

2016 - JCR Evaluation Form

SPECIES: Mule Deer

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

HERD: MD104 - SUBLETTE

HUNT AREAS: 130-131, 138-142, 146, 150-156, 162

PREPARED BY: DEAN CLAUSE

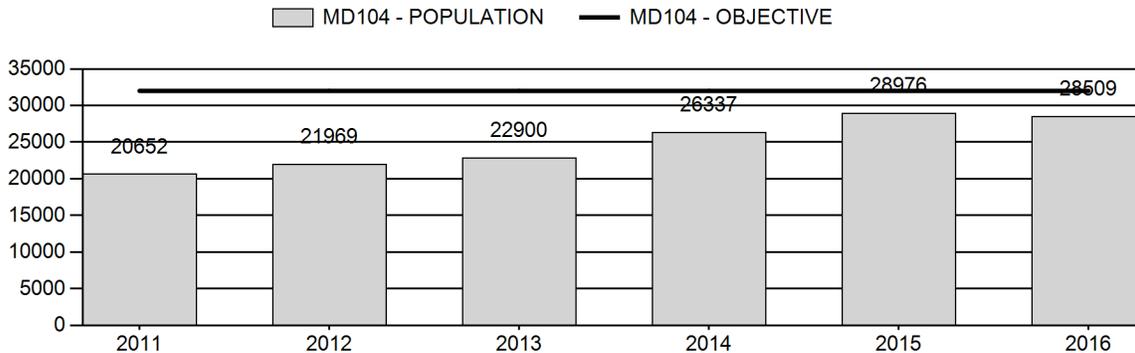
	<u>2011 - 2015 Average</u>	<u>2016</u>	<u>2017 Proposed</u>
Population:	24,167	28,509	20,000
Harvest:	1,477	2,302	1,000
Hunters:	4,181	5,040	3,800
Hunter Success:	35%	46%	26%
Active Licenses:	4,202	5,047	3,800
Active License Success:	35%	46%	26%
Recreation Days:	24,116	27,579	25,000
Days Per Animal:	16.3	12.0	25
Males per 100 Females	38	41	
Juveniles per 100 Females	67	61	

Population Objective (± 20%) :	32000 (25600 - 38400)
Management Strategy:	Special
Percent population is above (+) or below (-) objective:	-10.9%
Number of years population has been + or - objective in recent trend:	0
Model Date:	2/26/2017

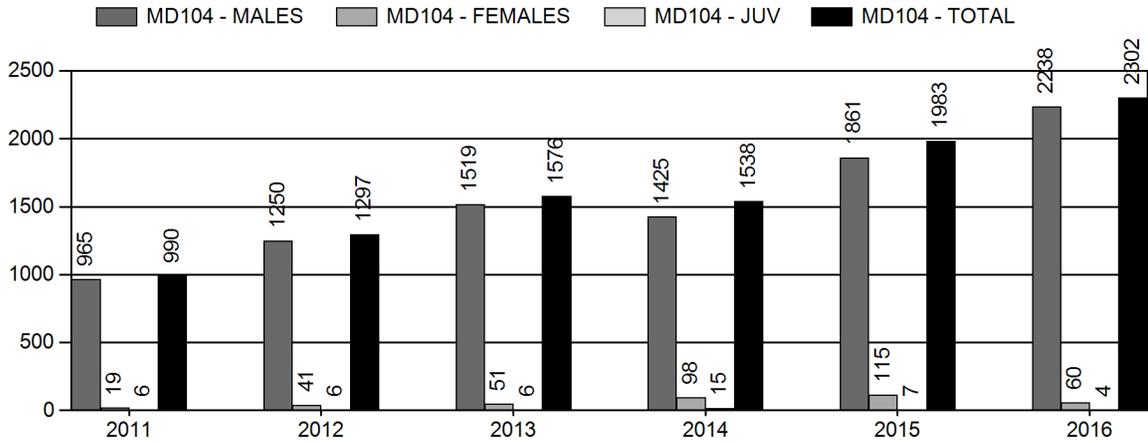
Proposed harvest rates (percent of pre-season estimate for each sex/age group):

	<u>JCR Year</u>	<u>Proposed</u>
Females ≥ 1 year old:	0.5%	0.2%
Males ≥ 1 year old:	31%	20%
Total:	7%	5%
Proposed change in post-season population:	2%	-30%

