2015 - JCR Evaluation Form

SPECIES: Mule Deer

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

HERD: MD104 - SUBLETTE

HUNT AREAS: 130-131, 138-142, 146, 150-156, 162
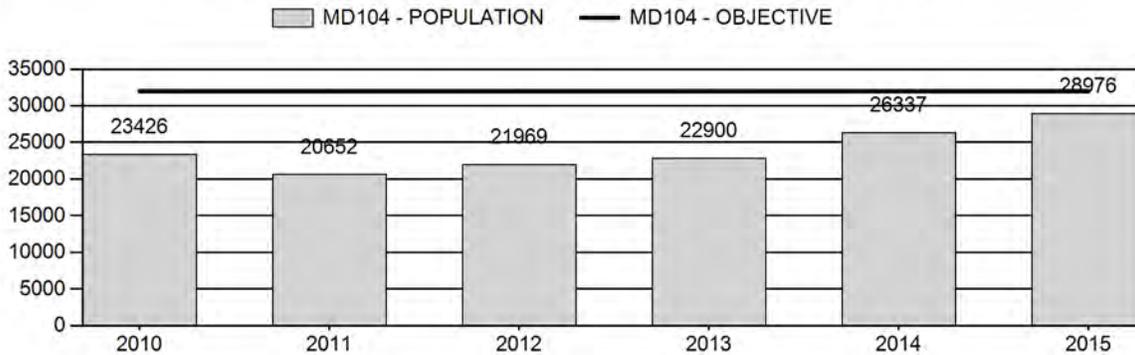
PREPARED BY: DEAN CLAUSE

	2010 - 2014 Average	**2015**	**2016 Proposed**
Population:	23,057	28,976	32,251
Harvest:	1,488	1,983	2,000
Hunters:	4,187	4,531	4,600
Hunter Success:	36%	44%	43 %
Active Licenses:	4,203	4,553	4,600
Active License Success:	35%	44%	43 %
Recreation Days:	24,584	23,767	23,800
Days Per Animal:	16.5	12.0	11.9
Males per 100 Females	36	43	
Juveniles per 100 Females	67	65	

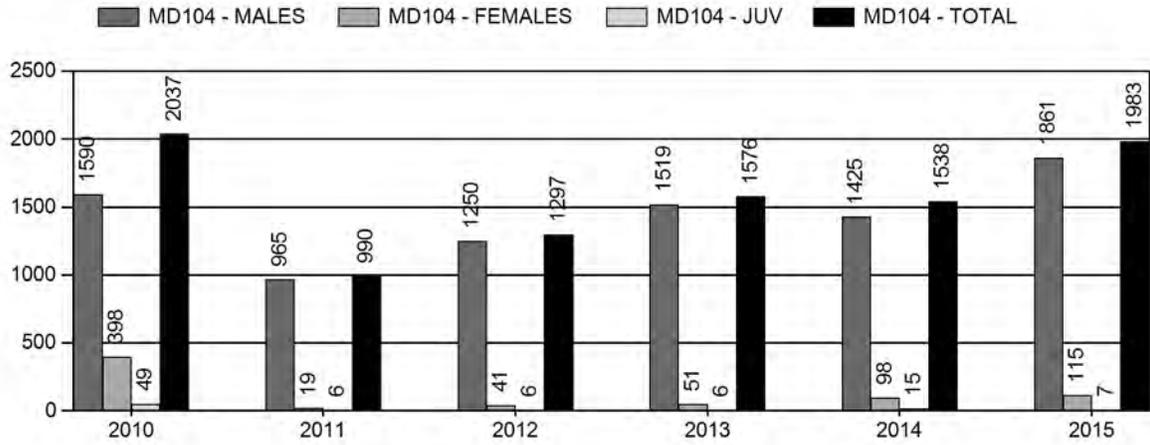|	
Population Objective (± 20%) :	32000 (25600 - 38400)
Management Strategy:	Special
Percent population is above (+) or below (-) objective:	-9.4%
Number of years population has been + or - objective in recent trend:	8
Model Date:	2/19/2016

