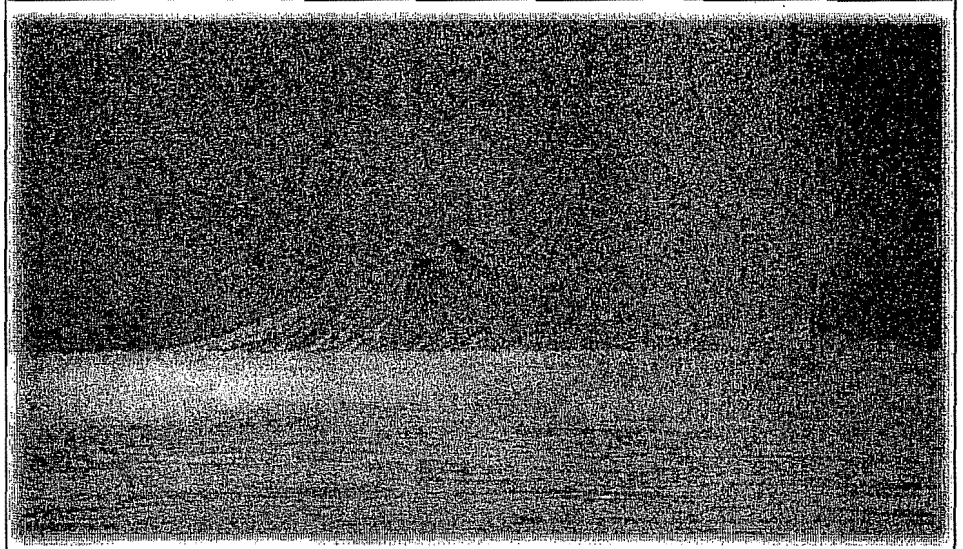
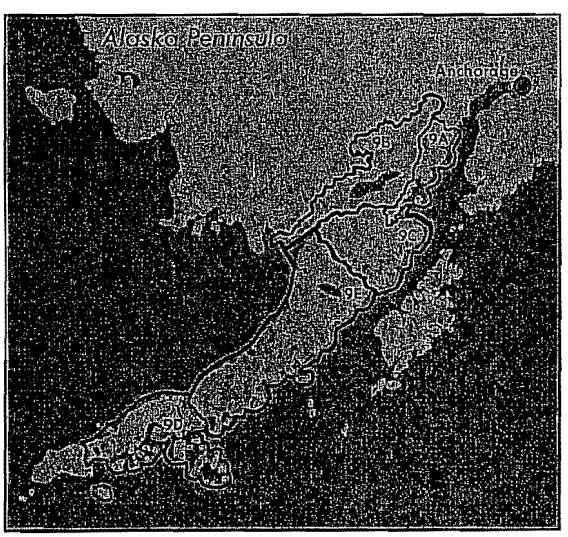
Game Management Units 9 & 10