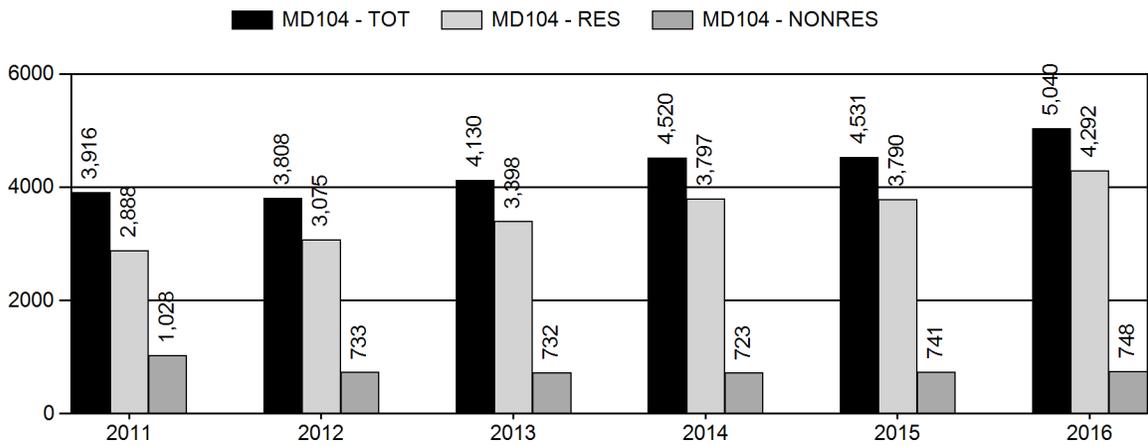
Population Size - Postseason



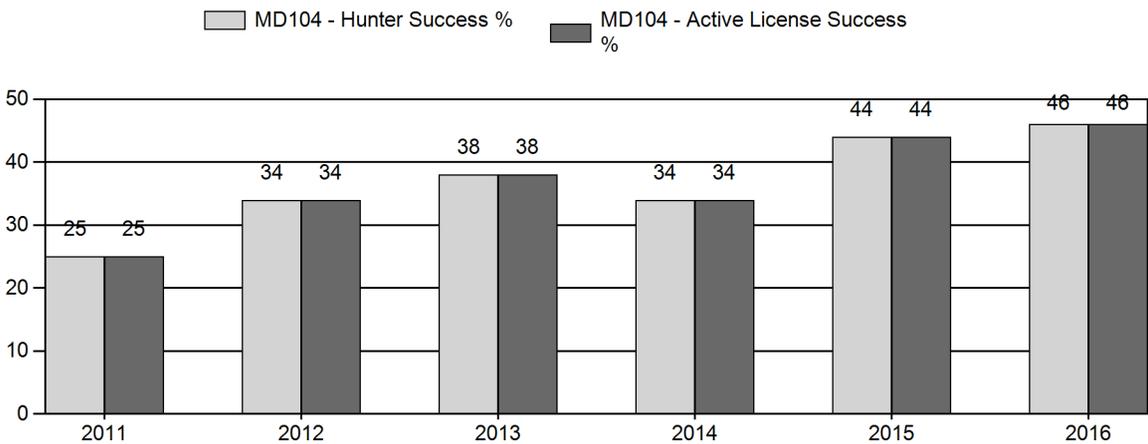
Harvest



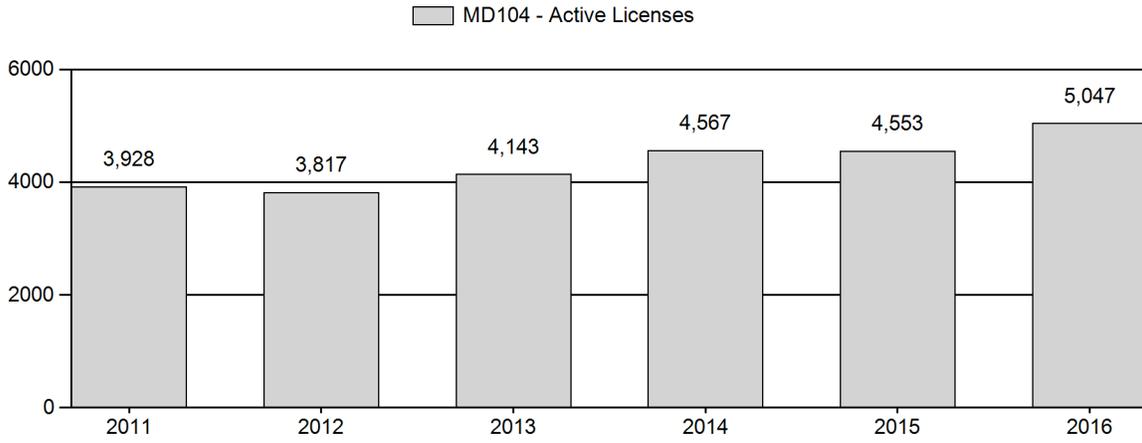
Number of Active Licenses



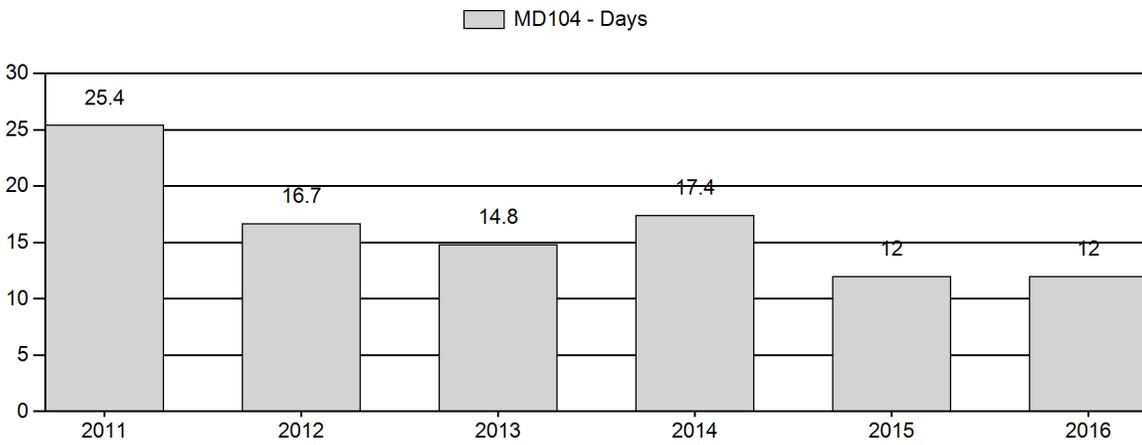
Harvest Success



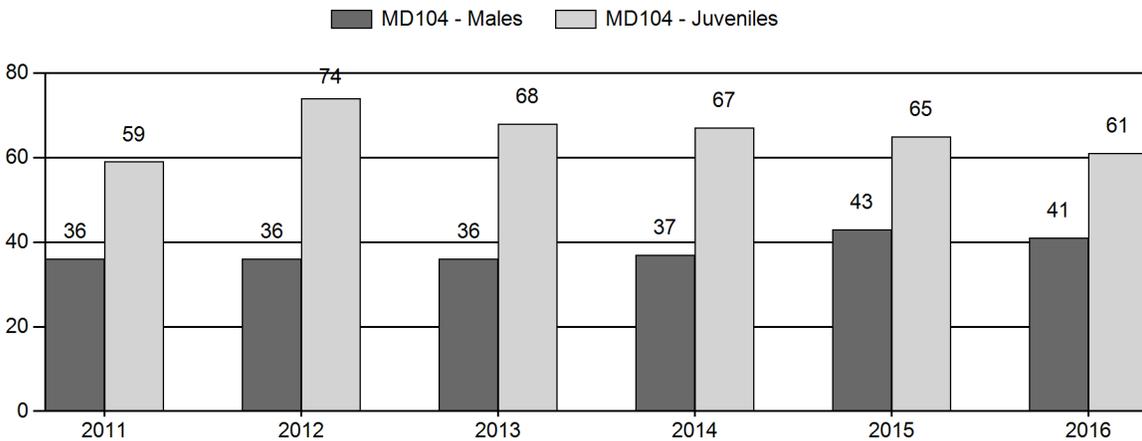
Active Licenses



Days per Animal Harvested



Postseason Animals per 100 Females



2011 - 2016 Postseason Classification Summary

for Mule Deer Herd MD104 - SUBLETTE

Year	Post Pop	MALES						FEMALES		JUVENILES		Males to 100 Females				Young to					
		Ylg	2+ Cls	2+ Cls	2+ Cls	2+ UnCls	Total	%	Total	%	Total	%	Tot Cls	Cls Obj	Ylng	Adult	Total	Conf Int	100 Fem	Conf Int	100 Adult
2011	20,652	173	0	0	0	894	1,067	18%	2,985	51%	1,747	30%	5,799	1,141	6	30	36	±1	59	±2	43
2012	21,969	357	0	0	0	890	1,247	17%	3,498	48%	2,598	35%	7,343	1,626	10	25	36	±1	74	±2	55
2013	22,900	575	0	0	0	895	1,470	18%	4,044	49%	2,745	33%	8,259	1,436	14	22	36	±1	68	±2	50
2014	26,337	620	514	483	144	0	1,761	18%	4,699	49%	3,167	33%	9,627	1,420	13	24	37	±1	67	±2	49
2015	28,976	766	585	490	217	0	2,058	21%	4,768	48%	3,106	31%	9,932	1,463	16	27	43	±1	65	±2	46
2016	28,509	660	646	647	231	5	2,189	20%	5,285	49%	3,207	30%	10,681	1,248	12	29	41	±1	61	±1	43

2017 Seasons - Sublette Mule Deer (MD104)

Hunt Area	Type	Season Dates		Quota	License	Limitations
		Opens	Closes			
