

2015 - JCR Evaluation Form

SPECIES: Moose

PERIOD: 6/1/2015 - 5/31/2016

HERD: MO105 - SUBLETTE

HUNT AREAS: 3-5, 10, 20-25

PREPARED BY: DEAN CLAUSE

	<u>2010 - 2014 Average</u>	<u>2015</u>	<u>2016 Proposed</u>
Trend Count:	1,246	999	1,200
Harvest:	223	205	190
Hunters:	252	226	210
Hunter Success:	88%	91%	90 %
Active Licenses:	252	226	210
Active License Success	88%	91%	90 %
Recreation Days:	1,899	1,930	1,900
Days Per Animal:	8.5	9.4	10
Males per 100 Females:	65	67	
Juveniles per 100 Females	40	43	

Trend Based Objective (± 20%) 1,500 (1200 - 1800)

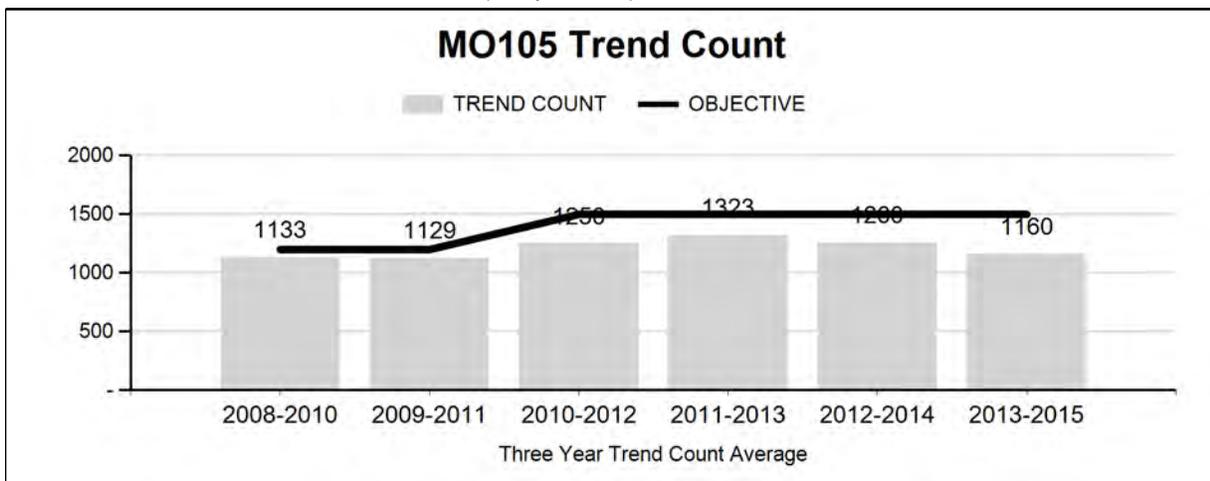
Management Strategy: Special

Percent population is above (+) or (-) objective: -33.4%

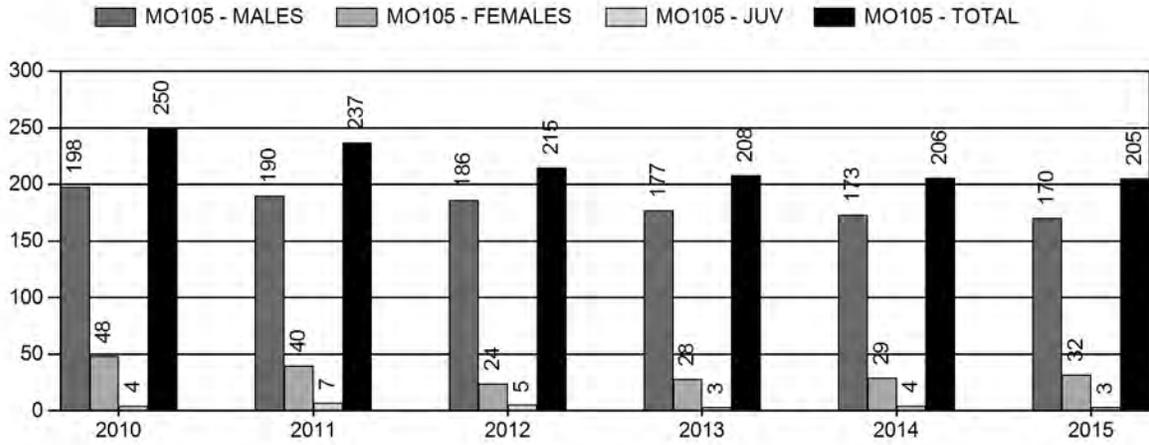
Number of years population has been + or - objective in recent trend: 2

