

**Annual Report to the Alaska Board of Game on  
Intensive Management for Caribou  
with Wolf Predation Control  
in the Northern Alaska Peninsula,  
Game Management Units 9C and 9E,  
Northern Alaska Peninsula Caribou Herd.**

**Prepared by the Division of Wildlife Conservation  
February 2016**



1) **Description of IM Program<sup>1</sup> 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 92.111<sup>2</sup>**

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

February X (annual report)    August \_\_\_ (interim annual update<sup>3</sup>)    Year 2016

C) **Program name:**

Northern Alaska Peninsula Predation Management Area  
Subunits 9C and 9E  
Northern Alaska Peninsula Caribou Herd.

D) **Existing program does not have an associated *Operational Plan*, it does however have a detailed Intensive Management Plan in regulation (5 AAC 92.111).**

E) **Game Management Unit(s) fully or partly included in IM program area: Subunits 9C and 9E.**

F) **IM objectives for caribou: population size 6,000 – 15,000 harvest 600 – 1,500.**

G) **Month and year the current predation control program was originally authorized by the Board:**

March 2010

H) **Predation control is currently active in this IM area.**

I) **If active, month and year the current predation control program began:**

January 2012 in Regulatory Year (RY) 2011 (RY2011 = 1 July, 2011 through 30 June, 2012).

J) **Indicate if an habitat management program funded by the Department or from other sources is currently active in this IM area (Y/N): N**

K) **Size of IM program area (square miles) and geographic description:**

19,461 square miles and includes all the mainland portions of subunits 9C and 9E.

L) **Size and geographic description of area for assessing ungulate abundance:**

19,461 square miles including all the mainland portions of subunits 9C and 9E.

M) **Size and geographic description of area for ungulate harvest reporting:**

19,461 square miles including all the mainland portions of Subunits 9C and 9E.

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<sup>1</sup> For purpose and context of this report format, see *Intensive Management Protocol, section on Tools for Program Implementation and Assessment*

**N) Size and geographic description of area for assessing predator abundance:**

5,384 square miles including portions of subunits 9C and 9E.

**O) Size and geographic description of predation control area:**

10,347 square miles including all Alaska Peninsula drainages south of the south bank of the Naknek River and the southern boundary of Katmai National Park to a line from the southernmost head of Port Moller Bay to the head of American Bay (see Figure 1).

**P) Criteria for evaluating progress toward IM objectives:**

- Fall bull:cow ratio
- Fall calf:cow ratio
- Caribou abundance
- Caribou harvest

**Q) Criteria for success with this program:**

- The fall bull:cow ratio can be maintained at a minimum of 35 bulls:100 cows
- The population can grow at a sustained rate of 5% annually
- Harvest objectives can be met

**R) Department recommendation for IM program in this reporting period:**

The Department recommends suspension of the predation control program while monitoring the herd population and composition (details provided in sections 6).