130		Oct. 1	Oct. 6		General	Antlered mule deer three (3) points or more on either antler or any white-tailed deer
130	1	Oct. 15	Oct. 31	20	Limited quota	Antlered mule deer three (3) points or more on either antler or any white-tailed deer
130	6	Oct. 1	Oct. 31	25	Limited quota	Doe or fawn valid on private land within Sweetwater County
131		Oct. 1	Oct. 6		General	Antlered mule deer four (4) points or more on either antler or any white-tailed deer
138		Sep. 15	Oct. 6		General	Antlered mule deer three (3) points or more on either antler or any white-tailed deer
138, 139, 140, 142, 143	3	Oct. 1	Nov. 30	50	Limited quota	Any white-tailed deer
139		Sep. 15	Oct. 6		General	Antlered mule deer three (3) points or more on either antler or any white-tailed deer
140		Sep. 15	Oct. 6		General	Antlered mule deer three (3) points or more on either antler or any

Hunt Area	Type	Season Dates		Quota	License	Limitations
		Opens	Closes			
						white-tailed deer
141	1	Oct. 1	Oct. 21	80	Limited quota	Antlered mule deer three (3) points or more on either antler or any white-tailed deer
141	1	Oct. 22	Oct. 31			Antlered mule deer three (3) points or more on either antler or any white-tailed deer on national forest
142		Sept. 15	Oct. 6		General	Antlered mule deer three (3) points or more on either antler or any white-tailed deer
146		Sep. 15	Oct. 6		General	Antlered mule deer three (3) points or more on either antler or any white-tailed deer