Proposed harvest rates (percent of pre-season estimate for each sex/age group):

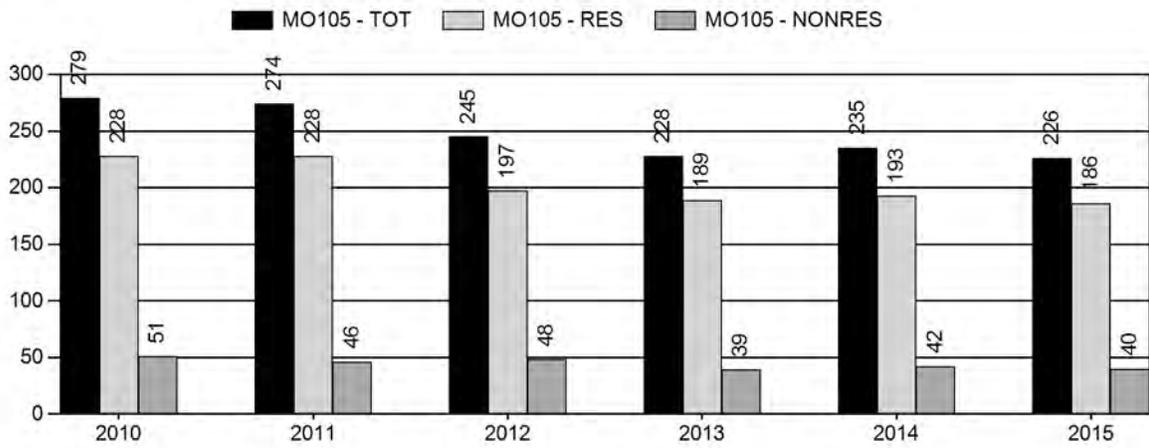
	<u>JCR Year</u>	<u>Proposed</u>
Females ≥ 1 year old:	0%	0%
Males ≥ 1 year old:	0%	0%
Juveniles (< 1 year old):	0%	0%



