

## 2016 - JCR Evaluation Form

SPECIES: Moose

PERIOD: 6/1/2016 - 5/31/2017

HERD: MO105 - SUBLETTE

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

PREPARED BY: DEAN CLAUSE

	<u>2011 - 2015 Average</u>	<u>2016</u>	<u>2017 Proposed</u>
Trend Count:	1,209	1,287	1,300
Harvest:	214	186	155
Hunters:	242	202	170
Hunter Success:	88%	92%	91 %
Active Licenses:	242	202	170
Active License Success	88%	92%	91 %
Recreation Days:	1,859	1,676	1,400
Days Per Animal:	8.7	9.0	9.0
Males per 100 Females:	66	63	
Juveniles per 100 Females	40	41	

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

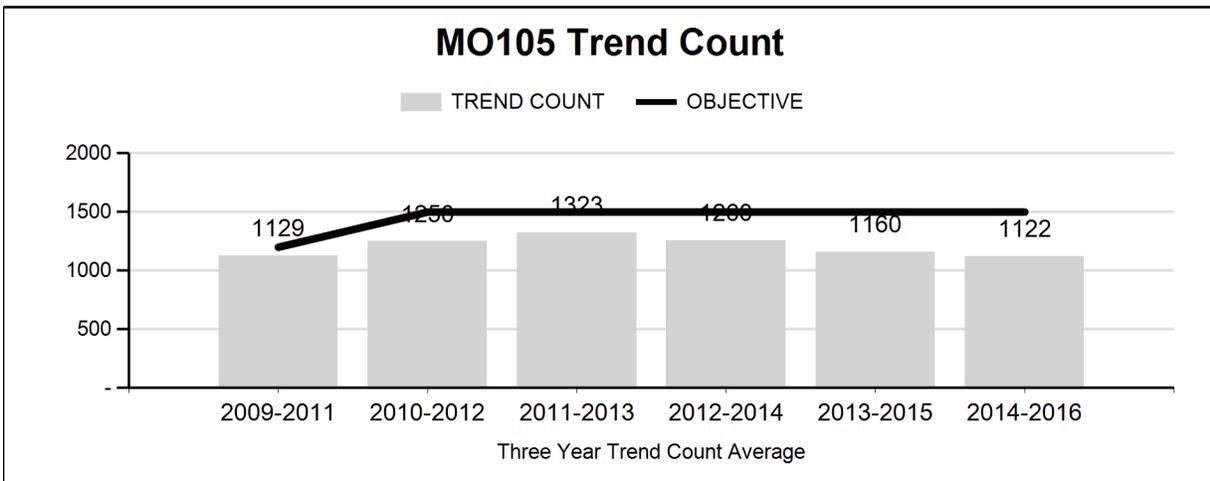
Management Strategy: Special

Percent population is above (+) or (-) objective: -14.2%

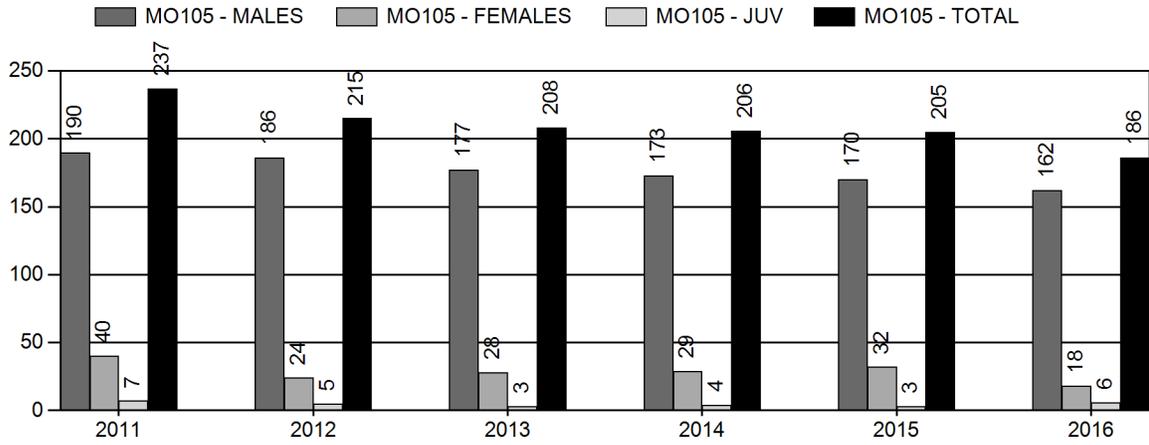
Number of years population has been + or - objective in recent trend: 0

