

2013 - JCR Evaluation Form

Species: Mule Deer

Period: 6/1/2013 - 5/31/2014

Herd: MD423 - UINTA

Hunt Areas: 132-133, 168

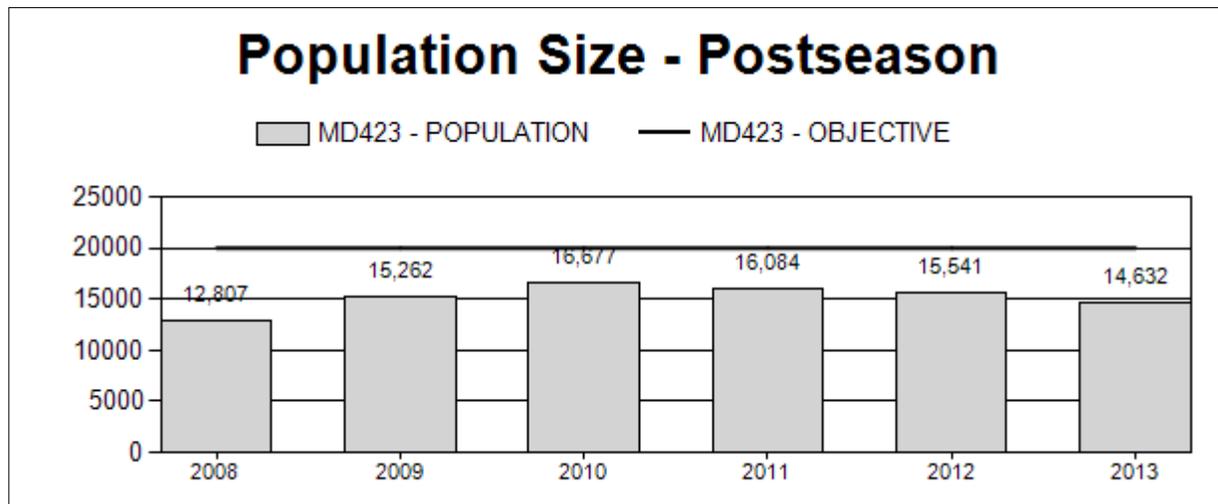
Prepared By: JEFF SHORT

	<u>2008 - 2012 Average</u>	<u>2013</u>	<u>2014 Proposed</u>
Population:	15,274	14,632	14,413
Harvest:	1,091	996	1,108
Hunters:	2,428	2,375	2,400
Hunter Success:	45%	42%	46%
Active Licenses:	2,455	2,399	2,450
Active License Percent:	44%	42%	45%
Recreation Days:	11,247	11,334	12,000
Days Per Animal:	10.3	11.4	10.8
Males per 100 Females	28	25	
Juveniles per 100 Females	60	63	

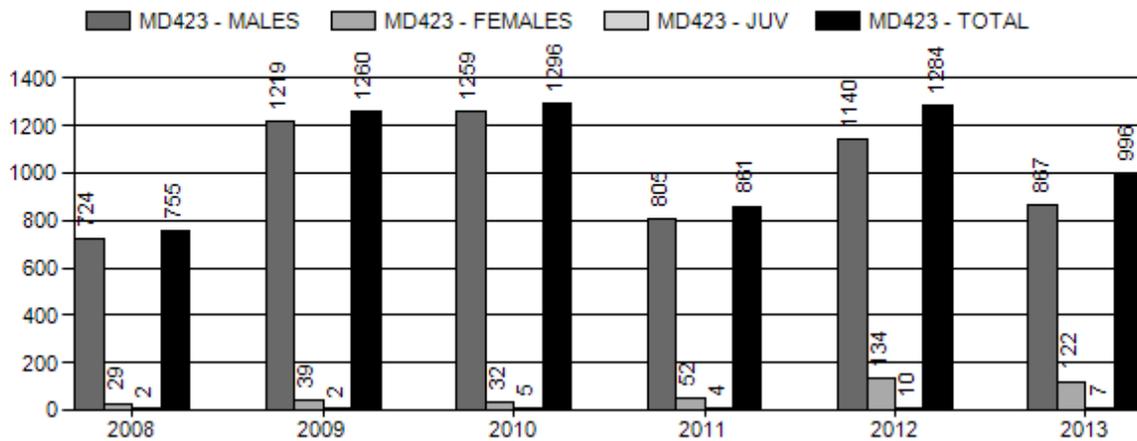
Population Objective:	20,000
Management Strategy:	Recreational
Percent population is above (+) or below (-) objective:	-26.8%
Number of years population has been + or - objective in recent trend:	20
Model Date:	2/18/2014

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

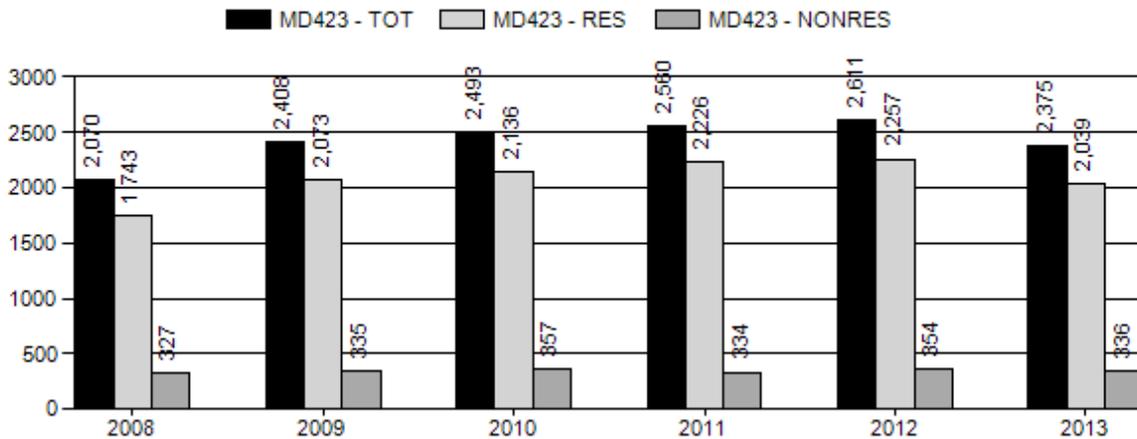
	<u>JCR Year</u>	<u>Proposed</u>
Females ≥ 1 year old:	1.7%	1.4%
Males ≥ 1 year old:	33.0%	36.1%
Juveniles (< 1 year old):	0.14%	.17%
Total:	6.33%	7.08%
Proposed change in post-season population:	-5.8%	-1.4%



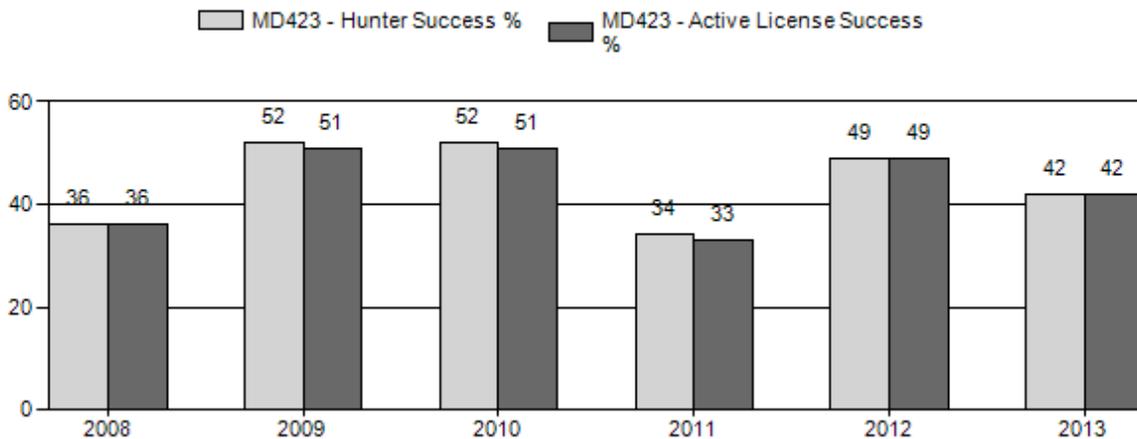
Harvest



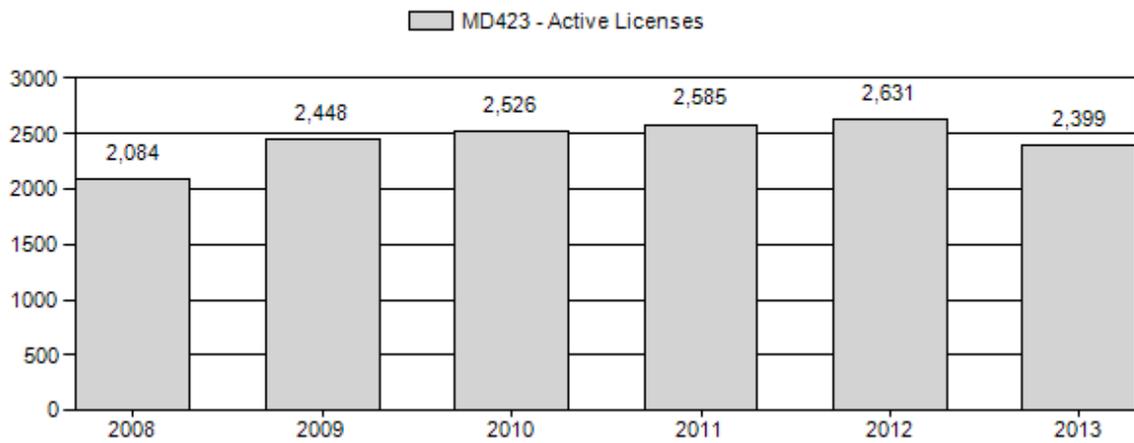
Number of Hunters



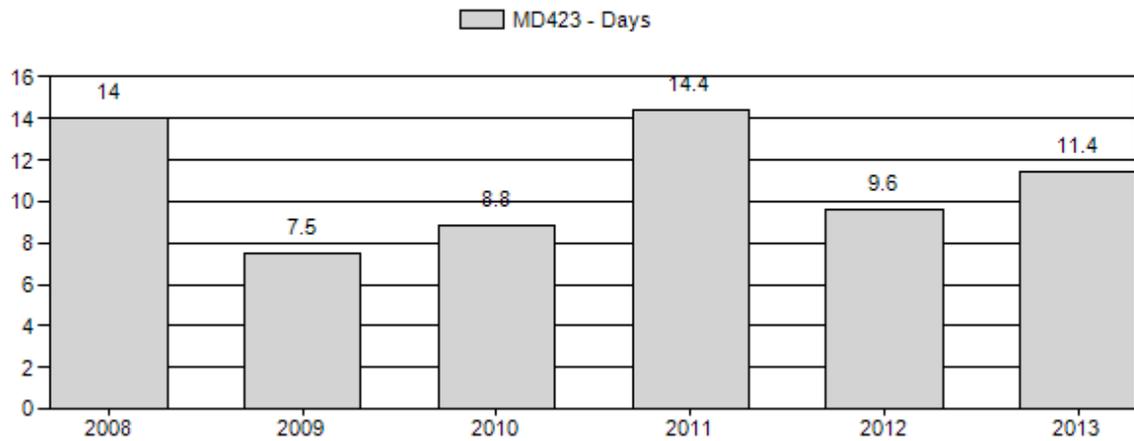
Harvest Success



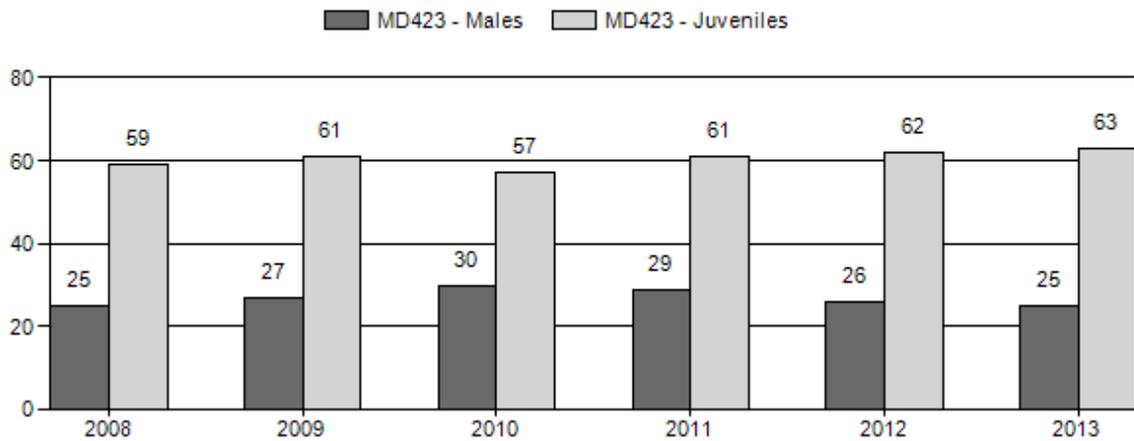
Active Licenses



Days per Animal Harvested



Postseason Animals per 100 Females



2008 - 2013 Postseason Classification Summary

for Mule Deer Herd MD423 - UINTA

Year	Post Pop	MALES				FEMALES		JUVENILES		Tot CIs	CIs Obj	Males to 100 Females				Young to		
		Ylg	Adult	Total	%	Total	%	Total	%			YIng	Adult	Total	Conf Int	100 Fem	Conf Int	100 Adult
2008	12,807	84	158	242	14%	957	54%	566	32%	1,765	0	9	17	25	±2	59	±4	47
2009	15,262	115	206	321	14%	1,190	53%	725	32%	2,236	0	10	17	27	±2	61	±3	48
2010	16,677	261	271	532	16%	1,767	53%	1,011	31%	3,310	0	15	15	30	±2	57	±3	44
2011	16,084	93	313	406	15%	1,393	53%	846	32%	2,645	0	7	22	29	±2	61	±3	47
2012	15,541	119	311	430	14%	1,642	53%	1,025	33%	3,097	0	7	19	26	±2	62	±3	49
2013	15,441	151	235	386	13%	1,551	53%	974	33%	2,911	0	10	15	25	±2	63	±3	50

2014 HUNTING SEASONS

SPECIES : Mule Deer

HERD UNIT : Uinta (423)

HUNT AREAS: 132, 133, 168

Hunt Area	Type	Dates of Seasons Opens	Closes	Limited Quota	Limitations
132		Oct. 1	Oct. 14		General license; antlered deer 3-point or more on either antler
133		Oct. 1	Oct. 14		General license; antlered deer 3-point or more on either antler
168		Oct. 1	Oct. 14		General license; antlered deer 3-point or more on either antler
132, 133, 168	7	Oct. 1	Oct. 14	50	Limited quota licenses; doe or fawn valid on irrigated land
132, 133, 168	Archery	Sept. 1	Sept. 30		Refer to Section 3 of this chapter

Region K Nonresident Quota: 500

Hunt Area	License Type	Quota change from 2013
Herd Unit Total		

Management Evaluation

Current Postseason Population Management Objective: 20,000

Management Strategy: Recreational

2013 Postseason Population Estimate: ~15,541

2014 Proposed Postseason Population Estimate: ~14,632

Herd Unit Issues

Energy development on crucial deer habitat is a looming issue for this herd. Extensive development has occurred over their range. Xeric environments and limited high quality fawning habitats greatly affect deer productivity in several areas in this herd. This limited fawning habitat will affect the ability of fawns to evade predation by coyotes. Winter severity every three to five years is a major limiting factor for this deer herd. This is especially true in the western part of the herd around Evanston, Fort Bridger and Leroy. The eastern portion of the herd around Cedar Mountain experiences a rain shadow effect and does not tend to get the sever winters in the last 10 years.

Highway mortality and impediment of migration is a significant issue in this herd unit. Mule deer have to cross highways to migrate to crucial winter ranges in several locations. In the Leroy area mule deer are crossing Interstate 80 to get to and from important winter ranges. Deer fencing is present in most of this area but deer crossing structures are limited and the fence is ageing and showing some signs of wear. Deer must cross Highway 414 in several areas between Mountain View and McKinnon to migrate to summer and winter ranges. Mortalities are common in those areas. The most significant area of issue is Wyoming Highway 189 between I-80 and Kemmerer. A large segment of the herd must cross this highway to get to winter ranges. Mortalities are very common due to heavy traffic on the roadway. This issue is likely to become much larger due to increasing traffic on this section of the road.

Weather

Weather during 2013 and into 2014 was highly variable. In the early part of 2013 the winter was very mild and dry. A dry spring and summer followed. In late August and into September heavy precipitation came and ended the dry conditions. The winter of 2013-2014 has been fairly mild to this point. The winters of 2011-2012 and 2012-2013 were also mild with low snowpack resulting in good over winter survival. However, the dry springs and summers of 2012 and 2013 negatively impacted summer and winter range forage production. Conditions were better at higher elevations but deer distribution was greatly affected.

Habitat

Habitat data collection has been inconsistently collected in this herd unit and has been absent in the recent past.

Field Data

The winter of 2010/11 was very severe in some areas and the population in the western part of the herd unit declined significantly due to it. Mortality surveys at the LeRoy winter range complex showed significant fawn and adult doe mortality. However, conditions were much milder in the eastern part of the herd unit. A radio collar study in that area showed a 92% survival rate from December of 2010 to December of 2011, a very high survival rate for mule deer does.

Classification data is collected yearly by helicopter in Hunt Areas 168, 132 and 133. Sample sizes are very good with over 2,000 deer classified on most years. Post season buck ratios in 2013 were good with 25 bucks per 100 does. This is the middle of the range for the objective in the herd unit. Yearling buck ratios and adult buck:doe ratios were average at 10:100 and 15:100.

For 2013 the fawn:doe ratios as a whole were the highest we have seen in this herd unit over the last six years at 63:100. This is still below where we would like to see them but an improvement. The historic low fawn recruitment in this population is of concern. It may be due to several factors including winter range habitat condition, summer range habitat condition, elk competition on summer habitats, neonate predation on summer ranges, aspen stand condition on

summer habitats, limited areas of effective parturition habitats and doe age structure. We would like to continue to improve future fawn:doe ratios through habitat improvement and predator manipulation to promote growth of this herd.

Fawn:doe ratios in Hunt Area 132 have improved in the last two years to 65:100 in 2013. Ratios in 2011 and 2012 were 47:100 and 54:100. Hunt Area 132 is very dry and low productivity habitat compared to the rest of the herd unit. It also has patchy fawning habitat and newborn fawns may be easier prey for coyotes due to the limited fawning sites. Since 2012 we have procured funding and implemented targeted predator control on mule deer fawning sites in HA132. Control is conducted during the fawning period. This was designed as a 3 year project and data will be analyzed extensively after 2014.

Harvest Data

The hunter harvest from seasons recently offered for mule deer do not impact overall population size, recruitment or productivity. They only influence buck:doe ratios and we have been able to maintain buck:doe ratios within the objective. Doe harvest is only allowed by youth hunters and in a very limited type 7 hunt on irrigated lands. The overall doe harvest is negligible. Harvest has fluctuated greatly over the past five years due to changes in populations from winter severity and fluctuations in weather conditions during the hunting season.

Population

We feel somewhat confident in this model since it reflects field information and seems reasonable. However, caution should be used since this an interstate population with some interchange across state boundaries. Recent radio collar data documents over 12% interchange. This is far lower than we once expected though. More radio collar studies would help determine the extent of these movements. The TSJ,CA model was selected due to the low Relative AICc score and its good fit with the data. The TSJ,CA model fits very well with mule deer population dynamics in this type of system. Unfortunately model estimates do not seem to track well with known significant winter mortality events in the winters of 2007/2008 and 2010/2011 which concerns us. An independent population estimate would be helpful in validating the model but is not very feasible for this herd.

In 2012 the Department switched from POPII models to an Excel spreadsheet model. Since these are new models they are going to be under development and subject to extensive refining. They will likely change over time with new data.

The model predicts a post-season population of around 14,632 mule deer in 2013. This is a decrease in the population from 2010 levels. This reduction is substantiated by Hunter comments, winter mortality surveys and field observations. This supporting information gives us some confidence in model results. However, the reduction modeled from 2010 levels is not totally realistic considering the severity of winter mortality observed on the western winter ranges where the vast majority of the deer herd winters. The reduction should have been much greater than what is modeled.