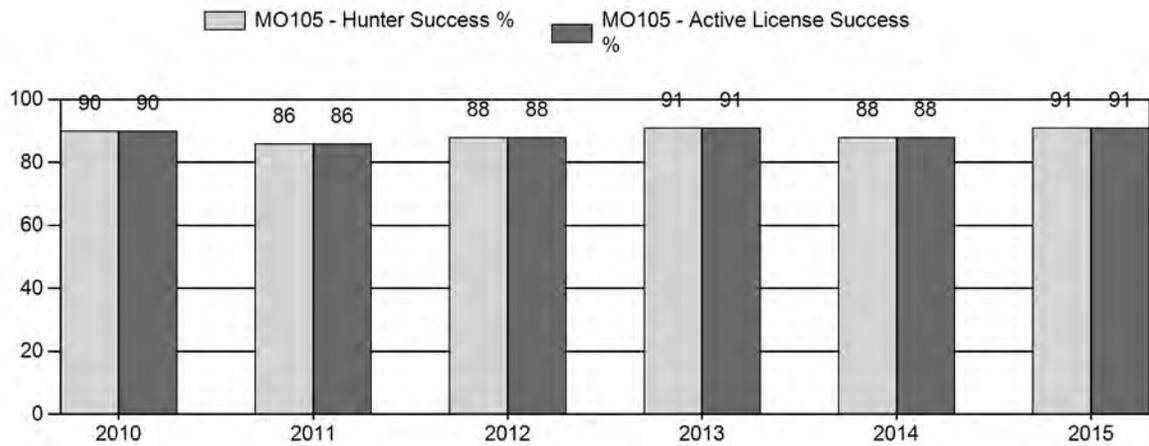
Harvest



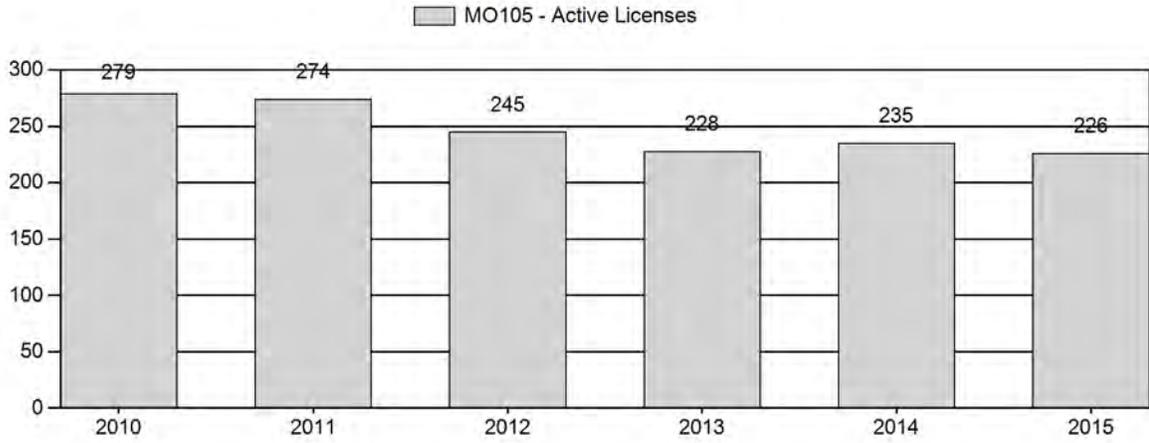
Number of Hunters



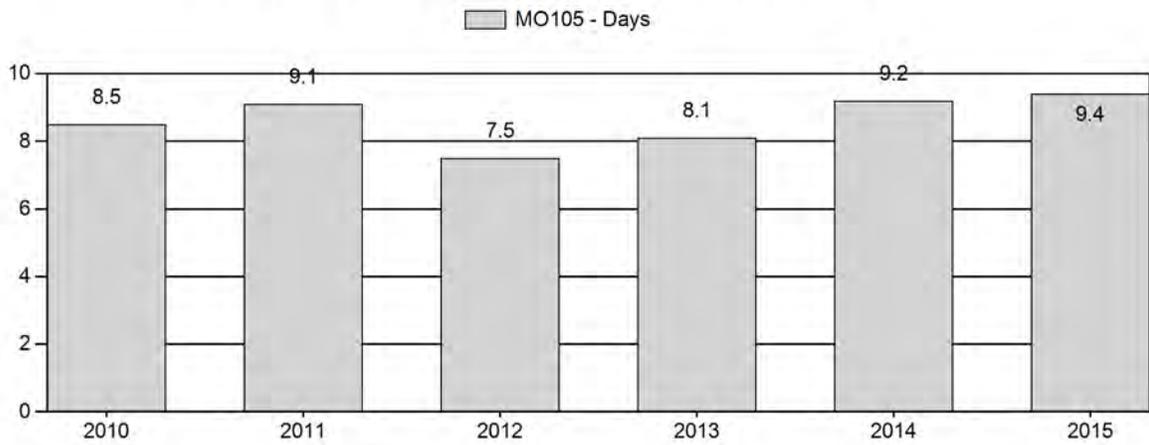
Harvest Success



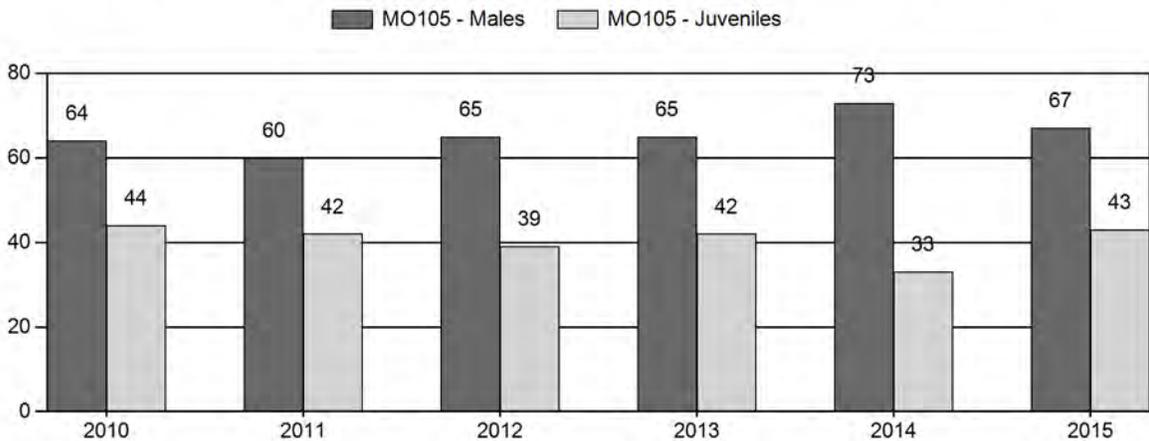
Active Licenses



Days per Animal Harvested



Postseason Animals per 100 Females



2010 - 2015 Postseason Classification Summary

for Moose Herd MO105 - SUBLETTE

Year	Post Pop	MALES				FEMALES		JUVENILES		Tot CIs	Cls Obj	Males to 100 Females				Young to		
		Ylg	Adult	Total	%	Total	%	Total	%			YIng	Adult	Total	Conf Int	100 Fem	Conf Int	100 Adult
2010	4,908	0	361	361	31%	563	48%	246	21%	1,170	1,111	0	64	64	± 0	44	± 0	27
2011	5,000	0	377	377	30%	625	49%	262	21%	1,264	1,016	0	60	60	± 4	42	± 3	26
2012	0	0	413	413	32%	632	49%	247	19%	1,292	1,118	0	65	65	± 0	39	± 0	24
2013	0	0	435	436	31%	669	48%	282	20%	1,387	909	0	65	65	± 0	42	± 0	26
2014	0	0	380	380	35%	518	48%	173	16%	1,071	800	0	73	73	± 0	33	± 0	19
2015	0	0	314	314	32%	469	48%	202	21%	985	886	0	67	67	± 0	43	± 0	26

2016 Seasons – Sublette Moose Herd Unit (MO105)

Hunt Area	Type	Season Dates			Quota	License	Limitations
