaska is in its infancy. There is great potential for game farming to grow into a viable, substantial industry in the future. For growth to occur the industry requires consistent state policies across departments, stability in state laws and fair and effective regulations.

Raising game animals successfully under domestic conditions requires knowledgeable and experienced herdsmen. There is a need for game farm research provided by the University of Alaska to facilitate effective methods for raising game species as agricultural livestock and provide education and program delivery by the Cooperative Extension Service to promote the game farming industry.

Role of State Government

State agencies must formulate state policies and regulations that provide opportunities for the game farming industry to expand while protecting the domestic livestock industry and the wildlife resources from undue risk. Potential risks to public health and to our wildlife resources can be avoided or minimized by effective regulations.

RECOMMENDED POLICIES

- Big game species that may be farmed in Alaska are:
 - Muskoxen, Ovibos moschatus
 - Plains bison, Bison bison bison
 - Wood bison, Bison bison athabasca
 - Reindeer, Rangifer tarandus tarandus
 - Rocky Mountain elk, Cervus elaphus nelsoni
 - Roosevelt elk, Cervus elaphus roosevelti
 - Tule elk, Cervus elaphus nannodes
 - Manitoba Elk, Cervus elaphus manitobensis

Other species of big game animals can be added to this list under regulations that will be adopted by the Department of Natural Resources. These regulations will provide a procedure

and criteria for review of proposed inclusions to the list of game species that may be farmed. Concurrence of the Commissioners of Natural Resources and Fish and Game will be required before a species can be added or deleted from the list.

Farming of moose as a commercial enterprise has not been shown to be economically feasible. While it is possible to maintain moose in captivity with special feed and proper fencing the behavior of moose is not conducive to a farming operation. Therefore, they should not be included as a species that may be farmed in Alaska. Some individuals desire to own moose for a variety of purposes other than farming. We suggest the legislature create a new permit called an experimental animal husbandry permit. Under regulations promulgated by the Department of Fish and Game individuals would be allowed to hold moose and caribou in captivity. The state would retain ownership of these animals. Roadside attractions that exploit moose will not be allowed. Moose may not be used as pets under current laws.

The Department of Environmental Conservation will be the agency with responsibility and authority for animal health issues. Regulations dealing with import, export and quarantine requirements and disease testing, will be promulgated by the Commissioner of the Department of

Environmental Conservation with advice from the Departments of Fish and Game and Natural Resources.

The Department of Natural Resources will be the agency with responsibility and authority to promulgate regulations related to all other aspects of game farming. These regulations will include permanent identification of animals, records of transfer of ownership, fencing requirements and adding species to the list of game animals that may be farmed. The Departments of Fish and Game and Environmental Conservation will provide advice on these regulations.

The Departments of Natural Resources, Environmental Conservation and Fish and Game will develop a Memorandum of Agreement concerning regulation of the game farming industry. The MOA will delineate areas of responsibility and an enforcement policy.

RECOMMENDED LEGISLATION

SB 46 should be amended to authorize game farming of reindeer, plains and wood bison, muskoxen and elk under regulation of Department of Natural Resources. The legislation should authorize the Department of Natural Resources to develop regulations that establish a procedure for new species to be added to the list of species that may be farmed in Alaska.

During the 1995 legislative session, legislation should be passed clarifying when wildlife can be surplused for use as game farm animals. This legislation should authorize the Department of Fish and Game to develop regulations which establish a process for surplusung wildlife for use as game farm animals. The issue of adding moose, caribou and other species to the list of game species that may be farmed should be addressed after DNR and DFG have such regulations in place.

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REGULATION OF GAME FARMING IN STATES AND PROVINCES

Prepared by Department of Fish and Game
February 1994

Most states and provinces allow farming of some game species. The species allowed to be farmed and the regulations governing the industry vary from state to state. Authority to regulate game farming usually resides in either the Department of Fish and Game or the Department of Agriculture. In some jurisdictions (i.e., Colorado, Idaho, Alberta and Louisiana) these agencies share authority for regulations.

During the past 5 years several states, especially western states, have revised their statutes and/or regulations related to game farming. The reasons for these revisions are:

1. interest in game farming, especially elk farming, has increased greatly and more people are entering the industry;
2. importation of red deer from New Zealand created concerns about hybridization with elk; and
3. occurrence of tuberculosis in elk in Alberta increased concern about game farm animals spreading disease to domestic livestock.

New regulations in most states follow recommendations made at a Game Farming Symposium attended by state, provincial and federal veterinarians; and agriculture and wildlife officials. The symposium was held in Idaho in 1991. These regulations require disease testing, permanent animal identification and records to track animal movements.

Status of game farming regulations from several jurisdictions are summarized below. We do not have information from other states.

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

Colorado: new regulations written in 1993. Allow farming of Rocky Mountain elk, fallow deer and mule deer. Require disease testing, permanent animal marking, and have fencing standards--red deer and moose are prohibited.

Idaho: currently revising regulations to follow symposium recommendations. Restrict species to Rocky Mountain elk, white-tailed deer, mule deer, fallow deer and reindeer--red deer and moose are prohibited.

- Louisiana:** new statutes passed in 1992, in process of developing regulations to require disease testing, permanent identification through implanted microchip, fencing standards. Allows farming of elk, exotic deer and antelope.
- Montana:** adopted more restrictive regulations in 1992. Allow elk, but prohibit red deer and moose farming.
- Nevada:** new state law (1993) restricts game farming to elk, fallow deer, and reindeer--red deer and moose are prohibited. Regulations following guidelines from Idaho symposium are being drafted.
- New York:** allow farming of several deer species, only elk and fallow deer farmed commercially. A case of TB in a fallow deer resulted in the loss of New York state's certified TB-free status in 1993.
- Oregon:** currently revising all regulations concerning farming of deer species.
- Utah:** new law in 1992 prohibits private ownership of all native and nonnative wildlife species except bison and fallow deer. Game farming is prohibited by statute.
- Washington:** In 1992 passed regulations prohibiting importation and propagation of native deer, elk, moose and caribou--currently in litigation.
- Alberta:** In 1991 passed new law called Comprehensive Livestock Industry Diversification Act. Law licenses game farms, allows farming of elk, deer and moose, prohibits all exotics, including red deer, requires permanent marking and registration. Dr. Terry Church, Director of the Alberta Animal Industry Division wrote to the Alaska Division of Agriculture (October 5, 1993) about game farming. He said, "Moose are raised mostly out of curiosity. They are difficult to manage. They require a browse diet and farmers have not been able to justify the costs of fences for the amount of moose a given pasture will produce. Elk consume the same species of forage a moose does plus a lot more. With elk on a farm, there is really little reason to keep moose. I can't imagine a situation where they will ever be economical."
- Yukon Territory:** Passed new regulations in 1992 allowing farming of elk and prohibiting red deer and moose.

Alaska State Legislature

SENATOR
MIKE MILLER
Box 55094
Juneau, Alaska 99701
Senate District 12



Senate

February 19, 1993

Berton Gore, DVM
State Veterinarian
Department of Environmental Conservation
Division of Environmental Health
Meat/Poultry Inspection Section
500 S. Alaska, Suite A
Palmer, AK 99645-6399

Dear Dr. Gore:

I have sponsored legislation (Senate Bill 46) that would provide the Department of Fish & Game with the statutory authority to grant surplus moose to individuals or groups for domestication for either commercial purposes or for scientific and educational purposes. The bill would also legalize the sale of moose meat from farmed moose.

Some concerns have been raised over the possible effects of moose farming. I would like to request your opinion on two of these issues based on your personal research, experience, and professional knowledge as the state veterinarian.

1) "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.

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, rangeliferine 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

Berton Gore, DVM
February 19, 1993
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(*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."

2) "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."

Please provide any additional information you have that would assist the Legislature in making an informed decision regarding the domestication of moose in Alaska. Feel free to comment on caribou and deer, as well as farmed species in Alaska with which you have experience or knowledge.

Thank you for your assistance.

Sincerely,

A handwritten signature in black ink, appearing to read "Mike Miller", with a long horizontal flourish extending to the right.

Senator Mike Miller, Chair
Senate Resources Committee

DEPT. OF ENVIRONMENTAL CONSERVATION
DIVISION OF ENVIRONMENTAL HEALTH
OFFICE OF THE STATE VETERINARIAN

500 S. Alaska Street
Palmer, AK 99645
907-745-3236

February 26, 1993

Senator Mike Miller
Alaska State Legislature
State Capital
Juneau, AK 99801-1182

Senator Miller:

The first statement "High densities of animals will cause behavioral and disease problems with the potential for spreading diseases to wildlife and domestic animals outside the farms" interests me. Does this mean the Department of Fish and Game would favor low densities of domestic animals under open range conditions??

Confined animals have difficulty transmitting disease to wildlife or other animals if there is no contact. Disease could only be transmitted from confined animals to others using a vector or intermediate host. To date I am not aware of any vectors, i.e. flies, ticks, or snails, in Alaska which have been incriminated in disease transmission in livestock. To be correct one must add that canines and felines do get tapeworms from shrews, rabbits and some fleas.

Therefore the chance of disease transmission without contact or vectors appears remote.

To address the specific diseases I would like to start with Mycobacterium bovis or Tuberculosis (TB) Canada introduced TB into their elk farms when they (Agriculture Canada and USDA) used the caudal fold intra dermal test. To find the infected elk they switched to the single cervical intra dermal test. The reactors were condemned, killed, and an indemnity was paid based on breeding value as opposed to slaughter value. Hence the high indemnity cost.

To prevent the introduction of TB, Alaska has taken the position that all imported elk shall have a negative TB test using the single cervical test and originate from a herd which has had a negative herd test within the last twelve months using the single cervical method.

Bovine brucellosis (*Brucella abortus*) can occur in elk. To prevent the introduction of this disease, elk for importation must test negative for brucellosis and originate from a herd which has had a negative herd test within the last twelve months.

Rangiferine brucellosis (*Brucella suis* type 4) is a problem because it currently exists throughout the state of Alaska in numerous species of animals.

Senator Miller
February 25, 1993
Page 2

Everyone knows it occurs in reindeer but, according to Dr. Zarnke of Alaska Fish & Game in his research report, "Serologic Survey of Alaska Wildlife for Microbial Pathogens," the disease is found in many species in many areas of Alaska. For example:

1. Grizzly Bear - Admiralty I, Kodiak I, Becharof, Noatak, Units 13, 26C, 26A, and 20.
2. Wolves - Denali Park and ANWAR.
3. Moose - Unit 13.
4. Musk Ox - Nunivak Island.
5. Caribou - Nelchina, Porcupine, Central Arctic and western Arctic herds.

My experience has demonstrated with the William's herd that total confinement combined with test and slaughter procedures can eliminate brucellosis from herds.

Research completed but not yet published by UAF and Agriculture Canada, has shown that healthy, pregnant cows and bison infected with B. suis 4 ran a transient temperature and titer, but did not abort. Since it doesn't cause pathology in cattle or bison; can be eradicated with confinement using test and slaughter procedures; and appears to be endemic in the state in several species; is it really the dread disease of the North???

Blue tongue in elk can be fatal as with other domestic species. The Blue tongue virus is transmitted by a biting gnat. The gnat is found in the lower 48 states and occasionally as far north as the Okanagan Valley in Southern British Columbia. Without that gnat there is no natural transmission. Additionally, all livestock and elk must have a negative blue tongue test prior to entering Alaska. Once again, in Dr. Zarnke's publication, he states he has found serologic evidence of Blue tongue (BT) or Enzootic Hemorrhagic Disease (EHD) already in Alaska, i.e.:

- a. Elk - EHD - Kodiak
- b. Dall Sheep - BT - Unit 20A
- c. Caribou - BT - Mulchatna, Porcupine Herds
- d. Caribou - EHD - Western Arctic Herd

Regarding Anaplasmosis, the textbook "Veterinary Medicine", by Blood, Radostits & Henderson, 6th ed., states:

"Deer can become infected and act as reservoirs of infection for cattle. There is little point in establishing anaplasmosis-free herds when cattle share pasture with roaming deer. American bison (Bison bison) appear to be naturally resistant to infection."

Anaplasmosis is spread by ticks primarily, and occasionally by biting flies and eye gnats.

Senator Miller
February 25, 1993
Page 3

The referenced textbook also states that, "Introduction of the disease into areas by carrier animals can be prevented by use of the C-F or the capillary tube agglutination test."

There is a vaccine available and the disease responds to treatment with tetracyclines.

One must consider that Canada is recognized by USDA as being free of anaplasmosis. Could it be that the vectors do not survive in the cold?

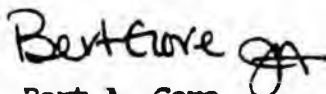
The meningeal worm is primarily a parasite of white tail deer causing little or no pathology in them. It can be fatal for elk and moose however. The worm requires an intermediate host (a snail) before it can infect another animal. Since the white tail and moose share common territory in Maine, Quebec, and Ontario, is it possible that the snail cannot survive in Northern latitudes?

The carotid artery worm is a normal parasite of deer in the mountains of southwest U.S. and the western states. It's primary pathology is to domestic sheep where it causes chronic debilitating skin lesions.

In the true hosts (deer, wapiti and moose) the giant liver fluke is well tolerated. Very little pathology is present. In cattle, however, it causes large granulomatous lesions in the liver. The fluke has an interesting life cycle and requires a snail as an intermediate host. The fluke egg leaves the host in the feces. It must hatch in water at 70° - 86°F in 21-30 days and within 24 hours the larva must penetrate a snail. Does our summer water temperature reach 70° - 86°F for 21-30 consecutive days? Is this a disease threat?

One can argue the pros and cons of importing game animals into Alaska and the potential for disease transmission escapement and hybridization. There is however, an alternative which I would propose and strongly support....the game farming of indigenous species such as Caribou, Musk Ox, Dall sheep, Moose, Sitka deer and Mountain Goats. The research and work already completed by UAF in Reindeer and Musk Ox; Fish and Game's Moose Research Station; and, my experience with eliminating brucellosis in William's Reindeer; would provide a solid foundation for the farming of indigenous species.

Sincerely,



Bert A. Gore
State Veterinarian

BG/da



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
Mark Kulstad
Herb Eckman
Mike Schultz

Commissioner Heinze
Jim Carter
Bob Havemeister
Ron Sexton

Bob Baer
Jim Drew
Paul Huppert
David Wright

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 farming 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.



Ward Farms

P.O. Box 290 • Soldotna, Alaska 99669 • (907) 262-6159 • FAX (907) 262-7278

April 15, 1993

To: House Resources Committee

Re: HCS CSSB 46

"An Act relating to moose farming and relating to game farming"

It is my intention to appear before the committee at 8:00 AM on Monday 19th. to testify on this bill. Please refer to accompanying FACT Sheet for relevant information.

As an individual actively involved in the game farm business, I believe I can provide factual information to assist your deliberation on this legislation. My wife and I have been involved in successful agriculture all our lives. Since 1976 we have been developing a livestock ranch on the Kenai Peninsula and in 1990 we started raising Elk as a game livestock. We own 57 head of elk at this time and are increasing our numbers to 200. I have been involved in all aspects of agriculture in Alaska serving on associations, boards, and various government appointments. My farming operation is prosperous and will withstand any scrutiny.

I am on the managing Board of Directors for the North American Elk Breeders Association, a national livestock association representing 700 elk ranchers raising over 20,000 head of elk. As a director I am actively involved in the development, as well as the controversy surrounding game farming. I am aware of established and pending legislation in all states. We respond to those that challenge game farming with scientific, economic, and ethical data to support our industry. I have testified before the USDA, National Research Council, and US Animal Health Association to secure the game industries legitimate role in agriculture. I have participated in the World Deer Congress in New Zealand where over 23 nations gathered together to formulate a sound, worldwide game industry policy.

I appreciate the opportunity to provide honest and informative facts related to the game farm industry in Alaska.

Sincerely,

Bill D. Ward

ALASKA FARMERS & STOCKGROWERS ASSOCIATION, Inc.
"THE ALASKA FARM BUREAU"
Game Farming Subcommittee
P.O. Box 290
Soldotna, Ak. 99669
262-5135 FAX 262-7278

GAME FARMING FACT SHEET

FACT - Game farming is an agricultural business conducted by persons who privately own game animal species for the purpose of raising and breeding these animals as domestic livestock for commercial purposes.

FACT - Game farming is endorsed by the Agricultural Task Force and Governor Walter Hickel as a viable economic enterprise for Alaska.

FACT - The "Governor's Task Force On Regulatory Reform" recommends that the administrative authority for elk and game farming be placed in the DNR, Division of Agriculture.

FACT - Existing game farm operations in Alaska are successful, prosperous, and contributing to the economy of Alaska.

FACT - Game farming is a viable and successful national and international industry.

FACT - Game farm products are value added with higher profitability than conventional red meat livestock. Production costs in Alaska for game farm animals are lower than other red meat livestock animals.

FACT - The DNR, Division of Agriculture and the DEC, State Veterinarian have adopted a serious pro-active attitude to game farming with existing and draft regulations in place to manage the industry while protecting the health & welfare of all animals.

FACT - There has never been a documented case in the U.S. of the livestock disease Tuberculosis being transmitted from a private game farm to free ranging wildlife. An infection in wildlife that was contracted from cattle herds in the U.S. did not sustain itself once the source of infection was removed.

FACT - Game farm owners are the ones who are most interested in maintaining the health and confinement of farmed animals. With the high investment in game animals, game farms cannot afford disease or loss of animals through escapement.

FACT - Game farm operations are compatible to the environment and are widely accepted by local communities in Alaska.

FACT - Game farm legislation will not cost the State of Alaska money. Regulatory power and staff administration is already in place in the Division of Agriculture and State Veterinarian with no budget increases required. Game farming provides a significant contribution to the economy of Alaska.

ALASKA FARMERS & STOCKGROWERS ASSOCIATION, Inc.
"THE ALASKA FARM BUREAU"
Game Farming Subcommittee
P.O. Box 290
Soldotna, Ak. 99669
262-5135 FAX 262-7278

GAME FARMING FACT SHEET - SUPPORTING INFORMATION

FACT - Game farming is an agricultural business conducted by persons who privately own game species for the purpose of raising and breeding these animals as domestic livestock for commercial purposes.

Game farmed animals by common, academic, and legal definitions are domestic agriculture livestock that should be administered by the DNR, Division of Agriculture under Statute, AS 03.

Domestication and domesticated have several definitions:

"A population that is adapted to life in intimate association with and to the advantage of humans, and whose entire life cycle is carried out under human management." (Annon: Criteria and requirements for sustainable use of wild species. International Union for the Conservation of Nature (IUCN) - The World Conservation Policy. July 1992)

"a species is domestic if both reproduction and the habitat critical for reproduction are under human management. It is therefore semi-wild or semi-domesticated, if only one of these elements is met and wild if neither is met." (Prescott-Allen, C. and Prescott-Allen, R. 1986 The First Resource: Wild Species in the North American Economy. Yale University Press. New Haven)

"domestic animals are husbanded rather than hunted, produced rather than procured." (Hudson, R.J. 1989. History and technology of game production systems. In Wildlife Production Systems, R.J. Hudson, X.R. Drew, and L.M. Baskin (eds). Cambridge Univ Press. 11-27)

FACT - Game farming is endorsed by the Agriculture Task Force and Governor Walter Hickel as a viable economic enterprise for Alaska.

The recommendations of the Agriculture Task Force were endorsed by Governor Hickel in July 1992. Among the recommendations include:

"2. Support unrestricted domestic breeding and raising of all animals, including game species." (Future of Agriculture Task Force, Final Report. July, 1992)

FACT - The "Governor's Task Force on Regulatory Reform" recommends that the administrative authority for elk and game farming be placed in the DNR, Division of Agriculture.

Specific recommendations published by the task force include:

"SI 2 Red meat should be within ADNR's Division of Agriculture, not ADEC and AF&G AS 03.05.030 and 03.05.040; potentially AS 16.05.331"

"An administrative review should take place, on the issue of placement of Elk Farming. The Task Force recommends placement in the Division of Agriculture."

"GP 11 Each business or enterprise type should fall under a primary agency, division, or department."

"For example, the division of Agriculture would serve as the primary agency for farmers, who would deal with just a single agency for regulatory, permitting, and reporting purposes on all agricultural matters. On matters non-agricultural, the farmer would still be dealing with the appropriate division or department. (Final Report of the Governor's Task Force on Regulatory Reform, March 19, 1993)

FACT - Existing game farm operations in Alaska are successful, prosperous, and contributing to the economy of Alaska.

Reindeer, Bison, Musk-ox, and Elk are the authorized game farm species in Alaska.

The free ranging reindeer herding operations in Western Alaska have been regularly operating at a profit. Meat, antler, and breeding stock sales have contributed to the economy of native Alaskans.

Reindeer farming operations in the Matanuska Valley and the Kenai Peninsula are profitable by relying on meat, antler, and tourist opportunities.

Bison farms in Delta, Fairbanks, Kenai Peninsula, and Kodiak Island are established and provide profitable returns to the owners.

The Musk-ox Farm in the Matanuska Valley is providing a reliable return with Quviut wool supplied to native weavers and income from tourist visitors.

An elk farm on the Kenai Peninsula is expanding and profitable with live animal sales, antler production, and meat production.

FACT - Game farming is a viable and successful national and international industry.

Game animals have been in domestic ownership in the United States since early man. Currently there are approximately 700 elk farms with 18,000 animals in the U.S. and numbers are expanding. Deer farmers with about 30,000 animals are supplying venison to domestic markets with imports being necessary to fulfill demand. (Assessment of Risk Factors for Mycobacterium bovis in the United States, USDA:APHIS:VS, November 1992) The health awareness of consumers combined with the low fat nature of game meats equates to a strong demand for game meats. Throughout the world, game farm production is embraced as a legitimate and profitable multi-billion dollar industry. The recent World Deer Congress in New Zealand brought together 600+ participants from over 23 nations to provide for the advancement of the expanding game farm industry. In the lower 48, legislation is being implemented in most states to provide for positive administration by the Departments of Agriculture to accommodate this rapidly expanding and profitable addition to agriculture.

FACT - Game farm products are value added with higher profitability than conventional red meat livestock. Production costs in Alaska for game farm animals are lower than other red meat livestock animals.

The world wholesale price for game meats are at least double that of beef with a steady demand. Specialty marketing increases prices even higher. Velvet antler production for oriental medicine is based on long standing historical tradition assuring a steady demand for antler products. By-product demand for hides, organs, and carving material is strong with high prices.