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

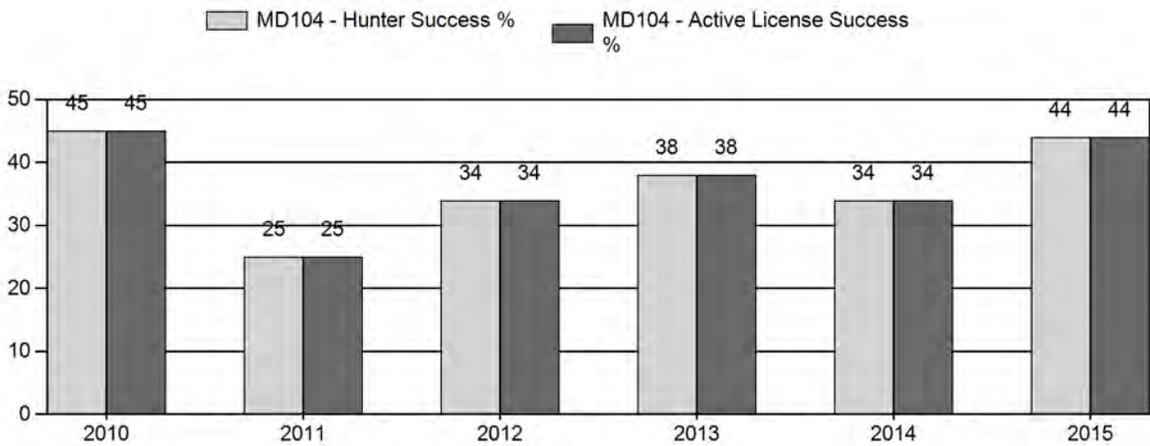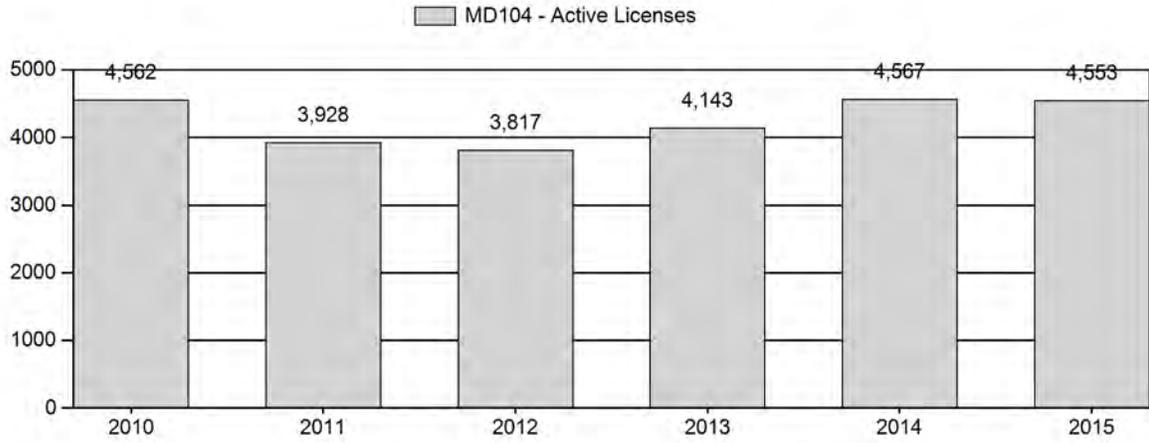|	**JCR Year**	**Proposed**
Females ≥ 1 year old:	0.8%	0.9%
Males ≥ 1 year old:	26%	24%
Juveniles (< 1 year old):	<1%	<1%
Total:	6.0%	6.0%
Proposed change in post-season population:	2%	11%

Population Size - Postseason

□ MD104 - POPULATION ▬ MD104 - OBJECTIVE

Bar chart values by year: 2010: 23426, 2011: 20652, 2012: 21969, 2013: 22900, 2014: 26337, 2015: 28976

Harvest

Legend: MD104 - MALES, MD104 - FEMALES, MD104 - JUV, MD104 - TOTAL

Year	MALES	FEMALES	JUV	TOTAL
2010	1590	398	49	2037
2011	965	19	6	990
2012	1250	41	6	1297
2013	1519	51	6	1576
2014	1425	98	15	1538
2015	1861	115	7	1983

Number of Hunters

Legend: MD104 - TOT, MD104 - RES, MD104 - NONRES

Year	TOT	RES	NONRES
2010	4,562	3,533	1,029
2011	3,916	2,888	1,028
2012	3,808	3,075	733
2013	4,130	3,398	732
2014	4,520	3,797	723
2015	4,531	3,790	741

Harvest Success

Legend: MD104 - Hunter Success %, MD104 - Active License Success %

Year	Hunter Success %	Active License Success %
2010	45	45
2011	25	25
2012	34	34
2013	38	38
2014	34	34
2015	44	44

