Interim Report to the Alaska Board of Game on Intensive Management for Caribou with Wolf Predation Control in Game Management Unit 9D, the Southern Alaska Peninsula Caribou Herd.

Prepared by the Division of Wildlife Conservation
August 2015

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 Program[1] and Department recommendation for reporting period

A) This report is an annual evaluation for a predation control program authorized by the Alaska Board of Game (Board) under 5 AAC 92.112

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

February ___ (annual report) August _X_ (interim annual update[2]) Year _2015__

2) Prey data

Date(s) and method of most recent summer abundance assessment for the Southern Alaska Peninsula Caribou Herd (SAP):

October 19, 2014; Population size is extrapolated from the number of caribou and percent of collared caribou observed during the October composition survey.

Compared to IM area, was a similar trend and magnitude of difference in abundance observed in nearby non-treatment area(s) since program inception and in the last year?

No

Describe comparison if necessary:

The adjacent Unimak caribou herd (UCH) has declined in abundance since the SAP program started and in the last year abundance was estimated (2009), while the SAP has had a steady, substantial increase in abundance.

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

October 19, 2014.

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

The Unimak Caribou Herd (UCH) bull ratio and calf ratio have remained low since the predation reduction program began on the calving grounds of the SAP, while the SAP bull ratio and calf ratio increased (Table 2). Although still very low, there has been a small increase in the UCH calf ratio in RY14.

[1] For purpose and context of this report format, see *Intensive Management Protocol, section on Tools for Program Implementation and Assessment*

[2] The interim annual update may be limited only to sections that changed substantially since prior annual report

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 11 (2017) in the Southern Alaska Peninsula Predation Management Area. 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)[a]		
Period	RY	Abundance	Young	Males	Total *n*
Year 1[b]	2007	600[c]	1	15	431
Year 2[b]	2008	700[c]	39	10	570
Year 3[b]	2009	800[c]	43	21	679
Year 4[de]	2010	-	47	28	532
Year 5[de]	2011	1061[f]	20	40	920
Year 6[de]	2012	-	20	45	500
Year 7[e]	2013	1720	40	50[g]	600
Year 8	2014	-	45	45	884

[a] Composition surveys are conducted prior to wolf control activities that occur in the same regulatory year (e.g. during RY2007 the composition survey was conducted in October 2007 and wolf control was conducted in May 2008)
[b] Wolf control was conducted on the caribou calving grounds during May and June
[c] Post-calving population count conducted by ADFG in July.
[d] Scheduled post-calving population counts were not conducted due to poor weather conditions.
[e] Wolf control program activities suspended to evaluate the effects of increased calf recruitment.
[f] USFWS February, 2012 winter minimum count.
[g] Model-based adjustment of bulls probably mis-categorized during survey by a new observer.

Describe trend in abundance or composition:

SAP caribou abundance, bull and calf ratios have consistently remained high compared to estimates obtained prior to the initiation of the control program, May, 2008 (RY07). The fall calf ratio increased dramatically while the wolf control program was active (RY07–RY09) and remained high after the program was suspended. The apparent decrease in the fall calf ratio in RY11 and RY12 was in part related to the influx of young, nonproductive caribou (<3 years of age) that entered the population while the program was active, which reduced the ratio of calves to adult females (one year of age or older) observed during the fall surveys. The bull ratio has also increased steadily since RY09, the first year that the young bulls would have been classified as adults during the fall survey.

Table 2. Caribou abundance, age and sex composition of the Unimak Caribou Herd in adjacent Game Management Unit 10 since the implementation of the Southern Alaska Peninsula Predation Control program in Subunit 9D in year 1 (RY2007).

			Composition (number per 100 females)		
Period	RY	Abundance	Calves	Bulls	Total *n*
Year 1	2007	-	6	31	433
Year 2	2008	-	6	9	260
Year 3	2009	400 [a]	3	5	221
Year 4	2010	-	8	8	284
Year 5	2011	-	7	6	117
Year 6	2012	-	3	10	83
Year 7	2013	-	19	10[b]	67
Year 8	2014	-	22	15	127

[a] Minimum count conducted in winter by USFWS

[b] Model-based adjustment of bulls probably mis-categorized during survey by new observer

Table 3. 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	2011	0	0	0	10	-	0	10
Year 6	2012	9	0	0	10	9	0	19
Year 7	2013[b]	18	1	0	10	28	0	28
Year 8	2014	10	1	0	10	21	7[c]	28

[a]Clarify (vehicle mortality, Defense of Life and Property, Mortuary, etc.).