Production costs are low. Free ranging reindeer herds have low input costs. Once the infrastructure is in place, the cost to raise game animals is lower than for other domestic livestock. Game animals require minimal care and are efficient utilizer of natural forage. They are efficient converters of feed to energy and typically require less feed to produce a pound of gain than other animals. With normal husbandry practices, game animals are healthier and require less labor to manage.

FACT - The DNR, Division of Agriculture and the DEC, State Veterinarian have adopted a serious pro-active attitude to game farming with existing and draft regulations in place to manage the industry while protecting the health and welfare of all animals.

The Division of Agriculture has existing statute authority to provide for the fencing regulations, ownership identification by

branding and tagging, management assistance, and other needed regulations. Currently the Division of Agriculture is drafting expanded regulations to provide for the effective administration of game farming.

The DEC, State Veterinarian has full regulatory authority to protect the health and welfare of all livestock in Alaska. Accurate disease testing procedures are available to document the healthy nature of animals within the state as well as all imported animals. The isolated nature of Alaska gives the State Veterinarian a unique opportunity to screen any animal entering the state and an ability to prevent infected animals from entering Alaska. Because of our arctic environment, there are few livestock diseases that can survive in the state. For the few diseases that can survive, there are accurate testing procedures available to detect disease and regulations to prevent an infection.

The DEC, State Veterinarian is concerned about the possible risk to domestic livestock for parasites and disease caused by the relocation of wildlife around the state by ADF&G. Since some diseases and parasites are endemic in wildlife, such as *brucellosis* in Caribou, Dr. Gore believes that testing of wildlife should be required before any movement occurs. (John Cramer-Div. of Ag. Director & Bert Gore, DVM-State Veterinarian, personal interview, March 1993.)

The UAF, Reindeer Research program has maintained an ongoing health program in free-ranging privately owned reindeer to vaccinate against *brucellosis* and provide treatment to control warbles and nasal bots. This further documents the pro-active attitude by agriculture to protect the health and welfare of all animals. (Lyle Renecker, Asst. Professor, UAF Reindeer Research Program, personal interview, March 1993.)

FACT - There has never been a documented case in the U.S. of the livestock disease Tuberculosis being transmitted from a private game farm to free ranging wildlife. An infection in wildlife that was contracted from cattle herds in the U.S. did not sustain itself once the source of infection was removed.

"No case of transmission (M. Bovis, Tb) between captive wildlife and free ranging wildlife has been documented." (Assessment of Risk Factors for *Mycobacterium bovis* in the United States, USDA:APHIS:VS, November 1992)

Allegations game farmed livestock will infect free ranging wildlife with diseases such as Tb, *brucellosis*, etc., simply are not true. In the United States there are two reported cases of Tb in free ranging wild deer in this century - 90 years -, both were in white-tailed deer in New York, one in 1934 the other in 1961, and both were associated with Tb infected dairy herds. *"There has been no documented instance where M. bovis (Tb) was maintained in a wild population of Cervidae once the source of the infection in either cattle or free-ranging bison was eliminated."* (Ibid.)

FACT - Game farm owners are the ones most interested in maintaining the health and confinement of farmed animals. With the high investment in game animals, game farms cannot afford disease or loss of animals through escapement.

Game farming like any other business venture requires a high capital investment in land, improvements, and livestock. It is possible to have over a million dollars invested in a game farm business. The livestock are the production base that provides the return on investment. To be productive with an economic value the animals must be kept under positive control and remain healthy throughout their productive life. It is absurd to think that the game farm owners will do anything less than provide for a maximum effort to retain these provisions. The regulation fencing on a game farm not only provides confinement for the livestock but provides the owner with the security of excluding other livestock or wildlife that may be diseased.

FACT - Game farm operations are compatible to the environment and are widely accepted by local communities in Alaska.

A game farm management plan provides for the health and welfare of the livestock. In addition the land base resource must be managed to provide for continued well balanced production every year. Game farmed animals, while gregarious, do not thrive under heavy population densities so lower stocking rates are needed to maintain the health of the animals. Game animals do not impact the pastures or watering sources like other domestic animals. Effective rotation of livestock provides for well developed pasture ranges and game animals do not languish around water sources. The feeding habits and hooved nature of game animals permit grazing without impact to riparian zones. Fenced game farms provide natural habitat for waterfowl habitat as well. Typically migrating waterfowl seek out the protection of fenced areas which exclude predators and offer security to raise their young.

Game farming is accepted as a "natural" livestock business for Alaska. The general public may question the viability of some agriculture ventures in Alaska but they readily recognize the appropriate nature of raising hardy northern adapted animals in our climate. The general public is naturally curious about game farms and the animals. Once they recognize that the animals are raised in a healthy environment, they gain substantial pleasure in viewing these magnificent animals in farmed situations. There has been no negative public response to game farming in Alaska. Local boroughs recognize and endorse the potential of game farming as a legitimate business venture.

"It appears that the additional 80 acres of state land, together with the KPB tract, will enhance Mr. Ward's proven success with elk

and cattle ranching. In our opinion, both tracts are not suitable for other types of development. Utilization of these public lands for a viable agricultural project is viewed as stimulus to the local economy, therefore, in the public interest." (Richard Troeger, planning director. Kenai Peninsula Borough, Dec. 14, 1992)

FACT - Game farm legislation will not cost the State of Alaska money. Regulatory power and staff administration is already in place in the Division of Agriculture and State Veterinarian with no budget increases required. Game farm products provide a significant contribution to the economy of Alaska.

The Div. of Ag. and State Vet already have the regulatory structure in place to administrate game farming as it is just an extension of existing livestock farming. The Director of the Division of Agriculture, John Cramer, and the State Veterinarian, Dr. Bert Gore DVM, have both indicated that they can administrate the industry with existing resources. (John Cramer & Bert Gore, personal interview, March 1993.)

As mentioned in other FACT statements, game farm product sales will contribute and enhance the economy of Alaska. A strengthening of local economies is provided with game farm agriculture. Local employment is provided on the farms, support businesses such as veterinarians, equipment dealers, feed suppliers, and many others whose support is needed to provide for the operation of the business. Meat products are provided to in-state consumers and a stable supply of a preferred diet is available to native communities. Antler products are exported out of Alaska contributing to the United States's balance of trade.

FOR ADDITIONAL INFORMATION, CONTACT:

Bill Ward - Chairman
Game Farm Subcommittee
P.O. Box 290
Soldotna, Ak. 99669
262-5135



UNIVERSITY OF ALASKA FAIRBANKS

Division of Plant and Animal Science School of Agriculture and Land Resources Management

Fairbanks, Alaska 99775-0080
Phone (907) 474-7183 • FAX (907) 474-7439

May 4, 1992.

The Honorable Cliff Davidson
The State Senate
Room 108
State Capitol
Juneau, AK99801-1182

Dear Senator Davidson:

This communiqué is in response to House Bill No. 478 would like to state my personal views and experience as a wildlife biologist on the issue of game farming. First, commercial production of wild ungulates or game farming offers a way for conventional agriculture to diversify. This diversification is not only beneficial for the agriculture industry which would allow Alaskan producers to place "their peas in more than one pod" but it adds a missing dimension to wildlife management. Wildlife managers often forget that if we are concerned about wildlife management and production of these ungulate species then to meet the needs of today we must diversify wildlife management. Wildlife management is diversified through protected, integrated, and productive management systems. Protected systems involve Parks, however, the land base is limited in size. Integrated or compromise management systems is practiced by most agencies where there is an attempt to balance the needs of other resources with wild ungulates. The missing dimension in most systems is productive management which includes game farming, ranching, and herding. In Alaska, the productive strategies of concern are farming and herding. 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.

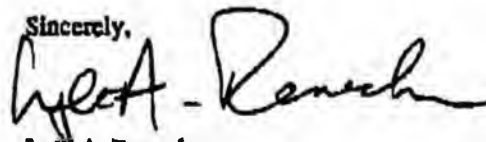
It should be remembered and acknowledged that game farming will not detract from the value of wildlife. But, there will be an additional importance. In Canada, there was a study which investigated the value of wildlife to citizens. They found that while a large portion of the public obtained some value from wildlife there was another group that received no benefit and wildlife was of no importance. This addresses the issue that society is changing and has changed from years past. The issues of concern in past are not resolved by methods which are no longer applicable for today's problems. However, if the large percentage of the public that extract no value from wildlife can obtain some value then we have accomplished an important goal. There is many people in this state and outside that DO NOT HUNT and do not wish to hunt. For these persons and those that extract no value from wildlife, a taste of meat and it's association with a species could prove a benefit. If these people taste the meat and desire more they may recognize its importance and therefore more support for production. What people view as "Wild Life" will not be detracted by game farms. It has been shown in Canada that people enjoy seeing game farmed ungulates but still seeing them in the wild. It is two settings that offer two rewards but both are complementary. For many people, they would never have the opportunity for viewing if not for the game farms. But overall, we address the needs and problems of today and develop diversified wildlife management with the inclusion of productive management systems.

Disease and parasites in game farmed species has been expressed as a major concern and a threat to wildlife. However, the potential threat should be no greater than for other conventional livestock. In addition, animals entering the state will be monitored and scrutinized by the State Veterinarian. It is known that animals permissible for game farming have few unique diseases or parasites and have generally been considered to have

GAME FARMING OPINION: DR. L. RENECKER
UAF DIV. OF PLANT & ANIMAL SCIENCE
SCHOOL OF AG. & LAND RESOURCES MGMT.

fewer disease/parasite problems than livestock. Because game farmed ungulates represent an economic commodity it is in their best interest to maintain healthy animals that are free of disease and treated for parasites regularly. A greater threat to the game farmer is potentially untreated wild species coming in contact with the ungulates maintained on the commercial game farm. There has been several memos that have been circulated to Legislators that refer to disease and testing and have originated from ADF&G. These memos have not presented all facts about disease testing, disease status, and the disease research conducted by the Reindeer Research Program at UAF in the proper context. In fact, some of the data and facts collected for these memos (apparently from sources other than myself who are not associated with the University) are incorrect. These issues and the overall concept of game farming will be outlined in a separate brief to Mr. Carl Rosier and a copy will be forwarded to your attention. I strongly urge you to carefully weigh the correct facts. However, in summary, brucellosis is being monitored and controlled in reindeer in Alaska. Tuberculosis is being tested for on imports - the problem is not one of a better test needs to be found but rather one for governments to adopt better techniques which are available. If you require further information please contact me.

Sincerely,



Lyle A. Renecker
Assistant Professor
Reindeer Research Program
Tele: 907-474-7166

474-7166

BRIEF ON GAME PRODUCTION

by

Lyle A. Renecker

Assistant Professor, Agriculture and Forestry Experiment Station,
University of Alaska Fairbanks

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.

Larry Holmes
Chairman Anchorage
Fish and Game Advisory Committee
P.O. Box 454
Girdwood, AK 99587

March 31, 1993

The Honorable Rick Halford
President of the Senate
Room 111
State Capitol
Juneau 99801-1132

Dear Senator Halford:

The Anchorage Fish and Game Advisory Committee opposes unanimously:

- 1) SB 43, requiring elk to be transplanted to certain Southeast Alaska islands where they are not indigenous;
- 2) SB 46, to allow moose farming; and
- 3) SB 77 and HB 141, to require intensive management of game species.

The Anchorage Fish and Game Advisory Committee is an elected body that represents Anchorage hunters, anglers, and many other types of wildlife users of a consumptive and non consumptive nature; in fact we have more than a dozen user interests represented on our committee.

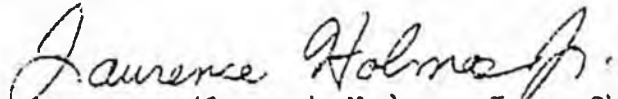
We are unanimous in opposing these bills because they all share the common error of bringing the legislature into issues of fish and wildlife management at a level best left to the Department of Fish and Game. We believe the legislature's role in fish and game is best one of general guidance rather than specific direction. Historically, the legislature has wisely left such specific issues as these to the agencies with the necessary expertise. In fact, the need for such expertise is the very reason the legislature established such agencies in the first place.

Each bill raises concerns best left to departmental discretion. Regarding SB 43, the impact of elk on deer has been of concern to Alaska Department of Fish and Game biologists. The potential for disease transmission to and displacement of the indigenous black tail deer by elk needs to be studied further before we expand elk herds in southeast Alaska. From a user's perspective, certainly many Southeast Alaskans value deer in the freezer each winter more than an occasional shot at an elk.

Regarding SB 46, we think moose farming raises concerns of disease, and in our opinion, has no place in Alaska in that it abuses Alaska's native species and diminishes appreciation of wild stocks. Good hunting will only survive with good ethics. It won't survive if we turn our game stocks into merely wild versions of farm animals.

Regarding SB 77 and HB 141, we think this is the worst of bills. It guts the discretion that is wisely placed in the Board of Game to rely on agency expertise and instead directs the board to pursue intensive management of certain species for consumptive use to the detriment of other species and other uses. As hunters, fishers and other users we appreciate Alaska as a wild place. We don't want it turned into a game farm.

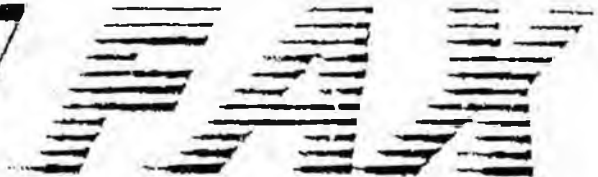
Sincerely,



Laurence (Larry) Holmes Jr., Chairman
Anchorage Fish and Game Advisory Committee.

LH:rlj

cc: Members of the Senate
Members of the House



DATE February 12, 1994 FROM THOMAS J. CLASSEN
 TO House Resource Committee (all members) P.O. BOX 80507
Chair/Representative Bill Williams FAIRBANKS, ALASKA 99708
 FAX LINE 465-3793 Tel: (907) 479-2303
Fax: (907) 479-3569

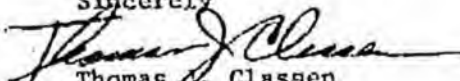
TOTAL PAGES (Including Cover Sheet) 1



I refer to Senate Bill 46 "An Act relating to moose farming and relating to game farming." The idea of confining a wild animal for the purpose of commercial exploitation is extremely repulsive to me. Alaska is advertised as the "Last Frontier" although it is rapidly being despoiled, the last frontier image should be retained for as long as possible. Wild animals held in captivity for the purpose of monetary gain is not appropriate to this image. Do you realize that every idiot with 20 acres of land will become a moose farmer. Good tax right off as the project could not possibly become viable. No one also ever thinks of the animal suffering involved. Wild animals confined suffer terribly something a compassionate human race would not inflict on any creature. Remember the confined moose in Alaskaland? What a pitiful sight. Moose are browsers and need to roam. They also do not do well on a diet of commercial food. Their systems require the woody pulp found in their natural foods. I also suppose this project will become eligible for State agricultural grants a governmental waste of State funds. Agricultural projects of any type are not suitable in this arctic area. Not one has ever proved viable. The investment required to properly set up a farm is certainly not affordable by our prospective Fairbanks farmer and the risk element from a business point of view is very high. This all equates to a shoe string type of operation and means added suffering for the animals.

I would like to remind you of our infamous Fairbanks chicken farm. A typical shoe string operation destined for failure right from the start. The State poured one million into this failed venture. The guy absconded with the funds leaving dead and dying chickens everywhere. Let's not have another disaster like this one. This is not the country for agricultural projects. I urge you to throw SB 46 into the waste basket

Sincerely


 Thomas J. Classen

Testimony ON SB No. 46

p #1 of 2

John Cramer
Director of Agriculture

The Department of Natural Resources currently to some extent regulates the farming enterprises in the state of ALASKA as well as products produced and transported into our state.

We also work in concert with the Dept. of ENVIRONMENTAL Conservation's State Veterinarian ON Domestic livestock as well as ELK.

This Bill establishes by statute most of the industry standards for game farming. Regulations will need to be developed to strengthen these standards with regard to:

- fencing
- handling
- quarantine
- Branding, marking tagging for identification purposes
- inter/intra state transportation
- nutrition

The Dept. of Natural Resources stands by ready wherever appropriate with other state agencies to assist and enhance the development of the game farming industry in Alaska for species farmed currently such as bison, wild boar and ELK and potential species musk ox, Caribou, moose etc.

SB 46

John Cramer

pg #2 of 2

Through the reduction in legislative and administrative barriers and development of increased market opportunities

The industry in the state needs to be regulated and in fact those currently involved in game farming have requested further regulations. These individuals have invested significant personal resources and realize the importance of regulating this enterprise.

* As far as Rep. Curney's question with regards to why not reindeer these are not considered a game animal.

John Cramer

POB 949

Palmer 99645

745-7200

To	LIO /JNU	From	LIO Sold.
Co.	Written testimony	Co.	for H(Res)
Dept.	to be put with	Phone#	SB 46.
Fax #		Fax #	

State Legislature

Please enter into the record my testimony to the House Resources committee name
 committee on CS 46 (FIN) , dated 4-19-93
 bill/subject

I support "an Act relating to moose farming and relating to game farming."

The major concerns I had were addressed in the revisions of the bill.

Game farming is a major industry worldwide. Alaska has the opportunity to encourage ~~the~~ its farmers to participate in this very profitable enterprise.

Signed:

Billie Hardy
 Testifier

Billie Hardy

self

Representing (Optional)

PO Box 3391 Soldotna AK 99669

Address

262-9881

Phone No.

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Missoulian Jan. 9, 1994

Game farm's fair game in West's wild debate

By GREG LAKES
of the Missoulian

DARBY — In the past 18 months, Len and Pamela Wallace have put together one of the nation's largest herds of captive elk. More than 130 animals laze along the bottom of Rye Creek south of Darby.

Len Wallace and his ranch are pictured throughout the brochure of the two-year-old North American Elk Breeders Association, across the back cover of its quarterly journal, and in an ad calling his purchase of 140 elk from a Missouri game farm the largest elk transaction in history.

In those 18 months, Wallace has bought into both the leading edge of a new and growing industry, and into the controversy that engulfs it.

The breeders' association says

elk are the livestock of the future. Biologists say game farms pose a threat to native wildlife that's unprecedented in this century.

Elk meat is low-fat and almost without cholesterol, says the association's promotional material, and demand far outstrips supply.

Antler velvet supplies an eager Asian market, though price has dropped to its lowest in a decade. For the foreseeable future, says the association, prime breeding stock will command impressive prices, and old bulls bring high profits as the objects of controlled hunts.

Elk are three times cheaper to feed and pasture. To Wallace, they afford both a mystique and a profit.

"Elk are a grand animal; they have a grandeur," Wallace said. "But they're a crop. I have to keep my sensibilities here."

Opponents of game farms point to concerns about disease

and genetic pollution.

By mid-1992, Alberta officials had euthanized 2,600 captive elk to stop the spread of bovine tuberculosis, and will wait years to see if they successfully kept the disease out of the province's wildlife and cattle.

The Virginia Cattlemen's Association has asked for a ban on game farms because of the threat to the TB-free status of the state's livestock industry and the lack of definitive diagnostic tests.

Wyoming bans game farms, Oregon recently imposed a moratorium, and Montana, Colorado, Washington and Alberta have dramatically tightened regulations.

Game farms may usurp critical wildlife winter range and disrupt migration routes. Biologists say the escape of captive animals is inevitable.

Twice in the past couple of years, Montana hunters have shot elk in the wild that were



probably game-farm hybrids, and biologists say genetic pollution would forever alter native species.

Valerius Geist, a University of Calgary professor and author,

(See FARM, Page A-8)

(continued)

refers to the underlying principles that guide wildlife management — tenets that all revolve around respect for wildlife and are responsible for the recovery of species nearly annihilated at the turn of the century.

"Game farming," he said, "violates every one" of the principles.

Wallace founded a couple of electronics companies and developed real estate in California. In May 1991, he bought the first of what would eventually be about 5,000 acres of steep open hills, timbered draws and creek bottom south of Darby.

"You cannot make any money on cattle," he said. "It looked to us like we could raise elk on the place, have the ranch be a going concern, pay the bills, and make a living here."

Wallace's initial production was poor. In the first spring, he said, though sales were less than expected, mainly because Darby is too far from the main center of elk raising.

But his emphasis, Wallace said, will be hunting on an 800-acre enclosure. He'll buy mature bulls to release, sell trophy rights, and he expects to turn a profit in 1994.

"We have a facility that has to be close to the best in the country," he said. "We can provide a customer a very realistic hunting experience. We can walk them around until their tongue's hanging out."

As a representative of the game-farm industry, Wallace has done all the right things. His herd has genetically tested pure Rocky Mountain elk, and is free of tuberculosis and other common diseases. He endorses new state regulations, and sees few problems with complying.

But it's an uneasy truce between the industry and state wildlife officials. Officials say tests and rules don't protect enough. Game farmers have sued over new restrictions.

In Montana and in several other states, there's an uneasy truce between agencies that manage wildlife and those responsible for livestock.

"The advantages are all in the economic and agricultural sectors," said Rick Kahn, at the Colorado Division of Wildlife. "There's nothing good for wildlife that can be said about game ranching."

Many of the concerns over game farms revolve around health issues — and tuberculosis, which ranks near the top of potential health risks to wildlife domestic

worry.

In November 1990, Alberta officials found TB in a captive herd of about 30 elk near Edmonton. Provincial policy is strict: Not only are the infected animals killed, so are any animals with which they had contact.

"Experience has shown us this is the only possible way you can ensure the disease will not survive," said Stan Petran, of Agriculture Canada in Alberta. "Unless you take every one of them, there is always the chance it will come back and haunt you."

It took two-and-a-half years for Petran's staff to track elk sales and euthanize exposed animals. The effort ultimately "depopulated" 16 game farms, killed 60 percent of Alberta's captive elk, and cost the agency \$15 million in compensation alone.

Dr. Ann Fanning, of Alberta Health in Edmonton, said at first, livestock officials refused to believe the outbreak posed a health threat to people.

Her staff tested 600 people — veterinarians, ranch hands and others in rendering plants — and had been exposed to diseased animals. She ultimately treated 10 of them with a nine-month course of antibiotics.

"There had been some transmission of the organism to humans as a result of handling the animals and their carcasses," she said.

Alberta officials traced the source of the outbreak to a Montana game farm near Yellowstone National Park. Montana officials traced other elk owner Welch Brogan had sold, and eventually found tuberculosis in four elk herds and two groups of captive

Montana's rules are less stringent. Infected animals that react to TB tests are destroyed, but the rest of the herd is quarantined until it passes a series of tests over 15 months.

The deer herds were euthanized, said state veterinarian Don Ferlicka. Two of the elk herds have had their quarantines lifted, and two remain in place.

Until 1991, TB tests designed for cattle were used to test deer and elk, with inaccuracy some experts blame for outbreaks in Montana, Alberta and in several Eastern states.