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Active Licenses

MD104 - Active Licenses

Year	Active Licenses
2010	4,562
2011	3,928
2012	3,817
2013	4,143
2014	4,567
2015	4,553

Days per Animal Harvested

MD104 - Days

Year	Days
2010	12.8
2011	25.4
2012	16.7
2013	14.8
2014	17.4
2015	12
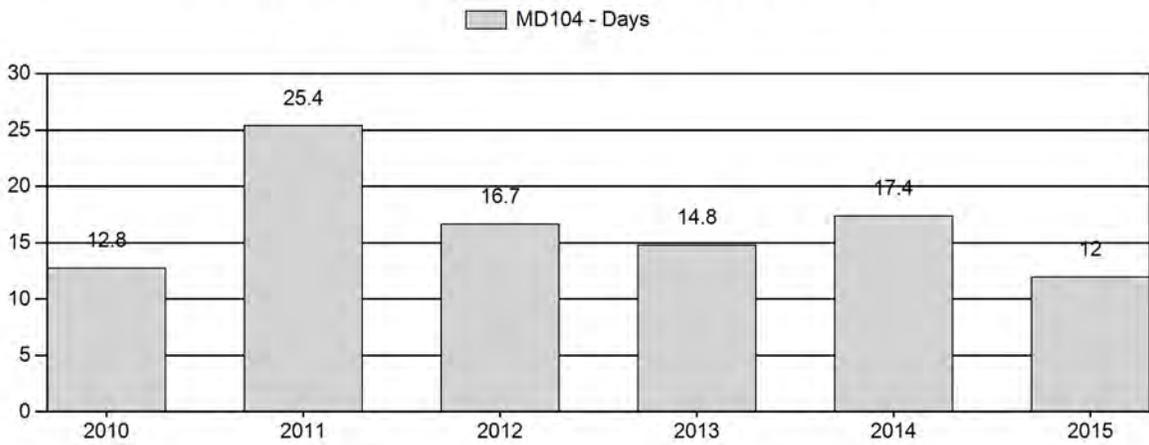
Postseason Animals per 100 Females

MD104 - Males   MD104 - Juveniles

Year	Males	Juveniles
2010	36	65
2011	36	59
2012	36	74
2013	36	68
2014	37	67
2015	43	65
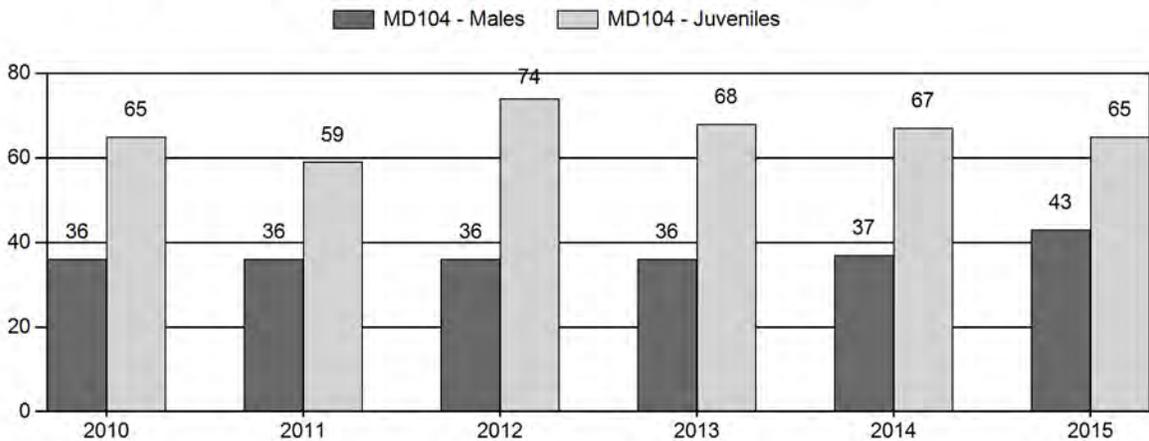
2010 - 2015 Postseason Classification Summary

for Mule Deer Herd MD104 - SUBLETTE

Year	Post Pop	MALES							FEMALES		JUVENILES		Tot Cls	Cls Obj	Males to 100 Females				Young to		
		Ylg	2+ Cls 1	2+ Cls 2	2+ Cls 3	2+ UnCls	Total	%	Total	%	Total	%			Ylng	Adult	Total	Conf Int	100 Fem	Conf Int	100 Adult
2010	23,426	549	0	0	0	1,156	1,705	18%	4,677	50%	3,043	32%	9,425	1,345	12	25	36	± 1	65	± 2	48
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 Seasons - Sublette Mule Deer (MD104)