150		Sep. 15	Oct. 6		General	Antlered mule deer three (3) points or more on either antler or any white-tailed deer
151		Sep. 15	Oct. 6		General	Antlered mule deer three (3) points or more on either antler or any white-tailed deer
151		Oct. 4	Oct. 31		General	Antlerless white-tailed deer
152		Sep. 15	Oct. 6		General	Antlered mule deer three (3) points or more on either antler or any white-tailed deer
152		Oct. 4	Oct. 31		General	Antlerless white-tailed deer
153		Sep. 15	Oct. 6		General	Antlered mule deer three (3) points or more on either antler or any white-tailed deer
154		Sep. 15	Oct. 6		General	Antlered mule deer three (3) points or more on either antler or any white-tailed deer
155		Sep. 15	Oct. 6		General	Antlered mule deer three (3) points or more on

Hunt Area	Type	Season Dates		Quota	License	Limitations
		Opens	Closes			
						either antler or any white-tailed deer
156		Sep. 15	Oct. 6		General	Antlered mule deer three (3) points or more on either antler or any white-tailed deer
Archery						
130,131, 141		Sept. 1	Sept. 30			Refer to Section 2 of this Chapter
138-140, 142,146, 150-156		Sept. 1	Sept. 14			Refer to Section 2 of this Chapter

REGION H NON-RESIDENT QUOTA - 600 LICENSES

Summary of Changes in License Numbers

Hunt Area	License Type	Quota Changes from 2016
130	1	-5
141	1	-20
Region H		-200
Herd Unit Total	1	-25
	Region H	-200