"They were missing some TB," said Tom Thorne, wildlife veterinarian for the Wyoming Game and Fish Department, whose research is partly responsible for that state's ban on game farms.

Now, the test has been adapted, but it still has limitations. For weeks or months after exposure, an infected animal may not produce enough antibodies against the slow-growing bacteria to react to the test.

The tests are intended to screen

more statistical certainty of discovering the disease. Accuracy suffers when applied to one or a few animals, as required when elk are sold, Thorne said.

"If you're looking at interstate commerce, where you're moving a few animals, you're going to miss some," he said.

If TB ever did get established in the wild, it would be a permanent source of infection for native species, game farms and cattle ranches.

"By the time it's discovered, there'd be no way to solve it," Thorne said. "You'll never get rid of it. In all likelihood, you'll lose your hunting opportunities for that elk herd, because of the risk to human health."

But disease may be the lesser threat to wildlife, critics say, compared to the introduction of genes from similar, non-native species.

"I don't know of any situation where disease has eliminated a species of animal," said Gary Burke, administrator of Fish, Wildlife and Parks's Criminal Investigation Division. "But genetic pollution, that's forever. Once it's here, it's always there."

Red deer are the European subspecies of elk. They're smaller, more aggressive, and they bellow like cattle instead of bugling like elk. They've bred with free-ranging elk in New Zealand and have been intentionally crossed on game farms here and in the United States.

"The red deer is a totally different animal," said Heidi Youmans, author of a Montana Department of Fish, Wildlife and Parks paper on game farms.

"If red deer or hybrids escape, they could eventually alter a wild herd's gene pool and behavior," Youmans said.

"It would be a tragedy," she said. "We would certainly have lost a very important legacy."

In Alberta, 11 percent of tested animals were hybrids, according to Youmans' figures. In Colorado, game farms found that 10 percent of the animals tested were hybrids, in 13 of 21 herds checked, and officials ordered them out of the state.

"There was too much risk to allow any hybrids to remain in the state," said Kahn at the Division of Wildlife.

Kahn modeled the results of 10 red deer or first-generation hybrids escaping into a herd of 500 pure wild elk. Within 60 years, 50 to 60 percent of the wild herd would have red deer genes.

"We feel confident there are significant threats to even a few red deer getting out and mingling with elk," Kahn said.

Montana game farmers point to genetic tests as a way to screen out the hybrids, and allow ranchers to keep them out of their captive herds.

The test reliably catches first-generation crosses, but gets less sensitive with subsequent generations, said its creator, Peter Dratch of the U.S. Fish and Wildlife Service Forensic Laboratory in Ashland, Ore.

It's intended to screen entire herds for the presence of hybrid genes, Dratch said, not to draw conclusions about the purity of any particular animal.

"If they tell you the herd has tested 100 percent pure, they're misrepresenting the test," Dratch said. "I would never call this a purity test."

A year or so ago, Montana officials submitted samples to Dratch's lab from an elk killed in the wild near Twin Bridges. The sample was too old to be sure, but was probably a hybrid, Burke said. Last fall, a hunter shot a hybrid in Powell County.

"The test detects a problem," Dratch said. "It showed hybridization was occurring on game ranches within the range of native elk. Now, it's showing there are hybrids outside the fences."

How much genetic pollution would it take to change native elk into something else?

"It's stupid to play those sorts of games," Youmans said. "By the time you know, it's way too late."

Wade Hainstock, executive director of the North American Elk Breeders Association, said the threats are overblown.

"What you're looking at here is very much a political football used by people philosophically opposed to game farming," he said. He said domestic cattle face more risk of TB from imported beef and the dairy industry than from game farms, and genetic testing is too inconclusive to worry about the results.

Montana Audubon flatly opposes game farms, as does the National Wildlife Federation. The Rocky Mountain Elk Foundation has yet to make a firm policy statement.

Wildlife managers say few things hurt the sport's public image more than hunting inside a fence. Geist, at the University of Calgary, predicts public pressure alone will spell the industry's demise.

"It is such a problem-generating industry," he said. "I have enough faith in North American society that it will eventually outlaw it."

Maybe. But only two of the 75 or so people who attended a public hearing last winter spoke against Wallace's game farm.

"I think the game farm industry has the overwhelming support of the people in the Bitterroot Valley," Wallace said. "I doubt I would have any opposition in any location in Montana."

That March, the Department of Fish, Wildlife and Parks conducted surprise inspections on all 97 game farms in the state. On 90 percent of them, they found violations of then-relatively lax state laws, said Gary Burke, administrator of the department's Criminal Investigation Division.

Some of the infractions were minor record-keeping or fencing problems, due more to apathy or ignorance than malicious intent, Burke said.

But 24 had serious violations, and three months later, Burke's agents returned to 12 of them with search warrants.

Welch Brogan, dean of Montana's elk ranchers, was charged and convicted of possessing illegally captured game, a felony. A Livingston operator was charged with a misdemeanor for selling hunts on his game farm, but conducting them on public land. Several, including Darby resident Cal Greenup and Mark Ingraham of Kalispell, were charged with operating a game farm without a license. Greenup's charge was dismissed when he ultimately got a license, and Ingraham forfeited a \$65 bond.

Hamilton game farmer Chancy Ralls pleaded guilty to a record-keeping charge, and paid a \$65 fine.

Several game farmers had their pastures closed for fencing violations, officials are trying to revoke the license of another, and the attorney general's office is still considering charges against 12 others, Burke said.

Industry representatives say the move was political. The department was trying to justify a push for tighter regulations at the time, which it got from the 1993 Legislature.

But Burke said game farmers had asked to police themselves, and abused the privilege.

Montana now has 107 game farms, more than 90 of which raise elk, and it has new regulations. Has the situation improved?

"Not quite yet," he said.

State plays it by book with farms

By GREG LAKES
of the Missoulian

HAMILTON — In early 1992, state officials realized the number of animals game farmers were reporting didn't match the numbers behind their fences, or what they were telling local tax appraisers.

The difference varied from several dozen for elk, to several hundred for white-tailed and mule deer.

PADDY TATUM
NATURALIST

February 11, 1994

HC 66 Box 27620

NENANA, ALASKA 99760

Dear Representative Williams:

You now have a chance to save the State of Alaska tremendous amounts of monies that could be directed to worthwhile and proven projects. I am referring to SB 46 the "Moose Farming" bill, the most abhorrent idea yet to come out of the Legislature.

It is a biological, scientific and financial disaster waiting to happen. Whereas deer, elk and reindeer have been successfully raised in some instances, altho many had problems, mostly with disease, moose are entirely unique, they have never been farmed successfully (not being a natural herd animal, no fence can hold them).

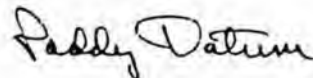
Ask yourself what is the real reason for the proponents of this bill? Is it for political cronies financial gain? Or a tourism gimmick at a far higher cost than can possibly benefit the State and residents who are actually the owners of the game.

Alaskans are the custodians, not entrepreneurs, of our wild game.

Please take a few minutes to read the enclosed information, although previously written, it is still most pertinent.

Thank you for your time. I'll be in touch on this.

Sincerely,



Paddy Tatum
HC 66 Box 27620
Nenana, Ak 99760

Ph. 582-2535
FAX 582-2860

Don W. Collinsworth, Commissioner

Public Communications
Box 3-2000
Juneau, Alaska 99802-2000
(907) 465-4113

Alaska Department of Fish & Game

1-1-00
474-
2346

Mr. Williams,
this is dated
material, but
still pertinent



ame



April 23, 1990

Contact: Wayne Regelin 456-5156

Two bills pending in the Alaska Legislature would allow moose to be raised as domestic animals for commercial purposes and allow the meat to be sold.

The Alaska Department of Fish & Game believes legalization of moose farms would start Alaska down the trail to private hunting preserves and potentially the European system of hunting. Only about 3 percent of Europeans are hunters because the cost is prohibitive and game meat can be purchased.

The foundations of wildlife management in the United States for most of the 20th century have been public ownership of wildlife resources and prohibition of the commercial use of those resources. Bison of the Great Plains and the North American waterfowl are but two examples of wildlife decimated by commercial meat hunters before such management principles took hold.

Alaska's wildlife resources are extremely valuable economic assets. Wildlife contributes approximately a quarter of a billion dollars a year to the state's economy through tourism, guiding, hunting, personal use and subsistence.

Tourists list the opportunity to see wildlife as their primary reason for visiting Alaska. But they want to see wildlife in the wild, not in roadside attractions and game farms.

The primary proponent of the legislation wants to capture 100 moose along the Alaska Railroad near Talkeetna to stock his commercial operation near Delta Junction. He claims their capture would reduce the number of moose killed by trains. A better method of reducing moose mortality along the railroad would be to support legislation that already has been approved by the House to require the use of pilot cars on the railroad and long-term habitat improvement along the railroad right of way.

Whether the moose are killed by trains or moved to moose farms, the result is the same -- fewer moose along the railroad.

Moose farming will require large acreage and interfere with the movements of other wildlife species in the area. The primary proponent wants to lease 4,000 acres of state land and fence it to contain his moose herd. This would remove habitat from wildlife production for general public use and enjoyment.

Moose are not herd animals. Cows with calves are loners and other moose seldom congregate in groups of more than four or five. To put more than 100 moose into a 4,000-acre enclosure would increase the potential for outbreaks of disease, which could be transmitted to wild moose or domestic species outside the enclosure.

Even worse, this legislation would allow people to own a few moose as a hobby or to promote their tourism businesses. Such roadside attractions are notorious for mistreatment of animals and Alaska steadfastly has prohibited such activity in the past. Do Alaskans really want to see moose, among the most noble symbols of our wilderness, being ridden, hitched to plows or chained at a gas pump?

Do Alaskans want to see game ranches where people pay thousands of dollars to shoot confined moose, reminiscent of the "Guns of Autumn," the television segment which produced a national uproar a few years back?

Allowing the sale of moose meat will create serious law enforcement problems and add an economic incentive to poachers. In the Canadian province of Alberta, where elk farms are common, the sale of elk meat is prohibited due to concerns over enforcement of poaching laws. Alberta has 115 game wardens; Alaska has 75 for an area more than twice as large.

From a purely economic point of view, game ranching has been successful in some parts of Canada, most notably in Alberta. No moose farms exist in Alberta because they are not profitable.

The Yukon Territory commissioned a study in 1986 to analyze the feasibility of game ranching. The report concluded moose are unsuitable for game farms because of disease problems when the animals are kept in close captivity. The most productive natural habitat in Alaska can support six or eight moose per square mile during the winter. The primary proponent of moose farming in Alaska plans to stock more than 16 moose per square mile throughout the year on his farm.

Much has been made of domesticated moose programs in the Soviet Union. The truth is, their only two moose "farms" failed in the early 1950s.

The state already has spent many millions of dollars trying to subsidize agricultural projects that had a greater chance of succeeding. We consider providing 100 publicly owned moose and removing 4,000 acres of publicly owned wildlife habitat another state subsidy and an extremely poor precedent.

Wayne Regelin
Deputy Director
Division of Wildlife Conservation
Alaska Department of Fish & Game

Concerns about game ranching

Richard Schneider

Involvement of the veterinary profession in the ranching of wildlife is increasing, as evidenced by the large game farming session at this year's WCVN spring conference. At a recent wildlife management conference in Calgary, game ranching was discussed in detail, and a number of serious concerns about its expansion in Canada were raised. The following is a summary of these concerns, which I feel we as a profession must fully address before supporting this enterprise.

1. Poaching

Once a market for venison and other wildlife products is established, increased poaching is inevitable and it becomes more premeditated and organized. In Germany where such markets exist, there are approximately 65,000 *armed* wildlife protectors in contrast to Alberta where 115 *unarmed* wardens patrol a much larger land base (1). The African experience with elephant ivory (up to 80% of ivory on the market in recent years originates from nonlegal sources) demonstrates that strict laws and market controls can *not* stop poaching (2). In North America, our chronically underfunded wildlife agencies do not have the resources to combat the poaching that is even now taking place, let alone any increase. Finally, there are already two cases on record in North America where wild elk were corralled and then sold as private breeding stock.

2. Restricted public access to wildlife

The present system of wildlife management in Canada is based on public ownership of all wildlife and the absence of markets for wildlife meat and parts. Hunting rights are controlled by the Crown with equal access for all. The establishment of game ranching and associated markets would result in demands for hunting fees by land owners, as the wildlife on their land now would have monetary value. This is the situation in Germany and Texas, with the result that hunting is the domain of the elite. Another spin-off may be direct or indirect restriction of access to wildlife for nonconsumptive users. This is the major reason that fish and game associations and other wildlife groups such as the Canadian Wildlife Federation have come out strongly against game ranching.

3. Genetic pollution

With game ranching it is a fact that, with time, escapes occur. In Texas there are a number of exotic species which have escaped from game ranches and now constitute naturally reproducing wild populations. Introduction of exotic species has on many occasions around the world caused extirpation or extinction of native species (3). Even with the ranching of native species, genetic pollution is still a problem as the ranched animals are selected for large antlers, large body size, lean meat, and so on, and over time become maladapted to the natural environment.

4. Disease

Translocation of wildlife is an integral part of game ranching. As disease agents are often specific to certain species or locations, the possibility of introducing a biologically or economically devastating disease into susceptible wild or domestic populations must be considered. Examples of such problems which have already occurred include the introduction of *Parelaphostrongylus tenuis* to moose and elk, *Brucella abortus* and *Mycobacterium bovis* to bison, and *Besnoitia* spp. to caribou (4-6).

5. Moral and spiritual concerns

A number of participants at the conference, which I believe have a strong support base among urban, non-consumptive wildlife users, voiced strong objection to any further domestication of wildlife. This is an ethical judgement by a segment of society which feels that wildlife has an intrinsic right to live in its natural setting. Native participants also echoed this view, with their philosophy that no one has the right to own wildlife (though they differed from the aforementioned group in regards to usage of wildlife).

6. Fencing

Game ranching where animals graze natural vegetation (the most common form of ranching in Alberta) requires that large tracts of land be fenced off. There are cases in the US where this has interfered with the migration and other movements of local wildlife.

7. Predator control

Game ranching is incompatible with predators. This may result in further lobbying for predator control, eroding efforts to have the government manage wildlife for biodiversity.

Department of Pathology, Ontario Veterinary College,
University of Guelph, Guelph, Ontario N1G 2W1.

8. Humane concerns

The removal of antlers for the harvesting of velvet can be done in a humane manner, however, unless proper techniques are consistently carried out by all ranchers, the development of game ranching will be a retrograde step toward the humane treatment of animals. Tom Hughes, speaking on the moral perspective of game ranching, told us of witnessing antler removal without the use of any anesthetic.

9. Economics

There are a few hundred ranchers in Canada involved in game ranching, most of them in Alberta. The range-style ranchers contend that society is served through their use of lands from which there is presently little economic gain, leading to a stronger Canadian economy. Valerius Geist gives strong evidence, however, that "a policy giving market value to *living* wildlife generates more income than one giving economic value to *dead* wildlife" (1). For example, Germany, with its market for venison, elite hunting, and expensive poaching control, generates only about half the monetary value from wildlife as do Wyoming or Wisconsin with democratic hunting, nonconsumptive expenditures (which are three times the amount of consumptive expenditures), and relatively inexpensive poaching control (1). The bottom line is that game ranching, if developed in Canada, would be a subsidized industry (once poaching control, regulatory

infrastructure and so on have been paid for) and have all the detriments to wildlife and society noted above.

The issue is clearly very complex and different people will place different values on the various concerns noted above. Furthermore, there are good reasons for the continuation of the fur farming, fish farming, and even bison ranching that is already in existence. It is my contention, however, that all things considered, there is overwhelming evidence that the ranching of any new species of wildlife in Canada, and in particular native and exotic cervids, is inadvisable.

References

1. Geist V. How markets in wildlife meat and parts and the sale of hunting privileges jeopardize wildlife conservation. *Cons Biol* 1988; 2: 15-26.
2. Smith DA. Elephants and man, a big problem. *Can Vet J* 1989; 30: 785-787.
3. Shaw J. *Introduction to Wildlife Management*. New York: McGraw-Hill, 1985: 179-180.
4. Carpenter JW, Jordan HE, Ward BC. Neurological disease in wapiti naturally infected with meningeal worms. *J Wildlife Dis* 1973; 9: 148-153.
5. Tessaro S. Review of the diseases, parasites and miscellaneous pathological conditions of North American bison. *Can Vet J* 1989; 30: 416-422.
6. Glover GJ, Sendrowski M, Cawthorn RJ. An epizootic of besnoitiosis in captive caribou and mule deer. *J Wildlife Dis* 1990; 2: 186-195.

ADMINISTRATION POSITION ON GAME FARMING SUMMARY

- The administration supports responsible game farming in Alaska. Game farming is in its infancy but has potential to grow into a viable, sustainable industry.
- For growth to occur, the industry requires consistent state policies, stability in state laws and fair and effective regulations.
- The Departments of Environmental Conservation, Fish and Game and Natural Resources have developed a joint position paper that will lead to statutes, regulations and policies that provide opportunities for the game farm industry to expand while protecting the domestic livestock industry and wildlife resources from undue risk.
- Key points in the administration position are:
 1. Initially limit game farming to four species (reindeer, bison, elk and muskoxen).
 2. Provide a regulatory mechanism to expand the list of species that may be farmed.
 3. Prohibit farming of exotic species to protect native species.
 4. Farming of caribou cannot occur until the federal reindeer act of 1937 is amended. That federal law limits ownership of reindeer in Alaska to Natives and defines captive caribou as reindeer.
 5. Farming of moose is not recommended as a commercial enterprise. It has not been shown to be economically feasible. Biological attributes of moose make them unsuitable for commercial game farming.
 6. The Department of Natural Resources will have the responsibility and authority to regulate most aspects of game farming. Department of Environmental Conservation will have authority for animal health regulations. Fish and Game will have authority over surplus game animals for game farming and joint responsibility with DNR for adding species to the list of game farmed animals.
- We have drafted proposed legislation based upon House CS for CS SB No. 46 that incorporates these key points.
- The administration believes this proposed legislation will lead to a strong game farming industry in Alaska while protecting our valuable wildlife resources.



CENTRAL COUNCIL
 TLINGIT AND HAIDA INDIAN TRIBES OF ALASKA
 ANDREW P. HOPE BUILDING
 320 West Willoughby Avenue - Suite 300
 Juneau, Alaska 99801-9983

Fifty-Eighth Annual General Assembly
 CENTRAL COUNCIL OF TLINGIT AND HAIDA INDIAN TRIBES OF ALASKA
 April 15-17, 1993
 Sitka, Alaska

RESOLUTION 93-42
 TITLE: GAME FARMING RESOLUTION

Submitted By: Hoonah T&H Community Council

WHEREAS, this bill would introduce wild big game animals to be sold as meat, causing poaching of wild big game animals to be sold as commercial and Federally inspected food; and

WHEREAS, Alaska has sustained moose, deer, bison and other big game animals without outside help; and

WHEREAS, the State of Alaska needs it's financial funds to ensure that it's citizens receive a proper education, to increase their standard of living; and

WHEREAS, big game animals such as moose knows no boundaries; and

WHEREAS, the Alaska State Legislature will use Alaska laws to further their own big game management plans while Alaska has a Board of Fish and Game with rules and regulations, biologists and the knowledge to let Alaska be Alaska and wild Big Game animals be free; and

WHEREAS, Alaska does not have a need for wild big game animals to be farmed, butchered, sold; and

WHEREAS, this bill is not specific enough because it mixes wild big game and domestic farm animals and in general does not have an impact statement, on where the farms will be nor does it say what will happen to the people who live around these farms.

NOW THEREFORE, BE IT RESOLVED by the General Assembly of the Central Council of Tlingit and Haida Indian Tribes of Alaska in session this date, that Senate Bill #46 does not pass the Alaska Lawmakers and become law; and

BE IT FURTHER RESOLVED that the lawmakers recognize the Alaska Board of Fish and Game's authority to manage big game animals, and to recognize subsistence rights of rural Alaskans by not allowing wild big game meat to be sold, and by not having big game ranches force rural people away from places that they have lived in for years, and by using these State funds for the Education of rural Alaska residents; and

BE IT FURTHER RESOLVED that this resolution be directed to the Alaska State Senate and to the House Representatives, to the Governor of Alaska, and to Tlingit and Haida Central Council.

ADOPTED this ___th day of April 1993, by the fifty-eighth General Assembly of the Central Council of Tlingit and Haida Indian Tribes of Alaska, in regular session at Sitka, Alaska.

CERTIFY


President

ATTEST

Tribal Secretary



Alaska State Legislature

Please enter into the record my testimony to the HOUSE RESOURCES
committee name

committee on SB 46 MOOSE FARMING, dated 2-18-94
bill/subject

I WOULD LIKE TO GO ON RECORD AS SUPPORTING THIS BILL. I BELIEVE THAT MOOSE FARMING WOULD HELP INCREASE WILD HERDS AS PEOPLE WOULD BE ABLE TO GET THEIR MOOSE IN OTHER WAYS. THIS MAY ALSO HELP SLOW DOWN POACHING AS "DOMESTICATED" MOOSE COULD BE MADE AVAILABLE YEAR ROUND.

I DO NOT AGREE WITH SEC. 3 AS IMPORTATION OF SOME MOOSE MAY BE NECESSARY TO PREVENT INBREEDING AND HELP SOME MOOSE FARMS GET STARTED S THERE MAY NOT BE ENOUGH "SURPLUS" MOOSE IN THE BEGINNING. INSTEAD HERE SHOULD BE AN IMPORTATION LIMIT.

I AM VERY INTERESTED IN BECOMMING A MOOSE FARMER AND AM THEREFOR VERY INTERESTED IN SEEING THIS BILL PASSED.

Signed: Cherylene Walker
Testifier

Representing (Optional)

HC 62 BOX 5360 DELTA JCT, AK. 99732-9501
Address

897-1024

Phone No.



Alaska State Legislature

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

committee on SB 46, dated 2/18/94
bill/subject

I would like to go on record as being in favor of SB 46.
In areas that face heavy hunting pressure moose farming would
be a good alternative.

Signed: Tim Weiler
Testifier

Representing (Optional)

HC 62 Box 5360 Delta Jet, AK. 99737
Address

895-1024
Phone No.



