

**Annual Report to the Alaska Board of Game on
Intensive Management for Moose
with Wolf Predation Control
in Unit 15A**

**Prepared by the Division of Wildlife Conservation
March 2014**



- 1) Description of IM Program 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 92.118**
- B) Month this report was submitted by the Department to the Board:** March 2014
- C) Program name:** GMU 15A Moose
- D) Existing program has an associated Operational Plan:** Operational Plan for Intensive Management of Moose in Game Management Unit 15A During Regulatory years 2012-2017.
- E) Game Management Unit(s) fully or partly included in IM program area:** GMU 15A
- F) IM objectives for Moose:** Population size 3,000-3,500. Harvest 180-350.
- G) Month and year the current predation control program was originally authorized by the Board:** January 2012, revised at the March 2013 Alaska Board of Game (BOG) meeting.
- H) Predation control is currently active in this IM area:** Yes
- I) The current predation control program began:** November 2013.
- J) A habitat management program funded by the Department or from other sources is currently active in this IM area:** Yes
- K) Size of IM program area (square miles) and geographic description:** 1,314 mi², GMU 15A
- L) Size and geographic description of area for assessing ungulate abundance:** 1,314 mi², GMU 15A
- M) Size and geographic description of area for ungulate harvest reporting:** 1,314mi², GMU 15A
- N) Size and geographic description of area for assessing predator abundance:** 1,314 mi², GMU 15A
- O) Size and geographic description of predation control area:** Approx. 49 mi², includes portions of Salamatof and Kenai Native Associations lands in GMU 15A
- P) Criteria for evaluating progress toward IM objectives:** An increase in calf:cow ratio, increased survival of calves, no further population decline.
- Q) Criteria for success with this program:** Increased calf survival and recruitment. The overall program will be successful when we attain IM population and harvest objectives in

GMU 15A.

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

Refer to one or more scaled maps in the Operational Plan for areas described in this section

2) Prey data

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

Prey data for RY 2012 include a November 2012 composition survey and a February 2013 GSPE population estimate. Data for RY 2013 is from a November/December composition survey (Table 1).

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, we are in the first year of the program and it is premature to detect a difference.

Date(s) of most recent age and sex composition survey: November 25 – December 3, 2013.

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: NO, we are in the first year of the program and it is premature to detect a difference.

Table 1. Moose abundance, age and sex composition in assessment area (L) since program implementation in year 1 to reauthorization review in year 2017 in GMU 15A. Regulatory year is 1 July to 30 June (e.g, RY 2012 is 1 July 2012 to 30 June 2013).

Period	RY	Abundance (variation)	Composition (number per 100 females)			
			Calves	Yearlings	Males	Total <i>n</i>
	2012		25		30	372
	2012	1569 ($\pm 13.4\%$; 95% C.I.)				
Year 1	2013		25		29	332
Year 2	2014					
Year 3	2015					
Year 4	2016					
Year 5	2017					

Describe trend in abundance or composition: No noticeable difference in composition data between RY 2012 and RY 2013. There is no census data for RY 2013.

Table 2. Moose 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			
	2012	6	0			6	107	113
Year 1	2013	30	0			30	87	117
Year 2	2014							
Year 3	2015							
Year 4	2016							
Year 5	2017							

^a vehicle mortality, and mortuary.

Describe trend in harvest: The increased harvest from 2012 to 2013 was primarily attributed to liberalized antler configuration for a legal bull. In 2012 a legal bull had to have an antler spread of at least 50 inches or at least 4 brow tines on at least one side. In 2013 a bull with no more than a spike on at least one side was added to the 2012 definition for a legal bull to harvest.

Describe any other harvest related trend if appropriate: During 2012, 293 individuals reported hunting in GMU 15A and the reported harvest was 6 bulls (2% success rate). During 2013, 351 individuals reported hunting in GMU 15A and the reported harvest was 30 bulls (9% success rate).

3) Predator data:

Wolves

Dates and method of most recent spring abundance assessment for wolves:

Survey data for RY 2010 were collected in March 2011, for RY 2011 in November 2011, and for RY 2012 in February 2013. All of GMU 15A was flown and the total numbers are based on the number of wolves observed and an assessment of tracks observed. A partial survey was conducted during December 2013. It appears that wolf numbers have remained relatively constant since 2010 (Table 3.). The spring abundance is our best estimate of what remained post-harvest. For this report hunting mortality is included under trapping because it is difficult to distinguish between the two. Only a few wolves are taken under the hunting regulation. We believe 10-20 wolves spend at least some of their time in the areas open to wolf control.

Dates and method of most recent fall abundance assessment for wolves:

Fall abundance was estimated by adding the estimated number of wolves removed prior to the date the wolf survey was flown to the number of wolves counted during the survey

Other research or evidence of trend or abundance status in wolves: Interviews with trappers and information from trapper survey reflect concurrence with estimated abundance.