Management Evaluation

Current Postseason Population Management Objective: 32,000

Management Strategy: Special

2016 Postseason Population Estimate: ~28,500

2017 Proposed Postseason Population Estimate: ~20,000

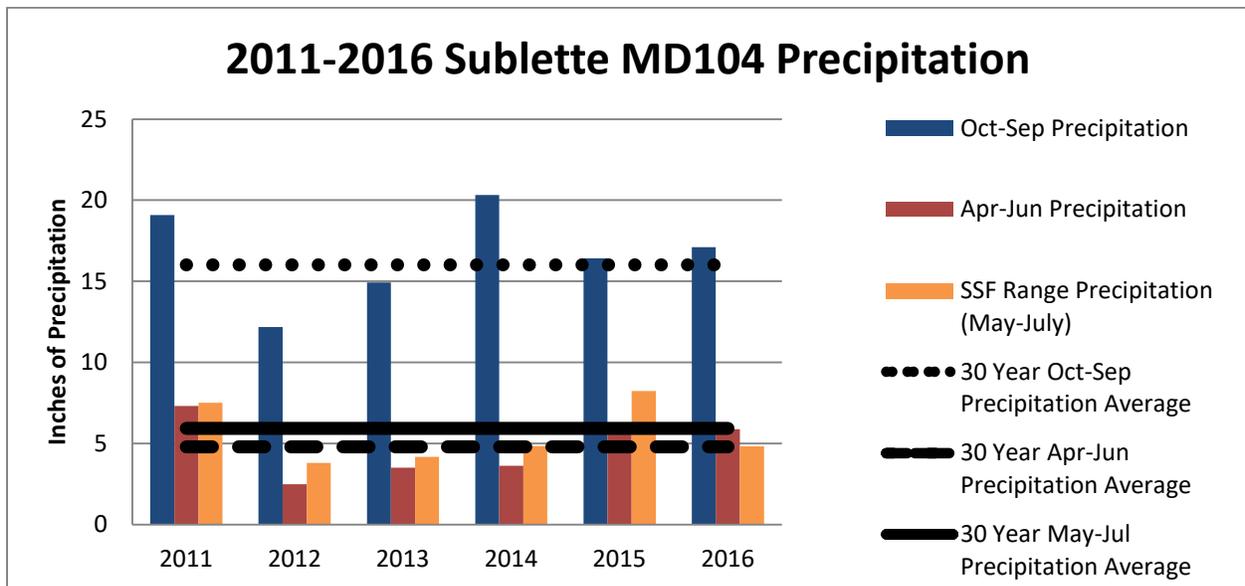
The Sublette Mule Deer Herd Unit is very large and contains habitat throughout Teton, Sublette, Lincoln and Sweetwater Counties. This deer herd contains 16 hunt areas (130, 131, 138-142, 146, 150-156, 162) and is managed under special status which mandates postseason buck:100 doe ratio that range between 30 to 45:100. With the recent findings of seasonal deer movements outside the Steamboat Herd Unit, managers consolidated the Sublette and Steamboat herd units into one, referred to as the Sublette Herd Unit (MD104). This recommendation to consolidate herd units (eliminating the Steamboat Herd Unit) was approved by the WYGF Commission in 2014. A population objective of 32,000 deer with a “special” management buck ratio objective of 30 to 45 bucks: 100 does, same as past objectives identified for the Sublette Herd, was also approved to provide future management direction for the Sublette Herd.

Herd Unit Issues

Winter survival, habitat condition and quality on winter ranges, and habitat loss (direct and indirect) from gas and residential development are the primary issues the influencing population

dynamics in this herd unit. During the past 10 years, this deer herd experienced two winters that resulted in above normal fawn mortality (> 50% loss). Winter conditions experienced in 2016-17 will result in another above average deer die-off. Prior to this winter, the 2010-11 winter fawn mortality estimates exceed 70%. Winter fawn mortality averages estimate around 30% on most years when winter severity is moderate to average. Current annual growth on key winter browse species has varied among years, but the overall habitat conditions remain poor with some improved on certain years. Gas field development has and will continue to impact deer numbers within this herd unit. The Pinedale Anticline gas field development overlaps with crucial winter range located on the Mesa, where annual population estimates indicate deer numbers have declined by roughly 40% from 2001 – 2016. Studies have demonstrated that deer avoid areas with intensive winter gas development, resulting in less forage available for wintering deer within and adjacent to gas development.