Alaska State Legislature

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

committee on SB 46 , dated 2/17/94
bill/subject

TAKING A PUBLIC RESOURCE FOR PRIVATE EXPLOITATION IS NOT ONLY IRRESPONSIBLE MANAGEMENT OF THAT RESOURCE BUT IT FLYS IN THE FACE OF REASON CONSIDERING EVERY KNOWN ATTEMPT TO "FARM" MOOSE HAS FAILED. THE ONLY SUCCESSFUL GAME RANCHER IN THE STATE OPPOSES THIS BILL AS DOES THE ALASKA DEPT. OF FISH & GAME AND THE ALASKA ENVIRONMENTAL LOBBY. THE DEMONSTRATED FACT THAT MOOSE FARMING IS NOT A VIABLE ENDEAVOR SHOULD BE REASON ENOUGH NOT TO PASS THIS BILL. PLEASE LISTEN TO AND FOLLOW THE ADVICE OF THE ACCREDITED EXPERTS ON THIS SUBJECT AND VOTE NO ON THIS BILL.

Signed: David M. Bear
Testifier 567-3344 (hm)
283-5831 (wk)

P.O. Box 39283
NINILCHIK, AK 99639



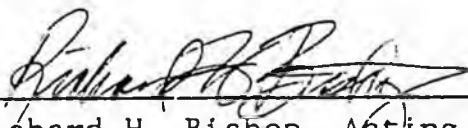
ALASKA OUTDOOR COUNCIL

2932 C Street, Suite B
Anchorage, Alaska 99503
(907) 563-4AOC
FAX: (907) 561-0800

To whom it may concern:

On April 10, 1994 delegates to the Alaska Outdoor Council's annual meeting reviewed the general issue of game farming, and SB 46 in particular.

The Council delegates took the following position: The Alaska Outdoor Council opposes game farming of moose, caribou and Sitka Blacktailed deer. If SB 46 is approved by the Legislature, it should do so only with the amendments jointly proposed by the Commissioners of the Departments of Fish & Game, Natural Resources, and Environmental Conservation.

 4/11/94
Richard H. Bishop, Acting President
and Vice-President, Interior Region

March 30, 1994

Representative William Williams
Chairman House resources Committee

Dear Mr Williams,

HAVING NEVER written to the legislature before,
I hope that this letter reaches the proper person.
In regards to S.B. 46, The Moose farming issue,
I would like to express my strong opposition to it.

I feel that allowing Moose farming would open
us up to too many unacceptable risks including
diseases, theft of wildlife and poaching.

I can understand the "farming" of non-indigenous
species but NOT Moose.

Who would decide who was eligible to receive
Moose for farming. The Moose of this state
belong to all of us. Giving Moose to selected
individuals removes Moose from the general
population, thereby limiting our opportunity.

I'm sure that some of those who seek to own
orphaned calves would be only too happy to
illegally kill a cow moose with the hopes that
they could be there to provide a "good home"
to the poor orphaned calves.

In a recent Fairbanks newspaper it was said that
one local advocate of Moose farming doesn't really
know what he wants to do with them. Ideas
included riding & milking!

Perhaps raising them like beef is some people's
thoughts. Then with the selling of Moose meat
being legal. Anyone who possesses Moose meat
out of season will claim to have bought it,
making for another loop-hole or story to try and
disprove for our game wardens.

Please don't allow this legislation pass just to
appease a very few people who only have their
own special interests in mind. The rest of us
Alaskans depend on our wildlife resources and
are not willing to accept the risks to a
healthy Moose population just because a few
ill-informed people want the state to make
them special by giving them something that
rightfully belongs to all of us.

respectfully,

Robert Mumford
2240 Cordes Way
Fairbanks, Ak. 99709

Mary L. Bishop
1555 Gus's Grind
Fairbanks, AK 99709
907-455-6151

March 31, 1994

*Rep. Bill Williams, Chairman
House Resources*

Alaska State Legislature
State Capitol MS 3100
Juneau, AK 99801-1182

Dear *Rep. Williams*:

Everyone should have the right to fail or succeed in business enterprise. But NO ONE should have the right to do it at the expense of our state's healthy moose population.

I urge you to oppose moose farming in Alaska.

My adamant opposition to moose farming is based SOLELY on the risk it puts upon one of the most valuable assets we have in Alaska--our healthy moose herd. Scientific literature is replete with examples of wildlife disease related to confined wild ungulates. I have enclosed only one example. Wildlife disease experts can provide you with others.

There is no question that fenced animals will escape. In this day and age--when animal rights advocates are freeing research animals all over the U.S.--it will be a simple matter to cut a moose fence in Alaska.

Will escaped animals be diseased? Will disease spread to the healthy wild population--one of Alaska's greatest assets? The risk is too great; the potential benefit too small.

Contagious diseases like TB and brucellosis develop in confined ungulates. Additionally, there are severe nutritional problems: The "Northern Exposure" moose died; the best efforts of wildlife scientists have not been able to keep a confined moose alive more than 8 years--usually less.

Because of unfortunate experience, other states and provinces are moving away from ungulate farming--not toward it. ^{far}

This issue is like fish farming and ranching. It should receive the same careful consideration of disease and genetic implications to the free roaming, wild population.

Increased moose for eating, viewing and hunting should be provided by measures like SB 77--intensive management of free roaming wildlife populations. In my opinion, it is irresponsible to put this invaluable wildlife population at risk by passing SB 46--moose farming.

Sincerely,

Mary Bishop
Mary Bishop



Alaska State Legislature

Please enter into the record my testimony to the House Resource Committee
 committee name
 committee on Moose Farming, dated 3/8/94
 bill/subject

I might add the E Mat-Su - Borough Agriculture and Forestry Board representing all areas of the Mat-Su and alot of farmers, foresters, supports this bill

Signed: [Signature]
 Testifier

Robert Shumacker
 Representing (Optional)

PO Box 3712 FALMER 99645
 Address

(907) 746-4453
 Phone No.



Alaska State Legislature

Please enter into the record my testimony to the HOUSE RESOURCES
committee name

committee on SB 46, dated 3-9-94

bill/subject

I WOULD LIKE TO GO ON RECORD, AGAIN, AS SUPPORTING THIS BILL. I STRONGLY BELIEVE THAT MOOSE FARMING WOULD HELP IN INCREASING WILD HERD POPULATIONS. THIS WAY THERE COULD BE CLOSED HUNTING SEASON IN AREAS WHERE THERE IS A LARGE HUMAN POPULATION WITHOUT AFFECTING THE NEED FOR FOOD FOR THOSE WHO HUNT FOR FOOD.

I STILL OPPOSE RESTRICTING IMPORTING MOOSE FOR MOOSE FARMING. THERE SHOULD BE A LIMIT. I KNOW ONE MAIN CONCERN IS DISEASE, BUT CONTROL WILL HELP. WE ALSO HAVE TO BE CONCERNED FOR LOCAL DAIRY & BEEF FARMERS THAT DISEASES ARE NOT TRANSMITTED TO THEIR ANIMALS. I DON'T BELIEVE THAT JUST ANYONE SHOULD BE ALLOWED TO HAVE A MOOSE FARM, ESP. IF RIBES ARE MOOSE FOR PUBLIC CONSUMPTION. PEOPLE INVOLVED WITH MOOSE FARMING SHOULD BE AWARE OF SPECIAL FOOD NEEDS FOR MOOSE, VACCINATIONS AGAINST DISEASES, & BRANDING OR EARTAGGING TO PROTECT ANY ANIMALS THAT MAY ESCAPE.

Signed: Chevenne Walker CHEVENNE WALKER
Testifier

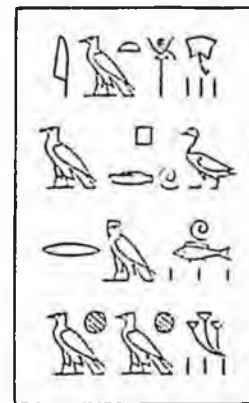
SELF
Representing (Optional)

HT 62 BOX 5360 DELTA JCT. AK 99737
Address

895-1024
Phone No.

THE WILDLIFE SOCIETY

ALASKA CHAPTER



March 18, 1994

Hon. Bill Williams, Chairman
Resources Committee
House of Representatives
Alaska State Legislature
Capitol Building, Rm 128
Juneau, AK 99801-1182

RE: CSSB 46

Dear Rep. Williams:

The Alaska Chapter of The Wildlife Society wishes to register its opposition to SB 46, the "moose farming" bill. The Wildlife Society is a national organization of wildlife research, management, law enforcement, and administrative professionals with over 8,000 members nationwide and 340 members in the Alaska Chapter. The Chapter recently adopted a position statement on importing, transplanting, and ranching game in Alaska, which I have enclosed. This position statement reflects the experience and judgement of knowledgeable professionals in Alaska, as well as experience of colleagues with whom we've discussed this issue from other states, Canada, and Scandinavia.

Although there are some areas of the world where game ranching is appropriate, Alaska is not one of them. Alaska still has an abundance of free-ranging native wildlife species and relatively intact ecosystems that are available to the public for both consumptive and non-consumptive uses. As our position paper presents in greater detail, game ranching could jeopardize these wildlife resources by competing for wildlife habitat, introducing diseases to native wildlife populations, increasing opportunities for poaching, and generating pressure to reduce natural predators. An additional consideration is the philosophical implications of reducing species currently held in public trust to the status of privately-owned livestock. The United States has a long tradition of holding native wildlife for the common good of all, rather than the economic benefit of a few.

Again, the Chapter urges you to vote against CSSB 46, or any similar legislation.

Sincerely,

A handwritten signature in cursive script that reads "Richard Shideler".

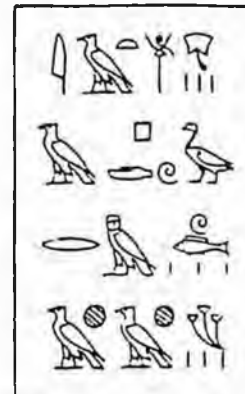
Richard Shideler, President
1833 No Way Lane
Fairbanks, AK 99709

Encl

cc: Rep. Bill Hudson
Rep. Con Bunde
Rep. Joe Green
Rep. Eldon Mulder
Rep. David Finkelstein
Rep. John Davies
Rep. Pat Carney
Sen. Mike Miller

THE WILDLIFE SOCIETY

ALASKA CHAPTER



POSITION STATEMENT OF THE ALASKA CHAPTER OF THE WILDLIFE SOCIETY ON IMPORTING, TRANSPLANTING, AND RANCHING GAME IN ALASKA

The Alaska Chapter of The Wildlife Society is dedicated to wise management of wildlife resources and their habitats. Alaska is unique in supporting native wildlife populations at historic levels over much of the state. These populations have great economic and cultural value to the state and its people as sources of food, fur, and revenue. Much of this value derives from wildlife being in its original, free-ranging condition where both consumptive and nonconsumptive users have access to this public resource.

English common law gave ownership of wildlife species to the ruler to be held in trust for the people. In reality, the only group that benefitted from this arrangement was the privileged class. In North America, free-ranging wildlife species traditionally have been held in common by the public. Private ownership of wildlife thus can only occur as authorized by government acting in the best interest of the people.

The Alaska Legislature has authorized private ownership of bison, muskoxen, and elk. Plains bison and elk are exotic (i.e., non-native) species that have been imported to Alaska and established as wild populations in several locations. Muskoxen were extirpated in Alaska in the 19th century and re-established in the wild with imported stock. Alaska also has an existing reindeer herding industry. Ownership of reindeer herds in Alaska is restricted to Alaska Natives by federal law, although non-Natives have challenged the law by importing reindeer from Canada. Recently, persons promoting game ranching as business ventures have proposed legislation authorizing private ownership of additional wildlife species, including moose. Other proposed legislation would require resource-management agencies to transplant exotic species such as elk to areas where they do not currently occur.

Game ranching may have a place in some countries or regions of the world based on their unique conditions and institutions. In such situations, game ranching can provide an alternative to domestic livestock and may to some extent preserve the diversity and abundance of native ungulates. Alaska, however, has the opportunity to maintain its historic abundance of free-ranging wildlife species for the benefit of all its citizens without resorting to game ranching.

Game ranching or other private ownership of wildlife species threatens to diminish the abundance and quality of Alaska's wildlife resources. Wildlife species occupy the landscape regardless of land ownership, yet remain public property. It is common knowledge that commercial development of land often alters or eliminates wildlife habitat thereby reducing wildlife populations. The public may not realize that ranching

generate pressure to eliminate large predators from areas in which game ranching occurred.

In addition to considering the risks to Alaska's wildlife species posed by game herding or ranching, or by resource-management agencies importing or transplanting exotic wildlife, the public should contemplate the philosophical implications of reducing species currently held in common to the status of privately-owned domestic livestock. Traditionally, consumptive users of wildlife have had a strong vested interest in maintaining healthy, abundant, free-ranging wildlife populations. More recently, nonconsumptive users also have supported legislation and policies that maintain wildlife habitats. Although captive wildlife may serve an educational role by providing highly managed viewing opportunities to the public, ranched game is unlikely to generate the incentive for maintaining large, relatively unmodified ecosystems currently engendered by free-ranging, native wildlife species.

Alaska's wildlife has local, statewide, national, and international importance. In recognition of this, and in the interest of maintaining these valuable resources for the enjoyment and use of future generations, the Alaska Chapter of The Wildlife Society finds that:

1. Skillful, professional management is required to assure the future of wildlife resources in North America;
2. Wildlife species in North America have traditionally been considered common property of the people, and public ownership of wildlife has benefitted both the public and the wildlife resources;
3. Reindeer herding by Alaska Natives is an economic benefit to those communities where herding has traditionally and continually been practiced since inception of the industry;
4. Private ownership of wildlife has led to unfair chase harvesting, inhumane treatment of captive wildlife, illegal commercial trade in wildlife and wildlife body parts, and escape of captive wildlife and potentially will reduce habitat for wild ungulates, impair public access to wildlife, decrease numbers of ungulates in a wild setting, disrupt the genetic integrity of native wildlife populations, and cause extirpation of large predators;
5. Exotic wildlife species, and to some extent native wildlife from non-Alaska stocks, imported to Alaska and subsequently transplanted within Alaska by resource-management agencies, pose many of the risks identified for ranched game;
6. Commerce in wildlife without a uniform system of disease inspection has facilitated introduction and transmission of non-native diseases and parasites, including bovine tuberculosis and bovine and rangeliferine brucellosis; and
7. The presence of free-ranging, native wildlife species has strongly contributed to the maintenance and protection of large, relatively undisturbed natural ecosystems.

To:

Representative Williams

fax # 465-3793

April 19, 1994

LETTER FROM A MOOSE

Why do you Legislators want to treat me as a cow?

Why do you want to fence me from my freedom that I have enjoyed for thousands of years?

Why do you want to let entrepreneurs experiment with my species?

Why do you want for me to be tied to a gas pump for tourists to taunt and torment?

Why do you want to spend more millions of state dollars to prove Moose farming, like all previous ventures were disasters i.e. dairy farming, pig and chicken and musk ox, fox and barley farming!

Why do you want to degrade, humiliate and domesticate me when I am one of your states greatest wild assets?

Lastly, does Sen. Miller own stock in chain-link fencing?

Scientifically, morally, and financially, this SB 46 is a disaster and deserves to be killed.

Paddy Tatum
HC 66
Nenana, Ak. 99760
Ph. 582-2535
fax 582-2860





Alaska State Legislature

Please enter into the record my testimony to the HRES
 committee name
 committee on SB 46 , dated 4-20-94
 bill/subject

April 20, 1994

Written Testimony of Dave Bear, P.O. Box 39283, Ninilchik, AK
 Re.: SB 46, Moose Farming
 House Resources Committee

I oppose SB 46 in its present form because it will facilitate individuals locking up huge areas of state land. This bill, if passed, will seriously restrict public use and access of public lands. The above notwithstanding, this bill is irresponsible and frivolous management of public resources. If legislation is necessary, I favor the original bill by DEC, F&G and DNR.

Charles

D Bear



TANANA CHIEFS CONFERENCE, INC.

122 FIRST AVENUE
FAIRBANKS, ALASKA 99701-4897
PHONE (907) 452-6251 FAX (907) 451-8938

April 16, 1993

House Resource Committee Members
Alaska State Legislature
Alaska State Capitol
Juneau, Alaska 99801-1182

Dear House Resource Committee Members:

I understand that SB 46, "An act relating to moose farming and relating to game farming" is being heard by your committee on Monday, April 19, 1993. You should be aware that the 43 member villages of Tanana Chiefs Conference, Inc. are opposed to moose farming of any kind, at any level. Further, during the February meeting of the Executive Board of Tanana Chiefs Conference, the bill was reviewed and discussed and unanimously opposed. On behalf of Tanana Chiefs Conference, I respectfully request your rejection of this bill and I urge you not to pass it out of committee. Thank you.

Sincerely,

TANANA CHIEFS CONFERENCE, INC.


for Wil Mayo
President

Rural Alaska Community Action Program, Inc.

April 5, 1993

Representative William K. Williams
Chair, House Resources Committee
State Capital Building
Juneau, AK 99801-1182

Dear Representative Williams:


RurAL CAP is concerned that the legalization of moose farming and the sale of moose meat could have adverse effects to thousands of rural Alaskans who depend on the subsistence lifestyle.

We feel there are a host of serious questions that cannot yet be adequately addressed, such as the threat of disease to both domestic and wild animal populations, problems of domesticated animals attracting bears and wolves, incentives to illegally harvest animals for income, and finally the enormous cost to the State.

While we believe strongly in increased economic opportunities, especially in rural Alaska, we cannot afford to do so while putting at great risk the subsistence economy which provides sustenance to rural Alaskans.

Thank you for considering our views as you debate the merits of legalization of moose farming.

Sincerely,



Jeanine Kennedy
Executive Director

CC: Representative Hudson
Representative Bunde
Representative Green
Representative James
Representative Mulder
Representative Finkelstein
Representative Carney
Representative Davies

Page 1/1

April 3, 1993

To Rep. Bill Williams, Chairman House Resources,

As a Biologist/Naturalist and a 26 year resident of Alaska I find SB 46 (Moose Farming bill) the most abhorrent idea yet to come out of our Legislature.

It's not often that I agree with the Alaska Fish & Game - but they and many other scientists and wildlife professionals present well founded biological data on why this is a bad idea.

I find it ludicrous to envision our wild moose, be it calf or adult, held in pens, corrals, and cages, tethered and taunted, their dignity destroyed by "Another Roadside Attraction" mentality, by the exploitations of a few who might financially profit from this degradation.

This is not what Alaska is all about.

I don't believe we can "Own" that which is meant to be a free-living being, and a very important part of Nature as wild.

Rather, we Alaskans are the custodians, not entrepreneurs, of our wild animals.

If anyone is interested, I have collected volumes of cases over the last two years of disastrous attempts to capture and raise wild ungulates in western states, in Canada and in Europe. Three problems that will surface are:

1. Infectious diseases such as bovine TB, and Brucellosis are likely in penned-up conditions
2. Moose are not a herding animal, but territorial, how is this going to be handled?
3. Opens a plethora of problems regarding poaching.

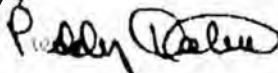
We all know what a disaster all attempts at agriculture and animal farming have been in the last ten years, not to mention the hundreds of millions of dollars spent on such failures.

Let's face it, the few people that would financially profit from this are those that need a "Gimmick Display" to lure tourists, or those that would receive huge state agricultural loans (does this smack of the multi-million dollar defunct Delta Farm Project, or the Point MacKenzie Dairy debauchery?)

May I please hear from you on this matter?

Please vote against SB 46

Sincerely,



Paddy Tatum
HC 66 box 27620

Nenana, Ak. 99760 Fax. 582-2860

Ph. 582-2535

Carol A. Jensen
2451 Greenhill Way
Anchorage, Alaska 99502
(907) 344-7078

April 17, 1993

TO: House Resources Committee
FROM: Carol Jensen
RE: SB 46, Moose Ranching

I strongly oppose passage of this bill for the following reasons:

1. For the same reasons the Fish & Game Dept. opposes it. The threat of disease to wild stocks; the encouragement of even more poaching than we already have.

2. I have worked in the tourist business since 1988, and have talked to thousands of tourists. I also talk to many different people when I travel on my own vacations Outside. These people DO NOT want to see wild Alaskan animals caged, penned, or chained. Even a safari type set up where people are driven through a fenced game "preserve" is not acceptable to most, because THIS IS ALASKA...the last wild, spacious outpost for truly free roaming animals. In the Lower 48, that has been all but lost, and the only way to see "wild" animals is in this type of setting. BUT WE FORTUNATELY ARE NOT AT THAT POINT YET. They don't come to Alaska to see zoos. Many that do go to the Alaska Zoo are saddened by what they see. They would much rather see the animal in the wild.

3. I do not want to see entire industries developed to warehouse and slaughter our wild game animals. The next step will be the cruel "factory farms" that we presently have in the Lower 48 that warehouse pigs and cattle.

4. Game farms and tourists traps with wild animals may also take away some of the anticipation and mystique from Denali and our other parks. Many people go to these parks to see wild animals...if they can pay a few bucks and see a moose, caribou or even wolf (yes, this bill could just be the start of more wild animal "farms"), they may decide to skip the trip to the parks, particularly if the weather is a deterrent (we get a lot of inclement weather May-August).

5. Animal abuse is very common within private businesses that exploit animals for profit (ie: many zoos, circuses, rodeos, the entertainment business and animal "parks"). The Animal Welfare Act is terribly inadequate and under-enforced. We don't need this here.

Thank you for this opportunity to comment.

Carol Jensen

Carol Jensen
(daytime phone: 800-478-2234)

please include in testimony on SB46 in House Resources

TO: House Resources Committee
From: Gary V. Oskolkoff & Marla Kvasnikoff
RE: Moose Farming SB-4
DATE: April 16, 1993

Dear Committee Members:

We ask that you reject the proposed moose farming bill.

At this time a lack of data as regards the issue of moose farming will lead the State of Alaska into many problem areas:

- ex: funding (although a zero budget is being proposed we believe this to be unrealistic)
- grazing leases and regulations (also relating to the funding issue)
- environmental and resource damage, waste and exploitation.

Thank you for your consideration.

Sincerely,

Mrs. Marla Kvasnikoff

Marla Kvasnikoff/and for
Gary Oskolkoff

*Box 39070 -
Ninilchik, AK*

99639

Bill Arvey
P.O. Box 81195
Fairbanks, AK 99708
April 2, 1993

State Representative Williams
House of Representatives
State Capitol, Juneau, AK

Dear Representative Williams;

I strongly urge you to reject the "Moose Farming Bill", SB 46.

Alaska's wild game animals should not be the objects of commercial ranching or farming for several reasons.