The Alaska Peninsula and Aleutian Islands

Game Management Unit 9



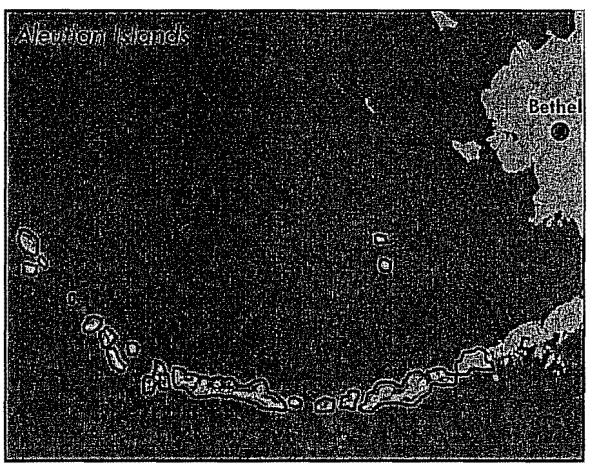
Statistics

Area:	34,000 mi²
Length:	600 miles
Population:	4,000
Villages:	24

Issues

- Development
  - › Pebble Mine
  - › oil lease sales

Game Management Unit 10



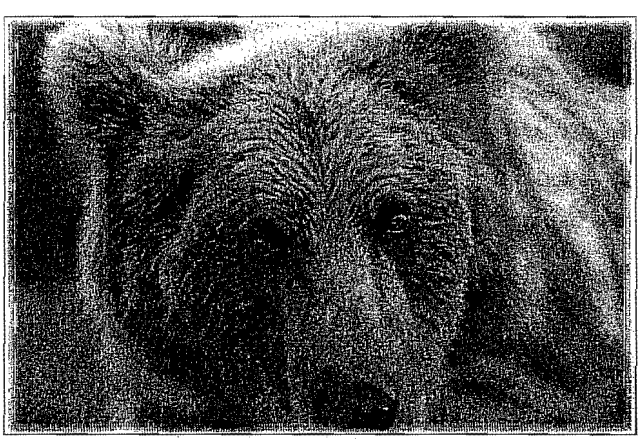
Statistics

Area:	1,600 mi²
Length:	970 miles
Population:	4,500
Villages:	6

Issues

- Introduced species
  - fox
  - rat

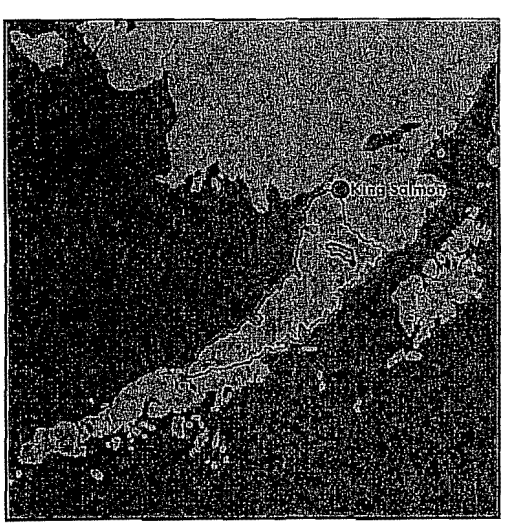
Brown Bear

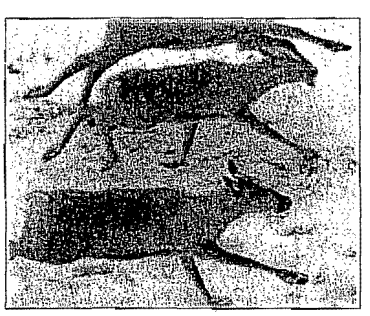


Population :	≈ 8,000
Status:	stable?
Harvest:	250 – 350 per hunting season

Caribou Herds

Northern Alaska Peninsula Caribou Herd (NAPCH)



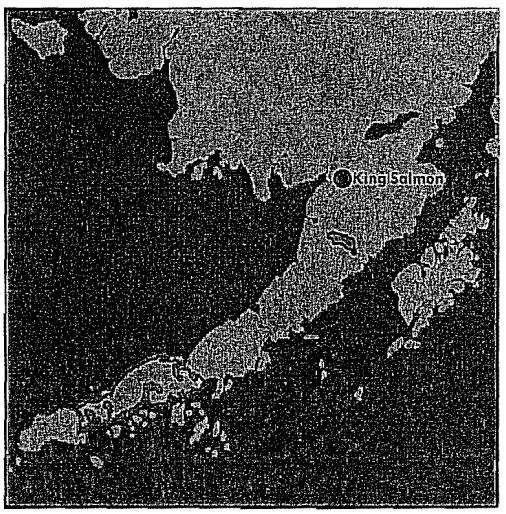


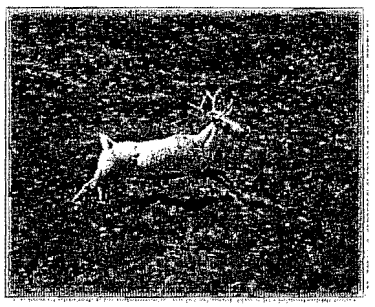
Population : ≥ 2,000

Status: stable?

Harvest: closed to hunting

Southern Alaska Peninsula Caribou Herd (SAPCH)



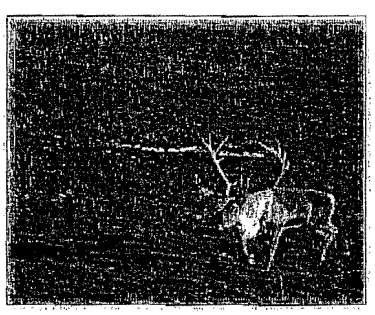


Population : ≈ 800

Status: increasing

Harvest: closed to hunting

Unimak Caribou Herd (UCH)