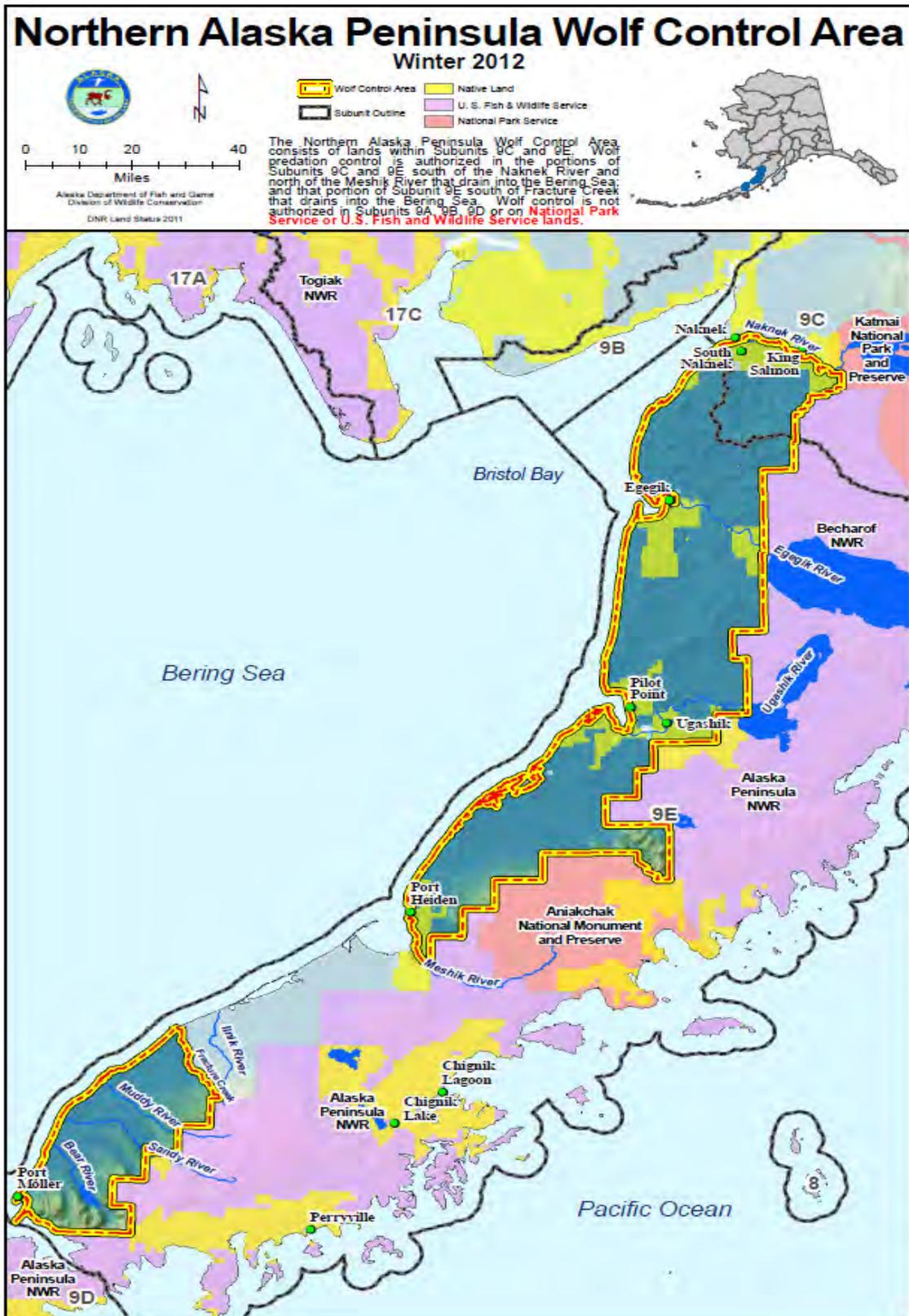


Figure 1. Northern Alaska Peninsula Wolf Control Area (O).

## 2) Prey data

**Date(s) and method of most recent summer abundance assessment for the Northern Alaska Peninsula Caribou Herd (NAP):**

October 31, 2015; 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 (Y/N) N/A?**

**Describe comparison if necessary:**

Not Applicable: There is no non-treatment area available for direct comparison.

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

October 31, 2015.

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

Not Applicable: There is no non-treatment area available for direct comparison.

**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 10 (2020) in the Northern 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).**

Period	RY	Abundance	Composition (number per 100 females)		Total <i>n</i>
			Young	Males	
Year 0	2010	-	18	25	1,795
Year 1	2011	2,500 – 3,000	20	26	2,395
Year 2	2012	-	22	28	1,352
Year 3	2013	2,400	21	31 <sup>a</sup>	2,076
Year 4	2014	2,700	34	40	2,295
Year 5	2015	2,950	29	38	2,122

<sup>a</sup>Model-based adjustment of bulls probably miscategorized during survey by a new observer.

**Describe trend in abundance or composition:**

The fall bull:100 cow, calf:100 cow ratios and abundance have all increased from the low numbers observed in the mid-2000s. However, active wolf removal was not initiated until January 2012 (RY11), so the increasing trend is not associated

with wolf control activities.

**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 <sup>a</sup>	Total
		Male	Female	Unreported	Illegal			
Year 0	2010	0	0	0	15	15	3	18
Year 1	2011	0	0	0	15	15	3	18
Year 2	2012	0	0	0	15	15	2	17
Year 3	2013	0	0	0	15	15	4	19
Year 4	2014	0	0	0	15	15	4	19

<sup>a</sup> Mortuary, Ceremonial, and Cultural-Educational Harvest Permits.