1. "Moose ranchers" will be afforded preferential use of a public resource, at public expense. Once recognized as commercial game ranches, these operations will become eligible for state assistance in the way of revolving agricultural loans, predator control, and whatever else can be dreamed up to gain access to the state till. This is not an unusual pattern, as past legislatures have funded plenty of turkey schemes that have diminished the state treasury while providing no known benefits. Some of us still hope that the experience of these losers would have led to a collective learning experience.

2. There are really no "surplus" animals available to provide startup herds for the proposed operations. The potential for abusive poaching of young and injured animals in the name of "ranching" is great. Even animals that die naturally from disease and starvation are fully utilized by predators and scavengers, many of which form the basis of the trapping industry.

3. Moose are wild, intractable animals that require large quantities of native vegetation in order to thrive. Implicit in the proponent's arguments are the requirements to provide large amounts of native willow and birch to feed out the captive animals. Therefore, what you may think will be a red meat ranching concept will quickly become a project to raise and cut vast amounts of feed, which is highly unlikely to even be possible.

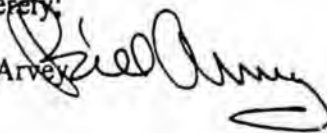
4. As with most other public-funded Ag projects that fail, when this baby folds up, as it surely will, the "rancher-farmers" will be back begging you (that is, us) for supplemental help, loan forgiveness, etc. I don't think the public will be happy to realize that they must subsidize or rescue yet another poorly conceived program.

5. Proponents argue that predators can be excluded and moose be kept in by fences at the perimeters. Fences will not prove effective at either in my opinion. Just as in other commercial ranching ventures of this type, predators will prove to be a problem, and demands for special predator control measures to protect investments will surely follow. Witness the current situation on the Seward Peninsula where commercial reindeer herders demand that natural predators (wolves and bears) be destroyed to protect herds that are utilizing public lands.

Thank you for considering my views.

Sincerely,

Bill Arvey



To	Please include in testimony on	From	
Co.	SB 46 tables	Co.	Resources
Dept.	Thanks-	Phone	
Fax #		Fax #	125-12

April 15, 1993

To: House Resources Committee

From: Dave Bear
 P.O. Box 39283
 Ninilchik, AK 99639
 Ph. 567-3344 (hm) 283-5831 (wk)

Subject: Moose Farming-SB 46

I sincerely hope that each committee member will carefully and objectively examine the information before them regarding the subject issue. I have and I find the published support and justification for SB 46 to be offensive, outrageous, hypocritical, self-serving, outright fraudulent and a blatant demonstration of autocratic posturing by at least one politician and several appointed government officials.

* There was no public meeting in Ninilchik to discuss the subject issue.

* We have some of the finest fish and game biologists in the country here in Alaska but because the subject proposal is scientifically ridiculous their opposition has been silenced because it is in conflict with "someone's" political agenda. Our biologists have won awards for their efforts with the Moose Research Center in Kenai and have been rewarded by having it shut down. In some 25 years of actual hands on, gone out and did it, non-profit, non-politically motivated, scientific oriented study, they have proven that moose farming is a BAD idea. Why don't we listen to them(re. official position of The Wildlife Society).

* The State of Alaska Department of Agriculture has something less than an outstanding record of accomplishment as regards "providing greater consumer availability of quality Alaskan grown products in the marketplace through inspection, certification, labelling, marketing, and education programs." If you are to believe what you read in the newspaper the State has poured who knows how much money into existing, and past, programs and they have basically zilch to show for it.

* We are supposed to be in a budget crunch. Our schools and prisons(Wildwood) are being neglected or shut out altogether. Our roads and emergency service personnel are suffering greatly. BUT, the subject plan would "assure the availability of financing sources for agricultural operations that are financially viable"(our experts say this plan is not); "continue the State's investment in agricultural science and technology to protect and enhance the quality of Alaskan soils, seeds, plants, produce,

①

animals, and other agricultural products, and the necessary knowledge transfer"(this probably means they'll shut down some other highly esteemed and long established study center); "facilitate the development and use of agriculture in conjunction with other Alaskan resource uses and needs". Where is all this funding going to come from?. I'm sure as hell not going to contribute.

* All of this land that the State is going to "make available for agriculture under a variety of provisions including fee-simple title with fair market value purchase or homestead credits". What exactly does that mean?. It sounds pretty dubious to me.

* The Department of Commerce & Economic Development makes statements that clearly are motivated by that all holy and most venerated, not to mention extremely profitable, of all endeavors, tourism. They make it sound like we're all going to starve to death unless this legislation passes. As far as a source of red meat is concerned, haven't these people heard of plain old cattle?. But then of course, what tourist is going to pull into the gift shop at Tok to look at and pet a Hereford or an Angus?.

* One of the major impacts of this legislation will be in the areas of law enforcement and quality control. This will naturally cost the State a great deal of money in terms of personnel and administrative costs. How can this be justified?.

Summary: There is a fixed amount of land in this country. As more people move to Alaska and those that are so inclined move further away from the cities there is less and less land, or wildlife habitat, left available for the animals. Unless this moose farmer is going to grow, on an annual basis, one tremendous amount of the kind of willows and other browse his moose like to eat, they will run out of food in their "pen" in very short order. I know for a fact that these guys will not eat just any old bush. So, more moose, more land & more food. Everything in nature, left alone of course, has a balance point. I contend that if you allow this ludicrous legislation to pass you will destroy that natural balance and cause harm beyond imagination. Please listen to the experts, they are the true stewards, when not politically pressured to do otherwise, of our resources. They, unlike the supporters of this legislation, are motivated by the perpetuation of a resource and truly "look to the future". The supporters of this legislation are a small, special interest group who apparently could care less how this legislation will impact future generations or other residents of the State. Please do not allow this legislation to pass. The personal satisfaction of knowing that you have done the right thing in the instant case is, in my opinion, worth a great deal more in terms of integrity and ethical behavior than the long remembered notoriety that most certainly will be given those responsible for passing this bill.

My most sincere thanks and appreciation for your time and consideration in this matter.

Katherine C.E. Smith
1193 Cooper Crt.
Homer, Alaska 99603

February 22, 1994

Chairman Bill Williams
Alaska State Legislature
House Resources Committee
Room 128
State Capitol
Juneau, Alaska 99801-1182

Dear Chairman Williams:

Re: SB 46 (Authorizing Moose Farming)

The following is a copy of my February 18, 1994 testimony via tele-conference on SB 46 to the House Resources Committee:

This is Katherine Smith, a resident of Homer. I am a Certified Wildlife Biologist and 1983 Graduate of the University of Alaska, Fairbanks Master's program in wildlife management. I have been working with Alaska's big game species or as a consultant in game farming ever since.

I was Project Director and Manager of a private elk farm at high elevation in Hawaii where I oversaw construction of a state of the art quarantine and handling facility for elk, and importation of 50 head from the mainland in 1987. The herd is now up to several hundred animals and doing well as long as a rigorous health program and supplemental nutrients are provided. Even with year-round pasture and benign conditions in Hawaii, it is extremely expensive to keep fenced game healthy, and handlers safe. And elk are a herd animal, very tractable and easy to handle and provide for as compared to moose. Moose are more than a challenge--they are a mistake!

In winter, moose are wide-ranging browsers. They wander far as lone animals or cow-calf units seeking high quality, low availability willow, cottonwood, and birch buds and tender stems. When locked in by fences they quickly run out of this limited dietary requirement of high protein and roughage. Supplements are very costly, and as Charles Schwartz of the moose research center in Soldotna stated earlier in this teleconference, fencing and feeding moose creates conflicts and problems between animals which do not naturally group together.

With the high cost of game fencing, no one can afford to fence enough area to adequately provide for moose. Again, I agree with Charles Schwartz that animals are subjected to poor diet, inter-species aggression, and mishandling by caretakers who do not understand their needs or know how to provide for them. It is also very difficult to define what constitutes an "adequate handling facility" as stated in this bill. It would be even more difficult to regulate.

Moose are a proven poor choice for intensive game farming. In addition to the studies in Russia and Scandinavia cited

earlier, there are examples closer to home--the University of Alberta did studies as did the University of Saskatchewan, all concluding that moose are NOT suitable for game farming on any intensive basis. The land area required is too great to fence and the handling and feeding considerations make it uneconomical.

Meat and antler sales also present a problem. State Fish and Wildlife Protection is already overtaxed, under-staffed and under-funded in their efforts to check illegal take of moose. This bill will promote poaching and black market sale of meat by creating a market incentive.

Disease transmission to wild stock is also a very real problem when animals are confined, housed, trucked to new location, sold and traded. SB 46 unnecessarily places one of the State's most significant subsistence animals at risk and threatens the lifestyle of Native and rural Alaskans.

From one who has been in the game industry for a decade, I assure you that the State has nothing to gain from SB 46; it will in fact cost Alaskan's the health and welfare of moose, an important sport and subsistence animal. Substantial funds and personnel will also be diverted to administer, research and regulate this ridiculous bill. Promoting moose farming at a time when the State does not even have money for existing programs and needs, does not make sense. As such I respectfully urge the Committee to NOT foster this very harmful and costly legislation. Thank you.

Sincerely,


Katherine C.E. Smith

cc: Suzanne Little
Gail Phillips
Alaska Environmental Lobby

We Arkansans

THE ANCHORAGE DAILY NEWS MAGAZINE

MAY 10, 1992

Moose vs. Man

TOUGH YEAR

FOR

ANCHORAGE

UNGULATES



This Week

COMING TO GRIPS: Mary Kay Blakely watched her son grow from boy to man as he wrestled for four years in high school. Now she must grapple with his power. Page 6

MOOSE UNDER SIEGE: Too many moose roam Anchorage during the winter because there is not enough habitat left in the wild. And the moose are sure losers in confrontations with humans. Page 8

COVER: A young moose chews on a willow in an Anchorage back yard. Photo by Bob Hallinen



JIM LAVRAKAS / Anchorage Daily News file

"Oscar" gets a handout.



in Schmid-Royall feeds a bull moose on his front steps in Midtown Anchorage in mid-January.

OUR MISERABLE MOOSE

You love the tree: exotic, delicate, beautiful when in bloom. It's the most amazing — and expensive — plant in your yard. A moose stands nearby. Its horsey snout extends, its incisors protrude. It bites. It tears. It chews. Crunch, crunch, crunch.



JIM LAVRAKAS / Anchorage Daily News

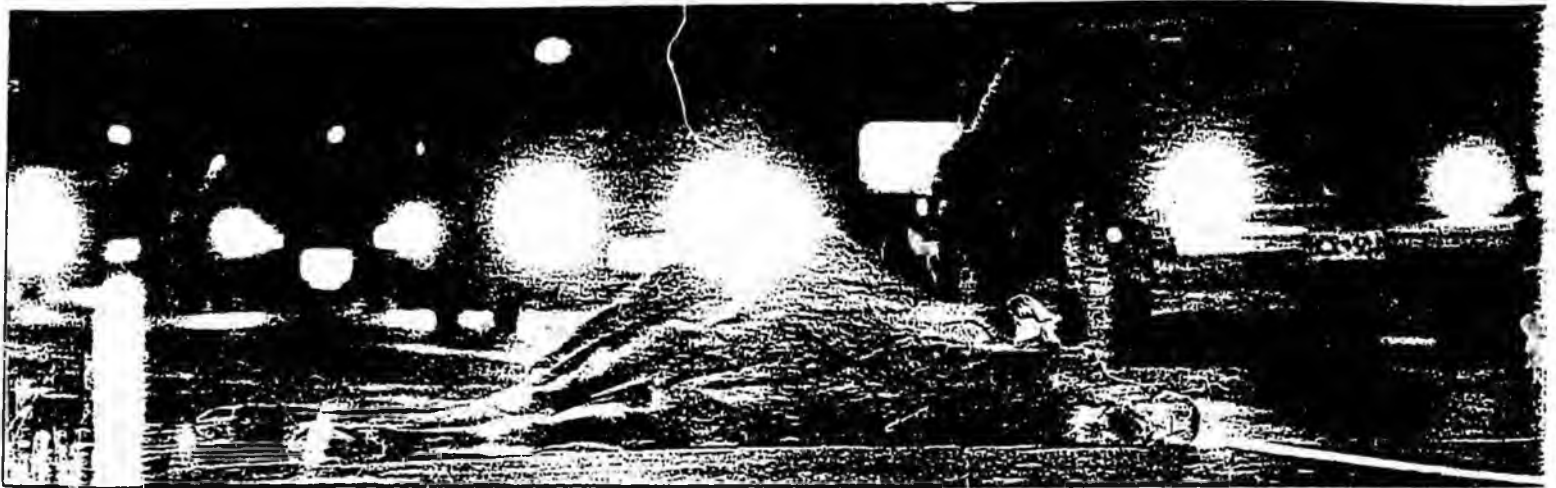
Doug Tryck battled two moose this spring but lost this mountain ash that was imported from China to the browsing animals.

By
Doug
O'Harra

The latest tale of Anchorage's wintertime encounter with hundreds of hungry moose begins with a single biological fact: When too much snow cloaks the ground anymore, the moose here simply can't find enough natural willow and birch to eat.

Some 1,250 moose range across the Anchorage Bowl between McHugh Creek and Ship Creek. Include the entire municipality — Portage to the Knik River — and the number goes up to more than 2,000 animals in an area that once held 1,000 or fewer only a few decades ago.

As the population of moose has risen, its range has steadily gotten smaller. "We're losing habitat all around the



JIM LAVRAKAS / Anchorage Daily News 124 p.1

A dead moose lies along the Glenn Highway. This winter, officials estimate, 120 moose were killed by vehicles in Anchorage.

Continued from previous page

city here to development," says biologist Mike McDonald.

And the land that is available to provide winter moose food apparently has less and less of it with each passing year. Why? Because too many moose have eaten so much, so often that the trees and brush haven't had enough time to grow back.

"The fact is that there are more moose in the Anchorage area than the habitat can support," concludes Dave Harkness, the state's area biologist.

(Anchorage's moose simply don't have enough predators to keep their numbers down, biologists says. Sure, cars kill some, and animals are taken in hunts on Fort Richardson and up Ship Creek. But almost no predation occurs by wolves or bears. According to Harkness and McDonald, a traditional game-management solution would be to hold a hunt aimed at the moose living in the Anchorage Bowl. Yet the last urban hunt, nearly 10 years ago, was a public relations disaster for the state.)

In the meantime, what do the moose do during a winter of deep snow? They stumble out of the hills, emerge from the greenbelts, march into the subdivisions, forage off the sidewalks. Often they eat ornamental trees. And why not?

"They're not dumb" McDonald says. "They'll use the easiest way (to feed themselves) they can find. Once they get to a spot with food, they don't like to move away."

Think of it like an equation: Too many moose competing for diminished browse plus deep snow equals confrontations with humans and collisions with cars.

Some 120 moose died in Anchorage this winter after being hit by cars and trucks — the second highest number in the city's history. Hundreds of people called state officials and police with complaints: The moose are eating my trees.

To some extent, that sort of

thing happens every winter. But this year, events took a bizarre turn. To the dismay of biologists and wildlife officers and people who understand wildlife ecology, large numbers of Anchorage residents were found feeding moose fresh groceries. Things like apples, carrots, cabbage, iceberg lettuce.

Feeding them caused scores of moose to associate people with dinner, creating some of the most ludicrous moose problems biologists here have ever seen. Calves trotted up to terrified strangers (all humans look alike) only to nudge or kick them for a serving. Young bulls belligerently charged people who — from the moose's point of view — rudely failed to bring the salad.

All over town, conflicts between humans and moose became as common as fender benders after an ice storm. Moose charged people, haunted school playgrounds, blocked access to doorways. Six people were kicked, and hundreds more experienced close encounters. Biologists and wildlife protection officers say they've never received so many calls about moose before.

"I can't remember a worse year," says McDonald. And others agree.

The Moose That Came To Dinner

The pink-fruited mountain ash from western China had flourished over 13 Alaska winters inside Doug Tryck's yard in South Anchorage. Carefully grafted to cold-climate roots, the rare ash was part of Tryck's collection of 3,000 trees and plants — Mongolian lindens, Russian rock birches, rare apple and pear trees among them. Like many of the other species in his collection, the mountain ash was just the sort of plant moose love to eat. "Moose can fly," Tryck

calls them.

But the Anchorage school teacher also knows how to protect his trees. Operating a small commercial nursery out of his home on Rabbit Creek Road each summer, Tryck has made it his business to instruct his customers on how to keep expensive ornamentals from becoming moose entrees.

He knows from experience. Once, eight years ago, a moose got inside his yard and permanently damaged several valuable trees. He beefed up his security, bought a case of Roman candles and erected a large gate to augment a 7-foot-high chain-link fence. Tryck then believed his trees were safe.

"I thought I had covered every base," he says now. "In eight years, no moose has been in here." But Tryck didn't count on the second heaviest snow in 35 years creating new avenues into his compound — all-but burying his fence in some places, knocking a tree through it in another. Not even Tryck, who had gone to a lot of trouble to avoid feeding moose, was immune.

Which brings us to a young bull moose: Healthy, ornery, determined — and hungry.

Tryck had spent nearly every day during a two-week period in March chasing this young bull and a young cow from his yard. The animals would leave for a while, and Tryck would block what he thought was their access. But almost every day, they found a new place to leap the fence and dine on Tryck's trees.

They kept coming back because, as Tryck puts it, "this was a really tasty place."

After chasing the moose with Roman candle fireworks (a method used by state biologists and officers to scare off the animals) and surviving one moose charge at close quarters, Tryck thought he had prevailed. One day, the bull and cow didn't show. Dozens of trees already had been ravaged, but the nurseryman in Tryck thought he could prune them back to life. He wouldn't harvest any

apples this year, but at least nothing was dead. And he'd seen the last of the moose.

But the young bull returned.

In the cold morning air of mid-April, it ambled through Tryck's collection once again, sniffing this plant, biting that bud. Eating tree after tree.

Finally the moose arrived at the mountain ash, Tryck's prize tree.

It commenced eating. After it consumed all the buds within reach, the bull tore several limbs to the ground — so it could eat those hard-to-get-at tips. Soon twigs and branches littered the snow, and the tree, representing more than a decade of dedicated horticulture, had a sort of bony, barren look. But the plate wasn't quite clean.

The moose snuffled the trunk, then began peeling it sliver by sliver. By the time a neighbor called Tryck to tell him that, hey, there's another moose in your yard, the young bull had scalloped the trunk clear around. It looked as though a team of cub scouts armed with pocket knives had spent the morning whittling.

Tryck dashed outside his house armed with a Roman candle and a box of strike-anywhere kitchen matches. He was furious. He reached a hill above the moose and started trying to ignite the fireworks. Man glared at moose: moose eyeballed man. The young bull flattened its ears, fluffed its ruff and began striding purposefully toward Tryck through the beds of nursery plants.

The Roman candle burst aflame and Tryck trained it on the moose. The first sparkling blast stopped the animal. The second made it rear. The third caused it to dash off into the woods. The Roman candle blazing, Tryck chased the moose around his 2½ acres and out the gate.

The young bull came back only one more time, chased Tryck onto his deck, then dashed through an opening in the fence — again under fire by Roman candles. For his own part, Tryck once again blocked the opening with chicken

wire. Then he called the state Department of Fish and Game and pleaded with area biologist Dave Harkness to do something about this moose.

Harkness brought Tryck some more Roman candles and urged him to build a higher fence. But it is a longstanding policy that the state does not move moose and only shoots them in extraordinary circumstances — when the moose is injured or a direct threat to human safety. There was nothing the state could do for Tryck.

A lifelong Anchorage resident, Tryck says he understands the state's policy. But he has spent more than a decade raising plants in an enclosed yard. He's taken some pretty expensive precautions to protect them from moose. He isn't some displaced Texan planting crab apples at the curb.

Tryck believes the state should have done something.

"I am a conservationist," he says. "But I don't feel I have to have moose and bear living inside my backyard."

"It's frustrating, because I've been led to believe there's nothing we can do. I should not have to go through that, it should not be that way. They need to be managed like all the rest of the wildlife."

Bulls Will Be Bulls

In the neighborhoods of South Anchorage, scores of moose breed, give birth, live out their lives. People come to recognize individual animals as they grow up. In the Ocean Park subdivision near Klatt and Johns roads, a young bull was born in the spring of 1991, remained with its mother throughout summer and fall — then branched off on its own during late winter of this year.

State wildlife protection officer Brian Larson lives in the same neighborhood. Over the winter, Larson watched and heard stories of how the cute young bull transformed itself from the neighborhood darling into a macho and cantankerous adolescent that had staked out subdivision streets as its personal dining room.

The moose would stand in driveways and charge residents who had the gall to step outside. He once kicked the side of a house — simply because someone looked out the window. Gradually, as the bull lay siege to the neighborhood, Larson's office received dozens of complaints.

"He has probably generated more calls than any other moose in town," he says.

An enforcement officer for three years, Larson was no stranger to this moose. When it was younger, he'd once stopped traffic on a busy street so the bull calf and its mother could cross. But Larson also knew how dangerous a

rambunctious moose can become:

Last fall, while trying to drive a different young bull from a child-pedestrian path into the school grounds at Baxter Elementary, he found himself dodging repeated charges. His foot caught in a root and he went down. The moose tromped him in the shoulder before dashing away.

Such a kick could kill a child. So after the Ocean Park moose actually trapped a neighborhood kid on a porch for 30 minutes one morning, Larson decided the animal had become too dangerous. He found the bull and killed it with a shotgun slug.

What made the moose get so aggressive?

To Larson, it was obvious. "People feed the moose, and he becomes habituated to people. Probably half the people in the neighborhood were feeding that moose."

Moose that are fed quickly come to expect food from every human they see. They're no longer shy. Some even become demanding.

Larson investigated another incident this year where a moose bit and kicked a woman in the head outside her West Anchorage condo. It turned out that the woman had been feeding the moose all winter. For carrots, the moose was affable and pleasant. Then one day the woman made the mistake of offering the moose an outstretched mitten of snow. . . .

Larson decided not to kill that moose. By the time he tracked it down, it had moved away from human dwellings and was feeding in a greenbelt. But human-fed moose often suffer a different fate.

"When you start feeding a wild animal, you start the process of its death," he says. "You speed it up."

After such incidents became more and more common, Larson and other officers scoured state law, searching for some regulation prohibiting the feeding of moose. "It would have given us something we could work with, something to stop the feeding," he said.

Here's what they found: It's illegal to feed bears, wolves and other predators. It's illegal to corral a moose and try to tame it. But nothing in state or municipal law prevents someone from feeding a wild moose. Even if it jeopardizes the moose's life.

"Maybe that's the point people are just missing," Larson says. "Humans become the cause of death."