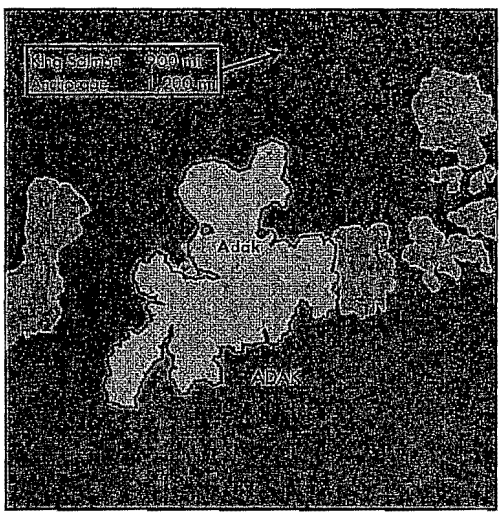


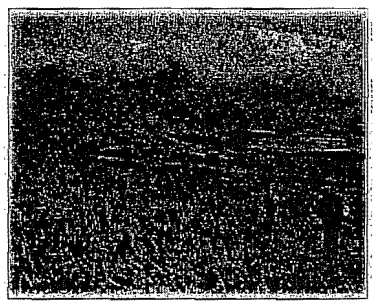
Population : ≈ 300

Status: declining

Harvest: closed to hunting

Adak Caribou Herd



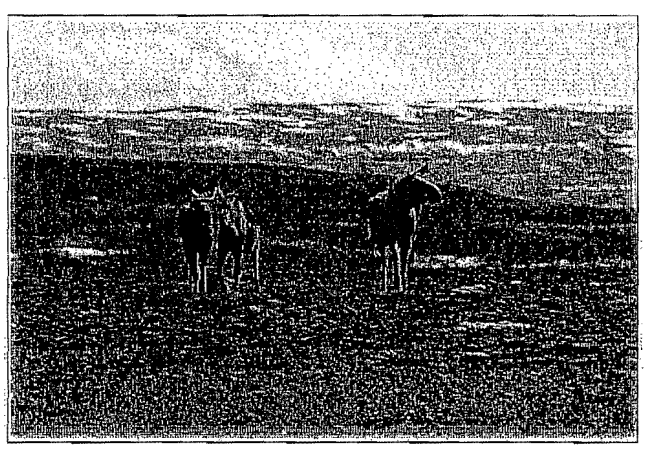


Population : 2,500 +

Status: unknown

Harvest: 250 – 350 per year

Moose



Population : ≈ 7,000

Status: stable with possible declines

Harvest: 100 – 200 bulls per year

Wolf

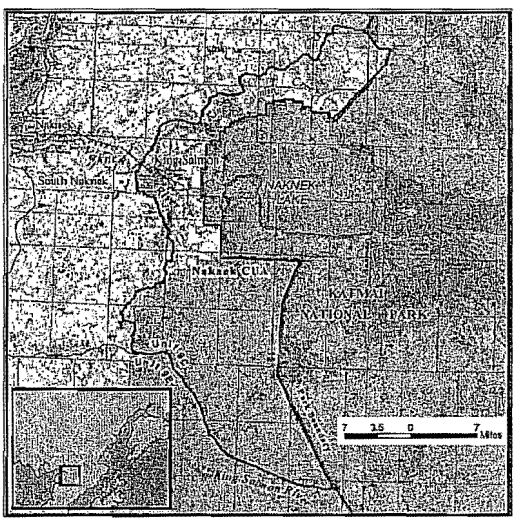
Density:	5 - 10 / 1,000 km^2
Status:	Stable
Harvest:	50 – 150 per year

Furbearer

Average Annual Harvest (2004-2009)

- 106 Beaver
- 23 Lynx
- 109 Otter
- 31 Wolverine

Naknek Controlled Use Area



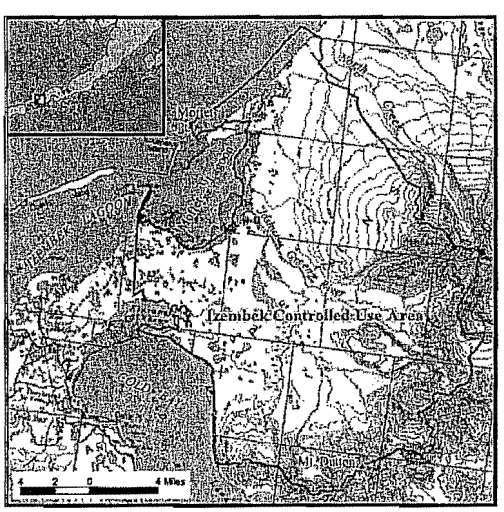
Established in 1990

Closed to the use of motorized vehicles for hunting (Aug 1–Nov 30)

DOES NOT APPLY TO:

- aircraft
- boat
- snowmachine
- Naknek-King Salmon Road
- Lake Camp Road
- Rapids Camp Road
- Pike Ridge Trail
- King Salmon Creek Trail
- frozen surfaces of Naknek River
- frozen surfaces of Big Creek