Management Summary

The 2014 season in hunt areas 132, 133 and 168 will allow for 14 days of general antlered deer hunting opportunity. This is an increase of three days from the 11 day season offered in 2013. In this part of the state we strive to offer a 14 day season and include 2 weekends of hunting opportunity. With the current favorable weather and recruitment conditions for improving deer herds and buck:doe ratios within objective we feel we can offer a 14 day season. This is still a very conservative deer hunting season.

In 2008 we started a new hunt with 50 type 7 doe/fawn tags good for all hunt areas in the herd unit on irrigated land. This is to address the number of deer that are living year round on irrigated fields and give landowners an opportunity to have some harvested. This hunt will be continued in 2014. The Objective and management strategy were last revised in 1997. They are scheduled to undergo review in 2014.

INPUT					
Species:	Deer				
Biologist:	Jeff Short				
Herd Unit & No.:	Ulta MD423				
Model date:	02/18/14			<input type="button" value="Clear form"/>	
MODELS SUMMARY			Fit	Relative AICc	Check best model to create report
CJ,CA	Constant Juvenile & Adult Survival		99	108	<input type="checkbox"/> CJ,CA Model
SCJ,SCA	Semi-Constant Juvenile & Semi-Constant Adult Survival		84	104	<input type="checkbox"/> SCJ,SCA Mo
TSJ,CA	Time-Specific Juvenile & Constant Adult Survival		0	122	<input checked="" type="checkbox"/> TSJ,CA Model

Population Estimates from Top Model												
Year	Posthunt Population Est.		Trend Count	Predicted Prehunt Population				Predicted Posthunt Population				Objective
	Field Est	Field SE		Juveniles	Total Males	Females	Total	Juveniles	Total Males	Females	Total	
1993				3414	2369	8559	14342	3374	1639	7949	12961	20000
1994				5643	2222	7450	15314	5643	1564	7450	14656	20000
1995				5154	2813	7691	15658	5154	2051	7691	14896	20000
1996				6342	3339	8012	17692	6342	2274	8012	16627	20000
1997				5144	2892	7646	15682	5134	2088	7494	14716	20000
1998				5814	2682	7161	15656	5814	1883	7161	14858	20000
1999				5427	2809	7182	15417	5427	1581	7182	14190	20000
2000				5139	3564	8205	16908	5099	2136	7945	15180	20000
2001				5180	2970	7783	15933	5159	1808	7602	14570	20000
2002				4692	2975	7776	15443	4638	1829	7390	13857	20000
2003				4759	3109	7717	15586	4725	1988	7520	14234	20000
2004				5570	3437	8021	17027	5527	2375	7784	15686	20000
2005				5633	3064	7546	16243	5633	2019	7546	15198	20000
2006				4811	3082	7662	15555	4811	2029	7662	14502	20000
2007				4435	2403	7070	13908	4435	1283	7070	12788	20000
2008				4406	2683	7478	14566	4404	1886	7446	13736	20000
2009				4942	3545	8151	16638	4940	2204	8108	15252	20000
2010				5101	4049	8942	18092	5096	2664	8906	16667	20000
2011				5148	3354	8526	17028	5143	2468	8469	16081	20000
2012				5152	3411	8383	16947	5141	2157	8236	15534	20000
2013				4904	2893	7930	15727	4896	1940	7796	14632	20000
2014				4683	3048	7901	15632	4674	1948	7791	14413	20000

Survival and Initial Population Estimates						
Year	Annual Juvenile Survival Rates			Annual Adult Survival Rates		
	Model Est	Field Est	SE	Model Est	Field Est	SE
1993	0.51			0.83		
1994	0.54			0.83		
1995	0.64			0.83		
1996	0.32			0.83		
1997	0.37			0.83		
1998	0.43			0.83		
1999	0.83			0.83		
2000	0.47			0.83		
2001	0.57			0.83		
2002	0.69			0.83		
2003	0.76			0.83		
2004	0.40			0.83		
2005	0.50			0.83		
2006	0.30			0.83		
2007	0.73			0.83		
2008	0.90			0.83		
2009	0.90			0.83		
2010	0.45			0.83		
2011	0.53			0.83		
2012	0.43			0.83		
2013	0.59			0.83		
2014	0.30			0.83		

Parameters: Optim cells

Adult Survival = 0.829

Initial Total Male Pop/10,000 = 0.164

Initial Female Pop/10,000 = 0.795

MODEL ASSUMPTIONS

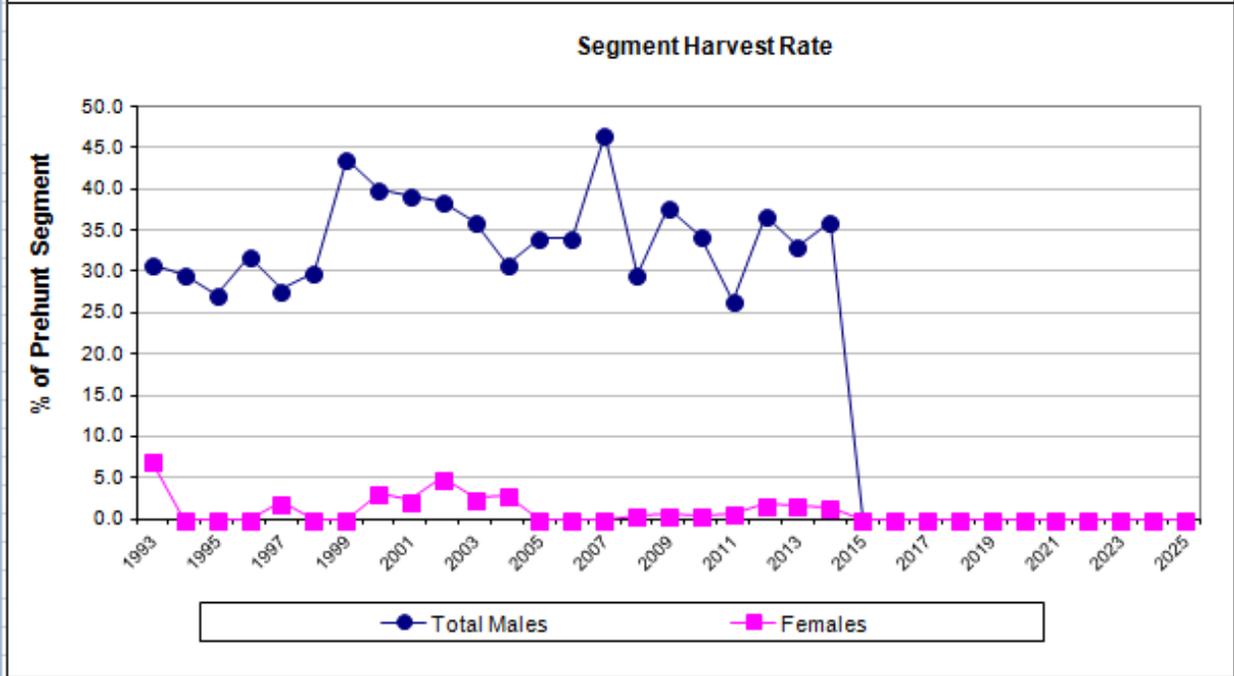
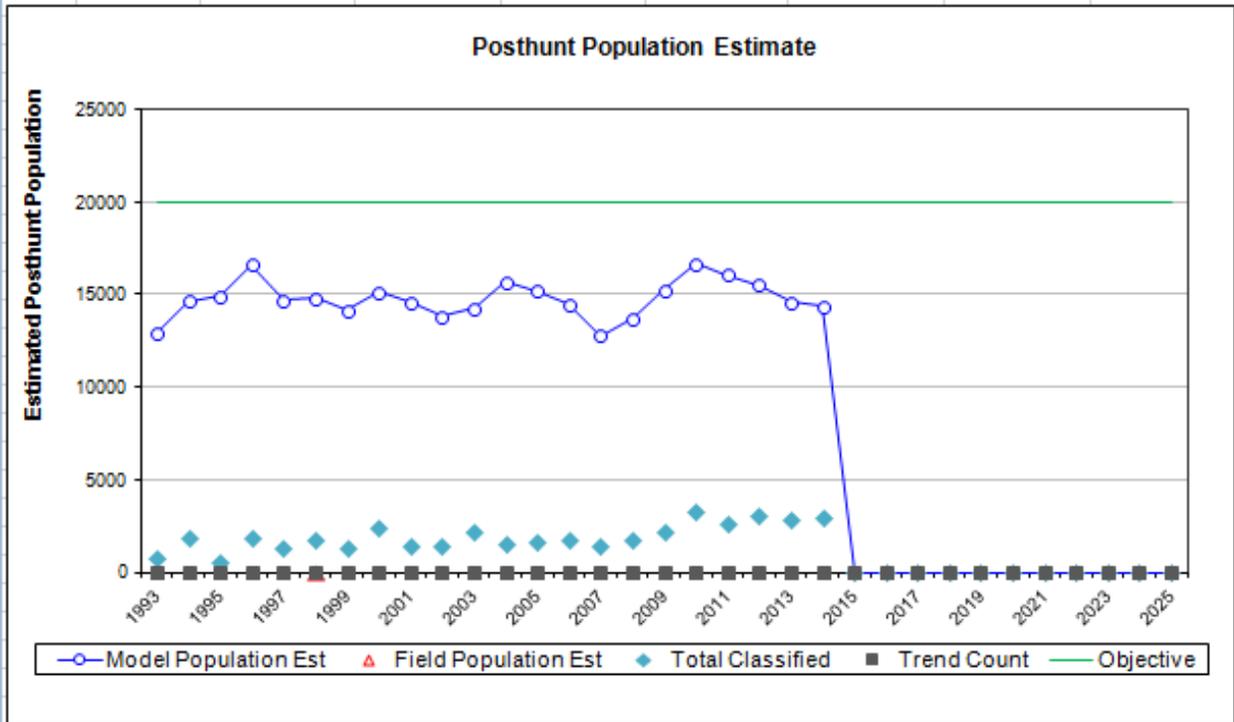
Sex Ratio (% Males) = 50%

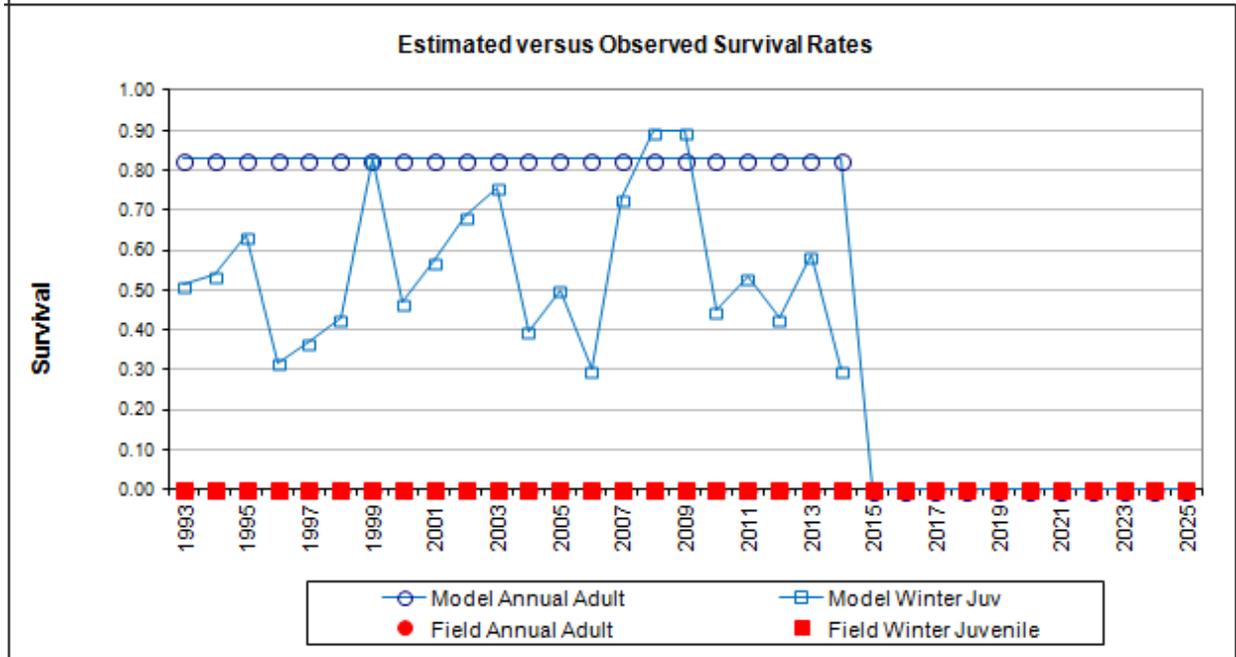
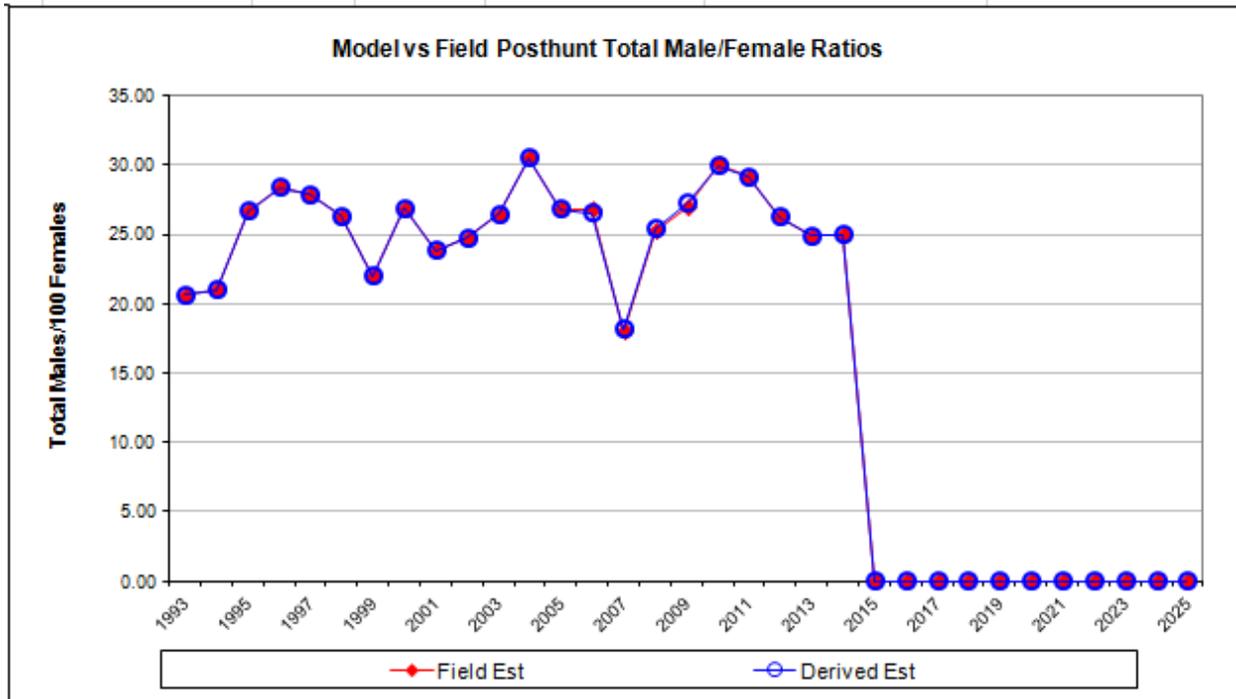
Wounding Loss (total males) = 10%

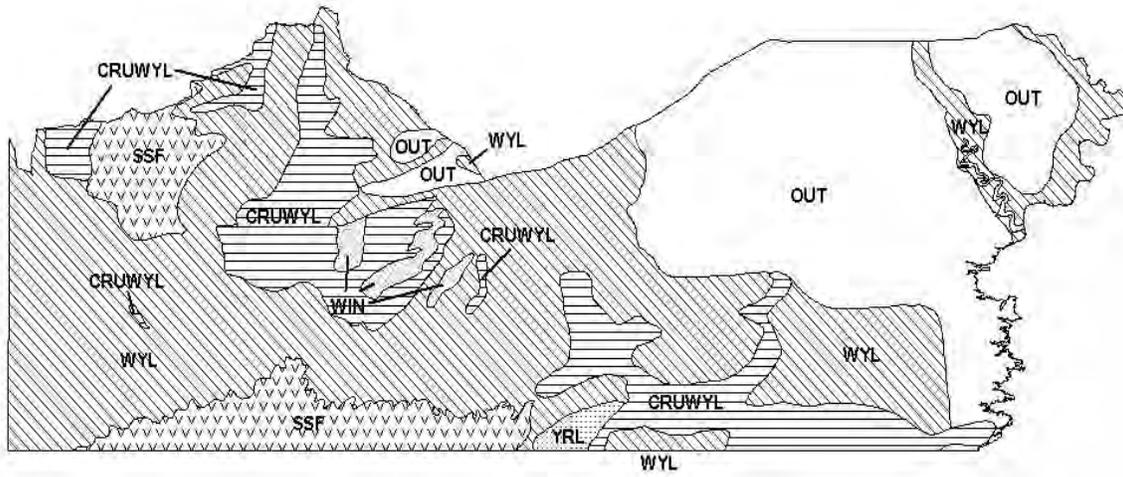
Wounding Loss (females) = 10%

Wounding Loss (juveniles) = 10%

Classification Counts										Harvest		
Year	Juvenile/Female Ratio			Total Male/Female Ratio			Juv	Males	Females	Total Harvest	Segment Harvest Rate (% of)	
	Derived Est	Field Est	Field SE	Derived Est	Field Est w/o bull adj	Field SE					Total Males	Females
1993		42.45	3.51	20.62	20.61	2.25	36	664	555	1255	30.8	7.1
1994		75.74	3.75	20.99	20.99	1.64	0	598	0	598	29.6	0.0
1995		67.02	6.27	26.67	26.67	3.44	0	693	0	693	27.1	0.0
1996		79.16	3.97	28.38	28.38	2.01	0	968	0	968	31.9	0.0
1997		68.51	4.09	27.87	27.87	2.27	9	731	139	879	27.8	2.0
1998		81.20	4.12	26.30	26.30	1.96	0	726	0	726	29.8	0.0
1999		75.57	4.34	22.01	22.02	1.95	0	1116	0	1116	43.7	0.0
2000		64.18	2.85	26.89	26.89	1.62	37	1298	236	1571	40.1	3.2
2001		67.87	3.83	23.78	23.78	1.95	19	1056	164	1239	39.1	2.3
2002		62.76	3.63	24.74	24.74	1.99	49	1042	351	1442	38.5	5.0
2003		62.83	2.96	26.44	26.44	1.69	31	1019	179	1229	36.1	2.6
2004		71.00	3.91	30.51	30.52	2.24	39	965	215	1219	30.9	2.9
2005		74.65	3.91	26.76	26.76	2.00	0	950	0	950	34.1	0.0
2006		62.79	3.35	26.49	26.78	1.93	0	957	0	957	34.2	0.0
2007		62.73	3.51	18.15	17.97	1.60	0	1018	0	1018	46.6	0.0
2008		59.14	3.14	25.33	25.29	1.82	2	724	29	755	29.7	0.4
2009		60.92	2.87	27.18	26.97	1.70	2	1219	39	1260	37.8	0.5
2010		57.22	2.26	29.91	30.11	1.49	5	1259	32	1296	34.2	0.4
2011		60.73	2.65	29.14	29.15	1.64	4	805	52	861	26.4	0.7
2012		62.42	2.48	26.19	26.19	1.42	10	1140	134	1284	36.8	1.8
2013		62.80	2.57	24.88	24.89	1.42	7	867	122	996	33.0	1.7
2014		60.00	2.45	25.00	25.00	1.40	8	1000	100	1108	36.1	1.4