Love and Death In Mountain View

Sometime in the cold, dark days of January, a cow and her bull calf ambled out of the wilderness along Ship Creek onto the streets of northern Mountain View.

Dinner was served.

As with most Anchorage neighborhoods, the streets of Mountain View offered a small amount of natural browse and ornamental trees. Along with another cow and calf — who eventually left the area on their own — the two moose would have swept through the neighborhood in a week or two, pruning back the browse, consuming the buds. Then they would have moved on.

But these moose did not move on. They stayed.

"I would say it's safe to say that half the people who live there were feeding the moose," says Larson.

Singling out an individual doesn't even make sense. According to Larson and other officers and residents, scores of people threw down grocery food — apples, carrots, cabbage, lettuce — for the moose to eat.

After Anchorage police and state wildlife officers started receiving calls once or twice a day, Larson started to tail the pair in his truck. With growing amazement, he watched them meander from one yard to the next, stopping to sniff and forage open areas of the snow.

"It was obvious they were going to places where they expected to be fed," Larson says.

He responded to the first complaint on Feb. 9: There was a cow and calf bothering children in a backyard. But, in what became a common pattern, the animals were browsing peacefully in someone else's yard by the time Larson arrived. They ignored him.

Nearly every day for the next two months, someone called to complain about the cow and her offspring. Larson and other wildlife protection officers responded 16 times. Anchorage police even more often. People began to behave stranger and stranger toward the moose.

Small boys of the neighborhood took to pelting the pair with snowballs, trying to get the animals to chase them. One boy was caught standing before the cow like a matador, his coat turned inside-out so the red lining showed.

Most of the time, Larson says, the cow stared with a moosey disdain at such antics. But on Feb. 27, she finally charged two boys who were throwing snowballs, knocking one down and stepping on him. The child, a 6-year-old, was bruised but not seriously injured when examined by paramedics. When officers arrived, the moose had bedded down in a yard nearby.

As long as people stayed clear, she seemed content to leave humans alone. The officers decided she wasn't unnaturally aggressive. "This cow was familiar with people," Larson says. "This cow did not get upset about people just being close."

During one call, Larson escorted two children past the mother and calf. Both moose scarcely glanced

in the direction of the humans. Obviously, they had adapted well to life in town. Too well.

On the afternoon of March 10, a woman who police say was intoxicated went up to the cow in an alley outside some Mountain View apartment buildings — a place where people had been feeding the moose. She grabbed the moose by the ears and pulled her head down to give her a kiss, according to Larson. The cow jerked back, but did nothing else. Then the woman threw her loving arms around the calf's neck.

"And the cow unloaded on her," Larson says.

The moose bit the woman, knocked her down and stepped on her.

By the time Larson arrived at the scene, more than 25 people had crowded into the alley and the moose and her calf were hemmed in. The woman had gone into a friend's house and was refusing medical help. Using a vehicle and a Roman candle, Larson and Anchorage police Sgt. Gary Apperson chased the moose out of the alley and across the street. But it was difficult to get people out of the way.

"They wanted to see the show," Larson says.

Over the next few weeks, confrontations became more and more common: the cow and calf would stake out someone's yard and refuse to leave, they would stand at a school bus stop, they would be reported "bothering children." On March 18, the cow chased one boy up a tree after he pelted her with snowballs. Over and over, Larson says, he or other officers would respond to calls and conclude that the moose and her calf had been trying to mind their own business but had been bothered by people. Larson and other officials at the state division of wildlife protection began urging the state Department of Fish and Game to move this particular pair. But Anchorage wildlife managers held firm to their policy of never moving "nuisance" moose.

Anchorage police and wildlife officials continued to warn people that if they kept feeding the cow and calf, the moose would eventually get into trouble and die.

"It's a good chance that something is going to happen," Anchorage police Lt. Bill Gaither told a reporter on March 22. "It's the people that created the hazardous situation, and the moose that will have to pay the consequences."

Two days later, it happened. Toward the end of the day, the Mountain View cow and calf had staked out a courtyard among a group of apartment buildings. They would not budge, and children coming home from school could not get into their homes. Larson and officer Bob Beasley arrived and decided they would

Continued on next page

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try to drive the moose through the yards, down an alley, across a street and onto a path leading to Ship Creek and the woods.

With Beasley blocking an escape route with his car, Larson squared off and drove the cow and calf out between the apartment buildings. As he strode over the spot that the moose had staked out, he looked down: fresh carrots littered the snow. Once again, someone had been feeding the moose.

Gradually, a few hundred feet at a time, Larson and Beasley got

the moose out into the street near the animal trail to Ship Creek. With their vehicles blocking the street, effectively putting a barrier between the moose and the neighborhood, the two men tried over and over to force the them to flee into the woods. They fired salvos of Roman candles and cracker shells. They shouted. They waved their arms. But the moose balked.

"They'd look at the trail and try to jump over the bumpers of the vehicles," Larson says. "They absolutely refused to go."

Finally the cow leapt past the men. The calf followed. The two moose dashed back toward the neighborhood. Destination? Carrot city.

Larson was disgusted and frustrated. But who could blame the moose? "They didn't want to eat willow browse," he says. "They wanted nice fresh grocery food. Stuff from Carrs is fresher than old, frozen willow twigs."

With Larson on its trail, the cow strode off through the neighborhood, calf following, and walked up into someone's yard.

charge him, he pulled out a canister of cayenne-pepper-based "Counter Assault" — a strong irritant used to discourage attacks by animals — and sprayed her.

The cow's eyes swelled shut and she stood for a few moments without moving. Then she moved 10 or 15 feet and bedded down. Larson and Beasley shot off a cracker shell, hoping to herd the animal back toward the woods. But now she wouldn't budge.

"At that point, we decided we weren't going to win the battle, and we backed off," Larson says.

The two men coaxed the calf away from the driveway toward its mother. The two animals moved further east — deeper into the neighborhood — and bedded down away from houses and people in the back of a vacant lot. "She was about as far away from people as you can get in Mountain View," Larson says.

When he left the neighborhood, it was about 5:30 p.m.

Larson decided he would make one more effort to ask Harkness and McDonald if they wouldn't consider moving the moose. If not, it seemed inevitable that the animal would have to be killed. The mother was simply getting too fearless, too bold, too stubborn. It was only a matter of time before she or the calf seriously injured a child.

Sometime in the next few hours, perhaps about 7:30 p.m., Anchorage police received a report of two gunshots in the area. Investigating officers found nothing.

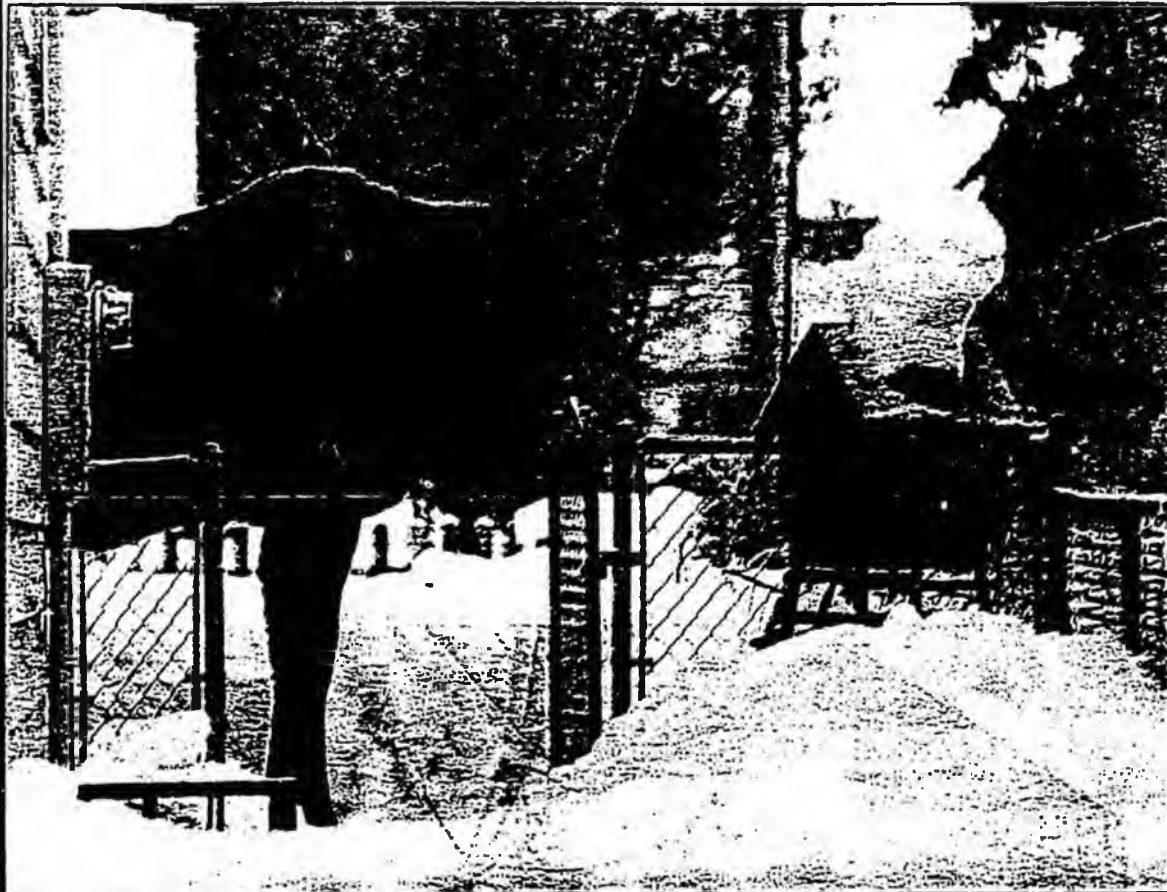
In the morning, Larson drove straight to Fish and Game headquarters in mid-town. But before he could present state biologists with his plea to move the Mountain View moose, he received a call from his office: The cow had been found shot.

When Larson joined wildlife protection Sgt. Art Paul in Mountain View about 9:30 a.m., the moose was lying in an alley, about 50 feet from where Larson had left her the night before. Her head was down, and she wouldn't react when the officers tried to rouse her.

"She was nonresponsive," Larson says. "She was sick."

For an hour, the two men watched over the moose, hoping she would rouse up. But it became obvious the moose was dying. So Paul killed her with a shotgun slug to the head. An examination found two previous bullet holes to the torso — one back of the right shoulder, the other just forward of the pelvis. Gut shot.

Larson believes the shots came from a .22 caliber weapon that fired a hard, low-velocity bullet. The sort of cheap, rim-fire ammunition commonly used for target practice. Though no bullets were ever found, Larson believes the projectiles probably punctured the moose's internal organs.



BOB HALLINEN / Anchorage Daily News

When the snow gets deep, moose are a common sight in city neighborhoods.



BOB HALLINEN / Anchorage Daily News

A moose feeds in a vacant lot in

Suddenly a man stepped out of his house and threw down two carrots.

Larson was amazed — and angry. He told the man that he and another officer were trying to move the animals. Right that minute. He told him that feeding the moose made moving them harder. He told him that feeding the moose, in fact, would probably get the animals killed. It was hard, Larson would say later, to remain polite.

He says the man replied: "Oh, I didn't realize."

Larson drove the cow back into a yard, but the moose finally decided it had had enough pestering by the officer. "We wanted her to turn and go 180 degrees from where she was heading," Larson says.

The cow flattened her ears. Her hair stood up. As Larson realized

'It's a good chance that something is going to happen. It's the people that created the hazardous situation, and the moose that will have to pay the consequences.'

— Anchorage police Lt. Bill Gaitner talking to reporter March 22



PAUL SQUADERS / Anchorage Daily News

A cow and its calf, that made their home in Mountain View, take a break in the snow. Both animals were killed before the snow disappeared.

Continued from previous page

(flooding the moose's body cavity with toxins, leading toward a slow and agonizing death.

"It would have been very painful," he says. Similar to what a human being would feel after experiencing a burst appendix.

The moose flesh was salvaged by a charity, and the calf wandered off into the neighborhood. Larson and Paul went back to their office. Two suspects were later interviewed, but a lack of evidence eventually led Larson to drop the case.

Why would someone gut-shoot a neighborhood moose?

Perhaps it was someone who was cornered or got kicked. Perhaps it was someone who came upon the moose at random and simply shot it for thrills. But Larson believes the person who gut-shot the moose simply wanted to make the neighborhood safe again.

"Someone who thought, Enough is enough — since they (the state) can't do their job, I will assist them," the officer says, with some disgust.

The final chapter in the story of the Mountain View moose came one week later, on April 1. The day of fools.

The orphaned calf wandered onto Mountain View Elementary school grounds during recess,



BOB HALLUNEN / Anchorage Daily News

A moose pauses in its wandering and feeding near a building this spring.

chasing children, charging the school principal. In the ensuing uproar the calf was driven into the street. From there someone tried to herd it away from the school with a vehicle. The calf stumbled on the ice, fell down, and the vehicle slammed into the animal's shoulder and broke it.

Larson and state biologist Mike McDonald showed up about 1 p.m. The calf was down and could not

rise. Like horses, moose with broken shoulders or legs rarely heal. A moose in Anchorage with a broken limb would likely starve or be harassed to death by dogs. So the calf was shot and killed.

During his investigation of the calf's death, Larson tracked down the driver of the vehicle involved — but concluded no crime had been committed. The person had been trying to protect the children and

was only driving 15 mph. "It was someone trying to help out."

People Deserve The Blame

In a town where too many moose compete for too little natural food, the Mountain View moose found a cornucopia of fabulous and juicy eats. Who can blame them for staying in Mountain View? No moose alive would choose sinewy willow twigs over Carrs carrots.

The people who fed them undoubtedly had good intentions. After all, weren't they just feeding hungry animals during a tough winter? Was that, in itself, such a bad thing to do?

But however innocent and well-meaning the impulse, feeding wild, 800-pound animals in a neighborhood full of children can only lead toward one end.

Left alone, those moose might have starved, though probably they would have struggled through the winter alive. People were repeatedly warned that the moose would end up dead if people didn't stop feeding them. If there's a lesson, it must be this: people will behave like people, and moose will behave like moose. The feeding didn't stop. And the moose died as a result.

The Elk-Ranch Boom

By Ted Williams

Elk ranching is thriving. But is it a livestock bonanza or a wildlife disaster?

FEBRUARY 13, and already spring is busting out all over central Colorado. Flights of horned larks, carried like cottonwood leaves on the sweet Chinook wind, swirl over

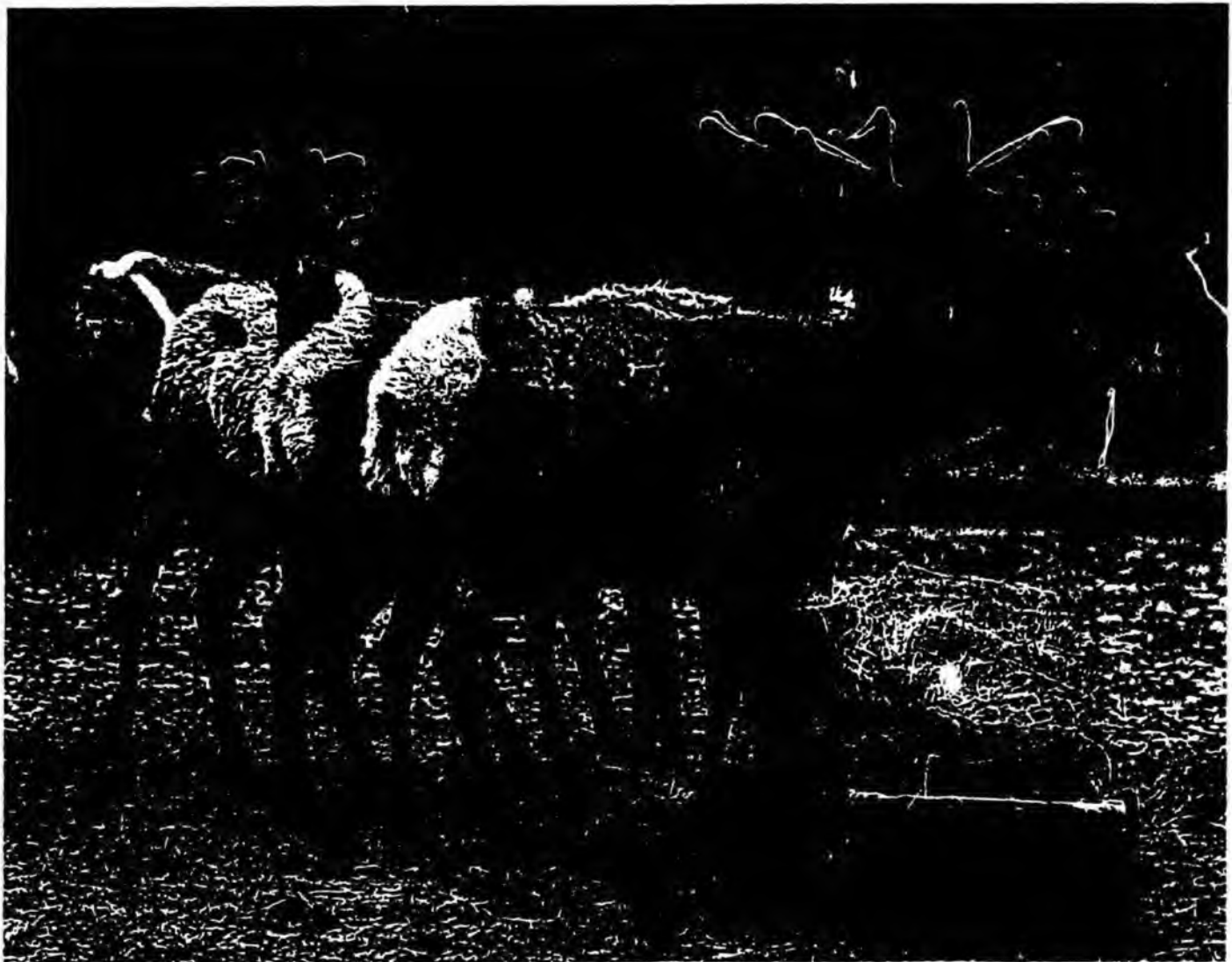
muddy pastures; and along the creek beds, burbling redwings ride bobbing cattails. In front of us Long's Peak rises white and cold; behind us red sandstone cliffs are washed in

muted sunlight. With my companions—Rick Kahn and John Seidel of the Colorado Division of Wildlife—I hike up into the realm of the wild elk. But now it is the realm of captive elk, too.

The yearling bull pushes his glistening black nose through the wire fence and browses the collar of my nylon parka.

When I step back he rolls his eyes, showing the whites the way wild elk do, then butts me with the painted stumps of his amputated antlers. A plastic square with a "1" on it dangles like an automobile air freshener from his left ear, and both ears carry punch-through metal tags. His neck is bare with mange.

Not having been bottle-fed, the other elk in the pasture hang back; but their coats are ratty, too. Human-habituated cervids are not, as the ranchers like to call them, "domesticated," nor will they be for thousands of generations. So while they may appear calm as cattle, there's a stress factor that shows up in their general condition. Further, they seem to have difficulty assimilating trace elements, and parasite



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PATRICK DAVISON/RE

avy. biologists, Kahn don't like to see als confined, but they fighting elk 's too late for that. hey are trying to the new industry in protect Colorado's ee elk—the most ate or Canadian Kahn had apolo-taking me to this er ranch because

maladies and enhance sexual prowess. The state commis-sioner of agriculture was on hand to welcome us to the "Elk Capital of the World," so called for its free, not cap-tive, elk. He was, he said, "proud" and "excited" to be associated with an industry so "dynamic" and "innovative," one that "epitomizes" agricul-tural diversification and has "blazed a trail" for the rest of agriculture.

dynamic and growing. And let me tell you, you just have to grab and get ahold of yourself because the speed at which these things are happening is phenomenal."

How right he was. In 1990 elk breeders powwowed to set up an organization that would promote their mutual inter-ests, i.e., procuring a bigger chunk of the Asian antler market. Then there were 17 members. Now there are 700

and they control about 85 percent of the 20,500 cap-tive elk in North America, 17,000 of which are incarcer-ated south of th Canadian line.

Sounds impres-sive un-til you

consider that there are 1 million Euro-pean elk, better known as red deer, under fence in New Zealand.

Later there were speeches, seminars, movies, open bars, exhibits, and a lav-ish banquet of elk steaks—the best red meat that ever passed my lips, after Yankee whitetail. There were auctions, too, in which members bought live brood stock from around the country, shown live by satellite on TV screens, and elk-product gew-gaws lofted about the room.

President Withiam offered "two ampoules of semen rated 'excellent' in motility, volume, density, and morphological evaluation." This from his prize bull elk "Northern Exposure," sired by the great "Kojak."

We had lots in common, these elk ranchers and I. For instance, we adored wild cervids and were bored by domestic ungulates. I liked everyone I met. They struck me as more animated and, well, smarter than other stockmen; and certainly I couldn't blame them for want-ing to diversify. Environmental-ists had been nagging them about their cattle, trying to push grazing fees on public land closer to fair market value and chanting "Cow Free by '93." With America sour-ing on beef and even cowboys, a light bulb switches on in the intelligent rancher's head when he looks out his bed-room window and sees a wild

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animal worth \$8,000 grazing on the far side of his barbed wire.

Recently, environmentalists have been nagging ranchers about their elk, too. When NAEBA members asked for my opinions, I told them I hadn't come to Colorado to lecture but to listen and learn. When they pressed, I admitted to harboring grave concerns about the commercial-ization and privatization of any native fauna—an approach that has failed spectacularly in Europe and that clashes with 75 years of suc-cessful wildlife management on this continent. Amidst all the excitement and festivity and happy, positive, can-do attitudes, it pained me to throw in with the forces of negativism. But I suppose that's the lot of environmental reporters these days.

Regular reporters as well, according to the Colorado Elk and Game Breeders As-sociation, whose officers I met at the convention. "As we all know, the press loves to



re so well has to be present- ne others, were too of Denver to make it the down- adisson in the grand g of the American eders Asso- 's annual tion.



Above: Antlers are cut from an anes- thetized elk with a common wood saw, then sold to Asian buyers for use in medicines and aphrodisiacs. Left: A de-antlered bull in Alberta, Canada. Opposite: Elk, with antlers in the vel- vet-covered stage, feed on hay at a ranch in Checker- board, Montana.

NAEBA convention's was "Elk! Livestock of ture." But unlike live- captive elk usually aren't instead, their antlers t off in the blood- ed, velvet-covered stage onsumed by Asians in he: that they ward off

Association president Sam Withiam, a beaming, white- haired Santa Claus of a man, warned about the forces of negativism that want "to see this industry fail and would enjoy seeing it fail." The asso- ciation, he declared, is "an agent of an industry that is

"Should be read by every
nature-oriented citizen."