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

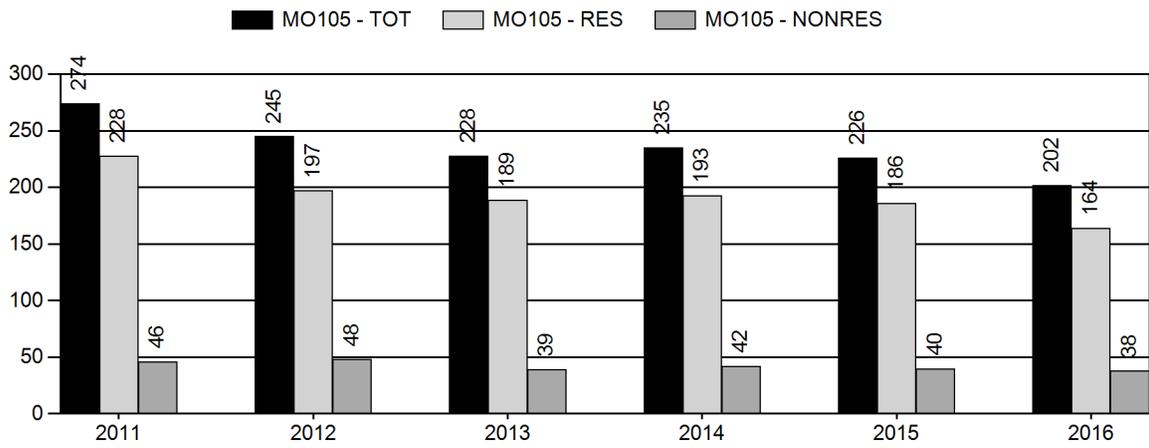
	<u>JCR Year</u>	<u>Proposed</u>
Females ≥ 1 year old:	0%	0%
Males ≥ 1 year old:	0%	0%
Juveniles (< 1 year old):	0%	0%