Mule Deer (MD423) - Uinta
 HA 132, 133, 168
 Revised - 3/94



2013 - JCR Evaluation Form

SPECIES: Mule Deer

PERIOD: 6/1/2013 - 5/31/2014

HERD: MD424 - SOUTH ROCK SPRINGS

HUNT AREAS: 101-102

PREPARED BY: PATRICK BURKE

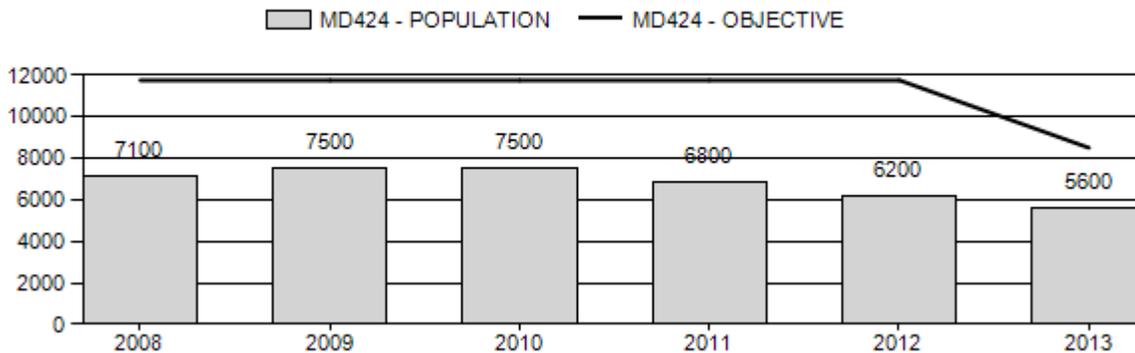
	<u>2008 - 2012 Average</u>	<u>2013</u>	<u>2014 Proposed</u>
Population:	7,020	5,600	6,200
Harvest:	376	296	300
Hunters:	453	433	300
Hunter Success:	83%	68%	100%
Active Licenses:	453	433	350
Active License Percent:	83%	68%	86%
Recreation Days:	3,134	2,795	2,400
Days Per Animal:	8.3	9.4	8
Males per 100 Females	29	22	
Juveniles per 100 Females	56	51	

Population Objective:	8,500
Management Strategy:	Special
Percent population is above (+) or below (-) objective:	-34.1%
Number of years population has been + or - objective in recent trend:	23
Model Date:	2/19/2014

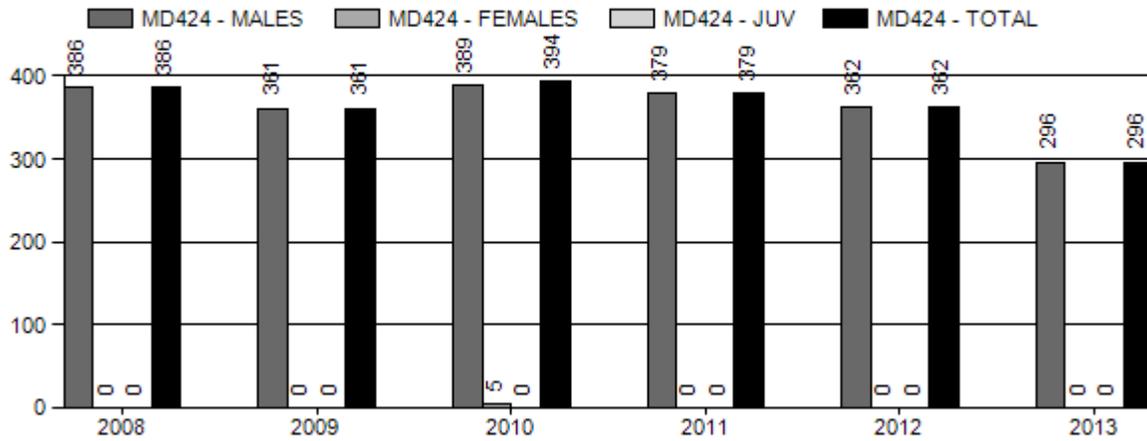
Proposed harvest rates (percent of pre-season estimate for each sex/age group):

	<u>JCR Year</u>	<u>Proposed</u>
Females ≥ 1 year old:	0%	0%
Males ≥ 1 year old:	25.7%	19%
Juveniles (< 1 year old):	0%	0%
Total:	6.0%	4%
Proposed change in post-season population:	-2.7%	11%

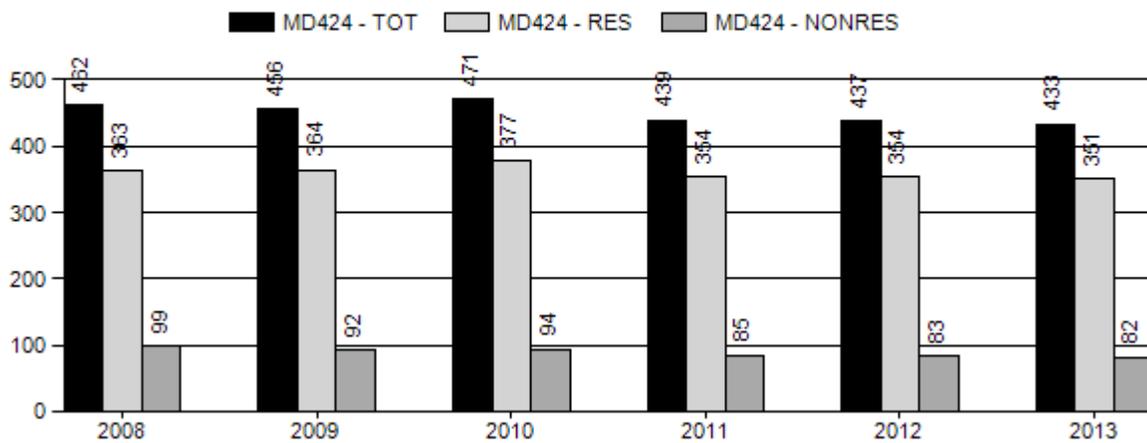
Population Size - Postseason



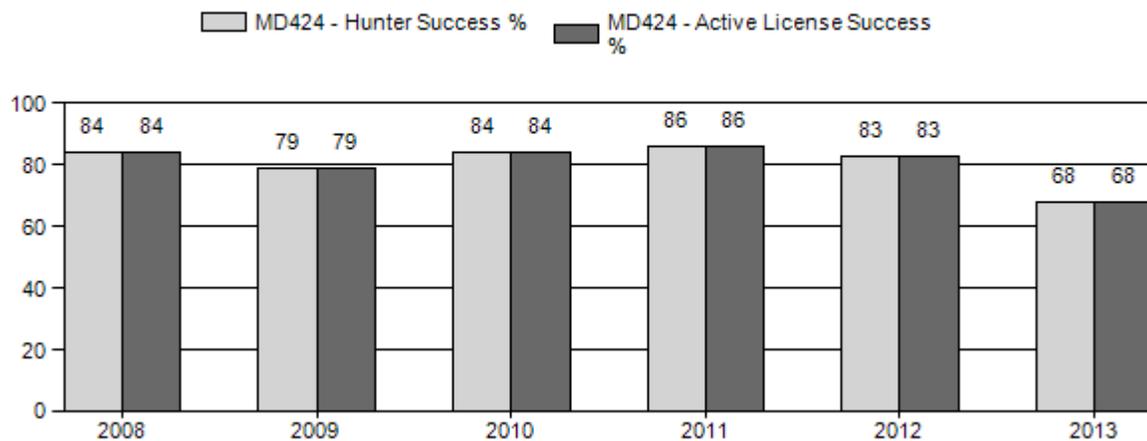
Harvest



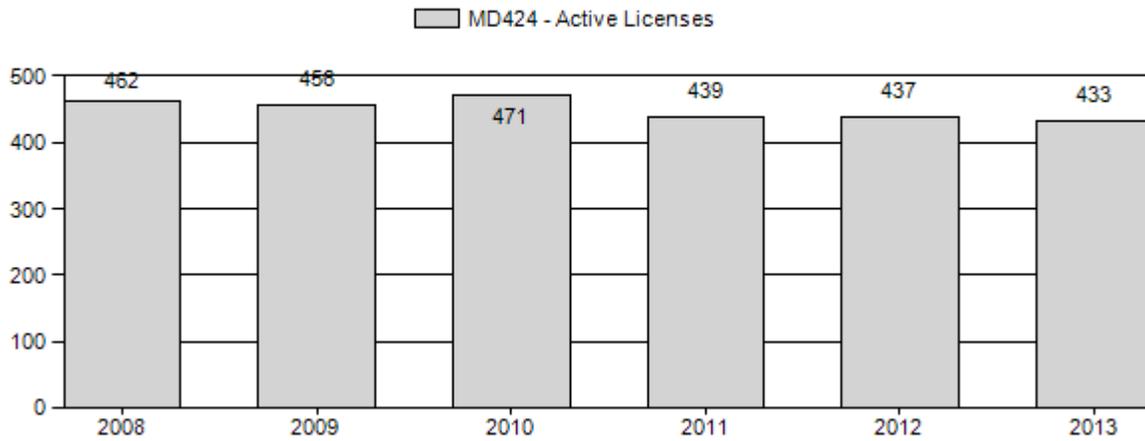
Number of Hunters



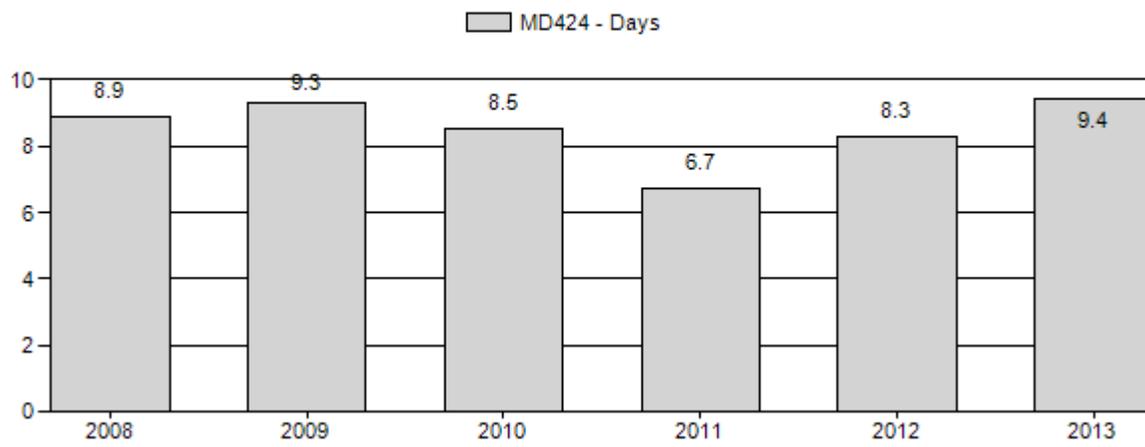
Harvest Success



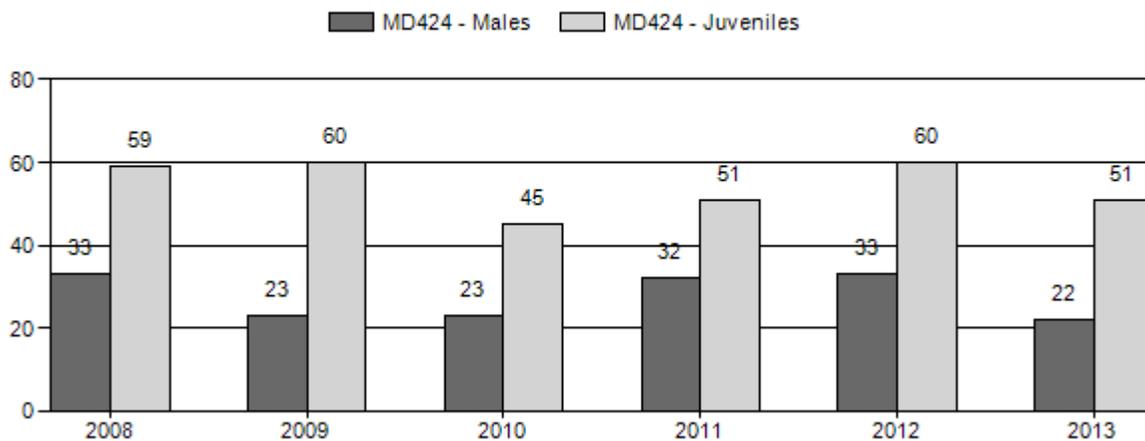
Active Licenses



Days per Animal Harvested



Postseason Animals per 100 Females



2008 - 2013 Postseason Classification Summary

for Mule Deer Herd MD424 - SOUTH ROCK SPRINGS

Year	Post Pop	MALES				FEMALES		JUVENILES		Tot Cts	Cls Obj	Males to 100 Females			Young to			
		Ylg	Adult	Total	%	Total	%	Total	%			Ylg	Adult	Total	Conf Int	100 Fem	Conf Int	100 Adult
2008	7,100	90	183	273	17%	839	52%	495	31%	1,607	1,040	11	22	33	± 3	59	± 4	45
2009	7,500	61	120	181	12%	798	55%	482	33%	1,461	1,048	8	15	23	± 0	60	± 0	49
2010	7,500	47	55	102	14%	446	60%	200	27%	748	1,048	11	12	23	± 0	45	± 0	36
2011	6,800	38	108	146	18%	453	55%	229	28%	828	1,030	8	24	32	± 4	51	± 5	38
2012	6,235	55	129	184	17%	558	52%	334	31%	1,076	680	10	23	33	± 3	60	± 5	45
2013	5,591	40	89	129	13%	593	58%	305	30%	1,027	767	7	15	22	± 2	51	± 4	42

**2014 PROPOSED HUNTING SEASONS
SOUTH ROCK SPRINGS MULE DEER HERD (MD424)**

Hunt Area	Type	SEASON DATES		Quota	Limitations
		Opens	Closes		
101	1	Oct. 15	Oct. 31	50	Limited quota; antlered deer
102	1	Oct. 15	Oct. 31	300	Limited quota; any deer
Archery		Sept. 1	Sept. 30		Refer to license type and limitations in Section 3

Hunt Area	Type	Quota change from 2013
102	1	-100
Herd Unit Total	1	-100

Management Evaluation

Current Management Objective: 8,500

Management Strategy: Special

2013 Postseason Population Estimate: ~5,600

2014 Proposed Postseason Population Estimate: ~6,300

The post-season population objective for the South Rock Springs mule deer herd is 8,500 deer under special management. The objective for this herd was changed to its current level in 2013, when it was lowered from 11,750.

Herd Unit Issues

This herd has been well below this objective since South Rock Springs and Black Butte herds were combined in the 1980's and most likely will continue to remain below objective for the foreseeable future. Because of this, the objective for this herd was taken out for public review in the summer of 2013, when the objective was lowered to 8,500 deer post-season. There was some public concern over lowering the objective from where it had been, so the new objective

was set at a level that would still allow for the population to grow to a level higher than it has been at in over 20 years.

Current population estimates suggest this herd may be around 5,600 deer after the 2013 hunting season. This estimate represents the third straight year of fairly significant population declines. The lack of growth in this herd despite very conservative hunting seasons can be attributed to poor fawn recruitment year after year. Observed fawn to doe ratios for this herd have averaged only 60 fawns per 100 does for the last decade, with some years generating observed ratios of only 45 to 50 fawns:100 does. This level of juvenile recruitment allows for population maintenance at best, but does not allow for population growth.

Weather

During the 2010-2011 winter, this herd experienced tougher than normal winter conditions. During normal winters this herd winters in Wyoming, however because of deep and crusted snow conditions, a good portion of this herd migrated south into Colorado during that winter. The ability of this herd to migrate south into Colorado and Utah to find milder conditions than many other herds in southwest Wyoming probably resulted in the South Rock Springs herd experiencing only slightly higher than normal winter mortality based on observed yearling buck ratios in the post-hunt classifications conducted the following year that winter. The winters since then have been by comparison, for the most part mild and relatively dry. The 2013-2014 winter was fairly mild with the exception of the first week of December 2013, when significant snowfall events occurred along with persistent cold temperatures. Similar movement patterns to those observed in 2010-2011 were again observed in 2013 when large portions of the herd were not in their normal wintering areas and large numbers of animals probably moving south in search of milder conditions. During a classification flight conducted in late December 2013, only 319 deer were observed in Wyoming, suggesting that most of this herd had left the state to winter elsewhere.

The summers of 2012 and 2013 were both extremely dry with long periods of time elapsing between precipitation events throughout the summer. This lack of moisture during the last two summers has been especially evident in areas of the herd unit below 8,000 ft., while the higher elevation portions of the herd unit received enough snow and summer precipitation to allow for some plant growth. Fortunately, many of the important parturition areas for this herd are above that altitude. The drought conditions found on many of the winter ranges may also partly explain why large portions of this herd left the state during the 2013-2014 winter.

Significant rain and snowfall events did occur during September and October of 2013, while this precipitation came after the growing season, hopefully it will increase soil moisture and allow for better plant growth in 2014. The wet and muddy conditions during the fall of 2013 did inhibit hunters' ability to access many parts of the herd unit and may have negatively affected harvest success rates in 2013.

Habitat

The Green River aquatic habitat biologist has established six aspen regeneration monitoring transects throughout Hunt Area 102. These transects are designed to evaluate browsing impacts from ungulates, primarily elk on young aspen suckers. Two transects were established on Little Mountain in 2007, as well as four additional transects that were established in 2009, one each on Aspen and Miller Mountains and two in the Pine Mountain area. These transects have been read each summer since their establishment, except that one of the Pine Mountain transects was not read in 2013 due to difficulty in accessing that site caused by the amount of rain and snow received this fall.

A detailed accounting of the technique and results from these monitoring efforts can be found in the aquatic habitat annual report. In general, this method compares the height of the initial growth point for the current year's terminal leader to the height of the tallest previous terminal leader branch that was killed as a result of browsing. A positive Live-Dead (LD) value suggests growth of young trees, while a negative value or value near zero suggests that browsing may be suppressing tree growth. Results of monitoring efforts are presented in the following table (Table 1) taken from the aquatic habitat annual progress report, but in general, three of the five monitored sites showed positive LD values for 2013, while two of the sites had LD values below zero.

Table 1. Trends in aspen regeneration LD Index values (vertical inches) for the SRS herd Unit 2010-2013

Monitoring site	2010	2011	2012	2013
Pine Mt/Red Ck.	-2.4	-0.5	-3.0	NA
South Pine Mt.	0	+0.7	-3.2	-4.3
Miller Mt.	+7.4	+8.7	+5.3	+6.6
Aspen Mt.	-1.2	+1.5	-6.0	+4.6
Little Mt./Dipping Spr.	-4.8	-4.1	-2.6	+0.2
Little Mt./West Currant Ck.	-17.6	+4.2	0	-0.4

Field Data

This herd was classified using a combination of the aerial and ground classifications in the fall of 2013. A classification flight was conducted in late December 2013, but due to only finding 319 deer during that flight, ground classification data from November were added to the dataset in order to obtain a larger sample size. Using the combined ground and aerial classifications, a total of 1,027 deer were classified. The resulting observed ratios from those classifications were 51 fawns per 100 does and 22 total bucks which included 7 yearling bucks per 100 does. This observed fawn ratio, while not the lowest observed in recent years is generally below average for this herd and the observed buck ratios are also below average.

Harvest Data

The 2013 season saw the lowest harvest rate documented in this herd in quite some time. Success rates for the two hunt areas that make up this herd unit were 60% for HA101 and 69% for HA102, giving the herd unit as a whole a success rate of 68%. This herd unit usually exhibits success rates in the mid-80s, so the success rates in 2013 were substantially below average. The total number of bucks harvested in 2013 was 28 bucks in HA101 and 268 bucks in HA102. The number of deer harvested in HA102 in 2013 was strikingly lower than it has been in past years, typically somewhere between 350 and 380 bucks are harvested annually in the hunt area. One doe was field checked in HA102, that doe harvest was not recorded in the harvest survey, however.

Because the South Rock Springs mule deer herd is a special management herd and because of its significant local importance, successful hunters are asked to voluntarily submit tooth samples for cementum annuli ageing analysis. Successful hunters submitted 147 samples for analysis from the 2013 hunting season. Based on those samples, the average age of harvested bucks was 5.1 years old in 2013. The average age of harvested deer was 4.5 years old in 2012, and 5.0 years old in both 2010 and 2011. Based on hunter submitted tooth samples, the oldest deer harvested during the 2013 season were two 9.5-year-old bucks, both from HA102.

Population

The model for this herd tracks only moderately well to poorly with observed data, in particular with observed buck ratios, and sharing this herd with Colorado and Utah continues to decrease its overall reliability.

The model selected for this herd is the time-specific juvenile survival model based it producing the most realistic estimate for this population. However, the model seems to be unable to track the trend for the population. While the model will change the current years population estimate to what is probably a believable number each year, it shows that the herd is steadily growing to the current estimate instead of showing that the population was at a higher level in the past. The most likely explanation for this is the discrepancy between what the model expects for buck ratios and what is observed in the field each year. This, along with the lack of correlation between male harvest rates and fawn ratios with subsequent buck ratios has led to speculation that bucks may be leaving the herd unit, which would reduce the functionality of the model.