Weather



Precipitation

Overall precipitation from October 2015 through September 2016 was slightly above average when averaged across the entire herd unit. The general characteristics included a relatively dry winter followed by average spring precipitation. Fortunately, growing season (April through June) precipitation was above average which resulted in good vegetation production across all ranges.

Winter Severity

The 2016-2017 winter has been extreme with below average temperatures and above average snow on winter ranges. Snow crusting has also resulted from temperature extremes creating difficult foraging conditions. The mule deer fawn and adult mortality from the 2016-17 was high with an estimated fawn loss of 85% and adult loss near 35%. This extreme winter follows three winters of mild conditions resulting in good over-winter survival for fawns and adults. High elevation mountain ranges have received above average snow levels.

Habitat

Sagebrush and other shrubs produced good leader growth in 2016 which provided a good quantity of forage on winter ranges. However, many shrubs are under snow and largely unavailable on extreme winters. Current snow conditions do not indicate deer will leave winter ranges early, but weather in the next two months can significantly impact those conditions.

Habitat Significant Events

Habitat treatments were conducted at several locations in 2016 throughout the herd unit. The Sublette Mule Deer Mitigation project implemented its first year of treatments including 1,600 acres of sagebrush mowing, 210 serviceberry and chokecherries were planted and a livestock exclusion fence was constructed. Other treatments include 640 acres of aspen treatments, 1,000 willow cuttings planted for riparian restoration and 6 miles of fences converted to wildlife friendly at Rolling Thunder Ranch; 2,443 acres of cheatgrass sprayed on the Wind River front; and the 34,000 acre Cliff Creek Wildfire in the Hoback basin. More detailed information can be obtained by reading the Pinedale Region report in the 2016 Strategic Habitat Plan (SHP) Annual Report.

Habitat Monitoring

Winter Range Shrub transects were not monitored in 2016 by Department personnel, but monitoring associated with past and future treatments was conducted throughout the herd unit and is discussed in more detail in the 2016 SHP Report.

Rapid Habitat Assessments

In 2015, Department personnel initiated the Rapid Habitat Assessment methodology to survey important mule deer habitats. This method strives to capture large-scale habitat quality metrics to better understand how the habitat is providing for the current population of mule deer. The overall end result of this effort will be to provide a standardized habitat component to discussions about how mule deer objectives should or should not be adjusted based on the general concept of carrying capacity. This data will be summarized prior to the objective review in 2019 for this herd, incorporating 2015-2019 data at that time. In 2016, 14 Aspen (2,559 acres) and 7 Rangeland (7,491 acres) Assessments were completed throughout the herd unit by personnel in the Jackson and Pinedale Regions.

Field Data

Postseason herd composition (classification) counts in early December 2016 totaled 10,681 deer. The number of deer counted has incrementally increased during previous year's surveys (9,932 deer in 2015, 9,627 deer in 2014 and 8,259 in 2013 and 7,343 in 2012). Snow cover was present on most areas surveyed during 2016, with deer distribution occupying all traditional winter habitats. Survey effort and timing to conduct these herd composition counts has remained similar on all years.

The postseason 2016 total buck:100 doe ratio of 41:100 is higher than the previous 5-year average of 38:100 and is meeting management goals for this herd unit. Yearling buck:100 doe ratio in 2016 were decent at 12:100 indicating good fawn survival during the past year. Adult buck ratios vary annually based on yearling buck recruitment and buck harvest levels. Mild winter conditions during the past three years have produced good buck recruitment, resulting in higher total buck and adult buck ratios during 2015 and 2016.

The 2016 fawn: 100 doe ratio of 61:100 was lower to that observed in 2015 and has shown a downward trend since 2012. The previous 5-year average fawn: 100 doe ratio is 67:100. Good fawn production, along with winter survival are important for population growth and sustainability in this herd unit. Fawn production and recruitment through the winter has been sporadic in this herd and appears to influence population trend the most.