—Roger Tory Peterson

BIRDS IN JEOPARDY



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of the United States and Canada
Including Hawaii and Puerto Rico

Paul R. Ehrlich, David S. Dobkin,
and Darryl Wheye

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distort and emphasize the negative," proclaims the group's publication, *Elk Family News*. The *Denver Post* had reported that two former members were "fined" \$6,450 each after the state accused them of luring 25 free elk into pens. The real story, reveals *Elk Family News*, is that the two ranchers "each donated \$6,450 to Operation Game Thief." Technically correct, although the "donation" was part of an agreement in which they pleaded guilty to illegal possession of elk for sale.

"Never trust the media's intentions," instructs NAEBA's quarterly magazine, *North American Elk*. And by all means keep it away from "velveting" operations (cutting antlers in the marketable "velvet"

able resource goes from excellent to good to poor to worthless. Do it right and you can make as much as \$110 a pound. Sometimes antlers get bacteria inside them, but you can sort these in the drying room—with your nose. ("It's the rottenest stink you ever smelled," said a convention panelist). Throughout the week I learned lots more about velveting, but it is hard for the public to comprehend its true nature. So hard, in fact, that when I attended a session on the subject I was asked to turn off my tape recorder.

So I took careful notes during a session entitled "Starting an Elk Farm—The First Two Years." The panel included a hunting outfitter who spoke about the booming trade in "shooter bulls," geriatric elk shot in enclosures by trophy hunters [see "Canned Hunts," January-February 1992]. "It's a manage-



Working from the back of a pickup truck, Dean Baumann feeds oats to the elk herd at his Alberta ranch, where he has built a \$275,000 "velveting" facility for cutting antlers and where he has hosted a major antler auction.

ment decision," he explained. "If he's absolutely prime, has a Boone and Crockett rack, I'll pay twelve thousand dollars for him. Is three thousand dollars' worth of horns this year worth a gamble on keeping him another year, when you can put twelve thousand dollars in your pocket?"

I learned even more at the bars and display booths. But when I asked about the dangers to free cervids posed by genetic swamping, disease, and the new infrastructure for laundering stolen wildlife, the ranchers got tight-lipped and testy. "The people worried about that stuff never had shit on their boots or signed a paycheck on the back," boomed NAEBA board member Bob Spoklie, of Antelope, Montana, a square-jawed man with green eyes and steel wool hair who looks as if he just stepped off the *Gunslinger* set. In addition to annually harvesting 200 antlers from his own herd (more than any operation in the United

stage). Otherwise, the public will be reading such descriptions as this, from the October 16, 1989, *Albuquerque Tribune*: "The body of the drugged animal leaps. Its hooves paw the ground. . . ."

Velveting, at least as it is now practiced by most NAEBA members, is no more inhumane than any of the other things people do to livestock. The bulls are thoroughly anesthetized. Occasionally they are turned on their sides so more of the highly valued blood, from which the medicine supposedly gets its potency, will drain into the still spongy antlers. Sometimes Asian buyers hover around, asking to imbibe the raw liquid as it spurts from the antler stumps. ("I can't stand that—to see them guys drinking that," one rancher told the *Tribune*.)

You have about four days to velvet, during which the quality of this renew-

ment decision," he explained. "If he's absolutely prime, has a Boone and Crockett rack, I'll pay twelve thousand dollars for him. Is three thousand dollars' worth of horns this year worth a gamble on keeping him another year, when you can put twelve thousand dollars in your pocket?"

I learned even more at the bars and display booths. But when I asked about the dangers to free cervids posed by genetic swamping, disease, and the new infrastructure for laundering stolen wildlife, the ranchers got tight-lipped and testy. "The people worried about that stuff never had shit on their boots or signed a paycheck on the back," boomed NAEBA board member Bob Spoklie, of Antelope, Montana, a square-jawed man with green eyes and steel wool hair who looks as if he just stepped off the *Gunslinger* set. In addition to annually harvesting 200 antlers from his own herd (more than any operation in the United

States, Spoklie canvasses the northwestern quarter of the nation, from Minnesota to Washington, collecting frozen velvet. He is honest, hardworking, and well respected in the industry. Recently he installed his own drying

The antlers are cut off in the blood-engorged, velvet-covered stage and shipped to Asian markets.

facility and staffed it with Koreans, some of whom were brewing up pungent antler tea at a convention booth. "Who are we to say it doesn't work?" he said.

But Spoklie hasn't used the stuff. I have. Sunny Chae showed me the ingredients—thin slices of dried antler perched like burned potato chips on a rat's nest of twigs, leaves, bark, and berries. "No," she said when I pointed suspiciously to the black, shiny pellets, "they are not elk droppings." She prescribed the \$400 dosage; I opted for the \$10 shot. Even this, said Sunny Chae, was a powerful aphrodisiac, and more important to me at the moment, it would cure my cold.

"Is your wife with you? This could get ugly," commented the rancher behind me as I pinched my nose and gulped. She wasn't and it didn't. During the rest of the evening I felt no more passionate than usual, and the next morning I awoke with clogged sinuses.

By far the most vocal opponent of privatization and commercialization of wildlife—the man elk ranchers love to hate—is Valerius Geist, 54, the ecologist who directs the Environmental Sciences Program at the University of Calgary, in Canada. Whenever an interview started to bog down, I'd bring up his name. It was like whistling "Marching Through Georgia" to the Savannah Elks Club.

"Valerius Geist! I'll tell you, the man is crazy," cried Welch Brogan, 54, when I phoned his ranch, in Corwin Springs, Montana. "The man is a radical."

The "Canadian Update" session was positively abuzz with talk of the vile and evil Geist. Wilf Jurke, president of the Saskatchewan Game Farmers Association, explained how this "self-acclaimed alien from another planet" had incited

the Canadian Wildlife Federation to raise \$1 million to sabotage game ranching and was helping it spread "half-truths and total lies," and how his group had "contacted one of the best lawyers in Saskatchewan" to write Geist a cease-and-desist letter.

Scarcely anything that walks or haunts this earth frightens Val Geist, least of all gored elk breeders brandishing puffy letters. His strong spine and custom of saying precisely what he believes make him aberrant in the wildlife business, where the meek and manageable rise fastest and highest. "Do we endorse the bestial cruelty to elk on Canadian game ranches in order to fatten the profits of whorehouses in Seoul, Hong Kong, Bangkok, and Tokyo?" Geist demanded of the Canadian minister of the environment.

Geist may be a radical, but he is not, as his enemies contend, a crackpot or a charlatan. One of the most respected wildlife professionals on the continent, he has worked with Ian McTaggart-Cowan and Konrad Lorenz, serves on all manner of international committees, and has advised foreign governments. "The consequences of game ranching were predictable and have been borne out entirely so far," he wrote last November, "only earlier and worse than predicted, even by pessimists."

What does frighten Geist is red deer, the European subspecies of our elk—at least when they are shuttled about the planet in the deadly shell game humans play with plants and animals. Red deer are redder than elk, thinner in the shoulders and hips, with antlers that rise more vertically. They don't "bugle," they "bellow"; and when they duel they don't lock up and push, they thrust and parry. Bull elk refuse to fight them. In fact, if a rutting elk hears a red deer bellow in another pasture, he'll lie down. So when an escaped red deer stag meets a band of elk, he absconds with the females and breeds them all.

At Wildlife Division headquarters, in Denver, I sat at Rick Kahn's desk as he showed me a computer model of what would befall 500 Rocky Mountain elk if one were to unleash upon them 10 red deer. In 30 years, 95 percent of the herd

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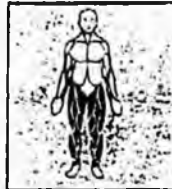
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INCITE

wouldn't be elk anymore. They'd be something else, something less—mongrels. This disturbs Kahn and his colleagues, because they know that the only real guarantee you get with "game-proof" fencing is that sooner or later it

do in the wild," he pronounced. "interbreed, what are they going to do? There was nothing left for me to do but were speaking different languages.

One thing they might do, even if breeding doesn't occur, is contaminate with a nasty little nematode *Elaphostrongylus cervi*, which, in the early stage, lives in snails and slugs. Red deer in Europe and New Zealand acci-



A worker unloads a pile of "hard" lumber at a warehouse in Ennis, Mont. Although not as highly prized as those in the virgin stage, these are sold to South Korean pharmaceutical firms.

ingest these and snails and their browsed young worms penetrate the gut

will be breached by water, wind, snow, fire, vandals, or free elk sparring with captives; and because they see in their native elk a treasure more valuable than trophies, venison, or even antlers, a treasure that belongs not just to Colorado but to the planet.

So in late 1990 they set about testing Colorado's captive elk for red deer genes. Fourteen percent of the animals checked turned out to be hybrids. These the state ordered deported, paying the ranchers the difference between what they could hawk them for and their alleged worth. The bill came to half a million dollars.

But elk ranching can't really make it in North America

without red deer. Or so says the man who should know best—Mike Bringans, the young, affable vet from New Zealand (and more recently Ontario) who supervises the care and artificial insemination of some NAEBA elk. Reds, he told me, are cheaper, gentler, and more adaptable to diet. When you cross them with elk, "hybrid vigor" ensures faster growth. "What about genetic pollution of free elk?" I asked.

"Tell me what genetic pollution by an animal that looks like an elk is going to

and migrate to the spinal cord, brain muscles, where they mature and lay eggs. Larvae flow with the blood to the lungs and are coughed up in sputum, swallowed, and shed with the feces. They then attract slugs and snails. Red deer can usually handle *E. cervi*. Domestic American cervids have no natural immunity and very likely can't.

So last November ranchers and managers were appalled to learn the test by which they'd been confident: identifying red deer *E. cervi*-free and shi-

The only real guarantee you get with "game-proof" fencing is that sooner or later it will be breached

them around the continent was unworkable. But at least the hosts and many worms were being kept within game-proof fences. Except, of course, at Colorado's Eagle Rock Ranch, where a flash flood had taken out the game-proof fence, and where red deer, along with sorts of other weird exotics used in canned hunts, were reproducing in the wild. Then in October, *E. cervi* showed up in three red deer held in New Brunswick. Solution: The three were immediately killed, and the remainder of the herd

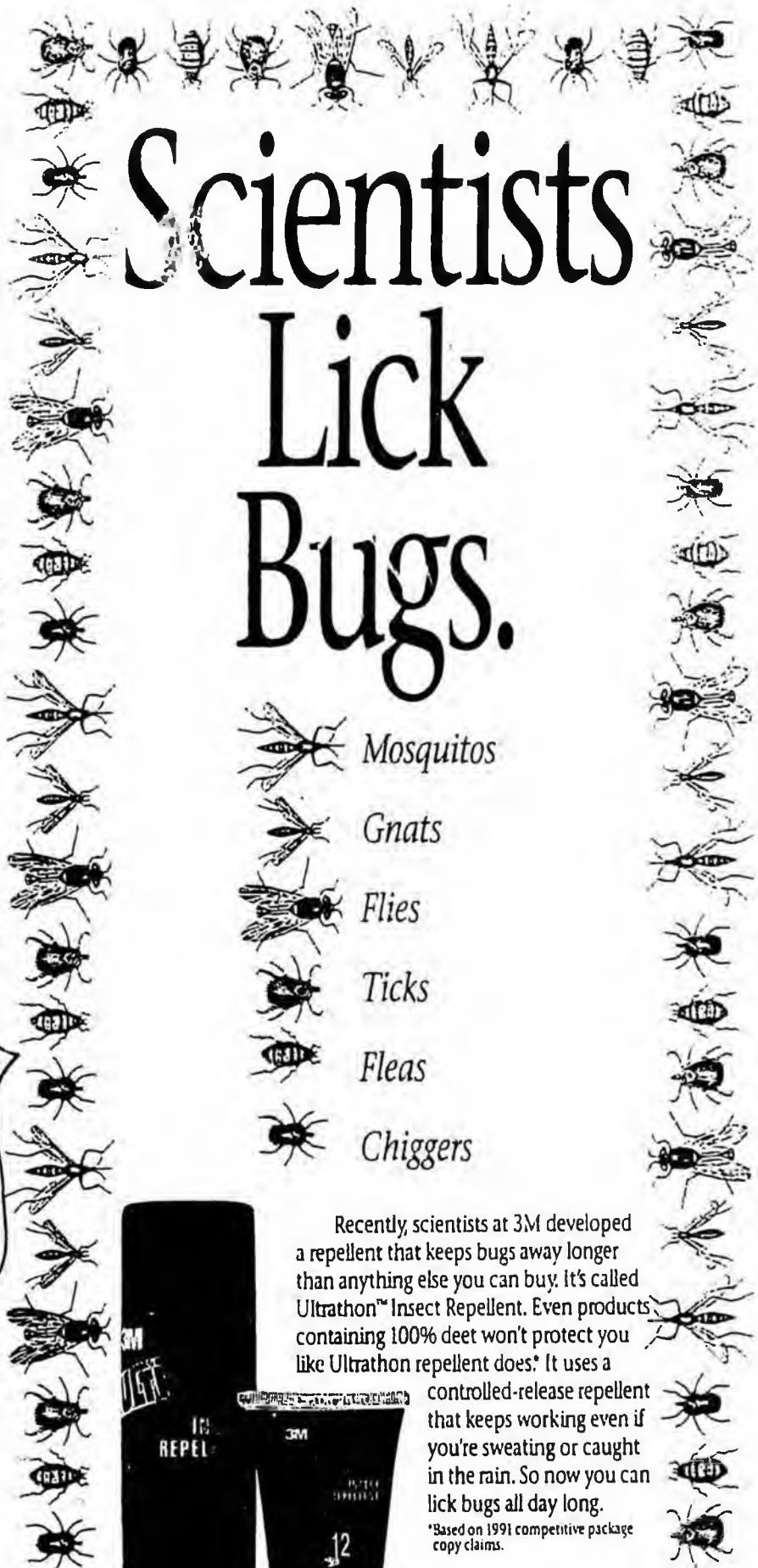
taken to Ontario for routine slaughter.

All the red deer arrived safely in Ontario—whereupon 91 escaped, taking up residence in the woods before eventually being hunted down and shot by game managers on foot and in helicopters. No *E. cervi* were found in the carcasses. If any infected feces were deposited, they will remain contagious for three Canadian winters.







Wildlife advocates west of the Great Plains are even more terrified of *E. cervi*'s cousin, the North American brain worm. Eastern white-tailed deer, which evolved with brain worms, aren't bothered by them. However, probably because the Great Plains are too dry to support many slugs and snails, brain worm doesn't occur in the West. If it gets there, it will devastate mule deer, elk, moose, caribou, mountain sheep, and mountain goats. So after Alberta rewrote its Wildlife Act to permit private ownership of public wildlife, it required game ranchers wishing to import stock to certify that it came from somewhere west of brain-worm land. Unfortunately, reports Margo Pybus of the provincial Fish and Wildlife Division, some of them cheated, laundering eastern game through western ranches. As a result Alberta closed its borders to all captive big game in 1988.

Another nasty creature threatening North American wildlife is the bacterium that causes bovine tuberculosis (TB). Elk, moose, and caribou are especially susceptible because they evolved in the dry, cold climate of Siberia, where pathogens were scarce and strong immune systems superfluous. Captive elk spread TB by mutually grooming open sores and by dripping contagious saliva, feces, pus, and probably urine.

"I don't know what we'll do if TB gets established in wildlife populations," remarked the thoroughly unexcitable Mitchell Essey, senior staff veterinarian for the USDA's Animal and Plant Health Inspection Service. "No one knows how we'd control it if it got into elk herds like those in Yellowstone National Park. The potential ramifications are almost inconceivable." Unfortunately, the USDA has no jurisdiction over cervids because they're not "livestock." Responsibility lies with the states, which don't like to dispatch TB carriers because they fear the courts will force them to pay compensation. Two years ago ranchers and game



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managers were appalled to learn that the test by which they'd been confidently certifying elk TB-free and shipping them around the continent had been detecting only about 20 percent of the cases.

Having been in the business 46 years, Welch Brogan is the grand old man of North American elk ranching. He says he's had problems with some of the statements the state veterinarian has made to the press about his TB-infected elk, now under quarantine. It has, however, been documented by U.S. and Canadian wildlife and health authorities that Brogan shipped 18 elk to Alberta in 1988, and that they were later diagnosed with TB. Some U.S. and Canadian officials believe that TB had arrived at Brogan's ranch a year earlier via a shipment of 27 infected elk from Nebraska.

During the last two years Canadian officials have found TB in pigs, cattle, bison, and deer. Infected animals destroyed to date, costing the Canadian government \$10 million in compensation, include 2,200 elk—close to half of Alberta's captive herd. At this writing the disease has been seen in captive game in 5 Canadian provinces, from New Brunswick to British Columbia, and 14 states, from New Jersey to Oregon.

But the threat extends beyond livestock and wildlife. The disease can be contracted by humans who handle a host, inhale its breath, touch its body fluid, or drink its unpasteurized milk. It used to be rampant in its native Europe, where, according to a report in *Time* magazine, it may have caused lesions on Joan of Arc's brain and other organs, bringing on her visions and loss of menstruation. The recent outbreak in Alberta quickly spread to farmers, vets, postmortem technicians, meat inspectors, and tanning-plant workers, most of whom were put on preventive medication but at least one of whom developed the actual disease.

If TB does get a toehold in the wild, Geist predicts, then "in national parks tame, infected elk, dripping contagious body fluids, will mingle with the public on golf courses, lawns, picnic grounds,

campgrounds, promenades, even school yards."

Because Yellowstone elk play in Brogan's backyard, wildlife officials were hoping he'd tend his game-proof fences. Alas, there has been ebb and flow between Brogan elk and public elk. Brogan told me he's been offended by statements made by the local game wardens, who, like the state vet, "get carried away with stories" when they talk to the press. However, the Montana Sixth Judicial District Court told this story as a "finding of fact": "The defendant [Brogan] within a few minutes after the game wardens left his home drove up through the 'cow' pasture to open the gate on the triangular pen and herd out the wild elk he had lured onto his premises . . . by leaving the gates open, baited with hay." On September 5, 1991, Brogan was found guilty of "capturing over eighty head of wild elk for use in his game farm business."

Brogan is the exception, not the rule. Were he an NAEBA member, he could be summoned before the organization's board of directors for possible reprimand, suspension, or expulsion. In all aspects of their privatization and commercialization of public wildlife, elk ranchers of the NAEBA want desperately to be responsible and ethical. The tragedy for them, as well as for wildlife and the public, is that the nature of the business makes this impossible.

According to the state of Colorado, TB bacteria allegedly hitched a ride from the Brogan ranch to the Royal Elk Ranch in Powderhorn—another atypical operation whose owner, accused by the U.S. government of passing cocaine and converting his barn into a "hydroponic laboratory for the growing of marijuana," also is not an NAEBA member. The point, though, is that pathogens, parasites, and alien genes don't care who's typical and who isn't.

Recently the Division of Wildlife gravely offended the NAEBA by showing slides of TB eradication at the Royal Elk Ranch, where it killed and burned 52 animals. In one photo a firestorm rages around the carcass of a diseased bull. But through the flames, standing as tall and beautiful as Joan of Arc, is a pair of perfect antlers. Antlers worth perhaps \$2,500. It was the most powerful image I took home with me. ❧

The Anchorage Times

Publisher: BILL J. ALLEN

"Believing in Alaskans, putting Alaska first"

Editors: DENNIS FRADLEY, PAUL JENKINS, WILLIAM J. TOBIN

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Let moose roam loose

TUCKED AWAY in the House Resources Committee awaiting hearings is a reprehensible piece of special interest legislation that runs counter to most sound game management principles.

The measure, already approved by the Senate, would clear the way for moose farms in Alaska to benefit only the few people who are pushing to make a buck at our expense.

This bill, which crawled from beneath a rock as SB46, would allow private individuals to acquire from the state "surplus" moose to begin fenced-in game farms.

The Alaska Department of Fish and Game, up to a few weeks ago, vociferously opposed such legislation for a variety of very good reasons. Those include:

- Large, fenced tracts would interfere with the movement of other species in the area.
- Moose are not herd animals. For the most part, they are solitary.
- Biologists say the most productive habitat in Alaska can support only six or eight moose per square mile in the long winter months, and Canadian researchers say packing them together increases disease transmission which could infect wild stocks.
- It would increase the poaching and sale of meat from wild moose.
- The agency would have little say in regulation of moose farming schemes.
- The economics of moose farming make it almost a certainty such ventures will fail.

And, presumably, we could in the future see moose tied up for viewing at tourist traps along the highways of Alaska, just as other states have had bears, alligators and other wild animals caged and subjected to this form of cruelty.

Before Alaska decides to go along with this scheme, it should note there are no viable commercial moose farming operations anywhere, and for good reason. And many states that have allowed such ventures with other species now find themselves searching for ways to get rid of them. In the former Soviet Union, they tried for decades to domesticate moose before the idea was abandoned as impractical.

Oddly, the Department of Fish and Game — adamant until a few weeks ago on the moose farming question — now is strangely neutral on the subject. Maybe having its budget trimmed by \$3.3 million in Senate Finance played a role, or maybe it was having its world-class Moose Research Center in Kenai zeroed out of the budget.

If the agency that is supposed to be the authority on moose in Alaska now finds itself somehow choked into silence by Senate purrestrings, let us speak up in its behalf.

Game ranching is a lousy idea designed to benefit a few while costing the rest of us in resources, time and money. If you value Alaska's wildlife resources, let your legislators know.

Ap. 9, 1993

TB outbreak scares wildlife managers

Disease could be devastating to wild elk & deer herds

By Steve Merritt

The threat of disease and parasites associated with the game ranching industry and their potential impact on wildlife and domestic livestock has long caused concern among wildlife managers and cattlemen. Game ranching advocates say these concerns are being blown out of proportion, that the facts are being sensationalized in an effort to diffuse the efforts of would-be game ranchers who simply want to diversify agriculture. The debate continues - are disease and parasite concerns really something to be worried about?

Today, more than ever before, it appears the answer to that question is yes.

Today, the game ranching industry is in the midst of a serious world-wide outbreak of bovine tuberculosis (TB), and the disease is rapidly spreading through game ranches across North America. The ramifications for wildlife are relatively unknown but potentially very serious; more is known about the risks to the cattle industry, where the ramifications are equally serious.