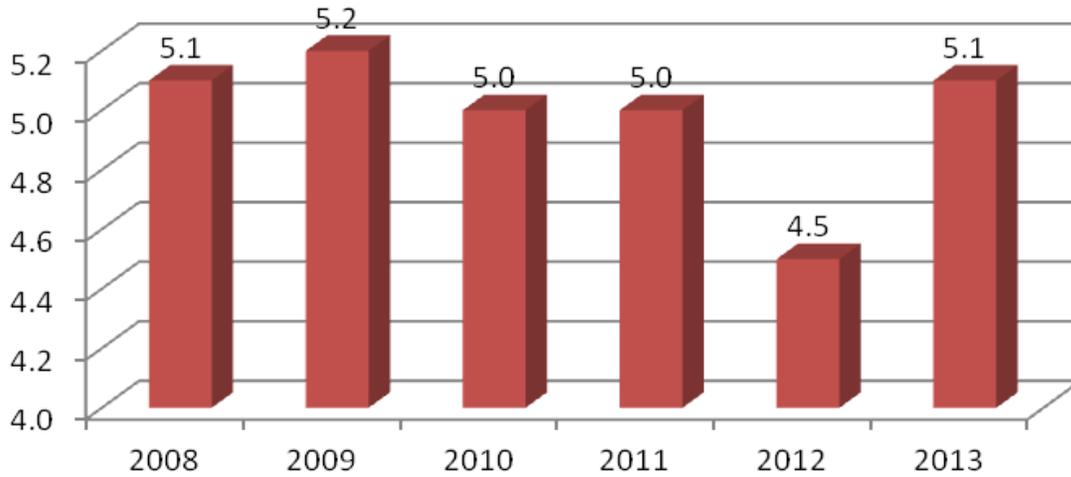
Additional information from the harvest survey, classifications, and reliable age data from lab-aged teeth from hunter-harvested deer combined with the model help in management of this locally significant herd.

Management Summary

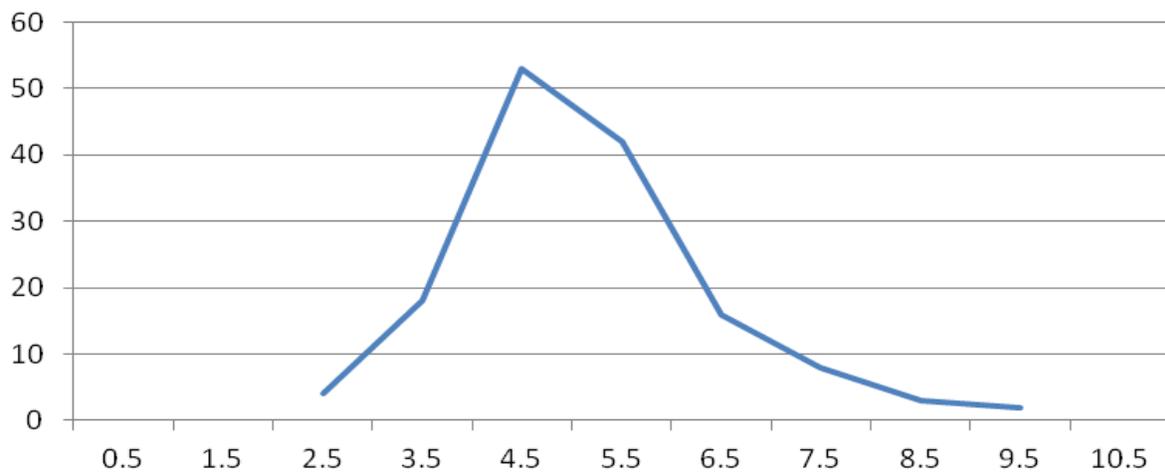
The 2014 hunting season proposal is similar to how this herd has been managed since 2007. One change was proposed for 2014, and that is a reduction in the number of Type 1 licenses for HA102. Despite the conservative seasons that have been set for this herd unit, observed buck to doe ratios are at the lower end allowed for a special management herd and public desires for higher buck ratios and more older, larger bucks has led to frequent requests from the public to decrease the number of licenses issued, especially in Hunt Area 102.

The decreased hunter success rates and fewer deer being harvested in 2013 along with public concerns about the quality of the bucks in this herd were the reasons behind the proposed decrease. However, classifications compared to the number of licenses issued over the past 15 years, when there has been no issuance of doe licenses, shows little correlation between license issuance levels and postseason buck to doe ratios. The most likely explanation for this is emigration of young bucks out of the state, but that hypothesis is based on speculation and deserves study to attempt to quantify if emigration is occurring and if it is occurring, at what level. It is possible that young bucks could be moving into Utah where the average age of bucks is less than that in the Wyoming portion of the herd. This is suggested by the fact that the model does a poor job of aligning simulated and observed buck to doe ratios.

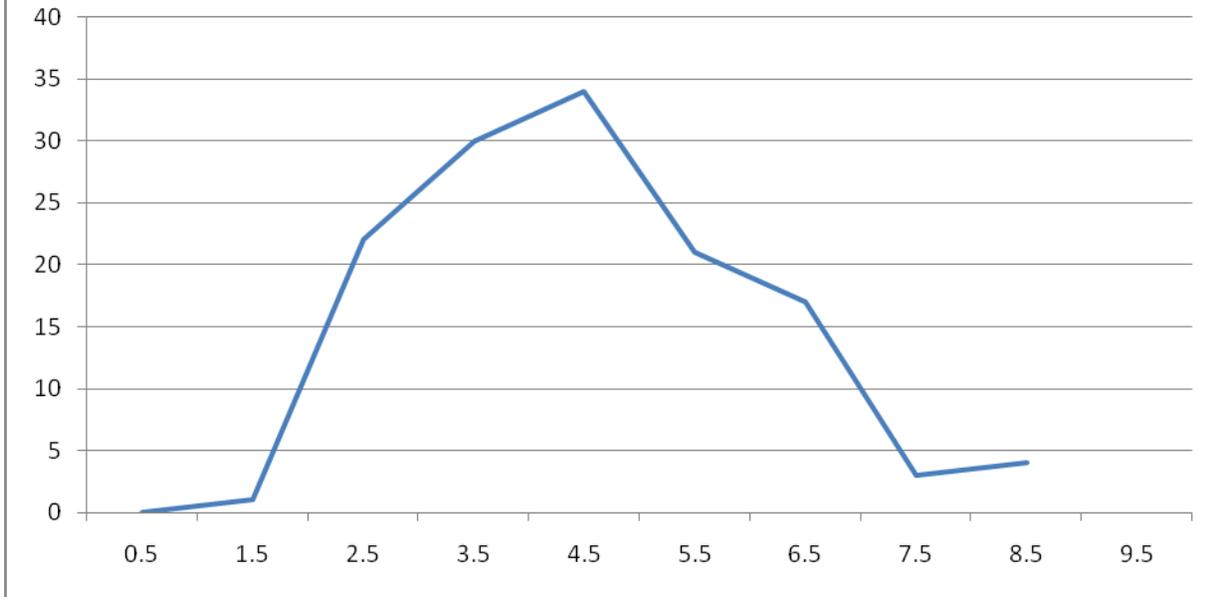
SRS Deer Average Age of Harvested Bucks

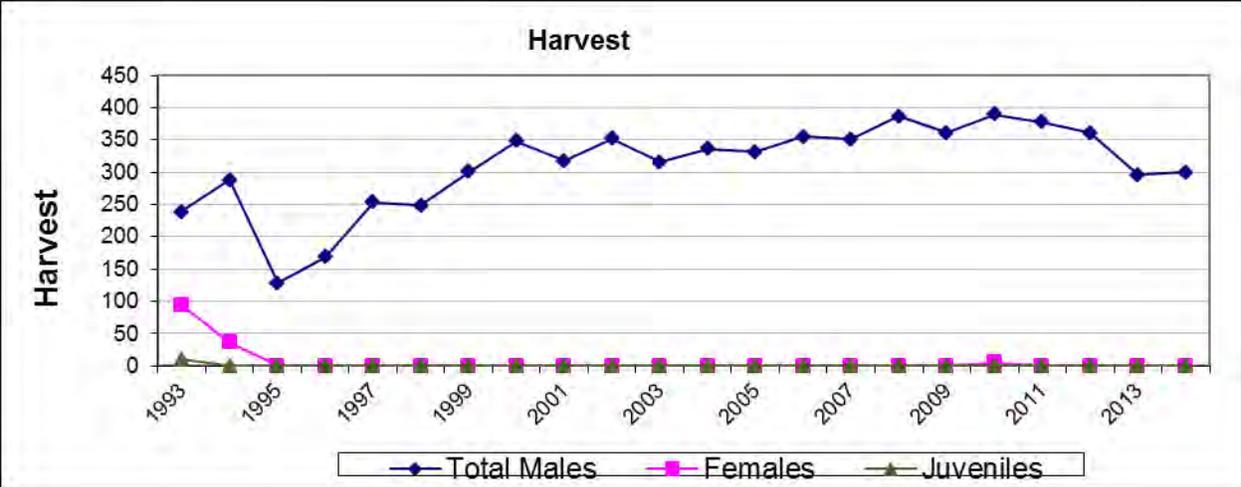
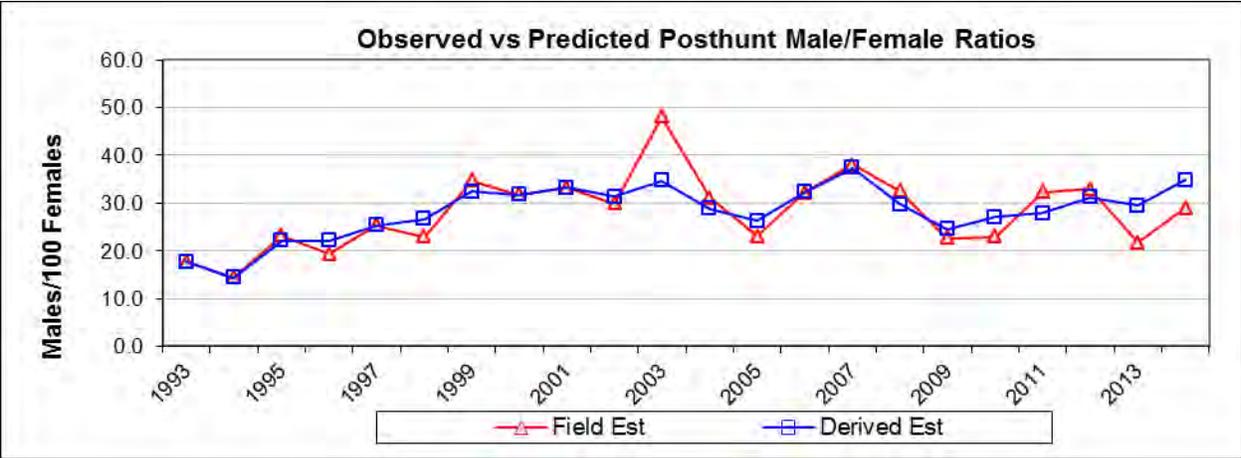
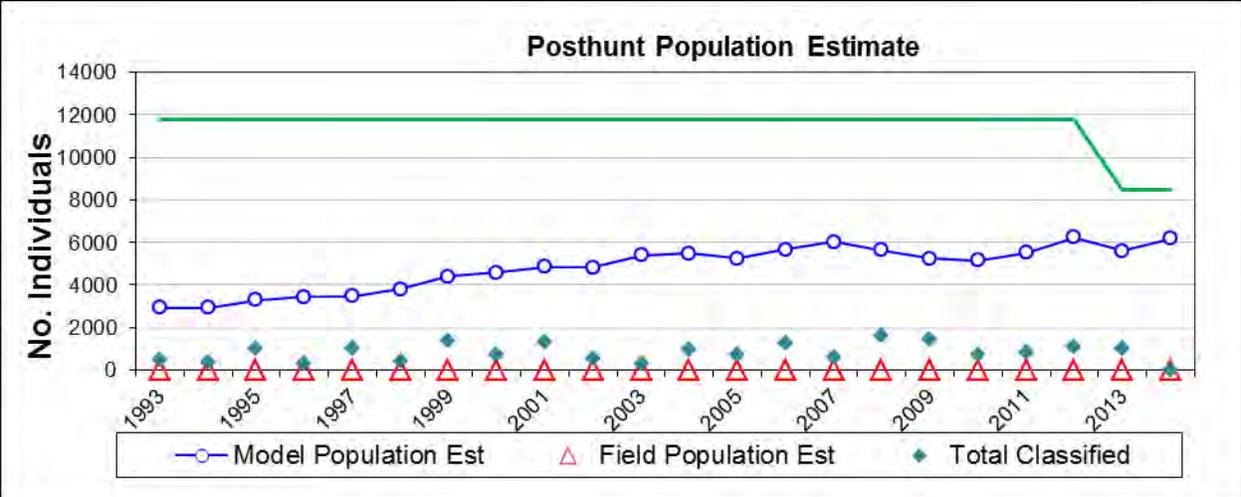


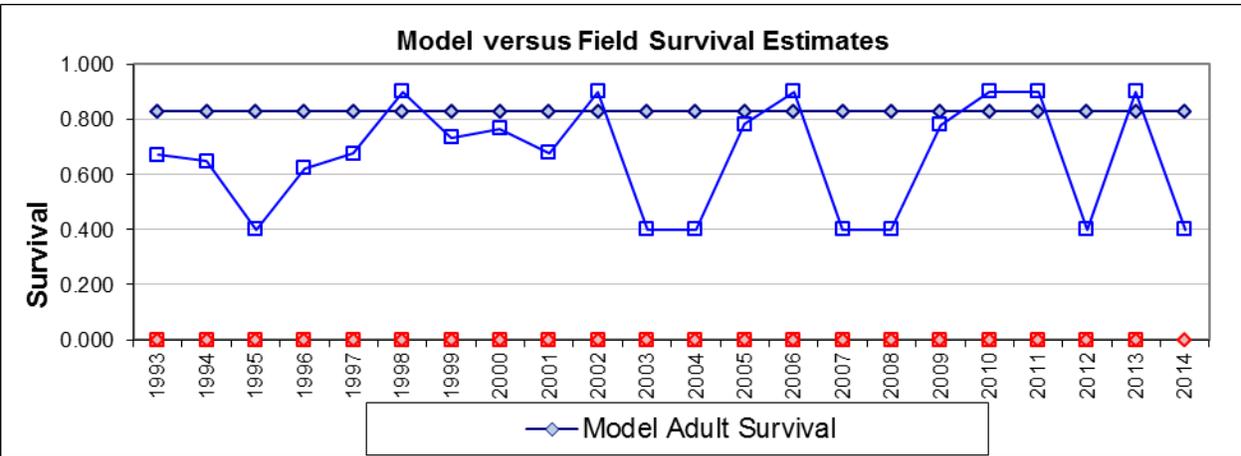
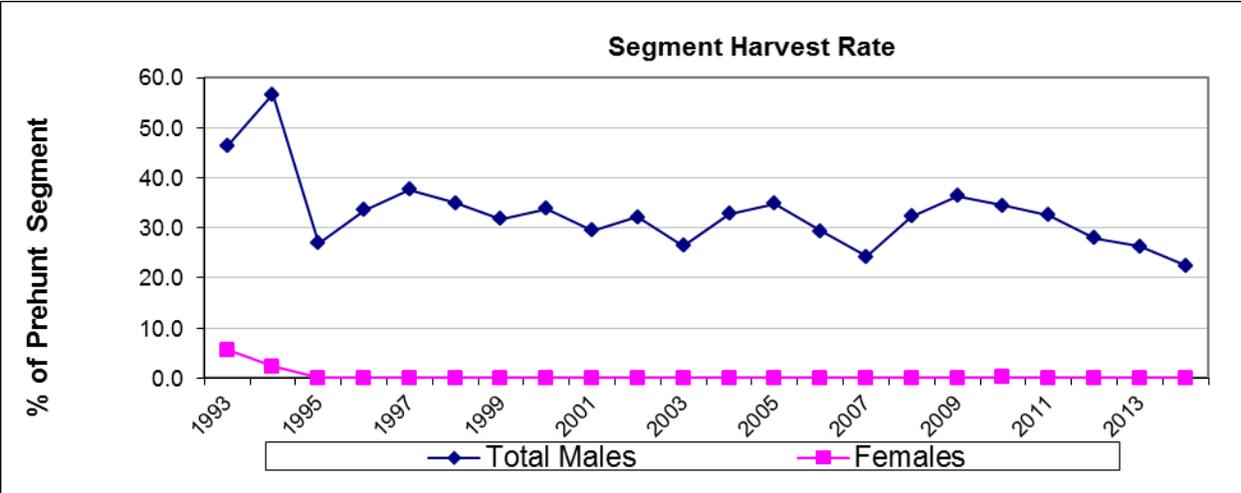
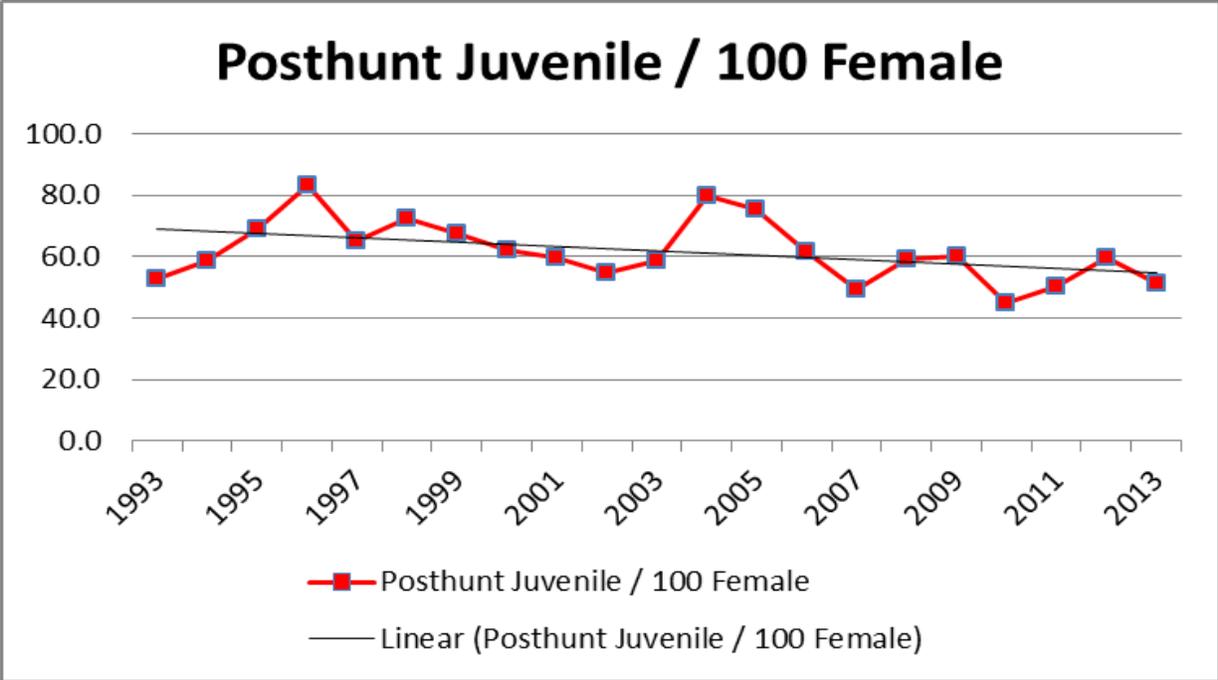
2013 SRS Deer # Harvested Per Age Class