Hunt Area	Type	Season Dates		Quota	License	Limitations
		Opens	Closes			
130		Oct. 1	Oct. 7		General	Antlered deer or any white-tailed deer
130	1	Oct. 15	Oct. 31	25	Limited quota	Antlered deer
130	6	Oct. 15	Dec. 31	25	Limited quota	Doe or fawn valid on private land within Sweetwater County
131		Oct. 1	Oct. 4		General	Antlered mule deer four (4) points or more on either antler or any white-tailed deer
138, 139, 140, 142	3	Oct. 1	Nov. 30	50	Limited quota	Any white-tailed deer
141, 162	1	Oct. 1	Oct. 21	100	Limited quota	Antlered deer
141, 162	1	Oct. 22	Oct. 31			Antlered deer on national forest
138, 139, 140, 142, 146, 151, 152, 153, 154, 155, 156		Sept. 15	Oct. 7		General	Antlered mule deer or any white-tailed deer
150		Sept. 15	Oct. 7		General	Antlered mule deer or any white-tailed deer
151,152		Oct. 8	Oct. 31		General	Anterless white-tailed deer

REGION H NON-RESIDENT QUOTA - 800 LICENSES

Summary of Changes in License Numbers

Hunt Area	License Type	Quota Changes from 2015
130	6	-25
131	7	-50 (deleted license type)
MD104 Totals	**6,7**	-75

Management Evaluation
Current Postseason Population Management Objective: 32,000
Management Strategy: Special
2013 Postseason Population Estimate: ~29,000
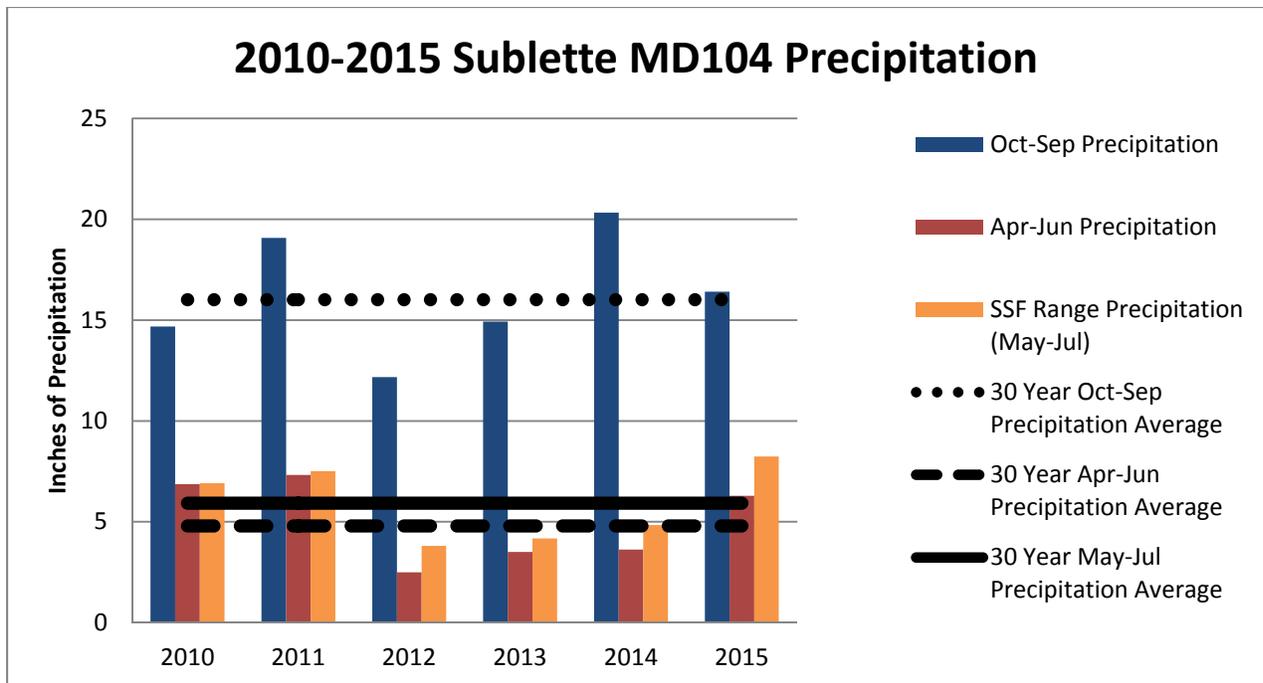**2014 Proposed Postseason Population Estimate: ~**32,000