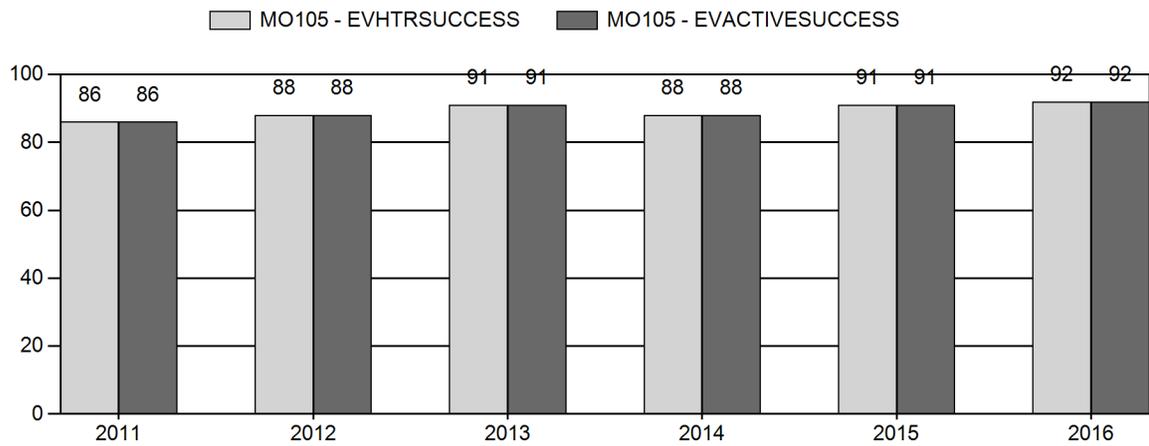
# Harvest



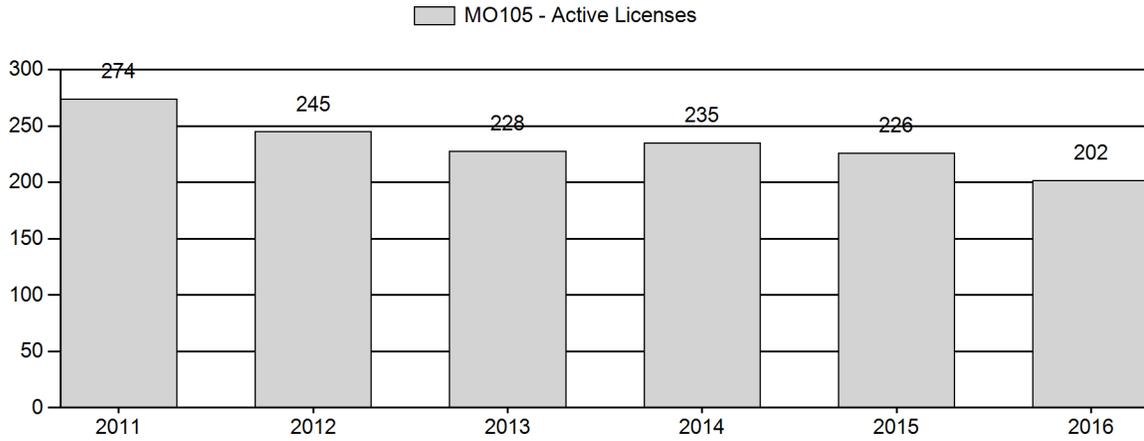
# Number of Active Licenses



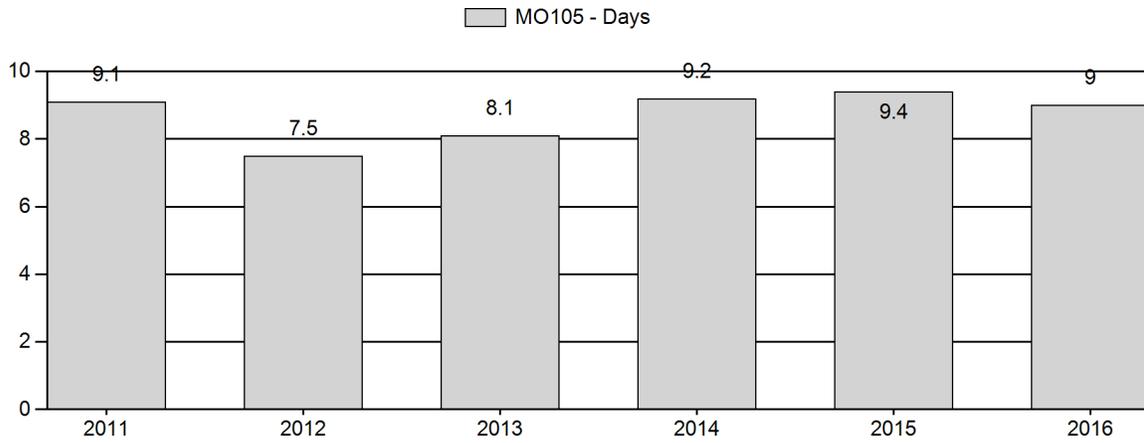
# Harvest Success



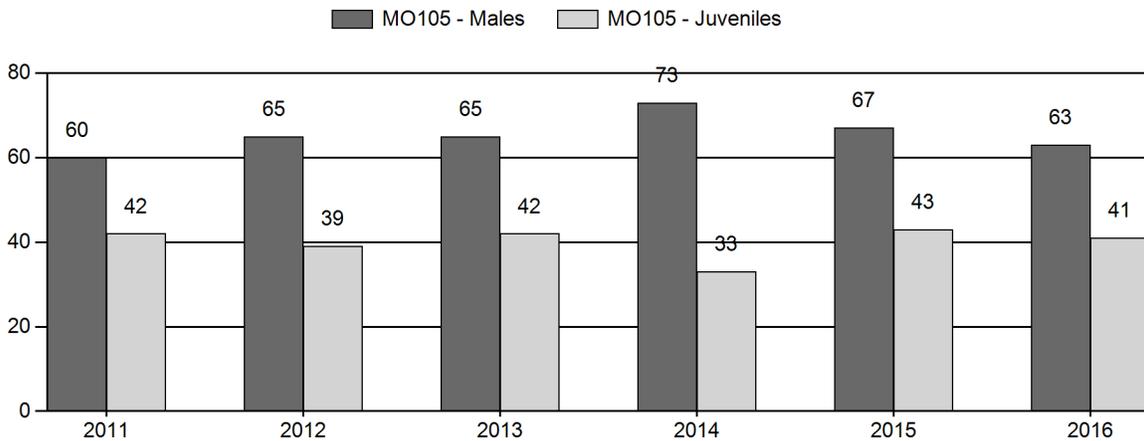
# Active Licenses



# Days per Animal Harvested



# Postseason Animals per 100 Females



**2011 - 2016 Postseason Classification Summary**

for Moose Herd MO105 - SUBLETTE

Year	Post Pop	MALES				FEMALES		JUVENILES		Tot Cls	Cls Obj	Males to 100 Females				Young to		
		Ylg	Adult	Total	%	Total	%	Total	%			Yng	Adult	Total	Conf Int	100 Fem	Conf Int	100 Adult
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	0	0	390	390	31%	620	49%	255	20%	1,265	830	0	63	63	± 0	41	± 0	25