Izembek Controlled Use Area



Established in 1993

Closed to the use of motorized vehicles for hunting

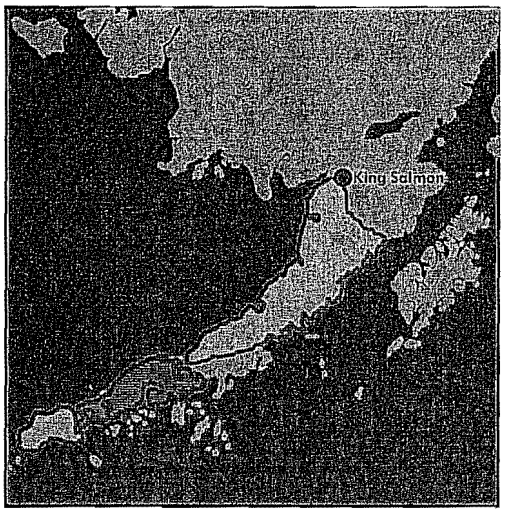
DOES NOT APPLY TO:

- outboard motor powered boats

Game Management Units 9 & 10

The Alaska Peninsula and Aleutian Islands

Predator Control



Active Programs

- SAP Caribou Herd

Inactive programs

- NAP Caribou Herd
- Unimak Caribou Herd

Predator Control – SAP Caribou Herd

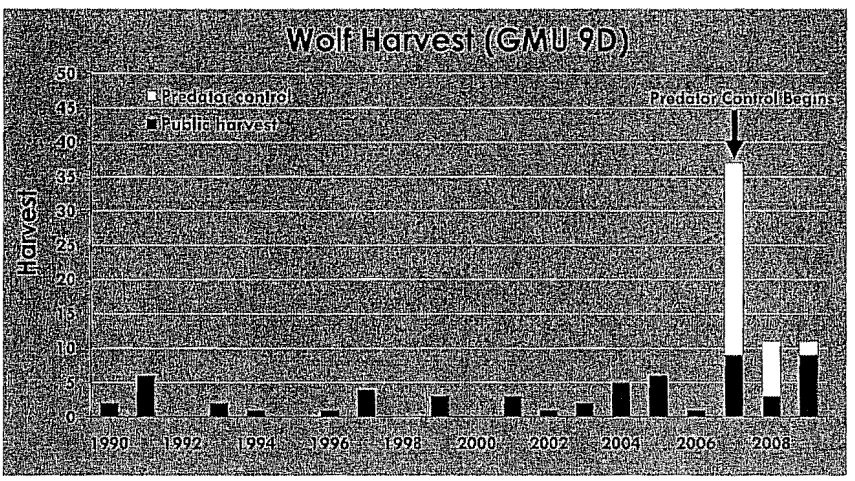
Population Status 2007

• population size	600
• calf survival	<1%
• calf recruitment	<1 calf:100 cows
• bull ratio	10 bulls:100 cows

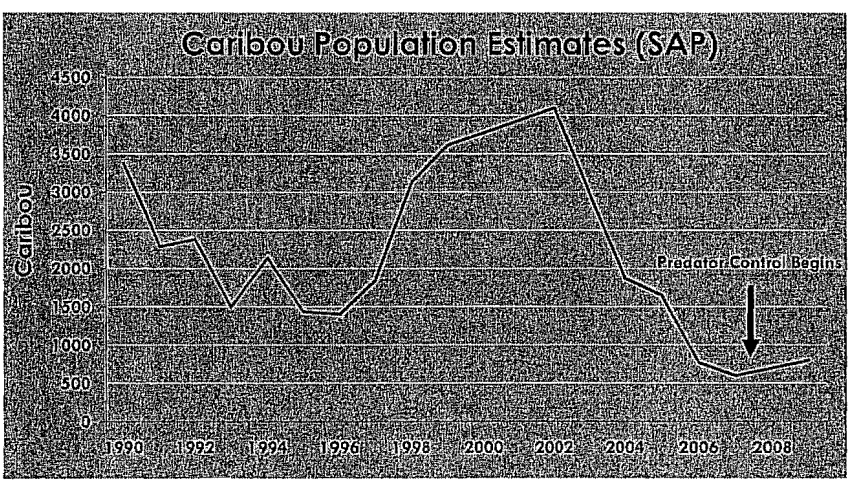
•Program Implementation

- Initiated in June 2008
- Caribou calving grounds (GMU 9D)
- Targeted Wolf Removal