Nearly all of Wyoming's immediate neighbors have had recent problems with TB linked to game ranching operations:

- Officials in Montana and Colorado have had to quarantine and destroy TB-infected game ranch animals; investigations and testing to locate other infected or exposed animals are still being conducted.
- Officials in Nebraska had to destroy infected game ranch animals as well as 115 head of cattle that were apparently infected by the game ranch animals.
- A TB-infected beef cow imported from Alberta, possibly linked to a widespread outbreak of TB in Canada, was recently discovered at a slaughterhouse in Utah.
- South Dakota officials recently quarantined a game ranch with red deer and elk suspected of TB infections; cattle on the ranch are also under quarantine.

TB problems have also surfaced in Washington, Oregon, Oklahoma, Texas, Missouri, Iowa, Wisconsin,



A Colorado Division of Wildlife employee uses an ATV to drag a bull elk closer to veterinarians performing necropsies on a captive elk herd that was slaughtered because of bovine tuberculosis. One captive herd of game ranch elk in Colorado was completely destroyed, two others were quarantined and several others are suspected of exposure to the disease. Wildlife managers say they don't know how a disease like bovine tuberculosis could be controlled if it becomes established in wild, free-ranging elk herds.

Florida, New York and New Jersey. Several Canadian provinces, including Alberta, Ontario, Manitoba, New Brunswick, British Columbia and Saskatchewan, have been hit as well, with major outbreaks reported in Alberta and Ontario. Many experts monitoring the situation expect more infected ranches to soon be added to the rapidly-growing list.

The WG&FD's concern about TB obviously centers around wildlife, but its concern doesn't end there. The outbreak is also posing a major risk to the livestock industry as well as to human health.

IMPACTS ON WILDLIFE UNKNOWN

The possible ramifications TB has for free-ranging wildlife - specifically, cervids like elk and deer - are relatively unknown. Some experts claim the risk of passing the disease to wildlife is minimal but

possible. They say TB has evolved over thousands of years specifically to infect cattle and that any infection in wildlife populations would be self-regulating. Other experts say TB can be passed to wildlife and that the end result can be disastrous.

Dr. Mitchell Essey, senior staff veterinarian for the USDA Animal and Plant Health Inspection Service's cattle diseases and surveillance staff, is one of the experts convinced that TB, if established in wild elk and deer, would be an unparalleled wildlife catastrophe.

"It's a picture you can paint as black as you want because that's the way it would be," Essey said. "I don't know what we'd do if TB gets established in wildlife populations - no one knows how we'd control it if it got into elk herds like those in Yellowstone National Park or in the Gunnison (Col.) area. The potential

ramifications are almost unconceivable."

Dr. Victor Nettles, director for the Southeastern Cooperative Disease Study, says Wyoming has "a perfect scenario for transmission from animal to animal."

"Tuberculosis is a valid concern, especially in your state because of the large number of elk and the presence of feedgrounds," Nettles said. "Wyoming is probably more vulnerable than any other state in the nation."

Margo Pybus, wildlife disease researcher for the Fish & Wildlife Division of the Alberta Department of Forestry, Lands and Wildlife, agrees that the problem could potentially be very serious for wildlife but thinks the risks of

See TB, page 8

HUNTING · FISHING · TRAPPING

The Wildlife Trust Account: what it is and what it does for Wyoming's wildlife

Playing the drawing odds game: how to avoid the no draw blues

Record book elk taken by Powell man



A study of the prevalence and economic significance of diseases and defects of slaughtered farmed deer

8/20/91

P. Selwyn* and S. Hathaway^{1,2}

Abstract

A survey was undertaken in a deer slaughterhouse to record the diseases, defects, and productivity-related information that were detectable at postmortem meat inspection. A total of 4762 farmed deer were surveyed in 1988-89 over the period of highest throughput (October-January). Comparative data were drawn from a further two deer slaughterhouses and from national disease and defect statistics for slaughtered cattle. Farmed deer had a very different disease and defect status compared to cattle. Wounds and bruises disease and defect statistics, and resulted in an average loss of 26.9% in carcass value over all

Probable malignant catarrhal fever in a sika deer from an Alberta game farm

6/17/92

David L. Fritz, Michelle S. Mostrom, Leonard E. Lillie, Robert W. Coppock

Malignant catarrhal fever (MCF) is a frequently fatal, sporadic disease characterized by generalized, fibrinoid necrotizing vasculitis (1). The disease:

expiratory grunt. Blood-tinged mucus drained from one nostril. On day 5, there was no ruminal or gastrointestinal motility. Death occurred on day 6. The three



SCWDS BRIEFS

A Quarterly Newsletter from the SOUTHEASTERN COOPERATIVE WILDLIFE DISEASE STUDY COLLEGE OF VETERINARY MEDICINE THE UNIVERSITY OF GEORGIA

Gary L. Doerer, Editor ATHENS, GEORGIA Phone (706) 542-1741 FAX (706) 542-5865 Volume 8 April 1992 Number 1

Malignant Catarrhal Fever

During December 1991, a private veterinarian in Andalusia, Alabama, contacted SCWDS because one of his clients had death losses in captive wild deer. After state authority examination, the deer was found to have died at the game farm. In addition to our native deer, animals used in game farming such as axis deer, sika deer, red deer, blackbuck antelope, and bison also are susceptible. All of these animals suffer irreversible, fatal disease. The risk of virus transmission is enhanced by confinement near sheep or zoological animals of the wildebeest subfamily (wildebeest, topi, hartebeest, blesbok). For example, an MCF outbreak killed 23 of 28 white-tailed deer in a small New Jersey zoo in 1990 (see Journal of Wildlife Diseases, April 1992). In the recent case in Alabama, the potential for MCF virus exposure at the auction cannot be ignored, but the animals could have been infected prior to passing through the sale barn. Increased marketing of captive ruminants for game farming is likely to continue and could result in a greater prevalence of MCF. Persons should be alert to this disease and contact state or federal authorities when MCF is suspected in any captive wild ruminant.

...continued

Gross and microscopic lesions of naturally occurring tuberculosis in a captive herd of wapiti (*Cervus elaphus nelsoni*) in Colorado

Jack C. Rhyan, Dennis A. Saan, Elizabeth S. Williams, Michael W. Miller, Arthur J. Davis, Arach J. Wilson

Abstract. A *Mycobacterium bovis*-infected herd of captive wapiti (*Cervus elaphus nelsoni*) depopulated after lesions of bovine tuberculosis were confirmed in 8 of 10 tuberculin-tested animals. Of 43 animals >1 year of age, 26 had gross lesions suggestive of tuberculosis, 23 had acid-fast bacilli associated with the lesions. Lymph nodes were the most frequently affected sites. Most lesions grossly and microscopically resembled abscesses or ovine caseous tuberculosis. However, some lesions resembled abscesses or ovine caseous tuberculosis. However, some lesions resembled abscesses or ovine caseous tuberculosis. However, some lesions resembled abscesses or ovine caseous tuberculosis.

Until recently, bovine tuberculosis was an unusual and sporadic disease in captive animals. With recent developments in the prevalence of tuberculosis in captive animals, the disease has become a significant problem.

Reports on Wildlife and Laboratory Animals of *Yersinia pseudotuberculosis* in a wildlife park

Elv. DVM, PhD, R. J. Holland, DVM, Animal Disease Diagnostic Laboratory where determined to be caused by *Yersinia pseudotuberculosis*. Also during the same analysis issues for petting zoo were 20 miles of the

Colorado was visited. Of the lesions of the lymph nodes in cattle, 1 immu-

the Park parts of North

Mycobacterium bovis infection in North American elk (*Cervus elaphus*)

Charles O. Thoen, William J. Quinn, Lyle D. Miller, Larry L. Slackhouse, Bradford F. Newcomb, James M. Ferrell

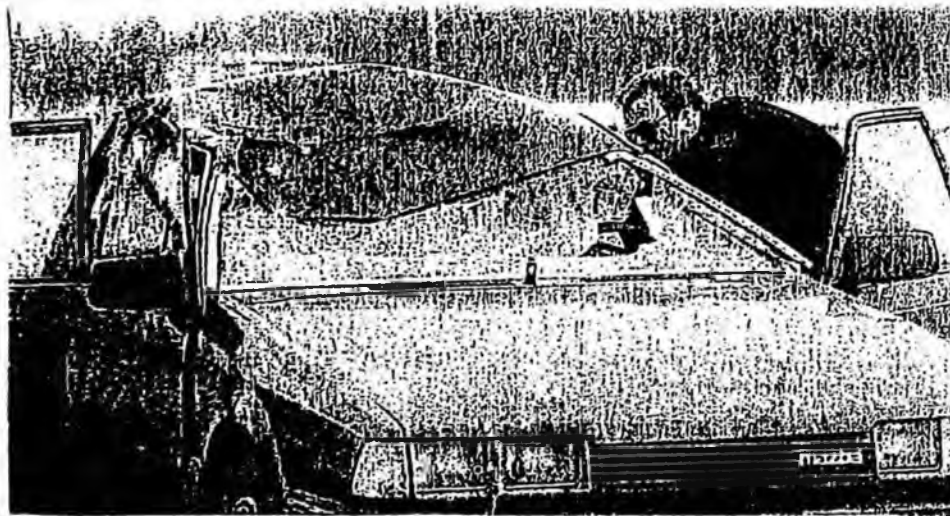
Abstract. A naturally occurring outbreak of *Mycobacterium bovis* infection in captive wild elk (wapiti) in Montana was confirmed by mycobacteriologic examination. Twenty-eight of 143 elk responded to *M. bovis* tuberculin test (PPD) tuberculin injected intradermally in the cervical region. In the comparative cervical tuberculin skin tests conducted within the PPD tuberculin test.

Mycobacterium bovis infection in a captive herd of Sika deer

Michael L. Mirsky, DVM; Daniel Morton, DVM, PhD; John W. Piehl, DVM; Howard Gelberg, DVM, PhD

A 3-year-old male Sika deer from a small, privately owned herd in central Illinois.

8/20/91



AGAINST THE ODDS



Go figure. When winters are harsh and the snowfall is deep, there are record numbers of moose killed on Alaska's roads. But when the winter is mild and the snowfall is minimal, the same amount of moose get smacked by cars and die.

Consider this winter — one of the tamest in recent memory, with only 29 inches of snow fallen in Anchorage. And yet, there have been 100 moose killed on Anchorage roads alone this winter, according to Alaska Department of Fish and Game statistics. That's 10 more than were killed last winter, 10 more than the winter of 1991-92 and only eight less than the record of 108 moose killed in 1989-90, when the winter was particularly harsh.

And with two months of winter remaining, area biologists are concerned the tally might surpass 108.

It's happening up and down the highway in the Interior and in southcentral Alaska — from Fairbanks, through the Matanuska Valley and southward to Kenai — there's an unexpectedly

**THIS YEAR'S
MILD WINTER
HASN'T
DONE MUCH
TO KEEP
MOOSE
ROADKILLS
DOWN**

BY JAY BLUCHER

high number of moose being killed on roads. And the biologists whose job it is to explain why are left scratching their heads, groping for explanations and offering several theories.

Palmer has registered 137 moose roadkills so far; Fairbanks, 261 and the Kenai region, which is averaging eight to 10 moose roadkills a week now, 199. And all locations are still counting.

Considering the warm weather and good driving conditions over most areas of the state this winter, it is surprising area biologists to see moose deaths so high, and so early.

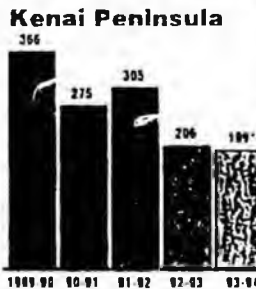
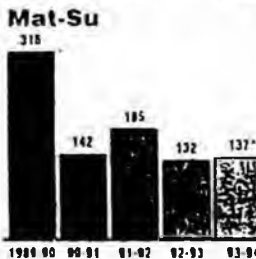
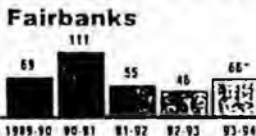
"That's the thing. The numbers are up and everyone sort of expects that given the nice weather we've had that the numbers would be way down — but it's not working out that way," said Fish and Game area biologist Ted Spraker in Kenai.

Kenai has an estimated moose population of more than 8,000, eight times that of Anchorage. And despite the fact that there are a lot fewer drivers in Kenai than Anchorage, the Kenai averages two times more moose killed on its roads than Anchorage, about 250 every winter

Please see Page F-2, ROADKILL

Moose roadkills

1989 through 1994



Through February 1994

Source: Alaska Department of Fish and Game data as compiled by State biologists

REVIN POWELL / Anchorage Daily News

ROADKILL: Mild winter hasn't done much to keep deaths low

Continued from Page F-1

since 1983-84, according to Spraker, with the exception of 1989-90, when 366 moose were killed.

"And here we are at 200 already, with a lot of winter still to go, so I expect we'll hit 250 easy," he said.

In a convoluted bit of logic, clear road conditions this winter and a healthy moose population on the Kenai may actually have contributed to the roadside carnage this year.

"When the roads are good, the bottom line is folks just drive too fast," said Spraker.

But even 200 is an unacceptably high number to Spraker, because he estimated the actual numbers of moose killed by cars are probably 20 percent higher than reported totals. Many more animals are unaccounted for because they don't die on the road. Many are hit, seriously injured and fall prey to predators.

All moose killed on the roads are put to good use. The state Fish and Wildlife Protection Office in Kenai maintains a list of more than 600 names of people willing to accept road-killed moose meat. Similar programs in Anchorage, Fairbanks and Palmer distribute the meat to various charitable organizations for distribution to needy people.

In the Mat-Su valleys, where both moose density and traffic volume is high, car-moose collisions are increasing, too. Yet assistant Fish and Game area biologist Mark Masteller is as much at a loss for ready explanations for the numbers as Kenai's Spraker.

"Perhaps it's because the weather's been so good this winter that

HOW TO AVOID MOOSE

- Reduce your driving speed to no more than 45 mph when visibility is reduced at night.
- Keep windshield and headlights clean at all times.
- Be sure your headlights are working. Promptly replace them when they burn out.
- Watch the sides of the highway and anticipate that a moose may step on the highway at any time.
- If one moose crosses in front of you, be ready for the second moose. Calves often trail behind the cow and panic when vehicles threaten to get between them and their mother.
- Think moose and be ready to give them a brake.

Source: Alaska Department of Fish and Game

more people have been out driving than if the conditions were bad, so maybe that's got something to do with it, too," he said.

There's even a sign posted on the Glenn Highway near Palmer as part of a public awareness program known as "Give Moose A Brake" to educate drivers to the hazards of driving with no regard to moose. This running tally sheet of road-killed moose offers a grim daily reminder to commuters that 137 area moose have been hit by cars so far this year.

"Signs get ingrained after a while and pretty soon, drivers don't pay them any attention. They may slow down just after the sign perhaps, but then it's back to driving as fast as usual," said Masteller.

Another Fish and Game biolo-

gist, Rick Sinnott, in Anchorage, sounds a similar refrain. For the last five years an average of 95 moose have been killed by cars annually in the area between the Knik and Portage rivers.

"I'm really not sure why it's so high except that there's more moose, more people driving all the time and more of them seem to be driving faster," he said.

"We can't blame the weather this year, can we? Well, maybe we can, sort of, in a backhanded way, I mean."

Toby Boudreau, assistant area biologist with Fish and Game in Fairbanks, admits he's completely stumped for an explanation.

"The snow isn't deep here this year, so there's nothing driving the moose down from their winter ranges to the highway like in previous years, and their food supply is not limited. I just don't know why so many are getting hit," he said.

There also is a huge property and injury cost involved whenever car and driver collide with a moose. No one in either the automobile insurance industry or the state Department of Transportation can peg exact costs, but moose collisions have caused an estimated \$1 million in property damage alone every year for the last five years in the state, according to state transportation officials. Personal injury figures are anyone's guess.

While moose are often killed by the collision, more cars are totaled — the cost of repairs exceeds the vehicle's value.

According to Don Hunter, property claims superintendent for State Farm Insurance, a typical collision with a 600- to 800-pound

moose results in car repair bills that easily can exceed \$5,000. Repair bills of \$10,000 or more are common.

"It usually involves a total paint job as a minimum, and that will cost you \$2,000 right there," he said.

"The windshield is smashed, nearly always, and it either takes out the entire roof or pushes it back — and sometimes you'll even see an almost perfect impression of the moose's body left on the windshield of the wrecked car where it passes over the hood, but in general, it's terrible — a real mess. I recommend avoiding them."

Neither State Farm nor any other automobile insurance company in Alaska said it keeps specific statistics on the numbers of moose collisions annually.

But Tony Barter, chief of the traffic and safety division at the state Department of Transportation, said when fencing was installed on both sides of the Glenn Highway near Fort Richardson in 1989, moose collisions along this stretch of highway were reduced by 80 percent in the first year.

Miles of fencing in areas with a large number of side streets is not always a feasible or cost-effective option either, said Barter. Better lighting and wider cleared pat — 150 feet from the center line on both sides of the highway — are other possible options that have been successfully used in other areas to reduce moose roadkill.

"But ultimately, the responsibility still rests with drivers to slow down and to be alert in areas where moose are present in high numbers, which is just about anywhere you drive up here," he said.

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 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 multi-national corporation or millionaire 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.

Alaska could benefit from game ranching

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

After the large acreage transfers authorized under the historic land settlement act have been accomplished, the state of Alaska will own about 104 million acres, about 28 percent of the total Alaska land mass; Alaska Native people will own an additional 44 million acres, about 12 percent, or roughly 1/3 of all Alaska. Together the non-federal lands will represent a bit more than two-fifths or 40 percent of the total. The federal government will retain ownership of nearly three-fifths or 60 percent of Alaskan lands.

This vast acreage apparently is dedicated almost entirely to wilderness and wildlife purposes. Initially after transfer much of the land in Native private ownership will remain essentially wilderness with minimum use by people. Of the state's portion, nearly 1/2 has been classified for fish and wildlife. A tiny amount has been classified for agriculture, about 2 percent, and only 16 percent for commercial forestry production.

Then an inescapable fundamental top-priority question facing all Alaskans, including Native Alaskan com-

munities, is working out some reasonable balance in the use of their lands.

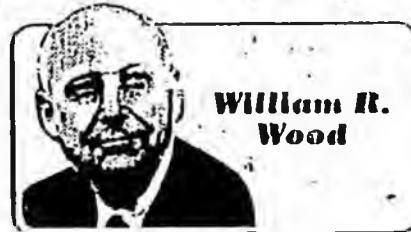
To resolve the fundamental "All Alaska" question will take more than emotionalism, fixed ideologies of any extreme, and selfish specialized interests, however attractive out of context, or in isolation from consideration of the general good.

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

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

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 enter-

prise game ranching 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.

FAIRBANKS NEWSMINER 17 NOV. 1982

Let ag dept be responsible for alternative stock health

A bill in the Washington State Senate looks like a smart way to govern the domestic production of deer. It would rely more on sound science than would a House bill in the area of alternative livestock.

In the last few years, diet-conscious Americans have discovered that venison raised on farms is delicious and low in calories. Several years ago, a group of enterprising farmers in Oregon, Washington and British Columbia decided to cash in on a growing demand for this new product, which they found could be produced at about the same cost as beef but would sell for three to four times as much.

A marketing cooperative was established and the outlook was promising, but the Washington state Wildlife Department and Wildlife Commission last year used false information to justify an order that banned the import of deer from farms in Oregon and British Columbia, and slaughter at a specialized USDA-inspected plant in Burlington, Wash. A ban on propagation of deer on Washington farms was overturned by a federal judge, but the ban on imports remained. Permanent regulations adopted in January permit farming of reindeer and fallow deer but outlaw sika deer.

Two bills before the Washington Legislature would give statutory protection to the alternative livestock industry. Deer farms would be regulated primarily by the Department of Agriculture under both bills, with a limited role for the Wildlife Department.

House Bill 1135 specifies that reindeer

and fallow deer and Rocky Mountain elk would be designated as alternative livestock. Other species could be added if agreed to by the two departments. A three-member review board could make recommendations, but the Department of Wildlife would have virtual veto power over adding more species.

Senate Bill 5418 would allow farming of any species except those the two departments agree should not be farmed because they might pose a threat to native wildlife. The Senate bill specifies a review board to include chairs of the state veterinary board of governors, the Washington State University College of Veterinary Medicine and the WSU Natural Resource Science Department.

The Senate bill would be best because it would ensure that decisions would be based on sound science rather than the questionable, one-sided criteria used by the Department of Wildlife.

Legislative testimony has shown that disease problems on deer farms have occurred only in states where they were regulated by wildlife agencies. There have been no problems where animal disease control on deer farms is handled by state departments of agriculture.

The state veterinarian in the Washington Department of Agriculture has done an admirable job of protecting native wildlife as well as domestic livestock from tuberculosis, brucellosis and other animal diseases.

It's time for the Department of Wildlife to step aside and let the job be done by people who have demonstrated that they know what they are doing.

The preservation movement is a lucrative industry and will continue to flourish as they can brainwash supporters into believing the world will come to a halt if they don't keep the mountains rolling in.

However, "Friends of the Earth" support such monstrous projects as the Oregon Land Conservation and Development Commission are just as much of an agriculture.

The next step after the current act will be an agricultural act where each farm will be told exactly what to do, when and if to use fertilizer or pesticides, and what crops to grow. The only way to pay taxes will be to pay taxes.

The free-enterprise system with private property built the United States. Socialism will destroy it.

George Fred Cornelius, Co

Grazing fee hike countereconomic

To The Editor:

In President Clinton's news release, he told us he wanted to reduce fees on public lands. This would force a lot of our public lands.

President Clinton realize that most of the land in the Western very marginal, lands not worth homestead were taken back in the 1930s. These lands produce to 150-pound lighter calf than the more private lands. With calves at near \$1 per rancher, running a

HOUSE COMMITTEE REPORT

(9)
 Date Referred: March 15, 1993 FURTHER REFERRALS: Finance

Date of Committee Action: 4/20/94

The RESOURCES Committee considered: CSSB 46(FIN)

CS FOR SENATE BILL NO. 46(FIN) AUTHORIZE MOOSE FARMING

"An Act relating to moose farming and relating to game farming."

RECOMMENDATIONS: the same title
 be replaced with HCS CS SB 46 (RES) a new title

- have attached amendments(s)
- do pass
- do not pass
- no recommendations
- individual recommendations
- additional referral to the _____ Committee

ADOPTS: _____ letter of Intent

ATTACHES NEW FISCAL NOTE(s): (Dept) APPROVES PREVIOUS: (Dept/Date)
 fiscal impact DNR fiscal note(s) _____
 zero fiscal note F&G, DEC zero fiscal note(s) _____

SIGNING DO PASS	DP	OTHER RECOMMENDATIONS	DNP	NR	AM
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