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 ratios 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). Most recently, the 2010-11 winter fawn mortality estimates exceed 70%. Winter fawn mortality averages around 30% on most years when winter severity is moderate to average. Current annual growth on key winter browse species has been poor in most years. Overall habitat conditions remain poor, but conditions have 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 – 2014. 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
With the overall large size of this herd unit, weather conditions can be somewhat different by geographic area (i.e. Wyoming Range Mountains vs. Wind River Mountains vs. Gros Ventre Mountains). Of particular importance to this deer herd is shrub production on native winter ranges at lower elevations in the Upper Green River Basin. Late winter and spring precipitation (April to early June) is essential for good annual shrub production.

2010-2015 Sublette MD104 Precipitation

A bar chart titled "2010-2015 Sublette MD104 Precipitation" with the y-axis labeled "Inches of Precipitation" ranging from 0 to 25, and the x-axis showing years 2010 through 2015. The legend includes:
- Oct-Sep Precipitation (dark blue bars)
- Apr-Jun Precipitation (dark red bars)
- SSF Range Precipitation (May-Jul) (orange bars)
- 30 Year Oct-Sep Precipitation Average (dotted line)
- 30 Year Apr-Jun Precipitation Average (dashed line)
- 30 Year May-Jul Precipitation Average (solid line)

Precipitation

Overall precipitation from October 2014 through September 2015 was near average when averaged across the entire herd unit. The general characteristics included a relatively dry winter followed by above average summer precipitation. Fortunately, growing season (April through June) precipitation was above average which resulted in good vegetation production across all ranges.

Winter Severity

The 2015-2016 winter has been very mild with above average temperatures and below average snow on winter ranges. This will be the third winter in a row of good over-winter survival for fawns and adults which have helped build population numbers. High elevation mountain ranges have received snow levels closer to average. The Upper Green River Basin has 13 Snowtel locations that average 93% of normal as of March 9, 2016. However, it is worth noting that the two locations on the west slope of the Wind River Mountains are at 73 and 74% of normal and most of the winter range does not have data collection locations.

Habitat, Monitoring, and Inventory

Sagebrush and other shrubs produced excellent leader growth in 2015 which provided a good quantify of forage on winter ranges. High temperatures and little snowpack have allowed migrating wildlife to move off of crucial winter ranges earlier than normal in spring of 2016 and will likely result in grass and forb green-up earlier than most years.

Habitat treatments were conducted on several ranches in 2015 including Richie (Boulder area), James (Merna), Mountain King (Merna), and Rolling Thunder/Rim Ranch (near the Rim). These projects included aspen treatments, legume and mountain shrub planting, weed control and sagebrush thinning that occurred on transitional range for mule deer. Additionally, cheatgrass treatment was conducted in the Boulder area, along roadways in Sublette County, and near Hoback Junction. More information can be obtained by reading the Pinedale Region report in the 2015 Strategic Habitat Plan Annual Report. There were no significant wildfires in 2015 in this herd unit.

Winter range shrub transects were not monitored in 2015 by Department personnel, but 50 shrub transects were monitored on the Mesa winter range by University of Wyoming graduate student Samantha Dwinnell as part of her project with Dr. Kevin Monteith. Her data is represented below as North WR (LaBarge/Calpet), South WR (Cokeville-Kemmerer) and PAPA (Mesa).
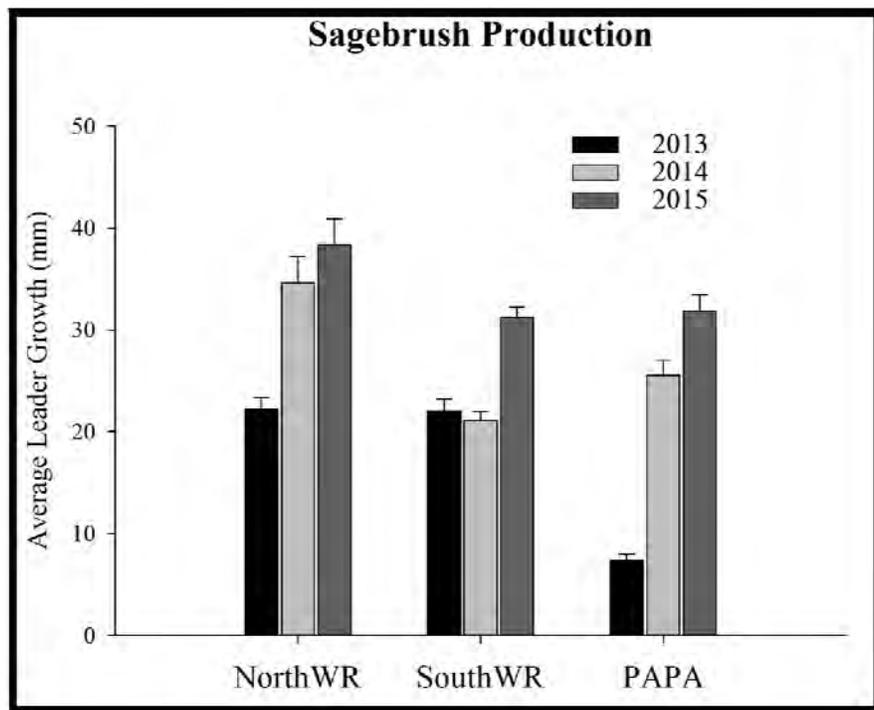
In 2015, Department personnel initiated the Rapid Habitat Assessment methodology to survey important mule deer habitats. This method strives to capture large-scale habitat quality metrics to better understand how the habitat is providing for the current population of mule deer. The overall end result 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 2015, 120 Aspen and 8 Rangeland Assessments were completed throughout the herd unit by personnel in the Jackson and Pinedale Regions.