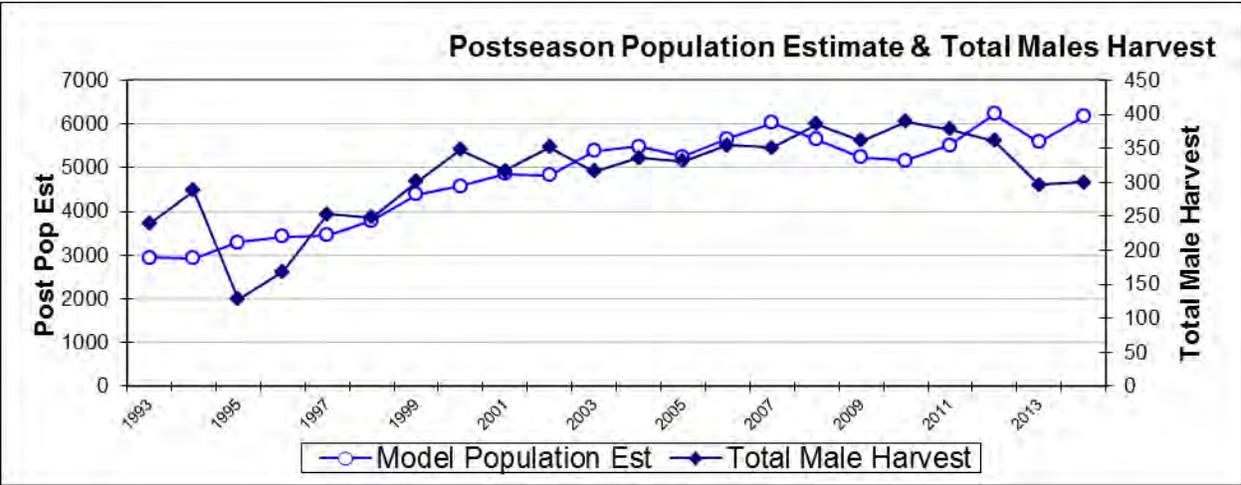


2012 SRS Deer # Harvested Per Age Class









INPUT	
Species:	Mule Deer
Biologist:	Patrick Burke
Herd Unit & No.:	MD424 SRS
Model date:	02/19/14

MODELS SUMMARY		Fit	Relative AICc	Check best model to create report	Notes
CJ,CA	Constant Juvenile & Adult Survival	69	78	<input type="checkbox"/> CJ, CA Model	
SCJ,SCA	Semi-Constant Juvenile & Semi-Constant Adult Survival	14	3710	<input type="checkbox"/> SCJ, SCA Model	
TSJ,CA	Time-Specific Juvenile & Constant Adult Survival	16	138	<input checked="" type="checkbox"/> TSJ, CA Model	

Population Estimates from Top Model

Year	Posthunt Population Est.		Trend Count	Predicted Prehunt Population				Predicted Posthunt Population				Objective
	Field Est	Field SE		Juveniles	Total Males	Females	Total	Juveniles	Total Males	Females	Total	
1993				925	568	1829	3322	914	305	1725	2944	11750
1994				998	559	1734	3291	998	242	1694	2933	11750
1995				1190	523	1725	3438	1190	382	1725	3297	11750
1996				1390	555	1666	3611	1390	369	1666	3425	11750
1997				1184	738	1812	3735	1184	460	1812	3456	11750
1998				1380	780	1900	4060	1380	508	1900	3788	11750
1999				1486	1041	2194	4721	1486	710	2194	4390	11750
2000				1470	1133	2361	4964	1470	750	2361	4581	11750
2001				1504	1184	2518	5207	1504	836	2518	4859	11750
2002				1421	1201	2594	5217	1421	814	2594	4830	11750
2003				1632	1314	2787	5733	1632	966	2787	5385	11750
2004				2100	1126	2634	5860	2100	757	2634	5490	11750
2005				1963	1046	2600	5610	1963	682	2600	5246	11750
2006				1801	1332	2920	6053	1801	942	2920	5663	11750
2007				1595	1590	3228	6412	1595	1204	3228	6026	11750
2008				1765	1316	2991	6071	1765	891	2991	5647	11750
2009				1709	1091	2829	5629	1709	693	2829	5232	11750
2010				1346	1240	3008	5594	1346	812	3002	5161	11750
2011				1563	1278	3091	5932	1563	862	3091	5516	11750
2012				1953	1417	3263	6632	1953	1020	3263	6235	11750
2013				1590	1235	3091	5916	1590	909	3091	5591	8500
2014				1767	1468	3275	6510	1767	1083	3275	6125	8500
2015												
2016												
2017												
2018												
2019												
2020												
2021												
2022												
2023												
2024												
2025												

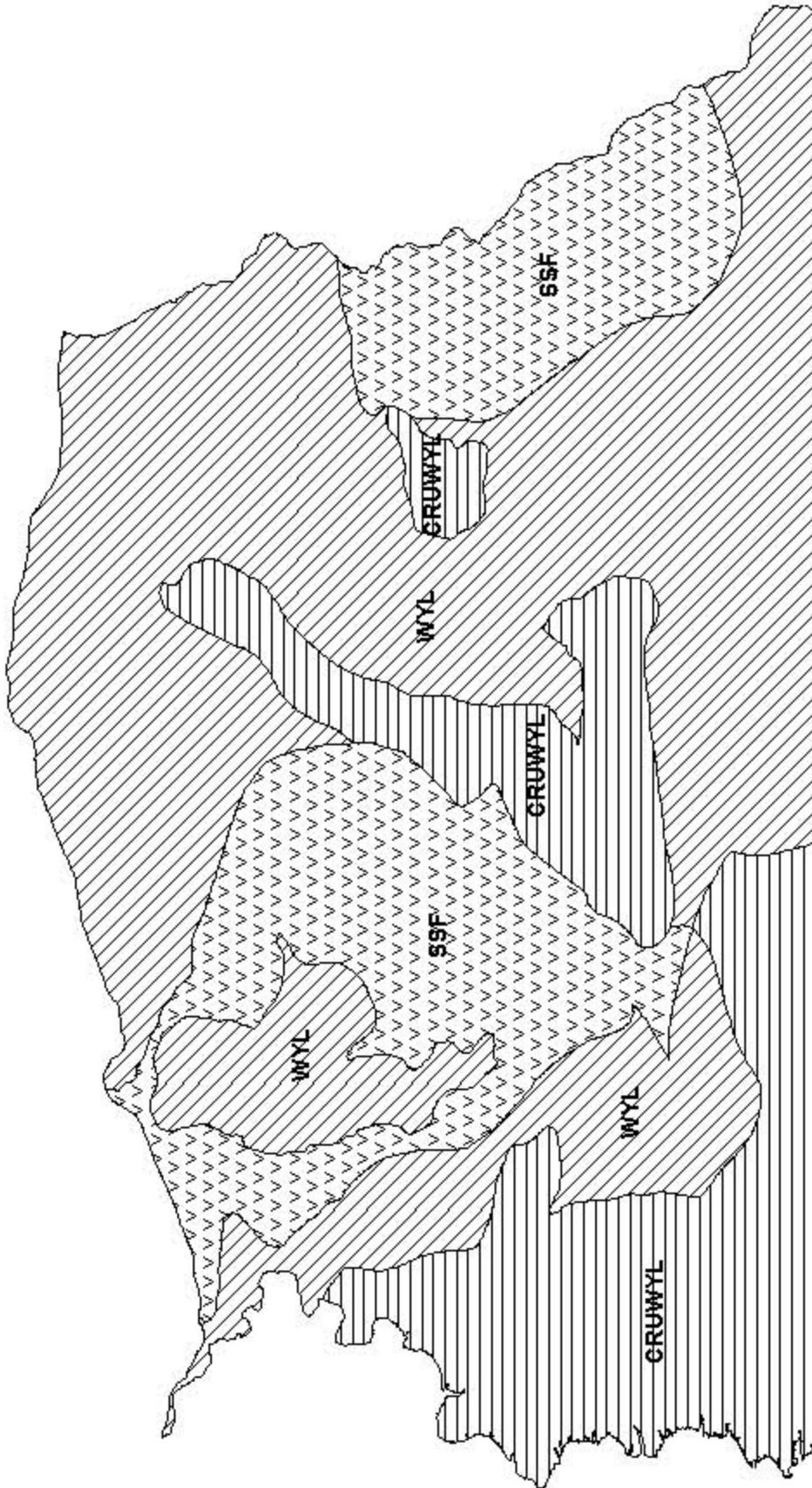
Survival and Initial Population Estimates

Year	Annual Juvenile Survival Rates			Annual Adult Survival Rates		
	Model Est	Field Est	SE	Model Est	Field Est	SE
1993	0.67			0.83		
1994	0.65			0.83		
1995	0.40			0.83		
1996	0.62			0.83		
1997	0.67			0.83		
1998	0.90			0.83		
1999	0.73			0.83		
2000	0.77			0.83		
2001	0.68			0.83		
2002	0.90			0.83		
2003	0.40			0.83		
2004	0.40			0.83		
2005	0.78			0.83		
2006	0.90			0.83		
2007	0.40			0.83		
2008	0.40			0.83		
2009	0.78			0.83		
2010	0.90			0.83		
2011	0.90			0.83		
2012	0.40			0.83		
2013	0.90			0.83		
2014	0.40			0.83		
2015						
2016						
2017						
2018						
2019						
2020						
2021						
2022						
2023						
2024						
2025						

Parameters:		Optim cells
Adult Survival =		0.828
Initial Total Male Pop/10,000 =		0.030
Initial Female Pop/10,000 =		0.172

MODEL ASSUMPTIONS	
Sex Ratio (% Males) =	50%
Wounding Loss (total males) =	10%
Wounding Loss (females) =	10%
Wounding Loss (juveniles) =	10%

Year	Classification Counts						Harvest					
	Juvenile/Female Ratio			Total Male/Female Ratio			Juv	Males	Females	Total Harvest	Segment Harvest Rate (% of	
	Derived Est	Field Est	Field SE	Derived Est	Field Est w/o bull adj	Field SE					Total Males	Females
1993		53.01	5.52	17.67	17.67	2.80	10	239	95	344	46.3	5.7
1994		58.93	6.47	14.29	14.29	2.70	0	288	37	325	56.7	2.3
1995		68.98	4.68	22.17	23.12	2.31	0	128	0	128	26.9	0.0
1996		83.45	10.27	22.13	19.31	3.99	0	169	0	169	33.5	0.0
1997		65.34	4.52	25.38	25.38	2.45	0	253	0	253	37.7	0.0
1998		72.65	7.50	26.72	22.87	3.55	0	248	0	248	35.0	0.0
1999		67.71	4.12	32.37	34.68	2.64	0	301	0	301	31.8	0.0
2000		62.24	5.13	31.77	31.77	3.30	0	348	0	348	33.8	0.0
2001		59.74	3.71	33.19	33.19	2.53	0	317	0	317	29.4	0.0
2002		54.79	5.39	31.38	29.79	3.64	0	352	0	352	32.2	0.0
2003		58.55	7.82	34.66	48.03	6.84	0	316	0	316	26.5	0.0
2004		79.73	5.68	28.72	31.08	3.03	0	336	0	336	32.8	0.0
2005		75.50	6.14	26.23	23.08	2.84	0	331	0	331	34.8	0.0
2006		61.67	3.93	32.25	32.15	2.56	0	355	0	355	29.3	0.0
2007		49.40	4.70	37.29	38.02	3.96	0	351	0	351	24.3	0.0
2008		59.00	3.34	29.78	32.54	2.27	0	386	0	386	32.3	0.0
2009		60.40	3.48	24.51	22.68	1.87	0	361	0	361	36.4	0.0
2010		44.84	3.82	27.04	22.87	2.51	0	389	5	394	34.5	0.2
2011		50.55	4.10	27.89	32.23	3.07	0	378	0	378	32.5	0.0
2012		59.86	4.14	31.26	32.97	2.80	0	361	0	361	28.0	0.0
2013		51.43	3.62	29.41	21.75	2.11	0	296	0	296	26.4	0.0
2014		53.95	3.95	33.08	28.99	2.66	0	300	0	300	26.2	0.0
2015												
2016												
2017												
2018												
2019												
2020												
2021												
2022												
2023												
2024												
2025												



Mule Deer (MD424) - South Rock Springs
HA 101, 102
Revised - 3/94

2013 - JCR Evaluation Form

SPECIES: Mule Deer

PERIOD: 6/1/2013 - 5/31/2014

HERD: MD427 - BAGGS

HUNT AREAS: 82, 84, 100

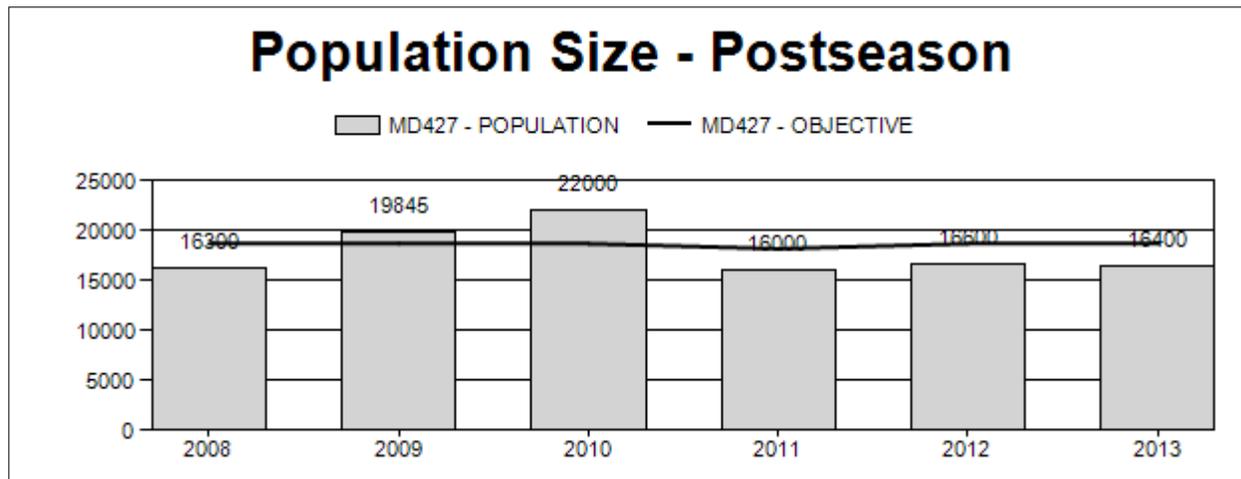
PREPARED BY: TONY MONG

	<u>2008 - 2012 Average</u>	<u>2013</u>	<u>2014 Proposed</u>
Population:	18,149	16,400	16,700
Harvest:	1,180	798	1,050
Hunters:	2,546	2,075	2,200
Hunter Success:	46%	38%	48%
Active Licenses:	2,561	2,075	2,200
Active License Percent:	46%	38%	48%
Recreation Days:	12,229	9,517	10,000
Days Per Animal:	10.4	11.9	9.5
Males per 100 Females	24	42	
Juveniles per 100 Females	59	56	

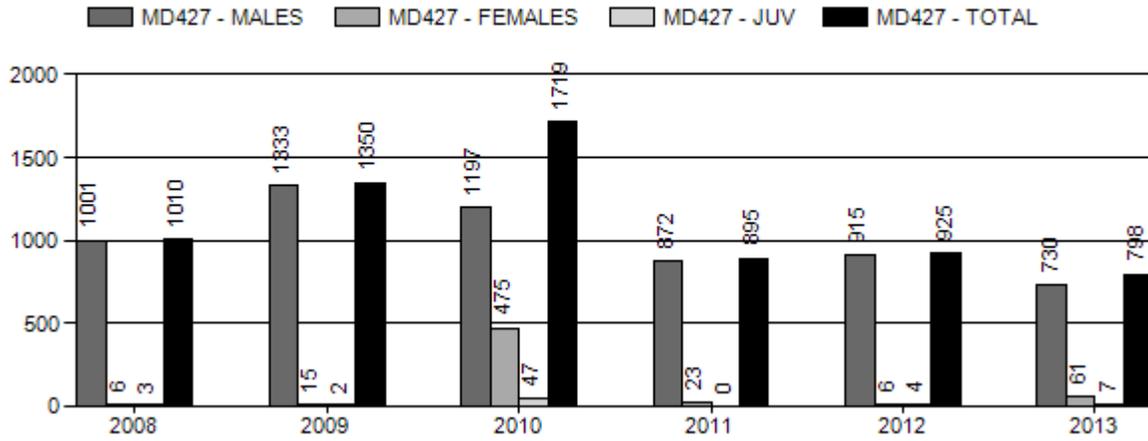
Population Objective:	18,700
Management Strategy:	Recreational
Percent population is above (+) or below (-) objective:	-12.3%
Number of years population has been + or - objective in recent trend:	10
Model Date:	03/03/2014

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

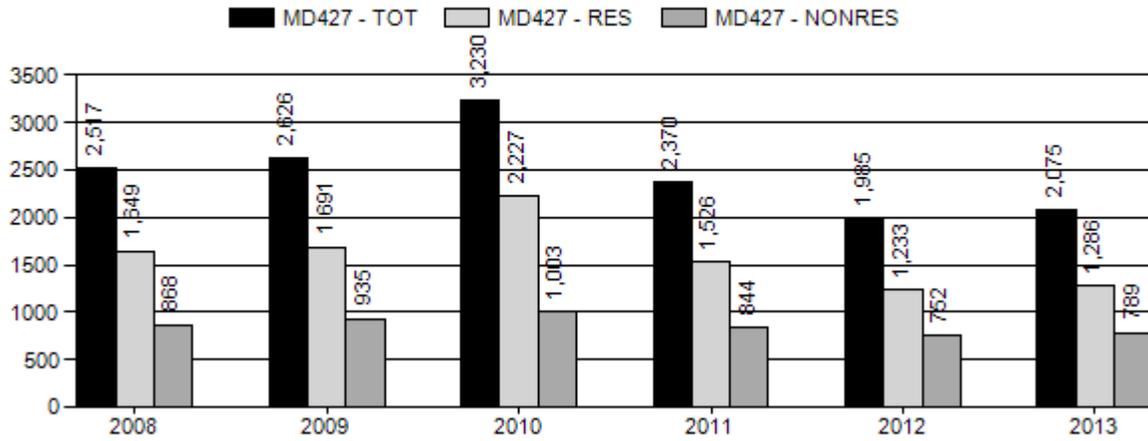
	<u>JCR Year</u>	<u>Proposed</u>
Females ≥ 1 year old:	0.2%	0.2%
Males ≥ 1 year old:	36%	36%
Juveniles (< 1 year old):	0%	0%
Total:	3%	3%
Proposed change in post-season population:	13%	1%