**2017 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
10	1	Sep. 15	Oct. 31	10	Limited quota	Antlered moose, also valid in Area 21
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	5	Limited quota	Antlered moose
23	1	Sep. 15	Oct. 31	15	Limited quota	Antlered moose
24	1	Sep. 15	Oct. 31	20	Limited quota	Antlered moose
25	1	Oct. 1	Oct. 31	45	Limited quota	Antlered moose
25	4	Oct. 1	Oct. 31	5	Limited quota	Antlerless moose, except cow moose with calf at side
<b>Archery Seasons</b>						
3, 4		Sep. 1	Sep. 19			Refer to Section 2 of this Chapter
5, 22, 25		Sep. 1	Sep. 30			Refer to Section 2 of this Chapter
10, 20, 21, 23, 24		Sep. 1	Sep. 14			Refer to Section 2 of this Chapter

<b>Summary of Changes in License Numbers by Hunt Area</b>	<b>License Type</b>	<b>Quota Changes from 2016</b>
5	4	-10 (deleted license type)
10	1	-5
22	1	-5
23	1	-5
24	1	-5
24	4	-5 (deleted license type)
25	4	-5
<b>MO105 Totals</b>	<b>1</b>	<b>-20</b>
	<b>4</b>	<b>-20</b>

### **Management Evaluation**

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

**Management Strategy:** Special

**2016 Trend Count:** 1,287

**Most Recent 3-year Running Average Trend Count:** 1,122

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 for bulls as a measure to maintain “trophy” harvest opportunities.

### **Herd Unit Issues**

Undetermined moose deaths have been documented within this herd unit during 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, parasites, 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 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, while the 2016-17 winter experienced above average snow accumulations throughout the herd unit.

## 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 [2016 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

The 2016 postseason counts resulted in more moose observed compared to the 2014 and 2015 postseason classification surveys (Table 1). Snow accumulations were well above average at the time of this survey and for the 2016-17 winter, resulting in a higher trend count. Snow conditions were below normal during both the 2014-15 and 2015-16 winters resulting in lower trend counts in 2014 and 2015. 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, declined in 2014 and 2015, and increased in 2016.

**Table 1. Trend counts by Hunt Area for the Sublette Moose Herd Unit, 2007-2016.**

<b>Hunt Area</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>
3	19	11	56	18	38	21	24	22	32	20
4	244	271	212	261	320	319	346	224	235	366
5	76	106	48	100	44	82	79	34	73	33
10	11	7	13	10	8	4	0	10	31	16
20	39	19	10	16	28	13	32	65	49	36
21	10	22	4	30	23	18	11	7	17	23
22	17	28	30	23	27	49	47	17	13	2
23	50	28	60	46	26	52	55	37	32	17
24	0	0	0	0	0	0	0	0	0	0
25	729	788	503	679	754	742	806	664	517	774
<b>Total</b>	<b>1195</b>	<b>1280</b>	<b>936</b>	<b>1183</b>	<b>1268</b>	<b>1300</b>	<b>1400</b>	<b>1080</b>	<b>999</b>	<b>1287</b>

Postseason classification surveys for 2016 produced a bull:100 cow ratio of 63:100, slightly lower than the previous 5-year average of 66:100. The 2016 calf: 100 cow ratio of 41:100 was similar to than the 5-year average of 40:100. During the previous 5-year periods the observed

bull:cow ratio has ranged from 60:100 to 73:100 and calf:cow ratio ranged from 33:100 to 43:100.

**Harvest Data**

A total of 186 moose (162 bulls and 24 cows/calves) were harvested in 2016. Harvest has continued to decline slightly during the years, as managers continue to make adjustments in licenses quotas. The total number of licenses issued declined from 630 in 2002 to 210 in 2015, a total decrease of 420 (67%). These reductions by license type since 2002 equates to declines of 87% (230 to 30) of cow/calf (Type 4) licenses and 55% (400 to 180) of bull (Type 1) licenses. Compared to the previous 5-year averages, hunter success was higher at 92%, and hunter effort remained similar at 9 days per animal harvested.