		Opens	Closes				
3	1	Sep. 20	Oct. 31	10	Limited quota	Antlered moose	
4	1	Sep. 20	Oct. 31	10	Limited quota	Antlered moose	
4	4	Sep. 20	Oct. 31	5	Limited quota	Antlerless moose, except cow moose with calf at side	
5	1	Oct. 1	Oct. 31	25	Limited quota	Antlered moose	
5	4	Oct. 1	Oct. 31	10	Limited quota	Antlerless moose, except cow moose with calf at side	
10	1	Sep. 15	Oct. 31	15	Limited quota	Antlered moose	
20	1	Sep. 15	Oct. 31	15	Limited quota	Antlered moose	
21	1	Sep. 15	Oct. 31	5	Limited quota	Antlered moose, also valid in Area 10	
22	1	Oct. 1	Oct. 31	10	Limited quota	Antlered moose	
23	1	Sep. 15	Oct. 31	20	Limited quota	Antlered moose	
24	1	Sep. 15	Oct. 31	25	Limited quota	Antlered moose	
24	4	Sep. 15	Oct. 31	5	Limited quota	Antlerless moose, except cow moose with calf at side	
25	1	Oct. 1	Oct. 31	45	Limited quota	Antlered moose	
25	4	Oct. 1	Oct. 31	10	Limited quota	Antlerless moose, except cow moose with calf at side	
Archery Seasons							
3, 4		Sept. 1	Sept. 19			Refer to Section 3	
5, 22, 25		Sept. 1	Sept. 30			Refer to Section 3	
10, 20, 21, 23, 24		Sept. 1	Sept. 14			Refer to Section 3	