[b]Data from ADF&G database, 5 August, 2014; US Fish and Wildlife Service, 6 August, 2014.

[c]Legal TC506 harvest data lacking sex designation, as well as 1 USFWS hunt harvest; ADF&G database, 25 August, 2015, and Izembek NWR data 1 June, 2015.

Describe trend in harvest: Izembek National Wildlife Refuge (USFWS) implemented a limited federal hunt from August, 2012—March, 2013. The state implemented a drawing hunt, TC506, in August of RY13. We estimate illegal harvest to have remained level over the course of the program.

Describe any other harvest related trend if appropriate:

Not Applicable

3) Predator data

Date(s) and method of most recent spring abundance assessment for wolves:

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, during the first 2 weeks of life to improve caribou calf survival and recruitment. This wolf control effort was suspended after the RY09 calving season (Wolves were last removed in June 2010). No wolf survey has been conducted.

Date(s) and method of most recent fall abundance assessment for wolves:

The objective is to annually remove all wolves from the control area (calving grounds of the SAP). This wolf control effort was suspended after the RY09 calving season (Wolves were last removed in June 2010). No wolf survey has been conducted.

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

Observations by department biologists of wolves and wolf tracks from the air in Subunit 9D indicate wolves have persisted in the area since the program was implemented. Data from satellite collared wolves indicate dispersal into the area is occurring from northern Alaska Peninsula packs.

Table 4. Wolf abundance objectives and removal in wolf assessment area (N) of the Southern Alaska Peninsula Predation Management Area, Subunit 9D. Removal objective for the wolf populations in caribou calving areas within Subunit 9D is N/A% **of pre-control fall abundance in year 1 of wolf predation control program.**

Not Applicable: 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 pre-fall abundance) and does not require any reduction in the wolf population.

Period	RY	Harvest removal from area		Dept. control removal from area	Public control removal from area	Total removal[a] from area	Spring abundance (variation) in area
		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	-
Year 5	2011	2	13	0	0	15	-
Year 6	2012	1	4	0	0	5	-
Year 7	2013[b]	1	6	0	0	8[c]	-
Year 8	2014	0	1	0	0	1	-

[a]Additional removal may be Defense of Life and Property, vehicle kill, etc.
[b]Data from ADF&G database, 5 August, 2014.
[c]Total removal includes harvest recorded as unknown method.

4) Habitat data and nutritional condition of prey species

Where active habitat enhancement is occurring or was recommended in the Operational Plan, describe progress toward objectives: Not Applicable

Objective(s): Not Applicable. There are no demonstrated methods to improve caribou habitat, and no reason to believe that habitat is limiting the caribou population.

Area treated and method: Not Applicable

Observation on treatment response: Not Applicable

Evidence of progress toward objective(s): Not Applicable

Similar trend in nearby non-treatment areas? Not Applicable

Describe any substantial change in habitat not caused by active program: Not Applicable

Table 5. **Nutritional indicators for caribou in the area (L) of the Southern Alaska Peninsula Caribou Herd.**

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%	-	-
Year 5	2011	93%	-	-
Year 6	2012	84%	7.6	7.1
Year 7	2013	74%	-	-
Year 8	2014	-	-	-

Where objectives on nutritional condition were listed in the Operational Plan, describe trend in condition indices since inception of (a) habitat enhancement or (b) enhanced harvest:

Not Applicable

Evidence of trend: Not Applicable

Similar trend in nearby non-treatment areas? Not Applicable

Describe any substantial change in habitat not caused by active program: Not Applicable

5) Costs specific to implementing Intensive Management

Table 6. 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., predator 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. 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	Predation control[a]		Other IM activities		Total IM cost[c]	Research cost[cd]
		Time[b]	Cost[c]	Time[b]	Cost[c]		
Year 6	2012	0.0	0.0	0.2	6.0	6.0	0.0
Year 7	2013	0.0	0.0	0.5	6.0	6.0	118.3
Year 8	2014	0.0	0.0	0.3	3.0	3.0	0.0
Year 9	2015	0.0	0.0	0.0	0.0	0.0	0.0

[a]State or private funds only.
[b] Person months (22 days per month).
[c] Salary plus operations.
[d] Separate from implementing IM program but beneficial for understanding of ecological or human response to management treatment (scientific approach that is not unique to IM).