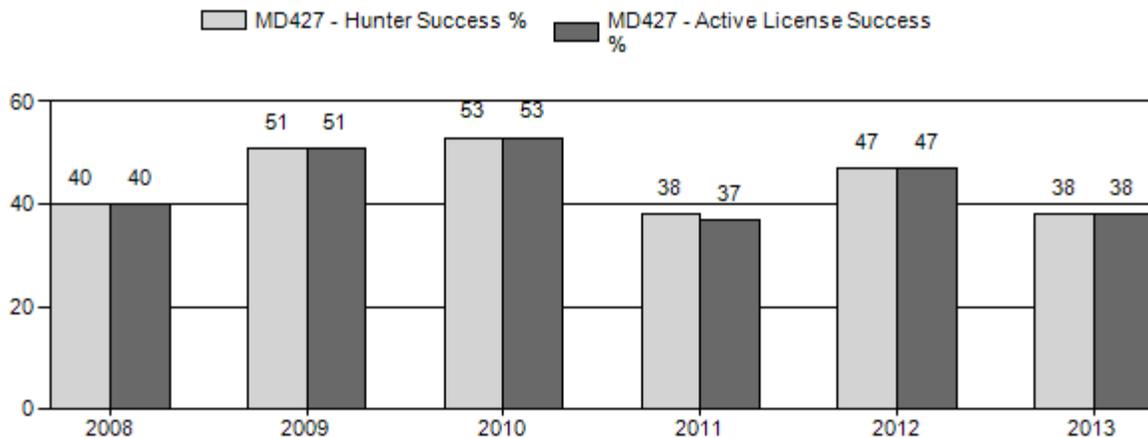
Harvest



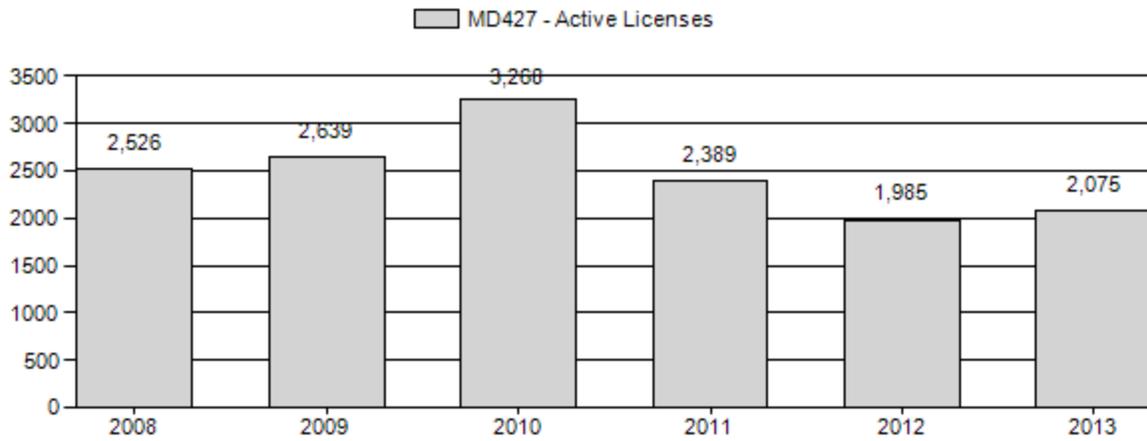
Number of Hunters



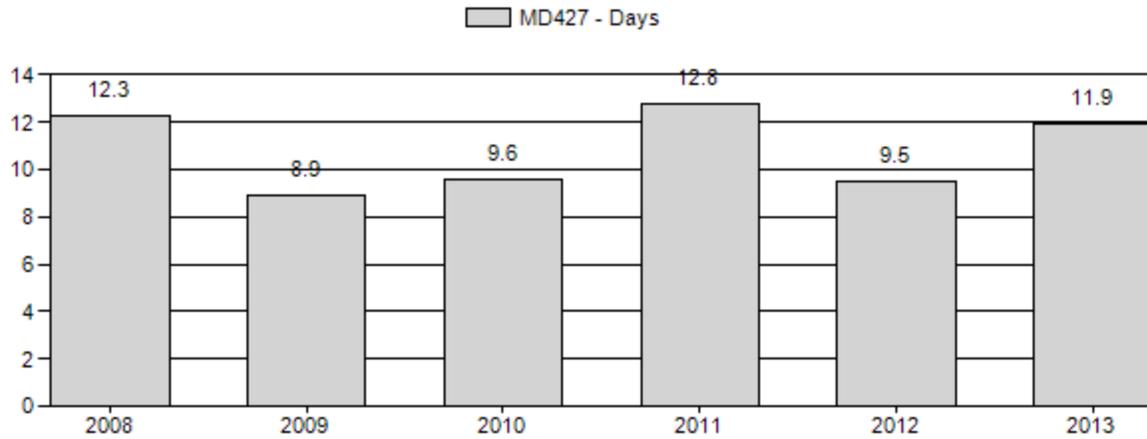
Harvest Success



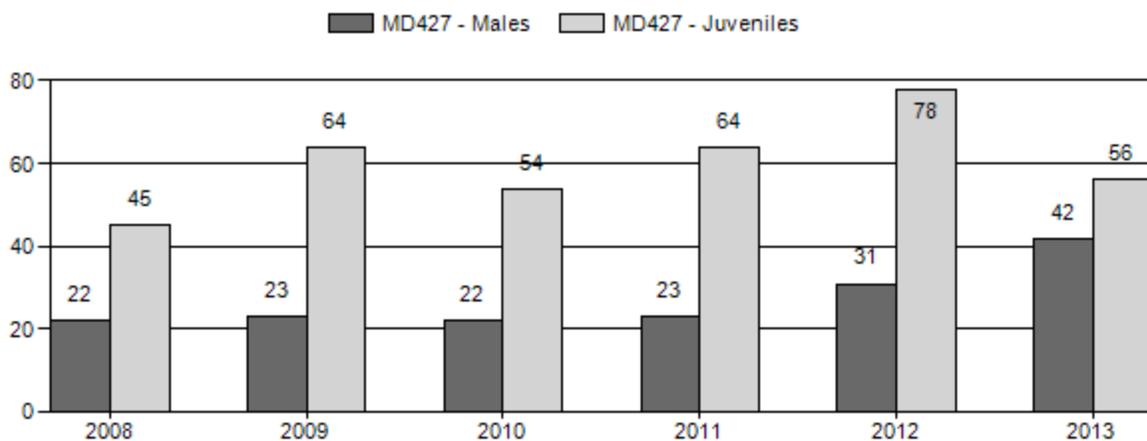
Active Licenses



Days per Animal Harvested



Postseason Animals per 100 Females



2008 - 2013 Postseason Classification Summary

for Mule Deer Herd MD427 - BAGGS

Year	Post Pop	MALES				FEMALES		JUVENILES		Tot CIs	Cls Obj	Males to 100 Females				Young to		
		Ylg	Adult	Total	%	Total	%	Total	%			Yng	Adult	Total	Conf Int	100 Fem	Conf Int	100 Adult
2008	16,300	122	492	614	13%	2,829	60%	1,260	27%	4,703	695	4	17	22	± 0	45	± 0	37
2009	19,845	207	330	537	13%	2,294	53%	1,460	34%	4,291	813	9	14	23	± 0	64	± 0	52
2010	22,000	241	178	419	13%	1,892	57%	1,018	31%	3,329	0	13	9	22	± 0	54	± 0	44
2011	16,000	133	337	470	12%	2,059	54%	1,308	34%	3,837	0	6	16	23	± 1	64	± 3	52
2012	16,600	198	289	487	15%	1,592	48%	1,235	37%	3,314	0	12	18	31	± 2	78	± 3	59
2013	16,400	346	514	860	21%	2,066	51%	1,152	28%	4,078	0	17	25	42	± 2	56	± 2	39

2014 HUNTING SEASONS

SPECIES : **Mule Deer**

HERD UNIT : **Baggs (427)**

HUNT AREAS: **82, 84, 100**

Hunt Area	Type	Season Dates		Quota		Limitations
		Opens	Closes			
82		Oct. 1	Oct. 9	General		Antlered mule deer or any white-tailed deer
		Oct. 1	Oct. 14			General youth
84	1	Oct. 1	Oct. 9	50	Limited quota	Antlered mule deer or any white-tailed deer
100		Oct. 1	Oct. 5	General		Antlered mule or any white-tailed deer
		Oct. 1	Oct. 7			General youth
82, 84, 100	Archery	Sep. 1	Sep. 30			Refer to Section 3

<i>Hunt Area</i>	<i>Type</i>	<i>Quota change from 2013</i>
<i>Region W</i>	<i>Gen</i>	<i>0</i>
<i>84</i>	<i>1</i>	<i>-25</i>
<i>Herd Unit Total</i>	<i>1</i>	<i>-25</i>
	<i>Region W</i>	<i>0</i>

Management Evaluation

Current Management Objective: 18,700

Management Strategy: Recreational

2013 End-of-bio-year Estimate: 16,400

2014 Proposed Postseason Population Estimate: 16,700

The Baggs Deer herd is below the objective of 18,700 (set in 1986) therefore our current management strategy is to increase herd size.

Herd Unit Issues

Throughout the Baggs herd we continue to see development of oil and gas fields associated with the Atlantic Rim Project and within 2 years we could begin to see the development of the largest wind turbine project in North America, the Chokecherry-Sierra Madre Wind Project. In addition to the Atlantic Rim and Chokecherry-Sierra Madre Wind projects many public parcels of public land on the west side of the Sierra Madre mountain range have been leased for oil and gas development and a majority of the winter range west of Baggs is up for lease in November 2014.

Weather

The weather conditions have been quite variable over the last several years. In 2011-12 moisture levels were at record lows. 2012-13 brought continued drought with higher than normal temperatures during the summer (Figure 1) until the fall of 2013 when high amounts of precipitation in the form of both snow and rain aided in a fall green up which allowed animals to put on weight before winter (Figure 2). Temperatures were also closer to normal in 2013 compared to 2012 (Figure 3).

Figure 1. Temperature departure from normal for July – September 2013.

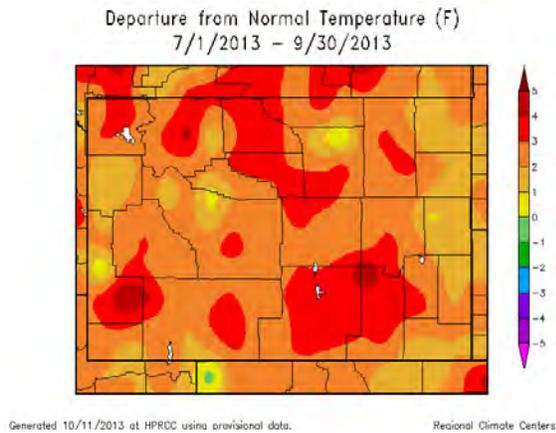
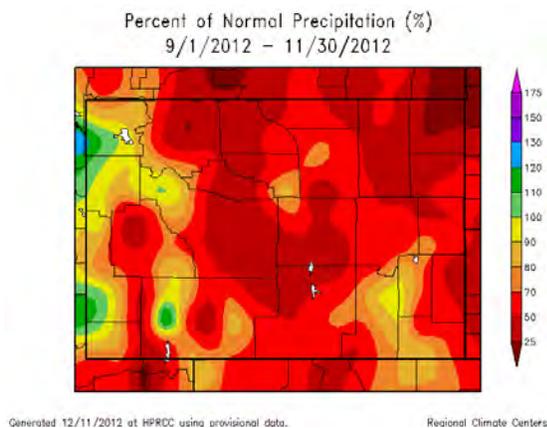


Figure 2. A) Percent of normal precipitation September to November 2012, B) Percent of normal precipitation September to November 2013.

A)



B)

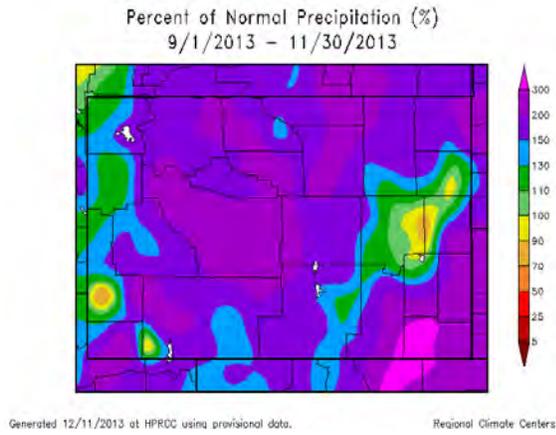
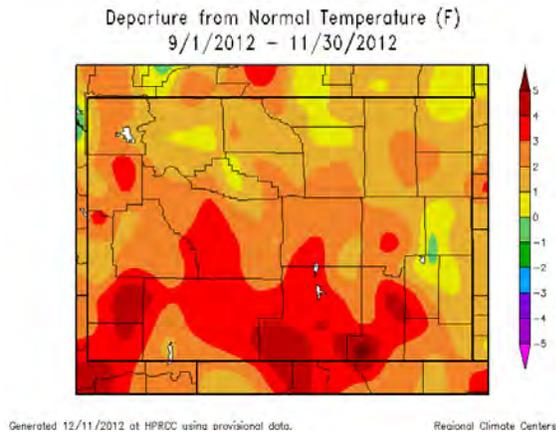
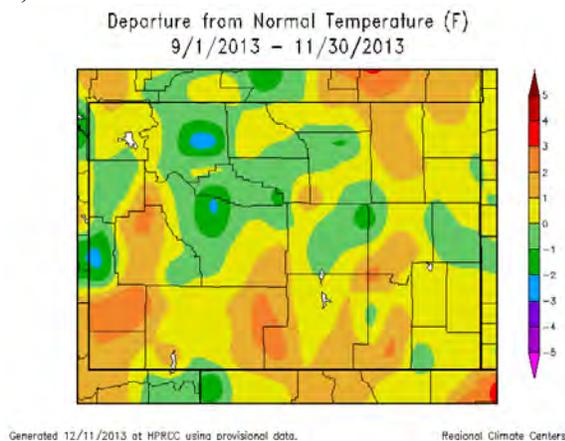


Figure 3. A) Departure from normal temperatures September to November 2012 B) Departure from normal temperatures September to November 2013.

A)



B)



Field Data

The drought impacting this herd coupled with severe winters and increasing human activity in areas that had not had human activity prior to 10 years ago has been a challenge for the mule deer in the Baggs herd. The winter of 2010-11 was the second extremely difficult winter experienced by the Baggs herd in 4 years and the following winter (2011-12) was one of the

driest on record and led to very difficult summer conditions for deer. Classification flights showed that the point-restriction implemented in 2012 to increase buck numbers was very successful and despite a higher harvest in 2012, we saw a decrease in harvest in 2013. The flight also showed the effects of drought on the fawn crop with a return to an average fawn ratio of 57 (10 year average, 57) after a high year of 78 in 2012. Despite the high ratios of fawns in 2012 data from Northern Colorado suggests low winter survival for fawns in this area (49.9%, SE = 4.7, D. Finley personal communication).

Harvest Data

The 2013 hunting season saw the lowest hunter success (37%) experienced in the Baggs herd since 1997. Over the last 3 years the average harvest rate (41%) has been lower than the previous 10 year average (55%). In 2013 we again saw extreme weather conditions with drought and higher than normal temperatures during the summer (Figure 1) which led to a very unusual distribution of animals. In addition to weather there was an increase in human activity associated with seismic work being conducted in summer and winter habitat for mule deer from Muddy Mountain to the west side of Battle Mountain. Activity included helicopters and ground crews which may have added to the unusual distribution of mule deer leading up to hunting season. The presence of helicopters associated with the seismic work in some of our high hunter density areas (Loco Canyon) displaced many hunters and led to many negative comments on hunter surveys for the 2013 hunt.

The low harvest rate and discontent with the seismic activity is shown in the satisfaction survey with only 53% of 587 hunters surveyed either “satisfied or very satisfied” with their hunt in the Baggs Herd. This is down from 2012 (59%) but up from 2011 (42%). We anticipate an increase in hunter satisfaction and possibly harvest because of the high buck ratios and removal of the point restriction.

Population

The current post-hunt population model estimates for 2013 indicate we are still below objective at 16,400 animals. Despite the SCJ, SCA model having the lowest relative AICc value (170), we chose the TSJ, CA model (180) based on what we believe to be a better representation of the actual population trend and size based on hunter satisfaction, plausibility and field observations. The SCJ, SCA model shows a population that was nearly 3 times over objective before the winter of 2007-08 and that does not seem to be biologically feasible (Figure x). Within the TSJ, CA model we constrained adult survival to lower levels during the 2007-08 and 2010-11 winters to match the difficult winter conditions.

The discontent of hunters in 2013 coupled with the TSJ, CA model population estimate seems to indicate that our current management goal of increasing the herd is correct. The spreadsheet model seems to be a useful tool for this herd; however, without an independent estimate of the population size we must be cautious in the use of this model as our only source of information.

Management Summary

We are remaining conservative on our seasons for 2014 to again allow the population to achieve the highest possible growth. The high buck ratios is reason to remove the restriction to allow harvest to be spread out across more age classes thus giving the opportunity for more bucks to make it into older age classes. In order to address the lower population numbers in the Baggs herd we have eliminated all doe/ fawn licenses and will not implement a structured doe harvest until we see an increase in the population to levels closer to objective (this does not include the

youth hunters ability to harvest any deer). We are also again having a youth deer hunt after the general season. In hunt area 100 this will take place the Sunday and Monday following the end of the general season in hunt area 100 and in hunt area 82 the youth hunt will occur the weekend after the general season ends. These hunts are to give youth an opportunity to hunt with less hunting pressure and maximize the possibility of having a quality hunt. Harvest surveys indicate that only 60 does were harvested in 2013, indicating a low impact to the herd from this youth season. We have received many comments in the field and on the harvest survey that indicate a high level of satisfaction with the youth season.

INPUT	
Species:	Deer
Biologist:	Tony Mong
Herd Unit & No.:	Boags Herd, 427
Model date:	03/03/14

MODELS SUMMARY			Relative AICc	Fit	Notes
CJ,CA	Constant Juvenile & Adult Survival	217	226		
SCJ,S,CA	Semi-Constant Juvenile & Semi-Constant Adult Survival	151	170		
TSJ,CA	Time-Specific Juvenile & Constant Adult Survival	25	180		

Clear form

CJ,CA Model

SCJ,S,CA Model

TSJ,CA Model

Check best model to create report

Year	Posthunt Population Est.		Trend Count	Predicted Prehunt Population		Predicted Posthunt Population		Total	Objective			
	Field Est	Field SE		Juveniles	Total Males	Juveniles	Total Males			Females		
1993				3375	2451	7433	13259	3207	1213	6263	10683	18700
1994				3953	2289	6692	12915	3953	1524	6692	12170	18700
1995				4479	2850	7377	14706	4479	1771	7377	13627	18700
1996				5933	3567	8477	17978	5933	2421	8477	16831	18700
1997				6979	3604	8909	19491	6979	2263	8874	18115	18700
1998				5701	3727	9517	18945	5688	2317	9172	17176	18700
1999				5689	4589	10594	20871	5612	2534	10052	18198	18700
2000				6860	4745	11330	22935	6823	2508	11050	20381	18700
2001				5401	3903	11385	20689	5401	2425	11384	19209	18700
2002				5984	4253	12100	22336	5984	2341	12100	20425	18700
2003				5589	4380	12929	22898	5568	2688	12702	20959	18700
2004				7222	4390	13161	24773	7201	2817	12852	22870	18700
2005				7199	4685	13455	25320	7155	3279	13177	23611	18700
2006				7319	5693	14363	27375	7287	3717	13734	24738	18700
2007				7397	5636	14409	27442	7356	3474	13716	24547	18700
2008				4154	3180	9325	16658	4150	2078	9318	15547	18700
2009				6375	3688	10030	20093	6373	2222	10013	18608	18700
2010				5347	3539	10364	19251	5295	2223	9842	17380	18700
2011				3963	2455	6264	12682	3963	1489	6239	11691	18700
2012				5622	3088	7248	15958	5618	2068	7242	14927	18700
2013				4796	3993	8525	17314	4788	3190	8458	16436	18700
2014				5392	3991	8606	17989	5388	2836	8540	16764	18700
2015				5539	3831	8827	18197	5528	2676	8761	16965	18700
2016				5816	3936	9266	19018	5805	2781	9200	17786	18700
2017												18700