Note: Boundary Changes in HA 10 and 22

Summary of Changes in License Numbers

Hunt Area	License Type	Quota Changes from 2015
5	1	-5
5	4	-5
22	1	-5
25	4	-5
MO105 Totals	1	-10
	4	-10

Management Evaluation

Current Mid-Winter Trend Count Management Objective: 1,500

Management Strategy: Special

2013 Trend Count: 1,000

Most Recent 3-year Running Average Trend Count: 1,160

The Sublette Moose Herd Unit encompasses approximately 3,306 square miles of occupied moose habitat that lies within portions of Lincoln, Sublette, and Teton Counties. The Wyoming Range and Salt River Range Mountains, along with a portion of the Wind River and Gros Ventre Mountains lie within this herd unit. A total of 10 Hunt Areas (Areas 3, 4, 5, 10, 20, 21, 22, 23, 24, & 25) make up the Sublette Herd Unit. A mid-winter trend objective of 1,500 ($\pm 20\%$) moose is the management objective for this herd unit. This herd unit is also under a “special” management strategy to maintain an average harvest age of 4 years old for bulls as a measure to maintain “trophy” harvest opportunities.

Herd Unit Issues

Undetermined moose deaths have been documented within this herd unit during the past years. The significance of these spring mortalities are currently unknown, and it appears other factors besides hunter harvest is slowing population growth. A study is currently being conducted within a portion of this herd unit to document moose demographics, body condition, and survival rates to help managers better understand issues and problems within this moose population. Preliminary findings from this study have indicated lower than expected adult female survival, fluctuating pregnancy rates, and normal calf survival rates. Factors such as habitat conditions, disease, predation, etc. may be attributing to limited population growth in this herd and research findings may help identify problems and issues associated with this moose population.

Weather

Although winter snow accumulations appear to influence winter counting conditions as trend data increase on low elevation ranges during winters with above average snow depths, little is known about the other affects climate has on this moose herd. Recent weather trends have been drier and warmer, with sporadic periods of harsh winter conditions. Both the 2014-15 and 2015-16 winters have had below normal snow levels at lower basin elevations.

Habitat

The main plant community associations in this herd unit are willow, sagebrush, mixed shrub, aspen, conifer, and alpine communities from low to high elevations (6,500 to 12,500 feet). Moose in this herd unit can be found on both private lands and public land managed by the U.S. Forest Service and Bureau of Land Management (BLM) throughout the year. During the winter, most moose migrate to lower elevation willow riparian, aspen, or mixed shrub dominated habitats associated with lower elevations. Roughly 700 square miles of native winter range have been identified in this herd unit, which encompasses all types of land ownership (private, public, and state trust land).

The 2015 Annual Report Strategic Habitat Plan Accomplishments, Jackson and Pinedale Region sections can be located on the WGFD website or at either the Jackson or Pinedale Game & Fish

Regional Office which provides detailed summaries of habitat work within the Sublette Herd Unit.