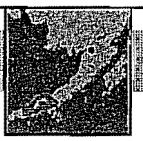
Predator Control – SAP Caribou Herd

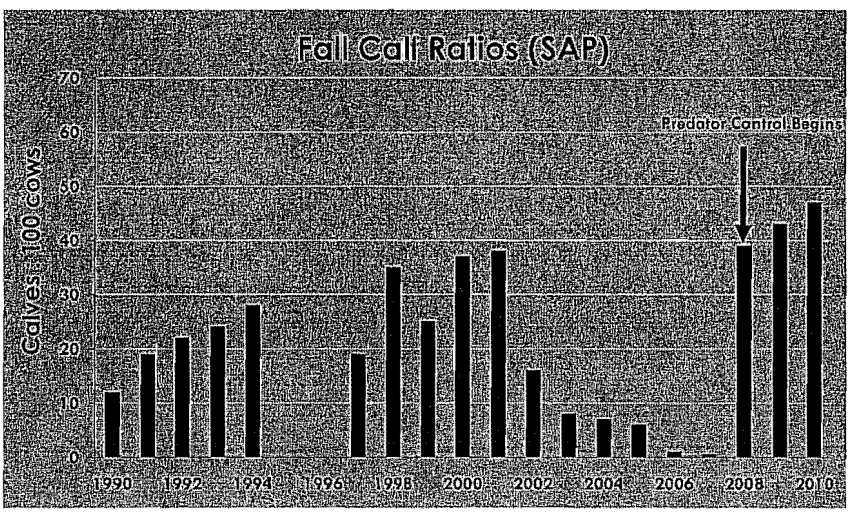


Predator Control – SAP Caribou Herd

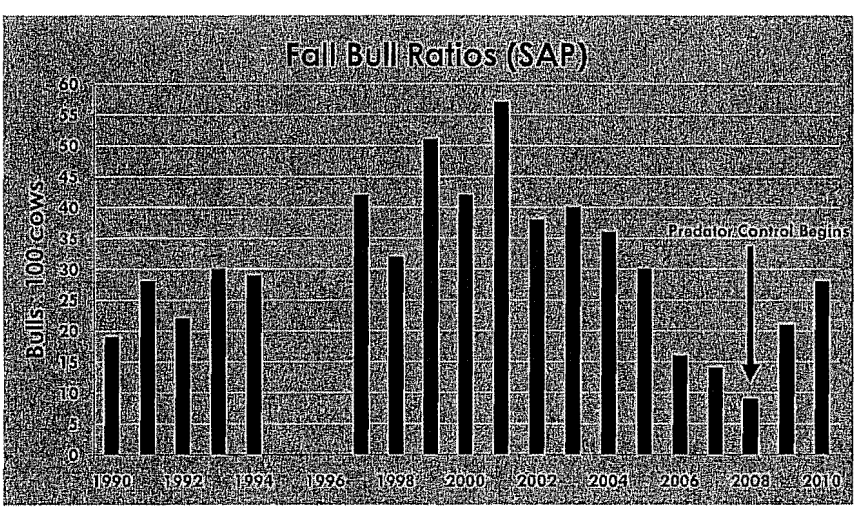


Predator Control – SAP Caribou Herd

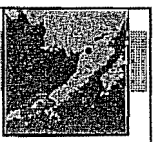




Predator Control – SAP Caribou Herd



Predation Control – SAP Caribou Herd



Results	2007	2010
• Population increase	600	≈800
• Increased calf survival	<1%	65%
• Increased calf recruitment	<1 calf:100 cows	46 calves:100 cows
• Increased bull ratio	14 bulls:100 cows	28 bulls:100 cows

Recommendation

- Suspend program during 2011 calving season
- Monitor population and continue to evaluate need for active management
  - Bull ratio can be sustained within objectives
  - Calf Ratio >25 calves:100 cows
  - Population growth of 5% annually or population objectives met
  - Harvest objectives met

RC# 70

SOUTHERN ALASKA PENINSULA PREDATION MANAGEMENT AREA FOR CARIBOU:
DEPARTMENT REPORT FOR INTENSIVE MANAGEMENT (IM) WITH PREDATION CONTROL

Alaska Department of Fish and Game, Division of Wildlife Conservation

Version 1, Effective Date: 7 January 2011

1) Description of IM Program[1] and Department recommendation for reporting period

A) This report is an interim review X or renewal evaluation ___ for a predation control program authorized by the Alaska Board of Game (Board) under 5 AAC 92.125

B) Date this report was submitted by the Department to the Board:

1 February X (annual report) 1 August ___ (interim annual update[2]) Year 2011

C) Program name (geographic description/GMU and species/herd):
Southern Alaska Peninsula / Subunit 9D / caribou / SAPCH

D) Existing program has ___ / includes an Intensive Management Plan in regulation (5AAC 92.125) X (if a seperate *IM Plan* exists, list version: __ and effective date:_____)

E) Game Management Unit(s) fully or partly included in IM program area:
Subunit 9D

F) IM objectives for caribou: population size 1,500 – 4,000 harvest 150 – 200 annually