Survival and Initial Population Estimates

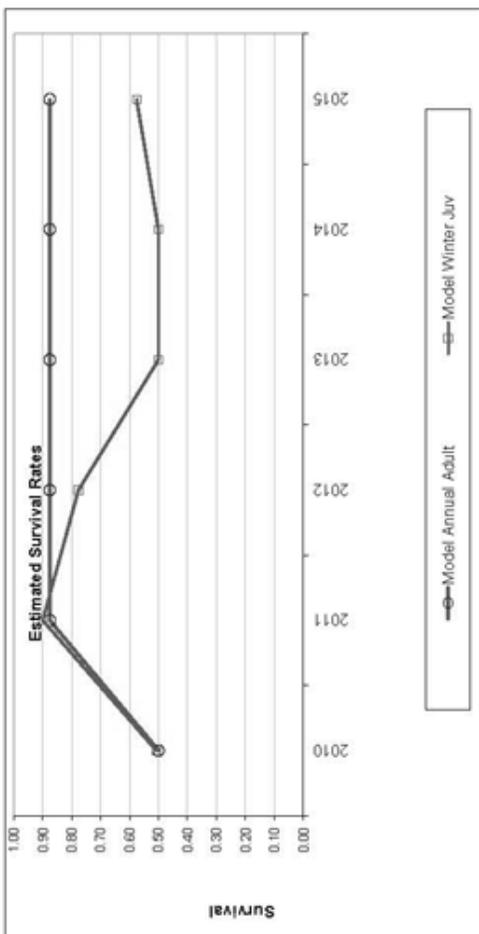
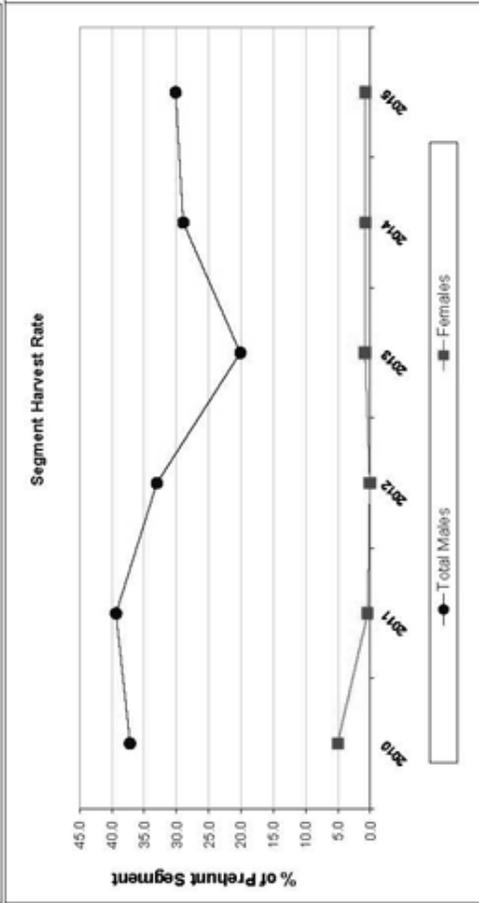
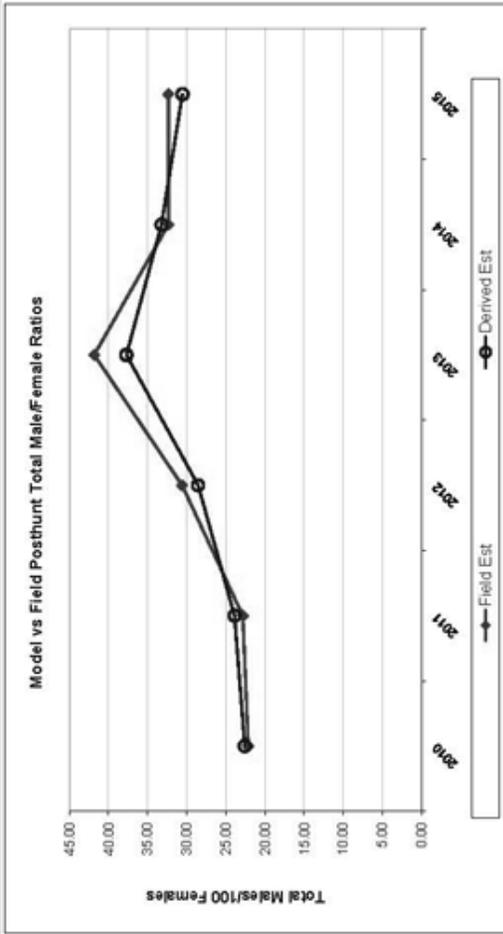
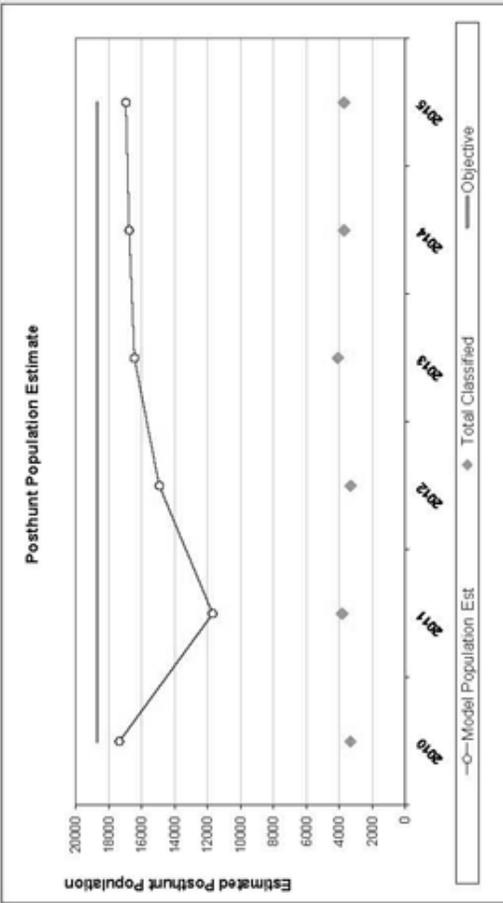
Year	Annual Juvenile Survival Rates		Annual Adult Survival Rates	
	Model Est	Field Est SE	Model Est	Field Est SE
1993	0.75		0.88	
1994	0.77		0.88	
1995	0.90		0.88	
1996	0.50		0.88	
1997	0.50		0.88	
1998	0.90		0.88	
1999	0.90		0.88	
2000	0.50		0.88	
2001	0.79		0.88	
2002	0.78		0.88	
2003	0.73		0.88	
2004	0.61		0.88	
2005	0.79		0.88	
2006	0.65		0.88	
2007	0.30		0.60	
2008	0.90		0.88	
2009	0.50		0.88	
2010	0.51		0.50	
2011	0.90		0.88	
2012	0.78		0.88	
2013	0.50		0.88	
2014	0.50		0.88	
2015	0.58		0.88	
2016	0.55		0.88	
2017				

Parameters:		Optim cells
Adult Survival =		0.876
Initial Total Male Pop/10,000 =		0.121
Initial Female Pop/10,000 =		0.626

MODEL ASSUMPTIONS	
Sex Ratio (% Males) =	50%
Wounding Loss (total males) =	10%
Wounding Loss (females) =	10%
Wounding Loss (juveniles) =	10%

Year	Classification Counts										Harvest		
	Juvenile/Female Ratio					Total Male/Female Ratio					Total Harvest	Segment Harvest Rate (% of Total Males	Females
	Derived Est	Field Est	Field SE	Derived Est	Field Est w/o bull adj	Field SE	Juv	Males	Females				
1993		51.20	1.65	19.37	19.37	0.90	153	1125	1063	2341	50.5	15.7	
1994		59.08	2.01	22.78	22.77	1.09	0	677	0	677	32.8	0.0	
1995		60.71	2.11	24.01	23.56	1.15	0	981	0	981	37.9	0.0	
1996		69.99	2.32	28.55	30.28	1.34	0	1042	0	1042	32.1	0.0	
1997		78.65	2.84	25.50	26.64	1.39	0	1219	32	1251	37.2	0.4	
1998		62.01	2.39	25.26	23.11	1.27	12	1262	314	1608	37.8	3.6	
1999		55.82	2.07	25.21	23.29	1.19	70	1868	492	2430	44.8	5.1	
2000		61.75	2.29	22.70	26.50	1.33	33	2033	255	2321	47.1	2.5	
2001		47.44	1.39	21.30	20.84	0.83	0	1344	1	1345	37.9	0.0	
2002		49.45	1.77	19.35	19.35	0.99	0	1738	0	1738	45.0	0.0	
2003		43.83	1.67	21.16	21.16	1.07	19	1538	206	1763	38.6	1.8	
2004		56.03	1.67	21.92	21.92	0.92	19	1430	281	1730	35.8	2.3	
2005		54.30	1.51	24.89	24.88	0.92	40	1260	253	1553	29.7	2.1	
2006		53.06	1.70	27.07	27.07	1.11	29	1796	572	2397	34.7	4.4	
2007		53.63	1.55	25.33	25.33	0.96	37	1965	630	2632	38.4	4.8	
2008		44.54	1.51	22.31	21.70	0.97	3	1001	6	1010	34.6	0.1	
2009		63.64	2.13	22.19	23.41	1.12	2	1333	15	1350	39.8	0.2	
2010		53.81	2.09	22.59	22.15	1.20	47	1197	475	1719	37.2	5.0	
2011		63.53	2.25	23.86	22.83	1.17	0	878	23	901	39.3	0.4	
2012		77.58	2.94	28.56	30.59	1.58	4	927	6	937	33.0	0.1	
2013		56.61	2.08	37.72	41.84	1.70	7	730	61	798	20.1	0.8	
2014		63.09	2.33	33.21	32.33	1.50	4	1050	60	1114	28.9	0.8	
2015		63.09	2.33	30.55	32.33	1.50	10	1050	60	1120	30.1	0.7	
2016		63.09	2.33	30.23	31.28	1.47	10	1050	60	1120	29.3	0.7	

FIGURES



Comments:

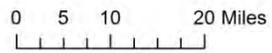
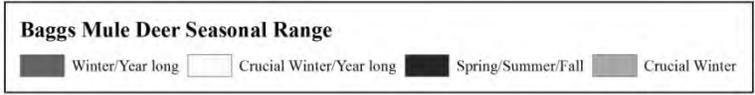
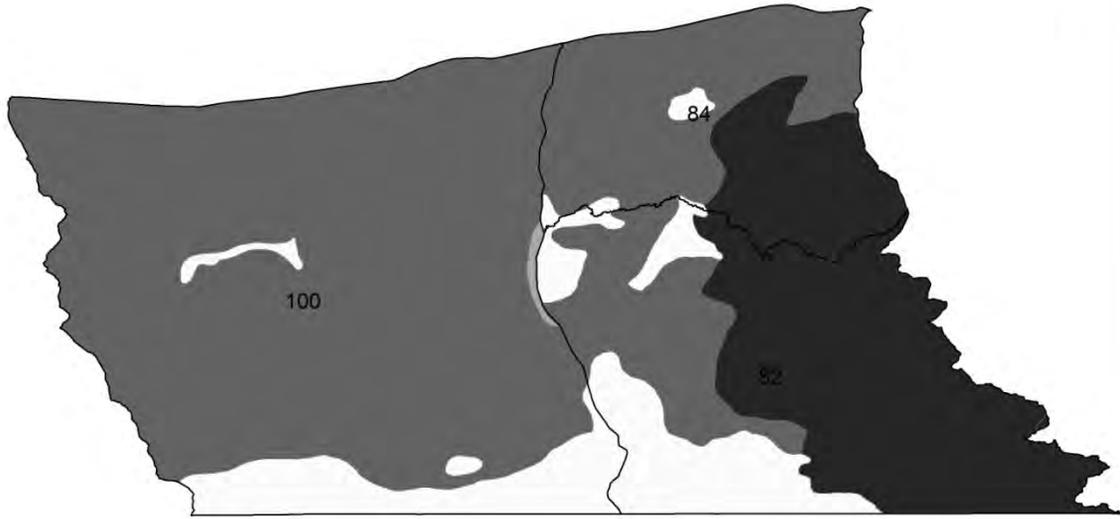
Appendix A. Summary of trapping activity for the Baggs Mule Deer Underpass Study in 2013-14.

Cap. Site	Cap. X	Cap. Y	Date	Year	Time	Ear tag #	PIT tag #	Sex	Age	EarTrans?	CollarTrans?
Dugway 1	271455	4547044	12/30/2013	2013	1600	A010	54F5CCA	F	6+	N	Y
Savery 1	296235	4545040	12/6/2013	2013	1552	A063	54F5CBC	M	1.5	N	N
Savery 2	297226	4544443	12/8/2013	2013	1546	A066	54F5C86	M	0.5	N	N
Savery 2	297226	4544443	12/8/2013	2013	1546	A068	54F5C95	F	4.5	N	N
Savery 1	296235	4545040	12/7/2013	2013	742	A071	54F5CA2	F	3.5	N	N
Savery 2	297226	4544443	12/8/2013	2013	1546	A073	54F5C70	M	1.5	N	N
Savery 3	298861	4542749	12/16/2013	2013	1120	A079	54F5C8C	F	3.5	N	N
Savery 1	296235	4545040	12/11/2013	2013	1630	A080	54F5CB4	F	3.5	N	N
Savery 1	296235	4545040	12/11/2013	2013	1630	A081	54F5C6E	M	1.5	N	N
Savery 1	296235	4545040	12/11/2013	2013	1630	A082	54F5C8B	F	0.5	N	N
Savery 1	296235	4545040	12/11/2013	2013	1630	A084	54F5CA5	F	1.5	N	N
Savery 3	298861	4542749	12/16/2013	2013	1620	A086	54F5C91	F	4.5	N	N
Dugway 1	271455	4547044	12/30/2013	2013	1600	A089	54F5C90	F	4.5	N	Y
Savery 3	298861	4542749	12/16/2013	2013	1509	A092	54F5CB1	F	5.5	N	N
Savery 3	298861	4542749	12/16/2013	2013	1532	A093	54F5CC2	F	3.5	N	N
Savery 3	298861	4542749	12/17/2013	2013	925	A094	5445CC7	F	1.5	N	N
Savery 4	295285	4547044	12/18/2013	2013	1453	A098	54F5C98	F	2.5	N	N
Dugway 1	271455	4547044	1/2/2014	2014	1430	A012	54F5CAB	F	4.5	N	Y
Dugway 1	271455	4547044	1/2/2014	2014	1430	A014	54F5CC6	F	6+	N	Y
Dugway 1	271455	4547044	1/7/2014	2014	930	A024	54F5C94	F	4.5	N	Y
Dugway 1	271455	4547044	1/2/2014	2014	1530	A029	54F5C7D	F	3.5	N	Y
Dugway 1	271455	4547044	1/2/2014	2014	1430	A091	54F5CA7	F	1.5	N	Y
Dugway 1	271455	4547044	1/2/2014	2014	1615	A095	54F5CA1	F	1.5	N	Y
Dugway 1	271455	4547044	1/2/2014	2014	1615	A099	54F5C72	F	6+	N	N
Dugway 1	271455	4547044	1/6/2014	2014	1645	A099	54F5C72	F	6+	N	Y
Dugway 1	271455	4547044	1/6/2014	2014	1700	A104	54FCB2	F	5.5	N	Y
Savery 4	295285	4547044	1/7/2014	2014	1620	A106	54F5CAD	F	4.5	N	Y
Rhett's Well	268174	4544221	1/13/2014	2014	1430	A107	54F5C8F	F	3.5	N	Y
Rhett's Well	268174	4544221	1/7/2014	2014	1200	A108	54F5C7E	F	1.5	N	Y

Cap. Site	Cap. X	Cap. Y	Date	Year	Time	Ear tag #	PIT tag #	Sex	Age	EarTrans?	CollarTrans?
Rhett's Well	268174	4544221	1/7/2014	2014	1200	A109	54F5C87	F	5.5	N	Y
Savery 4	295285	4547044	1/9/2014	2014	1640	A111	54F5CB3	F	3.5	N	Y
Rhett's Well	268174	4544221	1/8/2014	2014	945	A113	54F5CA6	F	4.5	N	Y
Stocks	283984	4546726	1/13/2014	2014	1530	A114	54F5C7F	F	3.5	N	Y
Stocks	283984	4546726	1/13/2014	2014	1530	A116	54F5C7B	F	3.5	N	Y
Stocks	283984	4546726	1/13/2014	2014	1530	A117	54F5C81	F	2.5	N	Y
Rhett's Well	268174	4544221	1/14/2014	2014	1000	A120	54F5C7F	F	3.5	N	Y
Stocks	283984	4546726	1/15/2014	2014	1620	A121	54F5CBF	F	6+	N	Y
Stocks	283984	4546726	1/16/2014	2014	1620	A125	54F5C8A	F	6+	N	Y
Dugway 2	272180	4546135	1/25/2014	2014	1015		54F5C6A	F	1.5	N	Y
Weber Mesa	280989	4547183	1/29/2014	2014	1140		54F5C79	F	5.5	N	Y
Savery 1	296235	4545040	12/9/2013	2013	726	A054	54F5CB9	M	1.5	Y	N
Savery 2	297226	4544443	12/11/2013	2013	1546	A062	54F5C75	M	2.5	Y	N
Savery 1	296235	4545040	12/9/2013	2013	726	A071	54F5C74	M	1.5	Y	N
Savery 3	298861	4542749	12/17/2013	2013	925	A076	54F5CC7	M	1.5	Y	N
Savery 3	298861	4542749	12/16/2013	2013	1120	A077	54F5C7A	M	0.5	Y	N
Savery 1	296235	4545040	12/13/2013	2013	1615	A078	54F5CCB	M	1.5	Y	N
Savery 3	298861	4542749	12/16/2013	2013	1509	A083	54F5CB0	F	0.5	Y	N
Savery 1	296235	4545040	12/16/2013	2013	1209	A085	54F5C76	M	2.5	Y	N
Savery 3	298861	4542749	12/17/2013	2013	1558	A087	54F5CA0	F	0.5	Y	N
Savery 3	298861	4542749	12/16/2013	2013	1525	A090	54F5C6B	M	0.5	Y	N
Savery 1	296235	4545040	12/12/2013	2013	1530	A096	54F5C84	M	1.5	Y	N
Savery 1	296235	4545040	12/16/2013	2013	1550	N/A	54F5C92	M	3.5	Y	N
Savery 2	297226	4544443	12/7/2013	2013	1630	N/A	54F5C6C	M	2.5	Y	N
Savery 2	297226	4544443	12/9/2013	2013	900	N/A	54F5CA8	M	2.5	Y	N
Savery 3	298861	4542749	12/18/2013	2013	1609	N/A	54F5C89	M	3.5	Y	N
Savery 4	295285	4547044	12/18/2013	2013	850	N/A	54F5C85	M	2.5	Y	N
Savery 4	295285	4547044	12/18/2013	2013	1655	N/A	54F5C97	M	1.5	Y	N
Savery 4	295285	4547044	12/18/2013	2013	1445	N/A	54F5CC9	M	1.5	Y	N
Dugway 1	271455	4547044	1/2/2014	2014	1530	A088	54F5C9F	M	1.5	Y	N
Dugway 1	271455	4547044	1/2/2014	2014	1615	A097	54F5CAA	F	0.5	Y	N

Cap. Site	Cap. X	Cap. Y	Date	Year	Time	Ear tag #	PIT tag #	Sex	Age	EarTrans?	CollarTrans?
Dugway 1	271455	4547044	1/6/2014	2014	1700	A100	54F5CBD	F	0.5	Y	N
Savery 4	295285	4547044	1/7/2014	2014	1640	A101	54F5CC3	M	1.5	Y	N
Rhett's Well	268174	4544221	1/8/2014	2014	945	A102	54F5C7C	F	0.5	Y	N
Rhett's Well	268174	4544221	1/13/2014	2014	1430	A103	54F5C83	F	0.5	Y	N
Rhett's Well	268174	4544221	1/13/2014	2014	930	A105	54F5C77	F	0.5	Y	N
Dugway 1	271455	4547044	1/7/2014	2014	930	A110	54F5C6F	F	0.5	Y	N
Savery 4	295285	4547044	1/7/2014	2014	1620	A112	54F5CC8	F	0.5	Y	N
Stocks	283984	4546726	1/15/2014	2014	1620	A115	54F5CC5	F	0.5	Y	N
Stocks	283984	4546726	1/13/2014	2014	1530	A118	54F5CAF	M	1.5	Y	N
Stocks	283984	4546726	1/13/2014	2014	1530	A119	54F5C78	M	0.5	Y	N
Stocks	283984	4546726	1/14/2014	2014	1700	A122	54F5C93	M	0.5	Y	N
Stocks	283984	4546726	1/14/2014	2014	1700	A123	54F5CAC	F	0.5	Y	N
Rhett's Well	268174	4544221	1/14/2014	2014	1000	A124	54F5C9A	F	0.5	Y	N
Dugway 2	272180	4546135	1/16/2014	2014	1340		54F5C9B	M	2.5	Y	N
Dugway 2	272180	4546135	1/16/2014	2014	1340		54F5CB7	M	1.5	Y	N
Stocks	283984	4546726	1/16/2014	2014	1620		54F5C96	M	0.5	Y	N
Stocks	283984	4546726	1/16/2014	2014	1620		54F5CC0	M	0.5	Y	N
Weber Mesa	280989	4547183	1/29/2014	2014	945		54F5C9C	M	1.5	Y	N
Weber Mesa	280989	4547183	1/29/2014	2014	1140		54F5CA3	M	0.5	Y	N

MD427 Baggs Mule Deer Herd Seasonal Ranges



2013 - JCR Evaluation Form

SPECIES: Mule Deer

PERIOD: 6/1/2013 - 5/31/2014

HERD: MD430 - STEAMBOAT

HUNT AREAS: 131

PREPARED BY: PATRICK BURKE

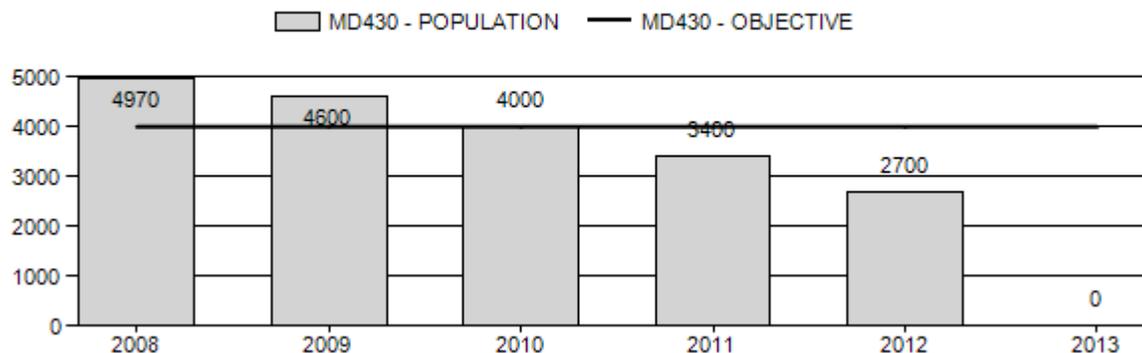
	<u>2008 - 2012 Average</u>	<u>2013</u>	<u>2014 Proposed</u>
Population:	3,937	N/A	N/A
Harvest:	431	104	50
Hunters:	1,232	610	200
Hunter Success:	35%	17%	25%
Active Licenses:	1,301	631	200
Active License Percent:	33%	16%	25%
Recreation Days:	4,592	1,939	1,000
Days Per Animal:	10.7	18.6	20
Males per 100 Females	21	24	
Juveniles per 100 Females	52	64	