A total of 106 teeth representing approximately 57% of the reported 2016 harvest were aged using cementum annuli analysis. The 2016 tooth age results from the WGFD lab showed an average age of 4.0 (derived from 60% of reported harvest) for bulls and 2.4 (derived from 50% of reported harvest) for cows. Average age of harvest for 2016 remained similar for bulls and declined for cows compared to the 2015 (Figure 1). The low sample sizes used to derive female ages in recent years results in erratic and unreliable trends. The 10-year average (2007-2016) age of harvest for this herd unit is approximately 4.0 years for both bulls and cows.

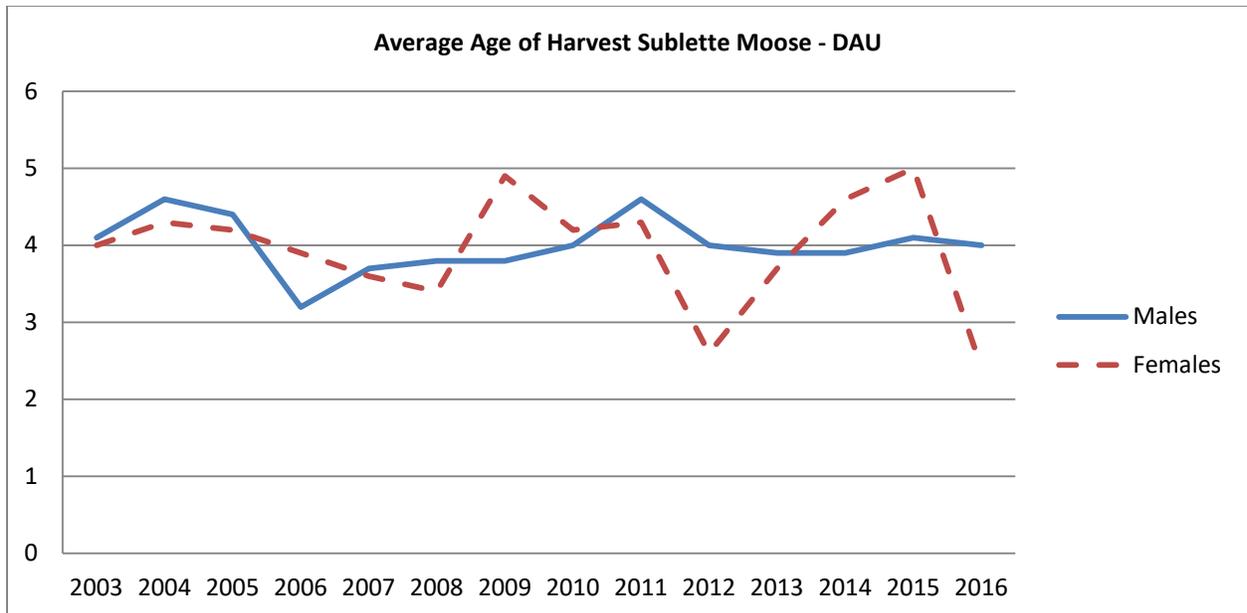


Figure 1. Average age of harvested male and female moose, Sublette Herd Unit, 2003-2016.

**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 (± 20%). The 2016 mid-winter trend count was 1,287 moose and the most recent 3-year average (2014-2016) trend is 1,122 moose.

Past population modeling efforts for this herd have typically produced estimates higher, usually ~75% higher, than what annual trend counts document. Maintaining comparable classification