G) Month and year the current predation control program was originally authorized March 2008 by the Board. Indicate date(s) if renewed: _____

H) Predation control is currently active ___ or temporarily inactive X in this IM area

I) If active, month and year the current predation control program began _____ or resumed _____ (if more than one predator species, list dates separately)

J) Indicate if a habitat management program funded by the Department or from other sources is currently active in this IM area (Y/N)
No

K) Size of IM program area (square miles) and geographic description:
- 9,549 square miles

[1] For purpose and context of this report format, see appendix.
[2] The interim annual update may be limited only to sections that changed substantially since prior annual report [*e.g., only Tables 3 and 6 in areas with a fall ungulate survey and only wolf control*]

- includes all the mainland portion of Subunit 9D

L) Size and geographic description of area for assessing ungulate abundance:
- 9,549 square miles
- includes all the mainland portion of Subunit 9D

M) Size and geographic description of area for ungulate harvest reporting:
- 9,549 square miles
- includes all the mainland portion of Subunit 9D

N) Size and geographic description of area for assessing predator abundance:
- 9,549 square miles
- includes all the mainland portion of Subunit 9D

O) Size and geographic description of predation control area:
- Defined annually based on caribou calving distribution
- Up to 3,819 square miles
- Can include any drainage of the Alaska Peninsula west of a line from the southernmost head of Port Moller Bay to the head of American Bay (not applicable to federal lands unless approved by federal land management agencies)

P) Criteria for evaluating progress toward IM objectives:
- monitor trends in bull-to-cow ratio
- monitor trends in fall calf-to-cow ratio
- monitor trends in caribou abundance

Q) Criteria for success with this program:
- fall bull ratio can be sustained within management objectives (35 bulls:100 cows)
- fall calf ratio can be sustained above 30 calves:100 cows
- the population can grow at a sustained rate of 5% annually
- harvest objectives are met

R) **Department recommendation for IM program in this reporting period**:
The Department recommends suspending the predation control program during the RY 2010 calving season while monitoring the herd for progress towards IM objectives (details provided in sections 6).

Refer to one or more scaled maps in the *Intensive Management Plan* for areas described in this section

N/A

2) Prey data

Date(s) and method of most recent abundance assessment for caribou (if statistical variation available, describe method here and show result in Table 1):

- July 6 – 9, 2009
- photo-census of post-calving aggregation

Compared to IM area, was a similar trend and magnitude of difference in abundance observed in nearby non-treatment area(s) since program inception: No and in the last year: No

Describe comparison if necessary:

The adjacent Unimak caribou herd (UCH) showed a decline in abundance since program inception and in the last year abundance was estimated (2009). This is in contrast to the SAPCH, which showed an increase in abundance since the program began and in the last year abundance was estimated.

Date(s) of most recent age and sex composition survey (if statistical variation available, describe method here and show result in Table 1):

- October 20, 2010

Compared to IM area, was a similar composition trend and magnitude of difference in composition observed in nearby non-treatment area(s) since program inception N (Y/N) and in the last year N (Y/N)? Describe comparison if necessary:

The UCH bull ratio has declined since the predation reduction program began on the calving grounds of the SAP, while the SAP bull ratio increased. The UCH calf ratio has remained consistently low since SAP program started while the SAP calf ratio has continued to increase since the predation reduction program began.

Table 1. Caribou abundance, age and sex composition in assessment area (L) since program implementation in year 1 (not exclusively limited to inception of predation control) to reauthorization review in year 2011 in the Southern Alaska Peninsula Predation Management Area, Subunit 9D. Regulatory year is 1 July to 30 June (e.g. RY 2010 is 1 July 2010 to 30 June 2011).

			Composition (number per 100 females)			
Period	RY	Abundance (variation)	Young	Yearlings	Males	Total *n*
Year 1	2007	600	0.5		14.7	431
Year 2	2008	700	39.2		9.7	570
Year 3	2009	800	43.4		21.4	679
Year 4	2010	-	46.6		27.9	532
Year 5	2011					
Year 6						

Describe trend in abundance or composition:

Caribou abundance, the fall bull ratio, and the fall calf ratio have all increased since program implementation. In particular, the calf ratio increased dramatically in the first year of wolf removals and has increased each year since.

Table 2. Caribou harvest in assessment area (M). Methods for estimating unreported harvest are described in Survey and Inventory reports.

Period	RY	Reported		Estimated		Total harvest	Other mortality[a]	Total
		Male	Female	Unreported	Illegal			
Year 1	2007	0	0	0	10		0	10
Year 2	2008	0	0	0	10		0	10
Year 3	2009	0	0	0	10		0	10
Year 4	2010	0	0	0	10		0	10
Year 5								
Year 6								

[a]Clarify other additional removal (Defense of Life and Property, etc.).