Population Objective:	4,000
Management Strategy:	Recreational
Percent population is above (+) or below (-) objective:	N/A%
Number of years population has been + or - objective in recent trend:	0
Model Date:	None

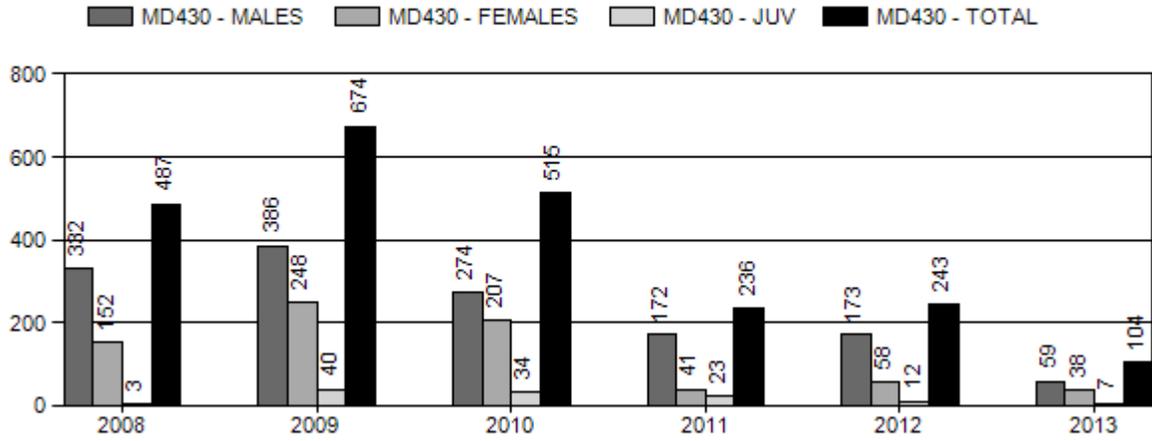
Proposed harvest rates (percent of pre-season estimate for each sex/age group):

	<u>JCR Year</u>	<u>Proposed</u>
Females ≥ 1 year old:	3.9%	0%
Males ≥ 1 year old:	34.1%	0%
Juveniles (< 1 year old):	1.5%	0%
Total:	7.7%	0%
Proposed change in post-season population:	0.9%	0%

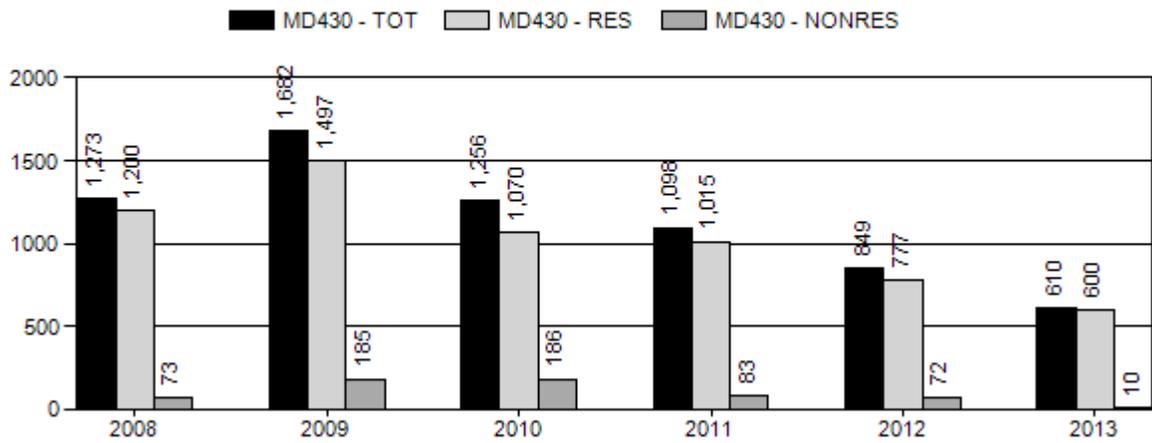
Population Size - Postseason



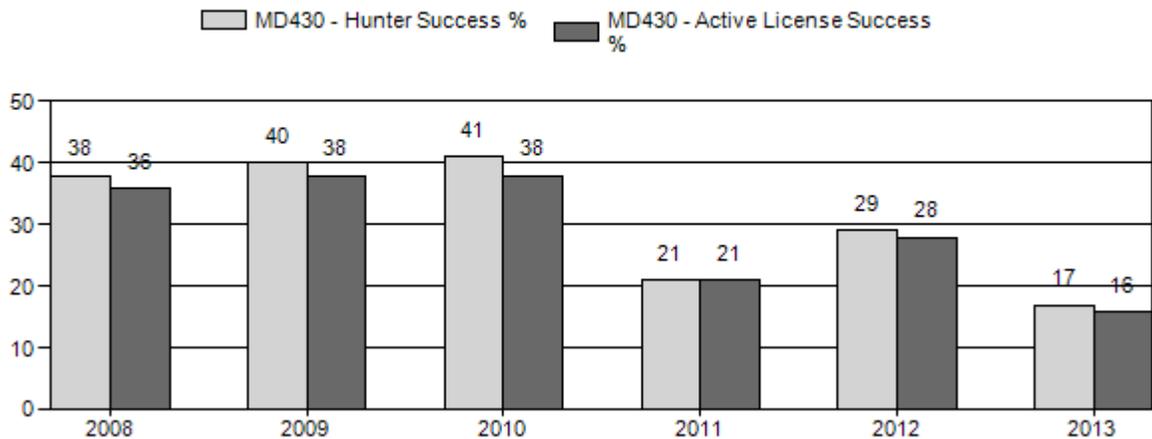
Harvest



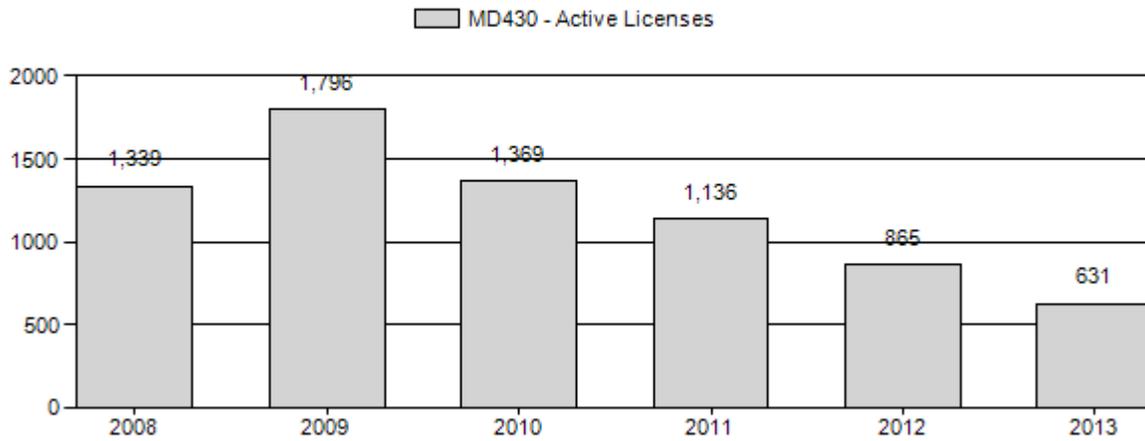
Number of Hunters



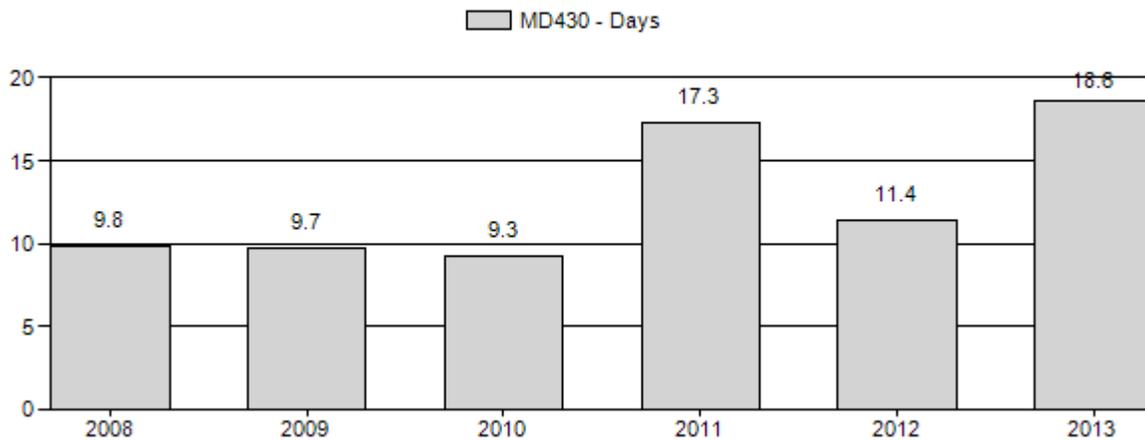
Harvest Success



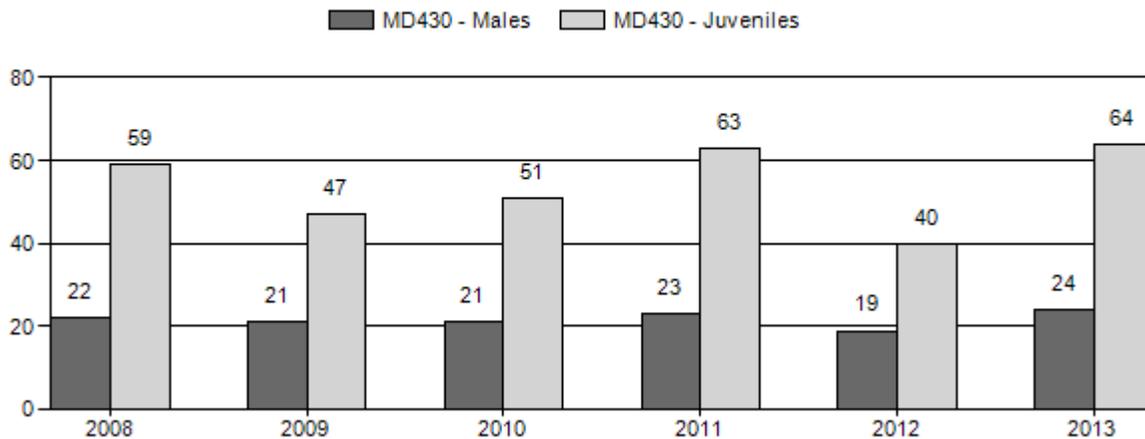
Active Licenses



Days per Animal Harvested



Postseason Animals per 100 Females



2008 - 2012 Postseason Classification Summary

for Mule Deer Herd MD430 - STEAMBOAT

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
2008	4,970	73	82	155	12%	717	55%	421	33%	1,293	934	10	11	22	± 0	59	± 0	48
2009	4,600	67	72	139	12%	663	60%	311	28%	1,113	903	10	11	21	± 0	47	± 0	39
2010	4,000	64	85	149	12%	723	58%	368	30%	1,240	701	9	12	21	± 2	51	± 3	42
2011	3,400	35	35	70	12%	310	54%	194	34%	574	761	11	11	23	± 3	63	± 7	51
2012	2,717	19	42	61	12%	323	63%	129	25%	513	0	6	13	19	± 3	40	± 5	34

**2014 HUNTING SEASONS
STEAMBOAT MULE DEER HERD (MD430)**

Hunt Area	Type	SEASON DATES		Quota	Limitations
		Opens	Closes		
131	Gen	Oct. 1	Oct. 5		General license; antlered mule deer four (4) points or more on either antler or every white-tailed deer
	7	Oct. 1	Oct. 31	50	Limited quota; doe or fawn deer valid in that portion of Area 131 within the Farson-Eden Irrigation Project
Archery		Sept. 1	Sept. 30		Refer to license type and limitations in Section 3.

Hunt Area	Type	Quota change from 2013
Herd Unit Total		None

Management Evaluation

Current Management Objective: 4,000

Management Strategy: Recreational

2012 Postseason Population Estimate: N/A

2013 Proposed Population Estimate: N/A

The management objective for the Steamboat mule deer herd is 4,000 animals post-season under a recreational management scenario. The objective for this population was set in 1991.

Herd Unit Issues

Recent GPS collar data have shown that what was once thought to be the Steamboat mule deer herd is actually just a part of the Sublette deer herd. It appears that a large portion of the deer that winter in the Leucite Hills area north of the town of Superior migrate to north of Pinedale to summer (see attached map). There is also a segment of the Leucite Hills wintering deer that summer in the South Wind River deer herd unit and a segment that remain in the Steamboat herd unit, summering in the Jack Morrow Hills area. Because of this new information, this herd will be proposed to be combined with the Sublette herd when that herd is taken out for objective review in the summer of 2014.

Weather

Deer wintering in the Leucite Hills area of the herd unit suffered severe winter mortality during the 2010-2011 winter. Based on data from GPS collars deployed by the BLM Rock Springs Field Office, adult doe deer wintering in the Leucite Hills area experienced nearly 40% mortality during that winter. The 2012-2013 and the 2013-2014 winters have both been fairly mild in the Steamboat herd unit. The summers of 2012 and 2013 have both been extremely dry in the Steamboat herd unit with little summertime precipitation received during both of those years. While the summer of 2013 was very dry, significant precipitation was received during September and October. Some of this precipitation did occur during the 2013 hunting season; this did cause very muddy roads in the hunt area, which may have had some impact of hunter success in 2013, but low deer numbers were probably more to blame than weather conditions.

Habitat

No habitat transects targeting deer range have been conducted within the Steamboat herd unit. However, the dry summers of 2012 and 2013 have certainly resulted in decreased plant growth in the Leucite and Jack Morrow Hills areas which will have negative impacts on deer residing in those areas.

Field Data

Based on the new information that the majority of deer wintering in the Luecite Hills area actually belong to the Sublette deer herd and since a helicopter was not available for classifications in 2013, only limited classification data were collected in 2013. The majority of classifications were collected in the Farson-Eden Irrigation Project area. A total of 124 deer were classified from the ground post-season, the observed ratios from those classifications were 64 fawns and 24 total bucks which includes 9 yearling bucks per 100 does.

Harvest Data

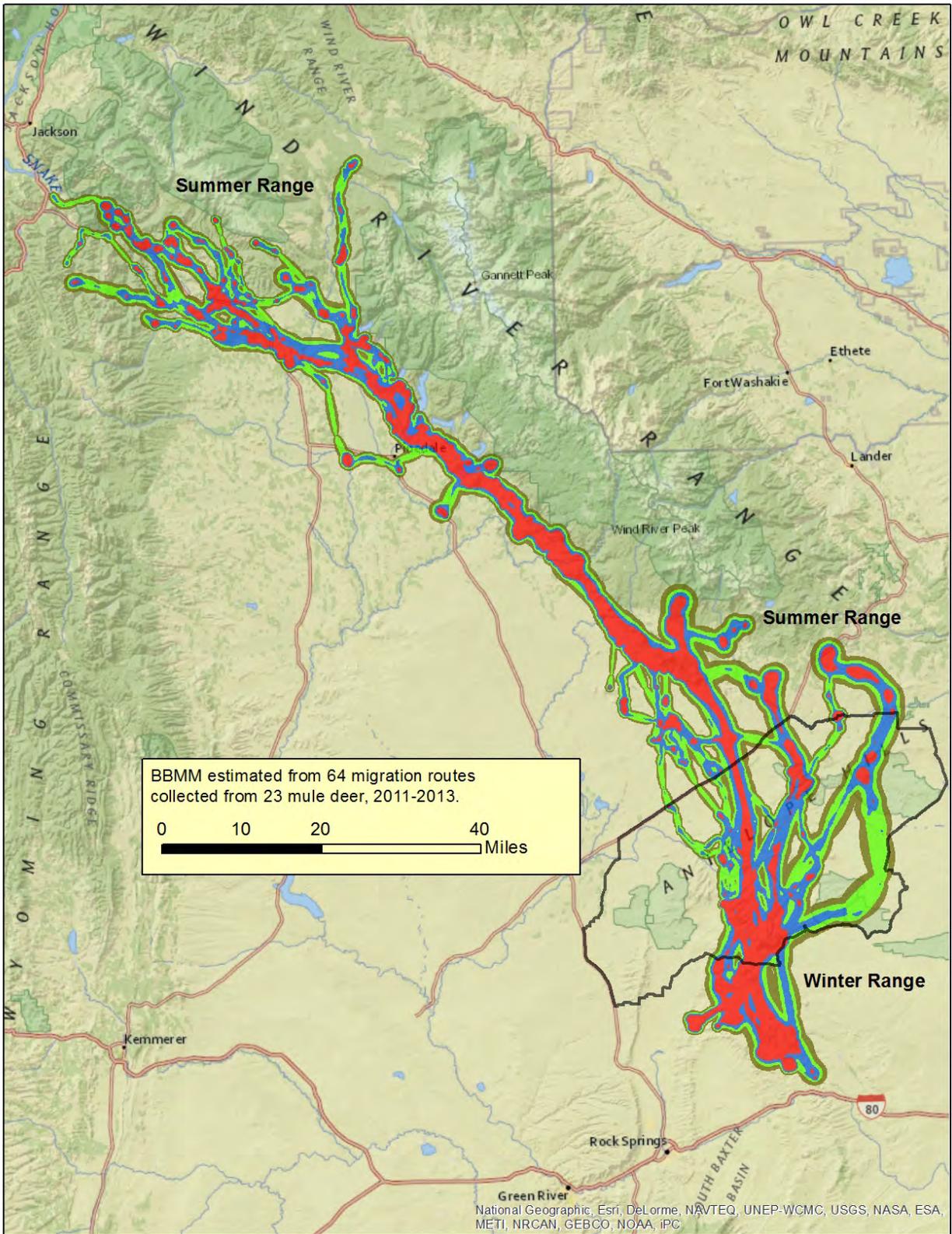
The 2013 harvest in HA131 was the lowest recorded in recent history for this hunt area. The harvest statistics, while probably influenced somewhat by the poor weather conditions present during the short hunting season, indicate that hunters located few deer during 2013. The overall success rate for 2013 was only 16% with only 104 deer being harvested in the hunt area and only 59 of those deer were bucks harvested during the general season. The days per harvest also increased to 18.6 days per animal harvested for all license types and was 25.5 days per harvest during the general season, suggesting that hunters had significant trouble locating deer in HA131. These statistics indicate that the deer population in HA131 continues to decline despite increasingly conservative hunting seasons.

Population

Due to the results of the GPS collar study that show that the Steamboat herd is not actually a herd but instead is connected to the Sublette herd, no attempts to model the population were made.

Management Summary

The 2014 season structure for HA131 maintains a conservative general season and a limited number of doe/fawn licenses directed at agricultural areas within the hunt area that are experiencing deer damage issues. The 2014 general season will be valid for antlered mule deer with four or more points on either antler and for any white-tailed deer. The general season will run for five days starting on a Wednesday and ending on Sunday. This is being done in response to increasingly low hunter success, increasingly high days per animal harvested, and a general lack of deer in HA 131 during last several hunting seasons. In addition to the general season, the 2014 hunting season includes 50 Type 7 doe fawn licenses valid in areas where deer damage to private land is a concern, similar to the 2012 and 2013 seasons except that these licenses are will be valid only in the Farson-Eden Irrigation Project area in 2014.



Deer - Steamboat
Herd 430
Hunt Area 131
Revised 5/2004