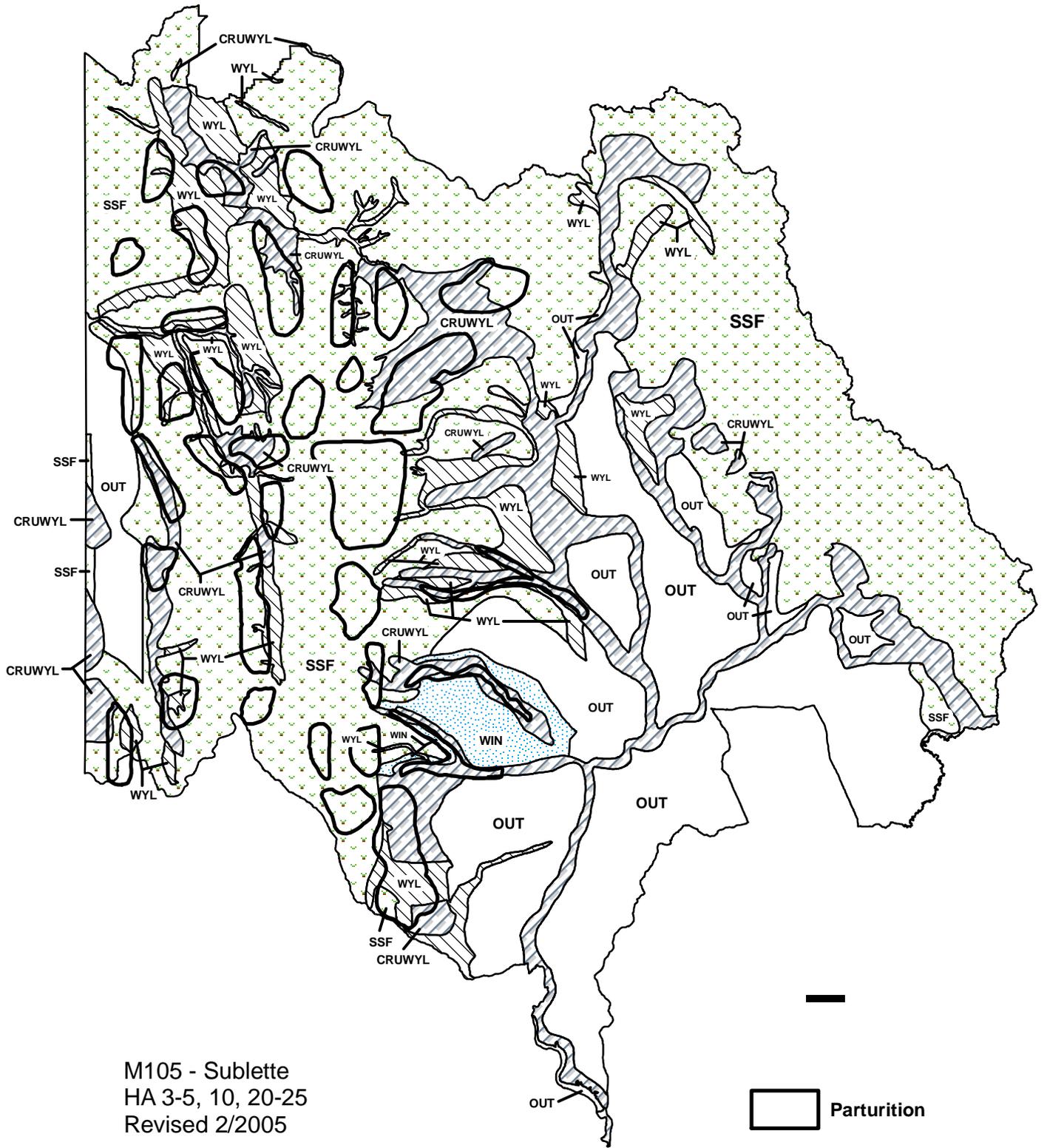
survey efforts (flight time) compared to past years will provide managers a reliable data set that will reflect population trends in this herd unit. These mid-winter trend counts do not reflect the actual moose population, as not all areas with wintering moose are surveyed and not all moose are observed 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 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 and 2016 calf and bull ratios returned to average levels. Local managers believe the lower trend counts in 2014 and 2015 is attributed to poor counting conditions due to mild winter conditions and not reflective of a declining moose population, which is confirmed by the higher documented trend count in 2016. 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 stable or slowly increasing.

The license changes made for the 2017 season continue to be conservative as the 3-year mid-winter trend average is below the management objective (1200 -1800 moose) and herd growth has been stable in recent years. A reduction of 20 Type 1 licenses from four hunt areas (Areas 10, 22, 23 and 24) along with reducing 20 Type 4 licenses from three hunt areas (Areas 5, 24, and 25) for a total reduction of 40 licenses for the 2017 season. The reduction in Type 4 licenses results in elimination of all antlerless moose harvest opportunities in Area 5 and Area 24, leaving Type 4 licenses only available in Area 4 and Area 25.

A total of 160 Type 1 (antlered) and 10 Type 4 (antlerless) licenses are available for 2017. Harvest for 2017 is estimated at 144 bulls and 9 cows/calves for a total harvest of 153 moose. Given average reproduction and survival, this harvest should result in a 2017 mid-winter trend count near 1,300 - 1,350 moose.



M105 - Sublette  
 HA 3-5, 10, 20-25  
 Revised 2/2005