**Describe trend in harvest:**

Caribou hunting has remained closed since RY2005. A small number of ceremonial and cultural-educational permits harvest permits were issued in RY2010–RY2015 after calf recruitment rates began improving.

**Describe any other harvest related trend if appropriate:**

Not Applicable: Hunting seasons have been closed since RY2005.

**3) Predator data**

**Date(s) and method of most recent spring abundance assessment for wolves (if statistical variation available, describe method here and list in Table 2):**

The wolf population is being evaluated through a cooperative wolf collaring study with United States Fish and Wildlife Service (USFWS).

**Date(s) and method of most recent fall abundance assessment for wolves (if statistical variation available, describe method here and list in Table 2):**

The wolf population is being evaluated through a cooperative wolf collaring study with USFWS.

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

Wolf sightings remain common on the Alaska Peninsula.

**Table 3. Wolf abundance objectives and removal in wolf assessment area (N) of the Northern Alaska Peninsula Predation Management Area. Removal objective is to annually remove 100 % of the wolves in the wolf predation control area (O), so estimated or confirmed number remaining in the control area (O) by the May calving season each regulatory year is 0.**

Period	RY	Harvest removal from area N		Dept. control removal from area O	Public control removal from area O	Total removal <sup>a</sup> from area N	Spring abundance (variation) in area N
		Trap	Hunt				
Year 0	2010	29	3	0	0	32	-
Year 1	2011	16	80	0	10	106	-
Year 2	2012	9	9	0	5	23	-
Year 3	2013	11	27	0	0 <sup>b</sup>	38	-
Year 4	2014	13	10	0	1	24	-

<sup>a</sup> Additional removal may be Defense of Life and Property, vehicle kill, etc.

<sup>b</sup> In RY2013 there was no public control removal from the area due to weather conditions hazardous to flying and tracking.

#### 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:**

**Objective(s):**

Not Applicable: There are no demonstrated methods to improve caribou habitat, and no evidence 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) (choose one: Apparent Statistical):**

Not Applicable

**Similar trend in nearby non-treatment areas?** Not Applicable

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

**Table 4. Nutritional indicators for caribou in assessment area (L) of the Northern Alaska Peninsula Predation Management Area.**

Period	RY	Pregnancy Rate (Females $\geq$ 2 yrs old)	Male Calf Weights (kg)	Female Calf Weights (kg)
Year 0	2010	77%	-	-
Year 1	2011	81%	8.4	8.1
Year 2	2012	-	-	-
Year 3	2013	66%	-	-
Year 4	2014	76%	-	-

**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 (choose one: Apparent Statistical):** Not Applicable

**Similar trend in nearby non-treatment areas?** Not Applicable

#### 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., 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 Northern 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 <sup>a</sup>		Other IM activities		Total IM cost	Research cost <sup>d</sup>
		Time <sup>b</sup>	Cost <sup>c</sup>	Time	Cost		
Year 1	2012	0.0	0.0	0.4	22.0	22.0	0.0
Year 2	2013	0.0	0.0	0.5	6.0	6.0	0.0
Year 3	2014	0.0	0.0	0.5	6.0	6.0	0.0
Year 4	2015	0.0	0.0	0.3	3.0	3.0	0.0

<sup>a</sup>State or private funds only.

<sup>b</sup>Person-months (22 days per month)

<sup>c</sup>Salary plus operations

<sup>d</sup>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).

#### 6) Department recommendations<sup>2</sup> for annual evaluation (1 February) following Year 3 for the Northern Alaska Peninsula Predation Management Area—skip in final year and

<sup>2</sup> 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.

go to section 7

**Has progress toward defined criteria been achieved?**

There has been a steady, yet slow increase in bull:cow and calf:cow ratios, as well as overall caribou numbers since 2008. The bull:cow ratio has exceeded the management objective of 35 bulls:100 cows since 2013. However, as the active wolf removal did not begin until January 2012 (RY11) and had minimal participation due to inconducive weather conditions, the increasing trend is not associated with wolf control activities.

**Has achievement of success criteria occurred?**

Success in achieving criteria has occurred, but cannot be attributed to the IM program. Bull:cow ratios, calf:cow ratios and caribou numbers have slowly increased to the point that a Tier II season to take advantage of surplus bulls will opened in 2016.

**Recommendation for IM program (choose one):** Continue Modify Suspend Terminate  
Same Day Airborne Wolf Control Program in control area (O).