Harvest Data

The 2016 harvest was approximately 2,300 total deer (2,200 bucks and 100 does/fawns), higher than the 2015 harvest of approximately 2,000 deer (1,900 bucks and 100 does/fawns). Since the low harvest reported in 2011, harvest has gradually increased within this herd. Similar to harvest rates, hunter success has also shown increasing trends with a reported success of 46% in 2016 compared to the average success rate of 35% during the previous 5-year period. Hunter effort has shown a declining trend in recent years at 12 days/harvest during both 2015 and 2016, compared to the 5-year average of 16 days/harvest. The hunting seasons in 2011-2016 were more conservative compared to previous years, as all doe/fawn harvest opportunities were eliminated (except for youth), season lengths were slightly shortened, and limited quota licenses (including non-resident quotas) were reduced. Harvest and hunter effort trends correlate well with estimated population trends. When this deer population declines, as in 2011, harvest rates and hunter participation decrease, and hunter effort increases. The opposite trend (increase harvest rates, hunters, and reduced hunter effort) is apparent with a population increase as harvest metrics have shown in recent years. Harvest rates vary among hunt areas, as hunting pressure and harvest is highest in Hunt Areas 142, 152, and 154, partially attributed to higher deer densities and little to no wilderness area limitations for non-resident hunters.

Population

The WGFD changed modeling techniques for all of big game herd units in July, 2012. The new spreadsheet model designed by the Colorado Division of Wildlife uses harvest, sex/age ratios, and survival data. With the consolidation of data from the Steamboat Herd (Hunt Area 131) with the Sublette Herd Unit data a new model was incorporated, resulting in a slightly higher 2013 postseason population estimate of roughly 1,700 more deer compared to the previous model. The Time-Specific Juvenile and Constant Adult Survival (TSJ,CA) Model exhibits the best overall fit compared to the other models (Fit = 101 and Relative AICc = 202) resulting in a 2016 postseason population estimate of approximately 28,500 deer. The TSJ,CA model appears to track male:female ratios very well and represent population trends quite well, although local managers feel that actual population estimates derived from this model are inflated above actual deer numbers in this herd. This 2016 population estimate is 11% below the desired objective of 32,000 for this herd unit.

Management Summary

The combination of variable reproductive rates, fawn survival, natural gas development on the Mesa winter complex, and habitat conditions are the primary factors regulating population trends in the Sublette herd unit. The winter/spring losses (fawns and adults) during 2010-11 dropped this population to one of lowest levels ever documented. In addition to years with large winter die-off, other population setbacks have been common in this herd and are primarily attributed to poor fawn survival and poor forage conditions on winter ranges. Overall habitat conditions remain poor, but conditions have improved in recent years. Although the current management