Describe trend in harvest:

We estimate illegal harvest to have remained level over the course of the program.

3) Predator data

Date(s) N/A and method of most recent spring abundance assessment for wolves (if statistical variation available, describe method here and list in Table 3):

The objective of the program is to remove wolves from the control area (calving grounds of the SAP) during the period when calves are most vulnerable to predation (first 2 weeks of a calf's life) to improve caribou calf survival and recruitment.

Date(s) N/A and method of most recent fall abundance assessment for wolves (if statistical variation available, describe method here and list in Table 3):

The objective of the program is to remove all wolves from the control area (calving grounds of the SAP)

Other research or evidence of trend or abundance status in wolves:

Biologist observations of wolves and wolf tracks from the air in SUBUNIT 9D indicate wolves have persisted in the area since program implementation. Data from satellite collared wolves indicate dispersal into the area is likely occurring from northern Alaska Peninsula packs.

Table 3. Wolf abundance objectives and removal in the predation control area (O) of the Southern Alaska Peninsula Predation Management Area, Subunit 9D. Removal objective is N/A % of the wolves in the control area, so the estimated or confirmed number remaining post-removal (25 June) each RY in the predation control area (O) must be at least N/A.

The program is designed to remove the fewest number of wolves possible during the period of time in which calves are most vulnerable to predation to increase calf survival and recruitment. The program does not have a removal objective (% of the wolf population) and does not require a reduction in the wolf population.

Period	RY	Fall abundance (variation)	Harvest removal		Dept. control removal	Public control removal	Total removal[a]	Spring abundance (variation)
			Trap	Hunt				
Year 1	2007		1	8	28	0	37	
Year 2	2008		0	3	8	0	11	
Year 3	2009		0	9	2	0	11	
Year 4	2010							
Year 5	2011							
Year 6								

[a]Additional removal may be Defense of Life and Property, vehicle kill, etc.

4) Habitat data and nutritional condition of prey species

Where active habitat enhancement is occurring or was recommended in the *Intensive Management Plan*, describe progress toward objectives :

Objective(s): N/A

Area treated and method: N/A

Observation on treatment response: N/A

Evidence of progress toward objective(s) (choose one: Apparent Statistical)

Similar trend in nearby non-treatment areas (Y/N)? N/A

Describe any substantial change in habitat not caused by active program (e.g., new wildland fires, flooding, insect mortality of vegetation, etc.): N/A

Table 4. Nutritional indicators for caribou in assessment area (L) of the Southern Alaska Peninsula Predation Management Area, Subunit 9D.

Period	RY	Pregnancy (Females 2+ yrs of age)	Male Calf Weights (kg)	Female Calf Weights (kg)
Year 1	2007	86%	7.6	7.5
Year 2	2008	90%	7.4	6.4
Year 3	2009	91%	7.1	6.1
Year 4	2010			
Year 5	2011			
Year 6				

Where objectives on nutritional condition were listed in the *Intensive Management Plan*, describe trend in condition indices since inception of (a) habitat enhancement or (b) enhanced harvest (clarify which: N/A) (choose one: Positive, No change, Negative)

Evidence of trend (choose one: Apparent Statistical)

Similar trend in nearby non-treatment areas (Y/N)? N/A

5) Costs specific to implementing Intensive Management

Table 5. Cost ($1000 = 1.0) of agency salary based on estimate of proportional time of field level staff and cost of operations for intensive management activities (e.g., predation control or habitat enhancement beyond normal Survey and Inventory work) performed by personnel in the Department or work by other state agencies (e.g., Division of Forestry) or contractors in the Southern Alaska Peninsula Predation Management Area, Subunit 9D. Fiscal year (FY) is also 1 July to 30 June but the year is one greater than the comparable RY (e.g, FY 2010 is 1 July 2009 to 30 June 2010).

			Operations and contracting			Total cost
Period	FY	Salary[a]	Federal Aid[b]	Public Funds[c]	Other[d]	
Year 1	2008	13		106		119.0
Year 2	2009	16.4		99.7		116.1
Year 3	2010	10.0		95.5		105.5
Year 4	2011					
Year 5	2012					

[a]State Fish and Game fund matched 1:3 with Federal Aid (see footnote b) except for activities directly involving predation control (state funding only).
[b]Federal Aid in Wildlife Restoration (excise tax on firearms and ammunition)
[c]Capital Improvement Project or General Fund revenue from Alaska Legislature
[d]Grants, donations from private organizations, etc.

6) Department recommendations[3] for annual evaluation (1 February) following Year 3 (*2010*) for the Southern Alaska Peninsula Predation Management Area, Subunit 9D — skip in final year and go to section 7

Has progress toward defined criteria been achieved?
Yes. Caribou abundance, fall bull ratio, and fall calf ratio have all increased since program inception.