Field Data

A lower number of moose were documented during 2014 and 2015 postseason classification surveys compared to 2013 (Table 1). Snow conditions were below normal during the 2014-2015 winter and classification counts were conducted roughly a month later than usual. During the 2015-2016 winter snow conditions were again below normal. Mild conditions the past two winters have resulted in a higher proportion of moose observations scattered outside riparian bottom habitats, which most likely attributed the lower trend counts. High concentrations of moose at lower elevations (Areas 4 and 25) and fewer moose at higher elevation habitats is typical during winter surveys on all years, see Table 1. Trend counts are influenced by winter snow depths. On heavy snow years, moose vacate higher elevation forested habitats where observability is limited and move to lower elevation willow habitats. Budgeted survey time limits the coverage of forested habitats, concentrating survey efforts to lower elevation habitats where moose congregate and observability is good. Overall, trend counts increased from 2009 - 2013 and declined in 2014 and 2015.

Postseason classification surveys for 2015 produced a bull:100 cow ratio of 67:100, slightly higher than the previous 5-year average of 65:100. The 2015 calf: 100 cow ratio of 43:100 was higher than the 5-year average of 40:100. During the previous 5-year periods observed bull:cow and calf:cow ratios have ranged from 60:100 to 73:100 bulls:100 cows and 33:100 to 44:100 calves:100 cows.

Table 1. Trend counts by Hunt Area for the Sublette Moose Herd Unit, 2006-2015.

<u>Hunt Area</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>
3	24	19	11	56	18	38	21	24	22	32
4	248	244	271	212	261	320	319	346	224	235
5	75	76	106	48	100	44	82	79	34	73
10	52	11	7	13	10	8	4	0	10	31
20	13	39	19	10	16	28	13	32	65	49
21	12	10	22	4	30	23	18	11	7	17
22	6	17	28	30	23	27	49	47	17	13
23	60	50	28	60	46	26	52	55	37	32
24	0	0	0	0	0	0	0	0	0	0
<u>25</u>	<u>606</u>	<u>729</u>	<u>788</u>	<u>503</u>	<u>679</u>	<u>754</u>	<u>742</u>	<u>806</u>	<u>664</u>	<u>517</u>
Total	1096	1195	1280	936	1183	1268	1300	1400	1080	999

Harvest Data

A total of 205 moose (170 bulls and 35 cows/calves) were harvested in 2015, similar to the 2013 and 2014 harvest. Harvest estimates have continued to decline slightly during the years, as managers continue to make adjustments the availability of licenses. The total number of licenses issued declined from 630 in 2002 to 230 in 2015, a total decrease of 400 (63%). These reductions in license types since 2002 equates to declines of 83% (230 to 40) of cow/calf licenses and 53% (400 to 190) of bull licenses. Compared to the previous 5-year averages, hunter success was slightly higher at 91%, and hunter effort increase to 9.4 days per animal harvested.

A total of 127 teeth representing approximately 62% of the reported 2014 harvest were aged using cementum annuli analysis. The 2014 tooth age results from the WGF lab showed an average age of 4.1 (derived from 66% of reported harvest) for bulls and 5.0 (derived from 47% of reported harvest) for cows. Average age of harvest for 2015 increased slightly for both bulls and cows compared to the 2014 (Figure 1). The 10-year average (2006-2015) age of harvest for this herd unit is approximately 4.0 years for both bulls and cows.

