

**Annual Report to the Alaska Board of Game on
Intensive Management for Caribou
with Wolf Predation Control in the Southern Alaska
Peninsula Caribou Herd, Subunit 9D**

**Prepared by the Division of Wildlife Conservation
February 2012**



Interim annual updates are limited to sections that have changed substantially since the prior annual report in February. For complete information, see the prior annual report.

1) **Description of IM Program¹ and Department recommendation for reporting period**

- A) This report is an interim review 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 (annual report) 1 August ___ (interim annual update²) Year 2012
- C) Program name (geographic description/GMU and species/herd):
Alaska Peninsula / Subunit 9D / caribou / Southern Alaska Peninsula (SAP) caribou herd
- D) Existing program has an Intensive Management Plan in regulation (5AAC 92.125)
- 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: Renewed November 2011
- H) Predation control is currently active ___ or temporarily inactive 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
 - 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

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]

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 continuing the suspension of the predation control program during the 2012 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
- post-calving population count

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) has declined in abundance since SAP program started and in the last year abundance was estimated (2009), while the SAP showed a steady increase in abundance.

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

- October 23, 2011

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 (Y/N) N and in the last year (Y/N)? N

Describe comparison if necessary:

The UCH bull ratio has remained low since the predation reduction program began on the calving grounds of the SAP, while the SAP bull ratio has continued to increase. The UCH calf ratio has remained low since program inception, while the SAP calf ratio has increased since the predation reduction program began except in the last year during program suspension.

Table 1. Caribou abundance, age and sex composition in assessment area (L) since program implementation in Year 1 (RY2007) to reauthorization review in Year 5 (RY 2011) in the Southern Alaska Peninsula Predation Management Area, Subunit 9D. Regulatory year is 1 July to 30 June (e.g. RY11 is 1 July 2011 to 30 June 2012).

Period	RY	Abundance (variation)	Composition (number per 100 females)			
			Calves	Yearlings	Males	Total <i>n</i>
Year 1 ^a	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 ^b	2010	-	46.6		27.9	532
Year 5 ^b	2011	-	20.0		40.2	920

^a Abundance and composition surveys were conducted prior to the start of the wolf control program, which started in May 2008

^b Scheduled post-calving population counts were not conducted due to poor weather conditions.

Describe trend in abundance or composition:

Caribou abundance, fall bull ratio, and fall calf ratio have all increased since program implementation. Though abundance has not been estimated since RY 2009, sample size for the RY 2011 composition survey indicates that the population has continued to increase. The calf ratio increased dramatically in the first year of wolf removals, remaining high while the program was active. The calf ratio decreased in RY 2011 when the program was temporarily suspended, but remains high relative to pre-control levels. The bull ratio has increased steadily.

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

^aClarify 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		0	2	0	0	2	

^aAdditional 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	85%	-	-

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).

Period	FY	Salary ^a	Operations and contracting			Total cost
			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 ^e	2011	1.1	-	4.8	-	5.9

^aState Fish and Game fund matched 1:3 with Federal Aid (see footnote b) except for activities directly involving predation control (state funding only).

^bFederal Aid in Wildlife Restoration (excise tax on firearms and ammunition).

^cCapital Improvement Project or General Fund revenue from Alaska Legislature.

^dGrants, donations from private organizations, etc.

^eProgram suspended in Year 4 (FY2011) due to the improved status of the population and to allow evaluation of progress toward objectives without benefit of predator reduction.

6) Department recommendations³ for annual evaluation (1 February) following Year 4 (RY 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 the program started.

Has achievement of success criteria occurred?

Success has been achieved for at least one criterion. The fall bull ratio has met management objectives for the first time since 2004. The fall calf ratio increased during the first year of the program and reversed the negative population trend. The calf ratio continued to increase in subsequent years, until the program was suspended this past year. The current calf ratio is below objectives, but remains high relative to levels observed before program implementation.

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

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 ratios were above objectives following each year of active predator reduction. Although the calf ratio has decreased since suspension of the program, it remains high relative to pre-reduction levels. 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 continued suspension of predation control in Year 5. We will continue to monitor progress towards program objectives in the absence of predation control, then reevaluate the need to reinstate the program based on thresholds identified in the predation management program (5AAC 92.125[k]):

- 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 9 [RY 2017]) 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

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.

Rationale for recommendation on overall program: _____

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