Has achievement of success criteria occurred?
Success has been achieved for at least one criterion. The fall calf ratio increased during the first year of the program and the population trend has been reversed. The calf ratio continued to increase in subsequent years, even though fewer wolves were taken each year. The fall bull ratio has also increased but is still below management objectives, and harvest has not been restored.

Recommendation for IM practice(s) :

- Predation control – Suspend

Substantial progress has been made toward meeting the objectives defined for program success. Abundance, fall bull ratio, and fall calf ratio have all increased under this program. Fall calf ratio was above objectives for the past three years. Because increases in bull ratio and abundance stem from increased recruitment, these parameters should continue to improve as the calves from Years 1 through 3 reach adulthood. We recommend suspension of predation control in Year 4. We will continue to monitor progress towards program objectives in the absence of predation control, then reevaluate the need to reinstate the program in Year 5 (2013) based thresholds identified in the predation management program (5AAC 92.125[k]).

The program will remain suspended in Year 5 (2013) provided that the following conditions are met:

- The bull:cow ratio can be sustained within management objectives and the fall calf:cow ratio can be sustained above 30 calves:100 cows without the benefit of wolf control,
- The population can grow at a sustained rate of 5% annually without the benefit of wolf control, or
- Harvest objectives are met

7) Evaluation (1 February) for program renewal (following final Year 4 [*2012*]) and Department recommendations for the Southern Alaska Peninsula Predation Management Area, Subunit 9D.

Has progress toward defined criteria been achieved (describe)? _____

Has achievement of success criteria occurred (describe)? _____

Recommendation for IM program (choose one): Continue Modify Suspend Terminate

Rationale for recommendation on overall program: _____

[3] Prior sections include primarily objective information from field surveys; Sections 6 and 7 involve professional judgment by area biologists to interpret the context of prior information for the species in the management area.

Other recommendations (if continuation is recommended, specific actions on individual practices): _____

8) Appendix: Purpose and context of Department Report

This document provides a standard format for area biologists in the Alaska Department of Fish and Game (Department) to periodically report on progress in intensive management (IM) programs with predation control to the public and the Alaska Board of Game (Board). Predation control programs are authorized in Title 5, Chapter 92, Section 125 of the Alaska Administrative Code (5 AAC 92.125). The Department Report is premised on the 10 November 2010 draft *Guidelines for intensive management of big game in Alaska*, which describes the legal background, scientific principles, and management factors of producing and maintaining elevated harvests of ungulates (caribou, deer, or moose) in selected areas of Alaska. For IM programs initiated or renewed after 1 January 2012, the intent is that details of rationale, decision criteria involving public process and other biological and management factors for specific IM programs will be found in the corresponding *Intensive Management Plan.*

IM objectives for deer and moose are determined by the Board for a game management unit (GMU), whereas those for caribou are determined by herd. The IM program area may be described by geography (drainage) or community(s) if it is focused in a smaller area than the one describing the corresponding IM objectives, or if the area is composed of multiple GMUs. A predation control area may be smaller, and contained within, the IM program area or the area used for assessing predator abundance in a game management unit. Thus, the number of wolves, black bears, or grizzly/brown bears remaining in the larger abundance assessment area on a specific date incorporates the potential for recolonization of the smaller control area by predators on surrounding lands (where hunting and trapping but not control methods are allowed), in addition to reproduction by predators remaining in the control area.

The Department Report to the Board documents evaluation of progress toward IM population or harvest objectives for ungulate or other objectives determined by public process for existing IM programs. Initially these reports will be only for areas with predation control to meet annual reporting requirements (Alaska Statutes, Title 16, Section 50, Part b), but they may be expanded to IM programs that only include ungulate habitat enhancement, diverse strategies for hunter access and ungulate harvest, and outreach programs (see *Guidelines*). Predator harvest is achieved through hunting and trapping regulations, whereas predation control typically removes predators by additional means such as by public participants (by special Department permit) or by Department personnel (non-lethal methods could also be applied). Report information will be used for Department recommendations and Board decisions on continuing, modifying, suspending, or terminating IM programs. The annual report will be issued on 1 February with an interim report on 1 August. These dates account for lag time in entering reported predator removal and ungulate harvest into an electronic database for archive and analysis. The August interim report will have the ungulate harvest and wolf removal from the previous regulatory year, whereas the February annual report will include most of the ungulate harvest from the prior fall and bear removal from the prior regulatory and calendar years. Report information is fora single program, but it may also be presented in a table showing multiple IM programs in a region or all IM programs statewide.