Table 3. Population estimates and human caused mortalities for wolves in GMU 15A. **Removal objective is 100% of pre-control fall abundance from control area (49 mi²) in year 1 of wolf predation control program, so estimated or confirmed number remaining by spring (30 April) each RY in all of GMU 15A (1,314 mi²) must be at least 15.**

Period	RY	Fall abundance	Harvest removal from GMU 15A		Dept. control removal from GMU 15A	Public control removal from GMU 15A	Total removal from GMU 15A	Spring abundance
			Trap	Hunt				
	2010	53-63	15				15 ^a	38-48
	2011	60-62	10				10	50-52
	2012	60-65 ^a	20				20 ^a	45-50
Year 1	2013	45-60 ^b	^c	^c	^c	2 ^c	^c	^c
Year 2	2014							
Year 3	2015							

^a Given the date of the survey we estimated that 5 wolves were harvested by trappers/hunters from the date of the survey until the close of the season.

^b This is estimate based on a partial survey of GMU 15A and other reported sightings.

^c Harvest for this area was not known at the time of writing this report. The public control effort is ongoing so the numbers only reflect wolves taken up to mid-February 2014

Black Bear

The latest estimate for black bear abundance occurred in the mid-1980's. Extrapolating data from that time period resulted in a current estimate of 700-900 black bears in GMU 15A. It is not known if these data accurately portray current black bear numbers in this area, but black bears do occur throughout the unit.

Brown Bear

The Kenai National Wildlife Refuge completed a study in 2013 estimating the brown bear population on the Kenai Peninsula. At the time of this writing the final report is not available. It is unclear what density should be applied to GMU 15A.

The most significant action effecting brown bear mortality in GMU 15A is the recent liberalization of hunting seasons and bag limits. Prior to Fall 2012 the hunting season was managed through a limited drawing permit season with a 1 bear/4 years bag limit. In January 2012 the BOG liberalized hunting opportunity for Kenai brown bears by adding a fall registration hunt with unlimited number of permits and season dates of October 1 – November 30. The BOG furthered liberalized brown bear hunting opportunity in March 2013 including expanded season dates of September 1 – May 31, a bag limit of 1 bear/regulatory year, and maintained the unlimited number of registration permits. The BOG also set a cap (to begin in calendar year 2014) on human caused brown bear mortalities of 70 human caused mortalities annually based on at least a 3 year running average. During calendar year 2013 the recorded human caused brown bear mortalities reached 69.

There are no identified Intensive Management control efforts for black or brown bears.

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): Increase available moose browse through mechanical treatment and work with other agencies to develop a long term habitat management strategy.

Area treated and method: Timber (mainly spruce, aspen, and some birch) was harvested on about 85 acres in GMU 15A. Portions of that area were scarified and approximately 1,000 birch seedlings were planted.

Observation on treatment: Initial visits to the site indicate good survival of the planted seedlings and regeneration of early successional species has started. Since it is early in the project, future updates will provide better insights regarding the success of this project.

Evidence of progress toward objectives: Department staff will continue to work with other government and private companies or organizations to develop a long term habitat management strategy.

Nutritional indicators for moose in assessment area (L) of the GMU 15A Intensive management area: Current research efforts addressing moose productivity and body condition are in the early stages and data are not summarized at this time. Preliminary data indicate that adult cow moose are in relatively poor condition in GMU 15A compared to adult cows in GMU 15C, based on body condition indices.

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 GMU 15A Intensive 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	Research cost ^d
		Time ^b	Cost ^c	Time	Cost		
	2012			12	35.5	185.5	150.0
	2013			13	36.3	286.3	250.0
Year 1	2014	5.0		11	30.9	110.9	75.0
Year 2	2015						
Year 3	2016						
Year 4	2017						
Year 5	2018						

^aState or private funds only.

^bPerson-months (22 days per month)

^cSalary plus operations

^dSeparate 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 for annual

Has progress toward defined criteria been achieved? Yes, we completed initial habitat improvements (85 acres) and are continuing discussions with private organizations and government agency to develop a long term habitat improvement plan. We also issued permits for the wolf control portion of the program, and the public took 2 wolves by aerial shooting in December 2013. A private contractor was hired to attempt ground based trapping efforts within the control area. Poor weather [lack of snow?] hampered initial efforts for ground based methods.

Has achievement of success criteria occurred? We are in the primary stages of this program and unable to evaluate success at this time.

Recommendation for IM practice: Continue. We are still in the first year/season of active wolf control in this area so it is too early to tell if the control activities will have any impact on the moose population. Given the small areas where control efforts can be conducted, it will be difficult to determine if these efforts have any impact on the moose population in GMU 15A. However, we recommend continuing predator control efforts at least through spring 2014.

We recommend continuation of habitat enhancement efforts. As stated in the Operational Plan, we consider lack of habitat as the primary factor for low moose numbers (and consequently moose harvest) in GMU 15A.