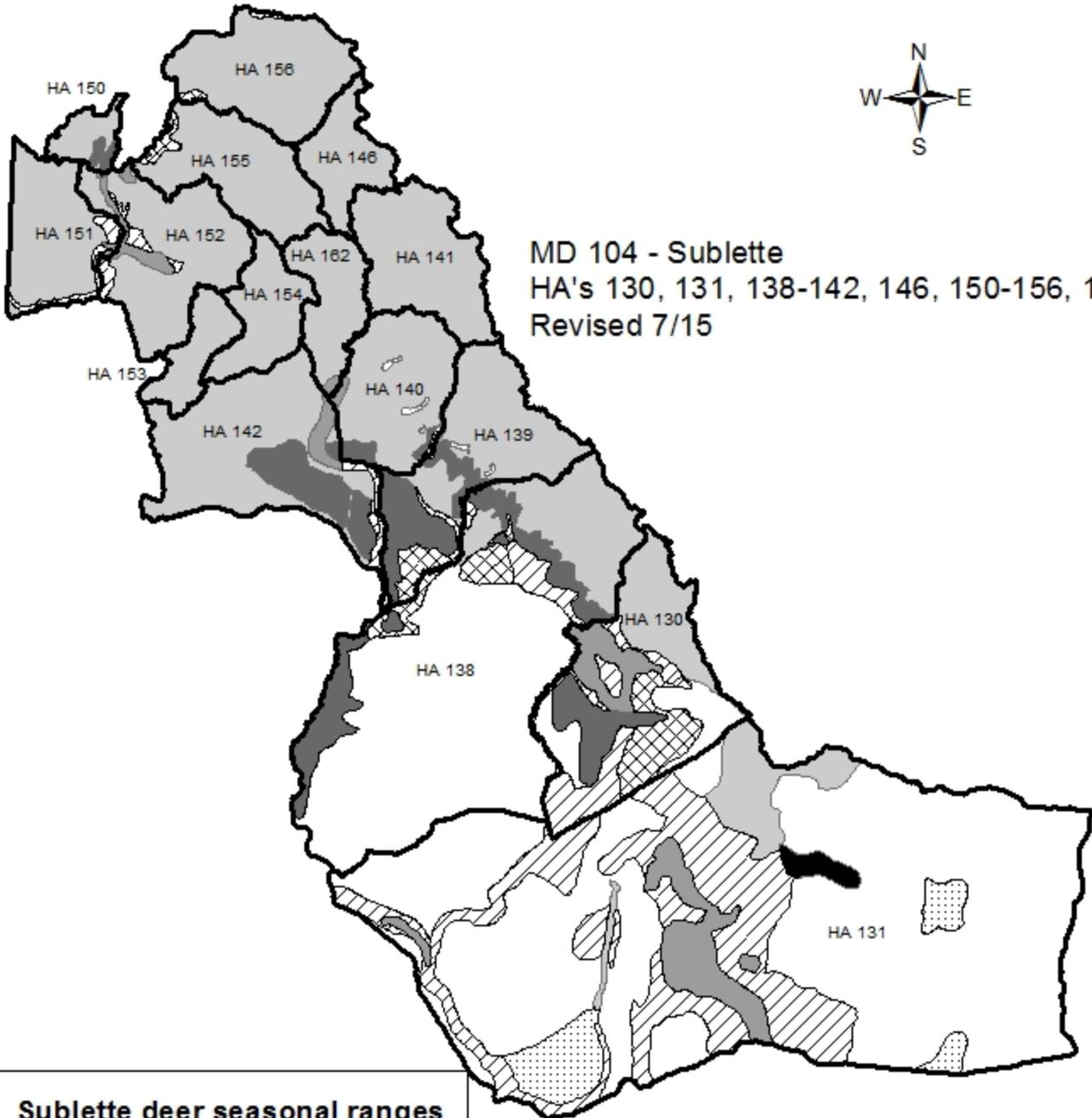
direction is for maximum population growth (no female harvest), female harvest may be necessary at some point in the future to offset degradation of crucial winter habitats and poor survival rates as this population increases. Population estimates indicate the population is roughly 11% below the objective of 32,000 and has shown continuous growth during the past four years, primarily attributed to good overwinter survival due to mild winters. Buck ratios are meeting herd goals (special status; 30-45 bucks:100 does) with trophy buck quality being maintained. Overall hunter satisfaction has been good within this herd in recent years.

With the severe winter conditions (deep snow accumulations and below normal temperatures) experienced during the 2016-17 winter, little forage (browse) was available on much the traditional winter ranges and deer were forced to search and move into habitats not typically used in the winter. Spring data collection efforts such as change-in-ratio surveys, deer mortality documentation, and survival of collared deer estimate fawn loss near 85% and adult loss near 35% from this 2016-17 winter. Although harvest strategies in this herd is already very conservative in allowing primarily buck harvest, some hunting season modifications were made to further reduce harvest rates and maintain adequate buck ratios.

An antler point regulation on mule deer was established for all hunt areas within this herd unit, restricting harvest to bucks with three (3) points or more on either antler in an effort to help maintain buck ratios above 30:100. A general license deer season for most hunt areas will open on September 15 and close October 6 (shortened by 1 day). Doe/fawn harvest opportunities will be the same as in 2012-2016, as only youth hunters will be allowed to harvest doe/fawn deer in general seasons. There will be the same white-tailed deer season of 50 limited quota (Type 3) licenses valid for any white-tailed deer, October 1 – November 30 in Areas 138-140, and 142. Limited quota (Type 1) licenses in hunt areas 141 are reduced to 80 licenses valid for the month of October. Limited quota (Type 1) licenses in hunt area 130 are reduced to 20 licenses with an October 15 to October 31 season. A total of 25 limited quota doe/fawn licenses (Type 6) in Area 130 are available to address damage concerns on private lands near Farson valid in October. The Nonresident Region H quota is reduced to 600 licenses (reduction of 200). The 2016 season is projected to harvest approximately 1,000 deer (950 bucks, 50 doe/fawns).



MD 104 - Sublette
HA's 130, 131, 138-142, 146, 150-156, 162
Revised 7/15



Sublette deer seasonal ranges

RANGE

-  CRUWIN
-  CRUWYL
-  OUT
-  SSF
-  SWR
-  WIN
-  WYL
-  YRL