The Pinedale Region has several shrub monitoring sites where production and utilization data are collected. The primary shrubs available on winter ranges within this herd unit are mountain and Wyoming sagebrush and bitterbrush. Shrub utilization has varied by year as winter snow conditions (depth and crusting) appear to influence winter shrub use by location. The 2014-15 winter had below normal snow loads across all winter range complexes. Spring conditions in 2015 were above average, primarily due to a very wet month in May, resulting in very good plant production on winter and transitional ranges.

Please see the 2015 Annual Report Strategic Habitat Plan Accomplishments, Jackson and Pinedale Region sections located on the WGFD website or at either the Jackson or Pinedale Game & Fish Regional Office for detailed summaries of habitat work within the Sublette Herd Unit. This Report also summarizes current research efforts to document deer body condition upon arrival and departure to and from winter habitats.

Field Data
Postseason herd composition (classification) counts in early December 2015 totaled 9,932 deer. The number of deer counted incrementally increased over the number of deer counted during previous year's surveys (9,627 deer in 2014 and 8,259 in 2013 and 7,343 in 2012). Snow cover was spotty throughout all areas surveyed during 2015, with normal deer distribution occupying traditional winter habitats. Survey effort to conduct herd composition counts has remained similar during all years.

The postseason 2015 total buck:100 doe ratio of 43:100 increased compared to previous years and is meeting management goals for this herd unit. Yearling buck:100 doe ratios in 2015 increased to 16:100 indicating good fawn survival during the past year. Adult buck ratios vary annually based on yearling buck recruitment and buck harvest levels. With improved yearling buck ratios during the previous two years (2013 & 2014), the 2015 adult buck:doe ratio increased to 27:100.

The 2015 fawn: 100 doe ratio of 65:100 was slightly lower to that observed in 2014, and is just below the past 5-year average of 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 2015 harvest was approximately 2,000 deer (1,900 bucks and 100 does/fawns), higher than the reported 2014 harvest of approximately 1,500 total deer (1,400 bucks and 100 does/fawns), and 2013 harvest of 1,500 bucks and 50 does/fawn deer. In 2015 hunter numbers remained similar to 2014 at about 4,550, hunter success improved to 44% from 34%, and hunter effort declined to 12 days/harvest from 17 days/harvest reported during the 2014 hunting season. The hunting seasons in 2011-2015 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 trends decrease and hunter effort increases while the opposite trend

(increase harvest and reduced hunter effort) are apparent with a population increase. 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 = 93 and Relative AICc = 190) resulting in a 2015 postseason population estimate of approximately 29,000 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 2015 population estimate is 9% 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 will 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 9% 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.

A general license deer season for most hunt areas (except Areas 141/162) will open on September 15, antlered only, and close October 7. Doe/fawn harvest opportunities will be the same as in 2012-2015, 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 and 162 will remain the same at 100 licenses. Limited quota (Type 1) licenses in hunt area 130 will remain the same at 25 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. The nonresident Region H quota remains the same at 800 licenses. The 2016 season is projected to harvest approximately 2,000 deer (1900 bucks, 100 doe/fawns) while allowing for population growth in this herd unit.

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