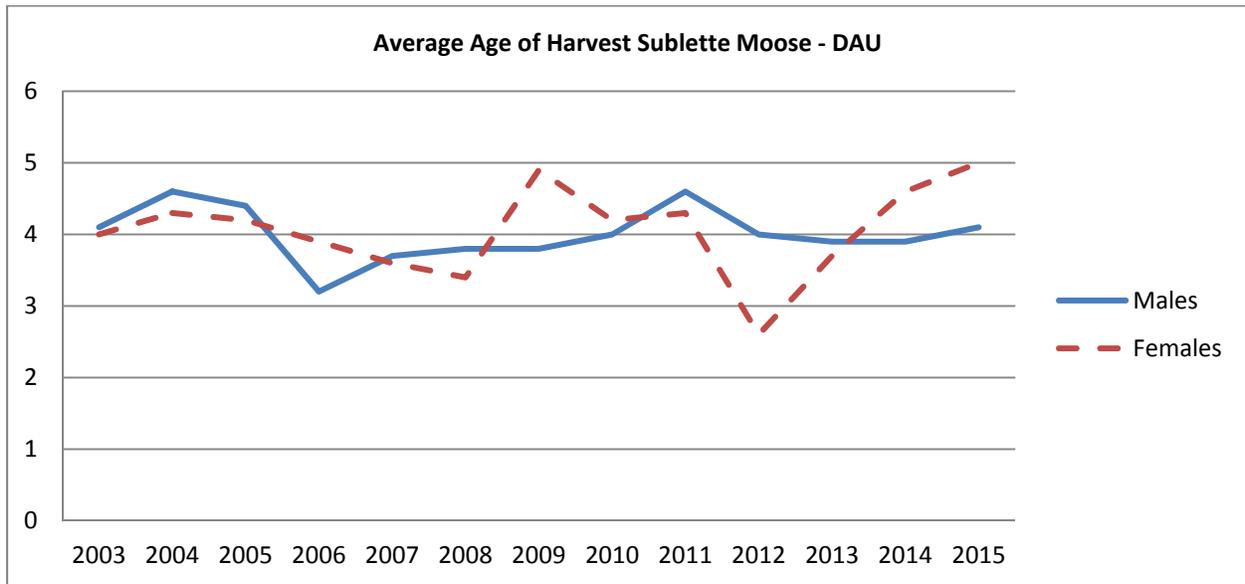


Figure 1. Average age of harvested male and female moose, Sublette Herd Unit, 2003-2015.

Population

Starting in 2013, a mid-winter trend count was approved as the management objective for this herd unit instead post-hunt population estimates. The mid-winter trend objective for this herd is 1,500 moose ($\pm 20\%$). The 2015 mid-winter trend count was 999 moose and the most recent 3-year average (2013-2015) trend is 1160 moose. This trend count does not represent the actual or estimated moose population.

Past population modeling efforts for this herd have typically produced estimates higher, usually ~75% higher, than what annual trend counts document. Maintaining comparable classification survey efforts (flight time) compared to past years will provide managers a reliable data set that will reflect population trends in this herd unit. These mid-winter trend counts do not reflect the actual moose population, as not all areas with wintering moose are surveyed and not all moose are observed in those areas that are surveyed.

Management Summary

Data for this herd unit suggest this postseason moose population declined during the late 1990's, stabilized in 2004 and 2005, then began slowly increasing through 2013. During 2014 calf:cow and bull:cow ratios fluctuated more than usual, as reproductive rates dropped to 33 calves:100 cows, and male ratios increased to 73 bulls:100cows. In 2015 calf and bull ratios returned to average levels. Harvest success remains high and hunter satisfaction appears good in most hunt areas. In addition, average age of harvested males is adequate and hunter reported antler widths

average 37 inches, suggesting bull quality is being maintained in this herd unit. Since 2009 trend data suggest the population is slowly increasing, with the exception of the lower counts during 2014 and 2015. Local managers believe these recent lower trend counts is attributed to poor counting conditions due to mild winter conditions and not reflective of a declining moose population.

A few changes were made for the 2016 season. A reduction of five Type 1 licenses in Area 5 (30 to 25 licenses) and a reduction in 10 Type 4 licenses (-5 licenses in both Area 5 and Area 25). Boundary changes were made between Area 10 and Area 22 increasing the size of Area 10, while reducing Area 22 to the north side of Hwy 191. This boundary change resulted in the proposal to reduce the Type 1 licenses in Area 22 by five licenses. Area 21 will be combined with Area 10 due to poor hunter success and high hunter effort in Area 21 the last two years, resulting in a reduction of 5 licenses previously available in Area 21. A total of 180 Type 1 (antlered) and 30 Type 4 (antlerless) licenses are available for 2016. Harvest for 2016 is estimated at 170 bulls and 20 cows/calves for a total harvest of 190 moose. Given average reproduction and survival, this harvest should result in a 2016 mid-winter trend count near 1,200 - 1,300 moose.

